7R Tractors (Serial No. 135001-) North American Edition H3

JOHN DEERE

OPERATOR'S MANUAL

7R Tractors (Serial No. 135001-) North American Edition

OMTA30581 ISSUE H3 (ENGLISH)

CALIFORNIA

Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

If this product contains a gasoline engine:

⚠ WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

The State of California requires the above two warnings.

John Deere Waterloo Works
North American Edition
PRINTED IN U.S.A.

Introduction

Foreword

READ THIS MANUAL carefully to learn how to operate and service your machine correctly. Failure to do so could result in personal injury or equipment damage. This manual and safety signs on your machine may also be available in other languages (see your John Deere dealer to order).

THIS MANUAL SHOULD BE CONSIDERED a permanent part of your machine and should remain with the machine when you sell it.

MEASUREMENTS in this manual are given in both metric and customary U.S. unit equivalents. Use only correct replacement parts and fasteners. Metric and inch fasteners may require a specific metric or inch wrench.

RIGHT-HAND AND LEFT-HAND sides are determined by facing the direction of forward travel.

WRITE PRODUCT IDENTIFICATION NUMBERS (P.I. N.) in the Specification or Identification Numbers section. Accurately record all the numbers to help in tracing the machine should it be stolen. Your dealer also needs these numbers when you order parts. File the identification numbers in a secure place off the machine.

SETTING FUEL DELIVERY BEYOND PUBLISHED factory specifications or otherwise overpowering will result in loss of warranty protection for this machine.

BEFORE DELIVERING THIS MACHINE, your dealer performed a predelivery inspection. After operating for an agreed upon period, schedule an after-sale inspection with your John Deere dealer to ensure best performance.

THIS TRACTOR IS DESIGNED SOLELY for use in customary agricultural or similar operations ("INTENDED USE"). Use in any other way is considered as contrary to the intended use. The manufacturer accepts no liability for damage or injury resulting from this misuse, and these risks must be borne solely by the user. Compliance with and strict adherence to the conditions of operation, service and repair as specified by the manufacturer also constitute essential elements for the intended use.

THIS TRACTOR SHOULD BE OPERATED, serviced and repaired only by persons familiar with all its particular characteristics and acquainted with the relevant safety rules (accident prevention). The accident prevention regulations, all other generally recognized regulations on safety and occupational medicine and the road traffic regulations must be observed at all times. Any arbitrary modifications carried out on this tractor will relieve the manufacturer of all liability for any resulting damage or injury.

REGISTER USED PRODUCTS. If you purchased used John Deere products from an authorized John Deere dealer, the warranty registration information was updated by the dealer and requires no further information on your part.

If you purchased any used John Deere product from an auction, through a trader or from a farmer, please register it now. John Deere and John Deere dealers value their customer's safety and satisfaction. Your local John Deere dealer is best equipped and anxious to provide you superior levels of support for your machine. Please enter your product details and your address online, using the John Deere website corresponding to your country. Then select the dealer of your choice.

RW29387,00000CC-19-22JUL19

Emissions Performance and Tampering

Operation and Maintenance

The engine, including the emissions control system, shall be operated, used, and maintained in accordance with the instructions provided in this manual to maintain the emissions performance of the engine within the requirements applicable to the engine's category/ certification.

Tampering

No deliberate tampering with or misuse of the engine emissions control system shall take place; in particular with regard to deactivating or not maintaining an exhaust gas recirculation (EGR) or a DEF dosing system. Tampering with an engine's emissions control system will void the European Union (EU) type approval and applicable emissions-related warranties.

DX,EMISSIONS,PERFORM-19-12JAN18

Trademarks

Trademarks	
ACS™ (ActiveCommand Steering)	Trademark of Deere & Company
ActiveSeat™	Trademark of Deere & Company
AirCushion™	Trademark of Deere & Company
Apple CarPlay®	iPhone and Siri are trademarks of Apple Inc., registered in the U.S. and other countries. Apple CarPlay is a trademark of Apple Inc.
AutoLoad™	Trademark of Deere & Company
AutoPowr™	Trademark of Deere & Company

Trademarks	
AutoTrac™	Trademark of Deere & Company
Bio Hy-Gard™	Trademark of Deere & Company
Bluetooth®	Trademark of Bluetooth SIG
Break-In Plus™	Trademark of Deere & Company
CommandARM™	Trademark of Deere & Company
CommandCenter™	Trademark of Deere & Company
CommandPRO™	Trademark of Deere & Company
Cool-Gard™	Trademark of Deere & Company
DURABUILT™	Trademark of Camoplast Inc.
e18™	Trademark of Deere & Company
e23™	Trademark of Deere & Company
eAutoPowr™	Trademark of Deere & Company
Efficiency Manager™	Trademark of Deere & Company
ExactRate™	Trademark of Deere & Company
GreenStar™	Trademark of Deere & Company
Hy-Gard™	Trademark of Deere & Company
HydraCushion™	Trademark of Deere & Company
ILS™ (Independent-Link Suspension)	Trademark of Deere & Company
iTEC™	Trademark of Deere & Company
IVT™ (Infinitely Variable Transmission)	Trademark of Deere & Company
JDLink™	Trademark of Deere & Company
PLUS-50™	Trademark of Deere & Company
PowerShift™	Trademark of Deere & Company
PowerTech™	Trademark of Deere & Company
PowerZero™	Trademark of Deere & Company
QUICK METAL™	Trademark of Henkel Corporation
Quik-Tatch™	Trademark of Deere & Company
Service ADVISOR™	Trademark of Deere & Company
SERVICEGARD™	Trademark of Deere & Company
Siri®	iPhone and Siri are trademarks of Apple Inc., registered in the U.S. and other countries. Apple CarPlay is a trademark of Apple Inc.
SprayMaster™	Trademark of Deere & Company
StarFire™	Trademark of Deere & Company
StellarSupport™	Trademark of Deere & Company
TEFLON™	Trademark of DuPont Co.
TLS™ (Triple-Link Suspension)	Trademark of Deere & Company
TouchSet™	Trademark of Deere & Company

RX33672,0000DEE-19-11JUL22

Contents

Page

Glossary
Glossary of Terms 00-1

Safety
Recognize Safety Information 05-1
Understand Signal Words 05-1
Follow Safety Instructions 05-1
Prepare for Emergencies 05-1
Wear Protective Clothing 05-2
Protect Against Noise 05-2
Handle Fuel Safely—Avoid Fires 05-2
Handle Starting Fluid Safely 05-2
Fire Prevention 05-3
In Case of Fire 05-3
Avoid Static Electricity Risk When Refueling 05-4
Keep ROPS Installed Properly 05-4
Use Foldable ROPS and Seat Belt Properly 05-4
Stay Clear of Rotating Drivelines 05-5
Use Steps and Handholds Correctly 05-5
Read Operator's Manuals for ISOBUS Controllers 05-6
Use Seat Belt Properly 05-6
Operating the Tractor Safely 05-6
Avoid Backover Accidents 05-7
Limited Use in Forestry Operation 05-7
Operating the Loader Tractor Safely 05-8
Keep Riders Off Machine 05-8
Instructional Seat 05-8
Use Safety Lights and Devices 05-9
Use a Safety Chain 05-9
Transport Towed Equipment at Safe Speeds 05-9
Use Caution on Slopes, Uneven Terrain, and Rough Ground 05-10
Freeing a Mired Machine 05-10
Avoid Contact with Agricultural Chemicals 05-11
Handle Agricultural Chemicals Safely 05-11
Handling Batteries Safely 05-12
Avoid Heating Near Pressurized Fluid Lines 05-13
Remove Paint Before Welding or Heating 05-13
Handle Electronic Components and Brackets Safely 05-13
Practice Safe Maintenance 05-14
Avoid Hot Exhaust 05-14
Clean Exhaust Filter Safely 05-14
Work In Ventilated Area 05-15
Support Machine Properly 05-15
Prevent Machine Runaway 05-16
Park Machine Safely 05-16
Transport Tractor Safely 05-16
Service Cooling System Safely 05-16
Service Accumulator Systems Safely 05-17
Service Tires Safely 05-17
Service Front-Wheel Drive Tractor Safely 05-17
Tightening Wheel Retaining Bolts/Nuts 05-17
Avoid High-Pressure Fluids 05-18
Do Not Open High-Pressure Fuel System 05-18
Store Attachments Safely 05-18
Decommissioning — Proper Recycling and Disposal of Fluids and Components 05-18

Safety Signs
Operator's Manual 05A-1
Transport, ROPS, and Seat Belt 05A-1
Instructional Seat (If Equipped) 05A-2
Engine Block Heater (If Equipped) 05A-2
Triple Link Suspension Plus (TLS Plus) (If Equipped) 05A-2
Front PTO (If Equipped) 05A-3
Quick-Hitch (If Equipped) 05A-3
Rear PTO Shield (If Equipped) 05A-3
Rear PTO Shield (If Equipped) 05A-4

Vehicle Overview
7R Series Tractor 10-1

Engine Operation
Engine Settings—Access 20-1
Engine Settings 20-1
Engine Settings—Engine Power 20-3
Engine Settings—Engine Set Speed 20-4
Engine Settings—Max Engine Speed 20-5
Engine Settings—Exhaust Filter System Overview 20-6
Engine Settings—AUTO Exhaust Filter Cleaning 20-6
Engine Settings—Disable AUTO Exhaust Filter Cleaning 20-7
Engine Settings—Parked Filter Cleaning 20-8
Required Machine Stop Warning 20-9
Engine Fuel System and Power Rating 20-10
Battery Disconnect Switch 20-10
Start the Engine 20-10
Run the Engine 20-11
Stop the Engine 20-12
Restart Engine That Has Run Out of Fuel 20-12
Reduce Fuel Consumption 20-12
Battery Booster or Charger 20-12

Cold Weather Operation
Cold Weather Starting—With Glow Plug Starting Aid (6.8 L Engine) 20A-1
Cold Weather Starting—Without Starting Aid (9.0 L Engine) 20A-1

Continued on next page

Original Instructions. All information, illustrations and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

COPYRIGHT © 2023
DEERE & COMPANY
Moline, Illinois
All rights reserved.

Page

Cold Weather Starting—With Starting Aid (9.0 L Engine) 20A-2
Change Starting Fluid Canister 20A-2
Auxiliary Heaters Use 20A-2

Emissions Equipment
Aftertreatment Indicators Overview 20B-1
Selective Catalytic Reduction (SCR) System Overview 20B-3
Diesel Particulate Filter (DPF) Service 20B-4

Front Console
Front Console 30-1
Adjust Steering Wheel and Column 30-1
Operate Horn 30-1
Operate Wipers and Washers 30-1
Key Switch 30-2
Operate Turn Signals 30-2
Pedals 30-2
Operate Lights 30-3

Corner Post Display
Corner Post Display 30A-1

CommandARM Controls
CommandARM 30B-1
CommandARM Hitch Controls 30B-1
CommandARM SCV Control Levers 30B-2
CommandARM PTO Control Levers 30B-2
CommandARM Climate, Radio, and Lighting Controls 30B-2
CommandARM Controls—Left Side 30B-4
CommandARM Joystick 30B-6
CommandARM Navigation Bar 30B-6
Adjust CommandARM Position 30B-7

CommandCenter
Use Electronic Display Properly 30C-1
Machine Settings Overview 30C-1
Navigate G5 CommandCenter 30C-3
Compatible Universal Displays 30C-4
Power Display On and Off 30C-4
Change Pages and Values 30C-4
Factory and Service ADVISOR Installed Onscreen Help 30C-5
Radar Calibration 30C-5
Slip Calibration 30C-6
Steering Settings—Access 30C-7
Steering Settings 30C-7
Steering Settings—ACS 2 Variable Ratio Steering 30C-8
Steering Settings—ACS 2 Sensitivity 30C-8
Steering Settings—Steering Wheel Resistance 30C-9
Steering Settings—Reactive Steering 30C-9
Controls Setup 30C-9
Install Video Display Camera 30C-10

Intelligent Total Equipment Control (iTEC)
CommandARM Control Functions 40-1
iTEC Station Description (EU 1322/2014) 40-1
CommandCenter Pages Descriptions and Functions 40-1

Page

Status Area 40-2
All Sequence Page 40-2
Add New Sequence 40-2
Sequence Step Status 40-3
Edit or Remove Sequence 40-3
Sequence Sets Page 40-4
Perform Sequence 40-5
Recommendations (AutoLearn) 40-5
iTEC Functions—IVT/AutoPowr and EVT/eAutoPowr Transmissions 40-6
iTEC Functions—Efficiency Manager 40-6

Tractor-Implement Automation (TIA)
TIA—General Information 40A-1
Activate TIA Equipment 40A-1
Operate TIA 40A-1
PTO Requirements 40A-2
SCV Requirements 40A-2
IVT/AutoPowr and EVT/eAutoPowr Requirements 40A-2
IVT/AutoPowr and EVT/eAutoPowr with CommandPRO Joystick Requirements 40A-3
PowerShift Transmission Requirements 40A-4
AutoTrac Guidance Requirements 40A-4
Rear Hitch Requirements 40A-5

Drivetrain
Drivetrain Overview 50-1
Suspension Settings—Access 50-1
Suspension Settings 50-1
Suspension Settings—Manual 50-2
Operate Suspension 50-2
Differential Lock 50-3
Mechanical Front-Wheel Drive (MFWD) 50-3
Large Square Baler (LSB) Ride Control 50-4

Brakes
Trailer Brake System Settings—Access 50A-1
Trailer Brake System Settings 50A-1
Trailer Brake System Settings—Brake Gain 50A-2
Trailer Brake System Settings—Pre-Brake Offset 50A-2
Trailer Brake System Settings—Trailer Brake Test 50A-3
Trailer Brake System Settings—Advanced 50A-3
Brake Use 50A-4
AutoClutch 50A-5
Hydraulic Trailer Brakes 50A-5
Air Trailer Brakes 50A-6

Transmission—General Information
Transmission Settings—Access Advanced 50B-1
Transmission Settings—Advanced 50B-1
Transmission Top Speed Note 50B-3
Warm-Up Transmission-Hydraulic System 50B-3
Backup Alarm 50B-4

e23 Transmission
Operate Transmission—e23 ..... 50D-1
Shift Transmission—e23 ..... 50D-2
e23 Set Speeds and Efficiency Manager 50D-4
e23 Transmission Settings—Access 50D-5
e23 Transmission Settings 50D-5

Page

e23 Transmission Settings—Mode 50D-7
e23 Transmission Settings—Custom 50D-7
e23 Transmission Settings—Droop 50D-7
e23 Transmission Settings—ECO 50D-8
e23 Transmission Settings—Max Speeds 50D-8

IVT/AutoPowr Transmission
Operate Transmission—IVT 50E-1
Shift Transmission—IVT 50E-2
IVT Set Speeds 50E-5
IVT Transmission Settings—Access 50E-6
IVT Transmission Settings 50E-6
IVT Transmission Settings—Mode 50E-8
IVT Transmission Settings—Pedal Mode 50E-8
IVT Transmission Settings—Custom 50E-8
IVT Transmission Settings—Droop 50E-9
IVT Transmission Settings—ECO 50E-9
IVT Transmission Settings—Max Speeds 50E-10

IVT/AutoPowr Transmission with CommandPRO Joystick
Operate Transmission—IVT with CommandPRO Joystick 50F-1
Shift Transmission—IVT with CommandPRO Joystick 50F-1
CommandPRO Joystick 50F-2
CommandPRO Joystick Guide 50F-4
CommandPRO Joystick—Acceleration/Deceleration Response 50F-4
CommandPRO Joystick—Enable Set Speeds 50F-4
CommandPRO Joystick—Adjust Travel Direction 50F-5
CommandPRO Joystick—Stopping 50F-5
CommandPRO Joystick—Operating on Hillsides 50F-6
CommandPRO Transmission Settings—Access 50F-6
CommandPRO Transmission Settings 50F-6
CommandPRO Transmission Settings—Mode 50F-8
CommandPRO Transmission Settings—Custom 50F-8
CommandPRO Transmission Settings—Droop 50F-9
CommandPRO Transmission Settings—Minimum Engine Speed 50F-9
CommandPRO Transmission Settings—Set Speeds 50F-10
CommandPRO Transmission Settings—Shuttle Shift Speeds 50F-10
CommandPRO Transmission Settings—Speed Limits 50F-11

PTO—General Information
PTO Settings—Access 60A-1
PTO Settings 60A-1
PTO Settings—Advanced 60A-2
PTO Settings—Engagement Rate 60A-3
PTO Settings—Rear PTO Speed Limit 60A-3
PTO Settings—PTO Out-of-Seat 60A-3
Operating Instructions (EU 1322-2014) 60A-4
Operate PTOs 60A-5
External PTO Switches 60A-5

Page

Select Correct Engine Speed 60A-6

Front PTO
Front PTO Disconnect 60B-1
PTO Cold-Weather Operation 60B-1
Change Optional Front PTO Shafts 60B-1
Attach PTO-Driven Implement—Front 60B-1

Rear PTO
Rear PTO Shield—Type 3 PTO 60C-1
Operate Shiftable 3-Speed Rear PTO (If Equipped) 60C-1
Operate Shiftable 2-Speed Rear PTO (If Equipped) 60C-1
Change PTO Stub Shaft (If Equipped) 60C-2
Attach PTO-Driven Implement—Rear 60C-3

Front Hitch
Hitch Lift Capacities—Front 60D-1
Front Hitch Settings—Access 60D-1
Front Hitch Settings 60D-1
Front Hitch Settings—Upper Limit 60D-2
Front Hitch Settings—Drop Rate 60D-3
Front Hitch Settings—Raise Rate 60D-3
Front Hitch Settings—Position and Set Points 60D-3
Front Hitch Use 60D-4

Rear Hitch
Hitch Lift Capacities—Rear 60E-1
Rear Hitch Settings—Access 60E-1
Rear Hitch Settings 60E-1
Rear Hitch Settings—Upper Limit 60E-3
Rear Hitch Settings—Drop Rate 60E-3
Rear Hitch Settings—Raise Rate 60E-4
Rear Hitch Settings—Load Depth 60E-4
Rear Hitch Settings—Slip Sensitivity 60E-4
Rear Hitch Settings—Position 60E-5
Rear Hitch Settings—Advanced 60E-6
Rear Hitch Settings—Position Control 60E-6
Rear Hitch Settings—Draft Control 60E-7
Hitch Control Lever Adjustments 60E-7
Hitch Depth Set Point 60E-8
Float Operation 60E-8
Rear Hitch Components 60E-9
External Hitch Switches 60E-9
Draft Link Storage Position 60E-9
Hitch Manual Lowering 60E-10
Adjust Sway Blocks 60E-10
Adjust Deluxe Stabilizers 60E-11
Attach Implement to Quick-Hitch 60E-12
Adjust Implement Level 60E-13
Adjust Lateral Float 60E-14
Detach Implement from Quick-Hitch 60E-14
Convert Category 3/3N Convertible Quick-Hitch Lower Hooks 60E-15
Operate Wagon Hitch 60E-15
3-in-1 Hitch System 60E-16

Drawbar
Drawbar Load Limitations 60F-1
Adjust Drawbar 60F-2

Page

Install and Use Clevis Assembly—Category 3 Drawbar 60F-2
Install and Use Clevis Assembly—Category 4 Drawbar 60F-3
Install and Use Clevis Assembly—High Vertical Load Drawbar Support 60F-4

Hydraulics—General Information
Hydraulic System Overview 70-1
Hydraulic Option Connector 70-1

Selective Control Valves
SCV Settings—Access 70A-1
SCV Settings 70A-1
SCV Settings—Standard Mode 70A-3
SCV Settings—Independent Mode 70A-3
SCV Settings—Feature Mode 70A-4
SCV Settings—Flow Adjustment 70A-4
SCV Settings—Time Adjustment 70A-5
SCV Settings—Advanced 70A-5
SCV Settings—Activating Independent Mode ... 70A-6
SCV Settings—Automation 70A-6
SCV Settings—Assignment 70A-6
SCV Settings—Flow Adjustment Sensitivity 70A-7
SCV Control Lever Adjustments 70A-7
External SCV Switches 70A-8
Total SCV Flow 70A-9
Operate SCVs with CommandARM Joystick ... 70A-10
CommandARM Joystick—Layout and Joystick Lever Functions 70A-10

Hydraulic Connections
Connect/Disconnect Hydraulic Hoses 70B-1
Component Identification and Location—Rear SCVs 70B-2
Component Identification and Location—Mid-Mount and Front SCVs 70B-3
Use Load Sense Hydraulic System—Power Beyond 70B-3
Examples Using Load Sense Hydraulic System—Power Beyond 70B-4
Implement Connections—Active Down Pressure 70B-5
Implement Connections—Vacuum Motors with Power Beyond and Motor Case Drain ... 70B-6
Implement Connections—Hydraulic Motor with Motor Return 70B-7
Implement Connections—Vacuum Motor with Motor Return Tip 70B-8
Implement Connections—Hitch Auxiliary Raise in Parallel with Hitch Valve 70B-9
Implement Connections—Hitch Auxiliary Raise in Parallel with SCV 70B-10
Hydraulic Motor Return and Case Drain Kits ... 70B-10
Hitch Auxiliary Raise Kit 70B-11
Implements Requiring Large Volumes of Oil 70B-11

TouchSet Depth Control
TouchSet Depth Control Settings and Adjustments 70C-1
Connect/Disconnect the Implement Position Connector 70C-1

Page

Laser Scraper Control
Laser Scraper—Scrapers Equipped with Scraper Control Unit 70D-1

Wheels and Tires—General Information
Determine Tire Load Capacity 80-1
Change Tire Size 80-1
Select Tire Combinations 80-1
Tire Load Index 80-2
Tire Inflation Pressure Guidelines 80-3
Clamp-On Dual Usage 80-4

Front Wheels and Tires
Recommended Pressures—Group 42 ..... 80A-1
Recommended Pressures—Group 43 ..... 80A-2
Recommended Pressures—Group 44 ..... 80A-6
Adjust and Tighten—Front Wheel Bolts 80A-8
Toe-In Check 80A-8

Steering Stop, Fender, and Tread Settings
Tire, Steering Stop, and Fender Settings Table Explanation 80B-1
Tire, Steering Stop, and Fender Settings—1300 MFWD Axle 80B-1
Tire, Steering Stop, and Fender Settings—TLS Plus Axle 80B-4
Tire, Steering Stop, and Fender Settings—1300 MFWD Axle with Front Hitch 80B-5
Tire, Steering Stop, and Fender Settings—TLS Plus Axle with Front Hitch 80B-7
Tire, Steering Stop, and Fender Settings—1300 MFWD Axle with Front Loader or Loader Mounts 80B-8
Tire, Steering Stop, and Fender Settings—TLS Plus Axle with Front Loader or Loader Mounts 80B-11
Determine Rim Type 80B-13
Wheel Settings—8-Position 80B-13
Wheel Setting—16-Position 80B-15
Set Steering Stops 80B-15
Fender Settings 80B-16

Rear Wheels and Tires
Recommended Pressures—Group 47 ..... 80C-1
Recommended Pressures—Group 48 ..... 80C-5
Recommended Pressures—Group 48—Continued 80C-9
Recommended Pressures—Group 49 ..... 80C-15
16-Position Rear Wheel Settings 80C-20
Rear Wheel, Tire, and Tread Guidelines 80C-21
Minimum Tread Setting with Air Trailer Brakes and Inner Wheel Weights 80C-21
Install Rear Drive Wheel to Cast Hub 80C-22
Install Rear Steel Wheel to Hub 80C-22
Adjust and Tighten Rear Steel Wheels with Cast Hubs 80C-22
Adjust and Tighten Rear Wheels—10-Bolt Heavy-Duty Hubs 80C-23
Adjust and Tighten Rear Wheels—12-Bolt Heavy-Duty Hubs 80C-23
Single Wheel Tread Settings 80C-24
Dual Wheel Tread Settings 80C-26
Dual Wheel Row Crop Settings and Dual Hub Extensions 80C-28

Page

Seats
Adjust Air Seat 90-1
Adjust ActiveSeat II 90-3
Operator Presence Sensor 90-5
Adjust Instructional Seat 90-6

Mirrors
Adjust Mirrors 90A-1

Steps
Left-Hand Steps 90B-1
Right-Hand Service Steps 90B-2

Lights
Light Identification 90C-2
Lights Settings—Access 90C-2
Lights Settings 90C-3
Lights Settings—Worklights Presets 90C-4
Lights Settings—Hood/Belt Line Lights 90C-4
Lights Settings—Advanced 90C-5
Hazard and Extremity Lights 90C-5
Beacon Light 90C-5
7-Pin Outlet 90C-5

Accessories
Right-Hand Side Console 90D-1
CommandARM Storage 90D-1
Right-Hand Front Corner Post 90D-2
Left-Hand Rear Corner Post 90D-2
Right-Hand Rear Corner Post 90D-3
Refrigerator and Cool/Storage Box 90D-3
Sunshade 90D-4
Storage Compartments 90D-4
Monitor Bracket Mounts 90D-4
Emergency Exit 90D-5
Install Business Band/Citizens Band (CB) Antenna and/or Radio 90D-6
Mount StarFire Receiver 90D-7
Mount RTK (Real-Time Kinematic) Radio 90D-7
Implement Connector 90D-8
Implement Ethernet Connector 90D-8
RS232 Serial Communication Connection 90D-9

HVAC
HVAC Settings—Access 90E-1
HVAC Settings 90E-1
HVAC Settings—Climate Control Automation ... 90E-2
HVAC Settings—Set Temperature 90E-2
HVAC Settings—Air Flow Mode 90E-3
HVAC Settings—Fan Speed 90E-3
HVAC Settings—Air Conditioning 90E-3

Performance Ballasting
How to Calculate Maximum Permissible Download on Trailer Hitch (EU 1322/2014) 100-1
Mechanical Towed Coupling Load Limitations 100-1
General Ballasting Information 100-1
General Guidelines 100-2
General Weight Split Guidelines 100-3
Ballast Options 100-4
Measure Slip 100-5
Ballast Suggestions for Specific Types of Implements used with MFWD Tractors 100-5

Page

Quik-Tatch Weight Use 100-6
Rear Wheel Weight Use 100-7
Rear Wheel Weight Installation—Flanged Axles 100-7
Rear Wheel Weight Installation—Single Cast Drive Wheel 100-9
Rear Wheel Weight Installation—Dual Drive Wheels 100-9
Controlling Power Hop-MFWD Tractors Without TLS Plus Front Axle 100-10
Calculate Tractor Ballast Package 100-11
Add Rear Ballast For Front Loader 100-13
Ballast Suggestions—Hitch-Mounted Implements 100-13
Unballasted Tractor Weight Charts 100-13
Implement and Tractor Codes 100-19
Liquid Ballast Use 100-20

Transport
Drive Tractor on Roads 110-2
Transport with Ballast 110-2
Towed Loads and Transport with Ballast 110-3
Use Safety Chain 110-3
Tow Tractor 110-4
Tow Mode 110-5
Come Home Mode 110-5
Carrier Transport 110-6
Freeing a Mired Tractor 110-7

Fuel, Lubricants, and Coolant—General Information
Determine Tractor Engine Type 200-1
Minimizing the Effect of Cold Weather on Diesel Engines 200-1
Oil Filters 200-2

Fuel
Diesel Fuel 200A-1
Supplemental Diesel Fuel Additives 200A-1
Biodiesel Fuel 200A-2
Lubricity of Diesel Fuel 200A-3
Handling and Storing Diesel Fuel 200A-3
Fill Fuel Tank 200A-3
Testing Diesel Fuel 200A-4
Fuel Filters 200A-4

Diesel Exhaust Fluid (DEF)
Diesel Exhaust Fluid (DEF) — Use in Selective Catalytic Reduction (SCR) Equipped Engines 200B-1
Storing Diesel Exhaust Fluid (DEF) 200B-1
Refilling Diesel Exhaust Fluid (DEF) Tank 200B-2
Fill DEF Tank—FT4/Stage V Engine 200B-2
Testing Diesel Exhaust Fluid (DEF) 200B-3
Disposal of Diesel Exhaust Fluid (DEF) 200B-3

Engine Oil
Diesel Engine Oil Service Interval for Operation at High Altitude 200C-1
John Deere Break-In Plus Engine Oil — Interim Tier 4, Final Tier 4, Stage IIIB, Stage IV, and Stage V 200C-1

Page

Diesel Engine Oil — Interim Tier 4, Final Tier 4, Stage IIIB, Stage IV, and Stage V 200C-1
Engine Oil and Filter Service Intervals — Interim Tier 4, Final Tier 4, Stage IIIB, Stage IV, and Stage V Engines 200C-2

Engine Coolant
Diesel Engine Coolant (Engine with Wet Sleeve Cylinder Liners) 200D-1
John Deere Cool-Gard II Coolant Extender 200D-1
Operating in Warm Temperature Climates 200D-2
Water Quality for Mixing with Coolant Concentrate 200D-2
Testing Coolant Freeze Point 200D-2
Disposing of Coolant 200D-3

Other Lubricants
Lubricant Storage 200E-1
Alternative and Synthetic Lubricants 200E-1
Mixing of Lubricants 200E-1
Transmission and Hydraulic Oil 200E-1
Use Correct Viscosity Front PTO Oil in Cold Weather 200E-1
Transmission Recalibration 200E-2
Gear Oil 200E-2
Multipurpose Extreme Pressure (EP) Grease .. 200E-2

Service—General Information
Service Sections Overview 210-1
Service Tasks Performed As Required 210-1
Identify Tractor Engine Emissions Status 210-1
Open Hood 210-1
Remove Engine Access Panel 210-1
Remove Engine Side Shields 210-2
Remove Radiator Shields 210-2
Remove Battery Compartment Cover 210-2
Remove Cab Rear Panel 210-3
Jack Up Tractor—Lifting Points and Support Stand Placement (EU 1322/2014) 210-3
Service and Connect STC (Snap-to-Connect) Fittings 210-4
High-Pressure Washer Use 210-5
Do Not Modify Fuel System 210-5
Bleed Fuel System 210-5
Identify Zinc-Flake Coated Fasteners 210-6
Metric Bolt and Screw Torque Values 210-6
Unified Inch Bolt and Screw Torque Values 210-7

Service—Break-In (100 Hours or Less)
Perform Break-In Checks 210A-1

Service—Record Charts
Service Record Chart Overview 210B-1
Service Interval Chart 210B-1
Service Record Chart 210B-2

Service—Clean
Access DEF Tank Drain Plug 220A-1
Cleaning Diesel Exhaust Fluid (DEF) Tank 220A-1
Tractor Exterior 220A-1
Clean Display 220A-2
Clean Seat 220A-2
Engine Cooling System 220A-2

Page

Dual Beam Radar Sensor 220A-3
MFWD or TLS Plus Axle Vent Breather 220A-4
Implement Connector 220A-4

Service—Check
Windshield Washer Fluid Level 220B-1
Engine Coolant Level 220B-1
Engine Coolant Freeze Point 220B-1
Water Separator 220B-2
Optional Fuel Water Separator (If Equipped) ... 220B-2
Engine Air Filter Precleaner System 220B-3
Primary and Secondary Engine Air Filters 220B-4
Engine and Exhaust Compartments 220B-6
Air Conditioning System 220B-6
Engine Water Pump Weep Hole 220B-6
Fuel Tank Sump 220B-7
MFWD or TLS Plus Axle Housing Oil Level 220B-7
Wheel Hub Oil Level 220B-8
Engine Oil Level 220B-8
Hydraulic System Oil Level 220B-9
Mechanical Cab Suspension Components 220B-10
Front PTO Housing Oil Level 220B-10
Manually Operated Hitch 220B-10
Remote Controlled Hitch 220B-11
Tow Hitch (Piton Fix) 220B-12
Ball-Type Tow Hitch 220B-12
Hitch and Drawbar Wear 220B-13
Engine Air Intake System—6.8 L Engine 220B-13
Engine Air Intake System—9.0 L Engine 220B-14
Tires 220B-14
TLS Plus Accumulator Charge Pressure 220B-14
Seat Belts 220B-15
Fan Belt Tensioner and Fan Belt 220B-15
Engine Valve Clearance 220B-15
Transmission PARK System 220B-16

Service—Tighten
Wheel and Wheel Weight Bolts 220C-1
Use Wheel Tightening Stand 220C-1
Use Wheel Torque Wrench Adapter 220C-1
Rear Wheel Weight Bolts 220C-2
Front Wheel Bolts 220C-2
Rear Drive Wheel to Cast Hub Bolts 220C-3
Rear Steel Wheel to Hub Bolts 220C-3
Rear Steel Wheels—Cast Hub Bolts 220C-4
Rear Wheel Bolts—Heavy-Duty Cast 10-Bolt Hubs 220C-4
Rear Wheel Bolts—Heavy-Duty 12-Bolt Hubs 220C-5

Service—Change
Engine Primary and Secondary Air Filters 220D-1
Fan Belt 220D-2
Engine Oil and Filter—6.8 L Engine 220D-3
Engine Oil and Filter—9.0 L Engine 220D-4
Fuel Filters 220D-5
Optional Fuel Water Separator Filter Element (If Equipped) 220D-6
Cab Filters 220D-7
Hydraulic Oil and Filters 220D-8
Wheel Hub Oil 220D-11
MFWD or TLS Plus Axle Housing Oil 220D-11
Front PTO Housing Oil and Filter 220D-11
Crankcase Ventilation Filter—6.8 L Engine ... 220D-12

Page

Fuel Tank Vent Filter 220D-13
SCV Pilot Valve Filter 220D-13
Trailer Air Brake Dryer Filter 220D-14
DEF Tank Vent Filter 220D-14
Access In-Line DEF Filter 220D-15
Change Diesel Exhaust Fluid (DEF) In-Line Filter 220D-15
Access DEF Dosing Unit Filter 220D-17
Change Diesel Exhaust Fluid (DEF) Dosing Unit Filter 220D-18
Transmission Torsional Damper 220D-19
Engine Crankshaft Damper—9.0 L Engine ... 220D-19
Engine Coolant 220D-19

Service—Lubricate
Rear Hitch 220E-1
Front Hitch 220E-1
Deluxe Stabilizers 220E-1
Trailer Hitch 220E-1
Lubricate Front Axle Fittings (MFWD or TLS™) 220E-3
Draft Link Support Shaft Bushing 220E-4

Service—Electrical
Service—Electrical Overview 220F-1
Welding Near Electronic Control Units 220F-1
Keep Electronic Control Unit Connectors Clean 220F-1
Compressed Air Use 220F-2
High-Pressure Washers Use 220F-2
Disconnect Battery 220F-2
Service Batteries and Connections 220F-2
Load Center—Cab 220F-3
Load Center—Front 220F-4
Access Master Fuses 220F-5
Access Implement Power Relay Module Fuses 220F-6
Handle Halogen Light Bulbs Safely 220F-7
Adjust Headlights 220F-7
Adjust Front Grille Lights 220F-8
Change Front HID/LED Light Assembly 220F-8
Change Halogen Bulbs 220F-9
Change Front/Rear Belt Line Work Lights 220F-9
Change Auxiliary Driving Light 220F-10
Change Wrap-Around Cab Light 220F-10
Change Cab Roof Light 220F-10
Change Rear Fender Light—Rear Indicator ... 220F-11
Change Extremity Arm Light 220F-12
Change Cab Dome Light 220F-12

Troubleshooting—Procedures
Troubleshooting Features 300A-1
Electrical System 300A-1
Engine 300A-2
Hitch 300A-5
Hydraulic System 300A-7
Operator's Station 300A-8
Selective Control Valve (SCV) 300A-9
Steering System 300A-10
Tractor Operation 300A-11
Transmission 300A-11

Page

Troubleshooting—Diagnostic Trouble Codes (DTC)
STOP, Service, and Information Alerts on CommandCenter 300B-1
Access Diagnostic Trouble Codes 300B-1

Service—Storage
Place Tractor in Storage 400-1
Remove Tractor from Storage 400-1

Specifications
Engine 500A-1
Capacities 500A-1
Hydraulic System 500A-2
Transmission and Drivetrain 500A-2
Hitch, Drawbar, and PTO 500A-3
Electrical System 500A-4
Integrated Technology 500A-4
Overall Dimensions 500A-5
Tractor Loads/Weights 500A-6
Ground Speeds—e23 Transmission 500A-6
Ground Speeds—IVT/AutoPowr Transmission 500A-7
Limited Battery Warranty 500A-7
Emissions Control System Certification Label .. 500A-8
EPA Non-road Emissions Control Warranty Statement—Compression Ignition 500A-9
CARB Non-road Emissions Control Warranty Statement—Compression Ignition 500A-10
Required Emission-Related Information 500A-18
Carbon Dioxide Emissions (CO_2) 500A-19
Third-Party Software Notifications and Licenses 500A-19

Identification Numbers
Identification Plates 500B-1
Product Identification Number (PIN) 500B-1
Engine Serial Number 500B-1
Cab Serial Number 500B-2
Transmission Serial Number 500B-2
Axle Serial Number 500B-2
Keep Proof of Ownership 500B-3
Keep Machines Secure 500B-3

Change of Ownership
Subsequent Ownership 600A-1

Predelivery
Predelivery Checklist 700-1
Delivery Checklist and Certificate 700-3

Glossary

Glossary of Terms

ITEM	ABBREVIATION	DESCRIPTION
Agriculture Tractor	[AG]	Tractor primary application
Scraper Tractor	[Scraper]	Tractor primary application
Air Conditioning	A/C	System used for conditioning the air in the cab
Automatic PowerShift	APS	Transmission feature
Controller Area Network	CAN	A communication system linking on-board electronics
Cold Cranking Amperes	CCA	Refers to a battery's capability to perform during cold-weather operation
Chassis Control Unit	CCU	Computerized system for tractor monitoring
Diesel Exhaust Fluid	DEF	Abbreviation
Diesel Particulate Filter	DPF	Filter that prevents ash and soot from entering the atmosphere
Diagnostic Trouble Codes	DTC	Codes that inform the operator of stop, service, or information alerts
Economy Mode	ECO	Abbreviation
Engine Control Unit	ECU	Abbreviation
Engine Revolutions Per Minute	erpm	Abbreviation
Gallons per Minute	gpm	Fluid flow measured over a period of 1 minute
Global Positioning System	GPS	Abbreviation
Heavy Duty	HD	Abbreviation
High Intensity Discharge	HID	Type of Xenon working light used for front lighting
Heating Ventilating Air Conditioning	HVAC	Abbreviation
International Standards Organization	ISO	Abbreviation
John Deere Central Tire Inflation System	John Deere CTIS	Abbreviation
Left-Hand	LH	Abbreviation
Liters per Minute	L/min	Fluid flow measured over a period of 1 minute
Light Emitting Diode	LED	Abbreviation
Low Temperature Circuit	LTC	Abbreviation
Maximum Ballast Weight	MBW	Abbreviation
Mechanical Front Wheel Drive	MFWD	Powered front axle which is driven mechanically from the transmission
Product Identification Number	PIN	Serial number relating to tractor identification
PowerShift Transmission	PST	Abbreviation
EVT/eAutoPowr Transmission Control Unit	PTE	Abbreviation
IVT/AutoPowr Transmission Control Unit	PTI	Abbreviation
Power Take-Off	PTO	Abbreviation
PowerShift Transmission Control Unit	PTP	Computerized system used to control IVT transmission shift functions
Roll-Over Protective Structure	ROPS	Abbreviation
Right-Hand	RH	Abbreviation
Revolutions per Minute	rpm	Abbreviation
Society of Automotive Engineers	SAE	Engineering Standards Organization
Selective Control Valve	SCV	Device used to control remote hydraulic functions
Tire Pressure System	TPS	Abbreviation
Voltage Class-B	VC-B	Abbreviation

RX32825,000179D-19-29JUN22

Recognize Safety Information

T81389—UN—28JUN13

This is a safety-alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices.

DX,ALERT-19-03OCT22

Understand Signal Words

⚠ DANGER

⚠ WARNING

⚠ CAUTION

TS187—19—30SEP88

DANGER; The signal word DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

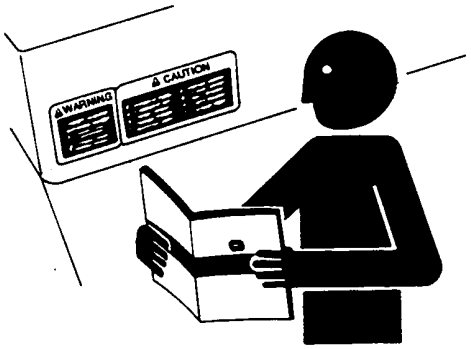
WARNING; The signal word WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION; The signal word CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. CAUTION may also be used to alert against unsafe practices associated with events which could lead to personal injury.

A signal word—DANGER, WARNING, or CAUTION—is used with the safety-alert symbol. DANGER identifies the most serious hazards. DANGER or WARNING safety signs are located near specific hazards. General precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this manual.

DX,SIGNAL-19-05OCT16

Follow Safety Instructions



TS201—UN—15APR13

Carefully read all safety messages in this manual and on your machine safety signs. Keep safety signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from your John Deere dealer.

There can be additional safety information contained on parts and components sourced from suppliers that is not reproduced in this operator's manual.

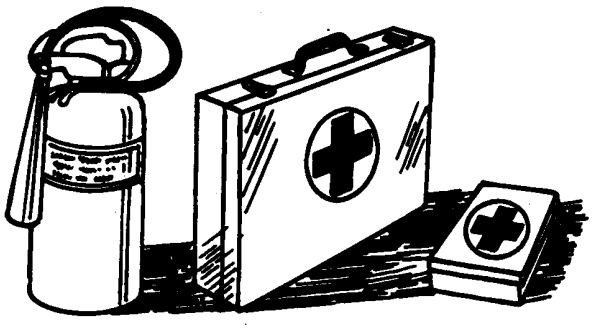
Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

Keep your machine in proper working condition. Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.

If you do not understand any part of this manual and need assistance, contact your John Deere dealer.

DX,READ-19-01AUG22

Prepare for Emergencies



TS291—UN—15APR13

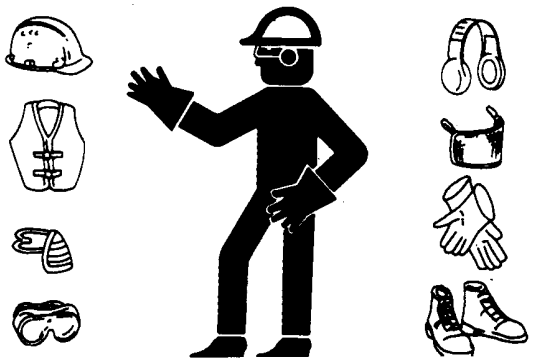
Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.

DX,FIRE2-19-03MAR93

Wear Protective Clothing



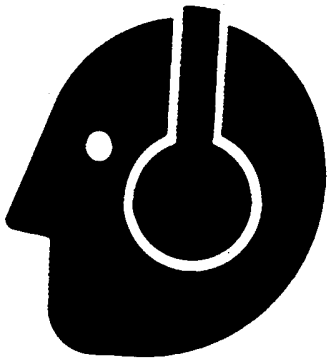
TS206—UN—15APR13

Wear close fitting clothing and safety equipment appropriate to the job.

Operating equipment safely requires the full attention of the operator. Do not wear radio or music headphones while operating machine.

DX,WEAR2-19-03MAR93

Protect Against Noise



TS207—UN—23AUG88

There are many variables that affect the sound level range, including machine configuration, condition and maintenance level of the machine, ground surface, operating environmental, duty cycles, ambient noise, and attachments.

Exposure to loud noise can cause impairment or loss of hearing.

Always wear hearing protection. Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.

DX,NOISE-19-03OCT17

Handle Fuel Safely—Avoid Fires

TS202—UN—23AUG88

Handle fuel with care: it is highly flammable. Do not refuel the machine while smoking or when near open flame or sparks.

Always stop engine before refueling machine. Fill fuel tank outdoors.

Prevent fires by keeping machine clean of accumulated trash, grease, and debris. Always clean up spilled fuel.

Use only an approved fuel container for transporting flammable liquids.

Never fill fuel container in pickup truck with plastic bed liner. Always place fuel container on ground before refueling. Touch fuel container with fuel dispenser nozzle before removing can lid. Keep fuel dispenser nozzle in contact with fuel container inlet when filling.

Do not store fuel container where there is an open flame, spark, or pilot light such as within a water heater or other appliance.

DX,FIRE1-19-12OCT11

Handle Starting Fluid Safely

TS1356—UN—18MAR92

Starting fluid is highly flammable.

Keep all sparks and flame away when using it. Keep starting fluid away from batteries and cables.

To prevent accidental discharge when storing the pressurized can, keep the cap on the container, and store in a cool, protected location.

Do not incinerate or puncture a starting fluid container.

Do not use starting fluid on an engine equipped with glow plugs or an air intake heater.

DX,FIRE3-19-14MAR14

Fire Prevention

To reduce the risk of fire, your tractor should be regularly inspected and cleaned.

- Birds and other animals may build nests or bring other flammable materials into the engine compartment or onto the exhaust system. The tractor should be inspected and cleaned prior to the first use each day.
- A build up of grass, crop material and other debris may occur during normal operation. This is especially true when operating in very dry conditions or conditions where airborne crop material or crop dust is present. Any such build up must be removed to ensure proper machine function and to reduce the risk of fire. The tractor must be inspected and cleaned periodically throughout the day.
- Regular and thorough cleaning of the tractor combined with other routine maintenance procedures listed in the Operator's Manual greatly reduce the risk of fire and the chance of costly downtime.
- Do not store fuel container where there is an open flame, spark, or pilot light such as within a water heater or other appliance.
- Check fuel lines, tank, cap, and fittings frequently for damage, cracks or leaks. Replace if necessary.

Follow all operational and safety procedures posted on the machine and the Operator's Manual. Be careful of hot engine and exhaust components during inspection and cleaning. Before carrying out any inspection or cleaning, always shut OFF the engine, place the transmission in PARK or set parking brake, and remove the key. Removal of the key will prevent others from starting the tractor during inspection and cleaning.

DX,WW,TRACTOR,FIRE,PREVENTION-19-12OCT11

In Case of Fire

TS227—UN—15APR13

CAUTION: Avoid personal injury.

Stop machine immediately at the first sign of fire. Fire may be identified by the smell of smoke or sight of flames. Because fire grows and spreads rapidly, get off the machine immediately and move safely away from the fire. Do not return to the machine! The number one priority is safety.

Call the fire department. A portable fire extinguisher can put out a small fire or contain it until the fire department arrives; but portable extinguishers have limitations. Always put the safety of the operator and bystanders first. If attempting to extinguish a fire, keep your back to the wind with an unobstructed escape path so you can move away quickly if the fire cannot be extinguished.

Read the fire extinguisher instructions and become familiar with their location, parts, and operation before a fire starts. Local fire departments or fire equipment distributors may offer fire extinguisher training and recommendations.

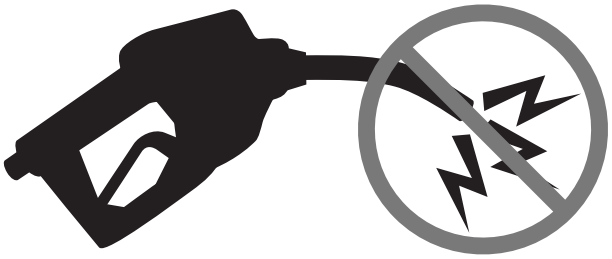
If your extinguisher does not have instructions, follow these general guidelines:

1. Pull the pin. Hold the extinguisher with the nozzle pointing away from you, and release the locking mechanism.
2. Aim low. Point the extinguisher at the base of the fire.
3. Squeeze the lever slowly and evenly.
4. Sweep the nozzle from side-to-side.

DX,FIRE4-19-22AUG13

Avoid Static Electricity Risk When Refueling

RG22142—UN—17MAR14



RG21992—UN—21AUG13

The removal of sulfur and other compounds in Ultra-Low Sulfur Diesel (ULSD) fuel decreases its conductivity and increases its ability to store a static charge.

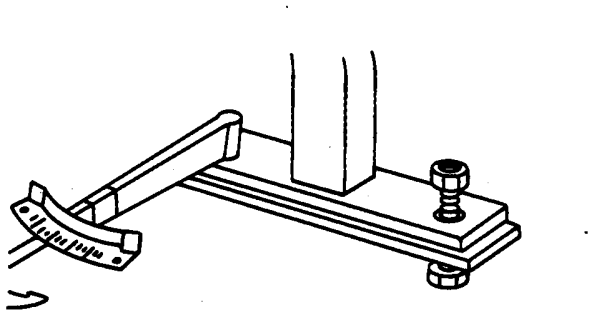
Refineries may have treated the fuel with a static dissipating additive. However, there are many factors that can reduce the effectiveness of the additive over time.

Static charges can build up in ULSD fuel while it is flowing through fuel delivery systems. Static electricity discharge when combustible vapors are present could result in a fire or explosion.

Therefore, it is important to ensure that the entire system used to refuel your machine (fuel supply tank, transfer pump, transfer hose, nozzle, and others) is properly grounded and bonded. Consult with your fuel or fuel system supplier to ensure that the delivery system is in compliance with fueling standards for proper grounding and bonding practices.

DX,FUEL,STATIC,ELEC-19-12JUL13

Keep ROPS Installed Properly



TS212—UN—23AUG88

Make certain all parts are reinstalled correctly if the roll-over protective structure (ROPS) is loosened or removed for any reason. Tighten mounting bolts to proper torque.

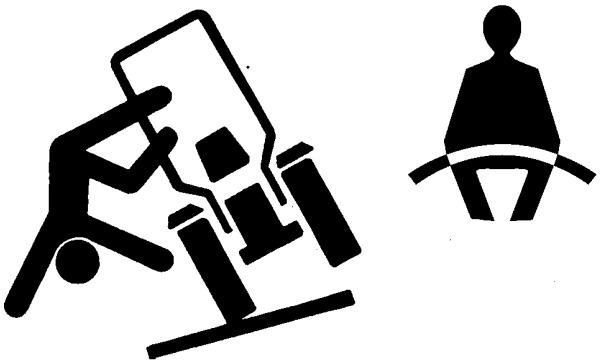
The protection offered by ROPS will be impaired if ROPS is subjected to structural damage, is involved in an overturn incident, or is in any way altered by welding, bending, drilling, or cutting. A damaged ROPS should be replaced, not reused.

The seat is part of the ROPS safety zone. Replace only with John Deere seat approved for your tractor.

Any alteration of the ROPS must be approved by the manufacturer.

DX,ROPS3-19-12OCT11

Use Foldable ROPS and Seat Belt Properly



TS1729—UN—24MAY13

Avoid crushing injury or death during rollover.

- If this machine is equipped with a foldable rollover protective structure (ROPS), keep the ROPS in the fully extended and locked position. USE a seat belt when you operate with a ROPS in the fully extended position.
  - Hold the latch and pull the seat belt across the body.
  - Insert the latch into the buckle. Listen for a click.
  - Tug on the seat belt to make sure that the belt is securely fastened.

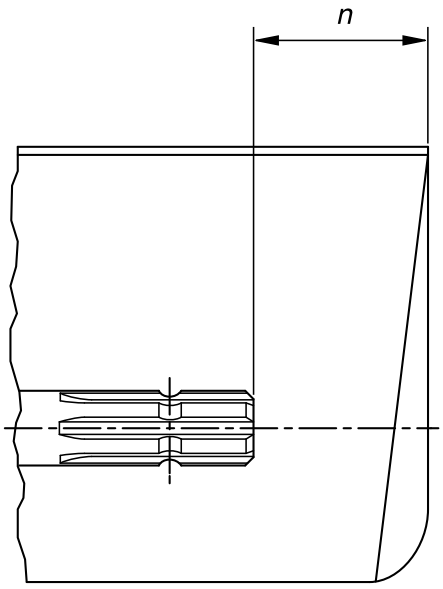
- Snug the seat belt across the hips.

- If this machine is operated with the ROPS folded (for example, to enter a low building), drive with extreme caution. DO NOT USE a seat belt with the ROPS folded.
- Return the ROPS to the raised, fully extended position as soon as the machine is operated under normal conditions.

DX,FOLDROPS-19-22AUG13

Stay Clear of Rotating Drivelines

TS1644—UN—22AUG95



H96219—UN—29APR10

Entanglement in rotating driveline can cause serious injury or death.

Keep tractor master shield and driveline shields in place at all times. Make sure rotating shields turn freely.

Only use power take-off driveshafts with adequate guards and shields.

Wear close fitting clothing. Stop the engine and be sure that PTO driveline is stopped before making adjustments, connections, or cleaning out PTO driven equipment.

Do not install any adapter device between the tractor and the primary implement PTO driveshaft that will allow a 1000 rpm tractor shaft to power a 540 rpm implement at speeds higher than 540 rpm.

Do not install any adapter device that results in a portion of the rotating implement shaft, tractor shaft, or the adapter to be unguarded. The tractor master shield shall overlap the end of the splined shaft and the added adaptor device as outlined in the table.

The angle at which the primary implement PTO driveshaft can be inclined may be reduced depending on the shape and size of the tractor master shield and the shape and size of the guard of the primary implement PTO driveshaft.

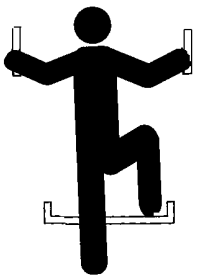
Do not raise implements high enough to damage the tractor master shield or guard of primary implement PTO driveshaft. Detach the PTO driveline shaft if it is necessary to increase implement height. (See Attching/ Detaching PTO Driveline)

When using Type 3/4 PTO, inclination and turning angles may be reduced depending on type of PTO master shield and coupling rails.

PTO Type	Diameter	Splines	n ± 5 mm (0.20 in.)
1	35 mm (1.378 in.)	6	85 mm (3.35 in.)
2	35 mm (1.378 in.)	21	85 mm (3.35 in.)
3	45 mm (1.772 in.)	20	100 mm (4.00 in.)
4	57.5 mm (2.264 in.)	22	100 mm (4.00 in.)

DX,PTO-19-28FEB17

Use Steps and Handholds Correctly



T133468—UN—15APR13

Prevent falls by facing the machine when getting on and off. Maintain 3-point contact with steps, handholds, and handrails.

Use extra care when mud, snow, or moisture present slippery conditions. Keep steps clean and free of grease

or oil. Never jump when exiting machine. Never mount or dismount a moving machine.

DX,WW,MOUNT-19-12OCT11

Read Operator's Manuals for ISOBUS Controllers

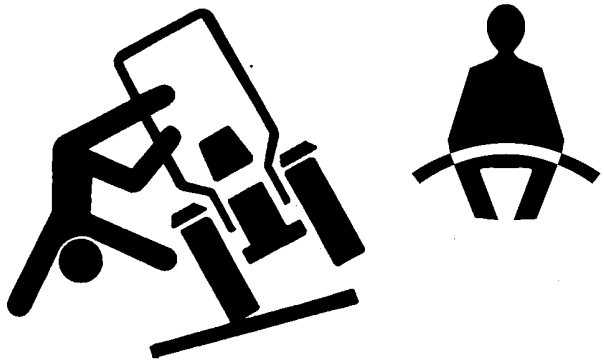
In addition to GreenStar Applications, this display can be used as a display device for any ISOBUS Controller that meets ISO 11783 standard. The display includes capability to control ISOBUS implements. When used in this manner, information and control functions placed on the display are provided by the ISOBUS Controller and are the responsibility of the ISOBUS Controller manufacturer.

Some of these functions could pose hazard to either the operator or a bystander. Read the Operator's Manual provided by the ISOBUS Controller manufacturer and observe all safety messages in manual and on ISOBUS Controller product before use.

NOTE: ISOBUS refers to the ISO Standard 11783.

DX,WW,ISOBUS(T)-19-04APR22

Use Seat Belt Properly



TS1729—UN—24MAY13

Avoid crushing injury or death during rollover.

This machine is equipped with a rollover protective structure (ROPS). USE a seat belt when you operate with a ROPS.

- Hold the latch and pull the seat belt across the body.
- Insert the latch into the buckle. Listen for a click.
- Tug on the seat belt latch to make sure that the belt is securely fastened.
- Snug the seat belt across the hips.

Replace entire seat belt if mounting hardware, buckle, belt, or retractor show signs of damage.

Inspect seat belt and mounting hardware at least once a year. Look for signs of loose hardware or belt damage, such as cuts, fraying, extreme or unusual wear, discoloration, or abrasion. Replace only with replacement parts approved for your machine. See your John Deere dealer.

DX,ROPS1-19-22AUG13

Operating the Tractor Safely

You can reduce the risk of accidents by following these simple precautions:

- Use your tractor only for jobs it was designed to perform, for example, pushing, pulling, towing, actuating, and carrying a variety of interchangeable equipment designed to conduct agricultural work.
- Operators must be mentally and physically capable of accessing the operator's station and/or controls, and operating the machine properly and safely.
- Never operate machine when distracted, fatigued, or impaired. Proper machine operation requires the operator's full attention and awareness.
- This tractor is not intended to be used as a recreational vehicle.
- Read this operator's manual before operating the tractor and follow operating and safety instructions in the manual and on the tractor.
- Follow operation and ballasting instructions found in the operator's manual for your implements/ attachments, such as front loaders.
- Follow the instructions outlined in the operator's manual of any mounted or trailed machinery or trailer. Do not operate a combination of tractor-machine or tractor-trailer unless all instructions have been followed.
- Make sure that everyone is clear of machine, attached equipment, and work area before starting engine or operation.
- Stay clear of the three-point linkage and pickup hitch (if equipped) when controlling them.
- Keep hands, feet, and clothing away from power-driven parts.

Driving Concerns

- Never get on or off a moving tractor.
- Complete any required training prior to operating vehicle.
- Keep all children and nonessential personnel off tractors and all equipment.
- Never ride on a tractor unless seated on a John Deere approved seat with a seat belt.
- Keep all shields/guards in place.
- Use appropriate visual and audible signals when operating on public roads.
- Move to side of road before stopping.
- Reduce speed when turning, applying individual

brakes, or operating around hazards on rough ground or steep slopes.

- Stability degrades when attached implements are at high position.
- Couple brake pedals together for road travel.
- Pump brakes when stopping on slippery surfaces.
- Regularly clean fenders and fender valances (mud flaps) if installed. Remove dirt before driving on public roadways.

Heated and Ventilated Operator's Seat

- An overheated seat heater can cause a burn injury or damage to the seat. To reduce the risk of burns, use caution when using the seat heater for extended periods of time, especially if the operator cannot feel temperature change or pain to the skin. Do not place objects on the seat, such as a blanket, cushion, cover, or similar item, which can cause the seat heater to overheat.

Towing Loads

- Be careful when towing and stopping heavy loads. Stopping distance increases with speed and weight of towed loads, and on slopes. Towed loads with or without brakes that are too heavy for the tractor or are towed too fast can cause loss of control.
- Consider the total weight of the equipment and its load.
- Hitch towed loads only to approved couplings to avoid rearward upset.

Parking and Leaving the Tractor

- Before dismounting, shut off SCVs, disengage PTO, stop engine, lower implements/attachments to ground, place implement/attachment control devices in neutral, and securely engage park mechanism, including the park pawl and park brake. In addition, if the tractor is left unattended, remove key.
- Leaving transmission in gear with engine off will NOT prevent the tractor from moving.
- Never go near an operating PTO or an operating implement.
- Wait for all movement to stop before servicing machinery.

Common Accidents

Unsafe operation or misuse of the tractor can result in accidents. Be alert to hazards of tractor operation.

The most common accidents involving tractors are:

- Tractor rollover
- Collisions with motor vehicles
- Improper starting procedures
- Entanglement in PTO shafts
- Falling from tractor
- Crushing and pinching during hitching

DX,WW,TRACTOR-19-08MAY19

Avoid Backover Accidents

PC10857XW—UN—15APR13

Before moving machine, be sure that all persons are clear of machine path. Turn around and look directly for best visibility. Use a signal person when backing if view is obstructed or when in close quarters.

Do not rely on a camera to determine if personnel or obstacles are behind the machine. The system can be limited by many factors including maintenance practices, environmental conditions, and operating range.

DX,AVOID,BACKOVER,ACCIDENTS-19-30AUG10

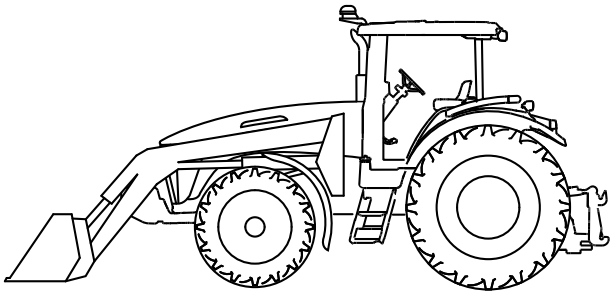
Limited Use in Forestry Operation

The intended use of John Deere tractors when used in forestry operations is limited to tractor-specific applications like transport, stationary work such as log splitting, propulsion, or operating implements with PTO, hydraulic, or electrical systems.

These are applications where normal operation does not present a risk of falling or penetrating objects. Any forestry applications beyond these applications, such as forwarding and loading, requires fitment of application-specific components including Falling Object Protective Structure (FOPS) and/or Operative Protective Structures (OPS). Contact John Deere dealer for special components.

DX,WW,FORESTRY-19-12OCT11

Operating the Loader Tractor Safely



TS1692—UN—09NOV09

When operating a machine with a loader application, reduce speed as required to ensure good tractor and loader stability.

To avoid tractor rollover and damage to front tires and tractor, do not carry load with your loader at a speed over 10 km/h (6 mph).

To avoid tractor damage do not use a front loader or a sprayer tank if the tractor is equipped with a 3 Meter Front Axle.

Never allow anyone to walk or work under a raised loader.

Do not use loader as a work platform.

Do not lift or carry anyone on loader, in bucket, or on implement or attachment.

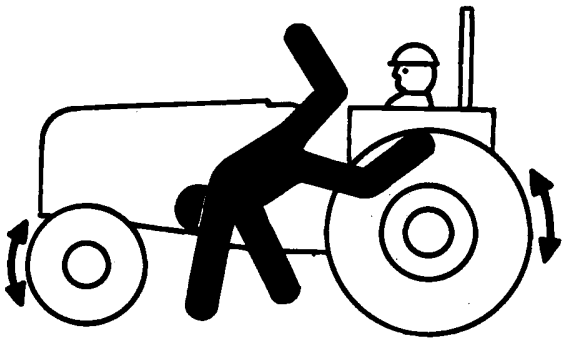
Lower loader to ground before leaving operators station.

The Rollover Protective Structure (ROPS) or cab roof, if equipped, may not provide sufficient protection from load falling onto the operators station. To prevent loads from falling onto the operators station, always use appropriate implements for specific applications (that is, manure forks, round bale forks, round bale grippers, and clampers).

Ballast tractor in accordance to Ballast Recommendations in PREPARE TRACTOR section.

DX,WW,LOADER-19-18SEP12

Keep Riders Off Machine



TS290—UN—23AUG88

Only allow the operator on the machine. Keep riders off.

Riders on machine are subject to injury such as being struck by foreign objects and being thrown off of the machine. Riders also obstruct the operator's view resulting in the machine being operated in an unsafe manner.

DX,RIDER-19-03MAR93

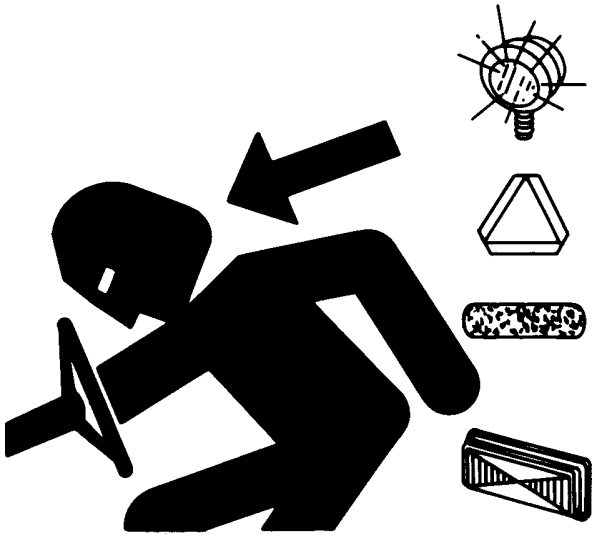
Instructional Seat

TS1730—UN—24MAY13

The instructional seat, if so equipped, has been provided only for training operators or diagnosing machine problems.

DX,SEAT,NA-19-22AUG13

Use Safety Lights and Devices



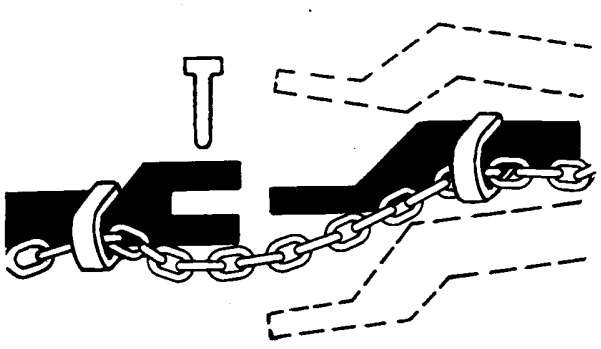
TS951—UN—12APR90

Prevent collisions between other road users, slow moving tractors with attachments or towed equipment, and self-propelled machines on public roads. Frequently check for traffic from the rear, especially in turns, and use turn signal lights.

Use headlights, flashing warning lights, and turn signals day and night. Follow local regulations for equipment lighting and marking. Keep lighting and marking visible, clean, and in good working order. Replace or repair lighting and marking that has been damaged or lost. An implement safety lighting kit is available from your John Deere dealer.

DX,FLASH-19-07JUL99

Use a Safety Chain



TS217—UN—23AUG88

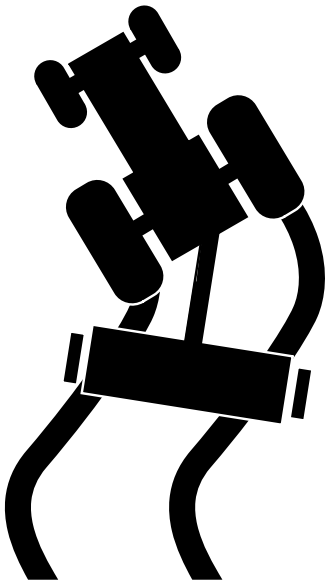
A safety chain will help control drawn equipment should it accidentally separate from the drawbar.

Using the appropriate adapter parts, attach the chain to the tractor drawbar support or other specified anchor location. Provide only enough slack in the chain to permit turning.

See your John Deere dealer for a chain with a strength rating equal to or greater than the gross weight of the towed machine. Do not use safety chain for towing.

DX,CHAIN-19-03MAR93

Transport Towed Equipment at Safe Speeds



TS1686—UN—27SEP06

Do not exceed the maximum transport speed. This towing unit may be capable of operating at transport speeds that exceed the maximum allowable transport speed for towed implements.

Before transporting a towed implement, determine from signs on the implement or information provided in the implement's operator manual the maximum transport speed. Never transport at speeds that exceed the implement's maximum transport speed. Exceeding the implement's maximum transport speed can result in:

- Loss of control of the towing unit/implement combination
- Reduced or no ability to stop during braking
- Implement tire failure
- Damage to the implement structure or its components

Implements shall be equipped with brakes if the maximum fully loaded weight is greater than 1500 kg (3307 lbs) and greater than 1.5 times the weight of the towing unit.

Example: Implement mass is 1600 kg (3527 lbs) and towing unit mass is 1600 kg (3527 lbs), example implement is not required to have brakes.

Implements without brakes: Do not transport at speeds greater than 32 km/h (20 mph).

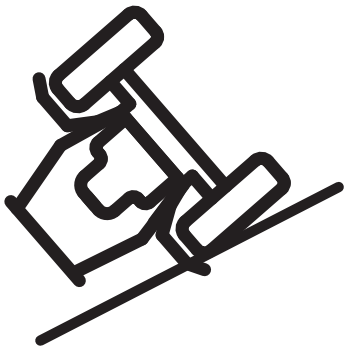
Implements with brakes:

- If the manufacturer does not specify a maximum transport speed, do not tow at speeds greater than 40 km/h (25 mph).
- When transporting at speeds up to 40 km/h (25 mph) the fully loaded implement must weigh less than 4.5 times the towing unit weight.
- When transporting at speeds between 40—50 km/h (25—31 mph) the fully loaded implement must weigh less than 3.0 times the towing unit weight.

When towing a trailer, become familiar with the braking characteristics and ensure the compatibility of the tractor/trailer combination in regard to the deceleration rate.

DX,TOW1-19-28FEB17

Use Caution on Slopes, Uneven Terrain, and Rough Ground



RXA0103437—UN—01JUL09

Avoid holes, ditches, and obstructions which cause the tractor to tip, especially on slopes. Avoid sharp uphill turns.

Driving forward out of a ditch, mired condition, or up a steep slope could cause the tractor to tip over rearward. Back out of these situations if possible.

Danger of overturn increases greatly with narrow tread setting, at high speed.

Not all conditions that can cause a tractor to overturn are listed. Be alert for any situation in which stability may be compromised.

Slopes are a major factor related to loss-of-control and tip-over accidents, which can result in severe injury or death. Operation on all slopes requires extra caution.

Uneven terrain or rough ground can cause loss-of-control and tip-over accidents, which can result in severe injury or death. Operation on uneven terrain or rough ground requires extra caution.

Never drive near the edge of a gully, drop-off, ditch, steep embankment, or a body of water. The machine could suddenly roll over if a wheel goes over the edge or the ground caves in

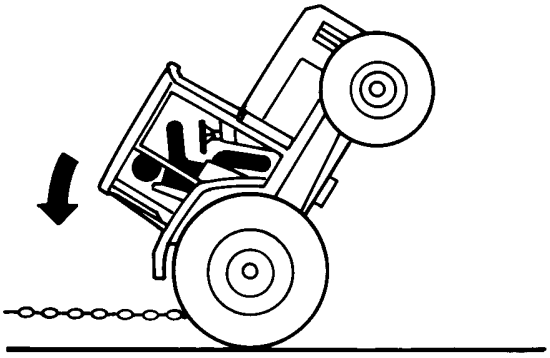
Choose a low ground speed so you will not have to stop or shift while on a slope.

Avoid starting, stopping, or turning on a slope. If the tires lose traction, disengage the PTO and proceed slowly, straight down the slope.

Keep all movement on slopes slow and gradual. Do not make sudden changes in speed or direction, which could cause the machine to roll over.

DX,WW,SLOPE-19-28FEB17

Freeing a Mired Machine



TS1645—UN—15SEP95

TS263—UN—23AUG88

Attempting to free a mired machine can involve safety hazards such as the mired tractor tipping rearward, the towing tractor overturning, and the tow chain or tow bar (a cable is not recommended) failing and recoiling from its stretched condition.

Back your tractor out if it gets mired down in mud. Unhitch any towed implements. Dig mud from behind the rear wheels. Place boards behind the wheels to provide a solid base and try to back out slowly. If necessary, dig mud from the front of all wheels and drive slowly ahead.

If necessary to tow with another unit, use a tow bar or a long chain (a cable is not recommended). Inspect the chain for flaws. Make sure all parts of towing devices are of adequate size and strong enough to handle the load.

Always hitch to the drawbar of the towing unit. Do not

hitch to the front pushbar attachment point. Before moving, clear the area of people. Apply power smoothly to take up the slack: a sudden pull could snap any towing device causing it to whip or recoil dangerously.

DX,MIRED-19-07JUL99

Avoid Contact with Agricultural Chemicals

TS220—UN—15APR13

TS272—UN—23AUG88

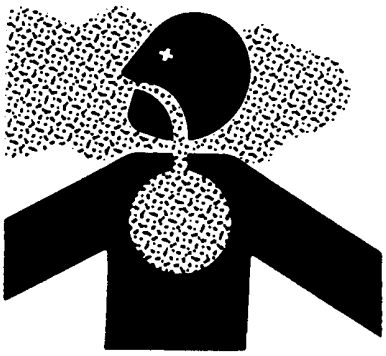
This enclosed cab does not protect against inhaling vapor, aerosol or dust. If pesticide use instructions require respiratory protection, wear an appropriate respirator inside the cab.

Before leaving the cab, wear personal protective equipment as required by the pesticide use instructions. When re-entering the cab, remove protective equipment and store either outside the cab in a closed box or some other type of sealable container or inside the cab in a pesticide resistant container, such as a plastic bag.

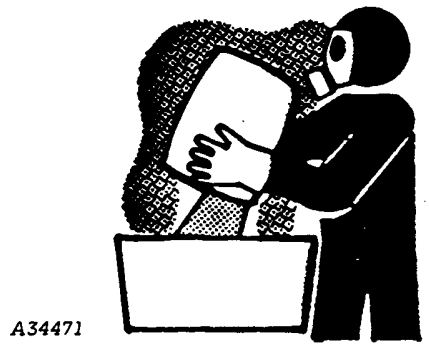
Clean your shoes or boots to remove soil or other contaminated particles prior to entering the cab.

DX,CABS-19-25MAR09

Handle Agricultural Chemicals Safely



TS220—UN—15APR13



A34471—UN—11OCT88

Chemicals used in agricultural applications such as fungicides, herbicides, insecticides, pesticides, rodenticides, and fertilizers can be harmful to your health or the environment if not used carefully.

Always follow all label directions for effective, safe, and legal use of agricultural chemicals.

Reduce risk of exposure and injury:

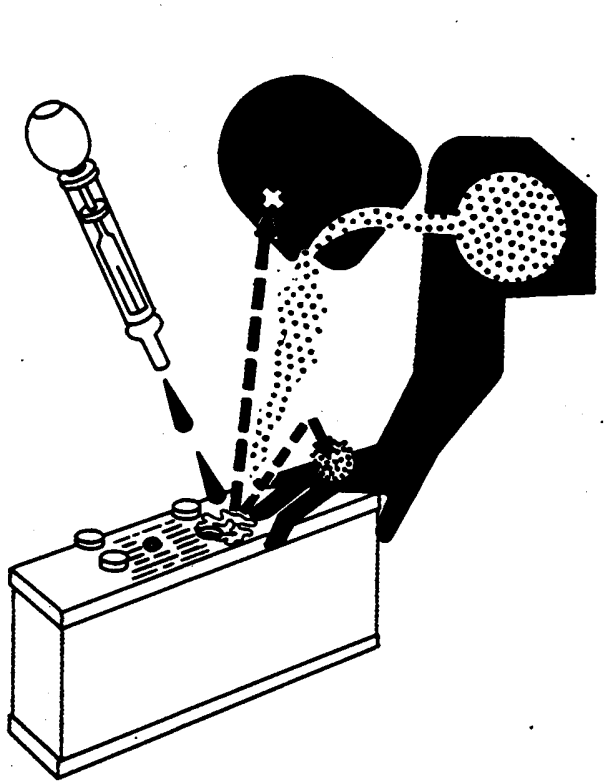
- Wear appropriate personal protective equipment as recommended by the manufacturer. In the absence of manufacturer's instructions, follow these general guidelines:
  - Chemicals labeled **'Danger'**: Most toxic. Generally require use of goggles, respirator, gloves, and skin protection.
  - Chemicals labeled **'Warning'**: Less toxic. Generally require use of goggles, gloves, and skin protections.
  - Chemicals labeled **'Caution'**: Least toxic. Generally require use of gloves and skin protection.
- Avoid inhaling vapor, aerosol or dust.
- Always have soap, water, and towel available when working with chemicals. If chemical contacts skin, hands, or face, wash immediately with soap and water. If chemical gets into eyes, flush immediately with water.
- Wash hands and face after using chemicals and before eating, drinking, smoking, or urination.

- Do not smoke or eat while applying chemicals.
- After handling chemicals, always bathe or shower and change clothes. Wash clothing before wearing again.
- Seek medical attention immediately if illness occurs during or shortly after use of chemicals.
- Keep chemicals in original containers. Do not transfer chemicals to unmarked containers or to containers used for food or drink.
- Store chemicals in a secure, locked area away from human or livestock food. Keep children away.
- Always dispose of containers properly. Triple rinse empty containers and puncture or crush containers and dispose of properly.

DX,WW,CHEM01-19-24AUG10

Handling Batteries Safely

TS204—UN—15APR13



TS203—UN—23AUG88

Battery gas can explode. Keep sparks and flames away from batteries. Use a flashlight to check battery electrolyte level.

Never check battery charge by placing a metal object across the posts. Use a voltmeter or hydrometer.

Always remove grounded (-) battery clamp first and replace grounded clamp last.

Sulfuric acid in battery electrolyte is poisonous and strong enough to burn skin, eat holes in clothing, and cause blindness if splashed into eyes.

Avoid hazards by:

- Filling batteries in a well-ventilated area
- Wearing eye protection and rubber gloves
- Avoiding use of air pressure to clean batteries
- Avoiding breathing fumes when electrolyte is added
- Avoiding spilling or dripping electrolyte
- Using correct battery booster or charger procedure.

If acid is spilled on skin or in eyes:

1. Flush skin with water.
2. Apply baking soda or lime to help neutralize the acid.
3. Flush eyes with water for 15—30 minutes. Get medical attention immediately.

If acid is swallowed:

1. Do not induce vomiting.
2. Drink large amounts of water or milk, but do not exceed 2 L (2 qt.).
3. Get medical attention immediately.

WARNING: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. **Wash hands after handling.**

DX,WW,BATTERIES-19-02DEC10

Avoid Heating Near Pressurized Fluid Lines

TS953—UN—15MAY90

Flammable spray can be generated by heating near pressurized fluid lines, resulting in severe burns to yourself and bystanders. Do not heat by welding, soldering, or using a torch near pressurized fluid lines or other flammable materials. Pressurized lines can accidentally burst when heat goes beyond the immediate flame area.

DX,TORCH-19-10DEC04

Remove Paint Before Welding or Heating

TS220—UN—15APR13

Avoid potentially toxic fumes and dust.

Hazardous fumes can be generated when paint is heated by welding, soldering, or using a torch.

Remove paint before heating:

- Remove paint a minimum of 100 mm (4 in.) from area to be affected by heating. If paint cannot be removed, wear an approved respirator before heating or welding.
- If you sand or grind paint, avoid breathing the dust. Wear an approved respirator.
- If you use solvent or paint stripper, remove stripper with soap and water before welding. Remove solvent or paint stripper containers and other flammable material from area. Allow fumes to disperse at least 15 minutes before welding or heating.

Do not use a chlorinated solvent in areas where welding will take place.

Do all work in an area that is well ventilated to carry toxic fumes and dust away.

Dispose of paint and solvent properly.

DX,PAINT-19-24JUL02

Handle Electronic Components and Brackets Safely

TS249—UN—23AUG88

Falling while installing or removing electronic components mounted on equipment can cause serious injury. Use a ladder or platform to easily reach each mounting location. Use sturdy and secure footholds and handholds. Do not install or remove components in wet or icy conditions.

If installing or servicing a RTK base station on a tower or other tall structure, use a certified climber.

If installing or servicing a global positioning receiver mast used on an implement, use proper lifting techniques and wear proper protective equipment. The mast is heavy and can be awkward to handle. Two people are required when mounting locations are not accessible from the ground or from a service platform.

DX,WW,RECEIVER-19-24AUG10

Practice Safe Maintenance

TS218—UN—23AUG88

Understand service procedure before doing work. Keep area clean and dry.

Never lubricate, service, or adjust machine while it is moving. Keep hands, feet, and clothing away from power-driven parts. Disengage all power and operate controls to relieve pressure. Lower equipment to the ground. Stop the engine. Remove the key. Allow machine to cool.

Securely support any machine elements that must be raised for service work.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.

On self-propelled equipment, disconnect battery ground cable (-) before making adjustments on electrical systems or welding on machine.

On towed implements, disconnect wiring harnesses from tractor before servicing electrical system components or welding on machine.

Falling while cleaning or working at height can cause serious injury. Use a ladder or platform to easily reach each location. Use sturdy and secure footholds and handholds.

DX,SERV-19-28FEB17

Avoid Hot Exhaust

RG17488—UN—21AUG09

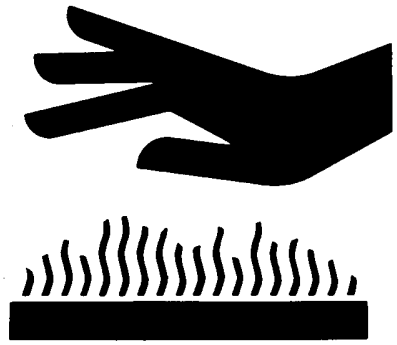
Servicing machine or attachments with engine running can result in serious personal injury. Avoid exposure and skin contact with hot exhaust gases and components.

Exhaust parts and streams become very hot during operation. Exhaust gases and components reach temperatures hot enough to burn people, ignite, or melt common materials.

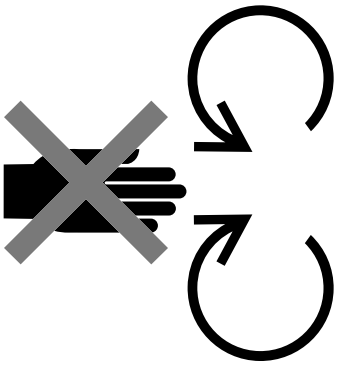
DX,EXHAUST-19-20AUG09

Clean Exhaust Filter Safely

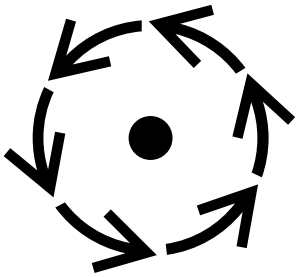
TS227—UN—15APR13



TS271—UN—23AUG88



TS1693—UN—09DEC09



TS1695—UN—07DEC09

During exhaust filter cleaning operations, the engine may run at elevated idle and hot temperatures for an extended period of time. Exhaust gases and exhaust filter components reach temperatures hot enough to burn people, or ignite or melt common materials.

Keep machine away from people, animals, or structures which may be susceptible to harm or damage from hot exhaust gases or components. Avoid potential fire or explosion hazards from flammable materials and vapors near the exhaust. Keep exhaust outlet away from people and anything that can melt, burn, or explode.

Closely monitor machine and surrounding area for smoldering debris during and after exhaust filter cleaning.

Adding fuel while an engine is running can create a fire or explosion hazard. Always stop engine before refueling machine and clean up any spilled fuel.

Always make sure that engine is stopped while hauling machine on a truck or trailer.

Contact with exhaust components while still hot can result in serious personal injury.

Avoid contact with these components until cooled to safe temperatures.

If service procedure requires engine to be running:

- Only engage power-driven parts required by service procedure
- Ensure that other people are clear of operator station and machine

Keep hands, feet, and clothing away from power-driven parts.

Always disable movement (neutral), set the parking brake or mechanism and disconnect power to attachments or tools before leaving the operator's station.

Shut off engine and remove key (if equipped) before leaving the machine unattended.

DX,EXHAUST,FILTER-19-12JAN11

Work In Ventilated Area

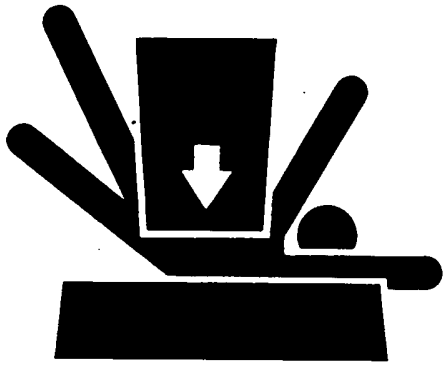
TS220—UN—15APR13

Engine exhaust fumes can cause sickness or death. If it is necessary to run an engine in an enclosed area, remove the exhaust fumes from the area with an exhaust pipe extension.

If you do not have an exhaust pipe extension, open the doors and get outside air into the area.

DX,AIR-19-17FEB99

Support Machine Properly



TS229—UN—23AUG88

Always lower the attachment or implement to the ground before you work on the machine. If the work requires that the machine or attachment be lifted, provide secure support for them. If left in a raised position, hydraulically supported devices can settle or leak down.

Do not support the machine on cinder blocks, hollow tiles, or props that may crumble under continuous load.

Do not work under a machine that is supported solely by a jack. Follow recommended procedures in this manual.

When implements or attachments are used with a machine, always follow safety precautions listed in the implement or attachment operator's manual.

DX,LOWER-19-24FEB00

Prevent Machine Runaway

TS177—UN—11JAN89

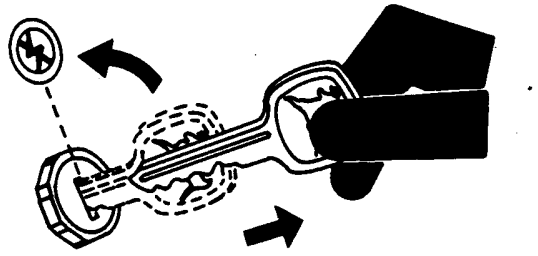
Avoid possible injury or death from machinery runaway.

Do not start engine by shorting across starter terminals. Machine will start in gear if normal circuitry is bypassed.

NEVER start engine while standing on ground. Start engine only from operator’s seat, with transmission in neutral or park.

DX,BYPAS1-19-29SEP98

Park Machine Safely



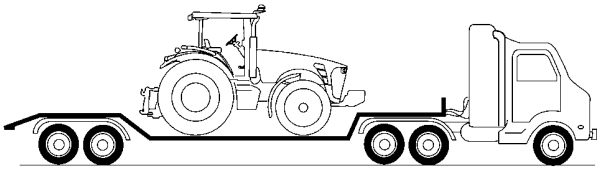
TS230—UN—24MAY89

Before working on the machine:

- Lower all equipment to the ground.
- Stop the engine and remove the key.
- Disconnect the battery ground strap.
- Hang a "DO NOT OPERATE" tag in operator station.

DX,PARK-19-04JUN90

Transport Tractor Safely



RXA0103709—UN—01JUL09

A disabled tractor is best transported on a flatbed carrier. Use chains to secure the tractor to the carrier. The axles and tractor frame are suitable attachment points.

Before transporting the tractor on a low-loader truck or flatbed rail wagon, make sure that the hood is secured over the tractor engine and that doors, roof hatch (if equipped) and windows are properly closed.

Never tow a tractor at a speed greater than 10 km/h (6 mph). An operator must steer and brake the tractor under tow.

DX,WW,TRANSPORT-19-19AUG09

Service Cooling System Safely

TS281—UN—15APR13

Explosive release of fluids from pressurized cooling system can cause serious burns.

Shut off engine. Only remove filler cap when cool enough to touch with bare hands. Slowly loosen cap to first stop to relieve pressure before removing completely.

DX,WW,COOLING-19-19AUG09

Service Accumulator Systems Safely

TS281—UN—15APR13

Escaping fluid or gas from systems with pressurized accumulators that are used in air conditioning, hydraulic, and air brake systems can cause serious injury. Extreme heat can cause the accumulator to burst, and pressurized lines can be accidentally cut. Do not weld or use a torch near a pressurized accumulator or pressurized line.

Relieve pressure from the pressurized system before removing accumulator.

Relieve pressure from the hydraulic system before removing accumulator. Never attempt to relieve hydraulic system or accumulator pressure by loosening a fitting.

Accumulators cannot be repaired.

DX,WW,ACCLA2-19-22AUG03

Service Tires Safely

RXA0103438—UN—11JUN09

Explosive separation of a tire and rim parts can cause serious injury or death.

Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job.

Always maintain the correct tire pressure. Do not inflate the tires above the recommended pressure. Never weld or heat a wheel and tire assembly. The heat can cause an increase in air pressure resulting in a tire explosion. Welding can structurally weaken or deform the wheel.

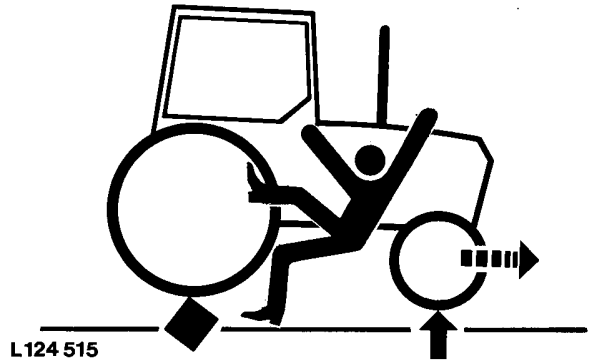
When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.

Check wheels for low pressure, cuts, bubbles, damaged rims, or missing lug bolts and nuts.

Wheels and tires are heavy. When handling wheels and tires use a safe lifting device or get an assistant to help lift, install, or remove.

DX,WW,RIMS-19-28FEB17

Service Front-Wheel Drive Tractor Safely

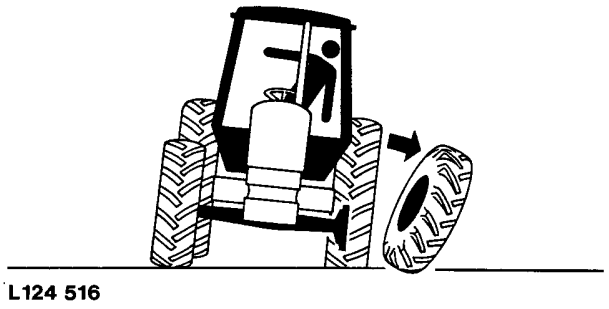


L124515—UN—06AUG94

When servicing front-wheel drive tractor with the rear wheels supported off the ground and rotating wheels by engine power, always support front wheels in a similar manner. Loss of electrical power or transmission hydraulic system pressure will engage the front driving wheels, pulling the rear wheels off the support if front wheels are not raised. Under these conditions, front drive wheels can engage even with switch in disengaged position.

DX,WW,MFWD-19-19AUG09

Tightening Wheel Retaining Bolts/Nuts

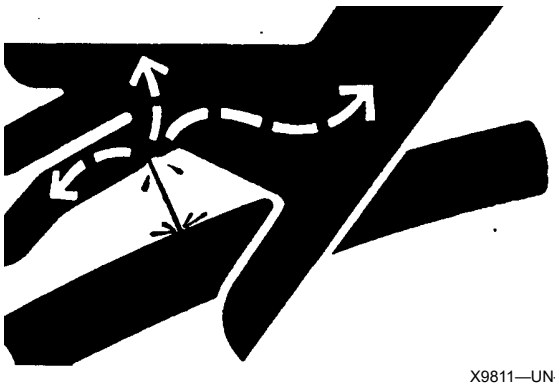


L124516—UN—03JAN95

Torque wheel retaining bolts/nuts at the intervals specified in section Break-In Period and Service.

DX,WW,WHEEL-19-12OCT11

Avoid High-Pressure Fluids



X9811—UN—23AUG88

Inspect hydraulic hoses periodically – at least once per year – for leakage, kinking, cuts, cracks, abrasion, blisters, corrosion, exposed wire braid or any other signs of wear or damage.

Replace worn or damaged hose assemblies immediately with John Deere approved replacement parts.

Escaping fluid under pressure can penetrate the skin causing serious injury.

Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high-pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available in English from Deere & Company Medical Department in Moline, Illinois, U.S.A., by calling 1-800-822-8262 or +1 309-748-5636.

DX,FLUID-19-12OCT11

Do Not Open High-Pressure Fuel System

TS1343—UN—18MAR92

High-pressure fluid remaining in fuel lines can cause serious injury. Do not disconnect or attempt repair of fuel lines, sensors, or any other components between the high-pressure fuel pump and nozzles on engines with High Pressure Common Rail (HPCR) fuel system.

Only technicians familiar with this type of system can perform repairs. (See your John Deere dealer.)

DX,WW,HPCR1-19-07JAN03

Store Attachments Safely

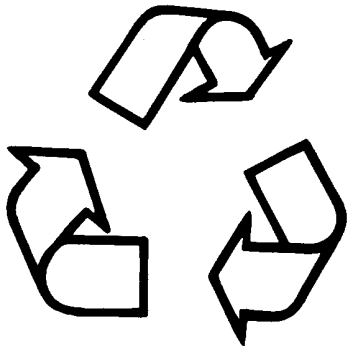
TS219—UN—23AUG88

Stored attachments such as dual wheels, cage wheels, and loaders can fall and cause serious injury or death.

Securely store attachments and implements to prevent falling. Keep playing children and bystanders away from storage area.

DX,STORE-19-03MAR93

Decommissioning — Proper Recycling and Disposal of Fluids and Components



TS1133—UN—15APR13

Safety and environmental stewardship measures must be taken into account when decommissioning a machine and/or component. These measures include the following:

- Use appropriate tools and personal protective equipment such as clothing, gloves, face shields or glasses, during the removal or handling of objects and materials.
- Follow instructions for specialized components.

- Release stored energy by lowering suspended machine elements, relaxing springs, disconnecting the battery or other electrical power, and releasing pressure in hydraulic components, accumulators, and other similar systems.
- Minimize exposure to components which may have residue from agricultural chemicals, such as fertilizers and pesticides. Handle and dispose of these components appropriately.
- Carefully drain engines, fuel tanks, radiators, hydraulic cylinders, reservoirs, and lines before recycling components. Use leak-proof containers when draining fluids. Do not use food or beverage containers.
- Do not pour waste fluids onto the ground, down a drain, or into any water source.
- Observe all national, state, and local laws, regulations, or ordinances governing the handling or disposal of waste fluids (example: oil, fuel, coolant, brake fluid); filters; batteries; and, other substances or parts. Burning of flammable fluids or components in other than specially designed incinerators may be prohibited by law and could result in exposure to harmful fumes or ashes.
- Service and dispose of air conditioning systems appropriately. Government regulations may require a certified service center to recover and recycle air conditioning refrigerants which could damage the atmosphere if allowed to escape.
- Evaluate recycling options for tires, metal, plastic, glass, rubber, and electronic components which may be recyclable, in part or completely.
- Contact your local environmental or recycling center, or your John Deere dealer for information on the proper way to recycle or dispose of waste.

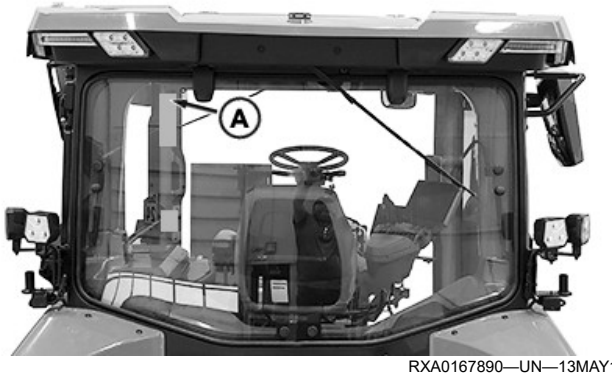
DX,DRAIN-19-01JUN15

Safety Signs

Operator's Manual

RXA0188985—19—10AUG23

(A)



RXA0167890—UN—13MAY19

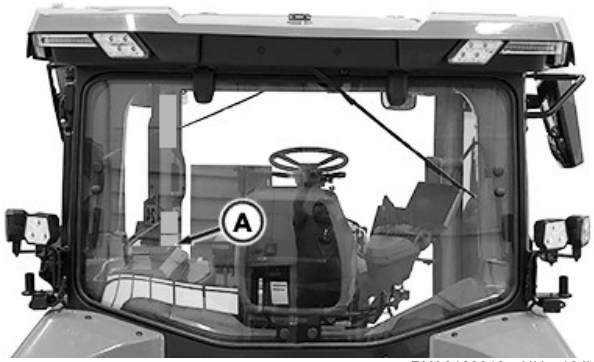
A—Before Operating Tractor Label (left-hand front cab post)

RD47322,0000689-19-08JUN23

Transport, ROPS, and Seat Belt

RXA0186061—19—18NOV21

(A)



RXA0168813—UN—10JUN19

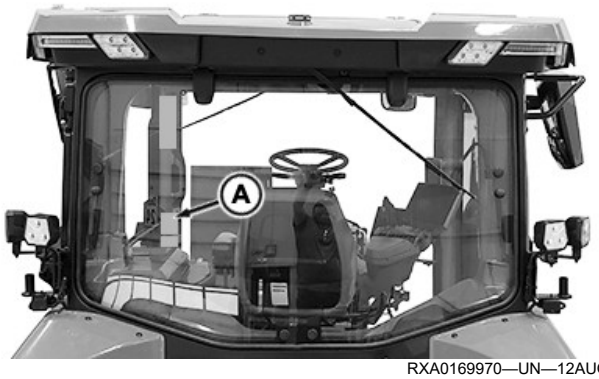
A—Transport, ROPS, and Seat Belt Warning Label (left-hand front cab post)

EC82310,00009B7-19-05JAN22

Instructional Seat (If Equipped)

RXA0186062—19—18NOV21

(A)



RXA0169970—UN—12AUG19

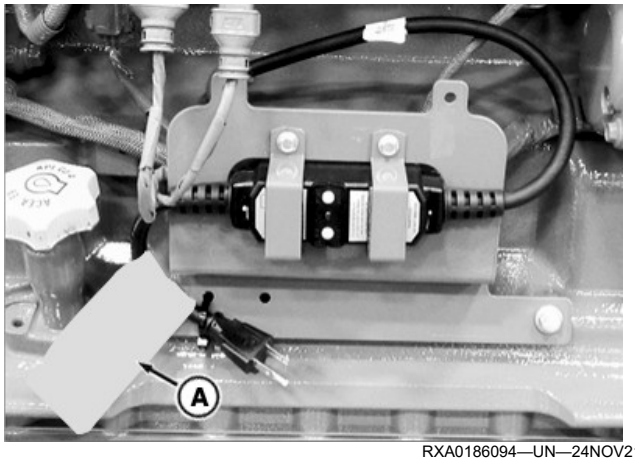
A—Instructional Seat Label (left-hand front cab post)

KT81203,000048C-19-05JAN22

Engine Block Heater (If Equipped)

RXA0186063—19—18NOV21

(A)



RXA0186094—UN—24NOV21

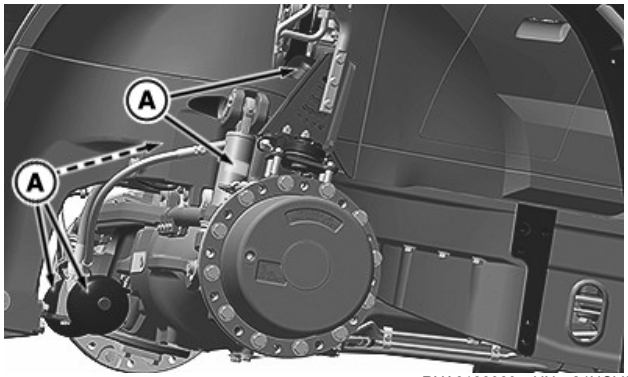
A—Engine Heater Label (left-hand side of engine)

KT81203,0000486-19-06JAN22

Triple Link Suspension Plus (TLS Plus) (If Equipped)

RXA0186064—19—18NOV21

(A)



RXA0186089—UN—24NOV21

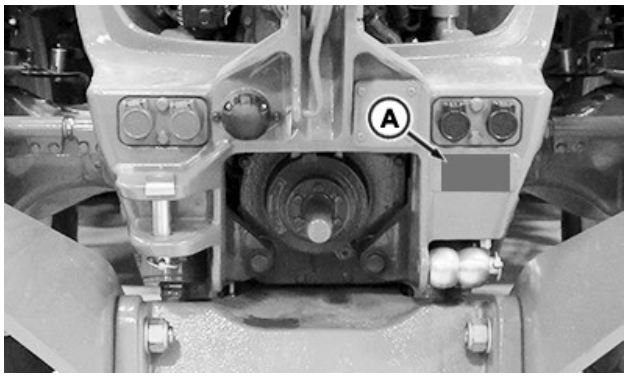
A—TLS Plus Label (hydraulic accumulators and cylinders)

KT81203,0000487-19-23JUN22

Front PTO (If Equipped)

RXA0186065—19—18NOV21

(A)



RXA0186095—UN—24NOV21

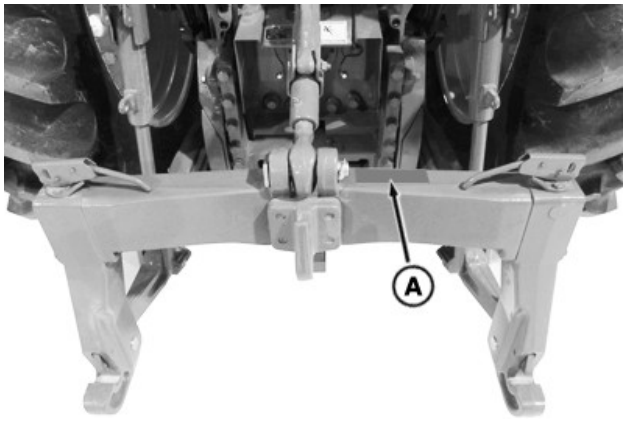
A—Front PTO Label (front support)

KT81203,0000489-19-06JAN22

Quick-Hitch (If Equipped)

RXA0186066—19—19NOV21

(A)



RXA0186096—UN—24NOV21

A—Quick-Hitch Label (rear of tractor on quick-hitch)

KT81203,000048A-19-06JAN22

Rear PTO Shield (If Equipped)

RXA0186067—19—19NOV21

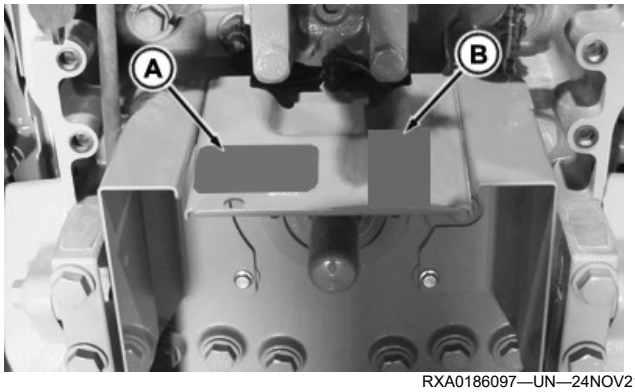
(A)

RXA0186068—19—19NOV21

(B)

RXA0186069—19—19NOV21

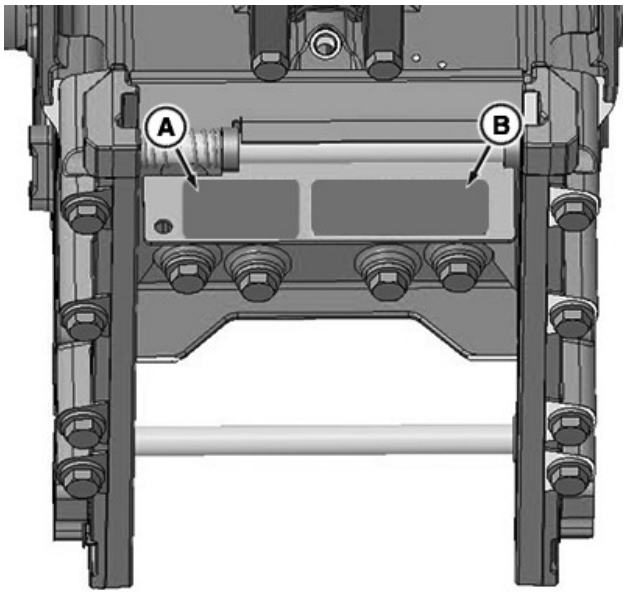
(B)



RXA0186097—UN—24NOV21

A—Rear PTO Label (rear of tractor on PTO shield)
B—No Step Label (rear of tractor on PTO shield)

EC82310,0000823-19-06JAN22



RXA0186098—UN—24NOV21

A—Rear PTO Label (rear of tractor on PTO shield)
B—No Step Label (rear of tractor on PTO shield)

EC82310,0000822-19-06JAN22

Rear PTO Shield (If Equipped)

RXA0186067—19—19NOV21

(A)

7R Series Tractor

RXA0171850—UN—05NOV19

7R Series Tractor Example

RX32825,000179F-19-21JAN20

Engine Settings—Access

Access Application through Display:

1.

RXA0167075—UN—20MAR19

Menu

Menu

2.

RXA0167076—UN—20MAR19

Machine Settings

Machine Settings tab

3.

RXA0175176—UN—17FEB20

Engine

Engine

Access Application through Navigation Bar:

RXA0168449—UN—30MAY19

Engine

Press engine button on navigation bar below display.

KD34109,00005AC-19-03AUG23

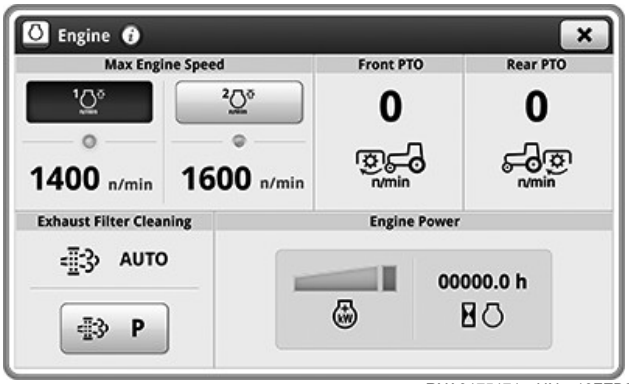
Engine Settings

The Engine application is used to access and adjust engine settings.

NOTE: Some items only display if machine is equipped with the associated option.

RXA0175173—UN—13FEB20

Engine Example (tractors equipped with CommandPRO transmission)



RXA0175171—UN—13FEB20

Engine Example (tractors equipped with other transmissions)

Items Accessible on the Engine Main Page:

Engine Power — select to display the current engine power level and/or enable/disable intelligent power management (IPM) if equipped. See Engine Settings—Engine Power in this Operator's Manual section.

Engine Set Speed Items:

RXA0175192—UN—17FEB20

Engine Set Speed 1

Enable Engine Set Speed 1 — select to enable the saved set speed.

RXA0175194—UN—18FEB20

Engine Set Speed 1 Value

Engine Set Speed 1 — select to adjust the set speed setting. See Engine Settings—Engine Set Speed in this Operator's Manual section.

RXA0175193—UN—02APR20

Engine Set Speed 2

Enable Engine Set Speed 2 — select to enable the saved set speed.

RXA0175195—UN—18FEB20

Engine Set Speed 2 Value

Engine Set Speed 2 — select to adjust the set speed setting. See Engine Settings—Engine Set Speed in this Operator's Manual section.

RXA0175181—UN—13FEB20

Indicator

Active Indicator — illuminates orange when an Engine Set Speed is enabled.

Standby Indicator — appears gray when an Engine Set Speed is disabled.

Max Engine Speed Items:

NOTE: 7R Tractors with IVT: If the PTO is in use and Max Engine Speed is enabled, the tractor decelerates slower during shuttle shift to maintain the PTO speed. To avoid slower deceleration, disable Max Engine Speed.

RXA0175183—UN—17FEB20

Max Engine Speed 1

Enable Max Engine Speed 1 — select to enable the saved maximum speed.

RXA0175194—UN—18FEB20

Max Engine Speed 1 Value

Max Engine Speed 1 — select to adjust the maximum speed setting. See Engine Settings—Max Engine Speed in this Operator's Manual section.

RXA0175184—UN—17FEB20

Max Engine Speed 2

Enable Max Engine Speed 2 — select to enable the saved maximum speed.

RXA0175195—UN—18FEB20

Max Engine Speed 2 Value

Max Engine Speed 2 — select to adjust the maximum speed setting. See Engine Settings—Max Engine Speed in this Operator's Manual section.

RXA0175181—UN—13FEB20

Indicator

Active Indicator — illuminates orange when a Max Engine Speed is enabled.

Standby Indicator — appears gray when a Max Engine Speed is disabled.

Front PTO Items:

RXA0175179—UN—13FEB20

Front PTO Speed

Front PTO — displays the current PTO speed.

Rear PTO Items:

RXA0175189—UN—02APR20

Rear PTO Speed

Rear PTO — displays the current PTO speed.

PTO Speed Limit Items:

RXA0175190—UN—18FEB20

Rear PTO Speed Limit

NOTE: Rear PTO Speed Limit only displays if the tractor is equipped with the CommandPRO transmission.

Rear PTO Speed Limit — displays the Rear PTO Speed Limit setting. For adjustment information, see PTO Settings in PTO—General Information section of this Operator's Manual.

RXA0175181—UN—13FEB20

Indicator

NOTE: The indicator only displays if the tractor is not equipped with a front PTO.

Active Indicator — illuminates orange when PTO Speed Limit is enabled.

Standby Indicator — appears gray when PTO Speed Limit is disabled.

Exhaust Filter Cleaning Items:

NOTE: Final Tier 4/Stage V engines only.

RXA0175166—UN—17FEB20

AUTO Exhaust Filter Cleaning

AUTO Exhaust Filter Cleaning — select to enable/disable an automated process to perform Exhaust Filter Cleaning during normal operation. See Engine Settings—Exhaust Filter System Overview in this Operator's Manual section.

RXA0175186—UN—18FEB20

Parked Filter Cleaning

Parked Filter Cleaning — select to start a process to perform Exhaust Filter Cleaning while the machine is parked. See Engine Settings—Exhaust Filter System Overview in this Operator's Manual section.

RXA0175191—UN—18FEB20

Request Exhaust Filter Cleaning

Request Exhaust Filter Cleaning — select to start a more intense cleaning procedure than Parked Filter Cleaning. See Engine Settings—Exhaust Filter System Overview in this Operator's Manual section.

Run Page Modules

Add modules for this application to run pages using Layout Manager. See the G5 CommandCenter Operator's Manual.

Example:

RXA0175178—UN—17FEB20

Engine Power

NOTE: Different modules may be available for your application.

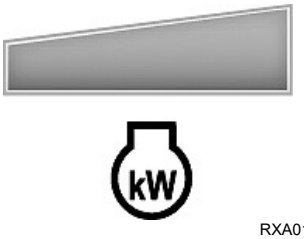
Engine Power — quick access to the Engine Power module.

KD34109,0001A3C-19-22MAR23

Engine Settings—Engine Power

The Engine Power page displays a graph of the current Engine Power level and the number of accumulated engine hours. If equipped, you can also enable/disable intelligent power management (IPM).

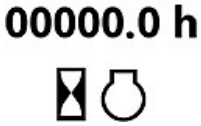
Items Accessible on Engine Power Page:



RXA0175187—UN—13FEB20

Power Level

The green fill indicates the amount of Engine Power being used. A reading does not display until 40% of the available Engine Power is being used.



RXA0175162—UN—17FEB20

Engine Hours

Accumulated engine operating hours for the machine are displayed.

Intelligent Power Management (IPM):

IPM provides a controlled power boost of up to 26 kW (35 hp) to the tractor when:

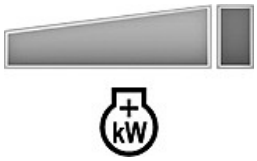
- Accelerating at transport speeds. The power boost occurs in steps through a range of 23—28 km/h (14.3—17.4 mph).
- Decelerating at transport speeds. The power boost ramps down in equal steps in a range of 23—18 km/h (14.3—11.2 mph).
- The PTO is under load, consuming moderate power, and the tractor is moving at 0.5 km/h (0.3 mph) or more.
- The tractor is moving with the rear PTO under load or the tractor is in transport above 23 km/h (14.3 mph). The power increase indicator illuminates on the corner post display and the IPM level displays on the CommandCenter.

NOTE: The power increase is not provided under draft applications or non-loaded rear PTO applications. The power increase is only provided when required.

RXA0167628—UN—26APR19

ON/OFF

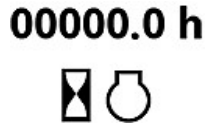
Select ON to enable or OFF to disable.



RXA0175180—UN—17FEB20

IPM Power Level

The green fill indicates the amount of Engine Power being used. A reading does not display until 40% of the available Engine Power is being used. The additional portion of the graph and (+) on the icon indicate a power increase.



RXA0175162—UN—17FEB20

Engine Hours

Accumulated engine operating hours for the machine are displayed.

KD34109,00005D7-19-20JUN22

Engine Settings—Engine Set Speed

Engine Set Speeds are user-defined engine speeds that can be saved for easy access. Maintaining a specific engine rpm assists PTO speed, which is automatically calculated using the Engine Set Speed. After the Engine Set Speed has been activated, the engine speed automatically adjusts to the saved value. The setting can be adjusted 1100—2150 rpm. Two different speeds can be saved, enabling the operator to toggle quickly from one to the other.

NOTE: Engine Set Speeds:

- *Replace Max Engine Speeds when an IVT or EVT transmission is set to Pedal mode.*
- *Always display if the tractor is equipped with a CommandPRO transmission.*
- *Cannot exceed the limit set by the Max Engine Speed feature when activated.*

NOTE: Some items only display if machine is equipped with the associated option.

Procedure to Modify:

RXA0175194—UN—18FEB20

Engine Set Speed Value

1. Select the Engine Set Speed value.

RXA0175163—UN—17FEB20

Adjust Speed

2. Select (+/++) to increase or (-/- -) to decrease the setting. Use (++) and (- -) to increase or decrease the value at a higher rate than (+) and (-). The value is shown in the display box.

RXA0167129—UN—25MAR19

Close

3. Select to close.

PTO Items:

RXA0175179—UN—13FEB20

Front PTO Speed

Front PTO — displays the current PTO speed.

RXA0175189—UN—02APR20

Rear PTO Speed

Rear PTO — displays the current PTO speed.

External Sources:

Engine Set Speed Buttons — if the CommandPRO

joystick is equipped, Engine Set Speeds can be enabled/disabled using the buttons on the CommandARM. See CommandARM Controls—Left Side in CommandARM Controls section of this Operator's Manual.

KD34109,00005D8-19-20JUN22

Engine Settings—Max Engine Speed

Limiting engine speed in light load situations can improve fuel economy. Max Engine Speed utilizes a constant speed governor curve, providing an instant response to varying loads. The setting can be adjusted 1100—2150 rpm. Two different speeds can be set, enabling the operator to toggle quickly from one to the other.

NOTE: If equipped with the CommandPRO transmission, one Max Engine Speed is available.

NOTE: Some items only display if machine is equipped with the associated option.

Procedure to Modify:

NOTE: The engine must be running to adjust the Max Engine Speed.

RXA0175194—UN—18FEB20

Max Engine Speed Value

1. Select Max Engine Speed value.

RXA0175163—UN—17FEB20

Adjust Speed

2. Select (+/++) to increase or (-/- -) to decrease the setting. Use (++) and (- -) to increase or decrease the value at a higher rate than (+) and (-). The value is shown in the display box.

RXA0167129—UN—25MAR19

Close

3. Select to close.

PTO Items:

RXA0175179—UN—13FEB20

Front PTO Speed

Front PTO — displays the current PTO speed.

RXA0175189—UN—02APR20

Rear PTO Speed

Rear PTO — displays the current PTO speed.

External Sources:

Max Engine Speed Button — enable/disable Max Engine Speeds using the button on the CommandARM. See CommandARM Controls—Left Side in CommandARM Controls section of this Operator's Manual. The last Max Engine Speed selected in the CommandCenter is used. A box displays on the page around the Max Engine Speed that was enabled last.

Interaction with Transmission Modes:

NOTE: The transmission mode is changed on the Transmission page. For more information, see Transmission section.

- **Full AUTO** — at full throttle, the minimum engine speed is 1200 rpm with the PTO off. The transmission downshifts and the engine speeds up to the Max Engine Speed to compensate for increasing workloads. The available engine speed range is 1200 rpm to Max Engine Speed.
- **Custom** — two minimum engine speed settings are also available, ECO ON and ECO OFF. ECO ON runs the engine as low as possible for light loads that do not change quickly. ECO OFF can handle quick load changes.
- **Speed Control Pedal** — Engine Set Speed features replace the Max Engine Speed features. The engine speed stays constant at the engine speed selected. The hand throttle will take over control of the engine speed if it is moved out of position.
- **Manual** — the operator sets the engine speed using the hand throttle. The engine speed stays constant and is limited by the Max Engine Speed.

KD34109,00005D9-19-20JUN22

Engine Settings—Exhaust Filter System Overview

Final Tier 4/Stage V engines clean and filter the exhaust. Under normal machine operation and with filter cleaning in AUTO mode, minimal interaction is required.

To avoid unnecessary buildup of diesel particulates or soot in the exhaust filter system:

- Utilize the AUTO Exhaust Filter Cleaning mode.
- Avoid unnecessary idling.
- Use proper engine oil.
- Use only ultra-low sulfur fuel.

CAUTION: When AUTO, Parked, or Requested Filter Cleaning is in progress, the exhaust temperature can be high under no load or light load conditions at certain times during the Exhaust Filter Cleaning cycle.

Servicing the machine or attachments during the Exhaust Filter Cleaning can result in serious personal injury. Avoid exposure and skin contact with hot exhaust gases and components.

During the AUTO and manual/stationary Exhaust Filter Cleaning operations, the engine runs at elevated idle and hot temperatures for an extended period. Exhaust gases and exhaust filter components reach temperatures hot enough to cause burns to people, or to ignite or melt common materials.

Never perform exhaust cleaning procedures in a closed building unless suitable exhaust is provided.

Corner post display indicators and CommandCenter prompts provide information related to the exhaust filter system activity.

RXA0175166—UN—17FEB20

AUTO Exhaust Filter Cleaning

NOTE: Exhaust Filter Cleaning automatically resets back to AUTO mode after every key cycle.

AUTO Exhaust Filter Cleaning — an automated process to perform Exhaust Filter Cleaning during normal operation. See Engine Settings—AUTO Exhaust Filter Cleaning in this Operator's Manual section.

RXA0175164—UN—17FEB20

AUTO Exhaust Filter Cleaning Disabled

Disable AUTO Exhaust Filter Cleaning — use in conditions where it can be unsafe for elevated exhaust temperatures. See Engine Settings—Disable AUTO Exhaust Filter Cleaning in this Operator's Manual section.

RXA0175186—UN—18FEB20

Parked Filter Cleaning

NOTE: The process requires about 1 hour to complete.

Parked Filter Cleaning — a process to perform Exhaust Filter Cleaning while machine is parked. See Engine Settings—Parked Filter Cleaning in this Operator's Manual section.

RXA0175191—UN—18FEB20

Request Exhaust Filter Cleaning

NOTE: The process requires about 2—3 hours to complete.

Request Exhaust Filter Cleaning — a more intense cleaning procedure than Parked Filter Cleaning. See Engine Settings—Parked Filter Cleaning in this Operator's Manual section.

Exhaust Filter Cleaning Indicator — illuminates on the corner post display when the exhaust filter system is actively performing an Exhaust Filter Cleaning. See Corner Post Display in Corner Post Display section of this Operator's Manual.

KD34109,00005B1-19-20JUN22

Engine Settings—AUTO Exhaust Filter Cleaning

NOTE: Final Tier 4/Stage V engines only.

The Exhaust Filter Cleaning page allows you to enable/disable AUTO mode. AUTO mode automatically performs Exhaust Filter Cleaning as required.

CAUTION: When AUTO, Parked, or Requested Filter Cleaning is in progress, the exhaust temperature can be high under no load or light load conditions at certain times during the Exhaust Filter Cleaning cycle.

Servicing the machine or attachments during the Exhaust Filter Cleaning can result in serious personal injury. Avoid exposure and skin contact with hot exhaust gases and components.

During the AUTO and manual/stationary Exhaust Filter Cleaning operations, the engine runs at elevated idle and hot temperatures for an extended period. Exhaust gases and exhaust filter components reach temperatures hot enough to cause burns to people, or to ignite or melt common materials.

Never perform exhaust cleaning procedures in a closed building unless suitable exhaust is provided.

IMPORTANT: Disable AUTO Exhaust Filter Cleaning when temporarily connected to an indoor ducted exhaust system for diagnostic and repair activities, or in any elevated exhaust temperature conditions that are unsafe. See Engine Settings—Disable AUTO Exhaust Filter Cleaning in this Operator's Manual section.

Do not disable AUTO Exhaust Filter Cleaning unless absolutely necessary. Repeated disabling or ignoring prompts to perform manual or Parked Filter Cleaning procedure will cause additional engine power limitation and can eventually lead to required dealer service.

Damage to exhaust cleaning components can occur if the engine is turned off while performing Exhaust Filter Cleaning or shortly after the cleaning is complete.

Procedure to Modify When Disabled:

RXA0175164—UN—17FEB20

AUTO Exhaust Filter Cleaning Disabled

1. Select to open the AUTO Exhaust Filter Cleaning page.

NOTE: Exhaust Filter Cleaning automatically resets back to AUTO mode after every key cycle.

RXA0167628—UN—26APR19

ON/OFF

2. Select ON to enable AUTO Exhaust Filter Cleaning.

RXA0167129—UN—25MAR19

Close

3. Select to close.

KD34109,00005B2-19-09FEB22

Engine Settings—Disable AUTO Exhaust Filter Cleaning

NOTE: Final Tier 4/Stage V engines only.

AUTO Exhaust Filter Cleaning can be disabled in certain conditions.

IMPORTANT: Disable the AUTO Exhaust Filter Cleaning system only when necessary.

Modify When:

- Indoors or under a roof, unless a high temperature externally vented exhaust system is connected.
- There is not enough time available for the machine to complete a cleaning cycle before it is shut down.
- Operating in high crop dust or chaff conditions.
- Next to a fueling area.

Procedure to Modify:

RXA0175166—UN—17FEB20

AUTO Exhaust Filter Cleaning

1. Select to open the AUTO Exhaust Filter Cleaning page.

NOTE: Exhaust Filter Cleaning automatically resets back to AUTO mode after every key cycle.

RXA0167628—UN—26APR19

ON/OFF

2. Select OFF to disable AUTO Exhaust Filter Cleaning.

RXA0167129—UN—25MAR19

Close

3. Select to close.

RXA0175164—UN—17FEB20

AUTO Exhaust Filter Cleaning Disabled

The DISABLED icon and text will display on the main page.

KD34109,00005B3-19-18FEB20

Engine Settings—Parked Filter Cleaning

NOTE: Final Tier 4/Stage V engines only.

Parked Filter Cleaning is an operator-initiated process to clean the exhaust filter.

During the process, the system controls engine speed and the machine must remain parked to complete the procedure. The time required for the Parked Filter Cleaning process is dependent upon the level of exhaust filter restriction, ambient temperatures, and the current exhaust gas temperature.

Modify When:

- The Exhaust Filter Cleaning indicator is flashing on the corner post display.
- Constantly disabling AUTO Exhaust Filter Cleaning mode.
- Idling excessively.
- Incorrect fuel quality is used.

NOTE: If Parked Filter Cleaning is ignored and the soot level gets too high, Request Filter Cleaning, a more intense cleaning procedure, will be forced.

⚠ CAUTION: When AUTO, Parked, or Requested Exhaust Filter Cleaning is in progress, the exhaust temperature can be high under no load or light load conditions at certain times during the Exhaust Filter Cleaning cycle.

Servicing the machine or attachments during the Exhaust Filter Cleaning can result in serious personal injury. Avoid exposure and skin contact with hot exhaust gases and components.

During the AUTO and manual/stationary Exhaust Filter Cleaning operations, the engine runs at elevated idle and hot temperatures for an extended period. Exhaust gases and exhaust filter components reach temperatures hot enough to cause burns to people, or to ignite or melt common materials.

Never perform exhaust cleaning procedures in a closed building unless suitable exhaust is provided.

Procedure to Modify:

1. Select appropriate procedure:

RXA0175186—UN—18FEB20

Parked Filter Cleaning

   a. Parked Filter Cleaning

RXA0175191—UN—18FEB20

Request Exhaust Filter Cleaning

   b. Request Exhaust Filter Cleaning

2. Verify that the machine is configured for Parked Filter Cleaning.
   - Stop machine motion.
   - Set the engine speed to low idle.
   - Engage the park brake.
   - Disengage the PTO (front and rear).

RXA0175167—UN—19FEB20

Check Mark

Once a condition has been met, a green check mark displays next to the condition.

RXA0175185—UN—19FEB20

Next

3. Once all conditions have been met, select Next.

NOTE: The exhaust filter system controls the engine speed to increase the exhaust temperature.

RXA0175188—UN—19FEB20

Progress Indicator

A progress indicator displays while Exhaust Filter Cleaning is running.

RXA0175168—UN—19FEB20

Complete

The system informs you when each of the two stages is complete:

- Preparation — the exhaust filter system controls engine speed to increase the exhaust temperature.
- Cleaning — diesel particulates (soot) are cleaned from the exhaust filter system. The process may exceed 40 minutes.

RXA0167129—UN—25MAR19

Close

4. Select to close.

NOTE: The system defaults to AUTO mode when cleaning is complete.

If you are not returning the machine to service immediately after the procedure, allow the engine enough time to return to normal operating temperature before turning off the engine.

Cancel Procedure:

RXA0175161—UN—19FEB20

Abort

To cancel the process, select Abort at any time during the cleaning procedure.

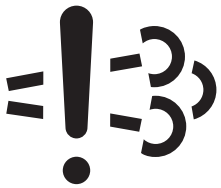
The process is also canceled by:

- Advancing the throttle.
- Engaging the transmission.
- Stopping the engine.
- Engaging the PTO (front or rear).

KD34109,00005B4-19-23NOV20

Required Machine Stop Warning

Machine Stop Mandate Occurs



RG22491—UN—21AUG13

IMPORTANT: In some situations, machine engine power may be reduced as described. On notification, immediately place the machine in a safe state and or move it to a safe location. A mandated machine stop can only be removed by a service technician.

Engine Emissions System Malfunction Indicator illuminates when an emission-related fault occurs.

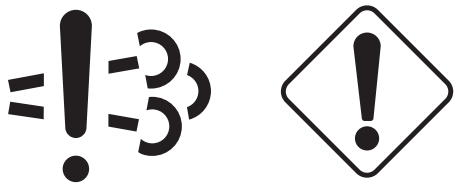
RG22492—UN—21AUG13

Warning Indicator illuminates when a condition exists which requires operator action.

RG22493—UN—21AUG13

Engine Stop Indicator illuminates when a condition exists which requires immediate operator action and service.

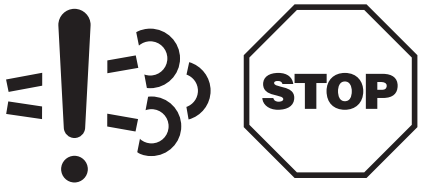
Emission System Fault Has Occurred



RG26361—UN—04SEP14

30 minutes remaining, Engine Emissions System Malfunction and Warning Indicators are illuminated and alarm sounds to warn operator of emissions-related fault. “Less than 30 minutes to Power Restriction” displayed on machines with display.

- Engine power is normal.
- Machine operation is normal.
- Place machine in a safe state.
- Contact service provider.



RG26972—UN—26MAR15

20 minutes remaining, Engine Emissions System Malfunction and Engine Stop Indicators are illuminated and alarm sounds to warn operator of emissions-related fault. “Less than 20 minutes to Power Restriction” displayed on machines with displays.

- Engine power and torque are reduced.
- Key Off - Key On will temporarily provide full power.
- Place machine in a safe state.
- Contact service provider.

RG26972—UN—26MAR15

2 minutes or less remaining, Engine Emissions System Malfunction and Engine Stop Indicators are illuminated and alarm sounds to warn operator of emissions-related fault which has not been corrected. “Power Restriction” displayed on machines with displays.

- Engine power is idle only.
- Place machine in a safe state.
- Contact service provider.

DX,MACHSTOPWARN,AG-19-02OCT15

Engine Fuel System and Power Rating

Fuel System

IMPORTANT: Modification or alteration of injection system or emission control devices will terminate warranty to purchaser.

Do not attempt to service injection system. Special training and special tools are required. See your John Deere dealer.

Engine Certification/Power Rating

kW (hp) rating on engine emissions certification label specifies gross engine kW (hp), which is flywheel power without fan.

TS36762,0000174-19-18NOV16

Battery Disconnect Switch

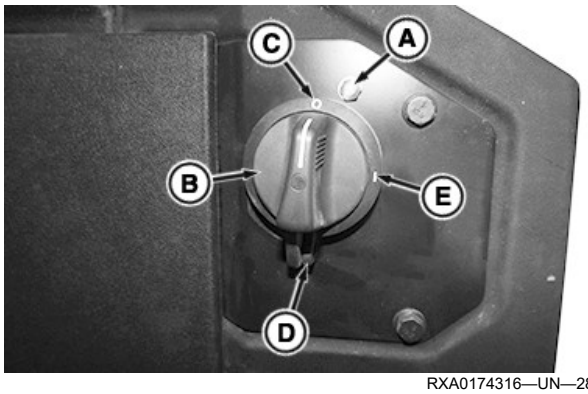
CAUTION: Avoid injury or damage to tractor systems from inadvertent contact with electrical power. Disconnect battery when directed.

IMPORTANT: Never turn power off using the battery disconnect switch while engine is running, doing so could result in serious damage to tractor electrical components.

During a long storage period, always turn battery disconnect switch to off position. If battery disconnect switch is left on, battery could lose charge.

1. Stop tractor, place transmission into PARK, and turn key switch to OFF.

IMPORTANT: Prevent damage to the tractor emissions system. Tractor is equipped with an engine which uses a Selective Catalytic Reduction (SCR) system. Electrical power must be maintained during an automatic purge of Diesel Exhaust Fluid (DEF). Tractor ECU can be damaged if power is removed before the indicator light turns off.



RXA0174316—UN—28JAN20

Light (A) is illuminated during a DEF purge. If full system is not purged, any DEF remaining can crystallize and plug system. At temperatures below -15°C (5°F), unpurged DEF freezes and can damage system components.

Battery disconnect switch without indicator light: Engine not equipped with SCR system. No waiting period is required before turning off switch.

2. When battery disconnect switch indicator light has gone out, turn disconnect switch off (C).
3. If desired, secure switch in off position using holes (D) provided.
4. Turn on switch (E) before operating tractor.

JL41210,0000A61-19-29JAN20

Start the Engine

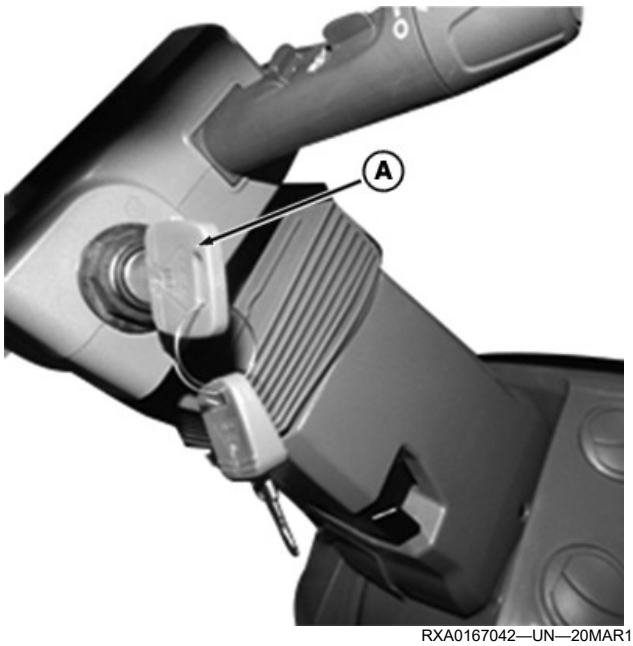
Before Starting the Engine

1. Move the SCV levers to the NEUTRAL position.
2. Disengage the PTO (if equipped).
3. Move the hand throttle to the low idle position.
4. Move the transmission shift lever to the PARK position.

CAUTION: Avoid possibility of serious injury or death. Be sure that the tractor and attached equipment are clear of people and other objects.

5. Depress clutch and brake pedals.
6. Sound horn.

Start the Engine



RXA0167042—UN—20MAR19

1. Turn the key switch (A) fully clockwise to the start position. The Engine Control Unit (ECU) senses the key position and sends a signal to the starter to start the engine. The key can be released.
2. If the engine fails to start after a time period determined by the ECU, based on ambient conditions, the ECU will terminate the start attempt until the cranking motor has had time to cool. Depending on conditions, the ECU can:
   - Attempt to start the engine for up to 2 minutes.
   - Prevent a second start attempt for up to 2 minutes.
3. The engine start attempt continues until any of the following conditions occur:
   - The engine starts.
   - The starting process is canceled by turning the key switch to OFF.
   - Or an engine problem is detected by the ECU.
   - The engine was unable to start after attempting for up to 2 minutes.
4. If the engine:
   - Starts—begin desired operations.
   - Does not start—attempt a second start. If the engine still does not start, go to step 5.

NOTE: If the engine fails to start, the ECU can prevent additional cranking attempts for up to 2 minutes, allowing the cranking motor sufficient time to cool.

5. Check the:
   - Quantity and quality of the fuel.
   - Electrical system.
   - Ambient temperature. In cold weather (at or below -6°C [21°F]), follow the steps listed in the appropriate Cold Weather Starting topic in Cold Weather Operation section of this Operator's Manual.
6. If all factors in step 5 are acceptable, attempt to start the engine again. If the engine fails to start after three attempts, see your John Deere dealer.

KT81203,0000136-19-03NOV20

Run the Engine

IMPORTANT: Do not start engine with throttle pushed completely forward.

Avoid excessive engine idling (more than 5 minutes). Prolonged idling may cause engine coolant temperature to fall below normal range. Prolonged idling causes crankcase oil dilution, due to incomplete fuel combustion, and permits formation of gummy deposits on valves, pistons, and piston rings. It promotes rapid accumulation of engine sludge and unburned fuel in exhaust system.

Operate engine between 1500—2100 rpm. Do not operate engine constantly below 1500 rpm during heavy draft usage or when tractor is under full PTO load.

For maximum tractor performance:

- Ensure that tractor is correctly ballasted, see Performance Ballasting section of this Operator's Manual.
- For e23 transmission, see e23 Transmission section of this Operator's Manual.
- For IVT/AutoPowr transmission, see IVT/AutoPowr Transmission section of this Operator's Manual.

If engine stalls, start immediately to provide lubrication to critical engine parts.

Allow engine to idle for 20 seconds before turning key switch to OFF position.

Contact your John Deere dealer if any symptoms that may be early signs of engine problems are detected:

- Sudden drop in oil pressure
- Abnormal coolant temperatures
- Unusual noise or vibration
- Sudden loss of power
- Excessive fuel consumption
- Excessive oil consumption
- Fluid leaks

TS36762,0000177-19-22JUN22

Stop the Engine

CAUTION: Avoid accidents, remove the key after switching off the tractor.

IMPORTANT: To avoid engine damage, allow the engine and engine parts to cool before stopping the engine. Idle the engine at 1000—1200 rpm for a minimum of:

- **4 minutes after:**
  - **Operating at a working load.**
  - **An exhaust filter cleaning has completed.**
- **10 minutes if service work is going to be performed on the exhaust filter.**

IMPORTANT: Prevent damage to the tractor:

- **Never disconnect the battery disconnect switch while the light is illuminated.**
- **See Battery Disconnect Switch in Engine Operation section of this Operator's Manual.**

1. Pull the throttle back to the low idle position.
2. Depress clutch and brake pedals.
3. Put the transmission in the PARK position.
4. Lower all equipment to the ground.
5. Make sure that SCV levers are in the NEUTRAL position.
6. Pull rear and front PTO (if equipped) switches rearward to disengage PTO.
7. Turn the key switch to the OFF position and remove the key.

TS36762,0000178-19-14SEP20

Restart Engine That Has Run Out of Fuel

1. Fill fuel tank.
2. Turn key switch to RUN position to start electric fuel pump and bleed air from fuel system.

NOTE: Steps two and three may need to be repeated as necessary if fuel tanks have been removed or drained.

3. Allow pump to run for 30 seconds to 1 minute before attempting to restart engine.

   Fuel pump will turn off after 1 minute. Key switch must be turned to OFF and back to RUN to turn pump back on.

TS36762,0000179-19-18NOV16

Reduce Fuel Consumption

Fuel consumption reduction guidelines:

- Replace air cleaner, fuel, engine oil, and transmission-hydraulic filter elements at specified service intervals (see Service—Change section of this Operator's Manual) or when indicated by Command Center display messages.
- Use recommended oils and lubricants only (see appropriate section in Fuel, Lubricants, and Coolant —General Information section of this Operator's Manual).
- Adjust hitch function for most efficient operation (see TouchSet Depth Control section of this Operator's Manual).
- Check tires for correct pressure weekly (see Front or Rear Wheels, Tires, and Treads section of this Operator's Manual).
- Ballast tractor for conditions (see Performance Ballasting section of this Operator's Manual).
- For gear transmissions, select correct gear. Always drive in highest possible gear with reduced engine speed. Choose gear so engine speed drops 150—250 rpm when tractor is operating and engine is under load (see appropriate transmission section of this Operator's Manual).

NOTE: For light work, reduce engine speed below 2000 rpm. Select gear so that engine speed drops 200—300 rpm when operating.

Using Max Engine Speed may improve fuel economy. For more information on Max Engine Speed settings, see Engine Settings in this Operator's Manual section.

- IVT/AutoPowr and EVT/eAutoPowr transmissions provide additional fuel saving advantages (see IVT/AutoPowr Transmission and EVT/eAutoPowr Transmission sections of this Operator's Manual).

TS36762,000017A-19-20JUN22

Battery Booster or Charger

TS204—UN—15APR13

CAUTION: Gas given off by batteries is explosive. Keep sparks and flames away from batteries. Make last connection and first disconnection at point away from booster batteries.

IMPORTANT: Prevent damage to the tractor:

- **Be sure that polarity is correct before making connections. Reversed polarity will damage electrical system or possibly cause battery to explode.**
- **If two or more booster batteries are used, they must be connected in parallel ensuring that booster batteries are producing 12 volt charge.**
- **Never disconnect the battery disconnect switch while the light is illuminated.**
- **See Battery Disconnect Switch in Engine Operation section of this Operator's Manual.**

RXA0143342—UN—03JUL14

Positive Terminal (Left-Hand Side of Tractor Behind Battery Panel)

Booster Battery

1. Remove cap and attach red cable to remote positive terminal (A), located on left-hand side of tractor behind battery panel, and positive terminal of booster battery.
2. Attach black cable to negative terminal of booster battery. Attach other end to ground (B) on tractor frame.
3. Remove ground cable first when disconnecting.

Battery Charger

IMPORTANT: Set battery charger at nominal 12 volt and no more than 16 volt maximum.

1. Remove cap and attach positive charger lead to positive remote terminal with charger in OFF position. Attach negative charger lead to negative ground at tractor frame, away from batteries.
2. Switch charger to ON and charge battery according to charger manufacturer's instructions.
3. Switch charger to OFF. Remove negative charger lead first, then positive lead.

TS36762,000017B-19-23JAN20

Cold Weather Starting—With Glow Plug Starting Aid (6.8 L Engine)

IMPORTANT: To determine tractor engine type, see Engine Serial Number in Identification Numbers Section of this Operator's Manual.

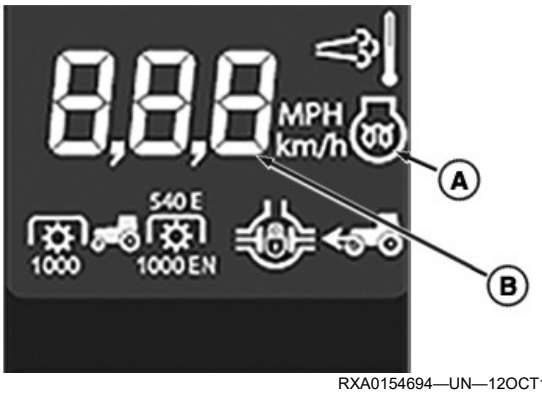
IMPORTANT: DO NOT use starting fluid on tractors equipped with glow plugs.

Use of starting fluid on engines with glow plugs can cause pre-detonation when contacting heater components. Engine damage may result.

NOTE: All 6.8 L engines are equipped with glow plugs. Glow plugs are protected by 50 Amp harness in-line fuse.

Use of glow plugs is recommended in cold weather when temperature is at or below -6 °C (21 °F).

1. Turn key switch to RUN position.



RXA0154694—UN—12OCT16

Corner Post Display

2. Engine Preheat Indicator (A) on corner post display illuminates when system is activated.
3. Glow plug wait timer (B) will start at 15 seconds or less, depending on temperature, and count down to zero.

Intercooler Outlet Temperature °C (°F)	Wait Time (Seconds)
-15 (5)	15
-10 (14)	10
-5 (23)	5
0 (32)	5
5 (41)	2
8 (46)	0

4. At 0, turn key switch to start engine.
5. If engine does not start, return key to OFF position and repeat steps 1-4.

If Engine Fails to Start:

- Check quantity and quality of fuel.
- Check electrical system.
- If engine fails to start after three attempts, contact your John Deere dealer.

TS36762,000017C-19-13DEC16

Cold Weather Starting—Without Starting Aid (9.0 L Engine)

TS1356—UN—18MAR92

CAUTION: Starting fluid is highly flammable. While using this product do not smoke and make sure to extinguish all flames. Turn off all pilot lights, stoves, heaters, electrical motors, and other sources of ignition while using this product and/or if vapors are still present. Avoid contact of aerosol with battery terminals, solenoid, or other electrical/electronic components. Do not overuse this product. Keep cap on container and store in cool location when not in use.

NOTE: Use of starter fluid is recommended when starting tractor at or below -6 °C (21 °F) (See Cold Weather Starting—With Starting Aid (9.0 L Engine) in this section of this Operator's Manual).

A cold weather starting kit is available from your John Deere dealer.

RXA0174315—UN—28JAN20

Air Intake Screen

1. Spray starting fluid into air intake screen (A) for two or three seconds.

2. Follow steps as outlined in Start the Engine in Engine Operation section of this Operator's Manual.

If Engine Fails to Start:

- Check quantity and quality of fuel.
- Check electrical system.
- If engine fails to start after three attempts, contact your John Deere dealer.

TS36762,000017D-19-28JAN20

Cold Weather Starting—With Starting Aid (9.0 L Engine)

CAUTION: Starting fluid is extremely flammable. While using this product do not smoke and make sure to extinguish all flames. Turn off all pilot lights, stoves, heaters, electrical motors, and other sources of ignition while using this product and/or if vapors are still present.

Tractors equipped with cold weather starting aid from the factory utilize and automatic starting aid injection system. System will automatically inject starting aid as needed based on fuel and engine coolant temperatures. Manually spraying starting fluid into air intake screens is not recommended or required.

If Engine Fails to Start:

- Check quantity and quality of fuel
- Verify that starter fluid canister has fluid
- Check FE14 fuse and KE14 relay
- If engine fails to start after three attempts, it may be necessary to consult your John Deere dealer.

To replace starting aid canister see Change Starting Fluid Canister in this section of the Operators Manual.

JL41210,0000A4C-19-20JUN22

Change Starting Fluid Canister

CAUTION: Do not use starting fluid near fire, sparks, or flames. Read caution information on container. Protect container against damage. Do not carry starting fluid canisters inside cab.

RXA0167141—UN—20MAR19

1. Access canister (A).Open hood, see Open Hood in Service—General Information section of this Operator's Manual.
2. Remove safety cap and plastic spray nozzle from new canister.

IMPORTANT: To avoid drawing dust into engine, always keep starting fluid canister installed bottom side up, clean and in position.

3. Loosen canister and remove old can.
4. Install new can and tighten canister.

TS36762,000017F-19-26APR21

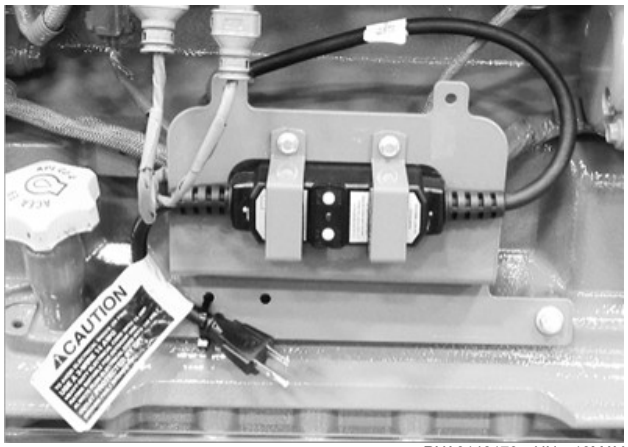
Auxiliary Heaters Use

TS210—UN—23AUG88

CAUTION: To avoid electrical shock or fire, use 3-wire, 14 AWG (14 gauge), heavy-duty electrical cord with 15 amp rating, suitable for outdoor use. Always plug electrical cord into 120 volt outlet protected by GFI (Ground Fault Interrupter).

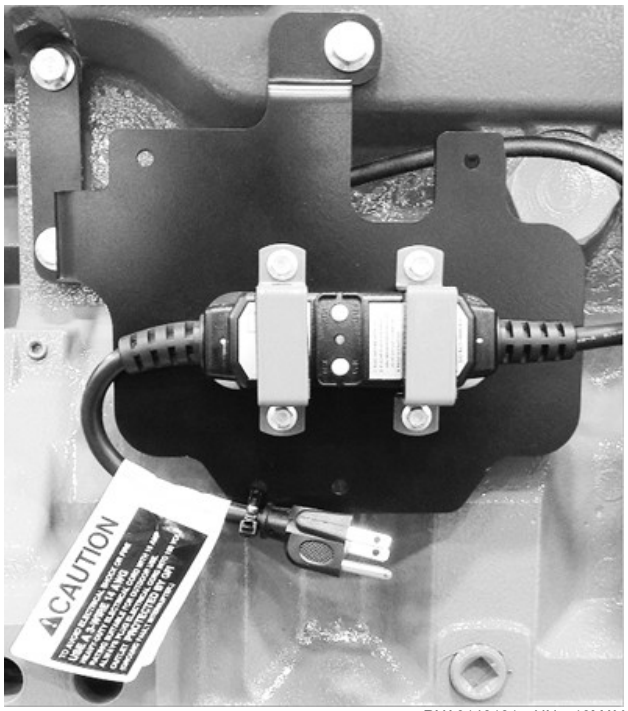
Before connecting heater to power source, be sure that element is immersed in coolant. NEVER energize heater in air. Doing so can cause element sheath to burst causing personal injury.

IMPORTANT: Ground fault circuit interrupter on tractor protects tractor only, not electrical wiring supplying power to tractor. Test all ground fault interrupters before each use.



RXA0148179—UN—13MAY15

Engine Coolant Heater (6.8 L Engine)



RXA0148181—UN—13MAY15

Engine Coolant Heater (9.0 L Engine)

Auxiliary engine coolant (1000 W) and hydraulic charge pump (150 W) heaters are available. See your John Deere dealer.

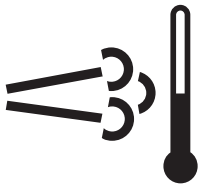
Connect heaters and ground fault interrupter to ground fault protected 120 volt electrical outlet.

KT81203,000058A-19-06SEP17

Aftertreatment Indicators Overview

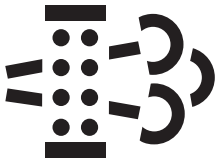
RG22487—UN—21AUG13

Diesel Exhaust Fluid Indicator



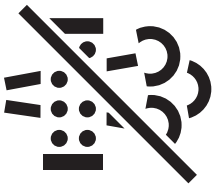
RG22488—UN—21AUG13

Engine Emissions Temperature Indicator



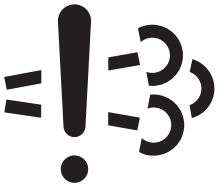
RG22489—UN—21AUG13

Exhaust Filter Indicator



RG22490—UN—21AUG13

Auto Cleaning Disabled Indicator



RG22491—UN—21AUG13

Engine Emissions System Malfunction Indicator

RG22492—UN—21AUG13

Warning Indicator

RG22493—UN—21AUG13

Engine Stop Indicator

IMPORTANT: The operator will be informed by the operator warning system when the emission control system does not function correctly and/or an engine malfunction is detected by the engine control unit. Ignoring the operator warning signals will lead to an emission related derate, resulting in an effective disablement of non-road mobile machinery operation.

It is essential to take prompt action to rectify any incorrect operation, use or maintenance of the emissions control system in accordance with the rectification measures indicated by the warnings referenced below.

The Diesel Exhaust Fluid (DEF) indicator illuminates when the DEF is low. Fill DEF tank.

When the DEF indicator is combined with the warning indicator or engine stop indicator engine performance is reduced by the Engine Control Unit (ECU) because the DEF is below a measurable level. Fill DEF tank.

When engine emissions temperature indicator illuminates exhaust gas temperature is high, elevated idle is active, or exhaust filter cleaning is in process. The machine can be operated as normal unless the operator determines the machine is not in a safe location for high exhaust temperatures and disables auto cleaning.

When engine emissions temperature indicator is combined with the warning indicator or engine stop indicator engine performance is reduced by the ECU because the exhaust gas temperature is higher than expected. Follow Diagnostic Trouble Code (DTC) procedure or see your authorized servicing dealer.

When the exhaust filter indicator illuminates the exhaust filter cleaning is in process, aftertreatment system has a fault, or the exhaust filter is in need of cleaning and the operator has disabled auto exhaust filter cleaning. If conditions are safe, the operator should enable the auto exhaust filter clean setting or perform manual service regeneration or follow DTC procedure.

When the exhaust filter indicator is combined with the warning indicator engine performance is reduced by the ECU because there is an aftertreatment system fault or the soot level of the exhaust filter is moderately high. If conditions are safe, the operator should enable the auto exhaust filter clean function. If conditions are not safe, the operator should move the machine to a safe location and engage the auto exhaust filter cleaning mode.

Perform manual service regeneration or follow DTC procedure.

When the exhaust filter indicator is combined with the engine stop indicator engine performance is further reduced by the ECU because there is an aftertreatment system fault or the soot level of the exhaust filter is extremely high. If this combination is present, see your authorized servicing dealer.

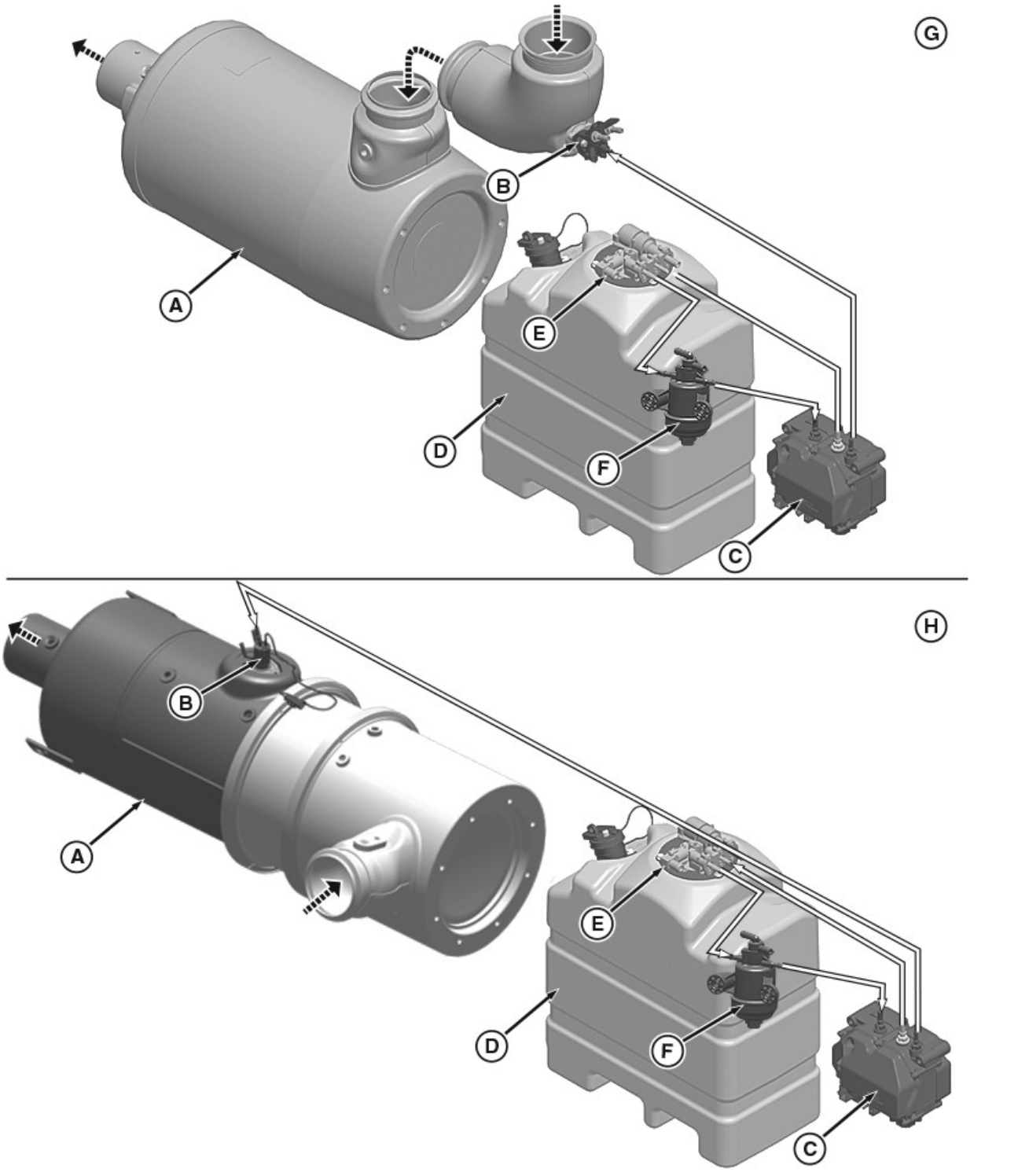
The auto cleaning disabled indicator illuminates when the operator has engaged the request to disable the auto exhaust filter cleaning function. This icon remains illuminated until the operator re-engages automatic exhaust filter cleaning from the diagnostic gauge. Disabling auto mode is not recommended for any situation unless it is safety-related or if the fuel tank lacks the required fuel to complete the cleaning process.

The engine emissions system malfunction indicator illuminates when engine emissions are outside of normal operating range or engine emissions system fault. Follow DTC procedure or see your authorized servicing dealer.

When the engine emissions system malfunction indicator is combined with the warning indicator engine performance is reduced by the ECU because the engine emissions are outside of normal operating range or engine emissions system fault. Follow DTC procedure or see your authorized servicing dealer.

DX,AFTRTREAT,INDCATRS-19-12FEB18

Selective Catalytic Reduction (SCR) System Overview



RG22427A—UN—07JAN20

SCR System

A—SCR Catalyst
B—DEF Dosing Injector
C—DEF Dosing Unit
D—DEF Tank
E—DEF Tank Header Assembly
F—Inline DEF Filter (If Equipped)
G—Modular Canning Configuration
H—Inline Canning Configuration

IMPORTANT: Do not remove battery leads for at least 4 minutes after engine stops. The SCR system automatically purges itself of Diesel Exhaust Fluid (DEF) immediately after the engine is stopped. If adequate time is not allowed for lines to be purged, residual DEF can freeze and possibly damage components of the SCR system during cold-weather exposure.

In order to comply with national and local emission requirements, this engine series contains a Selective Catalytic Reduction (SCR) system. The main components of the SCR system include the SCR catalyst (A), DEF dosing injector (B), DEF dosing unit (C), DEF tank (D), and DEF tank header assembly (E). The SCR system is effective at reducing the nitrogen oxides (NOx) emissions. NOx is a major component of smog and acid rain.

During combustion, NOx molecules are formed in the exhaust. DEF is injected into the exhaust stream before the SCR catalyst. Through a chemical reaction in the SCR, NOx is converted into nitrogen and water.

Water vapor is a normal by-product of combustion. During cold-weather operation at low exhaust temperatures, this water vapor can condense and resemble white smoke from the exhaust. This will dissipate as operating temperature increases and the water is further vaporized. This situation is considered normal.

A DEF solution begins to crystallize and freeze at -11 °C (12 °F). With climate temperatures that can range much colder than this, DEF is expected to freeze in the DEF tank. For this reason, the DEF tank contains a heating element that provides rapid thawing of DEF upon start-up. The heating element cycles to maintain fluidity during operation as needed. DEF is not dosed upon initial start-up, therefore it is not necessary to have liquid DEF at cold start-up.

If DEF quality deteriorates and it is no longer within specifications, the engine can derate. DEF should be crystal clear with a light ammonia smell. If DEF appears cloudy, has a colored tint, or has a profound ammonia smell, it is likely not within specification.

DX,SCR,OVERVIEW-19-30MAR20

Diesel Particulate Filter (DPF) Service

CAUTION: Correctly dispose of an exhaust filter that has reached the end of its useful life. The exhaust filter contains DPF ash that:

- **Can be classified as a hazardous waste.**
- **Requires disposal in accordance with all applicable federal, state, and local laws or regulations governing hazardous waste disposal.**

  Used exhaust filters, including the DPF, can be exchanged at any John Deere dealer or qualified service provider.

- **Always allow a qualified service provider to remove ash from the DPF.**
- **See your John Deere dealer or other qualified service provider for assistance.**

  Failure to follow approved DPF ash removal methods can:

- **Violate U.S. federal, state, and local hazardous waste law.**
- **Damage the DPF, resulting in potential denial of the emissions warranty.**

IMPORTANT: Avoid damage to the aftertreatment system. Never:

- **Use incorrect or unapproved aftertreatment components.**
- **Interchange aftertreatment components between Interim Tier 4/Stage III B and other vehicles equipped with other aftertreatment systems.**

The exhaust filter includes a DPF. The DPF is designed to:

- Retain residual ash, which is a noncombustible result of additives used in crankcase lubrication oils and the fuel.
- Provide many hours of maintenance-free operation. However, the DPF requires professional service to remove the accumulated ash at some point. The exact number of hours of operation before professional service is required depends on:
  - The engine power category, duty cycle, operating conditions, fuel quality, and ash content of the engine oil.
  - Adhering to the recommended oil and fuel specifications to maximize the hours of operation.

The engine owner is responsible for performing the required maintenance described in this Operator's Manual. During normal equipment operation:

- DPF maintenance requirements depend on the rate at which ash accumulates in the DPF.
- As ash levels rise in the DPF, the capacity for soot storage is reduced and the backpressure of the exhaust system rises more frequently.
- The dash lamp indicator or diagnostic gauge indicates when the DPF needs servicing.

EC82310,0000F0A-19-17JUN20

Front Console

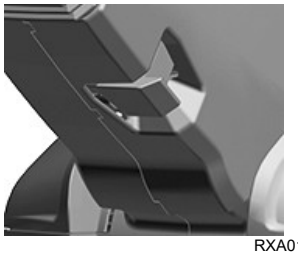
NOTE: See transmission section for left-hand reverser.

RXA0177209—UN—14APR20

Front Console Example

TS36762,0000186-19-13APR20

Adjust Steering Wheel and Column



RXA0167453—UN—12APR19

Tilt/Telescope Stop Lever

Tilt/Telescope Stop Lever — pull lever away from steering column to unlock adjustments. While unlocked, extend/retract and tilt of steering wheel can be adjusted. Push lever back toward steering column to lock into desired position.

RXA0167454—UN—12APR19

Memory Tilt Pedal

Memory Tilt Pedal — push pedal to tilt steering column up away from operator or down closer to operator. Release pedal to lock into position.

KD34109,00004CB-19-29MAY19

Operate Horn

RXA0167455—UN—12APR19

Horn Button

Horn — push button at end of left-hand lever on steering column to sound horn.

KD34109,00004CC-19-29MAY19

Operate Wipers and Washers

Wiper and washer controls are on right-hand lever on steering column.

NOTE: Some items are only available if machine is equipped with the associated option.

RXA0167456—UN—12APR19

Front Wiper Speed

Front Wiper Speed — turn knob at the end of wiper/washer lever. The higher the setting, the faster the wiper operates. Bottom setting is off (circle shown). Arrow indicates current setting.

RXA0167457—UN—12APR19

Front Washer Button

Front Wiper Washer — push and hold button at end of wiper/washer lever. Let go of button to stop washer.

RXA0167458—UN—12APR19

Select Right-Hand/Rear Wiper Lever

Select Right-Hand/Rear Wiper — to select active wiper/wipers, move lever to one of the following positions:

- Left for right-hand wiper
- Center for right-hand and rear wipers
- Right for rear wiper

RXA0167459—UN—12APR19

Right-Hand/Rear Wiper Speed/Washer Lever

Right-Hand/Rear Wiper Speed/Washer — move lever up from off position (circle shown) to operate active wiper/wipers. The higher the setting, the faster the wiper operates. Push and hold lever down to operate washer. Release lever to stop washer.

KD34109,00004CD-19-26AUG19

Key Switch

RXA0168011—UN—17MAY19

Key Switch

Key switch is on right-hand side of steering column and has three positions:

RXA0168012—UN—17MAY19

STOP

STOP — turns off all engine and accessory functions.

RXA0168013—UN—17MAY19

Run

Run — allows all accessories functions and engine to run once it has been started.

RXA0168014—UN—17MAY19

Start

Start — starts engine and returns to run position.

KD34109,00004CE-19-30MAY19

Operate Turn Signals

RXA0168015—UN—17MAY19

Turn Signal Lever

The turn signal control is the left-hand lever on the steering column.

Lane Change Turn Signal — move the lever one position (up for right-hand signal, down for left-hand signal) to activate. The signal automatically turns off after three flashes.

Self-Canceling Turn Signal — move the lever two positions (up for right-hand signal, down for left-hand signal) to activate. The signal turns off when the front wheels return to the neutral position or by moving the lever one position in the same direction. If an implement is connected, there is a delay in the signal turning off after a turn.

KD34109,00004CF-19-08JUN22

Pedals

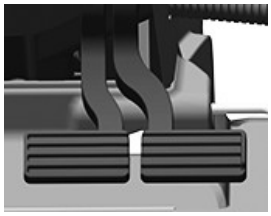
NOTE: Some items are only available if machine is equipped with the associated option.

Brake Pedal/Pedals — use to slow and stop machine. For more information on brakes, see Brakes section of this Operator's Manual.

RXA0177211—UN—14APR20

Single Brake Pedal

- Single brake pedal



RXA0177208—UN—14APR20

Dual Brake Pedals

- Dual brake pedals

RXA0177206—UN—14APR20

Brake Pedal Lock

Brake Pedal Lock — use to lock dual brake pedals together.

RXA0177207—UN—14APR20

Clutch Pedal

Clutch Pedal — use to disengage clutch.

RXA0177203—UN—13APR20

Speed Control Pedal

Speed Control Pedal — use to control engine or ground speed depending on transmission mode.

KD34109,00004D0-19-13APR20

Operate Lights

RXA0168015—UN—17MAY19

Lights Lever

High beams and lighting presets are controlled using left-hand lever on steering column. For additional lighting controls, including field and road lights buttons, see CommandARM Climate, Radio, and Lighting Controls in CommandARM section of this Operator's Manual.

- **Low/High Beam Position** — with road lights enabled, push lever toward window and release to toggle between low and high beam modes. Indicator on corner post display lights when in high beam mode.
- **Momentary High Beam (Flash-to-Pass)** — with road lights enabled, pull lever away from window and hold to momentarily activate high beam mode. Release to return to low beam mode. Setting also momentarily activates high beam lights in park or off modes.
- **Worklights Presets** — with worklights enabled, pull lever away from window or push lever toward window to change active preset.

RXA0168021—UN—17MAY19

Convenience Lights Button

Convenience Lights (If Equipped) — press convenience lights button to turn on, press again to turn off. For convenience light locations, see Light Identification in Lights section of this Operator's Manual.

Button location:

- 7R, 8RW, and 8RX: Left-hand side of machine, between steps.
- 8RT and 9RT: Left-hand side of machine, next to battery disconnect.
- 9RW and 9RX: Left-hand side of machine, next to steps.

RXA0173051—UN—09DEC19

Trailering Lights Switch

Trailering Lights (If Equipped) — press top of switch to turn on or bottom of switch to turn off trailering lights. Switch is located near the radio. For trailering lights location, see Trailering Lights in Lights section of this Operator's Manual.

KD34109,00004D1-19-30AUG22

Corner Post Display

RXA0188009—UN—13SEP22

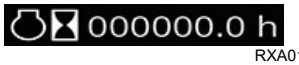
Corner Post Display

NOTE: Some items only display if machine is equipped with the associated option.

RXA0188030—UN—15SEP22

Clock (no time shown)

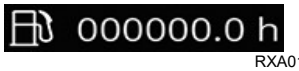
Clock — displays the current time.



RXA0188037—UN—15SEP22

Engine Hours (no hours shown)

Engine Hours — displays the total engine hours.



RXA0188039—UN—15SEP22

Fuel Hours (no hours shown)

Fuel Hours — displays the estimated remaining operating hours based on fuel in the tank and other operation settings.

RXA0167737—UN—06MAY19

Left-Hand Turn Indicator

Left-Hand Turn Indicator — flashes when the left turn signal or hazard lights are on.

RXA0167738—UN—06MAY19

Right-Hand Turn Indicator

Right-Hand Turn Indicator — flashes when the right turn signal or hazard lights are on.

RXA0167739—UN—06MAY19

High Beam Indicator

High Beam Indicator — illuminates when high beam lights are on.

RXA0188046—UN—15SEP22

Parking Lights Indicator

Parking Lights Indicator — illuminates when parking lights are on.

RXA0188052—UN—15SEP22

Worklights Indicator

Worklights Indicator — illuminates when worklights are on.

RXA0167740—UN—06MAY19

Trailer Turn Indicator Example

Trailer Turn Indicator — the trailer symbol and 1 flash when the turn signal or hazard lights are on and one trailer is attached. The symbol, 1, and 2 flash when the turn signal or hazard lights are on and two trailers are attached.

RXA0167741—UN—06MAY19

Engine Preheat Indicator

Engine Preheat Indicator — illuminates when the key is in the run position. The indicator turns off when the engine can be started.

RXA0188049—UN—15SEP22

Tachometer (no signal)

Tachometer — displays the engine speed in revolutions per minute (rpm). If 0000 displays, no speed signal is being received.

RXA0167743—UN—06MAY19

IPM Indicator

Intelligent Power Management (IPM) Indicator — illuminates when IPM is active.

RXA0188043—UN—15SEP22

Max Engine Speed Indicator and Number Example

Maximum Engine Speed Indicator and Number — the indicator illuminates when Max Engine Speed one or two is active. The number 1 or 2 displays depending on which Max Engine or Set Speed is active. 0 displays if Max Engine and Set Speeds are not active.

RXA0167745—UN—06MAY19

Manual Engine Speed Indicator

Manual Engine Speed Indicator — illuminates when engine speed is in manual mode on machines equipped with CommandPRO joystick.

RXA0188045—UN—15SEP22

Minimum Engine Speed Indicator

Minimum Engine Speed Indicator — illuminates when Minimum Engine Speed is active.

RXA0167747—UN—06MAY19

Exhaust Filter Cleaning Indicator

Exhaust Filter Cleaning Indicator — illuminates when Exhaust Filter Cleaning is active.

RXA0188042—UN—15SEP22

Ground Speed (no signal)

Ground Speed — displays the travel speed value in either miles per hour (mph) or kilometers per hour (km/h), depending on operator-selected units (U.S. or metric). If 00.0 displays, no speed signal is being received. When the engine preheat indicator (6.8 L and 18 L engines) is activated, the engine start time displays.

RXA0188041—UN—15SEP22

Ground Set Speed Value and Number (no signal)

Ground Set Speed Value and Number — displays the speed value (in orange) for the active Set Speed. Displays the Maximum Set Speed if the CommandPRO joystick is equipped and a Set Speed is not active. The number 1 or 2 displays depending on which Set Speed is active. 00.0 displays if no Set Speed signal is being received.

RXA0188032—UN—15SEP22

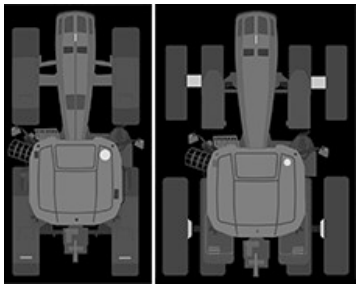
Ground Set Speed Indicator

Ground Set Speed Indicator — illuminates when ground Set Speed one or two is active.

RXA0188031—UN—15SEP22

Maximum Set Speed Indicator

Maximum Set Speed Indicator — illuminates when the Maximum Set Speed is active.



RXA0188907—UN—10APR23

Tractor Examples

Tractor — always displays as a reference point to other indicators (example: the front PTO indicator displays in front of the tractor).

RXA0188038—UN—15SEP22

Forward Indicator

Forward Indicator — illuminates when the tractor is in forward.

RXA0188048—UN—15SEP22

Reverse Indicator

Reverse Indicator — illuminates when the tractor is in reverse.

RXA0188036—UN—15SEP22

Direction and Gear (not selected)

Direction and Gear — the value on the left displays the selected direction of travel. The values on the right display the selected gear:

- Single gear (top left)
- Double gear (top right)
- Triple with range (bottom)

RXA0167757—UN—06MAY19

AutoTrac Indicator

AutoTrac Indicator — illuminates when AutoTrac is active.

RXA0167758—UN—06MAY19

Automatic Shifting Indicator

Automatic Shifting Indicator — illuminates when AUTO shift is on.

RXA0167759—UN—06MAY19

Inching Mode Indicator

Inching Mode Indicator — illuminates when the Set Speed is reduced below 2 km/h (1 mph) or the higher Set Speed is limited to a factor of 2.5 to avoid big speed increases.

RXA0167760—UN—06MAY19

Speed Control Pedal Mode Indicator

Speed Control Pedal Mode Indicator — illuminates when Pedal Mode is active.

RXA0167761—UN—30MAY19

iTEC Indicator

iTEC Indicator — illuminates when iTEC is enabled.

RXA0167762—UN—06MAY19

Tractor Automation Indicator

Tractor Automation Indicator — illuminates when some tractor automation is active.

RXA0167763—UN—06MAY19

Joystick Indicator

Joystick Indicator — illuminates when the joystick is active.

RXA0188029—UN—15SEP22

AutoClutch Disabled Indicator

AutoClutch Disabled Indicator — illuminates when AutoClutch is disabled.

RXA0167764—UN—06MAY19

Differential Lock Indicator

Differential Lock Indicator — illuminates when differential lock is active.

RXA0167765—UN—06MAY19

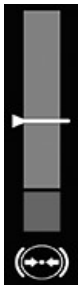
MFWD Indicator

Mechanical Front-Wheel Drive (MFWD) Indicator — illuminates when MFWD is active.

RXA0188047—UN—15SEP22

PTO Indicators Example

PTO Indicators — the PTO symbol illuminates when the front and/or rear PTO is active. The rated PTO value also illuminates next to the PTO symbol.



RXA0188051—UN—15SEP22

Trailer Air Brake Pressure Gauge Example

Trailer Air Brake Pressure Gauge — displays the percent of air pressure for the trailer air brake. The red zone indicates brake pressures from no pressure (0%) to low pressure (66%). The green zone indicates brake pressures from just above low pressure (66.4%) to full pressure (100%). When the air pressure is low, the red zone flashes.

RXA0188033—UN—15SEP22

Coolant Temperature Gauge Example

Coolant Temperature Gauge — displays the engine coolant temperature between 40—120°C (104—248°F). The indicator remains at the bottom until the coolant temperature is above 40°C (104°F). The indicator is at the top when the temperature is 120°C (248°F) and above. When the temperature reaches the red zone, the red zone and icon flash.

RXA0188040—UN—15SEP22

Fuel Level Gauge Example

Fuel Level Gauge — displays the fuel level in the tank. When the fuel tank is full, the entire gauge is illuminated green. When the fuel level is low, an alarm signal sounds once.

RXA0188034—UN—15SEP22

DEF Level Gauge Example

NOTE: Diesel exhaust fluid (DEF):

- *Is only used on Final Tier 4/Stage V engine equipped tractors and will not display on machines equipped with other engines.*
- *Is not used on 18 L engine equipped tractors.*

Diesel Exhaust Fluid (DEF) Level Gauge — displays the DEF level in the tank. When the DEF tank is full, the entire gauge is illuminated green. When the DEF level is low, an alarm signal sounds once. The DEF tank should be filled whenever the fuel tank is filled.

Alert Indicators:

Alert indicators are accompanied by an informative message, diagnostic trouble code, and/or fault description shown on the CommandCenter. For more information on CommandCenter alerts, see STOP, Service, and Information Alerts in Troubleshooting—Diagnostic Trouble Codes (DTC) section of this Operator's Manual.

RXA0167772—UN—06MAY19

STOP Alert Indicator

STOP Alert Indicator — flashes and an alarm pattern sounds continuously, indicating a serious malfunction requiring immediate attention.

RXA0167773—UN—06MAY19

Service Alert Indicator

Service Alert Indicator — flashes and an alarm pattern sounds five times, indicating a performance or operational problem has been detected and must be resolved as soon as possible.

RXA0167774—UN—06MAY19

Information Alert Indicator

Information Alert Indicator — illuminates continuously, and when GSix is on the bus, an alarm pattern sounds for 2 seconds, indicating a possible fault condition.

Warning Indicators:

When a warning occurs:

- Park the tractor on level ground and prevent the tractor from rolling away.
- A diagnostic trouble code (DTC) will display on the CommandCenter. Follow the instructions to fix the fault.
- If the fault cannot be fixed, see your John Deere dealer.

RXA0167775—UN—06MAY19

Steering Warning Indicator

Steering Warning Indicator — illuminates when a serious fault has been detected in the steering system.

RXA0167776—UN—06MAY19

Yellow Brake Warning Indicator

Yellow Brake Warning Indicator — illuminates when an electrical fault has been detected that affects the ability to detect additional faults.

RXA0167777—UN—06MAY19

Red Brake Warning Indicator

Red Brake Warning Indicator — indicates the following:

NOTE: The brake warning indicator (red) illuminates while the trailer air brakes reach operating pressure. The indicator turns off once the operating pressure is reached.

- Illuminates when a serious fault has been detected that affects brake system performance. Stop the tractor immediately.
- Flashes when the park lock cannot engage.

kd34109,1663074638253-19-11APR23

CommandARM

RXA0188010—UN—13SEP22

CommandARM Example

kd34109,1663074711166-19-13SEP22

CommandARM Hitch Controls

NOTE: Some items are only available if machine is equipped with the associated option.

Front Hitch Items:

RXA0168023—UN—17MAY19

Front Hitch Lever

NOTE: Lever will not raise hitch above upper limit.

Front Hitch Lever — allows adjustment of front hitch position. See Hitch Control Lever in Rear Hitch section of this Operator's Manual.

Rear Hitch Items:

RXA0168024—UN—17MAY19

Rear Hitch Lever

NOTE: Lever will not raise hitch above upper limit.

Rear Hitch Lever — allows adjustment of rear hitch position. See Hitch Control Lever in Rear Hitch section of this Operator's Manual.

RXA0168025—UN—17MAY19

Hitch Depth Adjust Dial

NOTE: Dial will not raise hitch above upper limit.

Hitch Depth Adjust Dial — use to raise or lower hitch.

RXA0168026—UN—17MAY19

Set Button

Set Button — press to store a set point.

RXA0168027—UN—17MAY19

Lock Button

Lock Button — press to lock hitch. Press again to unlock.

RXA0168028—UN—17MAY19

Resume Button

Resume Button — press to move hitch to set point position.

RXA0168029—UN—17MAY19

Upper Limit Hitch Dial

Upper Limit Hitch Dial — use to adjust Upper Limit setting. A drop-down will display on CommandCenter to view adjustment.

RXA0168030—UN—17MAY19

Drop Rate Hitch Dial

Drop Rate Hitch Dial — use to adjust Drop Rate setting. A drop-down will display on CommandCenter to view adjustment.

RXA0168031—UN—17MAY19

Load Depth Hitch Dial

Load Depth Hitch Dial — use to adjust Load Depth setting. A drop-down will display on CommandCenter to view adjustment.

KD34109,00004E0-19-15JUN22

CommandARM SCV Control Levers

NOTE: SCV control levers can be reconfigured to control tractor functions and implements. See Controls Setup in CommandCenter section of this Operator's Manual.

RXA0168032—UN—17MAY19

SCV I Lever

SCV Control Levers allow you to adjust SCV flow. Number of levers varies by machine. See SCV Control Lever Adjustments in Selective Control Valves section of this Operator's Manual.

KD34109,00004E1-19-15JUN22

CommandARM PTO Control Levers

NOTE: Some items are only available if machine is equipped with the associated option.

RXA0168033—UN—17MAY19

Front PTO Lever

Front PTO Lever — engage/disengage front PTO. See Operate PTOs in PTO—General Information section of this Operator's Manual.

RXA0168034—UN—17MAY19

Rear PTO Lever

Rear PTO Lever — engage/disengage rear PTO. See Operate PTOs in PTO—General Information section of this Operator's Manual.

KD34109,00004E2-19-15JUN22

CommandARM Climate, Radio, and Lighting Controls

RXA0168035—UN—17MAY19

Volume

Volume — press (+) to increase or (-) to decrease volume.

RXA0168036—UN—17MAY19

Previous/Next

Previous/Next — press top arrow for next track/station or bottom arrow for previous track/station.

RXA0168037—UN—28JUN19

Mute

Mute — press to silence speaker volume, press again to unmute. Does not mute microphone during an active call. Microphone can only be muted from phone or radio faceplate.

RXA0178830—UN—22JUL20

PTT/Accept Call

NOTE: If equipped with non-touch screen radio, button only accepts incoming calls.

Push-To-Talk (PTT)/Accept Call — allows operator to perform various functions depending on radio state and length of button press. If equipped with the touch screen radio, see the global radio Operator's Manual for more information on PTT.

RXA0178829—UN—22JUL20

End Call

End Call — press to end call in progress or active voice recognition (VR) session.

RXA0167638—UN—26APR19

Air Flow Mode

Air Flow Mode — press to select mode of air flow. Each press moves to next mode.

RXA0167640—UN—26APR19

Temperature

Temperature — press (+) to increase or (-) to decrease temperature.

RXA0167644—UN—26APR19

Fan Speed

Fan Speed — press (+) to increase or (-) to decrease fan speed.

RXA0168040—UN—17MAY19

Hazard Lights

Hazard Lights — press to turn on hazard lights, press again to turn off. Indicator light is on when active.

RXA0168041—UN—17MAY19

Parking Lights

Parking Lights — press to turn on parking lights, press again to turn off. Indicator light is on when active.

RXA0168042—UN—17MAY19

Road Lights

Road Lights — press to turn road lights on. Press again to turn off. Indicator light is on when active. If equipped, hood/belt line lights page automatically displays when selected. Page disappears after 10 seconds of inaction. See Lights Settings in Lights section of this Operator's Manual.

RXA0168043—UN—17MAY19

Worklights

Worklights — press to turn on worklights, press again to turn off. Indicator light is on when active. Active preset page will automatically display. Page disappears after 10 seconds of inaction. See Lights Settings in Lights section of this Operator's Manual.

RXA0168044—UN—17MAY19

Beacon Lights

Beacon Lights — press to turn on beacon lights (if equipped). Press again to turn off. Indicator light is on when active.

KD34109,00004E3-19-30AUG22

CommandARM Controls—Left Side

NOTE: Some items are only available if machine is equipped with the associated option.

RXA0171324—UN—10OCT19

Speed/Shift Control Example

Speed/Shift Control — use to operate transmission. For more information on the control equipped on your machine, see your Transmission section of this Operator's Manual.

RXA0168423—UN—30MAY19

AutoTrac Resume Button (AUTO)

AutoTrac Resume Button (AUTO) — press to enable Tractor-Implement Automation (TIA) after preparing implement as indicated in implement Operator's Manual.

RXA0168424—UN—30MAY19

iTEC Buttons

1—4 Buttons — press to enable assigned function. For assignment information, see Controls Setup in CommandCenter section of this Operator's Manual.

RXA0168425—UN—30MAY19

MFWD Button

MFWD Button — press to enable manual mechanical front-wheel drive (MFWD) mode. See Mechanical Front-Wheel Drive (MFWD) in Drivetrain section of this Operator's Manual.

RXA0168426—UN—30MAY19

AUTO MFWD Button

AUTO MFWD Button — press to enable AUTO mechanical front-wheel drive (MFWD) mode. See Mechanical Front-Wheel Drive (MFWD) in Drivetrain section of this Operator's Manual.

RXA0168427—UN—30MAY19

Differential Lock Button

Differential Lock Button — to enable manual differential lock mode:

- 7R, 8RW, 8RX, and 9RW Tractors: Press and release the button. To disable, press the button again or press the brake pedal/pedals.
- 9RX Tractors: Press and hold the button. To disable, release the button.

For more information on differential lock, see Differential Lock in Drivetrain section of this Operator's Manual.

RXA0168428—UN—30MAY19

AUTO Differential Lock Button

AUTO Differential Lock Button — press to enable AUTO differential lock mode. See Differential Lock in Drivetrain section of this Operator's Manual.

RXA0168429—UN—30MAY19

SCV Lock Button

SCV Lock Button — press to lock out SCV levers. Indicator on button illuminates when levers are locked. Press again to unlock.

RXA0168430—UN—30MAY19

ISB Button

CAUTION: Avoid injury. Verify button function in a safe and open area that is clear of bystanders.

ISOBUS (ISB) Button — press to signal ISOBUS to stop operations started at implement. Verify that implement is compatible with ISB button in implement Operator's Manual.

RXA0168431—UN—30MAY19

Hand Throttle

NOTE: Hand throttle commands engine speed only, not wheel speed.

Hand Throttle — use to increase or decrease engine speed.

RXA0168432—UN—30MAY19

Maximum Engine Speed Button

Maximum Engine Speed Button — press to enable maximum engine speed setting. Press again to disable. Indicator on button illuminates when enabled. See Engine Settings—Max Engine Speed in Engine Operation section of this Operator's Manual.

RXA0168433—UN—30MAY19

ECO Button

ECO Button — press to enable ECO Performance. ECO is only available in Custom Transmission mode. Press again to disable. Indicator on button illuminates when enabled. For ECO setting (if equipped) information, see your Transmission section of this Operator's Manual.

RXA0168434—UN—30MAY19

Speed Control Pedal Lock Button

NOTE: The speed control pedal will not lock if the button is held for more than 1 second. If the speed control pedal decelerator function is equipped, the pedal lock/unlock button does not function.

Speed Control Pedal Lock/Unlock Button — press to lock speed control pedal to maintain commanded speed. Indicator on button illuminates when locked. Commanded speed will discontinue if button is pressed again, pedal is depressed after locking, brake is depressed, or machine is placed in PARK.

RXA0168435—UN—30MAY19

Engine Set Speed 1 Button

NOTE: Machines equipped with CommandPRO joystick only.

Engine Set Speed 1 Button — press to enable engine set speed 1 setting. Press again to disable. Indicator on button illuminates when enabled. See Engine Settings —Engine Set Speed in Engine Operation section of this Operator's Manual.

RXA0168436—UN—30MAY19

Engine Set Speed 2 Button

NOTE: Machines equipped with CommandPRO joystick only.

Engine Set Speed 2 Button — press to enable engine set speed 2 setting. Press again to disable. Indicator on button illuminates when enabled. See Engine Settings —Engine Set Speed in Engine Operation section of this Operator's Manual.

RXA0168437—UN—30MAY19

Engine Manual Mode Button

NOTE: Machines equipped with CommandPRO joystick only.

Engine Manual Mode Button — press to enable manual engine mode. Engine speed is determined by hand throttle. Press again to disable. Indicator on button illuminates when enabled.

KD34109,00004E4-19-14JUL22

CommandARM Joystick

RXA0168438—UN—30MAY19

CommandARM Joystick

RXA0168439—UN—30MAY19

Reconfigurable Buttons

Reconfigurable Buttons — configure buttons 5, 6, 7, 8, and 9 for custom functions in Controls Setup. See Controls Setup in CommandCenter section of this Operator's Manual.

RXA0168440—UN—30MAY19

Rocker Switch

Rocker Switch — configure rocker switch for custom functions in Controls Setup. See Controls Setup in CommandCenter section of this Operator's Manual.

RXA0168441—UN—30MAY19

Joystick Axis

Axis — configure axis functions in Controls Setup. See Controls Setup in CommandCenter section of this Operator's Manual. Indicator light is illuminated when joystick is active.

RXA0168442—UN—30MAY19

Joystick Lock

Lock Button — lock or unlock joystick functions. Indicator light is illuminated when joystick is locked.

RXA0168443—UN—30MAY19

Activation Indicator Light

Activation Indicator Light — illuminates when joystick is active.

KD34109,00004E5-19-17JUN22

CommandARM Navigation Bar

RXA0171956—UN—12NOV19

Navigation Bar Example

RXA0168445—UN—30MAY19

Adjustment Dial

Adjustment Dial — turn clockwise to increase or counterclockwise to decrease selected input field. Button in center of adjustment wheel is used to close CommandCenter pages.

RXA0168446—UN—30MAY19

Run Page Scroll

Run Page Scroll — press to scroll through custom run pages.

RXA0168447—UN—30MAY19

SCV

SCV — press to open SCV application.

RXA0168448—UN—30MAY19

Rear Hitch

NOTE: Ag machines only.

Rear Hitch — press to open Rear Hitch application.

RXA0168449—UN—30MAY19

Engine

Engine — press to open Engine application.

RXA0168450—UN—30MAY19

Transmission

Transmission — press to open Transmission application.

RXA0168451—UN—30MAY19

PTO

NOTE: Ag machines only.

PTO — press to open PTO application.

RXA0168452—UN—30MAY19

iTEC

iTEC — press to open iTEC application.

RXA0168455—UN—05JUN19

Lights

Lights — press to open Lights application.

RXA0168456—UN—30MAY19

HVAC

HVAC — press to open HVAC application.

RXA0168457—UN—30MAY19

Controls Setup

Controls Setup — press to open Controls Setup application.

RXA0168458—UN—30MAY19

AutoLoad

NOTE: Scraper machines only.

AutoLoad — press to open AutoLoad application.

KD34109,00004E6-19-20JUN22

Adjust CommandARM Position

RXA0167304—UN—02APR19

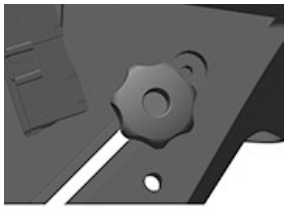
CommandARM Adjustment

NOTE: Both adjustment knobs must be loosened to adjust height.

RXA0167305—UN—02APR19

Height Only Adjustment

Adjustment Knob (Height Only) — turn adjustment knob counterclockwise to loosen. Move CommandARM to desired position and tighten by turning knob clockwise.



RXA0167306—UN—02APR19

Height and Tilt Adjustment

Adjustment Knob (Height and Tilt) — turn adjustment knob counterclockwise to loosen. Move CommandARM to desired position and tighten by turning knob clockwise. If adjusting tilt but not height, only this knob is needed.

TS36762,000023C-19-17JUN22

Use Electronic Display Properly

Electronic displays are secondary devices intended to aid the operator in performing field operations, increase comfort and provide entertainment. Displays offer a wide range of functionality, are used in many different machine system applications and can be used with other secondary devices such as handheld electronic devices.

A secondary device is any device that is not required to operate your machine for its primary use. The operator is always responsible for safe operation and control of the machine.

To prevent injury while operating the machine:

- Position the display according to the installation instructions. Ensure that the device is secured and does not obstruct the driver's view or interfere with the machine operating controls.
- Do not become distracted by the display. Stay alert. Pay attention to the machine and surrounding environment.
- Do not change settings or access any functions that require prolonged use of the display controls while machine is moving. Stop the machine in a safe location and place in park position before attempting such operations.
- Never set the volume so high that you cannot hear outside traffic and emergency vehicles.

To promote safe operation, certain functions of displays may be disabled unless the machine movement is restricted and/or has been placed in the park position. Overriding this safety feature may violate applicable law and can result in damage, serious injury, or death.

Only use available display functionality when conditions permit you to do so safely and in accordance with instructions provided. Always observe safe driving rules, state, or local laws and traffic regulations when using any secondary device.

DX,ELEC,DISPLAY-19-13JAN15

Machine Settings Overview

NOTE: Some items only display if machine is equipped with the associated option.

RXA0167076—UN—20MAR19

Access machine-specific applications from the Machine Settings tab. Available applications vary depending on tractor configuration.

RXA0180073—UN—09OCT20

AutoLoad

AutoLoad

- Use AutoLoad application to adjust AutoLoad settings.
- For more information, see Scraper Information section of this Operator's Manual.

RXA0175176—UN—17FEB20

Engine

Engine

- Use Engine application to adjust engine and exhaust filter system settings.
- For more information, see Engine Settings in Engine Operation section of this Operator's Manual.

RXA0178628—UN—08JUL20

ExactRate Tractor Tank

ExactRate Tractor Tank

- Use ExactRate Tractor Tank application to view ExactRate fill information.
- For more information, see ExactRate Tractor Tank Settings in ExactRate Tractor Tanks section of this Operator's Manual.

RXA0169132—UN—25JUN19

Front Hitch

Front Hitch

- Use Front Hitch application to adjust front hitch settings.
- For more information, see Front Hitch Settings in Front Hitch section of this Operator's Manual.

RXA0167626—UN—26APR19

HVAC

HVAC

- Use HVAC application to adjust heating, ventilation, and air conditioning settings.
- For more information, see HVAC Settings in HVAC section of this Operator's Manual.

RXA0177902—UN—14MAY20

John Deere CTIS

John Deere CTIS

- Use John Deere CTIS application to adjust John Deere CTIS settings.
- For more information, see John Deere CTIS Settings in John Deere CTIS section of this Operator's Manual.

RXA0168488—UN—05JUN19

Lights

Lights

- Use Lights application to adjust lights settings.
- For more information, see Lights settings in Lights section of this Operator's Manual.

RXA0134981—UN—07AUG13

Maintenance and Calibrations

Maintenance and Calibrations

- Use Maintenance and Calibrations application to add/edit service intervals and perform ground radar and slip calibrations.
- For more information, reference the G5 CommandCenter Operator's Manual and the Help Center application on the display.

RXA0167685—UN—30APR19

PTO

PTO

- Use PTO application to adjust PTO settings.
- For more information, see PTO Settings in PTO—General Information section of this Operator's Manual.

RXA0169204—UN—26JUN19

Rear Hitch

Rear Hitch

- Use Rear Hitch application to adjust rear hitch settings.
- For more information, see Rear Hitch Settings in Rear Hitch section of this Operator's Manual.

RXA0173516—UN—03JAN20

SCV

SCV

- Use SCV application to adjust SCV settings.
- For more information, see SCV Settings in Selective Control Valves section of this Operator's Manual.

RXA0171926—UN—06NOV19

Steering

Steering

- Use Steering application to adjust steering settings.
- For more information, see Steering Settings in this Operator's Manual section.

RXA0174230—UN—28JAN20

Suspension

Suspension

- Use Suspension application to adjust suspension settings.
- For more information, see Suspension Settings in Drive Train section of this Operator's Manual.

RXA0177626—UN—28APR20

Trailer Brake

Trailer Brake

- Use Trailer Brake application to adjust brake and pre-brake settings and/or to test trailer brakes.
- For more information, see Trailer Brake System Settings in Brakes section of this Operator's Manual.

RXA0167077—UN—20MAR19

Transmission

Transmission

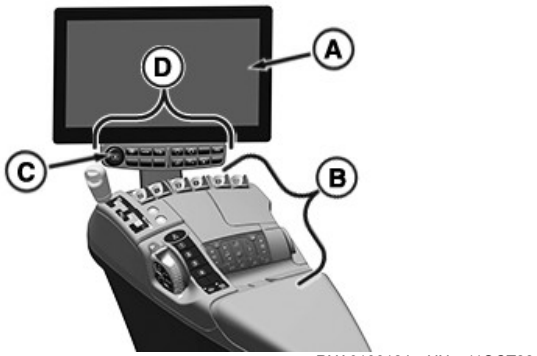
- Use Transmission application to adjust transmission settings.
- For more information, see appropriate transmission section of this Operator's Manual.

kd34109,1665681653127-19-13OCT22

Navigate G5 CommandCenter

NOTE: Images are for reference and may differ by tractor configuration or operator settings. As the operator pages through the CommandCenter, more in-depth information is presented, allowing the operator to fine-tune tractor functions.

Navigating CommandCenter Pages:



RXA0188124—UN—11OCT22

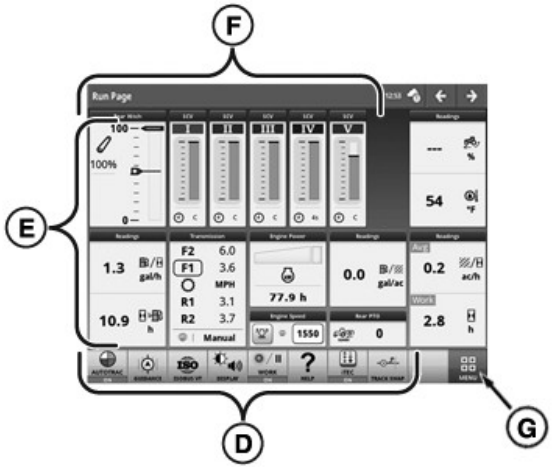
CommandCenter and CommandARM

Use touchscreen CommandCenter buttons or icons to make selections. To adjust input box values, enter the value on the keypad or select the input box and scroll the adjustment dial (C) to the desired value. A yellow highlight box appears around the selected input box and indicates that the adjustment dial is active.

A—CommandCenter: A touchscreen display attached to the CommandARM (B) that allows the operator to access pages required to operate the tractor. The operator can select (touch) options on the screen to move through pages and access tractor functions.

B—CommandARM: Made up of buttons, switches, and a joystick (if equipped) that allow the operator to manage tractor or implement functions.

C—Adjustment Dial/Close Window Button: Rotate the adjustment dial clockwise to raise or counterclockwise to lower input box values. Press the button one time to close a window. Press and hold the button to close all open windows.



RXA0188279—UN—11OCT22

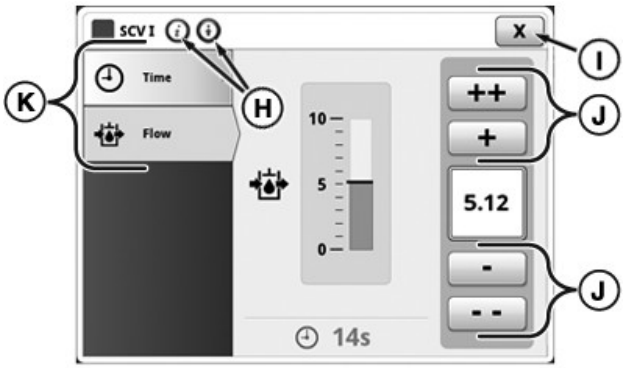
Run Page

D—Shortcut Keys: Allow quick access to application functions from the shortcut bar.

E—Run Page Modules: Allow quick access to application functions from the run pages.

F—Title Bar: Select to access available run pages or add a new run page.

G—Menu: Select to access all applications installed on the display and machine. Select left-hand tabs to view different groups of applications.



RXA0137084—UN—13DEC13

Module Functions

H—Help/Advanced Settings Buttons: While in an application, select the title bar to view the help pages or change additional settings for that application.

I—Close Button: Select to close the current page.

J—Increase/Decrease Value Buttons: Select to change a value within input boxes. Use (++) and (- -) buttons to make larger incremental changes when adjusting the value, rather than touching (+) or (-) buttons. For areas that require tighter adjustments, only (+) and (-) buttons are available.

K—Tabs: Select to change to different section topics.

kd34109,1664465900369-19-27FEB23

Compatible Universal Displays

G5 CommandCenter may be configured to run with the following John Deere universal displays connected at the corner post.

- GreenStar 3 2630 Display
- 4640 Universal Display
- 4240 Universal Display (7R and 8R Series Tractors only)
- G5 Universal Display
- G5^{Plus} Universal Display

kd34109,1664465919701-19-29SEP22

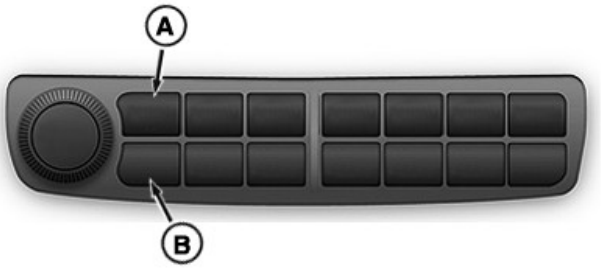
Power Display On and Off

G5 CommandCenter displays turn on and off with the tractor key switch.

- **Warm boot** occurs when the CommandCenter display has been on within the last 24 hours. The display rests in hibernation state during the 24-hour or less time period that it has been off. When turned back on, the display powers up quickly (approximately 10 seconds).
- **Cold boot** occurs if the display has not been operated for 24 hours or more, or if the unswitched power has been disconnected. During this period, the display shuts down completely to conserve battery power. The next power-up takes approximately 60 seconds.

NOTE: After turning off the engine, avoid turning the key switch back on until the display screen has gone black.

- **Hard reset** is required when the display is unresponsive for more than a few minutes under normal operating conditions.



RXA0148512—UN—25JUN15

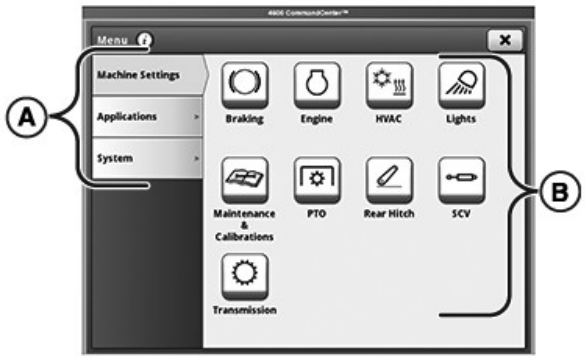
Navigation Bar

Perform a hard reset by simultaneously pressing the left-most upper and lower buttons (A and B) on the navigation bar for 5 seconds. If the display does not reset, pull fuse nine from the load center and replace it after 5 seconds. For more information on load center fuses, see Load Center—Cab in Service—Electrical section of this Operator's Manual. If the problem persists, see your John Deere dealer.

kd34109,1664465962070-19-29SEP22

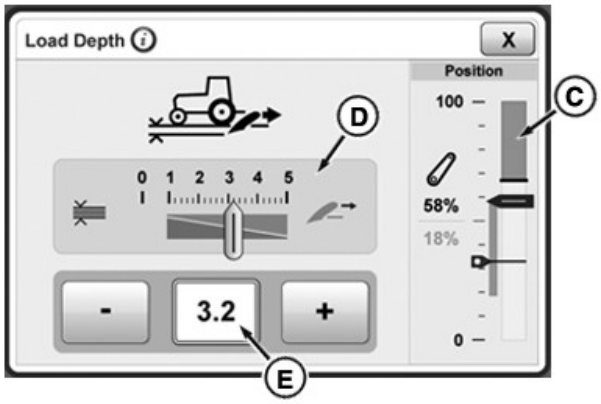
Change Pages and Values

Various methods are provided to allow selection and modification of CommandCenter pages and values.



RXA0181011—UN—22JAN21

- **A—Section Tab:** Select to change to a different section topic.
- **B—Icons:** Select to open an application.



RXA0130123—UN—23APR13

- **C—Bar Graph:** Shows setting information using the filled portion of the bar.
- **D—Slider Bar:** Shows the setting within the minimum and maximum value range.
- **E—Input Box:** Shows the set value. Select (+) to increase or (-) to decrease the value.

NOTE: When changing values using the adjustment dial, rotating the dial faster increases or decreases the value faster.

If a large range of values is available, a numeric keypad appears, allowing direct input of the desired value.

KT81203,00004A7-19-20JUN22

Factory and Service ADVISOR Installed Onscreen Help

Tractor Application Help Package with Service ADVISOR or Service ADVISOR Remote is installed at the factory for the following eight languages:

- Chinese
- English
- French
- German
- Italian
- Portuguese
- Russian
- Spanish

G5 Operating System Help Package is installed for all languages at factory.

For instructions on how to install and update Onscreen Help packages, see the G5 CommandCenter Operator's Manual.

kd34109,1664465994053-19-29SEP22

Radar Calibration

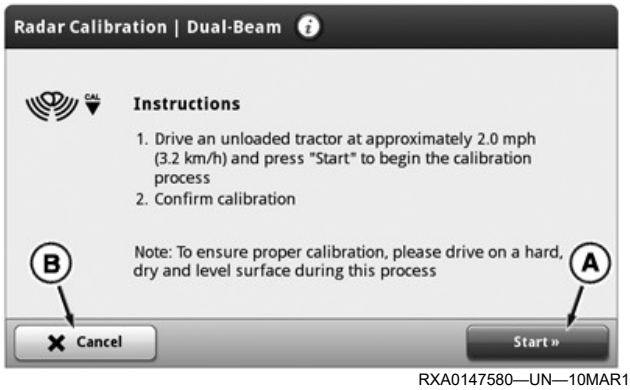
CAUTION: Avoid injury. Perform calibration in safe and open area that is clear of objects and bystanders.

Perform radar calibration if:

- Radar speed and wheel/track speed are not equal when slip is not present.
- Radar device was installed/replaced.
- Tire size was changed.
- Ballast of tractor was changed.
- Speed source was changed.

RXA0147926—UN—13APR15

1. Select Menu.
2. Select Machine Settings tab.
3. Select Maintenance & Calibrations icon.
4. Select Calibrations tab.
5. Select Radar Calibration icon.
6. Drive unloaded tractor on hard, dry, and level surface at approximately 3.2 km/h (2.0 mph).



RXA0147580—UN—10MAR15

NOTE: Radar calibration can be canceled by selecting Cancel (B).

7. Select Start (A) to begin radar calibration process.

RXA0147581—UN—10MAR15

8. Select OK (C) to complete radar calibration.

If radar calibration is unsuccessful after three attempts, see your John Deere dealer.

KD34109,00004DE-19-22JUN22

Slip Calibration

CAUTION: Avoid injury. Perform calibration in safe and open area that is clear of objects and bystanders.

Perform slip calibration if:

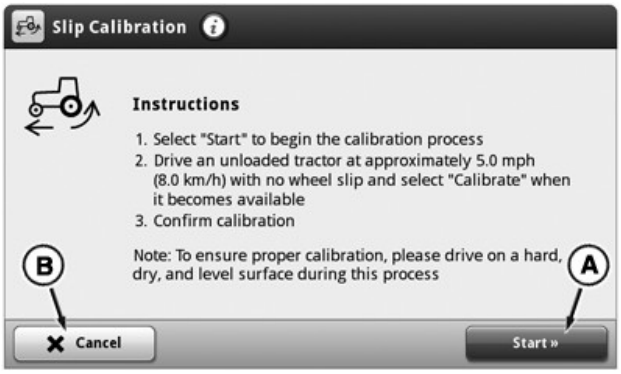
- Radar calibration has been performed.
- Slip is displayed when slip should not be present.
- Ballast of tractor was changed.
- Speed source was changed.

RXA0147928—UN—13APR15

1. Select Menu.
2. Select Machine Settings tab.
3. Select Maintenance & Calibrations icon.
4. Select Calibrations tab.

NOTE: Tractor must be in motion for slip calibration icon to appear.

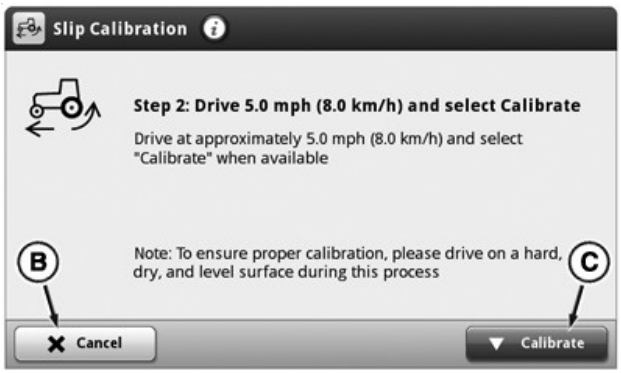
5. Select Slip Calibration icon.



RXA0147582—UN—10MAR15

NOTE: Slip calibration can be canceled by selecting Cancel (B).

6. Select Start (A) to begin slip calibration process.
7. Drive unloaded tractor on hard, dry, and level surface at least 8 km/h (5 mph).



RXA0147583—UN—10MAR15

8. Select Calibrate (C).

RXA0147584—UN—10MAR15

9. Select OK (D) to complete slip calibration.

If slip calibration is unsuccessful after three attempts, see your John Deere dealer.

KT81203,000020F-19-22JUN22

Steering Settings—Access

Access Application through Display:

RXA0167075—UN—20MAR19

Menu

1. Menu

RXA0167076—UN—20MAR19

Machine Settings

2. Machine Settings tab

RXA0171926—UN—06NOV19

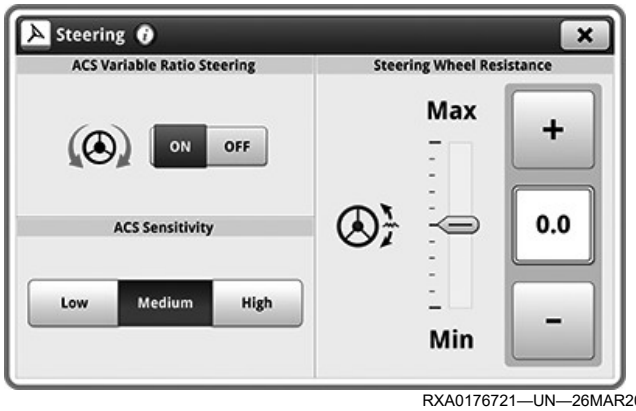
Steering

3. Steering

KD34109,0000571-19-08DEC21

Steering Settings

Steering application is used to access and adjust steering settings.



RXA0176721—UN—26MAR20

Steering (ACS 2)

RXA0186696—UN—04MAR22

Steering (non-ACS)

Items Accessible on Steering Main Page:

NOTE: Some items only display if the machine is equipped with the associated options.

ACS 2 Items:

RXA0167187—UN—22MAR19

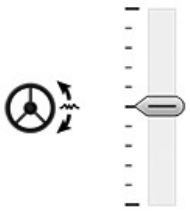
ON/OFF

ACS 2 Variable Ratio Steering — adjust the amount of steering wheel turns based on ground speed. See Steering Settings—ACS 2 Variable Ratio Steering in this Operator's Manual section.

RXA0176722—UN—26MAR20

ACS Sensitivity Level

ACS 2 Sensitivity — adjust the sensitivity level of turning the steering wheel and the steering wheel force/torque feedback at transport speeds. See Steering Settings—ACS 2 Sensitivity in this Operator's Manual section.



RXA0174749—UN—05FEB20

Resistance Status

Steering Wheel Resistance — adjust the setting for the force required to turn the steering wheel. See Steering Settings—Steering Wheel Resistance in this Operator's Manual section.

Non-ACS Items:

RXA0186695—UN—07MAR22

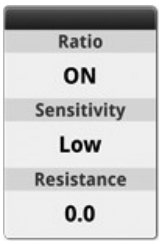
Reactive Steering

Reactive Steering — enable to automatically guide the steering wheel back to the center. See Steering Settings —Reactive Steering in this Operator's Manual section.

Run Page Modules

Add modules for this application to run pages using Layout Manager. See the G5 CommandCenter Operator's Manual.

Example:



RXA0183291—UN—20MAY21

Steering

NOTE: Different modules may be available for your application.

ACS 2 Steering — quick access to Steering module.

Shortcut Keys

Add shortcut keys for this application to the shortcut bar using Layout Manager. See the G5 CommandCenter Operator's Manual.

Example:

RXA0183292—UN—19MAY21

ON

NOTE: Different shortcut keys may be available for your application.

ACS 2 Variable Ratio Steering — quick access to turn feature ON and OFF.

WTEFIAT,000006F-19-27FEB23

Steering Settings—ACS 2 Variable Ratio Steering

The ACS 2 Variable Ratio Steering setting allows the operator to improve maneuverability on headland turns or tight spaces by activating a stronger steering ratio, leading to less steering wheel turns.

When enabled, the system activates depending on ground speed:

- At speeds below 20 km/h (12 mph), turn rate increases automatically.
- At speeds above 20 km/h (12 mph), turn rate returns to normal fixed ratio operation.

Procedure to Modify:

RXA0167187—UN—22MAR19

ON/OFF

Select ON to enable or OFF to disable.

KD34109,00005D4-19-17JUN22

Steering Settings—ACS 2 Sensitivity

The ACS 2 Sensitivity setting allows the operator to adjust the sensitivity level of turning and the force/torque feedback of the steering wheel.

Procedure to Modify:

Select one of three levels:

-

RXA0176724—UN—26MAR20

Low

Low — decreased steering sensitivity to aid in straight-line holding, primarily when transporting on rough terrain. Torque feedback is reduced at transport speeds.

-

RXA0176725—UN—26MAR20

Medium

Medium — (default setting) a midpoint of steering sensitivity and feedback.

-

RXA0176723—UN—26MAR20

High

High — increased sensitivity to steering wheel commands with increased force feedback at transport speeds.

KD34109,00005D5-19-20JUN22

Steering Settings—Steering Wheel Resistance

Steering Wheel Resistance setting allows operator to adjust setting for force required to turn steering wheel.

Procedure to Modify:

RXA0171921—UN—07NOV19

Increase/Decrease Value

Select (+) to increase or (-) to decrease value.

- Maximum: 2
- Minimum: -2
- Increment: 0.1
- Default: 0

KD34109,0000573-19-25MAR20

Steering Settings—Reactive Steering

Reactive Steering automatically guides the steering wheel back to center when enabled. When disabled, the last operator-commanded steering wheel position resumes.

Procedure to Modify:

RXA0167187—UN—22MAR19

ON/OFF

Select ON to enable or OFF to disable.

Status Indicators:

RXA0177921—UN—14MAY20

Status Indicator

- **Green Indicator** — the indicator is illuminated green when Reactive Steering is ON and active.
- **Orange Indicator** — the indicator is illuminated orange when Reactive Steering is ON but inactive.

NOTE: Reactive Steering will remain inactive at low hydraulic oil temperatures.

- **Gray Indicator** — the indicator is not illuminated and appears gray when Reactive Steering is OFF.
- **Red Indicator** — the indicator is illuminated red when a fault is present.

WTEFIAT,0000072-19-20JUL23

Controls Setup

PC15326—UN—08JUL13

Controls Setup configures the integrated tractor joystick, CommandARM levers, 1—4 buttons, and third-party devices to control tractor or implement functions. ISO Aux implements configure to the tractor joystick or a third-party device.

Set up assignments:

1. Select Menu.
2. Select Applications tab.
3. Select Controls Setup application.
4. Select from the following tabs on the left-hand side of the page:

NOTE: Unlock the tractor joystick (if equipped) to activate default and custom (manually set) assignments. See CommandARM Joystick in CommandARM Controls section of this Operator's Manual.

- **CommandPRO Joystick:** Assign to control tractor and implement functions (example: rear hitch).
- **Integrated Tractor Joystick:** Assign to control tractor and implement functions (example: front hitch).
- **CommandARM Levers and 1—4 Buttons:** Assign to control tractor and implement functions (example: rear hitch).
- **Third-Party Devices:** Any mechanism, John Deere, or non-John Deere, attached to ISOBUS.

Once attached, assign control to tractor and implement functions (example: trailer).

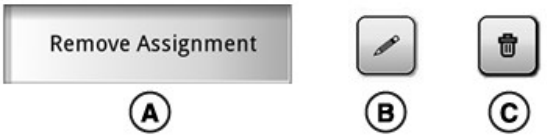
- **ISO Aux implements:** Assign implement (example: trailer) function to a specific button on the tractor joystick.

5. Select reconfigurable assignment module.

Depending on the selected source, the following combinations (assignments) are possible:

- **Integrated Tractor Joystick, CommandARM Levers, 1—4 buttons, and Third-Party Devices:** Input + Source + Function
- **ISO Aux Implements:** Function + Device + Input

Manage Assignments:

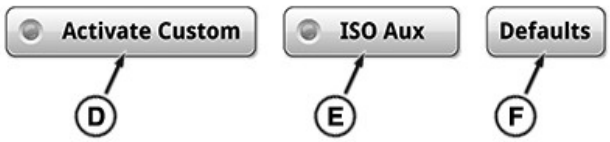


RXA0156706—UN—11JAN17

To edit assignments for the tractor joystick, CommandARM levers, or 1—4 buttons, select the desired reconfigurable assignment module. To remove an assignment, select the desired assigned module and then select Remove Assignment (A).

To edit assignments for third-party devices or ISO Aux implements, select edit (B) in the desired reconfigurable assignment module. To remove an assignment, select trash (C).

Activate Custom, ISO Aux, and Defaults:



RXA0166821—UN—05MAR19

Select Activate Custom and ISO Aux buttons to enable custom assignments for ISO Aux implements

Activate Custom (D): Enables all customized assignments across all groups.

ISO Aux (E): Determines if messages from the tractor joystick are sent to the ISO Aux implement. Select to enable implement functions, select again to disable. Functions are stored until the operator edits a corresponding assignment.

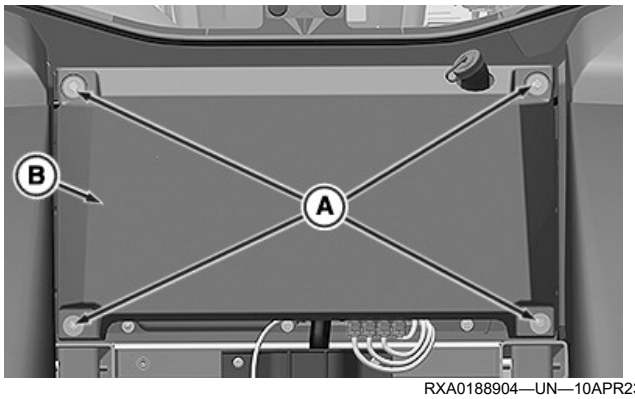
Defaults (F): Clears and restores any custom control assignments to factory default settings.

KT81203,00005B2-19-20JUN22

Install Video Display Camera

IMPORTANT: Avoid damage to the camera. Mount the camera securely to the equipment and in a location where the camera will not be pinched, crushed, kicked, or knocked off.

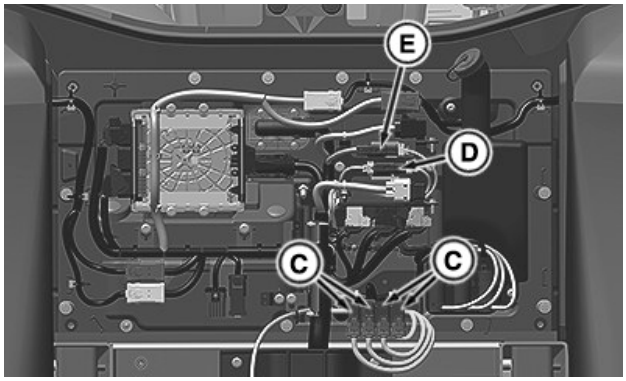
NOTE: Camera placement is limited to video camera cable length. Consider camera field of view when selecting the location.



RXA0188904—UN—10APR23

NOTE: Rear cab panel removal is not required to access the analog video connectors.

1. Remove the four cap screws (A).
2. Remove the rear cab panel (B).

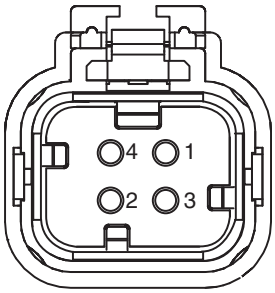


RXA0188905—UN—10APR23

3. Locate the video connectors:

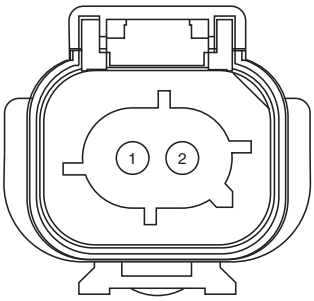
NOTE: The digital inputs will be occupied if the tractor is equipped with front and rear digital cameras.

- Analog (C)
- Rear digital (D)
- Front digital (E)



RXA0107925—UN—28MAY10

Analog Video Connector Pin Identification



RXA0188906—UN—10APR23

Digital Video Connector Pin Identification

Analog	
Pin Number	**Function**
1	Power
2	Ground
3	Signal
4	Signal—Ground

Digital	
Pin Number	**Function**
1	Signal +
2	Signal -

4. Connect the camera cable into the 4-pin (analog) or 2-pin (digital) connector.

NOTE: For the camera to function after connecting it to the port, the key switch may need to be cycled.

5. Route the camera cable.
6. Mount the camera at the desired location.
7. Replace the rear cab panel.

For information on how to adjust Video settings, see the G5 CommandCenter Operator's Manual.

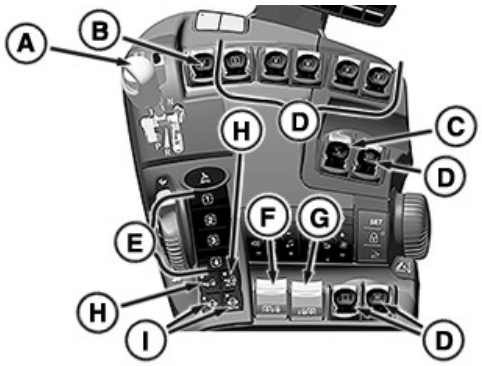
KD34109,00004B4-19-10APR23

CommandARM Control Functions

Intelligent Total Equipment Control, iTEC, allows multiple reoccurring tasks to be performed with touch of one button, up to four sequences. Sequences remain in memory until deleted or overwritten, even if electrical current is switched off. Each sequence can include up to 20 functions.

A sequence is a course of events from start of first function to completion of last function. Sequence can be started by pressing one of the sequence (1—4) buttons.

iTEC pages are accessed through G5^{Plus} CommandCenter. See additional information in this Operator's Manual section on how to set up and edit a sequence.



RXA0156096—UN—09DEC16

The following iTEC functionality chart describes item and function from CommandARM image.

NOTE: Some items are only available if machine is equipped with the associated option.

iTEC Functionality		
	Component	**Functions**
A	IVT -AutoPowr, EVT-eAutoPowr, and 16-Speed PowerShift	Change Set Speed Forward
	e18 and e23 Transmission	Upshift or Downshift in forward gear
B	Rear Hitch	Raise Detent, Lower Detent, and Fast Lower Detent
C	Front Hitch	Raise, Lower, Float, and Cancel
D	SCVs	Extend, Retract, Float, and Cancel
E	1—4 Buttons[a]	Sequence Set 1, 2, 3, or 4
F	Front PTO	On/Off
G	Rear PTO	On/Off
H	MFWD	On/Off/Auto
I	Differential Lock (7R, 8RW, 8RX, and 9RW)	On/Off/Auto
	Differential Lock (9RX)	Auto

[a] *Buttons are reconfigurable and must be assigned to iTEC to run sequence sets.*

KT81203,000093C-19-28FEB23

iTEC Station Description (EU 1322/2014)

CAUTION: Do not operate front loaders in conjunction with Intelligent Total Equipment Control (iTEC) to avoid sudden movements and possible accidents.

A sequence is defined as the start of the first recorded function to completion of last recorded function. Example of two sequences would be, one sequence made up of a series of functions, operations and distances used at start of field and a second sequence used at a water way in the center of the field. Each program can include up to 20 functions. The programs remain in the memory until they are deleted or overwritten, even if the electrical current is switched off.

KT81203,00004FB-19-15JUN22

CommandCenter Pages Descriptions and Functions

CAUTION: Avoid unwanted movement and possible accidents. Do not operate front loaders in conjunction with Intelligent Total Equipment Control (iTEC).

iTEC Main Page

RXA0168452—UN—30MAY19

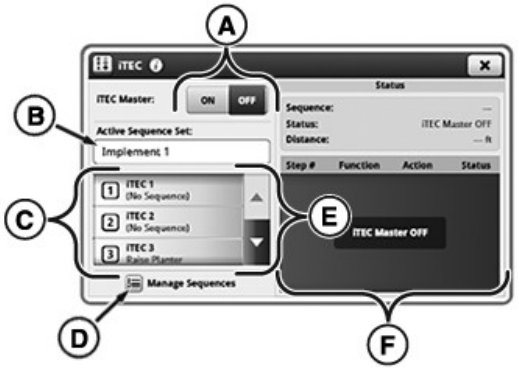
Use shortcut button or follow alternative path:

1.

RXA0145566—UN—01OCT14

Select **Menu.**

2. Select **Machine Settings tab.**
3. Select **iTEC Icon.**



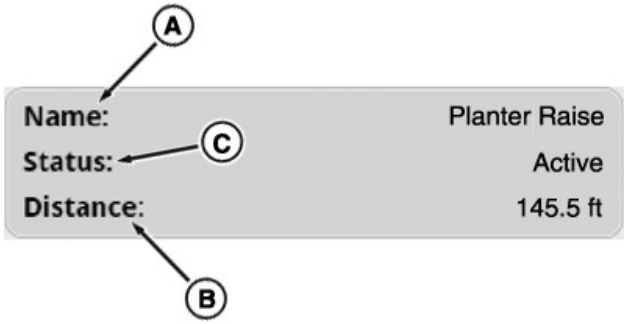
RXA0158043—UN—02MAR17

- **A — iTEC Master Toggle:** Toggle iTEC ON/OFF.

- **B — Active Assignment Set Button:** Select or create an assignment set.
- **C — Assignments List:** List of sequences that can be assigned to 1—4 buttons.
- **D — Manage Sequences Button:** Edit sequence and assign buttons.
- **E — Scroll Bar:** Scroll up or down.
- **F — Status List:** Shows status of each iTEC sequence step as sequence progresses.

KT81203,00004D7-19-11APR23

Status Area



RXA0131243—UN—08MAR13

- **A—Name:** Name of sequence that is currently running.
- **B—Distance:** Displays accumulated distance while iTEC sequence is running.
- **C—Status:** Indicator of current iTEC status.
  - **Off** - No sequence execution possible.
  - **Ready** - Waiting for iTEC button to which a sequence is assigned to be pressed.
  - **Active** - iTEC sequence execution active.
  - **RPM Limit** - Engine speed is out of range. [1]
  - **Park** - Transmission indicates that park lock is engaged.[2]
  - **Operator Presence** - No operator presence, no iTEC execution allowed. Operator returns to seat. [1]
  - **Wheel Speed Low** - Wheel speed < 0.5 km/h (0.3 MPH), execution is paused.
  - **Complete** - Sequence successfully completed.
  - **Aborted** - Sequence execution aborted by operator or active abort condition.
  - **Error** - One or more sequence steps did not execute.

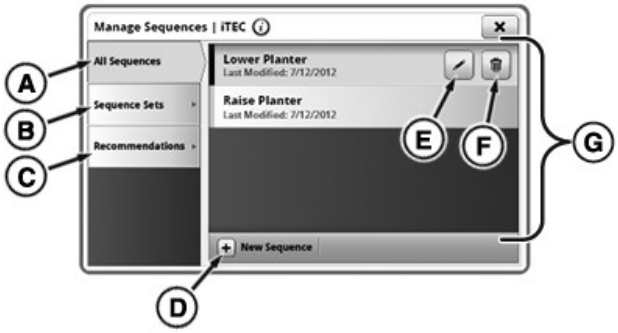
KT81203,00004D8-19-11APR23

[1] *Sequences pauses or cannot start if this condition exists. Correct condition to resume sequence.*
[2] *Sequence pauses or cannot start if this condition exists. Correct condition to resume sequence.*

All Sequence Page

RXA0129723—UN—06MAR13

Select **Manage Sequences button** on iTEC main page.



RXA0158044—UN—02MAR17

- **A—All Sequences Tab:** View available, delete saved, edit saved, or add new sequences.
- **B—Sequence Sets Tab:** View assigned sequences or give sequence assignment.
- **C—Recommendations (AutoLearn):** View and edit learned sequences.
- **D—New Sequence Button:** Manually program new sequence.
- **E—Edit Button:** Edit saved sequence.
- **F—Trash Button:** Deleted saved sequence.
- **G—Sequence List:** List of saved sequences.

DB71512,000013B-19-22JUN22

Add New Sequence

NOTE: For complete list of functions available, see CommandCenter Pages Descriptions and Functions in this Operators Manual section.

From iTEC main page, follow steps listed below:

1.

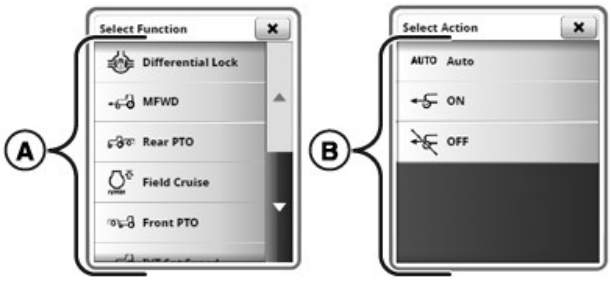
RXA0158059—UN—02MAR17

Select **Manage Sequences button.**

2. Select **All Sequences tab.**
3. Select **New Sequence button.**
4. Select **Add Step button.**

NOTE: Select Cancel button (F) to exit editing process without saving changes.

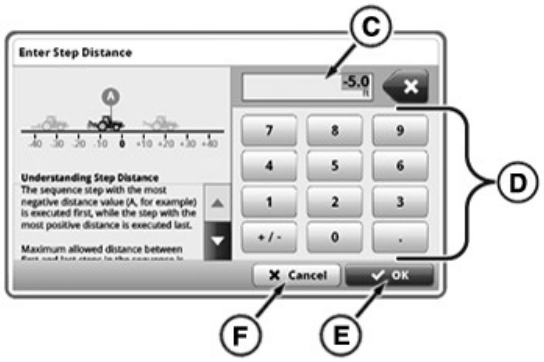
5.



RXA0158057—UN—02MAR17

Select from list of functions (A).

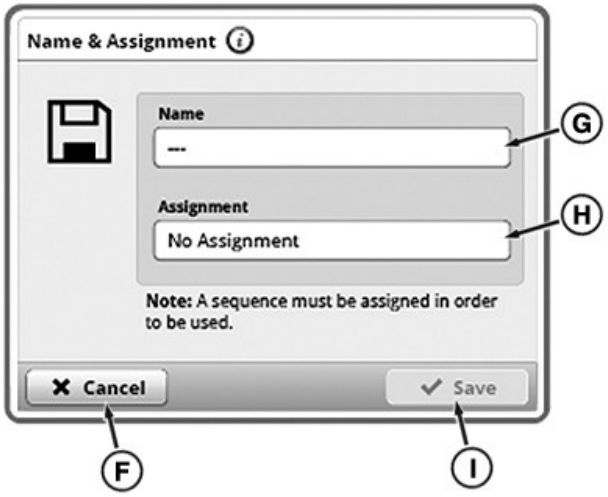
6. Select from list of actions (B).
7.



RXA0158047—UN—02MAR17

On Step Distance page, use keypad (D) to enter distance into step distance box (C).

8. Select OK Button (E).
9. Repeat steps 4-8 to add steps to sequence.
10. Press **Next button** to continue.
11.



RXA0158048—UN—02MAR17

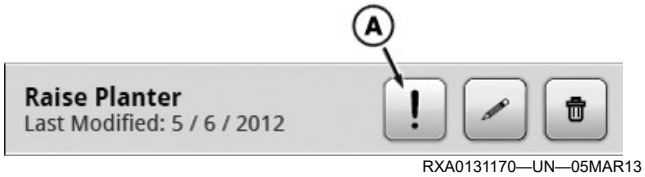
Select Sequence Name box (G). Type name of sequence. Select **Save/OK button** when complete.

NOTE: A sequence must be assigned in order to be used.

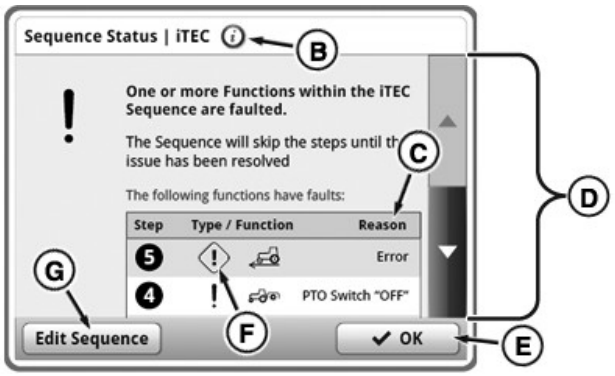
12. Select Sequence Assignment box (H). Select assignment, if desired, and select **Save/OK button** when complete.
13. Select **Save button (I)** to save sequence.

KT81203,00004D9-19-20JUN22

Sequence Step Status



RXA0131170—UN—05MAR13



RXA0131609—UN—25JUL13

NOTE: Press Information Button (B) on any iTEC page to access a general status page. General status page will list all functions that are part of the sequences of current selected implement.

Whenever execution of a sequence step is not possible or is interrupted, iTEC system informs operator about new issue by displaying Information Alert (A) or Fault Alert (F) next to the sequence or sequence step. Press **Alert Symbol** next to the sequence (in assignment area or sequence assignment tab) to access the sequence status page to read steps with errors. Use scroll bars (D) to scroll up and down list. Select edit sequence button (G) if you want to edit a sequence. Press **Alert Symbol** next to a sequence step (while in EDIT) for information about the issue just for that step. Both views will show a short reason (C) for issue. Press OK button (E) to exit.

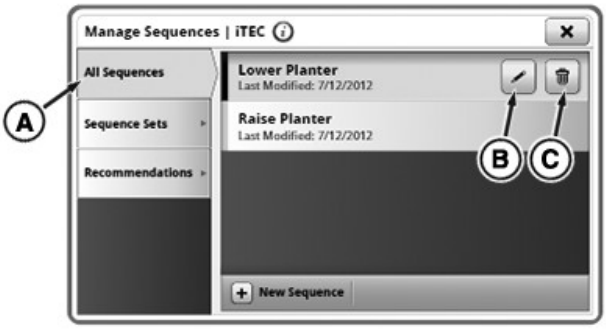
KT81203,00004DA-19-20JUN22

Edit or Remove Sequence

From iTEC main page:

RXA0129723—UN—06MAR13

1. Select **Manage Sequences button.**

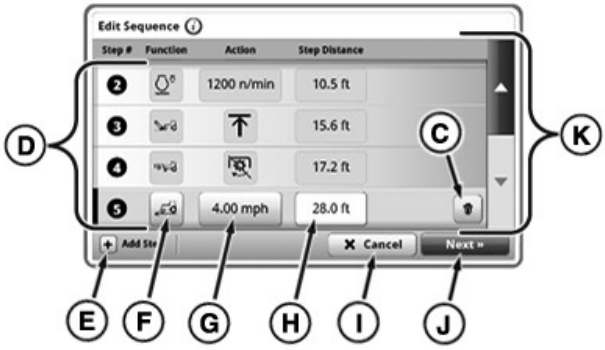


RXA0158049—UN—02MAR17

2. Select All Sequences tab (A).
3. Select desired sequence.

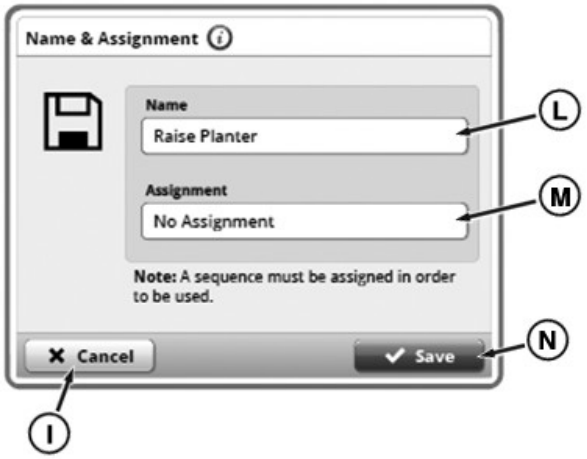
NOTE: Trash button (C) removes sequence or step within sequence.

4. To update sequence steps, select Edit button (B).



RXA0158050—UN—02MAR17

5. Select desired step to edit from sequence step list (D). If needed, use scroll bar (K) to locate step.



RXA0158051—UN—02MAR17

NOTE: To exit editing process without saving changes, select Cancel button (I).

6. To edit step, select add new step (E), function (F), or action (G) buttons or use distance input box (H).
7. Select Next button (J).
8. If needed, edit sequence name (L) or sequence assignment (M).
9. Select Save button (N).

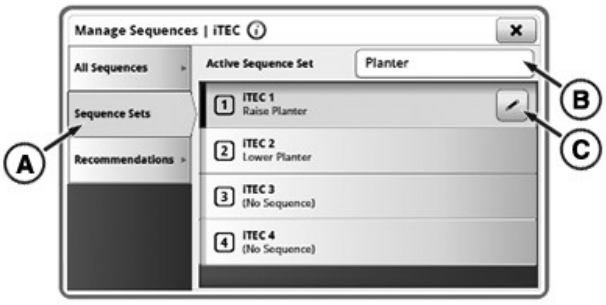
KT81203,00004DB-19-20JUN22

Sequence Sets Page

From iTEC main page, use following steps:

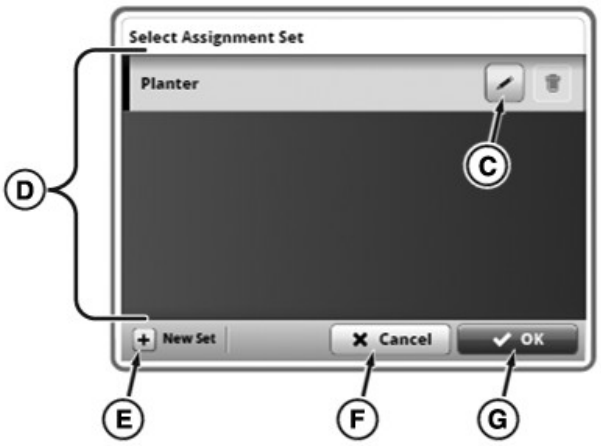
RXA0129723—UN—06MAR13

1. Select **Manage Sequences button.**

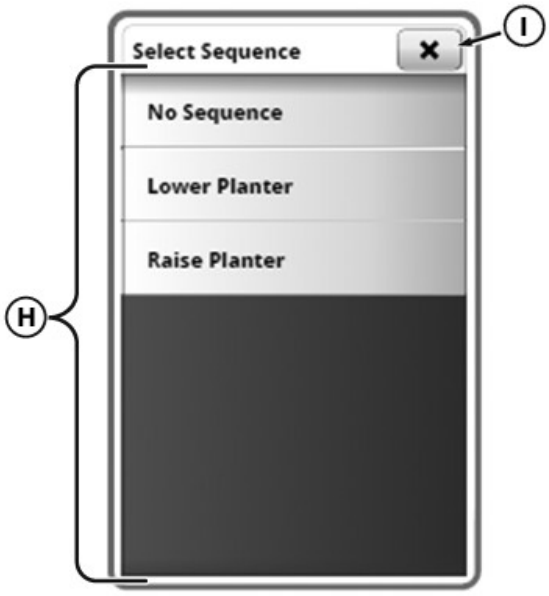


RXA0158311—UN—15MAR17

2. Select **Sequence Sets tab (A).**
3. If needed, select Active Sequence Set (B) and follow steps 4-6. If not, skip to step 7.



RXA0158312—UN—15MAR17



RXA0158313—UN—15MAR17

NOTE: To exit page without saving changes, select Cancel (F) or Close (I) button.

4. Select sequence set from Sequence Set list (D).
5. If needed, select Edit (C) or New Set (E) button.
6. Select OK button (G).
7. Select desired iTEC button to assign.
8. Select Edit button (C).
9. Select sequence from Sequence list (H).

KT81203,00004DD-19-20JUN22

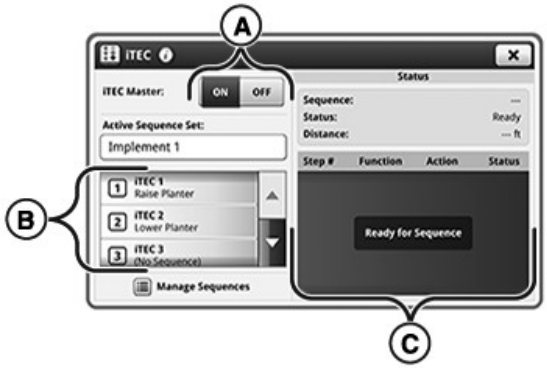
Perform Sequence

iTEC sequence execution requires that certain tractor controls are operated in a particular way. Sequence will not execute with tractor in PARK position. Transmission shift lever must be in forward position when executing set speeds, gears, or automatic gear shift. Tractor ground speed must be at least 0.5 km/h (0.31 mph).

Before performing sequence using SCV functions, relevant SCV levers must be in neutral position.

Abort current sequence at any time by pressing same assigned iTEC sequence button used for starting sequence. Currently active commanded functions will be canceled (example: hitch (if equipped) motion or SCV flow will stop if previously initiated as part of sequence).

iTEC Indicator is illuminated when active. For indicator location, see Corner Post Display in Corner Post Display section of this Operator's Manual.



RXA0173766—UN—13JAN20

During sequence execution, a function can be actuated manually at any time without execution of sequence being interrupted. Functions that are actuated manually are ignored by iTEC for the rest of sequence. Relevant alert icon for this function appears in Status area (C).

1. Turn iTEC Master toggle (A) to ON position.
2. Select iTEC sequence button assigned to desired sequence (B).
3. Sequence steps appear in Status area (C) and show progression of steps.

KT81203,00004DF-19-20JUN22

Recommendations (AutoLearn)

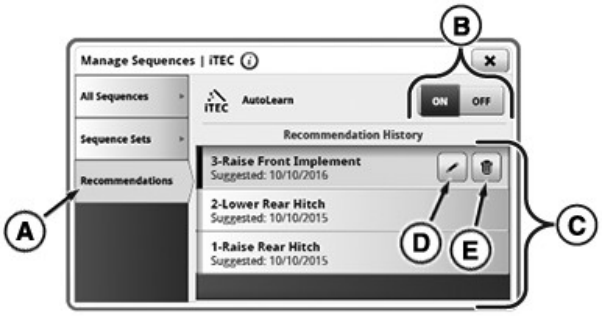
When AutoLearn is ON, the system learns every action the machine completes in the background. When the same patterns, actions, or steps are recognized, AutoLearn creates a sequence. AutoLearn then recommends assignment to an iTEC button.

Sequences can be deleted when no longer needed. When a sequence is deleted, all button assignments clear and sequence is no longer available for use.

From iTEC main page, use following steps:

RXA0129723—UN—06MAR13

1. Select Manage Sequences.



RXA0158056—UN—02MAR17

NOTE: AutoLearn is ON by default. To turn AutoLearn OFF, use AutoLearn ON/OFF toggle (B).

2. Select Recommendations (AutoLearn) tab (A).
3. Review Recommendation History (C).
4. To edit or assign recommended sequence, select edit (D). To remove sequence from list, select trash (E).

KT81203,00004E0-19-20JUN22

iTEC Functions—IVT/AutoPowr and EVT/eAutoPowr Transmissions

iTEC allows set speeds for IVT/AutoPowr and EVT/eAutoPowr transmissions to be preset. The minimum set speed that can be saved is 0.8 km/h (0.5 mph).

Changing the set speed or moving the lever during execution of the sequence will not cause iTEC to abort but no set speed changes will be commanded for the remainder of the sequence.

If the iTEC sequence commanded set speed exceeds maximum allowable speed in the range selected, set speeds change, but are restricted to the highest or lowest allowable set speed in the current range. For example, the tractor reaches maximum allowable set speed if transmission is in speed range F1 and operator executes 30 km/h (18.6 mph) command. When the set speed is changed by iTEC, the control unit reacts as if the operator changed the set speed, pushing other set speeds up or down as a result.

KT81203,00004E1-19-11APR22

iTEC Functions—Efficiency Manager

RXA0139446—UN—17MAR14

Efficiency Manager Set Speed Buttons (C): The current forward set speed can be changed up or down with the set speed adjusting wheel (B) on shift knob (A). Transmission changes will be executed at the normal rate once the set speed has been changed.

The minimum set speed that can be saved is 0.8 km/h (0.5 mph). Changing the set speed or shifting during execution of a sequence will not cause iTEC to abort, but set speed changes will not be executed for the remainder of the sequence.

When a set speed is changed by an iTEC sequence, transmission will react as if the operator changed set speed, shifting up or down as a result.

KT81203,00004E2-19-17JUN22

TIA—General Information

CAUTION: Although phrases ”transfer control” and ”disengage control” are terms commonly used with TIA equipment, at NO time is implement in total control of an operation. Operator ALWAYS has the ability to override TIA implement. It is operator's responsibility to make sure that implement operation does not damage equipment, or pose danger of injury or death to operator or others close by.

Do not operate TIA when driving on public roads or when other persons are close by.

For ISO-compliant tractors, TIA-compatible implements have the ability to control certain individual tractor functions. See your implement Operator’s Manual or contact your John Deere dealer with any questions regarding TIA-compatible implements.

KD34109,0000901-19-06MAY22

Activate TIA Equipment

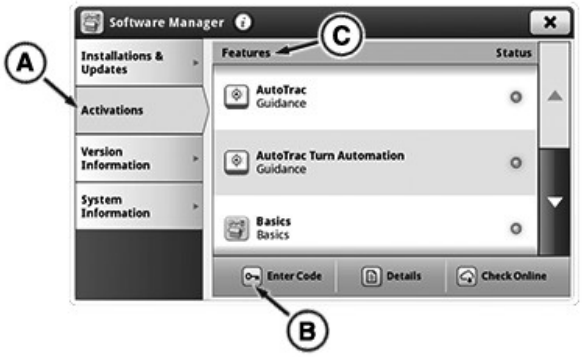
Response Codes, Text Descriptions, and Corrective Actions		
Common Response Codes	Text Displayed	Corrective Action
0	Code Accepted	None Required
4	Implement Not Available to Deactivate	Implement already deactivated
5	Implement Already Activated	None Required, implement should work as expected
6 and 11	Space Unavailable for Activation	Contact your dealer for assistance
17	Demonstration Activation Replaced With Permanent Activation	None Required

NOTE: To obtain tractor serial number, see Product Identification Number in Identification Numbers section of this Operator’s Manual.

An activation code is required to allow TIA to function. Contact your John Deere dealer with tractor serial number and implement make, model, and serial number. Dealer obtains activation code through John Deere StellarSupport.

RXA0166970—UN—08MAR19

1. Select Menu.
2. Select System tab.
3. Select Software Manager icon.



RXA0166931—UN—08MAR19

4. Select Activations tab (A).
5. When Activations page displays, press Enter Code (B). Keyboard appears.

NOTE: Some tractor automation activation page keyboard characters are grayed out and are not used in activation codes. If provided activation code includes any characters that are grayed out on tractor automation activation page keyboard, request dealers reconfirm activation code.

6. Using keyboard, enter activation code, then select OK.
7. If activation code is entered correctly, confirmation code appears in the enter activation overlay and message is displayed. Code Accepted indicates that activation is complete.
8. If message other than Code Accepted appears, see Response Codes, Text Descriptions, and Corrective Actions table. If message not listed appears, check and reenter code. If problem persists, contact your John Deere dealer.

Up to 20 implement names can be viewed on Activations page at any given time. When a new entry shows up in Features list (C), that entry is labeled Unknown Implement.

KD34109,0000902-19-23JUN22

Operate TIA

IMPORTANT: For TIA to function correctly, the tractor and implements must meet various requirements. See requirements information in this Operator’s Manual section and the implement Operator’s Manual sections.

1. Connect TIA equipment to tractor using ISO connection. See Right-Hand Front Corner Post in Accessories section of this Operator’s Manual.
2. Select AutoTrac Resume (AUTO) button on CommandARM. For button location, see CommandARM Controls—Left Side in

CommandARM Controls section of this Operator's Manual.

3. Follow implement Operator's Manual instructions to operate implement.

KD34109,0000903-19-23JUN22

PTO Requirements

Before transferring control to implement, prepare implement as indicated in implement Operator's Manual. Transfer control using AutoTrac resume button as described in implement Operator's Manual.

Following conditions must be met before transferring control to implement:

- Operator in seat.
- No PTO faults present.
- PTO remote control off.

NOTE: Implement cannot engage PTO when tractor is stopped unless it is authorized to do so. However, implement can disengage PTO at any time including when tractor is stopped.

While operating and depending on PTO system capabilities, implement has the ability to engage/ disengage PTO or adjust PTO speed.

To disengage control, turn PTO switch off.

KD34109,0000904-19-17JUL22

SCV Requirements

Before transferring control to implement, prepare implement as indicated in implement Operator's Manual. Transfer control using AutoTrac resume button as described in implement Operator's Manual.

Following conditions must be met before transferring control to implement:

- Operator in seat.
- No SCV faults present.
- SCV control levers (if assigned) in neutral position.
- Unlock all assigned SCV controls.

NOTE: Set maximum SCV flow limit which cannot be exceeded by implement.

NOTE: Implement cannot adjust SCV flow when tractor is stopped unless it is authorized to do so. However, implement can stop SCV flow at any time including when tractor is stopped.

While operating, implement has ability to:

- Control SCVs during operations.
- Change SCV flow rate up to set limit.

To disengage control, perform any of the following:

- Actuate specific SCV lever.
- Lock all assigned SCV controls.
- Actuate remote control switch on fender.
- Remove inputs assigned to SCVs.

KD34109,0000905-19-23JUN22

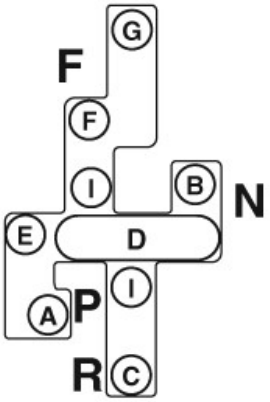
IVT/AutoPowr and EVT/eAutoPowr Requirements

Before transferring control to implement, prepare implement as indicated in implement Operator's Manual. Transfer control using AutoTrac resume switch as presented in implement Operator's Manual.

NOTE: The implement cannot exceed ground speed set by the operator.

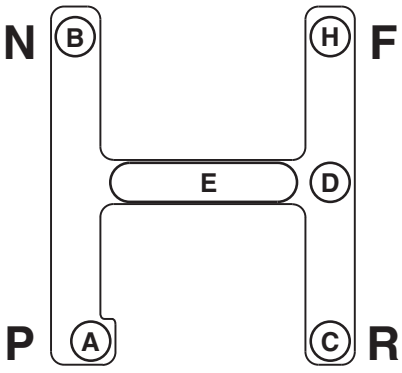
Following conditions must be met before transferring control to implement:

- Operator in seat.
- No IVT/AutoPowr or EVT/eAutoPowr transmission faults present.



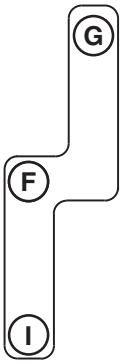
RXA0133408—UN—09DEC13

Right-Hand Reverser



RXA0100319—UN—26JAN09

Left-Hand Reverser



RXA0077571—UN—10JUN05

Left-Hand Reverser Speed Lever

- Reverser lever must be in scroll (E), Power Zero (D), or:
  - forward position (F or G) for right-hand reverser.
  - forward position (H) for left-hand reverser.

While operating, implement has ability to:

- Adjust speed up to operator set limit.
- Stop tractor.
- Drive tractor again after stopping; with operator's confirmation.

Operator's approval to start or restart motion:

- Cycle reverser lever. Move lever from forward to scroll to forward position again.

  Cycle reverser lever when a round baler stops tractor to eject full bale.
- Depress clutch or brake pedal while tractor rolls to stop. Hold pedal down while tractor is stopped. Tractor starts moving when pedal is released, if implement requests speed.

To disengage control using reverser lever:

- When driving: Move lever out of forward position.
- When stopped: Move lever to reverse, NEUTRAL or PARK.

To disengage control using speed control lever or speed adjusting dial:

NOTE: Speed may always be reduced.

Set speed limit may be increased within 2 seconds after engaging travel speed auto mode. Current travel speed can be limited by other processes (e.g. iTEC). This limit will be observed; however, the limit will not be considered as an intervention by operator.

- If tractor is decelerating to a stop and speed is increased, ground speed auto mode will be ended.
- Increasing speed while previous operator set limit allowed enough speed, will end auto mode. Implement has all information to inform operator that this interaction will end ground speed auto mode (see implement Operator's Manual).

KD34109,0000906-19-23JUN22

IVT/AutoPowr and EVT/eAutoPowr with CommandPRO Joystick Requirements

Before transferring control to the implement, perform all necessary steps to prepare the implement as indicated in the implement Operator's Manual.

While operating, implement can:

- Adjust speed up to operator set limit.
- Stop tractor.
- Drive tractor again after stopping with operator confirmation.

RXA0167809—UN—07MAY19

NOTE: Use speed wheel (B) to regulate maximum travel speed. While automation is active, implement can accelerate vehicle up to set maximum ground speed.

Approval by operator to start or restart motion:

NOTE: Example of when approval is needed, a round baler stops tractor to eject a full bale.

RXA0167808—UN—07MAY19

- Move reverse drive lever (A) forward and release.

- CommandPro joystick (C):
  - Press activation button, move joystick forward, and release.
  - Move joystick forward in left gate and release.
- Briefly press speed control pedal and release.

Following conditions must be met before transferring control to implement:

- Operator in seat.
- No IVT/AutoPowr or EVT/eAutoPowr transmission faults present.
- Transfer with reverse drive lever or CommandPro joystick.
  - Move reverse drive lever forward and release.
  - Press activation button, move joystick forward, and release.

To transfer control using AutoTrac resume switch, see implement Operator's Manual.

To cancel control function (stop auto mode), operate one of the following controls:

NOTE: Some implements inform the operator which actions stop auto mode for the ground speed (see the implement Operator's Manual).

- Press brake pedal.
- Move reverse drive lever to reverse position when driving or stopping.
- Any movement of CommandPRO Joystick.
- Use speed control pedal or speed wheel, when driving, to increase speed further, beyond speed requested by implement.

NOTE: Reducing speed is always allowed. Set speed limit can be increased within two seconds after engaging travel speed auto mode. Current travel speed can be limited by other processes (example: iTEC). This limit will be observed; however, the limit will not be considered as an intervention by operator.

KD34109,0000907-19-26MAY22

PowerShift Transmission Requirements

NOTE: These requirements also apply to the e23 transmission.

Before transferring control to implement, prepare implement as indicated in implement Operator's Manual. Transfer control using AutoTrac resume button as presented in the implement Operator's Manual.

NOTE: The implement cannot exceed ground speed set by the operator.

Following conditions must be met before transferring control to implement:

- Operator in seat.
- No PowerShift transmission faults present.
- Shift lever in forward.

NOTE: When transferring control to the implement, Efficiency Manager mode will engage.

Speed may always be reduced.

Set speed limit may be increased within 2 seconds after engaging travel speed auto mode. Current travel speed can be limited by other processes (e.g. iTEC). This limit might be observed; however, the limit will not be considered as an intervention by operator.

To disengage control using the shift lever:

- During driving: Shift up or down manually.
- Increasing the speed will end the auto mode. The implement has all information to inform the operator that this intervention will end the travel speed auto mode. See implement Operator's Manual.

KD34109,0000908-19-23JUN22

AutoTrac Guidance Requirements

Before transferring control to implement, prepare implement as indicated in implement Operator's Manual. Transfer control using AutoTrac resume button as presented in implement Operator's Manual.

Following guidelines must be met before transferring control to implement.

- Operator in seat.
- Steering system functional.
- AutoTrac is off.
- Steering wheel stationary.
- Vehicle speed below maximum automated speed.
- Transmission not in PARK.

While operating, implement has ability to automatically steer tractor.

To disengage control:

- Turn steering wheel.
- Place tractor in PARK.

KD34109,0000909-19-23JUN22

Rear Hitch Requirements

Before transferring control to implement, prepare implement as indicated in implement Operator's Manual. Transfer control using AutoTrac resume button as presented in implement Operator's Manual.

Implement can automatically control hitch depth.

Set raise limit using CommandCenter.

IMPORTANT: Implement cannot exceed limit.

Following guidelines must be met before transferring control to implement:

- Operator in seat.
- No hitch faults present.
- Hitch control lever in neutral position.
- Hitch unlocked.

NOTE: On a tractor that is standing still, only the implements authorized by John Deere can control the hitch depth.

To disengage control, perform any of the following:

- Move hitch control lever.
- Lock hitch.
- Activate fender-mounted hitch switch (if equipped).

KD34109,000090A-19-06MAY22

Drivetrain Overview

Tractor drivetrain consists of:

- Transmission: e23 or IVT/AutoPowr
- MFWD: Conventional Mechanical Front Wheel Drive or TLS Plus (Triple Link Suspension Plus) axle
- Differential: Differential, differential lock, final drives, and axles
- Brakes: Rear or front and rear
- Mechanical, electronic, and hydraulic control systems

KD34109,0000698-19-22JUN22

Suspension Settings—Access

Access Application through Display:

RXA0167075—UN—20MAR19

Menu

1. Menu

RXA0167076—UN—20MAR19

Machine Settings

2. Machine Settings tab

RXA0174230—UN—28JAN20

Suspension

3. Suspension

KD34109,0000590-19-08DEC21

Suspension Settings

The Suspension application is used to access and adjust Front Axle Suspension settings.

Items Accessible on Suspension Main Page:

RXA0174224—UN—27JAN20

AUTO

AUTO — select to allow the suspension to automatically adjust for the best possible comfort based on travel speed, surface characteristics, implement weight, implement usage, and braking activity.

NOTE: AUTO mode is recommended during transport. However, if the suspension lowers to an unacceptable level or moves excessively with heavy front implements installed, the suspension can be placed in MAX mode (recommended for front loader work).

RXA0174226—UN—28JAN20

MAX

MAX — select to set the suspension to maximum firmness. When travel speed exceeds 30 km/h (18 mph), the MAX setting is deactivated. When travel speed drops below 20 km/h (12 mph) again, the MAX setting is reactivated.

RXA0174225—UN—27JAN20

Manual

Manual — select to manually adjust the suspension to fit field conditions. See Suspension Settings—Manual in this Operator's Manual section.

Run Page Modules

Add modules for this application to run pages using Layout Manager. See the G5 CommandCenter Operator's Manual.

Example:

RXA0174227—UN—27JAN20

Axle Suspension

NOTE: Different modules may be available for your application.

Axle Suspension — quick access to front axle suspension settings.

Shortcut Keys

Add shortcut keys for this application to the shortcut bar using Layout Manager. See the G5 CommandCenter Operator's Manual.

Example:

RXA0174228—UN—27JAN20

AUTO ON

NOTE: Different shortcut keys may be available for your application.

Axle Suspension — quick access to toggle between AUTO and MAX settings.

KD34109,0000591-19-28FEB23

Suspension Settings—Manual

The Manual setting allows the operator to adjust the chassis height manually. The setting is overridden when travel speed exceeds 5 km/h (3 mph). When overridden, the system returns to the previously selected AUTO or MAX mode.

RXA0174225—UN—27JAN20

Manual

Select to access the Manual Setting page.

RXA0174229—UN—27JAN20

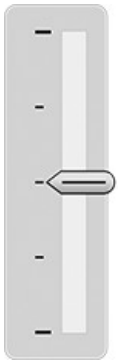
Increase

Select to increase the chassis height.

RXA0174223—UN—27JAN20

Decrease

Select to decrease the chassis height.



RXA0174222—UN—27JAN20

Current Setting

The current setting is shown on the slider bar.

KD34109,0000592-19-26MAY20

Operate Suspension

Front Axle Suspension provides suspension for the front end of the tractor using a hydropneumatic self-leveling system. The system can operate simultaneously with, or independently from, Load Depth control and hitch dampening.

Suspended front axle engages whenever tractor travel speed exceeds 0.5 km/h (0.3 mph). Control is delayed after the tractor begins moving. The suspension is active any time the tractor is not in park.

Front Axle Suspension can be set to one of three settings. See Suspension Settings in this Operator's Manual section.

CAUTION: Avoid possible injury. Always make sure that the transmission is in PARK when working near the front axle suspension.

Start-Up Mode

During tractor start-up:

- The suspension does not move until the transmission is placed in either forward or reverse gear.
- The suspension flexes when the transmission shift lever is placed in NEUTRAL or any forward or reverse gear.
- If the tractor has settled, the suspension may rise about 25 mm (1 in), seeking to center.
- Leveling is completed when the tractor wheel speed is above 0.5 km/h (0.3 mph).

Restricted Mode (Locked)

The suspension goes into restricted mode when:

- The operator activates the hitch raise/lower switch.
- The transmission shift lever is placed in PARK, unless the chassis height is adjusted manually. See Suspension Settings—Manual in this Operator's Manual section.
- The wheel speed is less than 0.5 km/h (0.3 mph).
- Correcting for conditions that are not level.
- The operator applies both brake pedals (if equipped with dual brake pedals) or the brake pedal (if equipped with single brake pedal), unless the chassis height is adjusted manually. See Suspension Settings—Manual in this Operator's Manual section.

Implements

IMPORTANT: Prevent possible damage. With front axle suspension, check for adequate clearance when attaching front-mounted implements.

- When the hitch is raised or lowered with load sense front weight changes, control units limit the suspension response.
- To adjust the suspension toward midpoint, depress the clutch and move the transmission shift lever into gear for 4 seconds, then back to NEUTRAL. Repeat the process until the tractor is level (useful when attaching and detaching implements).

Parking Tractor

IMPORTANT: Prevent possible damage. Do not park the tractor with equipment or items under the front end.

When the tractor is parked, the front end can settle. Keep the front end of the tractor away from equipment or other items.

Cold-Weather Operation

Use normal cold-weather procedures. Front axle suspension may require extra time to function correctly. The system may not operate if it has not centered during the first 80 seconds of operation. Several restarts may be required. If the system still does not start, contact your John Deere dealer.

KD34109,000058F-19-04APR22

Differential Lock

Differential lock latches wheels/tracks on the same axle together to provide the most traction in slippery working conditions. When one wheel/track begins to slip, select one of two operating modes.

IMPORTANT: Damage to differential could occur if differential lock is engaged after wheels/tracks begin to slip. Engage before slip occurs.

NOTE: On tractors with front and rear differential locks, front axle differential lock engages when rear differential lock engages.

Differential Lock Operating Modes:

Manual Lock — engages when differential lock button or floor switch (if equipped) is pressed. See CommandARM Controls—Left Side in CommandARM Controls section or Differential Lock Switch in Front Console section of this Operator's Manual. Indicators on the CommmandARM button and corner post display are illuminated.

AUTO Differential Lock — engages when AUTO differential lock button is pressed. See CommandARM Controls—Left Side in CommandARM Controls section of this Operator's Manual. Indicators on the CommmandARM button and corner post display are illuminated. In AUTO mode, differential lock automatically:

- Disengages when wheel/track speeds are above 23 km/h (14 mph), brake pedal is pressed, or steering angle is greater than selected value. For steering angle settings, see Transmission Advanced Settings in Transmission—General Information section of this Operator's Manual.
- Engages when wheel/track speed falls below 19 km/h (12 mph), steering angle is below selected value, and when the brake pedal is released. For steering angle settings, see Transmission Advanced Settings in Transmission—General Information section of this Operator's Manual.

KD34109,00004FD-19-30MAY23

Mechanical Front-Wheel Drive (MFWD)

MFWD allows for optimal traction and handling based on conditions. It can be engaged and disengaged in all gears (forward and reverse) during operation and under full load. For best MFWD results, refer to Performance Ballasting section of this Operator's Manual to ensure that tractor is ballasted properly.

When transporting tractor, use AUTO MFWD or brake assist mode.

MFWD Operating Modes:

Manual MFWD — engages when MFWD button is pressed. See CommandARM Controls—Left Side in CommandARM Controls section of this Operator's Manual. Icon on the button and indicator on the corner post display illuminate. Press button again to disengage. Use this mode for four-wheel braking. MFWD is engaged when transmission is in PARK.

AUTO MFWD — engages when AUTO MFWD button is pressed. See CommandARM Controls—Left Side in CommandARM Controls section of this Operator's Manual. Icon on the button and indicator on the corner post display illuminate. In AUTO mode, MFWD automatically:

- Disengages when wheel speeds are above 23 km/h (14 mph), either brake pedal is pressed, or steering angle is greater than selected value. For steering angle settings, see Transmission Advanced Settings in Transmission—General Information section of this Operator's Manual.
- Engages when wheel speed falls below 19 km/h (12 mph), steering angle is below selected value, or when both brake pedals are released. For steering angle settings, see Transmission Advanced Settings in Transmission—General Information section of this Operator's Manual.

Brake Assist — engages when both manual and AUTO mode are not selected and both brake pedals are depressed at speeds above 5 km/h (3 mph).

KD34109,00004FC-19-20JUN22

Large Square Baler (LSB) Ride Control

LSB Ride Control actively modulates the IVT to compensate for the rocking motion caused by the LSB plunger. Ride Control continues to learn during operation to ensure the greatest level of ride quality.

To be equipped with LSB Ride Control, the tractor requires the following:

- IVT transmission
- StarFire Receiver
- ISOBUS
- Baler and tractor software updates
- Specific LSB models (see your John Deere dealer)

LSB Ride Control is enabled/disabled from the LSB control unit through ISOBUS VT. For more information on LSB Ride Control, see the LSB Operator's Manual.

If LSB Ride Control is equipped on the tractor, a message will display in Transmission Advanced Settings. For more information, see Transmission Settings—Advanced in Transmission—General Information section of this Operator's Manual.

KD34109,00005FD-19-21APR22

Trailer Brake System Settings—Access

Access Application through Display:

RXA0167075—UN—20MAR19

Menu

1. Menu

RXA0167076—UN—20MAR19

Machine Settings

2. Machine Settings tab

RXA0177626—UN—28APR20

Trailer Brake System

3. Trailer Brake System

KD34109,00005EF-19-08DEC21

Trailer Brake System Settings

The Trailer Brake System application is used to access and adjust trailer brake settings.

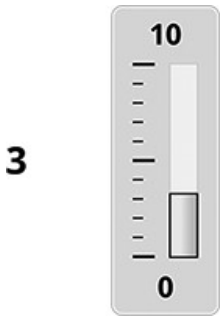
RXA0177625—UN—28APR20

Trailer Brake System Example

Items Accessible on the Trailer Brake System Main Page:

NOTE: Some items only display if machine is equipped with the associated option. If the trailer brake adjustability settings do not display and assistance is needed to improve tractor-trailer compatibility, see your John Deere dealer.

Trailer Brake Gain Items:

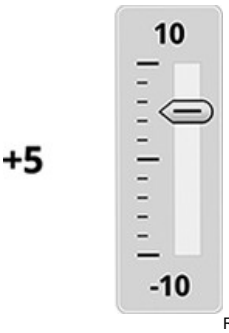


RXA0177620—UN—28APR20

Gain Value and Status

Gain — select to adjust the aggressiveness of the trailer brakes. See Trailer Brake System Settings—Brake Gain in this Operator's Manual section.

Trailer Pre-Brake Items:



RXA0177621—UN—28APR20

Pre-Brake Value and Status

Pre-Brake — select to adjust the trailer brake initiation timing. See Trailer Brake System Settings—Pre-Brake Offset in this Operator's Manual section.

Trailer Brake Test Controls and Settings Items:

RXA0177627—UN—28APR20

Trailer Brake Test Controls

Trailer Brake Test Controls — select to access the test to confirm that the park brake will hold both the tractor and the trailer. See Trailer Brake System Settings—Trailer Brake Test in this Operator's Manual section.

RXA0167071—UN—21MAR19

Advanced Settings

Advanced Settings — access further adjustments and less common settings. See Trailer Brake System Settings—Advanced in this Operator's Manual section.

KD34109,00005F0-19-13MAY20

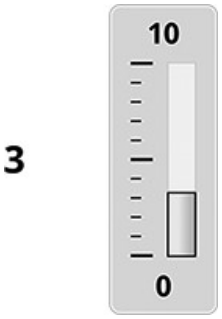
Trailer Brake System Settings—Brake Gain

The Brake Gain adjustment allows the operator to adjust the braking aggressiveness to match the trailer requirements.

Modify When:

- The trailer is slow to stop.
- The trailer wheels lock up when the brakes are applied.

Procedure to Modify:



RXA0177620—UN—28APR20

Gain Value and Status

1. Select the Gain value.

RXA0177616—UN—28APR20

Increase/Decrease Value

2. Select (+) to increase or (-) to decrease the value. The value is shown in the display box.
   - Maximum: 10
   - Minimum: 0
   - Increment: 1

RXA0167129—UN—25MAR19

Close

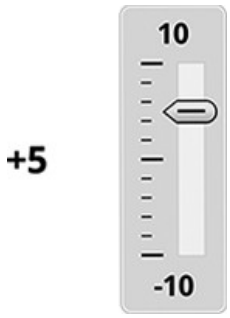
3. Select to close.

KD34109,00005F1-19-13MAY20

Trailer Brake System Settings—Pre-Brake Offset

Pre-Brake Offset allows the operator to change the timing of the trailer brake initiation. The trailer brake initiation may need to be adjusted to prevent the trailer from pushing the tractor forward (example: when connecting the trailer to the tractor).

Procedure to Modify:



RXA0177621—UN—28APR20

Pre-Brake Value and Status

1. Select the Pre-Brake value.

RXA0177622—UN—28APR20

Increase/Decrease Value

2. Select (+) to increase or (-) to decrease the value. The value is shown in the display box.
   - Maximum: 10
   - Minimum: -10
   - Increment: 1

RXA0167129—UN—25MAR19

Close

3. Select to close.

KD34109,00005F2-19-12APR22

Trailer Brake System Settings—Trailer Brake Test

Use the Trailer Brake Test to confirm that the tractor park brake will hold both the tractor and the trailer. This condition is necessary when the tractor is parked and the trailer brakes are released. The test overrides the default park state and forces the trailer brakes to release.

NOTE: Available on tractors equipped with dual-line hydraulic trailer brakes.

Test When:

- Verifying park brake performance.
- Attaching a different trailer.

The tractor must be in PARK and the trailer brakes must be engaged to perform the trailer brake test. If these conditions are not met, the Release Trailer Brakes key is grayed out. The statuses of these conditions are displayed on the page.

Prerequisite — one of the following statuses is displayed next to Machine must be in park:

RXA0177617—UN—28APR20

Check Mark

- The check mark indicates that the machine is in PARK.

RXA0177619—UN—28APR20

Fault

- The fault icon indicates that the machine is not in PARK.

Brake Control — one of the following statuses is displayed regarding the trailer brake:

- (---) is displayed when the trailer brake is not engaged.
- Brakes Engaged is displayed when the trailer brake is engaged.
- Brakes Released is displayed when the Release Trailer Brakes key is held.
- Fault Present and the fault icon are displayed when a fault is present in the brake control.

Procedure to Modify:

1. Place the tractor in PARK.

RXA0177627—UN—28APR20

Trailer Brake Test Controls

2. Select Trailer Brake Test Controls.

RXA0177623—UN—28APR20

Release Trailer Brakes

3. Select and hold Release Trailer Brakes long enough to ensure that the tractor and trailer do not move.

RXA0177618—UN—28APR20

Done

4. Press Done to close.

KD34109,00005F3-19-12MAY20

Trailer Brake System Settings—Advanced

Advanced settings allow you to access further adjustments and less common settings.

Items Accessible on Advanced Settings Page:

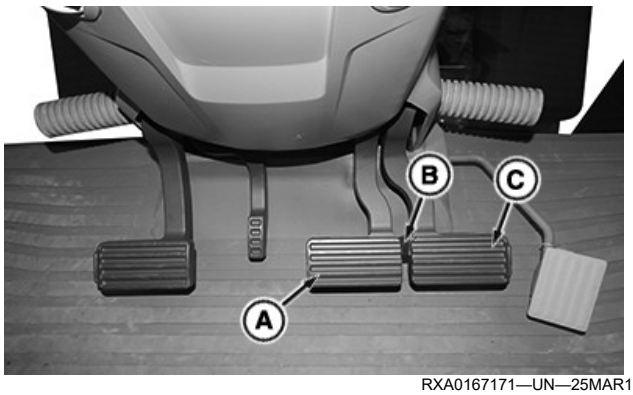
RXA0177624—UN—28APR20

Reset

Reset to Default — select Reset to return the trailer brake settings to factory default values. When selected, a page displays to verify the selection. Select OK to continue or Cancel to return to the previous page without resetting the values.

KD34109,00005F4-19-28APR20

Brake Use



RXA0167171—UN—25MAR19

CAUTION: Avoid possible injury from losing control of tractor:

- **Before operating on roads, while tractor is in parked position, lock brake pedals together with the pedal lock tab (B). Tractor speed limited to 40 km/h (24.9 mph) when brake pedals are unlocked.**
- **Reduce speed if towed load weighs more than the tractor or when transporting loads under adverse conditions. Avoid hard braking applications. See Towed Loads and Transport with Ballast in Transport Section of this Operator's Manual.**
- **Tractor wheels may lock and skid on slippery downhill slopes. For IVT/AutoPowr and EVT/eAutoPowr tractors, see Operate Transmission—IVT in IVT/AutoPowr Transmission section of this Operator's Manual.**

IMPORTANT: Avoid unnecessary wear on brakes and increased fuel consumption. DO NOT rest feet on brake pedal during tractor operation.

NOTE: MFWD engages if MFWD Brake Assist mode is selected and both brake pedals are depressed at speeds above 5 km/h (3 mph). For more information, see Mechanical Front-Wheel Drive (MFWD) in Drivetrain section of this Operator's Manual.

The brake lights illuminate if the tractor decelerates at 3.2 km/h/s for at least 200 ms.

Test brakes with engine stopped to be sure that manual brake system is functioning. See 250 Hour Service in Service—Record Charts section of this Operator's Manual.

Use individual brake pedals to assist in making sharp turns when working in field.

Depress both brake pedals (A and C) to stop tractor while disengaging clutch pedal. Use brake pedal lock tab (B) to lock brakes together.

Individual brake pedals can assist with slow speed off road turning situations, such as when hooking up implements.

Maintain at least 1800 engine rpm during aggressive braking events to ensure that adequate cooling oil flow is directed to vehicle brakes. Do not over speed engine as it may cause damage to engine or transmission components.

For IVT/AutoPowr and EVT/eAutoPowr Tractors

When operating at low idle, individual brake pedals stop tractor without use of clutch pedal. To assist slow speed turning, depress either brake pedal while slowly increasing engine speed until desired turn is achieved. Returning engine speed to low idle while continuing to depress one brake pedal slows the tractor to a stop.

For Tractors with CommandPRO Joystick

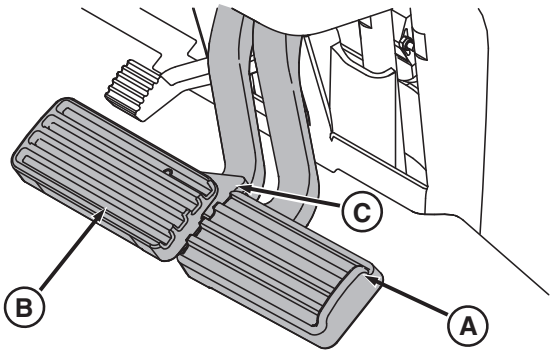
See CommandPRO Joystick—Stopping in IVT/AutoPowr Transmission with CommandPRO Joystick section of this Operator's Manual.

Using Brakes with AutoClutch

CAUTION: Avoid possible injury. Braking the tractor while commanding a high engine speed requires a higher brake pedal force.

Avoid injury due to sudden or unexpected acceleration. When brake pedals are released, the tractor automatically accelerates to the speed currently commanded by throttle and speed control levers.

IMPORTANT: Damage to brakes could result if brake pedals are not locked together during transport when using AutoClutch



RXA0122335—UN—17NOV11

For IVT/AutoPowr and EVT/eAutoPowr Tractors Only: Individual brake pedals (A) and (B) can assist with slow speed off-road turning, such as hooking up to implements. At low idle, AutoClutch feature stops tractor if operator depresses only one brake pedal. IT IS NOT NECESSARY TO DEPRESS CLUTCH PEDAL.
To assist in hooking up implement, depress either brake pedal while slowly increasing engine speed until desired turn is achieved. Returning engine speed to low idle

while continuing to depress one brake pedal slows the tractor to a stop.

Parking Tractor with AutoClutch

1. Depress both brake pedals. Brakes activate AutoClutch (automatic clutch function within transmission) to stop tractor. **It is not necessary to depress clutch, reduce throttle, or move speed control lever.**

CAUTION: Avoid possible injury due to losing control of tractor. Use pedal lock tab (C) to couple brake pedals together when driving on roads.

2. Move speed control lever to slowest position and stop tractor.

CAUTION: Always place reverser lever in PARK position before dismounting tractor.

3. Shift reverser or shift lever to PARK position.

   Transmission PARK position holds tractor stationary.

4. Lower implements and shutoff PTO.
5. Shut off engine and remove ignition key.

TS36762,000019C-19-18APR23

AutoClutch

CAUTION: Avoid possible injury, when brake pedal/pedals is/are released, the tractor automatically accelerates to the speed currently commanded by the throttle and speed control lever.

IMPORTANT: Avoid damage to brakes. If the tractor is equipped with dual brake pedals, make sure to lock brake pedals together when using AutoClutch. If only one of the dual brake pedals is pressed, AutoClutch only functions if the hand throttle and speed control pedal are at the minimum position.

The IVT. EVT, and e23 transmissions are equipped with an AutoClutch feature. With AutoClutch, when brake pedal/pedals is/are depressed, the clutch begins disengaging. Pressing brake pedal/pedals further then applies the brakes.

To keep the clutch from disengaging before the brakes engage for IVT and EVT without CommandPRO joystick and e23 transmissions, select the appropriate AutoClutch Sensitivity setting. See Transmission Advanced Settings in Transmission—General Information section of this Operator's Manual.

RD47322,0000366-19-20JUN22

Hydraulic Trailer Brakes

CAUTION: Avoid possible injury from loss of control while operating the tractor on downhill slopes. See the appropriate Operate Transmission material in this Operator's Manual for the transmission with which the tractor is equipped.

IMPORTANT: Avoid damage to the brakes and braking system. To reduce the brake wear:

- **Ensure that the pressure hoses are correctly connected.**
- **Select the same gear for both downhill and uphill driving.**
- **Check the hydraulic trailer brakes regularly for the correct functionality.**

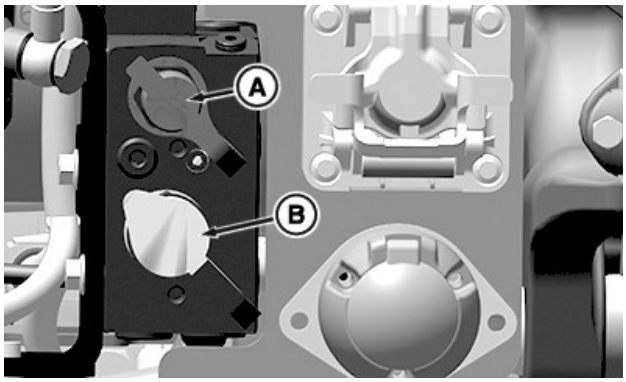
Connect/Disconnect Hydraulic Trailer Brakes

NOTE: For tractors with auto-detect hydraulic trailer brakes installed:

- *Trailers with dual- or single-line trailer brakes can be attached to the hydraulic trailer brake.*
- *The switching between dual- and single-line trailer brake occurs automatically.*

To connect the hydraulic trailer brakes:

1. Put the transmission in the PARK position.
2. Shut off the engine.



RXA0186751—UN—11MAR22

3. Remove the dust covers from the hydraulic trailer brake couplers (A) and (B).
4. Connect the pressure hoses to the hydraulic trailer brake couplers. Ensure that the hose ends and couplers are clean.

To disconnect the hydraulic trailer brakes:

1. Bring the tractor-trailer to a complete stop.
2. Put the transmission in the PARK position.
3. Shut off the engine.
4. Disconnect the pressure hoses from the hydraulic

trailer brake couplers. Ensure that the hose ends and couplers are clean.

5. Install the dust covers on the trailer hydraulic brake couplers.

Hydraulic Trailer Brake Use

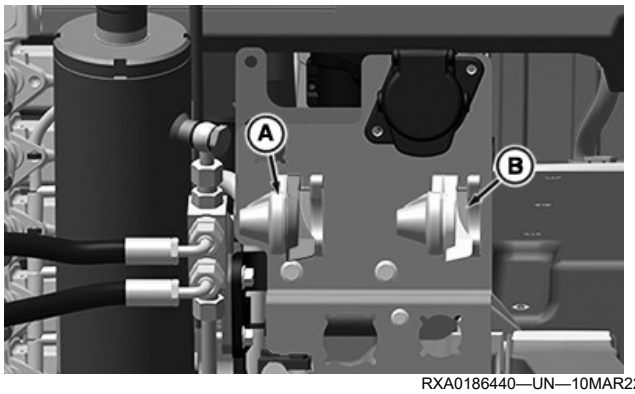
Operate the hydraulic trailer brakes by depressing the brake pedals. The braking effect depends on pressure applied to the brake pedals.

If the brake warning indicators illuminate during operation, see Brake Warning Indicators in the Brakes section of this Operator's Manual.

TS36762,000019D-19-09MAR22

Air Trailer Brakes

CAUTION: Avoid injury from losing control of tractor. Maintain control when operating a tractor equipped with IVT/AutoPowr transmission on downhill slopes. Tractor wheels may lock and skid on slippery downhill slopes. See Operate Transmission—IVT in IVT/AutoPowr Transmission section of this Operator's Manual.



RXA0186440—UN—10MAR22

IMPORTANT: Avoid tractor damage. When the trailer lines are connected, do not drive the tractor until:

- **Operating pressure is reached.**
- **The service alert indicator and warning display are off.**

Dual-line air trailer brake system employs red control (A) and yellow supply (B) couplers.

1. Lift the dust cover from the air trailer brake coupler.

NOTE: Seal the connections with the dust covers whenever the hoses are disconnected.

2. Clean the connections before attaching air hoses.
3. Connect the trailer line that goes to the yellow air brake coupler (control).
4. Connect the trailer hose coupling (supply).

NOTE: While air pressure builds, a Diagnostic Trouble Code and an accompanying message comes on the CommandCenter display. When operating pressure is reached, the indicator light and warning display shut off automatically. If the brake warning indicators illuminate during operation, see Brake Warning Indicators in Brakes section of this Operator's Manual.

5. Start the engine and allow the air system to reach working pressure.

IMPORTANT: Avoid tractor damage. To reduce brake wear, make sure to:

- **Check that the pressure hoses are connected correctly.**
- **Select the same gear for both downhill and uphill driving.**
- **Check the air brakes on the trailer regularly for correct functioning.**

NOTE: When stopping a tractor equipped with IVT/AutoPowr transmission, it is not necessary to depress the clutch pedal. See Brake Use in this Operator's Manual section.

Depress the brake pedals to stop the tractor-trailer while disengaging the clutch pedal.

TS36762,000019E-19-20JUN22

Transmission Settings—Access Advanced

Access Through Display:

RXA0167075—UN—20MAR19

Menu

1. Menu

RXA0167076—UN—20MAR19

Machine Settings

2. Machine Settings tab

RXA0167077—UN—20MAR19

Transmission

3. Transmission

RXA0167071—UN—21MAR19

Advanced Settings

4. Advanced Settings

Access Through Navigation Bar:

RXA0167078—UN—20MAR19

Transmission

1. Press transmission button on navigation bar below display.

RXA0167071—UN—21MAR19

Advanced Settings

2. Select advanced settings.

KD34109,00004B5-19-19MAY20

Transmission Settings—Advanced

Advanced Settings allows you to access further adjustments and less common settings.

NOTE: Some items only display if machine is equipped with the associated option.

Items Accessible on Advanced Settings Page:

RXA0167133—UN—21MAR19

Selection Box

True Ground Speed Input — allows the choice of Radar or GPS as the ground speed source. Touch the selection box to display the selection list. If the speed source is changed, perform radar calibration, then slip calibration. For information on calibrations, see Radar Calibrations and Slip Calibrations in CommandCenter section of this Operator's Manual.

RXA0167134—UN—22MAR19

OFF/LOW/MED/HIGH

NOTE: IVT and EVT without CommandPRO joystick and e23 only.

AutoClutch Sensitivity — select OFF to disable or select the level of sensitivity for AutoClutch. If set to OFF and the key is cycled, the setting reverts to the last LOW, MED, or HIGH setting.

NOTE: The OFF selection is only available when the brake pedals are not applied.

Sensitivity levels:

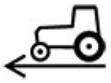
- LOW - recommended for driving in extremely hilly terrain with implements (drawn or attached), particularly if driving conditions are slippery.
- MED - recommended for driving in moderately hilly terrain with implements (drawn or attached).
- HIGH - recommended for driving without an implement or with an implement in flat terrain.

RXA0167133—UN—21MAR19

Selection Box

Start Gears — choose which gear the Transmission starts in. Touch the selection box next to the desired setting to be adjusted. A gear list displays. Select the desired gear from the list.

Options displayed depend on the Transmission:



RXA0172259—UN—18NOV19
Forward Start Gear

- Some transmissions have a setting for a forward start gear.

RXA0172260—UN—18NOV19
Reverse Start Gear

- Some transmissions have a setting for a reverse start gear.

RXA0172261—UN—18NOV19
Multiple Start Gears

- Some transmissions have settings for multiple forward start gears.

RXA0167136—UN—22MAR19
Selection Box

Reverse/Forward Ratio — select the ratio for reverse and forward Set Speeds. Reverse Set Speed will automatically set to the forward Set Speed times the selected setting. For example, if Fx0.3 is selected, reverse Set Speed will be 30% of what forward Set Speed is set to. If set to Independent, reverse and forward Set Speeds function independent of each other and are set separately. Regardless of the ratio, maximum reverse speed is 20 km/h (12 mph) for IVT for 7 and 8 Series Tractors.

RXA0167187—UN—22MAR19
ON/OFF

Backup Alarm (If Equipped) — select ON to enable or OFF to disable the alarm that sounds when the tractor is in reverse. See Backup Alarm in this Operator's Manual section.

RXA0167137—UN—22MAR19
AUTO MFWD Toggle

NOTE: Machines configured with mechanical front-wheel drive only.

AUTO MFWD — MFWD disengages to enable a tighter turning radius or to reduce ground disturbance in the area of the turn. Select the desired steering angle to disengage MFWD or disable by selecting OFF. Disabling the steering angle leaves Auto MFWD with the speed dependency only. See Mechanical Front-Wheel Drive (MFWD) in Drivetrain section of this Operator's Manual.

RXA0167138—UN—22MAR19
AUTO Diff Lock Example

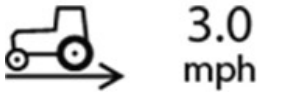
NOTE: Machines configured with differential lock only. Options displayed depend on the machine.

AUTO Diff Lock — higher disengage steering angles require the operator to turn the steering wheel further before differential lock disengages. Use in high slip field conditions that require large steering corrections to maintain the desired path. Differential lock remains engaged while making steering corrections across the field but automatically disengages on headland turns. Select the desired steering angle to disengage differential lock.

- Moderate disengage steering angles are useful in loader situations. Differential lock remains engaged when entering a pile, but quickly disengages while turning.
- Lower disengage steering angles allow differential lock to disengage sooner (less movement of the steering wheel), which is useful in high-traction conditions (example: paved surface). Differential lock remains engaged during straight-line work, while minimizing tractor jerk when disengaged or re-engaged during turns.

See Differential Lock in Drivetrain section of this Operator's Manual.

RXA0167139—UN—21MAR19
Forward Speed Limit

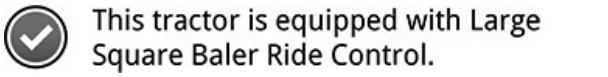


RXA0167140—UN—21MAR19
Reverse Speed Limit

NOTE: Machines equipped with CommandPRO joystick only.

Speed Limits — adjust the maximum allowed speed in both forward and reverse directions. See CommandPRO Transmission Settings—Speed Limits in

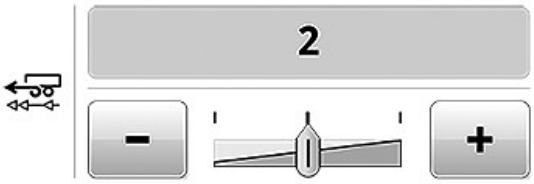
IVT-AutoPowr Transmission with CommandPRO Joystick section of this Operator's Manual.



RXA0176726—UN—07APR20

Ride Control

Ride Control — displays to indicate that the machine is equipped with Large Square Baler (LSB) Ride Control. For more information on LSB Ride Control, see Large Square Baler (LSB) Ride Control in Drivetrain section of this Operator's Manual.



RXA0178631—UN—10JUL20

Implement Traction Assist Aggressiveness

Implement Traction Assist Aggressiveness — select (+) to increase or (-) to decrease the aggressiveness. Higher aggressiveness targets less wheel slip.

NOTE: EVT only.

KD34109,00004AB-19-04MAY23

Transmission Top Speed Note

NOTE: Uprate from 40 km/h (25 mph) to 50 km/h (31 mph) is only possible if tractor was equipped for 50 km/h (31 mph) before leaving the factory.

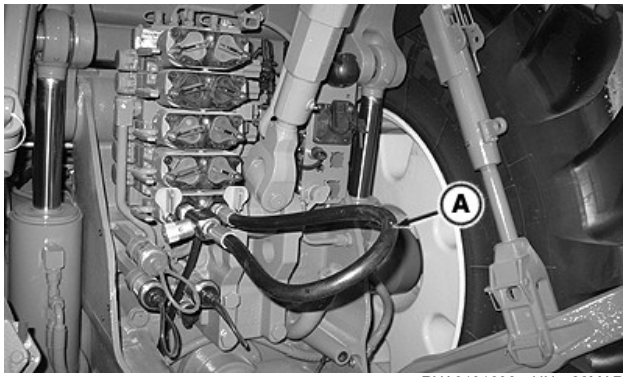
All transmissions can be manually programmed to limit top speed. Tractors programmed for 50 km/h (31 mph) top speed can be downrated to 40 km/h (25 mph) top speed. Downrating may be advisable if particular legal requirements for 50 km/h (31 mph) tractors cannot be met. Examples include a different class of driver's license, or similar restrictions. It must be recorded in the vehicle documents if top speed is changed.

For more information, contact your John Deere dealer.

RW29387,000062A-19-07SEP21

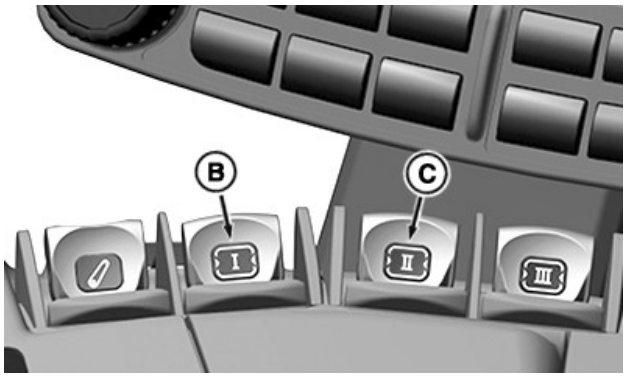
Warm-Up Transmission-Hydraulic System

IMPORTANT: Avoid machine damage. Do not operate tractor under load until transmission-hydraulic system has warmed up. Tractor-hydraulic warm-up procedure is recommended when temperature is at or below -5°C (23°F).



RXA0131636—UN—28MAR13

1. Install jumper hose (A) into SCV I couplers.
2. Place transmission lever in PARK position.
3. Turn key switch to start position.
4. Press SCV shortcut button on navigation bar.
5. Select SCV I module.
6. Set detent Time to C (continuous). See Configure SCV - Standard Mode in Selective Control Valves section of this Operator's Manual.
7. Set detent Flow to 8.00 or above. See Configure SCV - Standard Mode in Selective Control Valves section of this Operator's Manual.
8. Select SCV II module and repeat steps 6 and 7.



RXA0166860—UN—06MAR19

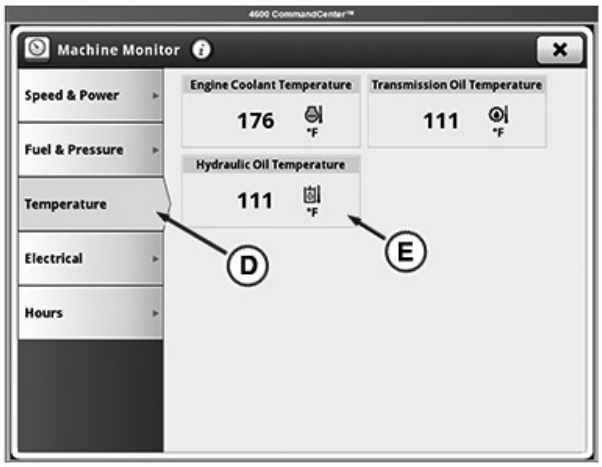
9. Pull SCV I (B) and SCV II (C) levers to extend detent. See SCV Control Lever—Extend Detent and Retract Detent Position in Selective Control Valves section of this Operator's Manual.
10. Operate engine at 1400 rpm.
11. Monitor Hydraulic Oil Temperature until it reaches 38°C (100°F).

RXA0126813—UN—12JUN12

a. Select Menu.

b. Select Applications tab.

c. Select Machine Monitor icon.



RXA0181012—UN—22JAN21

d. Select Temperature tab (D).

e. Select Hydraulic Oil Temperature reading (E).

12. Return SCV levers I and II to neutral position.

13. Disconnect jumper hose and return to normal operation.

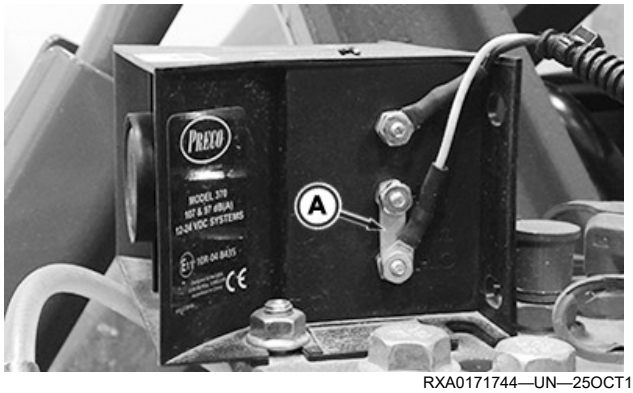
KT81203,0000937-19-22JAN21

Backup Alarm

The backup alarm is available as a factory or field installed option and is located on rear of machine. Backup alarm emits an audible sound to alert anyone nearby when key switch is on and machine is in reverse gear. For information on how to enable/disable alarm, see Transmission Advanced Settings in this Operator's Manual section.

Adjust Volume

Alarm volume is factory set to high (107 dB[A]) but can be adjusted to a low (97 dB[A]) setting.



RXA0171744—UN—25OCT19

To set volume to low, remove bar (A) from right-hand side of backup alarm.

KD34109,0000569-19-25MAR20

Operate Transmission—e23

CAUTION: Avoid possible injury from losing control of tractor while operating on a downhill slope. Observe following precautions:

- **Avoid depressing the clutch pedal or shifting to NEUTRAL at high speeds while the tractor is rolling downhill.**
- **In overspeed condition, the clutch may not re-engage when the pedal is released; use the brakes to slow down the tractor.**
- **Adjust Set Speed to a safe downhill operating speed.**
- **Do not make major speed reductions with the right-hand reverser or drive lever.**
- **Enable mechanical front-wheel drive (if equipped).**

IMPORTANT: Prevent transmission or clutch damage:

- **Avoid depressing the clutch pedal or shifting to NEUTRAL at high speeds while the tractor is rolling downhill.**
- **In overspeed condition, the clutch may not re-engage when the pedal is released; use the brakes to slow down the tractor.**
- **Never attempt to start the tractor by towing or pushing.**
- **Shift lever can be moved to PARK position at any time. However, the park brake will not engage until the ground speed is below 1.75 km/h (1.0 mph).**
- **Avoid excessive ballast.**
- **Avoid continuous operation under full throttle and full load conditions below 1800 rpm.**
- **Fully depress the clutch pedal to completely disengage the clutch.**

When machine load is causing a below idle speed:

- **Transmission can default to NEUTRAL to protect the power train.**
- **Park brake engages when the wheel speed drops below 1.75 km/h (1.0 mph).**
- **Diagnostic trouble code displays.**
- **To re-engage transmission, move the lever to PARK, reduce load, and shift into desired operating gear.**

NOTE: Operator presence sensor prevents initiation of movement with operator out of seat. See Operator Presence Sensor in Seats section of this Operator's Manual.

RXA0171366—UN—10OCT19

Speed Adjustment Wheel

NOTE: Some items are only available if machine is equipped with the associated option.

Speed Adjustment Wheel — turn wheel clockwise to increase or counterclockwise to decrease speed.

NOTE: The engine will start with shift lever in any position. However, tractor will not move until lever is moved into and out of NEUTRAL or PARK.

Right-Hand Reverser Items:

RXA0171324—UN—10OCT19

Right-Hand Reverser

Right-Hand Reverser — lever on CommandARM used to shift transmission. For information on shifting, see Shift Transmission—e23 in this Operator's Manual section.

With right-hand reverser:

- Transmission can be shifted into forward or reverse without use of the clutch pedal.
- Clutch pedal is used when selecting forward or reverse for more precise movement (such as connecting implements).
- Gear information displays on the corner post display. See Corner Post Display in Corner Post Display section of this Operator's Manual.
- Bump lever (move and release) to increase (+) or decrease (-) forward and reverse gears.

Left-Hand Reverser Items:

RXA0171318—UN—10OCT19

Left-Hand Reverser

Left-Hand Reverser — lever on front console used to select forward, reverse, PARK, or NEUTRAL. For information on shifting, see Shift Transmission—e23 in this Operator's Manual section.

With left-hand reverser:

- Transmission can be shifted into forward or reverse without the use of the clutch pedal.
- Clutch pedal is used when selecting forward or reverse for more precise movement (such as connecting implements).
- Gear information displays on the corner post display. See Corner Post Display in Corner Post Display section of this Operator's Manual.

RXA0171323—UN—10OCT19

Right-Hand Drive Lever

Right-Hand Drive Lever — lever on CommandARM used to adjust gear. Bump lever (move and release) to increase (+) or decrease (-) forward and reverse gears.

KD34109,0000540-19-13JUL22

Shift Transmission—e23

NOTE: Some items are only available if machine is equipped with the associated option.

IMPORTANT: Avoid damage to park brake. Repeated engagement of park brake while machine is moving may damage the park brake. Shift lever can be moved to PARK position at any time. However, park brake will not engage until ground speed is below 1.75 km/h (1.0 mph).

Command Gears:

NOTE: Optimum engine speed is 1800—2200 rpm in full load conditions. Using higher gear and lower engine speed for light load operation saves fuel and reduces wear.

Each time transmission is placed in forward or reverse, transmission starts in commanded gear when clutch pedal is released. Commanded gear displays on corner post display. Commanded gear temporarily changes to the last gear used when shuttling between forward and reverse or shifting from gear to NEUTRAL.

Startup commanded gear defaults are 8F and 4R. To change startup gears, see Transmission Advanced Settings in Transmission—General Information section of this Operator's Manual.

Manually Preselect Gears:

- Forward — depress clutch pedal, put reverser lever in forward position, and bump gear up or down until desired command gear (between F1 and F15) displays.
- Reverse — depress clutch pedal, put reverser lever in reverse position, and bump gear up or down until desired command gear (between R1 and R6) displays.

Cold Weather Starting:

When temperature is -10°C (14°F) or lower, it can take up to 1 minute to release the park brake and shift transmission lever into gear (with operator in the seat). Several shifts between PARK and NEUTRAL can be required to release park brake in extremely cold conditions.

When temperature is above -10°C (14°F), it can take up to 3 seconds to release park brake with operator in seat.

When reverser lever is moved to NEUTRAL, corner post display shows N for 3 seconds. If park brake does not release, N changes back to P. Move reverser   lever back to PARK, then back to NEUTRAL until N displays for more than 3 seconds.

Delayed shift, slow hydraulic operation, hard steering, and limited engine rpm can also be noticeable until operating temperature is obtained.

Transport Shift:

When tractor is in light load condition, tractor can accelerate faster by rapidly bumping lever until desired transport speed is reached. To reach transport speed quickly from a stop, depress clutch and bump lever to desired gear. When clutch pedal is released, transmission shifts directly to selected gear.

Shuttle Shift (Direction Change):

Move reverser lever between forward and reverse positions to modulate directly to opposite direction of

travel without clutching or braking. Shuttle shift occurs between last commanded forward and reverse gears.

Ground Speed Matching:

CAUTION: Avoid possible accident and injury from loss of vehicle control. Never allow machine to coast downhill.

NOTE: Custom and Full AUTO modes only.

If clutch pedal is released while machine is traveling above default startup gear speed, transmission automatically shifts gears to match speed. However, if clutch pedal is released while machine is traveling below default startup gear speed, transmission will stay in last gear machine was in before clutch was depressed, even if machine stops.

Right-Hand Reverser Positions:

RXA0171316—UN—10OCT19

PARK Position

PARK — park brake is applied when lever is placed in position next to P.

RXA0171315—UN—10OCT19

NEUTRAL Position

NEUTRAL — park brake releases when lever is placed anywhere in right-hand gate.

RXA0171317—UN—10OCT19

Reverse Position

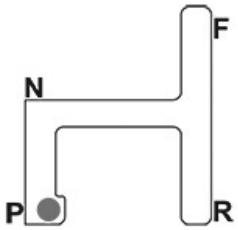
Reverse — machine moves in reverse when placed in gate labeled with an R.

RXA0171314—UN—10OCT19

Forward Position

Forward — machine moves forward when placed in gate labeled with an F.

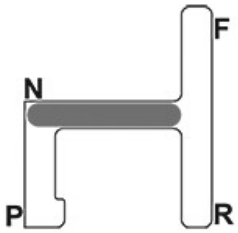
Left-Hand Reverser Positions:



RXA0171321—UN—10OCT19

PARK Position

PARK — park brake is applied when lever is placed in position next to P. From forward or reverse, move lever to center (NEUTRAL position), then push lever forward and down.

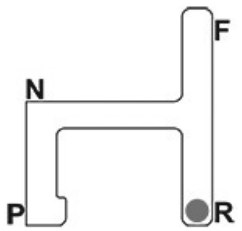


RXA0171320—UN—10OCT19

NEUTRAL Position

NEUTRAL — park brake releases when lever is placed

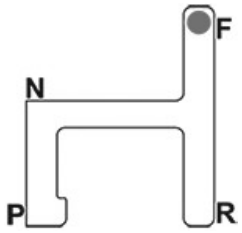
in center position. From PARK, push lever forward and up. From forward, push lever down to center. From reverse, push lever up to center.



RXA0171322—UN—10OCT19

Reverse Position

Reverse — machine moves in reverse when placed in position labeled with a down arrow. From PARK, push lever forward and up (NEUTRAL position), pull lever back, and push lever down.



RXA0171319—UN—10OCT19

Forward Position

Forward — machine moves forward when placed in position labeled with an up arrow. From PARK, push lever forward and up (NEUTRAL position), pull lever back, and push lever up.

KD34109,0000541-19-21APR22

e23 Set Speeds and Efficiency Manager

Efficiency Manager:

- Controls transmission gearshift and engine speed to maintain desired ground speed (Set Speed).
- Will not shift gears if clutch pedal is partially depressed.
- Selects startup gear and may reduce engine speed if clutch pedal is fully depressed and machine is stationary.
- Selects startup gear speed if clutch pedal is fully depressed and machine is moving below startup gear speed.
- Selects a gear and engine speed to match ground speed if clutch pedal is fully depressed and machine is moving above startup gear speed.
- Selects startup gear when shifting from NEUTRAL or PARK to gear.
- Is always running when in Full AUTO and Custom modes.
- Runs in Manual mode when Set Speed buttons are active.

Engine throttle should be fully forward for maximum rpm:

- To reach Set Speeds.
- In high load applications.

Shift decisions are based on load conditions, throttle command, and operator settings. However, transmission may shift gears if hand throttle or speed control pedal are adjusted.

NOTE: Efficiency Manager Set Speeds can be programmed in iTEC application. See Intelligent Total Equipment Control (iTEC) section of this Operator's Manual.

RXA0171325—UN—10OCT19

Set Speed 1 Button

Set Speed 1 Button — select to activate Set Speed one. Select again to disengage.

RXA0171326—UN—10OCT19

Set Speed 2 Button

Set Speed 2 Button — select to activate Set Speed two. Select again to disengage.

RXA0171366—UN—10OCT19

Speed Adjustment Wheel

Speed Adjustment Wheel — while Set Speed is active, turn wheel clockwise to increase or counterclockwise to decrease setting.

In Full AUTO and Custom Modes:

- It is recommended to place the hand throttle in full forward position at all times.
- On corner post display, Set Speed value and automatic shifting indicator always display. However, Set Speed number displays only when Set Speed is active. See Corner Post Display in Corner Post Display section of this Operator's Manual.
- Bumping right-hand reverser or drive lever increases Set Speed value. However, Set Speed disengages, and adjusted speed is not stored.

In Manual Mode:

- On corner post display, automatic shifting indicator and Set Speed information display only when Set Speeds are active. See Corner Post Display in Corner Post Display section of this Operator's Manual.
- Bumping right-hand reverser or drive lever disengages Set Speed.

KD34109,0000542-19-17JUN22

e23 Transmission Settings—Access

Access Application through Display:

RXA0167075—UN—20MAR19

Menu

1. Menu

RXA0167076—UN—20MAR19

Machine Settings

2. Machine Settings tab

RXA0167077—UN—20MAR19

Transmission

3. Transmission

Access Application through Navigation Bar:

RXA0167078—UN—20MAR19

Transmission

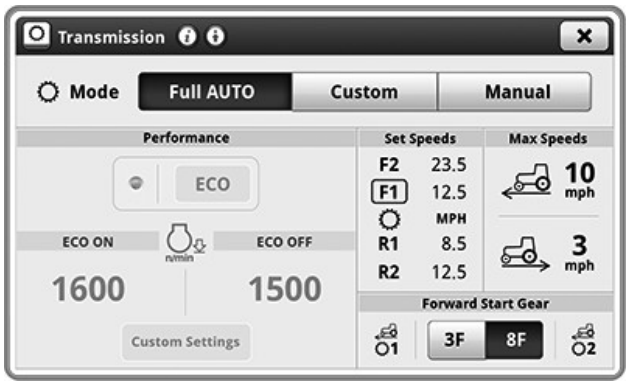
Press transmission button on navigation bar below display.

KD34109,0000543-19-17JUN22

e23 Transmission Settings

Transmission application is used to display transmission information and adjust settings.

NOTE: Some items only display if machine is equipped with the associated option.



RXA0171369—UN—17OCT19

Transmission

Items Accessible on e23 Transmission Main Page:

RXA0171377—UN—14OCT19

Transmission Mode

Mode — select desired transmission mode. See e23 Transmission Settings—Mode in this Operator's Manual section.

RXA0171389—UN—11OCT19

Custom Settings

Custom Settings — adjust engine power settings for PTO, hitch, and SCV. See e23 Transmission Settings—Custom in this Operator's Manual section.

RXA0171378—UN—10OCT19

ECO

NOTE: Only available in Custom mode.

Performance — select ECO to enable/disable reduced fuel consumption for light loads. Indicator is illuminated orange when enabled. For ECO button information, see CommandARM Controls—Left Side in CommandARM Controls section of this Operator's Manual.

RXA0171380—UN—10OCT19

ECO ON

ECO ON — adjust Minimum Engine Speed setting when ECO is enabled. See e23 Transmission Settings—ECO in this Operator's Manual section.

RXA0171379—UN—10OCT19

ECO OFF

ECO OFF — adjust Minimum Engine Speed setting when ECO is disabled. See e23 Transmission Settings —ECO in this Operator's Manual section.

RXA0171376—UN—10OCT19

Set Speeds

Set Speeds — displays current forward and reverse Set Speeds. A box displays around active Set Speed. See e23 Set Speeds and Efficiency Manager in this Operator's Manual section.

RXA0171384—UN—10OCT19

Forward Max Speed

Forward Max Speed — adjust setting for maximum speed in forward gear. See e23 Transmission Settings —Max Speeds in this Operator's Manual section.

RXA0171385—UN—10OCT19

Reverse Max Speed

Reverse Max Speed — adjust setting for maximum speed in reverse gear. See e23 Transmission Settings —Max Speeds in this Operator's Manual section.

RXA0171381—UN—10OCT19

Forward Start Gear

Forward Start Gear — toggle between selected Forward Start Gears 1 or 2. Gears are selected in Advanced Settings.

RXA0167071—UN—21MAR19

Advanced Settings

Advanced Settings — access further adjustments and less common settings. See Transmission Advanced Settings in Transmission—General Information section of this Operator's Manual.

Run Page Modules

Add modules for this application to run pages using Layout Manager. See the G5 CommandCenter Operator's Manual.

Example:

RXA0178591—UN—29JUN20

Mode

NOTE: Different modules may be available for your application.

Mode — quick access to adjust the Transmission Mode.

Shortcut Keys

Add shortcut keys for this application to the shortcut bar using Layout Manager. See the G5 CommandCenter Operator's Manual.

Example:

RXA0178590—UN—29JUN20

ON

NOTE: Different shortcut keys may be available for your application.

Backup Alarm — quick access to enable/disable the Backup Alarm.

KD34109,0000544-19-28FEB23

e23 Transmission Settings—Mode

RXA0171357—UN—10OCT19

Full AUTO Mode

Full AUTO — adjusts Minimum Engine Speed automatically to maximize fuel economy under light loads. Load Anticipation responds to operation of rear hitch, SCVs, and PTOs. Engine speed Droop is maintained at maximum tractor power.

RXA0171356—UN—10OCT19

Custom Mode

Custom — customize settings for engine speed Droop, Minimum Engine Speed, and Load Anticipation reaction. See e23 Transmission Settings—Custom in this Operator's Manual section.

RXA0171358—UN—10OCT19

Manual Mode

Manual — all fuel economy and load control functions are manual.

KD34109,0000545-19-17JUN22

e23 Transmission Settings—Custom

Custom Settings are only available when transmission mode is set to Custom. See e23 Transmission Settings —Mode in this Operator's Manual section. Settings allow for increased efficiency depending on current operation.

NOTE: Some items only display if machine is equipped with the associated option.

Procedure to modify:

RXA0167122—UN—25MAR19

PTO On

RXA0167123—UN—25MAR19

PTO Off

Droop — percentage of maximum engine rpm change before transmission shifts down. See e23 Transmission Settings—Droop in this Operator's Manual section.

RXA0167125—UN—21MAR19

PTO ON/OFF

Load Anticipation (PTO) — when enabled and PTO is in use, engine speed increases to obtain the desired PTO speed. Select ON to enable or OFF to disable.

RXA0167126—UN—21MAR19

Hitch ON/OFF

Load Anticipation (Hitch) — when enabled and hitch is lowered, engine speed increases as needed to reduce ground speed fluctuations. Select ON to enable or OFF to disable.

RXA0167127—UN—21MAR19

SCV ON/OFF

Load Anticipation (SCV) — when enabled, engages if flow rate is 25% or greater and/or SCV is set to continuous time detent. Engine speed increases as needed to reduce ground speed fluctuations or to provide desired hydraulic flow. Select ON to enable or OFF to disable.

RXA0167129—UN—25MAR19

Close

Select to close.

KD34109,0000546-19-17JUN22

e23 Transmission Settings—Droop

Adjust percentage of engine rpm drop before transmission downshifts. Lower percentage causes transmission downshifts earlier and to shift more. Higher percentage causes transmission downshifts later and to shift less.

NOTE: PTO On adjustments do not affect transmission operation for machines without PTO.

PTO On — use when operating PTO-driven equipment to maintain a consistent rpm. Selection results in reduced rpm change before a transmission downshift.

PTO Off — use for implements that do not require a

consistent rpm range, such as pulling ground engaging equipment.

Procedure to Modify:

1. Select desired setting icon:

RXA0167122—UN—25MAR19

PTO On

a. PTO On

RXA0167123—UN—25MAR19

PTO Off

b. PTO Off

RXA0167165—UN—21MAR19

Increase/Decrease Value

2. Select (+) to increase or (-) to decrease value.

RXA0167129—UN—25MAR19

Close

3. Select to close.

KD34109,0000547-19-17JUN22

e23 Transmission Settings—ECO

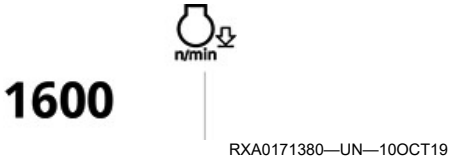
ECO ON — adjust Minimum Engine Speed setting when ECO is enabled.

ECO OFF — adjust Minimum Engine Speed setting when ECO is disabled.

Procedure to Modify:

1. Select desired setting:

a.



RXA0171380—UN—10OCT19

ECO ON

ECO ON

b.

RXA0171379—UN—10OCT19

ECO OFF

ECO OFF

2.

RXA0171328—UN—10OCT19

Increase/Decrease Value

Select (+) to increase or (-) to decrease value.

3.

RXA0167129—UN—25MAR19

Close

Select to close.

KD34109,0000548-19-22JUN22

e23 Transmission Settings—Max Speeds

Adjust settings for maximum speed in forward and reverse gears. Set Speed setting cannot exceed this setting and will automatically adjust accordingly.

Procedure to Modify:

1. Select desired setting icon:

RXA0171384—UN—10OCT19

Forward Max Speed

a. Forward Max Speed

RXA0171385—UN—10OCT19

Reverse Max Speed

b. Reverse Max Speed

RXA0171354—UN—10OCT19

Increase/Decrease Value

2. Select (+) to increase or (-) to decrease value.

RXA0167129—UN—25MAR19

Close

3. Select to close.

KD34109,0000549-19-17JUN22

Operate Transmission—IVT

CAUTION: Avoid possible injury from losing control of tractor while operating on a downhill slope. Observe following precautions:

- **Avoid depressing the clutch pedal or shifting to NEUTRAL at high speeds while the tractor is rolling downhill.**
- **In overspeed condition, the clutch may not re-engage when the pedal is released; use the brakes to slow down the tractor.**
- **Adjust Set Speed to a safe downhill operating speed.**
- **Do not make major speed reductions with the right-hand reverser or drive lever.**
- **Enable mechanical front-wheel drive (if equipped).**

IMPORTANT: Prevent transmission or clutch damage:

- **Avoid depressing the clutch pedal or shifting to NEUTRAL at high speeds while the tractor is rolling downhill.**
- **In overspeed condition, the clutch may not re-engage when the pedal is released; use the brakes to slow down the tractor.**
- **Never attempt to start the tractor by towing or pushing.**
- **Shift lever can be moved to PARK position at any time. However, the park brake will not engage until the ground speed is below 1.75 km/h (1.0 mph).**
- **Avoid excessive ballast.**
- **Fully depress the clutch pedal to completely disengage the clutch.**

NOTE: Transmission can take up to 20 seconds to complete start-up.

Operator presence sensor prevents initiation of movement with operator out of seat. See Operator Presence Sensor in Seats section of this Operator's Manual.

RXA0171366—UN—10OCT19

Speed Adjustment Wheel

Speed Adjustment Wheel — turn wheel clockwise to increase or counterclockwise to decrease Set Speeds.

NOTE: The engine will start with shift lever in any position. However, tractor will not move until lever is moved into and out of NEUTRAL or PARK.

Right-Hand Reverser Items:

RXA0171352—UN—10OCT19

Right-Hand Reverser

Right-Hand Reverser — lever on CommandARM used to shift transmission and adjust speed. For information on shifting, see Shift Transmission—IVT in this Operator's Manual section.

Left-Hand Reverser Items:

RXA0171333—UN—10OCT19

Left-Hand Reverser

Left-Hand Reverser — lever on front console used to shift transmission. For information on shifting, see Shift Transmission—IVT in this Operator's Manual section.

RXA0171351—UN—10OCT19

Right-Hand Drive Lever

Right-Hand Drive Lever — lever on CommandARM used to adjust speed. For information on lever positions, see Shift Transmission—IVT in this Operator's Manual section.

KD34109,000054E-19-15JUL22

Shift Transmission—IVT

Initiate Motion:

CAUTION: Avoid possible injury due to sudden or unexpected acceleration. Be aware of Set Speeds and throttle position before putting machine into motion.

NOTE: Cold-weather conditions can affect machine performance:

- *If transmission oil temperature is less than -5°C (23°F), engine speed is limited to 1500 rpm or less.*
- *If transmission oil temperature is less than -15°C (5°F), wheel speed is limited to 5 km/h (3 mph) or less.*

Transmission will only engage gears when operator is seated. If forward, reverse, or NEUTRAL positions are selected and operator is not in seat, information indicator illuminates and corresponding message appears on CommandCenter display.

NOTE: In event of seat switch failure, machine can still be put into motion by cycling (depress/release) clutch or brake pedals.

To initiate motion, move reverser lever from PARK to either forward or reverse with operator seated. Clutch is not needed to put machine into motion.

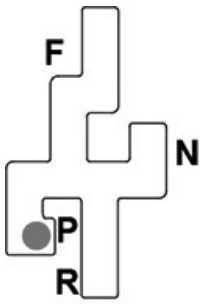
Adjust throttle and right-hand reverser or drive lever to obtain desired speed.

Stop Engine:

CAUTION: Always place reverser lever in PARK position before dismounting machine.

Reduce engine speed to low rpm, pull speed control lever back to slowest setting, and depress brake pedal/pedals until travel stops. Move reverser lever to PARK position. Slowly release brakes and shut off engine.

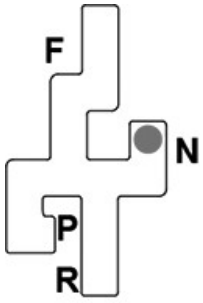
Right-Hand Reverser Positions:



RXA0171347—UN—10OCT19

PARK Position

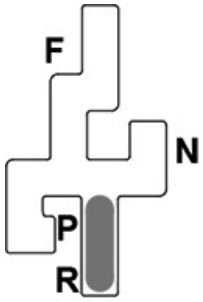
PARK — park brake is applied when lever is placed in position next to P.



RXA0171346—UN—10OCT19

NEUTRAL Position

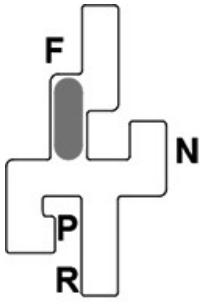
NEUTRAL — park brake releases when lever is placed in position next to N.



RXA0171349—UN—10OCT19

Reverse Speed Band Position

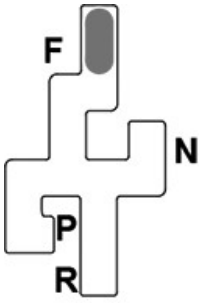
Reverse Speed Band — position range for reverse wheel speed. Reverse Set Speed is reached when lever is at the end of speed band and engine throttle is at maximum. For information on adjusting Set Speeds, see IVT Set Speeds in this Operator's Manual section.



RXA0171343—UN—10OCT19

Forward Speed Band 1 Position

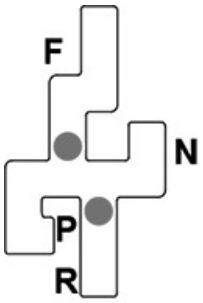
Forward Speed Band 1 — position range for forward wheel speed between 0 km/h (0 mph) and Set Speed 1 setting. Forward Set Speed 1 is reached when lever is at the end of speed band and engine throttle is at maximum. For information on adjusting Set Speeds, see IVT Set Speeds in this Operator's Manual section.



RXA0171344—UN—10OCT19

Forward Speed Band 2 Position

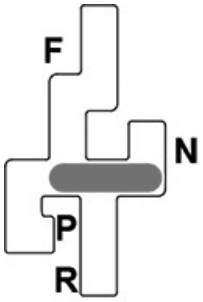
Forward Speed Band 2 — position range for forward wheel speed between Set Speed 1 and Set Speed 2 settings. Forward Set Speed 2 is reached when lever is at the end of speed band and engine throttle is at maximum. For information on adjusting Set Speeds, see IVT Set Speeds in this Operator's Manual section.



RXA0171345—UN—10OCT19

Minimum Speed Positions

Minimum Speed — lowest wheel speed positions.

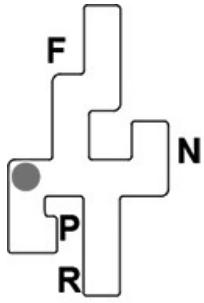


RXA0171348—UN—10OCT19

PowerZero Position

⚠ CAUTION: Depending on speed and load, PowerZero cannot bring tractor to a stop if already in motion.

PowerZero — temporarily holds machine stationary on relatively flat surface. Lever must be held into this position.

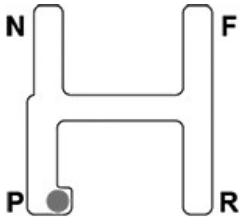


RXA0171350—UN—10OCT19

Set Speed Scroll Position

Set Speed Scroll — scrolls through Set Speeds while in this position if machine is not moving. For information on adjusting Set Speeds, see IVT Set Speeds in this Operator's Manual section.

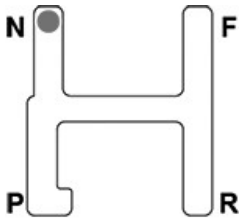
Left-Hand Reverser Positions:



RXA0171336—UN—10OCT19

PARK Position

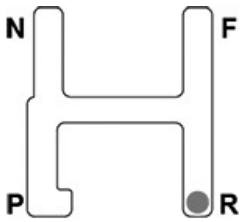
PARK — park brake is applied when lever is placed in position next to P. From forward or reverse, move lever to center (NEUTRAL position), then push lever forward and down.



RXA0171335—UN—10OCT19

NEUTRAL Position

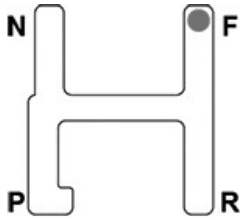
NEUTRAL — park brake releases when lever is placed in position next to N. From PARK, push lever forward and up as far as it will go. From forward, push lever down, forward, and up. From reverse, push lever up, forward, and up.



RXA0171338—UN—10OCT19

Reverse Position

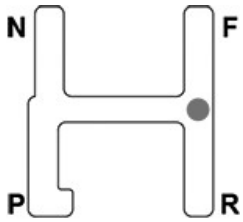
Reverse — machine moves in reverse when placed in position labeled with a down arrow. From PARK, push lever forward and up to center, pull lever back, and push lever down.



RXA0171334—UN—10OCT19

Forward Position

Forward — machine moves forward when placed in position labeled with an up arrow. From PARK, push lever forward and up to center, pull lever back, and push lever up.

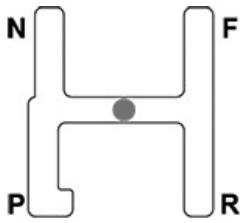


RXA0171337—UN—10OCT19

PowerZero Position

CAUTION: Depending on speed and load, PowerZero cannot bring tractor to a stop if already in motion.

PowerZero — temporarily holds machine stationary on relatively flat surface. From PARK, push lever forward and up to center and pull and hold lever back.



RXA0171339—UN—10OCT19

Set Speed Scroll Position

Set Speed Scroll — scrolls through Set Speeds while in this position if machine is not moving. From PARK, push lever forward and up to center. For information on adjusting Set Speeds, see IVT Set Speeds in this Operator's Manual section.

Right-Hand Drive Lever Positions:

RXA0171340—UN—10OCT19

Set Speed Band 1 Position

Speed Band 1 — position range for forward and reverse wheel speeds between 0 km/h (0 mph) and Set Speed 1 setting. Set Speed 1 is reached when lever is at the end of speed band and engine throttle is at maximum. For information on adjusting Set Speeds, see IVT Set Speeds in this Operator's Manual section.

RXA0171341—UN—10OCT19

Set Speed Band 2 Position

Speed Band 2 — position range for forward and reverse wheel speeds between Set Speed 1 and Set Speed 2 settings. Set Speed 2 is reached when lever is at the end of speed band and engine throttle is at maximum. For information on adjusting Set Speeds, see IVT Set Speeds in this Operator's Manual section.

RXA0171342—UN—10OCT19

Minimum Speed Position

Minimum Speed — lowest wheel speed position.

KD34109,000054F-19-20JUN22

IVT Set Speeds

CAUTION: Avoid injury due to unexpected rapid acceleration. Verify the Set Speed settings before putting the machine into motion.

NOTE: Set Speed adjustments can affect the corresponding Set Speed of the opposite direction. For information regarding Reverse/Forward Ratio, see Transmission Advanced Settings in Transmission—General Information section of this Operator's Manual.

Adjust Set Speed:

NOTE: For maximum productivity where precise forward speed is not critical, the Set Speed should be approximately 3.2 km/h (2 mph) higher than the working speed. Set Speeds can never exceed the Max Speed settings and will automatically adjust accordingly.

For machines with left-hand reverser, the Set Speeds can be adjusted with the key switch in the run position. For machines with right-hand reverser, the engine must be running to adjust the Set Speeds.

Set Speeds can be adjusted in two ways:

- With reverser lever in scroll position, the Set Speeds will scroll on the corner post display. For the scroll position, refer to Shift Transmission—IVT. Each Set Speed pauses for about 2 seconds. Scrolling continues until the lever is moved out of scroll position. When the desired Set Speed displays, adjust speed using the adjustment wheel. Adjustment must be made while the machine is not in motion.
- With the reverser lever in forward or reverse positions, the Set Speed displayed on the corner post display can be adjusted using the adjustment wheel. Adjustment can be made while the machine is in motion. Increasing the Set Speed value increases ground speed. Decreasing the Set Speed value decreases ground speed.

RXA0171366—UN—10OCT19

Speed Adjustment Wheel

Speed Adjustment Wheel — turn the wheel clockwise to increase or counterclockwise to decrease the Set Speeds.

Inching Mode:

Inching mode is entered automatically when a Set Speed of less than 2 km/h (1 mph) is selected in the speed band 1.

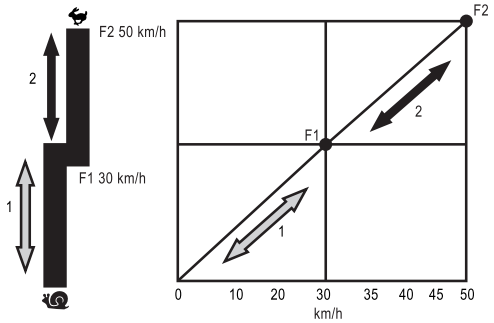
In inching mode, the reverse Set Speed can be temporarily set higher than the forward Set Speed, even with a Reverse/Forward Ratio of one or less. Setting must be adjusted with the lever in reverse speed band for this to take place. However, when the lever is moved back to the forward speed band, the reverse Set Speed reverts to the selected ratio.

Inching mode is exited when Set Speed 1 is adjusted above 2 km/h (1.2 mph) or Set Speed 2 is adjusted above 10 km/h (6.2 mph).

Set Speed Guidelines and Examples:

Value of Set Speed 1 is always at least 10% less than the value of Set Speed 2 and will automatically adjust accordingly. This ensures a smooth transition between speed bands and is illustrated in the following examples.

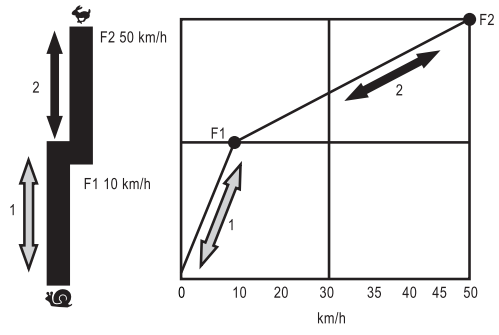
NOTE: F1 refers to the forward mode for Set Speed in speed band 1. F2 refers to the forward mode for Set Speed in speed band 2.



RXA0187022—UN—06MAY22

Example 1

Example 1 — maximum forward Set Speeds are selected for each speed band.



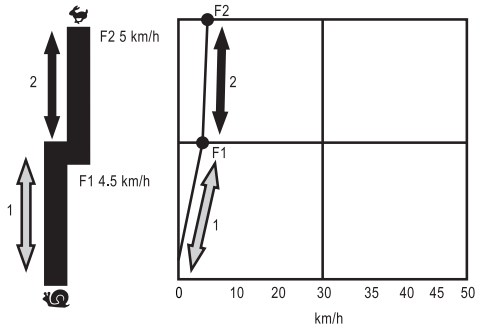
RXA0187023—UN—06MAY22

Example 2

Example 2 — value of Set Speed 1 is reduced to 10 km/h (6 mph). Set Speed 2 value is not changed, but lower

portion of speed band 2 has automatically decreased to meet the top end of speed band 1.

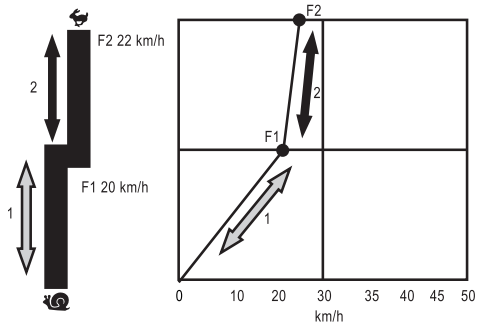
NOTE: The actual Set Speed increases or decreases at least 10% of adjusted speed band and ranges up to 12.5%. In the illustrations of examples 3 and 4, 10% is used and can differ by 2.5% of the speeds shown.



RXA0187024—UN—06MAY22

Example 3

Example 3 — Set Speed 2 is reduced to 5 km/h (3 mph). Set Speed 1 automatically decreases to 4.5—4.3 km/h (2.8—2.7 mph), 10—12.5% below the new value of Set Speed 2.



RXA0187025—UN—06MAY22

Example 4

Example 4 — Set Speed 1 is increased to 20 km/h (12.4 mph), which is higher than the value of Set Speed 2. Set Speed 2 automatically increases to 22—22.5 km/h (13.7—14.0 mph), 10—12.5% above the new value of Set Speed 1.

KD34109,0000550-19-23MAY22

IVT Transmission Settings—Access

Access Application through Display:

RXA0167075—UN—20MAR19

Menu

1. Menu

RXA0167076—UN—20MAR19

Machine Settings

2. Machine Settings tab

RXA0167077—UN—20MAR19

Transmission

3. Transmission

Access Application through Navigation Bar:

RXA0167078—UN—20MAR19

Transmission

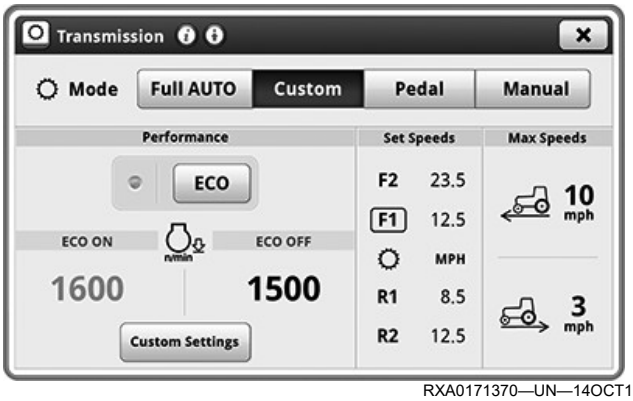
Press transmission button on navigation bar below display.

KD34109,0000551-19-20JUN22

IVT Transmission Settings

The Transmission application is used to display transmission information and adjust settings.

NOTE: Some items only display if machine is equipped with the associated option.



RXA0171370—UN—14OCT19

Transmission

Items Accessible on IVT Transmission Main Page:

RXA0171383—UN—14OCT19

Transmission Mode

Mode — select the desired Transmission Mode. See IVT Transmission Settings—Mode in this Operator's Manual section.

RXA0171389—UN—11OCT19

Custom Settings

Custom Settings — adjust the engine power settings for PTO, hitch, and SCV. See IVT Transmission Settings —Custom in this Operator's Manual section.

RXA0171378—UN—10OCT19

ECO

NOTE: Only available in Custom mode.

Performance — select ECO to enable/disable reduced fuel consumption for light loads. The indicator is illuminated orange when enabled. For ECO button information, see CommandARM Controls—Left Side in CommandARM Controls section of this Operator's Manual.

RXA0171380—UN—10OCT19

ECO ON

ECO ON — adjust the Minimum Engine Speed setting when ECO is enabled. See IVT Transmission Settings —ECO in this Operator's Manual section.

RXA0171379—UN—10OCT19

ECO OFF

ECO OFF — adjust the Minimum Engine Speed setting when ECO is disabled. See IVT Transmission Settings —ECO in this Operator's Manual section.

RXA0171376—UN—10OCT19

Set Speeds

Set Speeds — displays current forward and reverse Set Speeds. A box displays around the active Set Speed. See IVT Set Speeds in this Operator's Manual section.

RXA0171384—UN—10OCT19

Forward Max Speed

Forward Max Speed — adjust the setting for maximum speed in forward gear. See IVT Transmission Settings— Max Speeds in this Operator's Manual section.

RXA0171385—UN—10OCT19

Reverse Max Speed

Reverse Max Speed — adjust the setting for maximum speed in reverse gear. See IVT Transmission Settings— Max Speeds in this Operator's Manual section.

RXA0167071—UN—21MAR19

Advanced Settings

Advanced Settings — access further adjustments and less common settings. See Transmission Advanced Settings in Transmission—General Information section of this Operator's Manual.

Run Page Modules

Add modules for this application to run pages using

Layout Manager. See the G5 CommandCenter Operator's Manual.

Example:

RXA0178593—UN—29JUN20

Mode

NOTE: Different modules may be available for your application.

Mode — quick access to adjust the Transmission Mode.

Shortcut Keys

Add shortcut keys for this application to the shortcut bar using Layout Manager. See the G5 CommandCenter Operator's Manual.

Example:

RXA0178590—UN—29JUN20

ON

NOTE: Different shortcut keys may be available for your application.

Backup Alarm — quick access to enable/disable the Backup Alarm.

KD34109,0000552-19-28FEB23

IVT Transmission Settings—Mode

RXA0171357—UN—10OCT19

Full AUTO Mode

Full AUTO — adjusts Minimum Engine Speed automatically to maximize fuel economy under light loads. Load Anticipation responds to operation of rear hitch, SCVs, and PTOs. Engine speed Droop is maintained at maximum tractor power.

RXA0171356—UN—10OCT19

Custom Mode

Custom — customize settings for engine speed Droop, Minimum Engine Speed, and Load Anticipation reaction. See Transmission Settings—Custom in this Operator's Manual section.

RXA0171359—UN—10OCT19

Pedal Mode

Pedal — control wheel speed independently of engine speed with speed control pedal. Pedal mode can only be selected while tractor is stopped and park brakes are engaged. When hand throttle is at 0%, Pedal mode reverts to Full AUTO mode. See Transmission Settings —Pedal Mode in this Operator's Manual section.

RXA0171358—UN—10OCT19

Manual Mode

Manual — all fuel economy and load control functions are manual.

KD34109,0000553-19-20JUN22

IVT Transmission Settings—Pedal Mode

Pedal mode is a function that allows the operator to control wheel speed independently of engine speed using speed control pedal. In this mode, engine speed should be kept constant using hand throttle.

When speed control pedal is released, vehicle decelerates to a minimum travel speed of 0.6 km/h (0.4 mph). To come to a complete stop, brake pedal with AutoClutch function must be used.

For transport applications with speed control pedal only, leave hand throttle in lowest position. Engine speed automatically adjusts based on transmission system and fuel economy settings. If hand throttle is moved from lowest position, system reverts to normal accelerator mode control function. While hand throttle is set low, vehicle may not reach wheel speed commanded by Set Speed adjustment dial.

KD34109,0000554-19-13JUL22

IVT Transmission Settings—Custom

Custom Settings are only available when transmission mode is set to Custom. See IVT Transmission Settings —Mode in this Operator's Manual section. Settings allow for increased efficiency depending on current operation.

Procedure to modify:

RXA0167122—UN—25MAR19
PTO On

RXA0167123—UN—25MAR19
PTO Off

Droop — percentage of maximum engine rpm change before transmission shifts down. See CommandPRO Transmission Settings—Droop in this Operator's Manual section.

RXA0167125—UN—21MAR19
PTO ON/OFF

Load Anticipation (PTO) — when enabled and PTO is in use, engine speed increases to obtain the desired PTO speed. Select ON to enable or OFF to disable.

RXA0167126—UN—21MAR19
Hitch ON/OFF

Load Anticipation (Hitch) — when enabled and hitch is lowered, engine speed increases as needed to reduce ground speed fluctuations. Select ON to enable or OFF to disable.

RXA0167127—UN—21MAR19
SCV ON/OFF

Load Anticipation (SCV) — when enabled, engages if flow rate is 25% or greater and/or SCV is set to continuous time detent. Engine speed increases as needed to reduce ground speed fluctuations or to provide desired hydraulic flow. Select ON to enable or OFF to disable.

RXA0167129—UN—25MAR19
Close

Select to close.

KD34109,0000555-19-20JUN22

IVT Transmission Settings—Droop

Adjust percentage of engine rpm drop before transmission downshifts. Lower percentage causes transmission downshifts earlier. Higher percentage causes transmission downshifts later.

NOTE: PTO On adjustments do not affect transmission operation for machines without PTO.

PTO On — use when operating PTO-driven equipment to maintain a consistent rpm. Selection results in reduced rpm change before a transmission downshift.

PTO Off — use for implements that do not require a consistent rpm range, such as pulling ground engaging equipment.

Procedure to Modify:

1. Select desired setting icon:

RXA0167122—UN—25MAR19
PTO On

a. PTO On

RXA0167123—UN—25MAR19
PTO Off

b. PTO Off

RXA0167165—UN—21MAR19
Increase/Decrease Value

2. Select (+) to increase or (-) to decrease value.

RXA0167129—UN—25MAR19
Close

3. Select to close.

KD34109,0000556-19-20JUN22

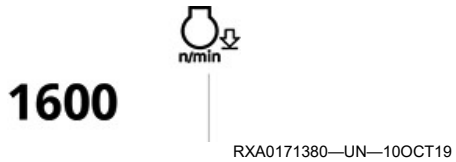
IVT Transmission Settings—ECO

ECO ON — adjust Minimum Engine Speed setting when ECO is enabled.

ECO OFF — adjust Minimum Engine Speed setting when ECO is disabled.

Procedure to Modify:

1. Select desired setting:



RXA0171380—UN—10OCT19

ECO ON

a. ECO ON

RXA0171379—UN—10OCT19

ECO OFF

b. ECO OFF

RXA0171328—UN—10OCT19

Increase/Decrease Value

2. Select (+) to increase or (-) to decrease value.

RXA0167129—UN—25MAR19

Close

3. Select to close.

KD34109,0000557-19-20JUN22

IVT Transmission Settings—Max Speeds

Adjust settings for maximum speed in forward and reverse gears. Set Speed setting cannot exceed this setting and will automatically adjust accordingly.

Procedure to Modify:

1. Select desired setting icon:

RXA0171384—UN—10OCT19

Forward Max Speed

a. Forward Max Speed

RXA0171385—UN—10OCT19

Reverse Max Speed

b. Reverse Max Speed

RXA0171354—UN—10OCT19

Increase/Decrease Value

2. Select (+) to increase or (-) to decrease value.

RXA0167129—UN—25MAR19

Close

3. Select to close.

KD34109,0000558-19-20JUN22

Operate Transmission—IVT with CommandPRO Joystick

IMPORTANT: Prevent transmission or clutch damage:

- **Avoid depressing the clutch pedal or shifting to NEUTRAL at high speeds while the tractor is rolling downhill.**
- **In overspeed condition, the clutch may not re-engage when the pedal is released; use the brakes to slow down the tractor.**
- **Never attempt to start tractor by towing or pushing.**
- **Avoid excessive ballast.**
- **Fully depress clutch pedal to completely disengage the clutch.**

NOTE: Transmission can take up to 20 seconds to complete start-up.

Operator presence sensor prevents initiation of movement with operator out of seat. See Operator Presence Sensor in Seats section of this Operator's Manual.

RXA0171329—UN—10OCT19

Left-Hand Reverser

Left-Hand Reverser — lever on front console used to select travel direction. For information on lever positions, see Shift Transmission—IVT with CommandPRO Joystick in this Operator's Manual section.

RXA0168020—UN—17MAY19

Speed Control Pedal

Speed Control Pedal — pedal on front console used to control ground speed. To initiate movement with the speed control pedal, select travel direction on the left-hand reverser.

Speed control can be alternated between the pedal and the CommandPRO joystick. If movement was initiated with the joystick, the pedal only takes over when the speed goes above the speed commanded by joystick. Once the speed control pedal takes over, active Set Speeds are deactivated. If the speed control pedal is released and the joystick control is not re-initiated, the machine will slow to a stop. Joystick takes back control when the speed control pedal is released and the joystick is moved (even briefly) in direction of travel.

RXA0167074—UN—21MAR19

CommandPRO Joystick

CommandPRO Joystick — control on CommandARM used to operate the CommandPRO transmission. See CommandPRO Joystick in this Operator's Manual section.

KD34109,000054A-19-03NOV22

Shift Transmission—IVT with CommandPRO Joystick

NOTE: Cold-weather conditions can affect machine performance:

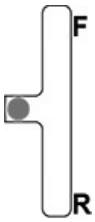
- *If transmission oil temperature is less than -5°C (23°F), engine speed is limited to 1500 rpm or less.*
- *If transmission oil temperature is less than -15°C (5°F), wheel speed is limited to 5 km/h (3 mph) or less.*

Transmission will only engage gears when operator is seated. If forward, reverse, or NEUTRAL is selected and the operator is not seated, information indicator illuminates and corresponding message appears on CommandCenter display.

NOTE: In event of operator presence switch failure, machine can still be put into motion by cycling (depress/release) clutch or brake pedals.

Left-Hand Reverser Positions:

CAUTION: Avoid injury and/or machine damage. PARK button must be pressed to apply park brake. For PARK button information, see CommandPRO Joystick in this Operator's Manual section.



RXA0171332—UN—10OCT19

Resting Position

Resting Position — position lever rests in. Park brake is not applied in this position.

RXA0171330—UN—10OCT19

Forward Position

Forward — machine moves forward after lever is moved to position labeled with an up arrow. From resting position, pull lever back and up. Lever moves back to resting position.

RXA0171331—UN—10OCT19

Reverse Position

Reverse — machine moves in reverse after lever is moved to position labeled with a down arrow. From resting position, pull lever back and down. Lever moves back to resting position.

KD34109,000054B-19-03NOV22

CommandPRO Joystick

RXA0167074—UN—21MAR19

CommandPRO Joystick

NOTE: A PTO cannot be engaged from the CommandPRO joystick while tractor is in PARK.

RXA0167044—UN—05APR19

Reconfigurable Rocker Switches

Reconfigurable Rocker Switches — configure rocker switches A, B, C, and D for custom functions. See Controls Setup in CommandCenter section of this Operator's Manual.

RXA0167045—UN—05APR19

Reconfigurable Buttons

Reconfigurable Buttons — configure buttons 10, 11, and 12 for custom functions. See Controls Setup in CommandCenter section of this Operator's Manual.

RXA0167046—UN—05APR19

Acceleration/Deceleration Response Button

Acceleration/Deceleration Response Button — move between three acceleration/deceleration response settings. See CommandPRO Joystick—Acceleration/Deceleration Response in this Operator's Manual section.

RXA0167047—UN—05APR19

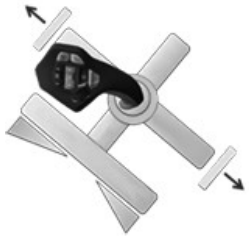
Set Speed Buttons

Set Speed Buttons — select Set Speed 1 or Set Speed 2. See CommandPRO Joystick—Enable Set Speeds in this Operator's Manual section.

RXA0167048—UN—05APR19

Adjustment Wheel

Adjustment Wheel — adjusts Set Speed and Maximum Set Speed settings when active. Roll forward to increase or backward to decrease setting.



RXA0170749—UN—26SEP19

Maximum Set Speed and Zero Speed

Maximum Set Speed and Zero Speed — move joystick:

- All the way forward into detent and release to command Maximum Set Speed.
- Forward or backward to disable Maximum Set Speed.
- All the way backward (in forward) or forward (in reverse) into detent and release to command speed to zero. For more information on zero speed, see CommandPRO Joystick—Stopping in this Operator's Manual section.

RXA0167050—UN—05APR19

PARK Button

PARK Button — places machine in PARK and engages trailer brakes. Overridden when driving direction is selected. Automatically engages if driver leaves seat while tractor is in PowerZero (tractor coasts down to zero when no speed commanded or brakes applied). Indicator on corner post display glows when enabled.

RXA0167051—UN—05APR19

NEUTRAL Button

NEUTRAL Button — places machine in NEUTRAL. Overridden when driving direction is selected. Indicator on corner post display glows when enabled.

RXA0167052—UN—05APR19

Lock Button

Lock Button — locks out reconfigurable button/rocker switch functions. Indicator light on button glows when enabled.

RXA0167053—UN—01APR19

Activation Button

Activation Button — use to initiate movement by holding button down while moving joystick in desired direction. Also used to change direction of travel (shuttle shift). See CommandPRO Joystick—Adjust Travel Direction in this Operator's Manual section.

RXA0170747—UN—26SEP19

Accelerate/Decelerate

⚠ CAUTION: Avoid personal injury when operating on hillsides. For more information, see CommandPRO Joystick—Operating on Hillsides in this Operator's Manual section.

Accelerate/Decelerate — move joystick forward to accelerate or backward to decelerate. Speed control pedal can be used as an alternative to control acceleration/deceleration.

RXA0170748—UN—26SEP19

Inching Control

Inching Control — use left gate to move machine forward or backward at a slow speed. Maximum speed adjustment is 5 km/h (3 mph) in either direction. Maximum speed defaults to 2 km/h (1.2 mph) after key cycle. To adjust maximum speed, use set speed adjustment wheel while joystick is held in left gate. Useful for attaching implements.

RXA0167056—UN—21MAR19

Adjust Direction

Adjust Travel Direction — use joystick movement and activation button to adjust direction of travel. See CommandPRO Joystick—Adjust Travel Direction in this Operator's Manual section.

KD34109,00004A0-19-03NOV22

CommandPRO Joystick Guide

RXA0186655—UN—24FEB22

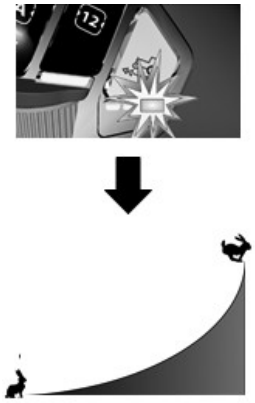
https://youtube.com/playlist?list=PL1KGsSJ4CWk7gz0C1mODjmnjNJYqc8O00

Access CommandPRO tutorial videos using the QR code.

KD34109,0001A80-19-17JUL22

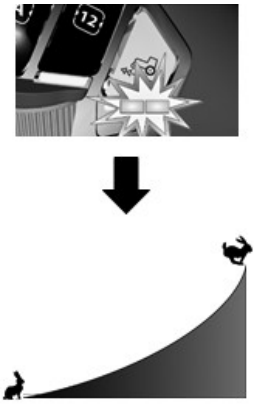
CommandPRO Joystick—Acceleration/Deceleration Response

Move between three acceleration/deceleration response settings.



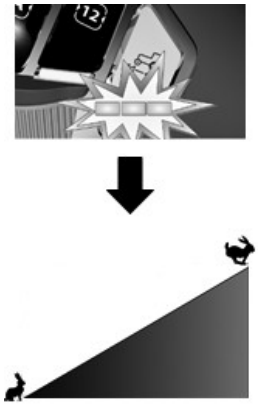
RXA0167057—UN—21MAR19

Soft Response



RXA0167058—UN—21MAR19

Normal Response



RXA0167059—UN—21MAR19

Strong Response

Settings influence:

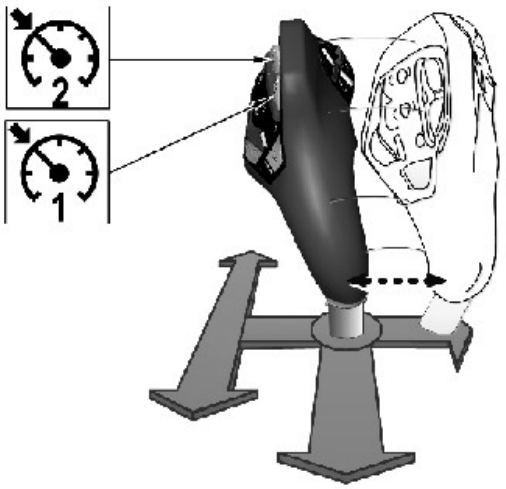
- Characteristic for acceleration and deceleration when commanding a change in speed with the joystick.
- Characteristic for acceleration when commanding a change in speed with the speed control pedal.
- Speed change value when flicking the joystick forward or backward (triggering).
- Vehicle behavior when commanding a change in direction of travel.
- Vehicle behavior when operating on hillsides and slippery conditions.

KD34109,00004A1-19-21APR22

CommandPRO Joystick—Enable Set Speeds

Recall setting for Set Speed 1 or Set Speed 2 determined in Transmission application. See CommandPRO Transmission Settings—Set Speeds in

this Operator's Manual section. When Set Speed is enabled, indicator lights on selected button and corner post display glow.



RXA0167060—UN—21MAR19

Enable Set Speed

1. Move joystick to the right and release.
2. Select desired Set Speed setting (1 or 2) to toggle between Set Speeds.

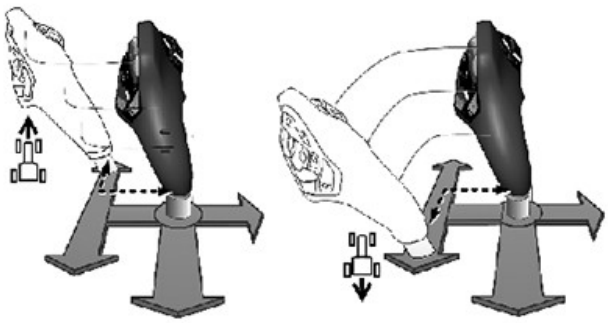
To adjust setting to current speed, hold button down for at least 2 seconds until audible confirmation signal sounds.

To disable, move joystick forward or backward.

KD34109,00004A2-19-03NOV22

CommandPRO Joystick—Adjust Travel Direction

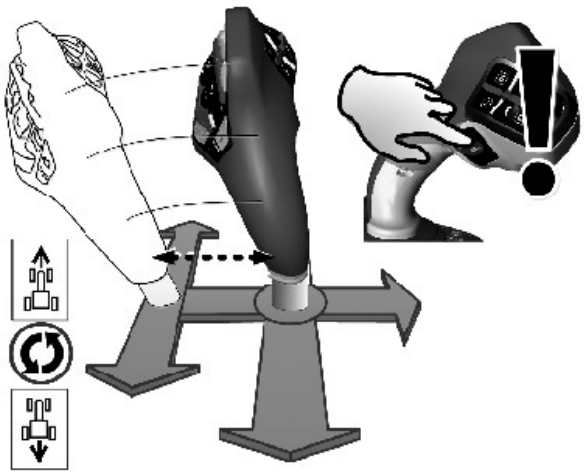
There are two ways to adjust travel direction using the CommandPRO joystick.



RXA0167061—UN—21MAR19

Choose Direction

Choose Direction — move joystick to desired direction in left gate, then move back to center.



RXA0167062—UN—21MAR19

Change Direction

Change Direction — press and hold activation button, move joystick to the left, then release joystick.

KD34109,00004A3-19-03NOV22

CommandPRO Joystick—Stopping

Machine decelerates to a stop when joystick is moved all of the way backward (when traveling forward) or forward (when traveling in reverse) into detent and released. Travel speed is reduced, even when joystick is moved back to center position. When machine comes to a stop, travel direction indicator on corner post display flashes. Machine also decelerates to a stop when joystick is held all of the way forward or backward (just short of detent position).

CAUTION: Avoid injury. If only one brake pedal is pressed, travel speed is not reduced.

Travel speed can also be reduced using brake pedals. Even when brakes are released, machine continues to coast down to a stop. To resume driving at the current speed, joystick must be moved forward or backward (depending on travel direction). If machine comes to a complete stop, activation button must be used to initiate movement. For information on adjusting aggressiveness of acceleration and deceleration, refer to CommandPRO Joystick—Acceleration/Deceleration Response in this Operator's Manual section.

KD34109,000053C-19-03NOV22

CommandPRO Joystick—Operating on Hillsides

CAUTION: Avoid possible injury from losing control of tractor while operating on a downhill slope. Wheels can lock on slippery slopes, causing skidding. Observe the following precautions:

- **Select a travel speed that ensures safe operation.**
- **Do not use CommandPRO joystick to decelerate too quickly.**
- **Set acceleration/deceleration response to soft. See CommandPRO Joystick—Acceleration/Deceleration Response in this Operator's Manual section.**
- **Avoid depressing the clutch pedal or shifting to NEUTRAL at high speeds while the tractor is rolling downhill.**
- **In overspeed condition, the clutch may not reengage when the pedal is released, use the brakes to slow down the tractor.**

When travel speed is reduced using the speed control pedal or CommandPRO joystick, braking characteristics on machine can be strong. Braking characteristics, caused by the transmission and engine, can be especially strong at slow travel speeds.

Driving Downhill with Implement:

When towing implement downhill and using speed control pedal or CommandPRO joystick to decelerate, tractor may limit deceleration to counteract the implement pushing the tractor.

To reduce speed when going downhill with implement:

- Gently depress both brake pedals to reduce speed.
- Do not rely solely on commanding deceleration with speed control pedal or CommandPRO joystick to reduce speed. Tractor may limit deceleration to counteract implement forces.

To maintain speed when going downhill with implement with trailer brakes, press both brake pedals and push CommandPRO joystick forward simultaneously. The implement/tractor combination will stretch and the speed will be maintained.

To adjust speed when going downhill with implement with trailer brakes:

- Press both brake pedals and push CommandPRO joystick further forward to Maximum Set Speed detent.
- Acceleration can be modulated by adjusting force on brake pedals.

KD34109,000053D-19-20OCT22

CommandPRO Transmission Settings—Access

Access Application through Display:

RXA0167075—UN—20MAR19

Menu

1. Menu

RXA0167076—UN—20MAR19

Machine Settings

2. Machine Settings tab

RXA0167077—UN—20MAR19

Transmission

3. Transmission

Access Application through Navigation Bar:

RXA0167078—UN—20MAR19

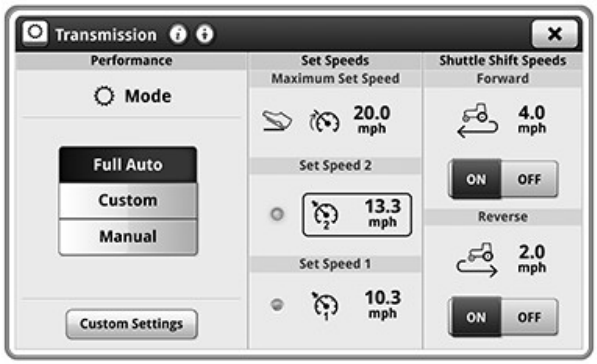
Transmission

Press transmission button on navigation bar below display.

KD34109,00004A6-19-21APR22

CommandPRO Transmission Settings

The Transmission application is used to display Transmission information and adjust settings.



RXA0167043—UN—20MAR19

Transmission

Items Accessible on CommandPRO Transmission Main Page:

RXA0167063—UN—21MAR19

Transmission Mode

Mode — select the desired Transmission Mode. See CommandPRO Transmission Settings—Mode in this Operator's Manual section.

RXA0171389—UN—11OCT19

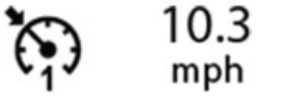
Custom Settings

Custom Settings — adjust the engine power settings for PTO, hitch, and SCV. See CommandPRO Transmission Settings—Custom in this Operator's Manual section.

RXA0167065—UN—21MAR19

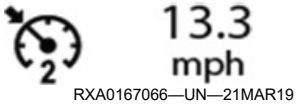
Maximum Set Speed

Maximum Set Speed — a user-defined speed limit. See CommandPRO Transmission Settings—Set Speeds in this Operator's Manual section.



RXA0167067—UN—21MAR19

Set Speed 1



RXA0167066—UN—21MAR19

Set Speed 2

Set Speeds — a saved speed that can be activated when needed. See CommandPRO Transmission Settings—Set Speeds in this Operator's Manual section.

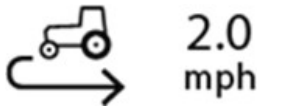
RXA0167068—UN—21MAR19

Status Indicator

Status indicator — indicates which Set Speed mode is selected (orange) and which mode is in standby (gray).

RXA0167069—UN—21MAR19

Shuttle Forward



RXA0167070—UN—21MAR19

Shuttle Reverse

Shuttle Shift Speeds — the speed after Shuttle Shift. See CommandPRO Transmission Settings—Shuttle Shift Speeds in this Operator's Manual section.

RXA0167071—UN—21MAR19

Advanced Settings

Advanced Settings — access further adjustments and less common settings. See Transmission Advanced Settings in Transmission—General Information section of this Operator's Manual.

Run Page Modules

Add modules for this application to run pages using Layout Manager. See the G5 CommandCenter Operator's Manual.

Example:

RXA0178591—UN—29JUN20

Mode

NOTE: Different modules may be available for your application.

Mode — quick access to adjust the Transmission Mode.

Shortcut Keys

Add shortcut keys for this application to the shortcut bar

using Layout Manager. See the G5 CommandCenter Operator's Manual.

Example:

RXA0178590—UN—29JUN20

ON

NOTE: Different shortcut keys may be available for your application.

Backup Alarm — quick access to enable/disable the Backup Alarm.

KD34109,00004A5-19-28FEB23

CommandPRO Transmission Settings—Mode

RXA0171357—UN—10OCT19

Full Auto Mode

NOTE: Load anticipation for SCVs in continuous time detent cannot be enabled in Full AUTO mode. To use this setting, enable custom mode.

Full Auto — adjusts Minimum Engine Speed automatically to maximize fuel economy under light loads. Load Anticipation responds to operation of rear hitch, SCVs, and PTOs. Engine speed Droop is maintained at maximum tractor power. Engine throttle can remain at low idle position.

RXA0171356—UN—10OCT19

Custom Mode

Custom — customize settings for engine speed Droop, Minimum Engine Speed, and Load Anticipation reaction. See CommandPRO Transmission Settings—Custom in this Operator's Manual section.

RXA0171358—UN—10OCT19

Manual Mode

Manual — all fuel economy and load control functions are manual.

KD34109,00004A7-19-21APR22

CommandPRO Transmission Settings—Custom

Custom Settings are only available when transmission mode is set to Custom. See CommandPRO Transmission Settings—Mode in this Operator's Manual section. Settings allow for increased efficiency depending on current operation.

Procedure to modify:

RXA0167122—UN—25MAR19

PTO On

RXA0167123—UN—25MAR19

PTO Off

Droop — percentage of maximum engine rpm change before transmission shifts down. See CommandPRO Transmission Settings—Droop in this Operator's Manual section.

RXA0167124—UN—21MAR19

Minimum Engine Speed

Minimum Engine Speed — set a threshold engine speed will not drop below dependent on the following tractor work:

- PTO operation
- Rear hitch operation
- SCV operation

See CommandPRO Transmission Settings—Minimum Engine Speed in this Operator's Manual section.

RXA0167125—UN—21MAR19

PTO ON/OFF

Load Anticipation (PTO) — when enabled and PTO is in use, engine speed increases to the Minimum Engine Speed setting to obtain the desired PTO speed. Select ON to enable or OFF to disable.

RXA0167126—UN—21MAR19

Hitch ON/OFF

Load Anticipation (Hitch) — when enabled and hitch is lowered, engine speed increases to the Minimum Engine Speed setting as needed to reduce ground speed fluctuations. Select ON to enable or OFF to disable.

RXA0167127—UN—21MAR19

SCV ON/OFF

Load Anticipation (SCV) — when enabled, engages if flow rate is 25% or greater and/or SCV is set to continuous time detent. Engine speed increases to the Minimum Engine Speed setting as needed to reduce ground speed fluctuations or to provide desired hydraulic flow. Select ON to enable or OFF to disable.

RXA0167128—UN—25MAR19

Reset to Default

Reset to Default — select to reset all Custom Settings back to default settings. Key is grayed out and unavailable when all settings are at defaults.

RXA0167129—UN—25MAR19

Close

Select to close.

KD34109,00004A8-19-22JUN22

CommandPRO Transmission Settings—Droop

Adjust percentage of engine rpm drop before transmission downshifts. Lower percentage causes transmission downshifts earlier. Higher percentage causes transmission downshifts later.

NOTE: PTO On adjustments do not affect transmission operation for machines without PTO.

PTO On — use when operating PTO-driven equipment to maintain a consistent rpm. Selection results in reduced rpm change before a transmission downshift.

PTO Off — use for implements that do not require a consistent rpm range, such as pulling ground engaging equipment.

Procedure to Modify:

1. Select desired setting icon:

RXA0167122—UN—25MAR19

PTO On

a. PTO On

RXA0167123—UN—25MAR19

PTO Off

b. PTO Off

RXA0167165—UN—21MAR19

Increase/Decrease Value

2. Select (+) to increase or (-) to decrease value.

RXA0167129—UN—25MAR19

Close

3. Select to close.

KD34109,00004AC-19-21APR22

CommandPRO Transmission Settings—Minimum Engine Speed

Set a minimum speed the engine will increase to when SCV, Hitch, or PTO functions are turned on with load anticipation activated. Hand throttle position may also be adjusted to set a permanent Minimum Engine Speed.

Procedure to Modify:

RXA0167124—UN—21MAR19

Minimum Engine Speed

1. Select Minimum Engine Speed icon.

RXA0167130—UN—21MAR19

Increase/Decrease Value

2. Select (+) to increase or (-) to decrease value.

RXA0167129—UN—25MAR19

Close

3. Select to close.

KD34109,00004AD-19-21APR22

CommandPRO Transmission Settings—Set Speeds

Maximum Set Speed — ground speed that cannot be exceeded. Use for things such as limiting speed during transport.

Set Speed 1 and 2 — saved speeds that can be recalled as needed. Useful when constant speeds are required for tasks such as planting. When enabled, ground speed is automatically adjusted to the saved value. Set Speeds cannot exceed the Maximum Set Speed. Sets Speeds are disabled when speed control pedal is used.

Procedure to Modify:

1. Select desired setting icon:

RXA0167065—UN—21MAR19

Maximum Set Speed

a. Maximum Set Speed

RXA0167067—UN—21MAR19

Set Speed 1

b. Set Speed 1

RXA0167066—UN—21MAR19

Set Speed 2

c. Set Speed 2

RXA0167132—UN—21MAR19

Increase/Decrease Value

2. Select (+) to increase or (-) to decrease value.

RXA0167129—UN—25MAR19

Close

3. Select to close.

Adjustment wheel can also be used to adjust these settings while they are active. See CommandPRO Joystick in this Operator's Manual section.

Speed Limits are accessible from these adjustment pages. See CommandPRO Transmission Settings—Speed Limits in this Operator's Manual section.

KD34109,00004A9-19-21APR22

CommandPRO Transmission Settings—Shuttle Shift Speeds

Set Speeds that can be recalled as needed when a change of travel direction is commanded (Shuttle Shift). Used when consistent forward and reverse speeds are commanded, such as making 3-point turns at the headland or working with a loader. Shuttle Shift Speeds are disabled when speed control pedal or hand throttle are used and when CommandPRO joystick is used for anything other than shuttle shifting.

Procedure to Modify:

1. Select desired setting icon:

RXA0167069—UN—21MAR19

Shuttle Shift Forward

a. Shuttle Shift Forward

RXA0167070—UN—21MAR19

Shuttle Shift Reverse

b. Shuttle Shift Reverse

RXA0167131—UN—21MAR19

Increase/Decrease Value

2. Select (+) to increase or (-) to decrease value.

RXA0167129—UN—25MAR19

Close

3. Select to close.

KD34109,00004AA-19-21APR22

CommandPRO Transmission Settings—Speed Limits

Use Speed Limits to set maximum allowed speed in both forward and reverse directions. Set to profile in Users and Access to lock out setting adjustments. For more information on Users and Access, see the G5 CommandCenter Operator's Manual.

Speed Limits can also be accessed from Maximum Set Speed, Set Speed 1, and Set Speed 2 pages.

Procedure to Modify:

1. Select desired setting icon:

RXA0167139—UN—21MAR19

Forward Speed Limit

a. Speed Limits Forward

RXA0167140—UN—21MAR19

Reverse Speed Limit

b. Speed Limits Reverse

RXA0167131—UN—21MAR19

Increase/Decrease Value

2. Select (+) to increase or (-) to decrease value.

RXA0167129—UN—25MAR19

Close

3. Select to close.

KD34109,00004AE-19-28FEB23

PTO Settings—Access

Access Application through Display:

RXA0167075—UN—20MAR19

Menu

1. Menu

RXA0167076—UN—20MAR19

Machine Settings

2. Machine Settings

RXA0167685—UN—30APR19

PTO

3. PTO

Access Application through Navigation Bar:

RXA0167686—UN—30APR19

PTO

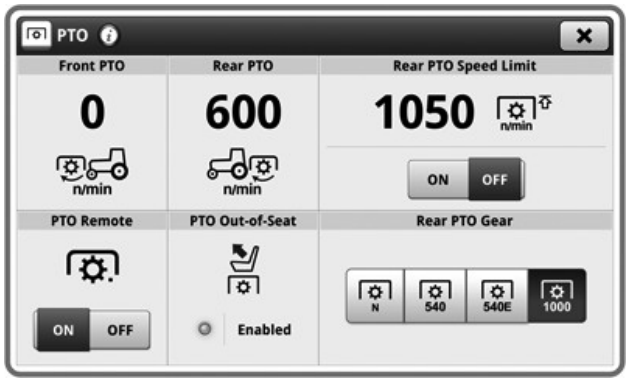
Press PTO button on navigation bar below display.

KD34109,00004BE-19-08DEC21

PTO Settings

The PTO application is used to access and adjust PTO settings.

NOTE: Some items only display if machine is equipped with the associated option.



RXA0187232—UN—27JUN22

PTO Example

Items Accessible on PTO Main Page:

RXA0167687—UN—30APR19

Front PTO

Front PTO (If Equipped) — view current speed of front PTO. Operate PTO using front PTO lever and correct engine speed. See Operate PTOs in this Operator's Manual section.

RXA0167688—UN—30APR19

Rear PTO

Rear PTO — view current speed of rear PTO. Operate PTO using rear PTO lever and correct engine speed. See Operate PTOs in this Operator's Manual section.

RXA0187302—UN—28JUN22

PTO Out-of-Seat - Enabled

PTO Out-of-Seat — indicates when the operator can be out of the seat and maintain PTO engagement. See PTO Settings—PTO Out-of-Seat in this Operator's Manual section.

RXA0187405—UN—27JUN22

ON/OFF

PTO Remote — select ON to enable or OFF to disable external PTO switches (if equipped). See External PTO Switches (If Equipped) in this Operator's Manual section.

RXA0167689—UN—30APR19

Rear PTO Speed Limit

Rear PTO Speed Limit — adjust speed of rear PTO at maximum throttle. See PTO Settings—Rear PTO Speed Limit in this Operator's Manual section.

NOTE: 7R Tractors with IVT: If the PTO is in use and PTO Speed Limit is ON, the tractor decelerates slower during shuttle shift to maintain the PTO speed. To avoid slower deceleration, set PTO Speed Limit to OFF.

RXA0167628—UN—26APR19

ON/OFF

Rear PTO Speed Limit Toggle — select ON to enable or OFF to disable Rear PTO Speed Limit setting.

RXA0167690—UN—30APR19

Rear PTO Gear Example

IMPORTANT: Incorrect PTO speed could result in severe damage to implement. Before engaging PTO, make sure that selected PTO gear is correct for attached implement.

NOTE: Gears displayed vary by machine.

Rear PTO Gear — select rear PTO gear for current operation.

RXA0167071—UN—21MAR19

Advanced Settings

Advanced Settings — access further adjustments and less common settings. See PTO Settings—Advanced in this Operator's Manual section.

Run Page Modules

Add modules for this application to run pages using Layout Manager. See the G5 CommandCenter Operator's Manual.

Example:

RXA0167691—UN—30APR19

ON/OFF

NOTE: Different modules may be available for your application.

PTO Remote — quick access to enable/disable external PTO switches.

Shortcut Keys

Add shortcut keys for this application to the shortcut bar using Layout Manager. See the G5 CommandCenter Operator's Manual.

Example:

RXA0167692—UN—30APR19

ON

NOTE: Different shortcut keys may be available for your application.

PTO Gear — quick access to enable/disable PTO gear.

kd34109,1665684230147-19-18APR23

PTO Settings—Advanced

Advanced settings allows you to access further adjustments and less common settings.

Items Accessible on Advanced Settings Page:

RXA0167700—UN—30APR19

Engagement Rate Selection Box

PTO Engagement Rate — select Rear or Front (if equipped) PTO Engagement Rate selection box to adjust rate at which PTO engages. See PTO Settings—Engagement Rate in this Operator's Manual section.

KD34109,00004C1-19-27AUG19

PTO Settings—Engagement Rate

PTO Engagement Rate page allows you to adjust the rate at which the PTO engages.

Procedure to Modify:

RXA0167693—UN—30APR19

Engagement Rate List

Select best rate for current operation.

- Low Rate is used when gradual PTO start-up is required or if AUTO engagement is too aggressive or inconsistent.
- High Rate is used for applications where PTO clutch engagement must be aggressive.

IMPORTANT: Avoid power train damage. If operator is experiencing problems with PTO clutch engagement in AUTO setting, change setting to High Rate.

- AUTO is used for most implements and is factory setting in CommandCenter. This setting provides software logic to determine engagement rate for PTO clutch, based on PTO speed sensor feedback. If PTO does not turn fast enough during initial PTO clutch engagement, engagement rate is automatically increased to avoid clutch slip and PTO shutdown.

RXA0167694—UN—30APR19

OK

Select OK to exit and save changes.

RXA0167695—UN—30APR19

Cancel

Select Cancel to exit without saving changes.

KD34109,00004C0-19-20JUN22

PTO Settings—Rear PTO Speed Limit

Rear PTO Speed Limit allows you to adjust speed of rear PTO at maximum throttle. When enabled, engine speed is also limited in relation to PTO speed. If max engine speed is also enabled, lower limit applies.

NOTE: Only available on machines equipped with an electronic shift PTO.

Procedure to Modify:

RXA0167699—UN—30APR19

Adjust Rear PTO Speed Limit

Select (+) to increase or (-) to decrease setting. Value is shown in display box.

RXA0167687—UN—30APR19

Front PTO Speed

View current front PTO speed (if equipped).

RXA0167688—UN—30APR19

Rear PTO Speed

View current rear PTO speed.

RXA0167129—UN—25MAR19

Close

Select to close.

KD34109,00004C2-19-10JUN22

PTO Settings—PTO Out-of-Seat

PTO Out-of-Seat allows PTO engagement while out of the seat. When the operator leaves the seat, a page displays to enable out-of-seat operation (an audible warning sounds and a service alert indicator on the corner post display flashes). The page also displays when the PTO is engaged for the first time after starting the engine (with or without leaving the seat).

If the page is ignored, the PTO will automatically

disengage after 7 seconds. A page does not display if PTO Out-of-Seat is already enabled. The operator can also select PTO Remote ON/OFF to enable PTO Out-of-Seat on the PTO main page.

Procedure to Modify:

RXA0187235—UN—15JUN22

Enable PTO Out-of-Seat

Select Enable PTO Out-of-Seat to maintain PTO engagement while out of the seat.

RXA0167129—UN—25MAR19

Close

Select close to allow the PTO to disengage when the operator is out of the seat.

Status Indicators:

RXA0177921—UN—14MAY20

Status Indicator

- **Green Indicator** — the indicator is illuminated green when PTO Out-of-Seat is enabled.
- **Gray Indicator** — the indicator is not illuminated and appears gray when PTO Out-of-Seat is OFF.

RXA0187303—UN—27JUN22

Enabled Indicator

Enabled Indicator — the indicator displays when PTO Out-of-Seat is enabled.

RXA0187301—UN—27JUN22

OFF Indicator

OFF Indicator — the indicator displays when PTO Out-of-Seat is OFF.

KD34109,00004C3-19-18APR23

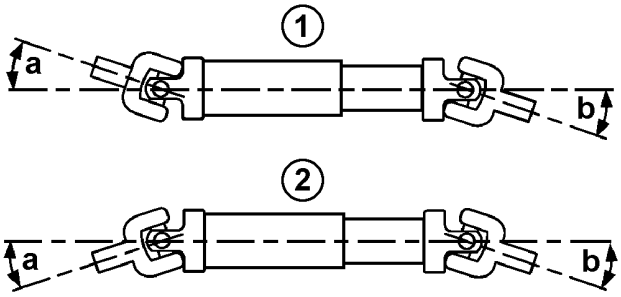
Operating Instructions (EU 1322-2014)

CAUTION: Avoid personal injury. Diagrams do not show protective shields on drive shaft. Protective shield use is mandatory when using drive shafts.

IMPORTANT: Avoid equipment damage. Only operating conditions described in implement Operator's Manuals are permitted. This applies particularly to maximum permissible angle of articulation, to the use of freewheel clutches and overload clutches, and to the prescribed amount of overlap when shaped pipes are pushed together.

Before using a PTO-driven implement, take action to ensure that the drive shaft is lubricated regularly. Comply with instructions in the Operator's Manual provided by the manufacturer.

On multi-component, telescopic drive shafts, the yokes at each end must be aligned as shown. The yokes at each end must NOT be at 90° to one another (see arrows in illustration on the right).

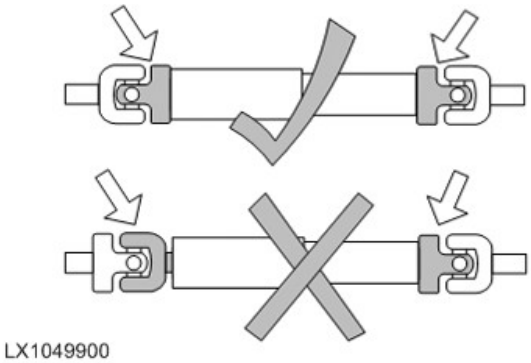


LX1049749

LX1049749—UN—21MAY10

Articulation on drive shaft

1—Z-Shaped Layout
2—W-Shaped Layout



LX1049900—UN—22FEB11

Align Forks Correctly

As far as possible, angles (a) and (b) at universal joints

should be same at both ends of drive shaft. In applications where this is not the case (e.g. sharp turns with PTO engaged), it is recommended to use a continuous-velocity drive shaft.

KT81203,0000504-19-22APR22

Operate PTOs

PTOs are engaged using CommandARM PTO control levers. See CommandARM PTO Control Lever in CommandARM Controls section of this Operator's Manual. Once engaged for use with the machine in motion, use the correct engine speed listed in Select Correct Engine Speed in this Operator's Manual section.

CAUTION: Avoid personal injury. Stop engine and PTO driveline before adjustment or connections are made, or before cleaning PTO-driven equipment. Always disengage PTO when not in use.

IMPORTANT: Avoid PTO clutch damage. If operating PTO with excessive load, PTO automatically disengages. Wait 15 seconds before attempting to re-engage. If a problem occurs during re-engagement, try decreasing PTO speed.

If PTO disengages during start-up in cold-weather operation, wait 5 minutes before re-engaging.

NOTE: Rear PTO automatically disengages if:

- *PTO speed is less than 100 rpm for more than 1 second.*
- *Engine speed drops below 500 rpm to prevent engine from stalling.*

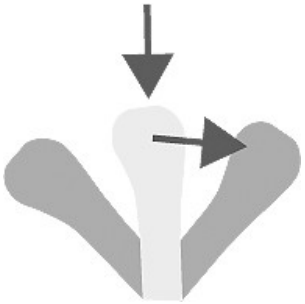
Front PTO (if equipped) automatically disengages if:

- *7R and 8R Tractors: Clutch slip is greater than 40% for more than 1 second.*
- *8R Tractors: Clutch slip is greater than 10% for more than 45 seconds.*
- *7R and 8R Tractors: Engine speed drops below 500 rpm to prevent engine from stalling.*

For information on corner post display indicators, see Corner Post Display in Corner Post Display section of this Operator's Manual.

NOTE: If the engine is stopped while the PTO is running, the PTO will not operate when the engine is restarted. The lever must be re-engaged to operate the PTO.

Lever Adjustments:



RXA0167697—UN—30APR19

Engage PTO

Push lever down and forward to engage PTO. Lever will return to center.

RXA0167696—UN—30APR19

Disengage PTO

Pull lever back to disengage PTO. Lever will return to center.

Outside of Cab Operation :

To operate the PTO outside of the cab using external PTO switches (if equipped), wheel/track speed must be less than 0.5 km/h (0.3 mph). See External PTO Switches in this Operator's Manual section.

KD34109,00004C4-19-20JUN22

External PTO Switches

External PTO switches (if equipped) allow you to operate PTOs from outside the cab. Front PTO external switches are on the front of the machine. Rear PTO external switches are on the rear of the machine.

Procedure to Modify:

RXA0187405—UN—27JUN22

ON/OFF

1. Select ON to enable remote PTO switches on PTO main page (an audible warning sounds and hazard warning lights flash).

NOTE: PTO Remote will also turn ON automatically, when pressing and releasing any external PTO remote switch.

2.

RXA0167698—UN—30APR19

Remote PTO Switch

Press and hold remote PTO switch. PTO starts slowly.

NOTE: If equipped with front and rear PTO and only one PTO is started with the remote PTO switch, hazard warning sound/lights continue. Enabling external PTO switches enables both front and rear PTO and the system recognizes that one of the PTOs has not started.

- If held for at least 4 seconds, hazard warning sound/lights turn off and PTO continues to operate.
- If released within 4 seconds, PTO slowly stops and hazard warning sound/lights continue.

To turn off PTO, press remote PTO switch (an audible warning sounds and hazard warning lights flash) or pull back PTO control lever inside cab.

To return PTO control lever back to normal function, disable remote PTO.

KD34109,00004C5-19-28JUN22

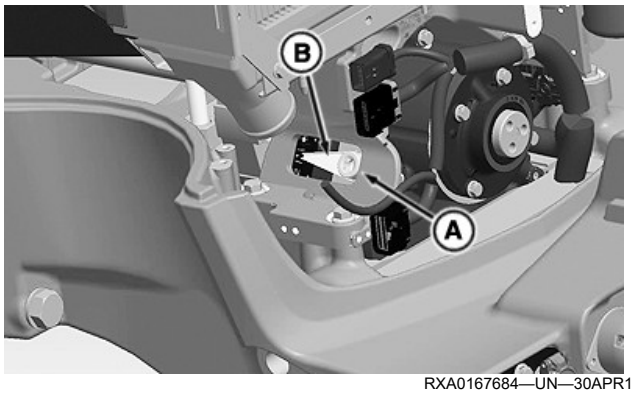
Select Correct Engine Speed

PTO			Engine Speed[a] rpm
Speed rpm	Shaft Diameter mm (in)	Spline	
540	35 (1-3/8)	6	1950
540E	35 (1-3/8)	6	1750
1000	45 (1-3/4)	20	1950
1000	35 (1-3/8)	21	1950
1000E	45 (1-3/4)	20	1750
1000E	35 (1-3/8)	21	1750

[a] *Tachometer displays current engine speed. See Corner Post Display in Corner Post Display section of this Operator's Manual.*

KD34109,00005E9-19-20APR20

Front PTO Disconnect



RXA0167684—UN—30APR19

NOTE: The front PTO disconnect flag (B) indicates whether the front PTO is retracted (up) or extended (down).

When the front PTO is not in use, turn the front PTO disconnect (A) counterclockwise to increase the fuel economy.

Using a 1/2-inch drive ratchet or breaker bar, turn the front PTO disconnect:

- Clockwise to engage the front PTO.
- Counterclockwise to disengage the front PTO.

TS36762,00001C3-19-19JAN22

PTO Cold-Weather Operation

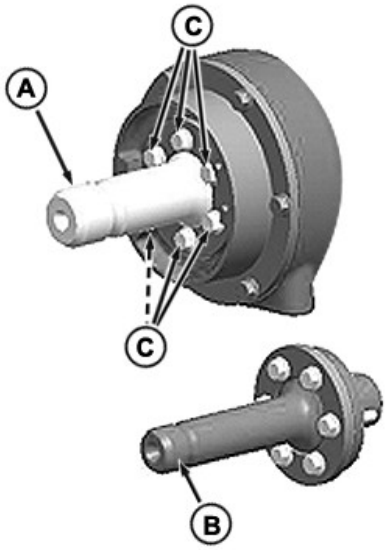
CAUTION: Avoid personal injury. Keep the PTO area clear of bystanders. PTO shaft or attached implement may rotate when engine is started in cold weather.

When air temperatures are expected to drop below -5°C (23°F), use the John Deere Low Viscosity Hy-Gard oil in the self-contained front PTO reservoir.

Other oils can be used if they meet the John Deere Standard JDM J20D.

KD34109,00004C6-19-20JUN22

Change Optional Front PTO Shafts



RXA0135433—UN—11SEP13

Front PTO is factory-equipped with one of two optional PTO shafts:

- 45 mm (1-3/4 in) 20 spline shaft (A)
- 35 mm (1-3/8 in) 21 spline shaft (B)

See your John Deere dealer for additional optional shafts.

To change the shaft:

1. Remove the six M8 cap screws (C).
2. Remove the factory-installed shaft.
3. Install the new shaft.
4. Reinstall the six cap screws and tighten to 40 N·m (30 lb·ft).

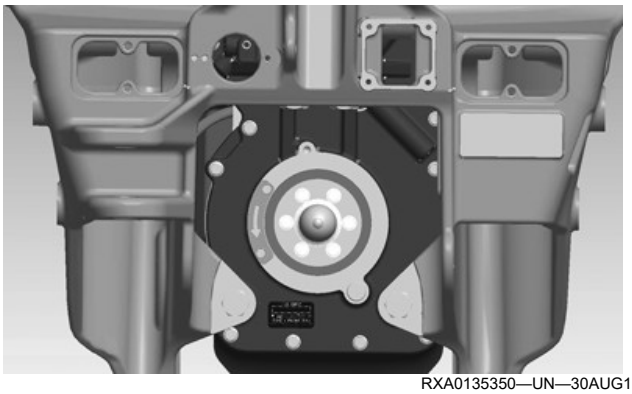
TS36762,00001C5-19-19JAN22

Attach PTO-Driven Implement—Front

TS1644—UN—22AUG95

CAUTION: Avoid serious injury or death due to entanglement in rotating driveline. STOP ENGINE and telescoping driveline before adjustments or connections are made, or before cleaning PTO-driven equipment.

Keep all the driveline shields in place at all times. Make sure the rotating shields turn freely. Wear close-fitting clothing.



RXA0135350—UN—30AUG13

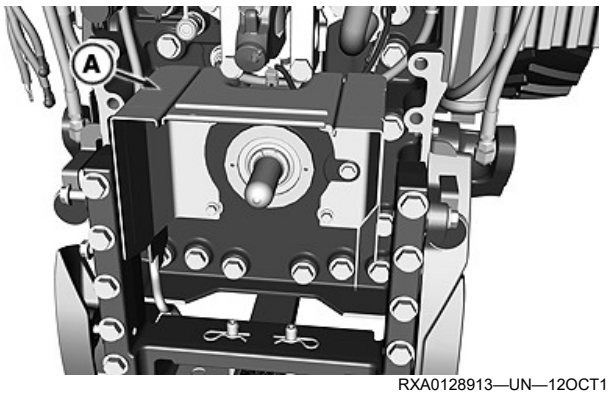
If the optional front PTO is installed, it comes equipped with one of three PTO shafts. All shafts turn at 1000 rpm when the engine is running at 1950 rpm.

TS36762,00001BD-19-12JAN22

Rear PTO Shield—Type 3 PTO

CAUTION: Avoid personal injury. Put the PTO shield in correct position at all times. Do not use the shield as a step. When using the pickup hitch center link, lower the PTO shield to provide proper clearance. See Hydraulic Center Link in Rear Hitch section of this Operator's Manual.

NOTE: Type 3 PTO uses 45 mm (1-3/4 in) shaft with 20 splines.



RXA0128913—UN—12OCT12

Lower the top plate (A) before engaging the PTO.

TS36762,00001C6-19-20JAN22

Operate Shiftable 3-Speed Rear PTO (If Equipped)

IMPORTANT: Make sure that selected PTO speed is correct for the attached implement. Incorrect speed can result in serious damage to the implement. Excessive engine rpm can also cause excessive PTO speeds resulting in implement damage.

Implements can be operated at 540 rpm only if power input never exceeds 60 kW (80 hp). Operating PTO at lower speeds under heavy load could damage PTO.

Do not attempt to shift PTO speeds when the PTO shaft is turning or PTO clutch is engaged. Damage to PTO shift collars can result.

1. Select the desired PTO gear on the CommandCenter. See PTO Settings in PTO—General Information section of this Operator's Manual.
2. Extend the rear PTO operator switch to engage the PTO clutch. PTO indicator shows the PTO engagement on display.

IMPORTANT: Make sure to select 540 rpm or 1000 rpm mode after changing the PTO shaft. PTO does not disengage, but the speed must be limited if it does not match the shaft size.

NOTE: When shifting into 540E or 1000E, use the proper engine speed.

PTO		
Shaft Diameter mm (in)	**Spline Count**	**Speed rpm**
35 (1-3/8)	6	540/540E
	21	1000/1000E
45 (1-3/4)	20	1000/1000E

KT81203,0000507-19-20JUN22

Operate Shiftable 2-Speed Rear PTO (If Equipped)

IMPORTANT: Make sure that selected PTO speed is correct for implement attached. Incorrect speed can result in serious damage to implement. Excessive engine rpm can also cause excessive PTO speeds resulting in implement damage.

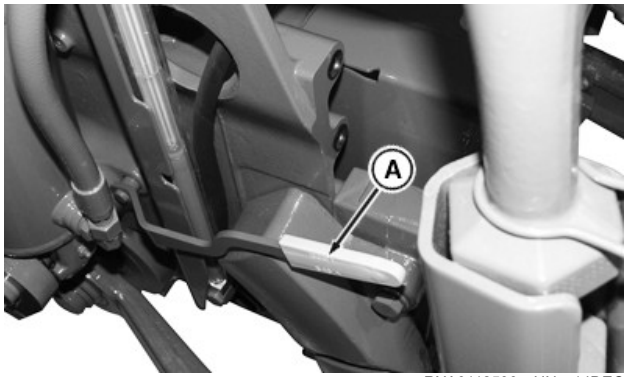
Implements can be operated with 540 rpm 35 mm (1-3/8 in) stub shaft only if power input never exceeds 60 kW (80 hp). Operating PTO at lower speeds under heavy load could damage PTO. Use:

- **1000 rpm 35 mm (1-3/8 in) stub shaft for loads under 115 kW (154 hp).**
- **1000 rpm 45 mm (1-3/4 in) stub shaft if heavier loads are expected.**

Do not attempt to shift PTO speeds when the PTO shaft is turning or PTO clutch is engaged. Damage to PTO shift collars may result.

PTO		
Shaft Diameter mm (in)	**Spline Count**	**Speed rpm**
35 (1-3/8)	6	540
	21	1000
45 (1-3/4)	20	1000

Push down and forward on the rear PTO switch to engage the PTO clutch. PTO indicator will show the PTO engagement on display.



RXA0112530—UN—14DEC10

IMPORTANT: Select either 540 rpm or 1000 rpm mode after changing the PTO shaft. PTO will disengage if speed does not match the shaft size.

Do not attempt to shift the PTO speeds when the PTO shaft is turning or the PTO clutch is engaged. Damage to PTO shift collars may result.

Push the PTO shift lever (A) down to shift to 540 rpm. Pull the PTO shift lever up to shift to 1000 rpm.

KT81203,0000508-19-19JAN22

Change PTO Stub Shaft (If Equipped)

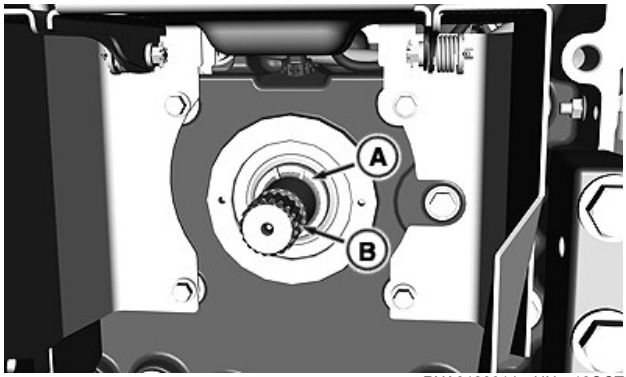
CAUTION: Avoid personal injury. PTO shaft may be hot from operation. Allow the shaft to cool before changing.

IMPORTANT: Implements can be operated with 540 rpm 35 mm (1-3/8 in) stub shaft only if power input never exceeds 60 kW (80 hp). Operating PTO at lower speeds under heavy load could damage PTO. Use:

- **1000 rpm 35 mm (1-3/8 in) stub shaft for loads under 115 kW (154 hp).**
- **1000 rpm 45 mm (1-3/4 in) stub shaft, if heavier loads are expected.**

PTO		
Shaft Diameter mm (in)	**Spline Count**	**Speed rpm**
35 (1-3/8)	21	1000/1000E
45 (1-3/4)	20	1000

1. Rotate the ends of the snap ring to align with the flat surface of the PTO stub shaft.



RXA0128914—UN—12OCT12

2. Remove the snap ring (A) and pull out the shaft (B).
3. Clean the stub shaft thoroughly. Coat the splines with John Deere HD Non-Clay grease.

RW21883A—UN—02AUG99

IMPORTANT: Avoid damage to PTO. Clean the bore (C) thoroughly when installing the PTO shaft for 1000 rpm use.

4. Install the shaft into the PTO housing.

   540 rpm shaft—Rotate the shaft back and forth while installing to ensure that the shaft is properly seated in housing; continue to push the shaft in while installing the snap ring.

   1000 rpm shaft—Rotate the shaft back and forth while installing until the engagement is felt.

NOTE: Shaft is properly engaged when the shaft turns with high effort.

5. Install the snap ring in the groove to retain the PTO stub shaft. Align the ends of the snap ring with the flat surface of shaft.

IMPORTANT: Make sure to select either 540 rpm or 1000 rpm mode after changing PTO shaft. PTO will disengage if the speed does not match the shaft size. See Operate Shiftable 2-Speed Rear PTO (if equipped) in this section.

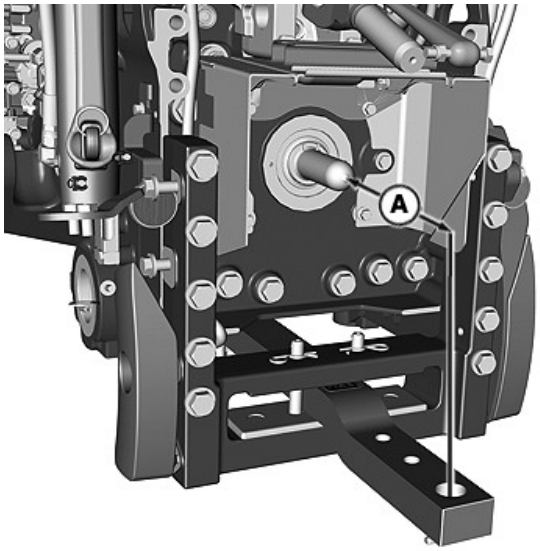
TS36762,00001CC-19-20JAN22

Attach PTO-Driven Implement—Rear

TS1644—UN—22AUG95

CAUTION: Avoid serious injury or death due to entanglement in rotating driveline. STOP ENGINE and telescoping driveline before adjustments or connections are made, or before cleaning PTO-driven equipment.

Keep PTO shield and drive line shields in place at all times. Make sure that the rotating shields turn freely. Wear close-fitting clothing.



RXA0128912—UN—16OCT12

PTO Shaft	Distance from PTO Shaft End to Hitch Pin Hole Center (A) mm (in)
1000 rpm - 6 Splines[a]	400 (16)
1000 rpm - 21 Splines[a]	
1000 rpm - 20 Splines[b]	508 (20)

[a] 35 mm (1-3/8 in) Shaft Diameter.
[b] 45 mm (1-3/4 in) Shaft Diameter.

1. Lock the drawbar in the center, no sway position.
2. Remove the clevis assembly.
3. Attach the implement to the drawbar before connecting the telescoping driveline. If the implement is connected to the quick-hitch, be sure that the drawbar does not interfere.
4. Connect the driveline to the PTO shaft. Hand-turn the shaft slightly to line up the splines. Correctly position and firmly lock the yoke.
5. Move the PTO shield into position. See Rear PTO Shield—Type 3 PTO in Rear PTO section of this Operator's Manual.

TS36762,00001BE-19-12JAN22

Hitch Lift Capacities—Front

IMPORTANT: Avoid equipment damage. Never exceed axle and tire load capacity.

Category 3N	Lift Capacity[a] kg (lb)	Cylinder Size mm	Cylinder Quantity	7R							
				210	230	250	270	290	310	330	350
With Hook Ends	3150 (6994)	90	2	Optional[b]							

[a]Lift capacity per OECD measured 610 mm (24 in) behind the hook point.
[b]Ground-engaging requires premium front hitch.

KD34109,0001A4C-19-03NOV21

Front Hitch Settings—Access

Access Application through Display:

RXA0167075—UN—20MAR19

Menu

1. Menu

RXA0167076—UN—20MAR19

Machine Settings

2. Machine Settings tab

RXA0169132—UN—25JUN19

Front Hitch

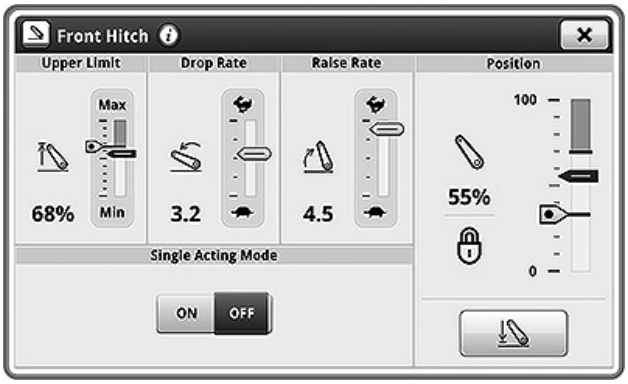
3. Front Hitch

KD34109,00004E8-19-08DEC21

Front Hitch Settings

Front Hitch application is used to access and adjust front hitch settings.

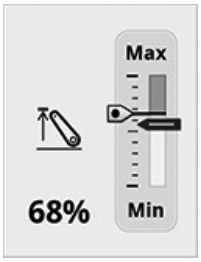
NOTE: This application will not appear in the menu if your machine is not equipped with a John Deere front hitch.



RXA0169345—UN—27JUN19

Front Hitch Example

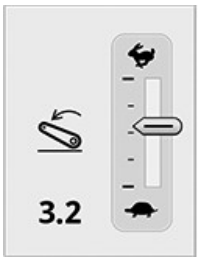
Items Accessible on Front Hitch Main Page:



RXA0169133—UN—25JUN19

Upper Limit

Upper Limit — upper set point that cannot be exceeded unless using external switches. See Front Hitch Settings —Upper Limit in this Operator's Manual section.



RXA0169134—UN—25JUN19

Drop Rate

Drop Rate — speed at which the front hitch is lowered. See Front Hitch Settings—Drop Rate in this Operator's Manual section.

RXA0169135—UN—25JUN19

Raise Rate

Raise Rate — speed at which the front hitch is raised. See Front Hitch Settings—Raise Rate in this Operator's Manual section.

RXA0167628—UN—26APR19

ON/OFF

Single Acting Mode — when lowering, no downforce is applied to the implement. Raising is not restricted. To enable, front hitch must be in float or in top 10% of travel range with control lever in center position. Select ON to enable or OFF to disable.

RXA0169136—UN—25JUN19

Position

Position — displays information for current front hitch settings.

RXA0169137—UN—25JUN19

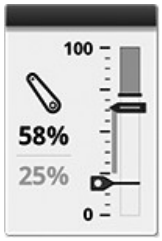
Hitch Depth Set Point

Hitch Depth Set Point — lower set point for a frequently used operating depth. Adjust with front hitch lever or joystick and select when hitch is in desired position. Hitch lever adjustments are explained in Hitch Control Lever Adjustments in Rear Hitch section of this Operator's Manual.

Run Page Modules

Add modules for this application to run pages using Layout Manager. See the G5 CommandCenter Operator's Manual.

Example:



RXA0169138—UN—25JUN19

Position

NOTE: Different modules may be available for your application.

Position — quick access to position module.

KD34109,00004E9-19-28FEB23

Front Hitch Settings—Upper Limit

Upper Limit page allows you to adjust Upper Limit setting and view current hitch position. Front hitch can only move above Upper Limit setting using external switches. When upper limit is the same as hitch position, hitch follows upper limit.

NOTE: Fully down position is 0% and fully raised position is 100%.

Procedure to Modify:

RXA0169139—UN—25JUN19

Adjust Upper Limit

Select (+) to increase or (-) to decrease Upper Limit set point. Value is shown in display box.

RXA0169140—UN—25JUN19

Position Indicator

Indicates current position of front hitch on slider.

RXA0169141—UN—25JUN19

Upper Limit Indicator

Indicates position of Upper Limit on slider.

RXA0167129—UN—25MAR19

Close

Select to close.

KD34109,00004EA-19-17OCT19

Front Hitch Settings—Drop Rate

Drop Rate page allows you to adjust the speed at which the front hitch is dropped.

CAUTION: Avoid injury or machine damage. Do not lower implement too quickly. Fully lowering implement should take at least 2 seconds.

Procedure to Modify:

RXA0169142—UN—25JUN19

Adjust Drop Rate

Select (+) to increase or (-) to decrease Drop Rate. Value is shown in display box.

RXA0169143—UN—25JUN19

Drop Rate Indicator

Indicates setting on slider.

RXA0167129—UN—25MAR19

Close

Select to close.

KD34109,00004EB-19-17OCT19

Front Hitch Settings—Raise Rate

Raise Rate page allows you to adjust the speed at which the front hitch is raised.

Procedure to Modify:

RXA0169142—UN—25JUN19

Adjust Raise Rate

Select (+) to increase or (-) to decrease Raise Rate. Value is shown in display box.

RXA0169143—UN—25JUN19

Raise Rate Indicator

Indicates setting on slider.

RXA0167129—UN—25MAR19

Close

Select to close.

KD34109,00004EC-19-05AUG19

Front Hitch Settings—Position and Set Points

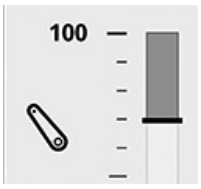
Position allows you to view current front hitch information.

Items Accessible on Position Module:

RXA0169136—UN—25JUN19

Position

Position Module Example — items on module may change based on status.



RXA0169144—UN—25JUN19

Upper Limit Set Point

Upper Limit Set Point — line indicates position of upper limit. Shaded area at the top indicates amount out of range (above upper limit).

RXA0169141—UN—25JUN19

Lower Set Point Indicator

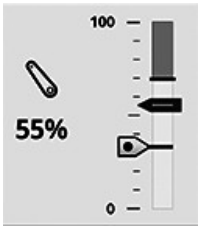
Lower Set Point — indicates position of lower set point.

RXA0169140—UN—25JUN19

Position Indicator

Position Indicator — indicates current position of front hitch on slider. A percentage also displays for hitch position. Percentage is based on location of indicator on slider gauge. Fully down position is 0% and fully raised position is 100%.

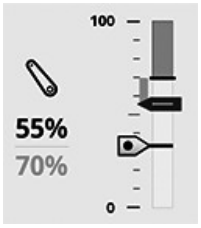
Front Hitch Position Statuses:



RXA0169145—UN—25JUN19

At Rest

Hitch is at rest.



RXA0169146—UN—25JUN19

Commanded to Position

Hitch is commanded to 70% position. Green value is commanded position and green line indicates distance between current hitch position and commanded position.

RXA0169147—UN—25JUN19

Float

Hitch is set to float position. Icon displays above current hitch position value. See Float Operation in Rear Hitch section of this Operator's Manual.

RXA0169148—UN—25JUN19

Float Unavailable

Float is unavailable. Icon displays above current hitch position value.

RXA0169149—UN—25JUN19

Locked

Hitch is locked. Icon displays below current hitch position value.

KD34109,00004ED-19-17OCT19

Front Hitch Use

CAUTION: Avoid personal injury and equipment damage. Do not use the front hitch to lift the tractor. Use correct lifting equipment. Balance load side-to-side and front-to-rear.

IMPORTANT: Use the deluxe hitch only for carrier operations unless optional push bar kit is installed.

NOTE: A front hitch can only be installed on a tractor ordered from the factory with the front hitch-ready option.

Two versions of front hitch are available, deluxe and premium.

Premium front hitch is equipped with a push bar and heavier lift arms that allow carrier operations with ground-engaging implements.

Front hitches with a push bar (for extra strength) maintain the front axle-to-ground clearance for row-crop applications and can be used with ground-engaging implements, including primary tillage implements and standard blades.

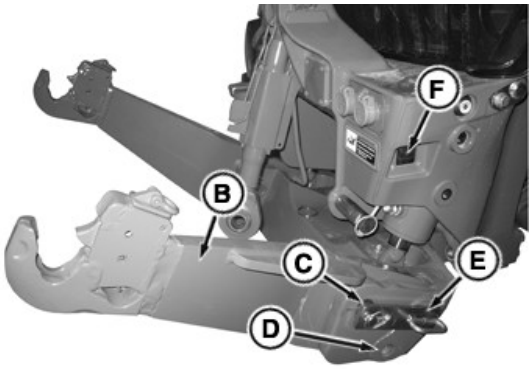
Deluxe front hitch should be used for carrier operations unless a push bar is installed. Convert the deluxe hitch to premium hitch configuration by installing kit from John Deere dealers.

Front hitch can be operated by the tractor mid-mount SCVs using the CommandARM joystick. See Operate SCVs with CommandARM Joystick in Selective Control Valves section of this Operator's Manual.

Lift Arm Positions

Prepare front hitch for operation:

CAUTION: Avoid personal injury. Once pins are removed, the lift arm is unsupported.



RXA0155700—UN—15NOV16

1. Support the lift arm (B) and remove the quick-lock pin (C).
2. Lower the lift arm to align holes with hitch frame for the following operations:
   - Position (D) — Rigid: lift arms stable
   - Position (E) — Float: allows the lift arms/hitch to follow ground contours
3. Install the pin and quick-lock pin.
4. Repeat on the opposite side.

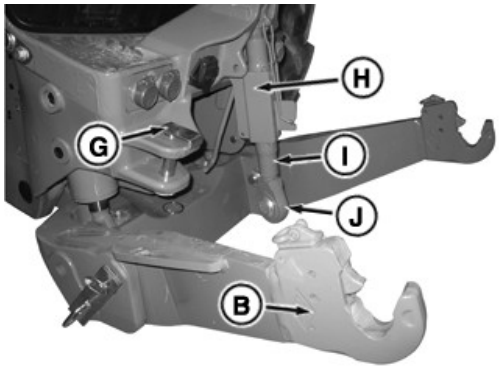
Store Front Hitch Lift Arms

1. Support the lift arm and remove the pin and quick-lock pin.
2. Raise the lift arm into the upright position.
3. Install the pin and quick-lock pin in location for position (D).

Attach and Detach Implement

1. Adjust the implement attaching points. See implement Operator's Manual.
2. Lower the lift arms (B) using the remote hitch switch (F).
3. Position the coupler ends of the lift arms below the implement link pins and slowly raise the hitch until the coupler ends lock on the implement link pins.

NOTE: Keep center link in the stored position when not in use.



RXA0155701—UN—15NOV16

4. Loosen locking sleeve (H).
5. Hold the center link end (J) and turn center link (I) to adjust length. Tighten the locking sleeve.
6. Remove the quick-lock pin (G) from storage location and attach the center link to the implement.

Detach the implement from the hitch in reverse order of attachment.

TS36762,00001CD-19-20JUN22

Rear Hitch

Hitch Lift Capacities—Rear

IMPORTANT: Avoid equipment damage. Never exceed axle or tire load capacity.

Category 3/3N	Lift Capacity[a] kg (lb)	Cylinder Size mm	Cylinder Quantity	7R							
				210	230	250	270	290	310	330	350
With Quick-Hitch	6894 (15200)	100	2	Standard							
	7847 (17300)	100 115	1	Optional[b]							
With Hook Ends	6894 (15200)	100	2	Standard							
	7847 (17300)	100 115	1	Optional[b]							

[a] *Lift capacity per OECD measured 610 mm (24 in) behind the coupler.*
[b] *Requires 120 mm axle.*

EC82310,0000751-19-04OCT21

Rear Hitch Settings—Access

Access Application through Display:

RXA0167075—UN—20MAR19

Menu

1. Menu

RXA0167076—UN—20MAR19

Machine Settings

2. Machine Settings tab

RXA0169204—UN—26JUN19

Rear Hitch

3. Rear Hitch

Access Application through Navigation Bar:

RXA0169205—UN—26JUN19

Rear Hitch

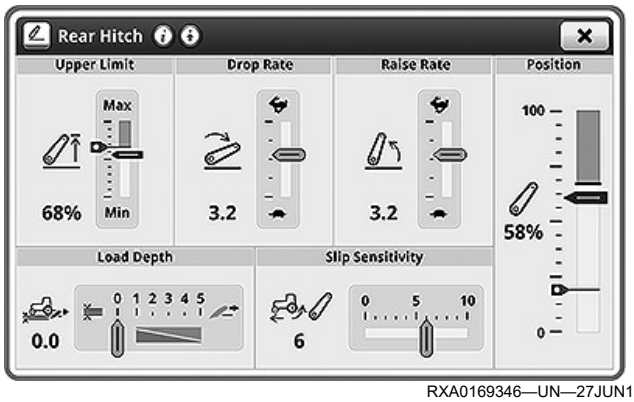
Press rear hitch button on navigation bar below display.

KD34109,00004EE-19-08DEC21

Rear Hitch Settings

Rear Hitch application is used to access and adjust rear hitch settings.

NOTE: Some items only display if machine is equipped with the associated option.



RXA0169346—UN—27JUN19

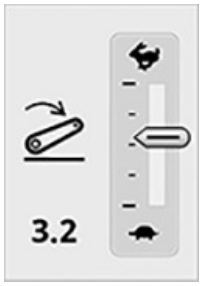
Rear Hitch Example

Items Accessible on Rear Hitch Main Page:

RXA0169206—UN—25JUN19

Upper Limit

Upper Limit — upper set point that cannot be exceeded unless using external switches. See Rear Hitch Settings —Upper Limit in this Operator's Manual section.



RXA0169207—UN—25JUN19

Drop Rate

Drop Rate — speed at which the rear hitch is lowered. See Rear Hitch Settings—Drop Rate in this Operator's Manual section.

RXA0169208—UN—25JUN19

Raise Rate

Raise Rate — speed at which the rear hitch is raised. See Rear Hitch Settings—Raise Rate in this Operator's Manual section.

RXA0169209—UN—26JUN19

Load Depth

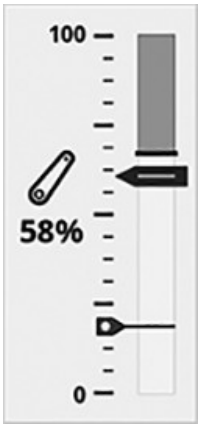
Load Depth — sensitivity to changing terrain or soil conditions. See Rear Hitch Settings—Load Depth in this Operator's Manual section.

RXA0169210—UN—26JUN19

Slip Sensitivity

NOTE: Only available if equipped with radar and Load Depth is set to draft control mode.

Slip Sensitivity — how much the hitch reacts to wheel slip. See Rear Hitch Settings—Slip Sensitivity in this Operator's Manual section.



RXA0169211—UN—25JUN19

Position

Position — displays information for current rear hitch settings. See Rear Hitch Settings—Position in this Operator's Manual section. For hitch position adjustments, see Hitch Control Lever Adjustments in this Operator's Manual section.

RXA0167071—UN—21MAR19

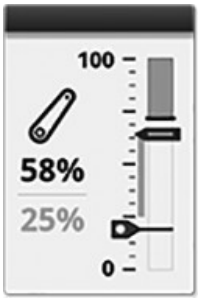
Advanced Settings

Advanced Settings — access further adjustments and less common settings. See Rear Hitch Settings—Advanced in this Operator's Manual section.

Run Page Modules

Add modules for this application to run pages using Layout Manager. See the G5 CommandCenter Operator's Manual.

Example:



RXA0169212—UN—25JUN19

Position

NOTE: Different modules may be available for your application.

Position — quick access to position module.

KD34109,00004EF-19-28FEB23

Rear Hitch Settings—Upper Limit

Upper Limit page allows you to adjust Upper Limit setting and view current hitch settings. Rear hitch will only move above Upper Limit setting using external switches.

NOTE: Fully down position is 0% and fully raised position is 100%.

Procedure to Modify:

RXA0169139—UN—25JUN19

Adjust Upper Limit

Select (+) to increase or (-) to decrease Upper Limit set point. Value is shown in display box.

RXA0169140—UN—25JUN19

Position Indicator

Indicates current position of rear hitch on slider.

RXA0169141—UN—25JUN19

Upper Limit Indicator

Indicates position of Upper Limit on slider.

RXA0167129—UN—25MAR19

Close

Select to close.

Alternative Method to Modify:

Upper Limit Hitch Dial (If Equipped) — dial on CommandARM to adjust Upper Limit setting. A drop-down will display on CommandCenter to view adjustment. See CommandARM Hitch Controls in CommandARM Controls section of this Operator's Manual.

KD34109,00004F0-19-20JUN22

Rear Hitch Settings—Drop Rate

Drop Rate page allows you to adjust the speed at which the rear hitch is dropped and view current hitch settings.

CAUTION: Avoid injury or machine damage. Do not lower implement too quickly. Fully lowering implement should take at least 2 seconds.

Procedure to Modify:

RXA0169142—UN—25JUN19

Adjust Drop Rate

Select (+) to increase or (-) to decrease Drop Rate. Value is shown in display box.

RXA0169143—UN—25JUN19

Drop Rate Indicator

Indicates setting on slider.

RXA0167129—UN—25MAR19

Close

Select to close.

Alternative Method to Modify:

Drop Rate Hitch Dial (If Equipped) — dial on

CommandARM to adjust Drop Rate setting. A drop-down will display on CommandCenter to view adjustment. See CommandARM Hitch Controls in CommandARM Controls section of this Operator's Manual.

KD34109,00004F1-19-20JUN22

Rear Hitch Settings—Raise Rate

Raise Rate page allows you to adjust the speed at which the rear hitch is raised and view current hitch settings.

Procedure to Modify:

RXA0169142—UN—25JUN19

Adjust Raise Rate

Select (+) to increase or (-) to decrease Raise Rate. Value is shown in display box.

RXA0169143—UN—25JUN19

Raise Rate Indicator

Indicates setting on slider.

RXA0167129—UN—25MAR19

Close

Select to close.

KD34109,00004F2-19-29OCT19

Rear Hitch Settings—Load Depth

Load Depth control (draft response) allows control of movement of hitch while working. The higher the value, the larger the range of movement (more draft response). The lower the value, the smaller the range of movement (less draft response). Correct adjustment provides better control of implement depth and operating efficiency.

Procedure to Modify:

RXA0169213—UN—26JUN19

Adjust Load Depth

Select (+) to increase or (-) to decrease Load Depth setting. Value is shown in display box.

- For position control only, set Load Depth to 0.0. See Rear Hitch Settings—Position Control in this Operator's Manual section.
- Higher settings are used for draft control. See Rear Hitch Settings—Draft Control in this Operator's Manual section.

RXA0169214—UN—26JUN19

Load Depth Indicator

Indicates setting on slider.

RXA0167129—UN—25MAR19

Close

Select to close.

Alternative Method to Modify:

Load Depth Hitch Dial (If Equipped) — dial on CommandARM to adjust Load Depth setting. A drop-down will display on CommandCenter to view adjustment. See CommandARM Hitch Controls in CommandARM Controls section of this Operator's Manual.

KD34109,00004F3-19-20JUN22

Rear Hitch Settings—Slip Sensitivity

Slip Sensitivity page allows you to adjust how much the hitch reacts to wheel slip. The higher the setting, the more the hitch reacts. Slip Sensitivity setting only adjusts hitch up and takes priority over draft control setting, which adjusts hitch down. See Rear Hitch Settings—Draft Control in this Operator's Manual section. After wheel slip goes below slip setting, hitch will resume normal draft control. Appropriate setting depends on implement type, soil conditions, and tractor setup.

NOTE: Only available if equipped with radar and Load Depth is set to draft control mode.

Procedure to Modify:

RXA0169215—UN—26JUN19

Adjust Slip Sensitivity

Select (+) to increase or (-) to decrease setting. Value is shown in display box.

RXA0169214—UN—26JUN19

Slip Sensitivity Indicator

Indicates setting on slider.

RXA0167129—UN—25MAR19

Close

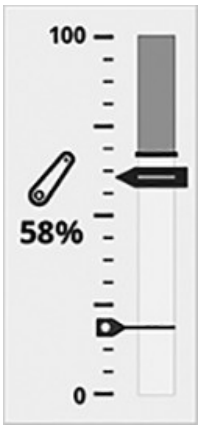
Select to close.

KD34109,00004F4-19-29OCT19

Rear Hitch Settings—Position

Position allows you to view current rear hitch information.

Items Accessible on Position Module:



RXA0169211—UN—25JUN19

Position

Position Example — items may change based on status.

RXA0169222—UN—25JUN19

Upper Limit Setting

Upper Limit Setting — line indicates position of upper limit. Shaded area at the top indicates amount out of range (above upper limit).

RXA0169223—UN—26JUN19

Hitch Depth Indicator

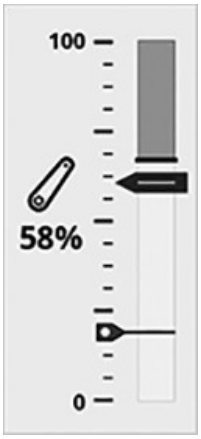
Hitch Depth Indicator — indicates stored operating depth. See Hitch Depth Set Point in this Operator's Manual section.

RXA0169140—UN—25JUN19

Position Indicator

Position Indicator — indicates current position of rear hitch on slider. Use hitch control lever or adjustment dial to adjust hitch position. See Hitch Control Lever Adjustments in this Operator's Manual section.

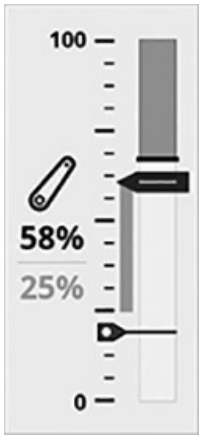
Rear Hitch Position Statuses:



RXA0169224—UN—25JUN19

At Rest

Hitch at rest.



RXA0169225—UN—25JUN19

Commanded to Position

Hitch commanded to 25% position. Green value is commanded position and green line indicates distance between current hitch position and commanded position.

RXA0169226—UN—25JUN19

Float

Hitch set to float position. Icon displays above current hitch position value.

RXA0169227—UN—25JUN19

Float Unavailable

Float unavailable. Icon displays above current hitch position value.

RXA0169149—UN—25JUN19

Locked

Hitch locked. Icon displays below current hitch position value. See CommandARM Hitch Controls in CommandARM Controls section of this Operator's Manual.

RXA0169228—UN—25JUN19

Lock Damping

Lock damping enabled. Icon displays below current hitch position value.

RXA0169229—UN—25JUN19

Return to Lower Set Point Unavailable

Return to lower set point unavailable. Icon displays below current hitch position value.

RXA0169230—UN—25JUN19

Fast Lower

Hitch set to fast lower. Icon displays below current hitch position value.

KD34109,00004F6-19-20JUN22

Rear Hitch Settings—Advanced

Advanced settings allows you to access further adjustments and less common settings.

Items Accessible on Advanced Settings Page:

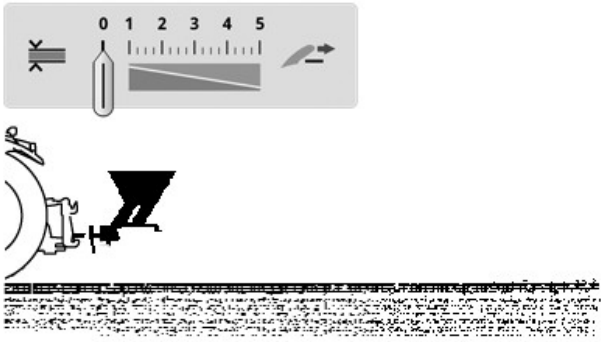
RXA0169221—UN—26JUN19

Hitch Lock Damping

Hitch Lock Damping — detects implement vibration while in transport to allow hitch to move up and down to counteract road noise. Select ON to enable or OFF to disable. Lock button must also be enabled for feature to be active. See CommandARM Hitch Controls in CommandARM Controls section of this Operator's Manual.

KD34109,00004F5-19-20JUN22

Rear Hitch Settings—Position Control



RXA0163992—UN—18JUL18

Use position control to operate non-ground engaging

implements and implements that fully rest on gauge wheels to control depth. Set Load Depth to 0 for position control.

KD34109,00004F7-19-29OCT19

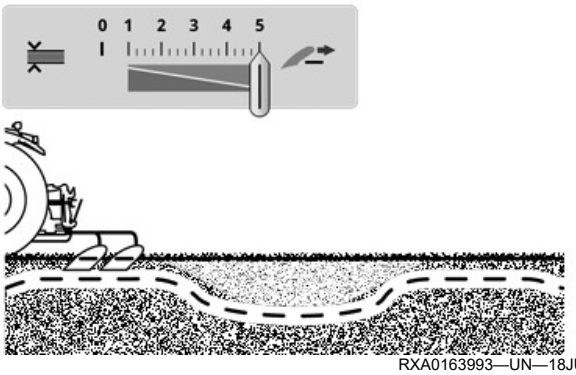
Rear Hitch Settings—Draft Control

Draft control helps to maintain operating depth of non-floating tillage equipment in rolling terrain. Draft control also helps if tractor altitude/pitch and rear wheel sinkage force implement deeper than desired. Higher Load Depth values respond better to rolling terrain but are more sensitive to soil density variation. Lower values stay more consistent with field soil changes but are less responsive to hills. Ideal setting depends on implement type and field conditions.

While in draft control mode, hitch can move above and below setting based on soil type and/or terrain. If setting is causing implement to go lower than desired, set to 1 and increase Slip Sensitivity.

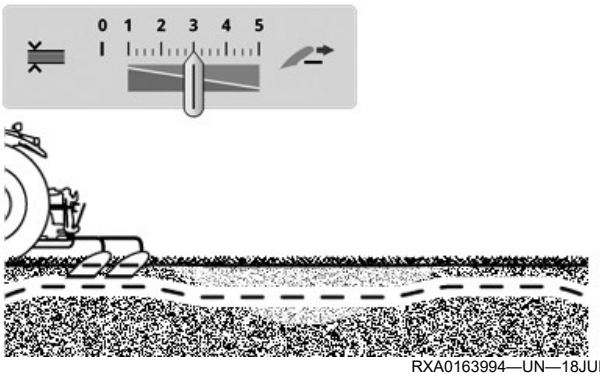
Control or change operating depth by pressing resume button or performing lower detent with control lever. See CommandARM Hitch Controls in CommandARM Controls section of this Operator's Manual.

Examples of Load Depth Settings:



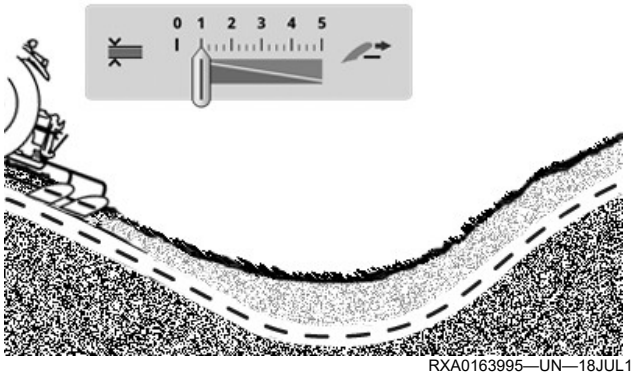
RXA0163993—UN—18JUL18

If soil varies, high value causes more depth variation.



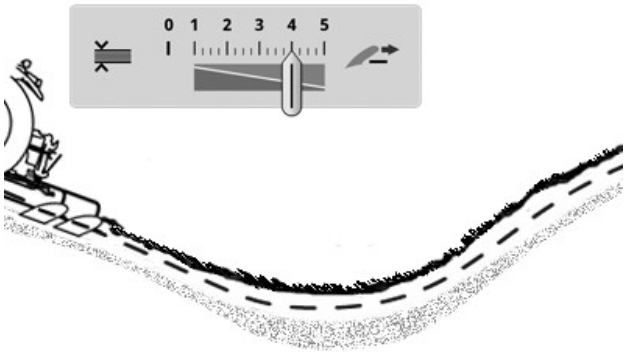
RXA0163994—UN—18JUL18

If soil varies, middle value causes less depth variation.



RXA0163995—UN—18JUL18

In rolling terrain, low value causes more depth variation.



RXA0163996—UN—18JUL18

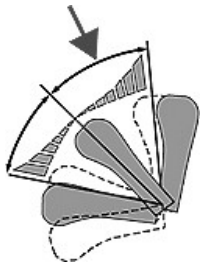
In rolling terrain, high value causes less depth variation.

KD34109,00004F8-19-20JUN22

Hitch Control Lever Adjustments

Hitch control levers on the CommandARM allow you to adjust the hitch position. Levers will not raise hitch above upper limit.

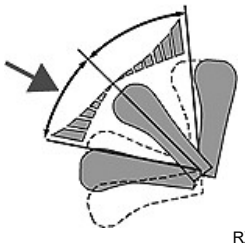
Hitch Control Lever Adjustments:



RXA0169216—UN—26JUN19

Raise Proportionally

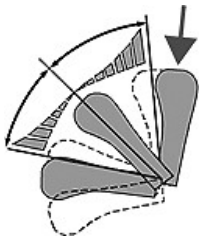
Raise Proportionally — moving lever within this range will raise hitch. Rate of movement depends on how far lever is from center position.



RXA0169217—UN—26JUN19

Lower Proportionally

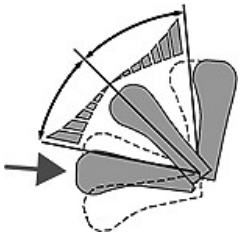
Lower Proportionally — moving lever within this range will lower hitch. Rate of movement depends on how far lever is from center position.



RXA0169218—UN—26JUN19

Raise Detent

Raise Detent — moving lever to this position and releasing will raise hitch to Upper Limit set point.

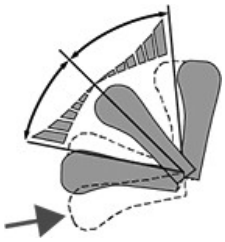


RXA0169219—UN—26JUN19

Lower Detent

NOTE: If machine is moving during this operation, hitch will also raise to lower set point.

Lower Detent — moving lever to this position and releasing will lower hitch to hitch depth set point. See Hitch Depth Set Point in this Operator's Manual section.



RXA0169220—UN—26JUN19

Float

Float — moving lever to this position allows hitch to move freely and is useful when detaching implement. See Float Operation in this Operator's Manual section.

Alternative Method to Modify:

Hitch Depth Adjust Dial — dial on CommandARM to raise and lower hitch. Dial will not raise hitch above Upper Limit. See CommandARM Hitch Controls in CommandARM Controls section of this Operator's Manual.

KD34109,00004F9-19-20JUN22

Hitch Depth Set Point

Hitch depth set point (lower set point) is a frequently used operating depth that can be set and recalled. Controls used to adjust setting are found on CommandARM.

Procedure to Modify:

1. Move hitch to desired position using hitch control lever or adjustment dial. See Hitch Control Lever Adjustments in this Operator's Manual section.

RXA0168026—UN—17MAY19

SET

2. Select SET button to store set point.

RXA0168028—UN—17MAY19

Resume

NOTE: If hitch is below set point, resume will only engage if the tractor is moving.

3. Select resume button when wanting to return to set point position. Lower detent on control lever can also be used to recall set point.

KD34109,00004FA-19-20JUN22

Float Operation

Implements that fully rest on the depth gauge wheels for depth control require the hitch to float and fallow the ground contour.

Put the hitch control lever in the float position. For more information on the hitch control lever, see CommandARM Hitch Controls in the CommandARM Controls section of this Operator's Manual. Lift links can be adjusted for the lateral float. See Adjust Lateral Float in this Operator's Manual section.

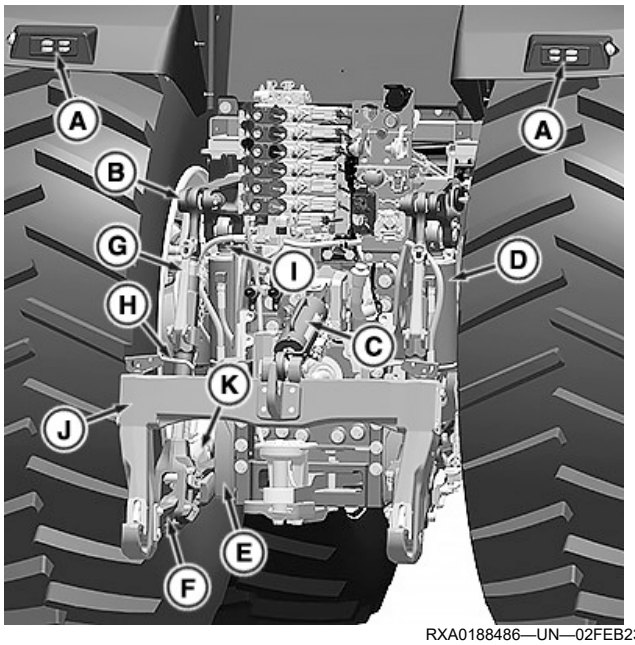
Forced Float

When the hitch is commanded to the lower set point but is unable to reach it, the hitch enters forced float mode. While in this mode, the hitch acts as though the control

lever is in the float position. If the hitch reaches the lower set point while in forced float mode, the hitch returns to the mode that the lever is set to.

TS36762,00001DB-19-20JUN22

Rear Hitch Components



RXA0188486—UN—02FEB23

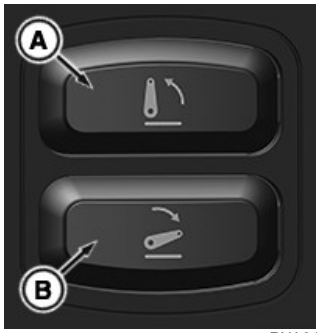
A—External Hitch Switch (if equipped) (2 used per rear fender)
B—Lift Arm
C—Center Link
D—Lift Cylinder
E—Sway Block (if equipped)
F—Draft Link
G—Lift Link
H—Quick-Hitch Handle
I—Rear Hitch Valve
J—Quick-Hitch
K—Stabilizer (if equipped)

All the components except the center link and the quick-hitch are on the left-hand and the right-hand sides.

TS36762,00001DC-19-02FEB23

External Hitch Switches

CAUTION: Prevent injury or tractor damage. Be sure that the transmission is in the PARK position before using the remote raise and lower switches. Stay clear of interference points when using the remote raise and lower switches.



RXA0183164—UN—12MAY21

NOTE: The hitch control lever cannot be used simultaneously with the remote raise and lower switches.

External hitch switches (if equipped) allow hitch operation from outside the cab. Front external hitch switches are on the front of the machine. Rear external hitch switches are on the rear of the machine. Press and hold the remote switches to raise (A) or lower (B) the hitch. The hitch initially moves at slow speed when using the remote switches. However, the longer the switch is pressed the faster the hitch moves.

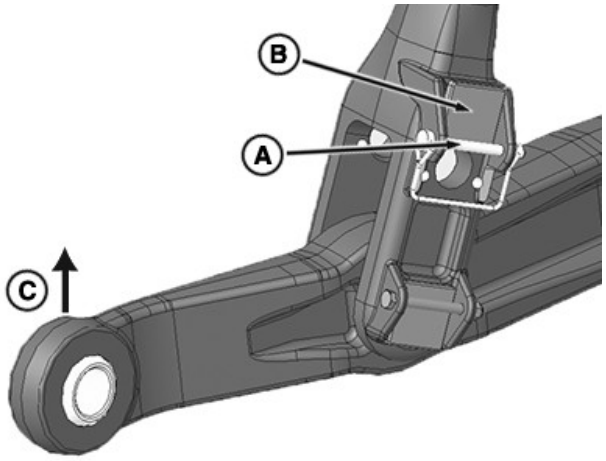
GH15097,00007EA-19-25JUN21

Draft Link Storage Position

IMPORTANT: Avoid equipment damage:

- **Remove the draft link from the storage position before operating the 3-point hitch.**
- **Never use M8 cap screws to carry hitch loads. M8 cap screws are only for carrying weight of draft links.**

NOTE: This procedure is valid for all hitch-end types.

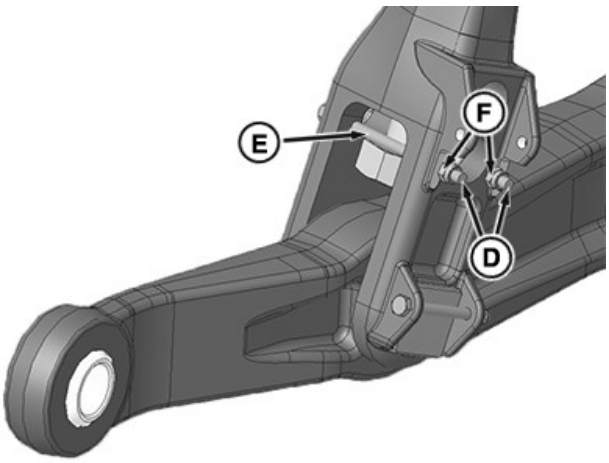


RXA0173944—UN—17JAN20

1. Remove and retain the:
   a. Hitch float retention pin (A).

b. Hitch float pin (B).

2. Lift the draft link (C).



RXA0173945—UN—17JAN20

3. Insert two M8 x 130 cap screws (D). Verify that the head of the lift link end (E) is under the cap screw shank.
4. Secure the cap screws with two M8 nuts (F).
5. Repeat the procedure for the other draft link.

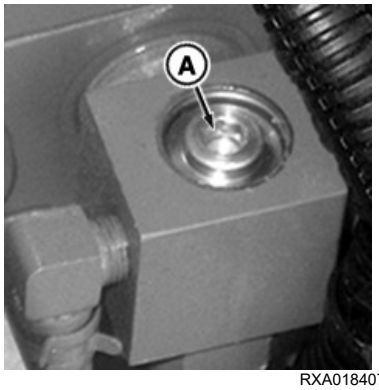
EC82310,0000D3A-19-28JUN21

Hitch Manual Lowering

CAUTION: Avoid injury or death. Do not disconnect any hitch sensors, solenoids, or connectors from the hitch control valve while the engine is operating or the key switch is ON. Unexpected hitch movement may occur. Stay clear of the hitch area when starting the engine or manually lowering the hitch.

NOTE: The hitch cannot be raised manually. Both hydraulic and electrical power are required to raise the hitch.

Hitch manual lowering is possible when hydraulic pressure and/or electrical power is not available.

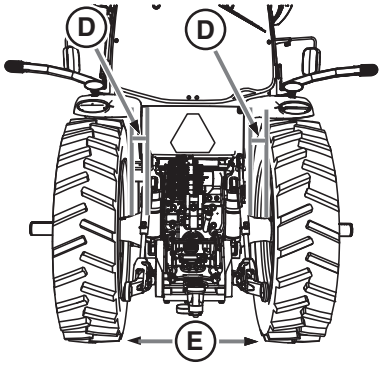


RXA0184070—UN—14JUN21

1. Remove the plug to access the manual lowering valve (A).
2. Turn the valve counterclockwise slowly to lower the hitch until the desired rate of drop is achieved.
3. Turn the valve clockwise and install the plug after the hitch has been lowered.

BH38674,0000BE4-19-28JUN21

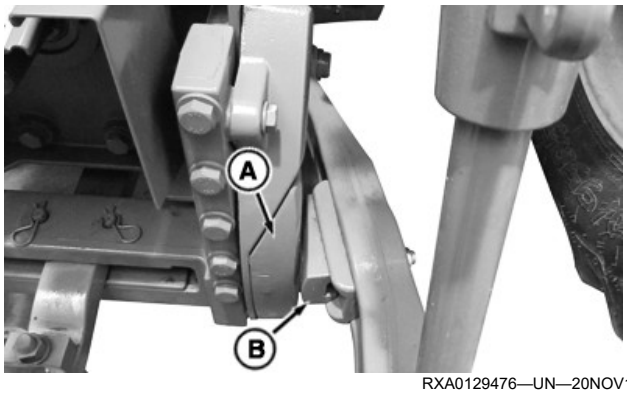
Adjust Sway Blocks



RXA0117508—UN—15JUN11

IMPORTANT: Avoid equipment damage. Tires must have at least 25 mm (1 in) clearance distance (D) with the fenders. To prevent draft link interference, the minimum distance (E) between tires must be:

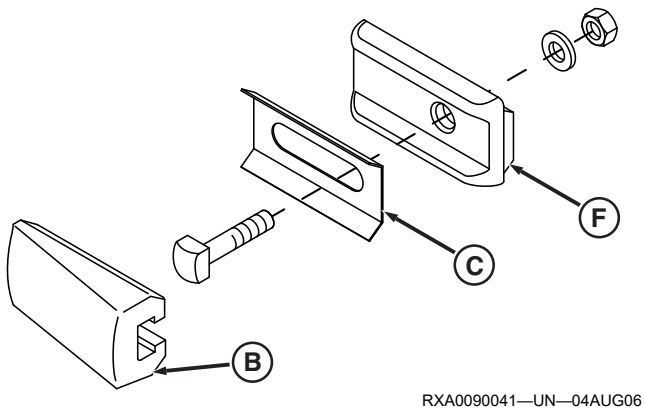
- **Category 3N Hitch—1090 mm (43 in)**
- **Category 3 Hitch—1170 mm (46 in)**



RXA0129476—UN—20NOV12

Sway Blocks in Lower Position

1. Install the sway blocks (A) in the lower position to minimize the side sway of the hitch.



RXA0090041—UN—04AUG06

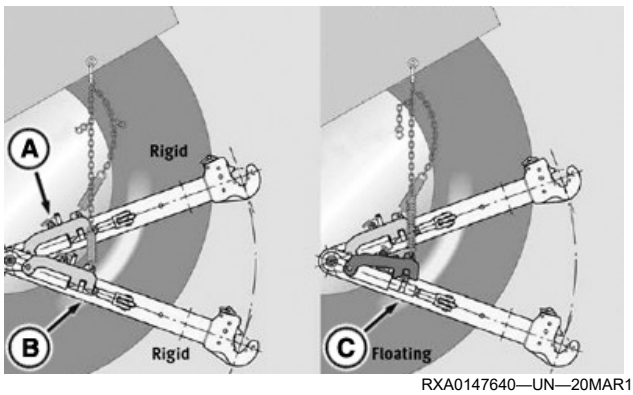
2. Adjust the bumper block (B) by loosening the lock nut and sliding forward or rearward to limit the amount of sway.
3. Tighten the attaching bolts to 230 N·m (170 lb·ft).
4. Remove sway blocks from both sides of the tractor to allow side sway when the hitch is lowered. Side sway is prevented when the hitch is raised.
5. If the hitch sway cannot be removed by adjusting the bumper block, install shims (C) as necessary between the bumper block and the spacer (F). Shims can be purchased from your John Deere dealer.

Converting to Category 3 or 3N

- Tractor is equipped with the factory-installed quick-hitch for Category 3 applications.
- When converting to Category 3N, move the spacer (F) outside of the draft link.

TS36762,00001E1-19-11OCT21

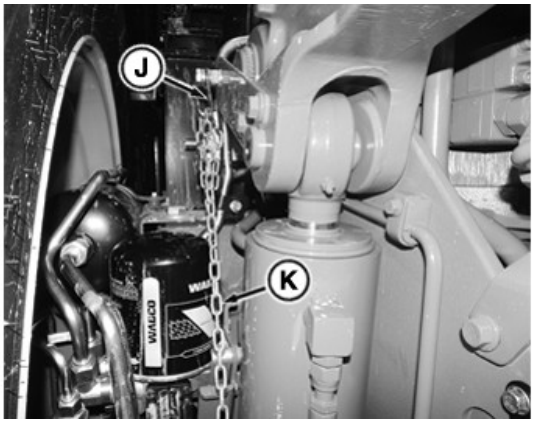
Adjust Deluxe Stabilizers



RXA0147640—UN—20MAR15

Locked Rigid and Floating Hitch Positions

Deluxe sway stabilizers eliminate the sway on stabilizer arms in transport rigid position (A). However, the sway stabilizers can allow the hitch to remain in rigid working position (B).



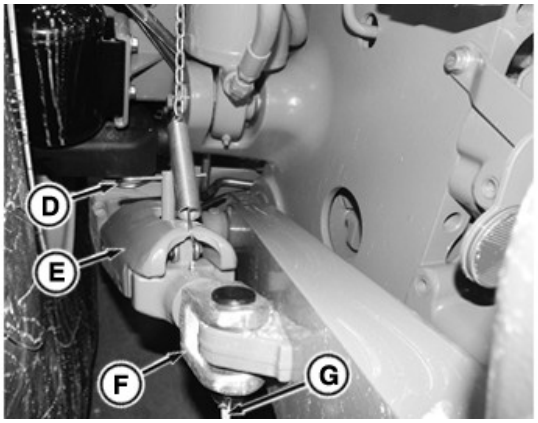
RXA0147004—UN—20MAR15

Stabilizer Chain Adjustment (left-hand side shown)

Stabilizer chains (K) must be adjusted for each implement used. When the hitch is lowered, the stabilizer is unlocked in the floating position (C). When the hitch is raised, the stabilizer locks automatically.

1. Park the tractor on level ground and turn the engine OFF.

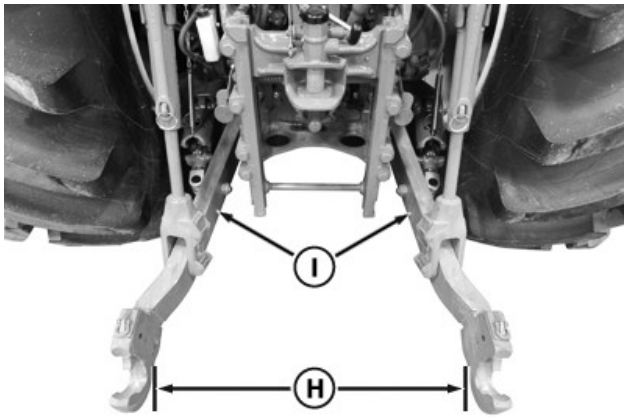
IMPORTANT: Check the full range of hitch movement to ensure that unnecessary sway latch (E) wear does not occur.



RXA0147003—UN—20MAR15

Stabilizer in Transport Position (left-hand side shown)

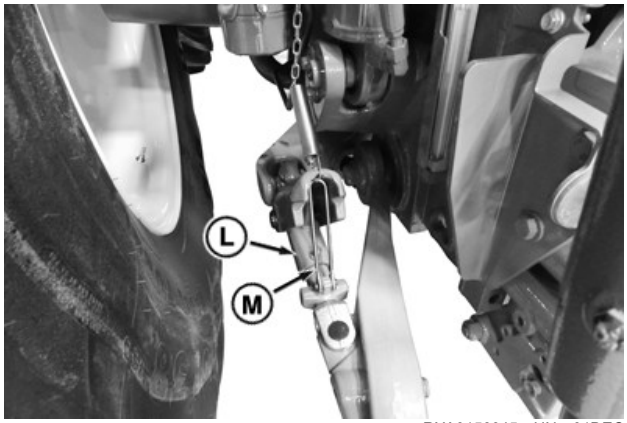
2. Fully lower the hitch.
3. Remove the sway latch rings (D) from the sway latches.
4. Raise the sway latches (E) fully. Place the stabilizer chains on chain-retaining hooks (J) to secure them.



RXA0147641—UN—20MAR15

Draft Links Spread

5. Determine the correct draft link spread (H). See the implement Operator's Manual for desired distance.



RXA0156045—UN—01DEC16

Sway Latch Lever (left-hand side shown)

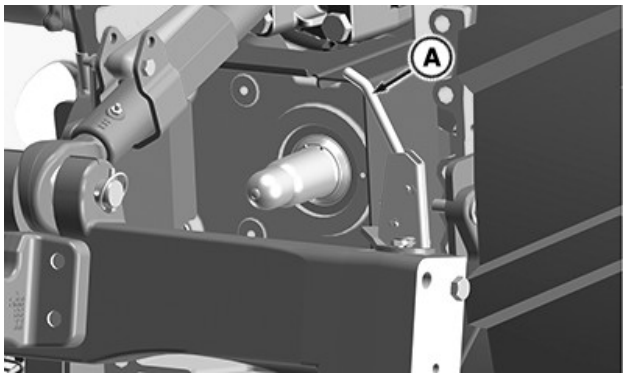
6. Adjust the left-hand side sway latch lever (M) clockwise to decrease the spread of the draft links (H) or counterclockwise to increase the spread of the draft links to fit the implement. If the tractor tires are too large and prevent the sway latch lever adjustment, remove the yoke pin (E) and adjust the yoke (D) clockwise to decrease the spread of the draft links or counterclockwise to increase the spread of the draft links.
7. Measure the distance from the centerline of the drawbar to the centerline of the left-hand side implement ball.
8. Repeat steps 6 and 7 for the right-hand side.
9. Recheck the measurements to ensure accuracy.
10. When measurements are correct, remove the stabilizer chain (K) from the chain-retaining hook (J).
11. Lower the sway latches (C) to the stabilizer bar (L) and reinstall the sway latch rings (B) and/or yoke pins.
12. Raise the hitch to desired transport position.
13. Select the stabilizer chain link that secures the sway latches in position for transport and place the link on the chain-retaining hook. If additional chain links are not secured, hang them on the chain-retaining hook to prevent possible interference.
14. Raise and lower the hitch to ensure that the draft links (I) and sway latches can be in rigid and floating positions as desired.

TS36762,00002B4-19-22APR22

Attach Implement to Quick-Hitch

CAUTION: Avoid injury or tractor damage:

- **Put the transmission in PARK position and check the full range of the hitch for interference, binding, or PTO separation whenever an implement is attached.**
- **Make sure that the implement is correctly attached. Incorrect attachment can allow the implement to be pulled over the tractor wheel and onto the operator station.**
- **Do not stand between the tractor and implement.**



RXA0160590—UN—16AUG17

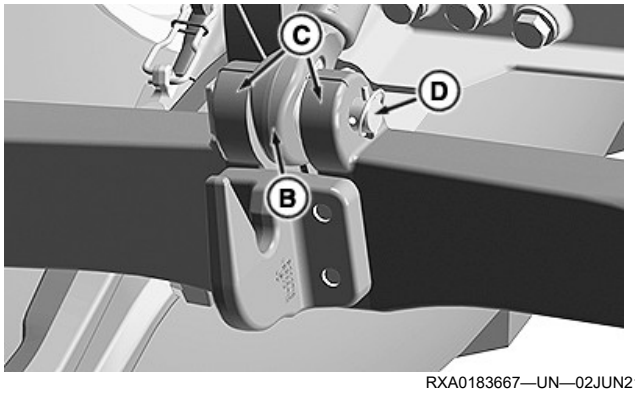
1. Pull coupler latch handles (A) up.
2. Lower the hitch until the quick-hitch hooks are lower than the implement hitch pins.
3. Back up the tractor to the implement.
4. Raise the hitch enough to engage the implement pins in the hooks.
5. Push the coupler latch handles down to lock the implement to the quick-hitch.
6. Connect the hydraulic hoses and the electrical connections.

IMPORTANT: Check for implement interference. Drawbar removal may be necessary.

7. Slowly pull the rear hitch control lever to raise the implement. For more information on the hitch control lever, see CommandARM Hitch Controls in

CommandARM Controls section of this Operator's Manual.

8. If necessary, lower the implement to the ground and adjust the upper height limit control.



RXA0183667—UN—02JUN21

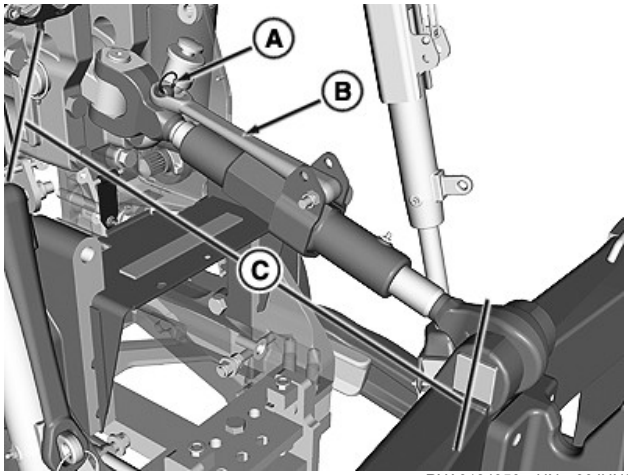
If the center link is attached directly to the implement, measure the upper mast opening (C) and the height above the pin (D). If the upper mast opening is greater than 70 mm (2.8 in) or the height above the pin is less than 14 mm (0.6 in), use shims to limit/restrict the yoke (B) swiveling.

TS36762,00001E2-19-20JUN22

Adjust Implement Level

Mechanical Center Link

Adjust center link to level the implement front-to-rear.



RXA0184350—UN—30JUN21

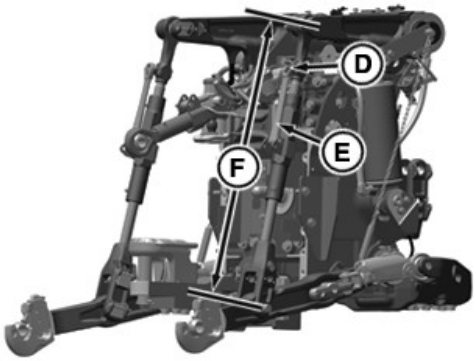
1. Remove locking ring (A).
2. Lift handle (B).
3. Rotate center portion of center link to the desired position.
4. Secure handle with locking ring.
5. Check distance between the center of the pins (C) (center link adjustment length).

Category 3 Hitch Length Adjustment — Specification

With Quick-Hitch. . . . . 627—789 mm (24.7—31.1 in)
Without Quick-Hitch. . . . . 698—860 mm (27.5—33.9 in)

Lift Links

Adjust lift links to level implement side-to-side.



RXA0183701—UN—22JUN21

1. Remove locking ring (D) and grasp the handle (E).
2. Rotate center portion of lift link until the link length (F) reaches desired distance between the center of the pins.

Specification

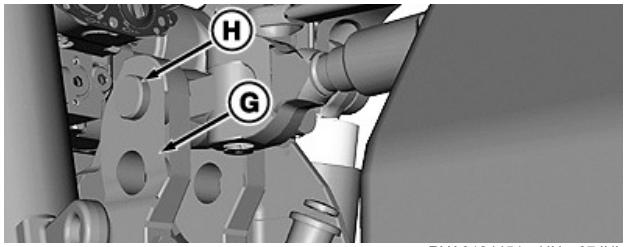
Length Adjustment. . . . . 965—1215 mm (38—47.8 in)

3. Return lift handle to the original position and secure with locking ring.

Correct Center Link Position

IMPORTANT: Excessive power can damage an implement, and an implement that is too large can damage the tractor.

NOTE: Upper hole offers greater lift capacity. Lower hole offers greater ground clearance.



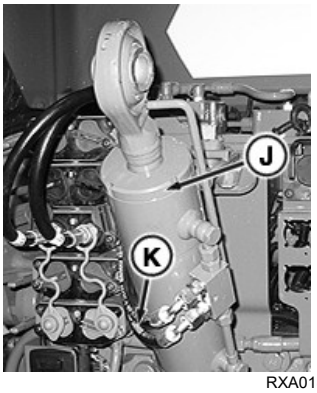
RXA0184451—UN—07JUL21

For implements that require the rear of the implement to be raised faster than the front of the implement, attach the center link to the lower hole (G). The lower hole setting is useful for keeping the rear of long implements from dragging on ground. The upper hole (H) is for short implements, implements that are too heavy for the lower hole, and implements that need to remain level with the ground regardless of the hitch height. See the implement Operator’s Manual for recommendations.

Refer to Hitch, Drawbar, and PTO in the Specifications section of this Operator’s Manual.

Hydraulic Center Link (If Equipped)

CAUTION: Avoid injury. Allow sufficient clearance in working zones.



RXA0185732—UN—12OCT21

IMPORTANT: Avoid tractor damage. Make sure that locking mechanism is engaged and cable (K) is free to move. Tight cable releases the hook locking mechanism. Do not subject the center link to excessive loads.

NOTE: Hydraulic center link (J) can be operated remotely when the SCV III is used. For more information on SCV III switches, see External SCV Switches in the Selective Control Valves section of this Operator's Manual.

Do not use continuous flow or timed detents with the hydraulic center link. Make sure that the SCV detent time is set to 0.

Adjust the hydraulic center link length from the operator's seat using a selected SCV switch.

Category 3 Hitch Length Adjustment — Specification

With Quick-Hitch. . . . . 665—865 mm (26.2—34.1 in)

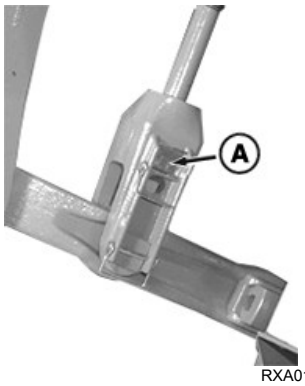
Without Quick-Hitch. . . . . 698—898 mm (27.5—35.4 in)

Clean all the mobile parts as required and apply commercial grease for smooth operation of parts. Dirt accumulation can cause locking system interference.

NOTE: If hydraulic center link appears to contact quick-hitch casting (if equipped), adjust the lift link length.

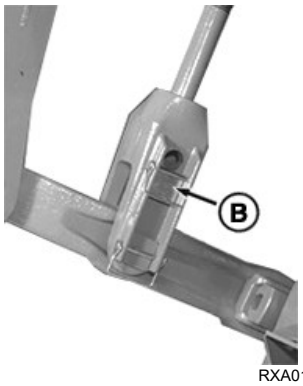
TS36762,00001E3-19-05MAY22

Adjust Lateral Float



RXA0167258—UN—01APR19

Put the lateral float pins in the upper holes (A) to hold the implement rigidly.



RXA0167259—UN—29MAR19

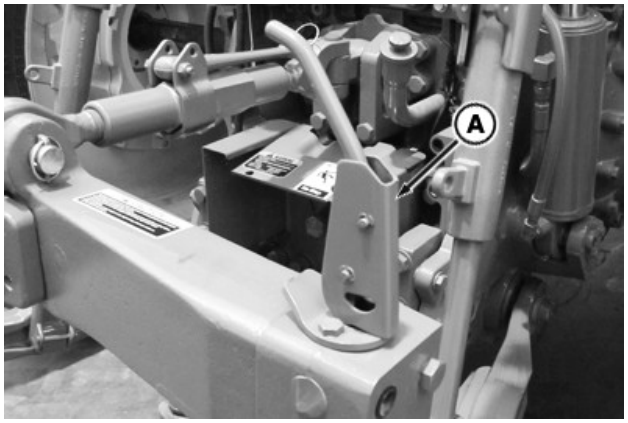
Put the lateral float pins in the lower holes (B) to allow either of the draft links to raise slightly as implement follows the ground surface.

GH15097,000042A-19-28JUN21

Detach Implement from Quick-Hitch

NOTE: Level Triple-Link Suspension (TLS) equipped tractors:

1. *Run the engine at idle.*
2. *Depress the clutch.*
3. *Put the transmission shift lever in gear for 4 seconds.*
4. *Move the shift lever to the NEUTRAL position.*
5. *Repeat until the suspension is level.*



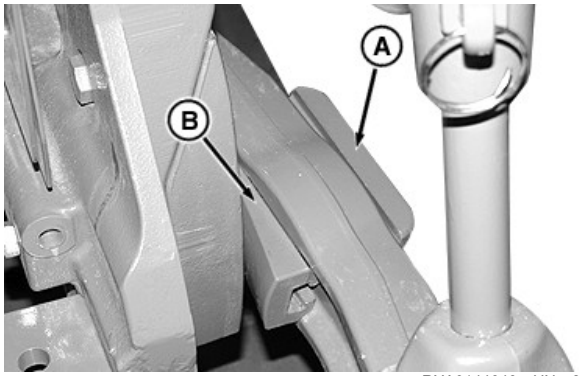
RXA0129731—UN—20NOV12

1. Raise both latch handles (A) with the implement raised.
2. Disconnect the hydraulic hoses and the electrical connections.
3. Lower the implement to the ground and continue lowering the quick-hitch until the hooks clear the implement hitch pins.
4. Carefully drive the tractor away from the implement.

TS36762,00001E5-19-20JUN22

Convert Category 3/3N Convertible Quick-Hitch Lower Hooks

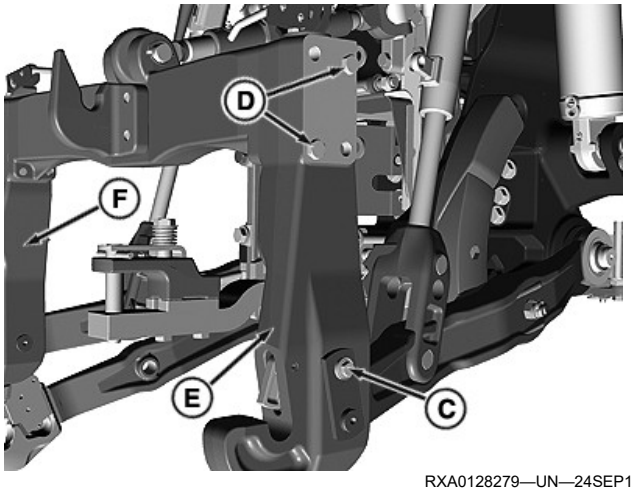
Converting to Category 3N is necessary for narrow row/tread spacing operations. Quick-hitch is convertible to Category 3 or Category 3N. Use Category 3 whenever possible, especially for heavy loads.



RXA0144646—UN—22AUG14

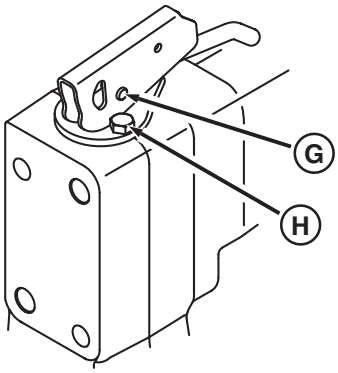
IMPORTANT: Avoid equipment damage. If the coupler is converted to Category 3N, the sway block spacer (A) must be mounted on the outside of the draft link.

1. Install the spacer on the outside of the draft link for Category 3N.
2. Adjust the bumper block (B) to minimize the clearance.
3. Tighten the nut securely.



RXA0128279—UN—24SEP12

4. Support center of quick-hitch.
   a. Remove the pin-retaining bolts (C).
   b. Remove the pins from the draft link.
   c. Remove the cap screws (D).
5. Swap the quick-hitch side members, left-hand side member (F) to the right-hand side and right-hand side member (E) to the left-hand side. Tighten the cap screws to 320 N·m (236 lb·ft).



RXA0128278—UN—24SEP12

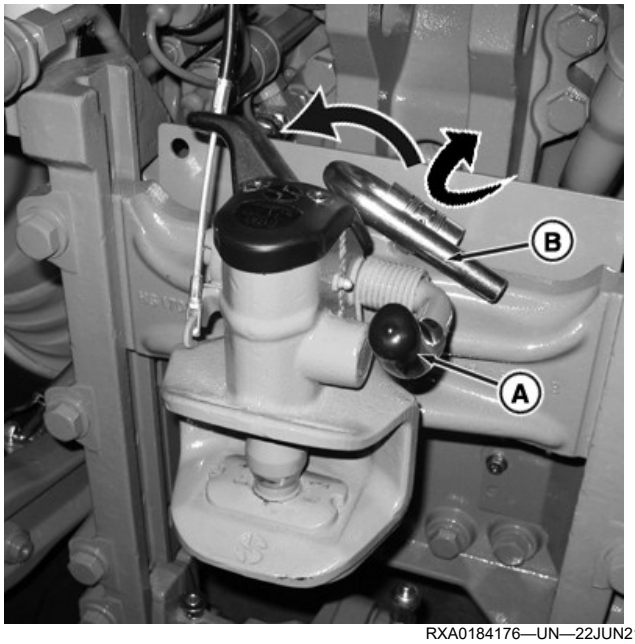
6. Disconnect the latch levers by removing the C-clip and pin (G).
7. Remove the cap screw (H) from the wear plate and turn the tab inward.
8. Install the cap screws and tighten securely.
9. Reconnect the levers.

BH38674,0000BEB-19-01OCT21

Operate Wagon Hitch

Wagon hitch can be released from the operator's seat using the lever. See Wagon Hitch Lever in this Operator's Manual section.

CAUTION: Avoid injury. Keep hands and fingers away from the hitch latching mechanism.



RXA0184176—UN—22JUN21

Wagon hitch closes automatically when the trailer towing eye enters the hitch or can be manually closed using the release lever (A).

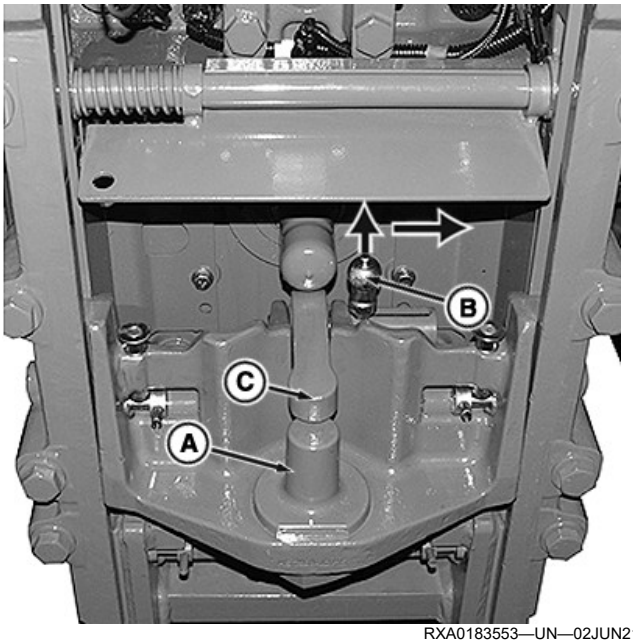
Wagon hitch height can be adjusted using the height adjustment lever (B). To adjust the height, rotate the height adjustment lever rearward, then slide the lever to the left.

TS36762,00002AA-19-28JUN21

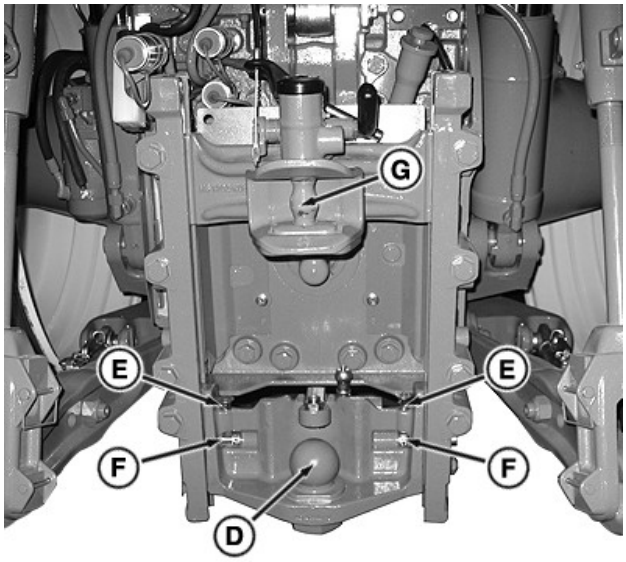
3-in-1 Hitch System

CAUTION: Avoid injury. Keep hands and fingers away from the hitch latching mechanism.

IMPORTANT: Avoid equipment damage. If using 35 mm (1.375 in) PTO or PTO adaptor with 3-in-1 hitch rails, it may be necessary to limit steering angle to prevent the telescoping driveline from rubbing and/or damaging the hitch rails.



RXA0183553—UN—02JUN21

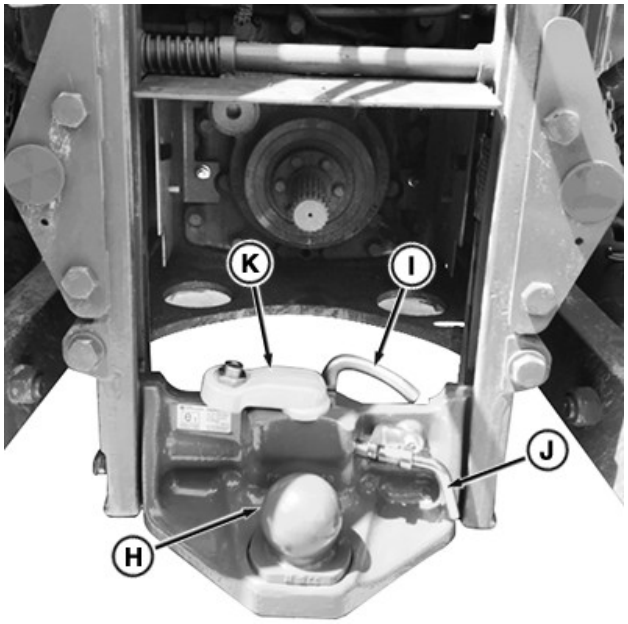


RXA0183554—UN—02JUN21

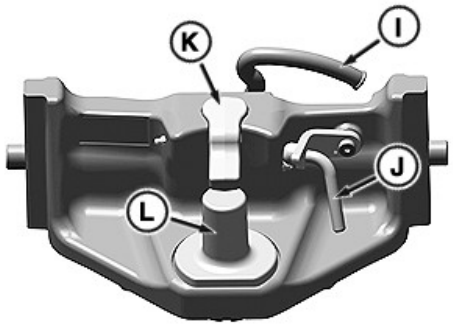
Install the piton coupling or ball coupling by lifting the locking pins (E) and sliding the spring-release pins (F). Slide either coupling into the hitch rails and install the locking pins.

To operate the piton coupling (A) or ball coupling (D), lift the locking lever (B) and slide to the right to raise the locking arm (C).

Trailer hitch pin (G) closes automatically when the trailer towing eye enters the hitch. To close manually, use the trailer hitch lever. See Trailer Hitch Lever in this Operator's Manual section.



RXA0183176—UN—02JUN21



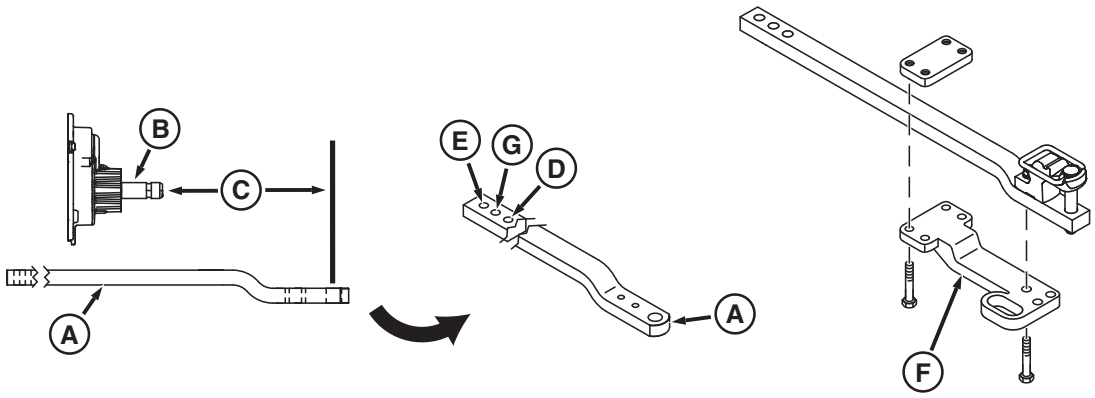
RXA0183555—UN—02JUN21

If equipped with the extended ball or piton coupler, the handle (I) raises and lowers the extended ball (H) or piton (L) coupler. Handle (J) locks and unlocks the keeper (K).

NOTE: When towing implement, lock the keeper over the implement tongue. To detach implement from the coupler, release and swivel the keeper 90 degrees.

TS36762,00002AD-19-01OCT21

Drawbar Load Limitations



RXA0167483—UN—15APR19

IMPORTANT: Avoid tractor and attachments damage. Heavy implements, rough terrain, and speed can place excessive strain on the drawbar.

Drawbar Position							
Drawbar	PTO Shaft (B)				Distance (C)[a] mm (in)	Drawbar Position	Maximum Vertical Drawbar Load kg (lb)
	Diameter mm (in)	Type[b]	Spline	Speed (rpm)			
Category 3[c]	45 (1-3/4)	3	20	1000	500 (20)	Regular (E)	1837 (4050)
					396 (15.6)	Short[d] (G)	2131 (4700)
					348 (13.7)	Short[d] (D)	2766 (6100)
	35 (1-3/8)	2	21	1000	512 (20.2)	Extended (E)	1837 (4050)
					408 (16.1)	Regular (G)	2131(4700)
					360 (14.2)	Short[d] (D)	2766 (6100)
		1	6	540	512 (20.2)	Extended (E)	1837 (4050)
					408 (16.1)	Regular (G)	2131 (4700)
					360 (14.2)	Short[d] (D)	2766 (6100)
Category 3[c] with Heavy-Duty Drawbar Support (F)	45 (1-3/4)	3	20	1000	500 (20)	Regular (E)	2994 (6600)
					396 (15.6)	Short[d] (G)	3493 (7700)
					348 (13.7)	Short[d] (D)	4536 (10000)
	35 (1-3/8)	2	21	1000	512 (20.2)	Extended (E)	2994 (6600)
					408 (16.1)	Regular (G)	3493 (7700)
					360 (14.2)	Short[d] (D)	4536 (10000)
		1	6	540	512 (20.2)	Extended (E)	2994 (6600)
					408 (16.1)	Regular (G)	3493 (7700)
					360 (14.2	Short[d] (D)	4536 (10000)
Category 4[e]	45 (1-3/4)	3	20	1000	500 (20)	Regular (E)	1837 (4050)
					388 (15.3	Short[d] (G)	2245 (4950)
	35 (1-3/8)	2	21	1000	512 (20.2)	Extended (E)	1837 (4050)
					400 (15.7)	Regular (G)	2245 (4950)
		1	6	540	— [f]		
Category 4[e] with Heavy-Duty Drawbar Support (F)	45 (1-3/4)	3	20	1000	500 (20)	Regular (E)	2994 (6600)
					388 (15.3)	Short[d] (G)	4990 (11000)
	35 (1-3/8)	2	21	1000	512 (20.2)	Extended (E)	2994 (6600)
					400 (15.7)	Regular (G)	4990 (11000)

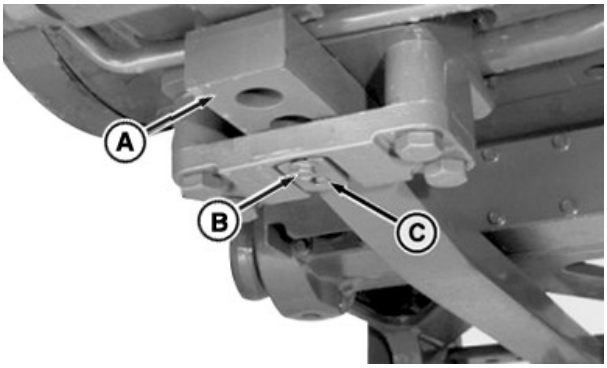
Drawbar Position							
Drawbar	PTO Shaft (B)				Distance (C)[a] mm (in)	Drawbar Position	Maximum Vertical Drawbar Load kg (lb)
	Diameter mm (in)	Type[b]	Spline	Speed (rpm)			
		1	6	540	— [f]		

[a] *End of PTO Shaft to Draw Pin Hole.*
[b] *ISO 500.*
[c] *Category 3 drawbar uses 38 mm (1.5 in) pin.*
[d] *Short Drawbar Position is not compatible with the PTO operation.*
[e] *Category 4 drawbar uses 51 mm (2 in) pin and only uses holes (E) and (G).*
[f] *Not recommended with Category 4 drawbar.*

JL41210,000097C-19-22NOV21

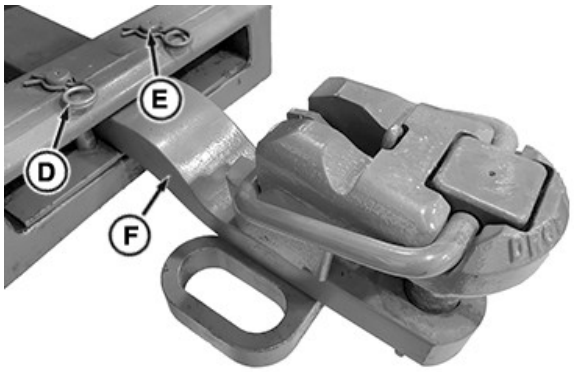
Adjust Drawbar

Adjust Drawbar Length



RXA0167270—UN—29MAR19

IMPORTANT: For PTO-driven implement, drawbar (A) must be positioned as instructed in Attaching PTO Driven Implement in this section.



RXA0175652—UN—27FEB20

1. Remove the drawbar cap screw (B).
2. Remove the retaining pin (C) and retaining strap.
3. Remove the locking pins (D).
4. Remove the headed pins (E).
5. Slide the drawbar to the desired position.
6. Reinstall the retaining strap and retaining pin.
7. Reinstall the cap screw and tighten to 70 N·m (50 lb·ft).
8. Reinstall the headed pins.
9. Reinstall the locking pins.

Adjust Drawbar Height

Height of the drawbar is adjustable by turning bend (F) up or down. Proceed as in length adjustment. Slide drawbar out and turn over.

IMPORTANT: Clevis assembly must always be on top of drawbar if used.

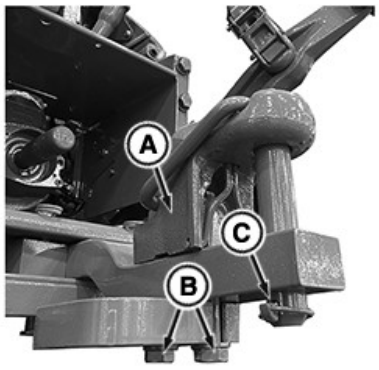
Heavy-duty support cannot be used with drawbar bend positioned upward.

Adjust Drawbar Side-To-Side

1. Remove the locking pins.
2. Remove the headed pins.
3. Slide the drawbar left or right to the desired position.
4. Reinstall the headed pins.
5. Reinstall the locking pins.

GH15097,0000458-19-02DEC21

Install and Use Clevis Assembly—Category 3 Drawbar



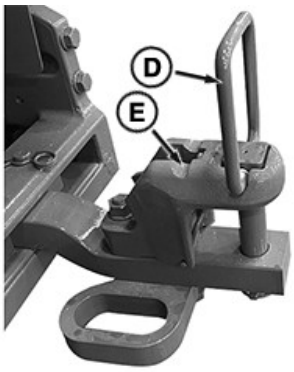
RXA0186209—UN—13DEC21

IMPORTANT: Prevent implement or tractor damage. Some applications require the clevis assembly removal. See the implement Operator's Manual.

Never attach the clevis assembly (A) to the underside of the drawbar.

Never connect the clevis-equipped implement to the clevis-equipped drawbar. Remove either the tractor or the implement clevis.

1. Install the clevis assembly.
2. Tighten the cap screws (B) to 750 N·m (550 lb·ft).
3. Remove the lock pin (C).



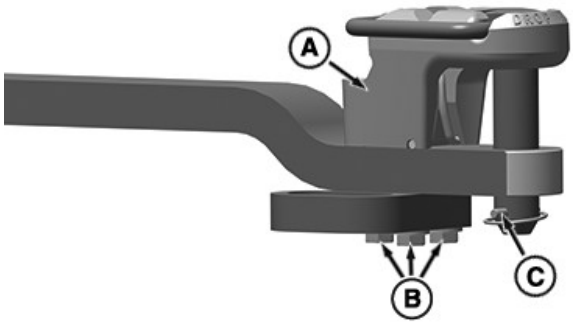
RXA0186210—UN—13DEC21

RXA0186211—UN—13DEC21

4. Lift the pin with the handle (D) and position in the notch (E) of the clevis assembly.
5. Attach the implement.
6. Reinstall the pin with the handle.
7. Reinstall the lock pin.

TS36762,00001E9-19-06APR22

Install and Use Clevis Assembly—Category 4 Drawbar



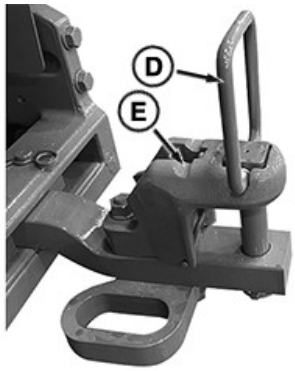
RXA0186216—UN—02DEC21

IMPORTANT: Prevent implement or tractor damage. Some applications require the clevis assembly removal. See the implement Operator's Manual.

Never attach the clevis assembly (A) to the underside of the drawbar.

Never connect the clevis-equipped implement to the clevis-equipped drawbar. Remove either the tractor or the implement clevis.

1. Install the clevis assembly.
2. Tighten the cap screws (B) to 750 N·m (550 lb·ft).
3. Remove the lock pin (C).



RXA0186210—UN—13DEC21

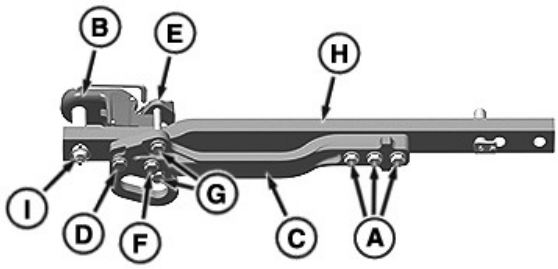
RXA0186211—UN—13DEC21

4. Lift the pin with the handle (D) and position in the notch (E) of the clevis assembly.

5. Attach the implement.
6. Reinstall the pin with the handle.
7. Reinstall the lock pin.

WTEFIAT,0000013-19-06APR22

Install and Use Clevis Assembly—High Vertical Load Drawbar Support



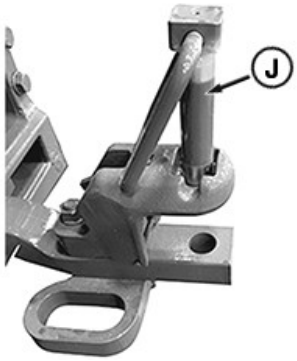
RXA0186241—UN—13DEC21

IMPORTANT: Prevent implement or tractor damage. Some applications require the clevis assembly (B) removal. See the implement Operator's Manual.

Never attach the clevis assembly to the underside of the drawbar.

Never connect the clevis-equipped implement to the clevis-equipped drawbar. Remove either the tractor or the implement clevis.

1. Use a jack to hold the brace (C) during installation.
2. Install the brace to the drawbar (H) using the three washers and cap screws (A). Tighten the cap screws to 430 N·m (320 lb·ft).
3. Install the brace to the drawbar and clevis assembly using the washer and cap screw (D). Tighten the cap screw to 750 N·m (555 lb·ft).
4. Install the retainer (E) using one washer and cap screw (F). Tighten the cap screw to 750 N·m (555 lb·ft).
5. Install two washers and cap screws (G). Tighten the cap screws to 430 N·m (320 lb·ft).
6. Remove the jack from brace.
7. Remove locking pin (I).



RXA0186242—UN—13DEC21

8. Lift the pin with handle (J) and position in the notch of the clevis assembly.
9. Attach the implement.
10. Reinstall the pin with handle.
11. Reinstall the locking pin.
12. Remove the clevis in reverse order of installation.

TS36762,00001EA-19-05MAY22

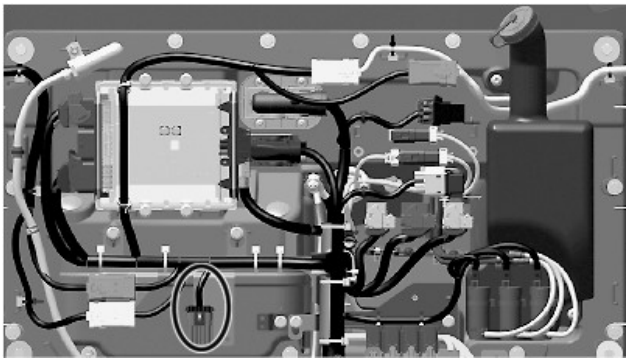
Hydraulics—General Information

Hydraulic System Overview

Hydraulics system provides lubrication, power and control to many tractor subsystems. Transmission, steering, brakes, and hitches are covered in other sections of this Operator's Manual. The next several sections deal with selective control valves, including adjustment, function, and connections as well as special control systems.

KT81203,000044A-19-08JUN22

Hydraulic Option Connector



RXA0187221—UN—08JUN22

Hydraulic option connector is located in the cab rear panel of the tractor and is required when using the SCV automation and feature mode functions. To access the hydraulic option connector, see Remove Cab Rear Panel in Service—General Information section of this Operator's Manual.

When making the initial connection to this connector or to the implement harness connection interface, the key must be in the OFF position.

Use the hydraulic option connector with John Deere applications such as:

- TouchSet Depth Control, see TouchSet Depth Control Settings and Adjustments in TouchSet Depth Control section of this Operator's Manual.
- Laser Scraper Control, see Laser Scraper—Scrapers Equipped with Scraper Control Unit in Laser Scraper section of this Operator's Manual.
- AutoLoad, see Machine Settings Overview in CommandCenter section of this Operator's Manual.

Hydraulic Option Connector Reset Procedure:

If a Diagnostic Trouble Code (DTC) occurs or the automation feature does not function, perform the hydraulic option connector reset procedure:

1. Shut off the engine and allow the CommandCenter to shut down completely.
2. Disconnect the implement harness from the implement connector, or disconnect the hydraulic option connector.
3. Start the tractor and allow the CommandCenter to start completely.
4. Shut off the engine and allow the CommandCenter to shut down completely.
5. Reconnect the implement harness to the implement connector.
6. Start the engine and allow the CommandCenter to start completely.
7. Operate the implement. If a DTC continues to appears or the implement fails to respond to commands, see your John Deere dealer.

WTEFIAT,0000076-19-12JUL22

SCV Settings—Access

Access Application through Display:

RXA0167075—UN—20MAR19

Menu

1. Menu

RXA0167076—UN—20MAR19

Machine Settings

2. Machine Settings tab

RXA0173516—UN—03JAN20

SCV

3. SCV

Access Application through Navigation Bar:

RXA0173515—UN—03JAN20

SCV

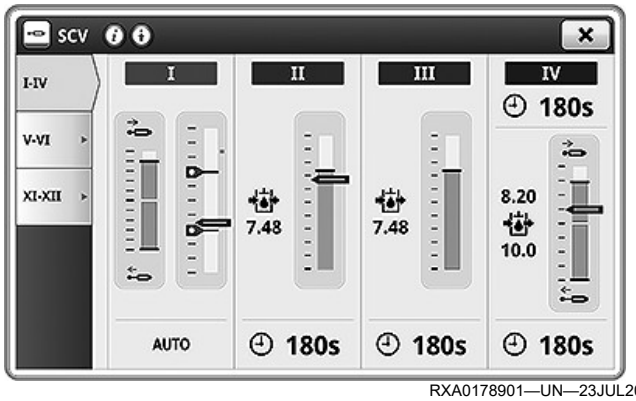
Press SCV button on navigation bar below display.

KD34109,000057C-19-08DEC21

SCV Settings

SCV application is used to access and adjust SCV modes and settings for equipped SCVs.

NOTE: Display will depend on current mode of SCV and number of SCVs available.



RXA0178901—UN—23JUL20

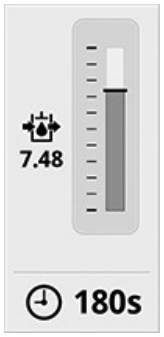
SCV Example

Items Accessible on SCV Main Page:

RXA0173519—UN—06JAN20

SCV Tab Example

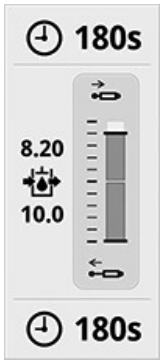
SCV Tabs — tabs display when there are more than four SCVs. Only available SCVs display.



RXA0173523—UN—02JAN20

Standard Mode Example

Standard Mode — set one detent time value and one detent flow value for both extend and retract. See SCV Settings—Standard Mode in this Operator's Manual section.



RXA0173504—UN—03JAN20

Independent Mode Example

Independent Mode — set different detent time and flow

values for extend and retract. See SCV Settings—Independent Mode in this Operator's Manual section.

RXA0173490—UN—02JAN20

Feature Mode Example

Feature Mode — detent time is controlled by implement. To enable, connect implement using optional connector before turning on vehicle. See SCV Settings—Feature Mode in this Operator's Manual section.

RXA0173500—UN—03JAN20

Hydraulic Flow Indicator

Hydraulic Flow Indicator — indicates current flow and displays when SCV is selected, active, and oil is flowing.

RXA0167071—UN—21MAR19

Advanced Settings

Advanced Settings — access further adjustments and less common settings. See SCV Settings—Advanced in this Operator's Manual section.

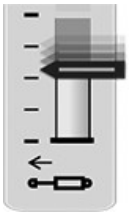
Operate SCVs:

RXA0173518—UN—06JAN20

SCV I Lever

SCV Control Lever Adjustments — SCV levers on the CommandARM are used to adjust SCV flow. See SCV Control Lever Adjustments in this Operator's Manual section.

Other SCV Statuses:



RXA0173494—UN—02JAN20

Flow Active Example

Flow Active — indicator will move with flow level. Fill area between 0 point and indicator displays green.

RXA0173525—UN—02JAN20

Time Active Example

Time Active — yellow box displays during time adjustment and when it is active.

RXA0173768—UN—13JAN20

Float

Float — cylinder is free to extend or retract, letting implement follow ground contour.

RXA0173492—UN—02JAN20

Float Disabled

Float Disabled — if lever is in float position at engine start-up, float function will be disabled until lever is cycled to neutral.

RXA0173506—UN—03JAN20

Locked

Locked — SCV is locked.

RXA0173483—UN—02JAN20

AUTO

AUTO — AUTO mode is enabled and active.

RXA0173484—UN—02JAN20

AUTO Disabled

AUTO Disabled — AUTO mode is ON but not active.

Run Page Modules

Add modules for this application to run pages using

Layout Manager. See the G5 CommandCenter Operator's Manual.

NOTE: SCV assignment for module can be changed if accessing settings this way. See SCV Settings—Assignment in this Operator's Manual section.

Example:

RXA0173524—UN—02JAN20

Standard Mode

NOTE: Different modules may be available for your application.

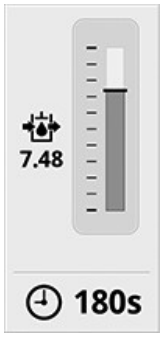
Standard Mode — quick access to standard mode module.

KD34109,000057D-19-28FEB23

SCV Settings—Standard Mode

Set one detent time value and one detent flow value for both extend and retract.

Items Accessible in Standard Mode:



RXA0173523—UN—02JAN20

Standard Mode Example

Standard Mode Example — items may change based on status.

RXA0173530—UN—02JAN20

Time Tab

Time — select to adjust detent time value for extend and retract. See SCV Settings—Time Adjustment in this Operator's Manual section.

RXA0173503—UN—03JAN20

Flow Tab

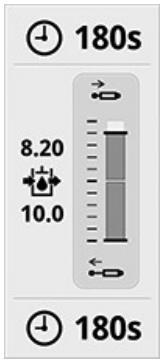
Flow — select to adjust detent flow value for extend and retract. See SCV Settings—Flow Adjustment in this Operator's Manual section.

KD34109,000057E-19-09JAN20

SCV Settings—Independent Mode

Set different detent time and flow values for extend and retract. Enable independent mode in advanced settings. See SCV Settings—Advanced in this Operator's Manual section.

Items Accessible in Independent Mode:



RXA0173504—UN—03JAN20

Independent Mode Example

Independent Mode Example — items may change based on status.

RXA0173529—UN—02JAN20

Time Retract Tab

Time Retract — select to adjust detent time retract value. See SCV Settings—Time Adjustment in this Operator's Manual section.

RXA0173502—UN—03JAN20

Flow Retract Tab

Flow Retract — select to adjust detent flow retract value. See SCV Settings—Flow Adjustment in this Operator's Manual section.

RXA0173501—UN—03JAN20

Flow Extend Tab

Flow Extend — select to adjust detent flow extend value. See SCV Settings—Flow Adjustment in this Operator's Manual section.

RXA0173528—UN—02JAN20

Time Extend Tab

Time Extend — select to adjust detent time extend value. See SCV Settings—Time Adjustment in this Operator's Manual section.

KD34109,000057F-19-10JAN20

SCV Settings—Feature Mode

NOTE: If hydraulic option connector is equipped, see Hydraulic Option Connector in Hydraulics—General Information section of this Operator's Manual.

Feature mode allows the implement to control the application. To enable, connect a feature mode compatible implement using the hydraulic option connector before turning on the vehicle. When connected through ISOBUS or an implement connector, SCVs automatically enter feature mode and a page displays with the feature options.

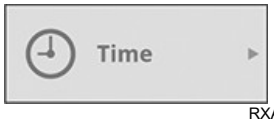
Items Accessible in Feature Mode:

RXA0173490—UN—02JAN20

Feature Mode Example

Feature Mode Example — items may change based on status.

NOTE: Tab appearance and quantity will vary since feature mode is used in combination with standard and independent modes.



RXA0173527—UN—02JAN20

Time Tab Example

Time — controlled by implement and will be grayed out since no adjustments can me made.

RXA0173503—UN—03JAN20

Flow Tab Example

Flow — select to adjust detent flow value for extend and retract. See SCV Settings—Flow Adjustment in this Operator's Manual section.

RXA0173485—UN—02JAN20

Automation Tab

NOTE: Not available for AutoLoad.

Automation — enable/disable feature mode. See SCV Settings—Automation in this Operator's Manual section.

KD34109,0000580-19-04MAY23

SCV Settings—Flow Adjustment

Adjust amount of SCV flow based on demand. For information on approximate SCV flow output settings and available pump flow, see Total SCV Flow in this Operator's Manual section.

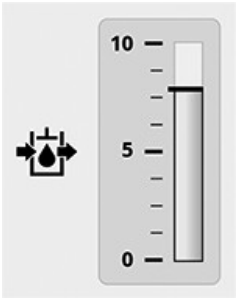
Procedure to Modify:

RXA0173495—UN—02JAN20

Adjust Flow

NOTE: Flow adjustment is from 0.04 to10. Selecting (+) increases flow in increments of 0.04 and (++) increases flow in increments of 1.00. Selecting (-) or (--) decreases flow by the same increments.

Select (+/++) to increase or (-/--) to decrease flow. Value is shown in display box.



RXA0173499—UN—03JAN20

Flow Gauge

Flow setting also displays on flow gauge.

RXA0167129—UN—25MAR19

Close

Select to close.

Items Accessible for TouchSet Depth Control:

RXA0173522—UN—06JAN20

Set Upper Point

RXA0173521—UN—06JAN20

Set Point Indicator

Upper Set Point — select upper SET key to set a frequently used height that can be recalled. Set point is displayed by upper yellow indicator.

RXA0173520—UN—06JAN20

Set Lower Point

RXA0173521—UN—06JAN20

Set Point Indicator

Lower Set Point — select lower SET key to set a frequently used depth that can be recalled. Set point is displayed by lower yellow indicator.

RXA0173500—UN—03JAN20

Position Indicator

Position Indicator — displays current implement position.

KD34109,0000582-19-20JUN22

SCV Settings—Time Adjustment

Adjust amount of time operation of attached implement will run.

Procedure to Modify:

RXA0173526—UN—02JAN20

Adjust Time

NOTE: Time adjustment is from 0 seconds to C for continuous flow. Time increases by 1 second increments up to 10 seconds, then in 2 second increments up to 20, then 5 second increments up to 30, then 10 second increments up to 60, then 30 second increments up to 120, then by 60 second increments up to C.

Select (+) to increase or (-) to decrease time. Value is shown in display box.

RXA0173525—UN—02JAN20

Time Setting

Time setting also displays under flow gauge. A yellow box displays around the time while adjustment is taking place.

RXA0167129—UN—25MAR19

Close

Select to close.

KD34109,0000583-19-06FEB20

SCV Settings—Advanced

Advanced settings allow you to access further adjustments and less common settings.

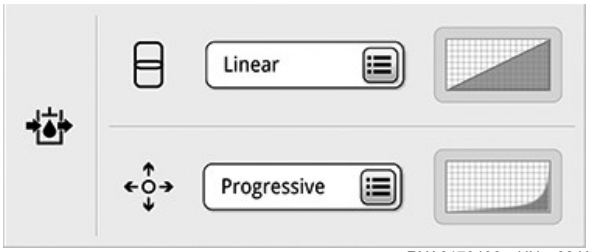
NOTE: Some items only display if machine is equipped with the associated options.

Items Accessible on Advanced Settings Page:

RXA0173517—UN—03JAN20

SCV Independent Mode Example

SCV Independent Mode — turn independent mode ON or OFF for each SCV. See SCV Settings—Activating Independent Mode in this Operator's Manual section.



RXA0173496—UN—02JAN20

Flow Adjustment Sensitivity

Flow Adjustment Sensitivity — select the desired flow response curve for the SCV control lever and joystick. See SCV Settings—Flow Adjustment Sensitivity in this Operator's Manual section.

RXA0167187—UN—22MAR19

ON/OFF

Loader Mode — prevents unwanted loader movement by ignoring the SCV flow and time settings. Select ON to enable or OFF to disable.

KD34109,00005A9-19-04FEB20

SCV Settings—Activating Independent Mode

Allows you to set different detent time and flow values for extend and retract. Independent mode is enabled/disabled for each SCV separately.

NOTE: Only the SCVs that are available will display.

Procedure to Modify:

RXA0167187—UN—22MAR19

ON/OFF

Independent Mode — select ON to enable or OFF to disable.

KD34109,0000581-19-04MAY23

SCV Settings—Automation

NOTE: If hydraulic option connector is equipped, see Hydraulic Option Connector in Hydraulics—General Information section of this Operator's Manual.

Automation allows you to enable/disable the SCV adjustments in feature mode. When disabled, SCV displays adjustments for either standard mode or independent mode, whichever the SCV is set to.

Procedure to Modify:

RXA0167187—UN—22MAR19

ON/OFF

Auto Mode — select ON to enable or OFF to disable.

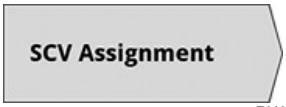
KD34109,0000584-19-04MAY23

SCV Settings—Assignment

Reassign an SCV run page module to a different SCV.

NOTE: Only accessible from run page module.

Procedure to Modify:



RXA0173514—UN—03JAN20

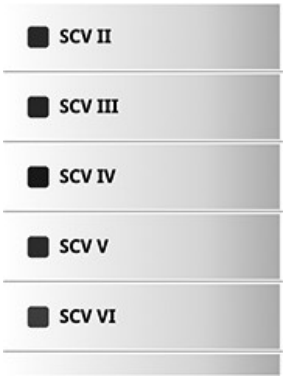
SCV Assignment Tab

1. Select SCV Assignment tab.

RXA0173512—UN—03JAN20

Assigned SCV Box

2. Select Assigned SCV box.



RXA0173513—UN—03JAN20

SCV List

3. Select desired SCV from list.

RXA0167129—UN—25MAR19

Close

4. Select to close.

KD34109,0000585-19-14JAN20

SCV Settings—Flow Adjustment Sensitivity

Procedure to Modify:

RXA0173498—UN—02JAN20

SCV Control Lever Adjustment

RXA0173497—UN—02JAN20

Joystick Adjustment

1. Select the box to set the desired response curve for the SCV control lever or the joystick.
2. Select one of the following response curves:

RXA0173505—UN—03JAN20

Linear

- **Linear** — the flow rate of the SCV corresponds to the distance traveled by the SCV control lever/ joystick lever.

RXA0173509—UN—03JAN20

Progressive

- **Progressive** — initially, the flow rate of the SCV is less than that traveled by the SCV control lever/ joystick lever (giving a more sensitive start to the movement).

RXA0173487—UN—02JAN20

Combination

- **Combination** — an intermediate stage between linear and progressive.

RXA0173508—UN—03JAN20

OK

Select OK to exit and save changes.

RXA0173486—UN—02JAN20

Cancel

Select Cancel to exit without saving changes.

KD34109,0000588-19-03FEB20

SCV Control Lever Adjustments

CAUTION: Avoid personal injury or machine damage:

- **Ensure that hoses are not reversed. If hoses are reversed, cylinder extends when it should retract.**
- **To prevent unintentional implement movement, shut off engine, move SCV control levers to neutral position, and press SCV lock button before attaching implement. For lock button identification, see CommandARM Controls—Left Side in CommandARM Controls section of this Operator's Manual.**
- **SCV does not disengage when operator leaves seat. For more information, see Operator Presence Sensor in Seats section of this Operator's Manual.**

SCV control levers on the CommandARM allow you to make adjustments to the SCV flow. For more information on SCV levers, see CommandARM SCV Control Levers in CommandARM Controls section of this Operator's Manual.

NOTE: SCV control levers can be reconfigured to control tractor functions and implements. See Controls Setup in CommandCenter section of this Operator's Manual.

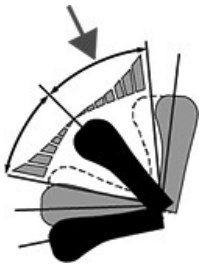
SCV Control Lever Adjustments:

RXA0173507—UN—03JAN20

Neutral

NOTE: SCV control lever should be in neutral position at tractor start-up.

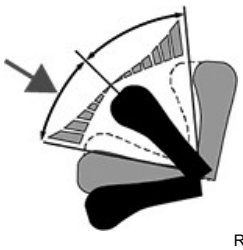
Neutral — flow continues until timed detent expires. If no timed detent is commanded, flow is turned off.



RXA0173488—UN—02JAN20

Extend

Extend — operator controlled variable flow to extend cylinder. Oil flows at a rate that varies depending on how far lever is moved. Slowest oil flow is when lever is closest to neutral position. Lever is returned to neutral position when released.



RXA0173510—UN—03JAN20

Retract

Retract — operator-controlled variable flow to retract cylinder. Oil flows at a rate that varies depending on how far lever is moved. Slowest oil flow is when lever is closest to neutral position. Lever is returned to neutral position when released.

RXA0173489—UN—02JAN20

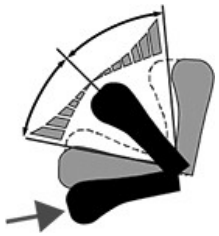
Extend Detent

Extend Detent — timed flow to extend cylinder based on time and flow detent settings. Lever returns to neutral position, but flow continues at flow detent setting rate until detent time setting has elapsed.

RXA0173511—UN—03JAN20

Retract Detent

Retract Detent — timed flow to retract cylinder based on time and flow detent settings. Lever returns to neutral position, but flow continues at flow detent setting rate until detent time setting has elapsed.



RXA0173491—UN—02JAN20

Float

NOTE: If lever is in float position at engine start-up, float function will be disabled until lever is cycled to neutral.

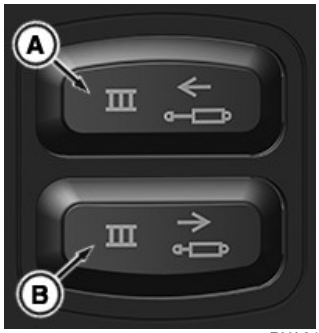
To relieve hydraulic pressure in implement, move lever to float position while engine is running.

Float — SCV opens to allow free flow of oil from head-to-rod end of implement hydraulic cylinder, allowing implement to follow ground contour. Lever and SCV remain in float position until lever is manually returned to neutral. Cycle cylinder fully in both directions after being used in float position to ensure that cylinder is filled with oil. Float can be used to allow hydraulic cylinders to coast when shutting down implement.

KD34109,0000589-19-20JUN22

External SCV Switches

CAUTION: Prevent injury or damage caused by tractor movement. Be sure that the transmission is in the PARK position before using remote extend and retract switches.



RXA0183165—UN—12MAY21

External SCV III Switches (if equipped) are located on rear fender/fenders. Press switch (A) to extend or (B) to retract.

WTEFIAT,0000006-19-25MAY21

Total SCV Flow

1. Check flow setting for each function independently. For correct motor flow settings, refer to the implement Operator's Manual.

   The following may cause pump to operate at high pressure:

   - Down pressure systems (drills, air seeders, disks) — can be considered to be zero flow demand after completion of raise or lower cycle. For more information, see implement connection examples in Hydraulic Connections section of this Operator's Manual.
   - Auxiliary flow control valves (vacuum flow control) — open implement flow control valve and adjust tractor flow rate to desired setting. For more information, see implement connection examples in Hydraulic Connections section of this Operator's Manual.
   - Cylinder functions where line or orifice restrictions control flow — adjust tractor flow control to point where function speed begins to decrease.
   - Auxiliary control valves (implement stack valves, row guidance) — adjust tractor flow control to lowest setting that results in correct operation.

2. Determine total flow demand by adding flow requirements for each SCV using settings determined in Step 1. Include hitch and power beyond flow requirements if applicable (refer to SCV flow chart for settings based on approximate flow output).
3. Determine if flow demand exceeds available pump flow (refer to SCV pump flow chart for approximate available pump flow).

   If flow demand:

   - Is less than available pump flow but has performance concern, see your John Deere dealer.
   - Exceeds pump flow:
     - Increase engine rpm if possible.
     - Decrease flow setting on noncritical functions.
     - Convert implement open center valves to closed center operation, if equipped.

NOTE: Flow measurements made without steering or hitch being used.

Pump Flow (Approximate)[a] L/min (gal/min)		
Engine rpm	Pump	
	63 cc	85 cc
900	71 (19)	95 (25)
1500	118 (31)	159 (42)
1700	133 (35)	180 (48)
1900	149 (39)	201 (53)
2100	165 (43)	222 (59)

[a] *Typical flows were taken from new tractors. Component wear may cause slightly lower values. More than one SCV is needed to achieve full flow at each rpm listed.*

Power Beyond Maximum Flow	
Coupler	L/min (gal/min)
1/2-Inch	132 (35)

Front/Mid-Stack SCV Flow Output (Approximate)[a]	
SCV Flow Settings	L/min (gal/min)
0.04[b]	—
1.0	3.5 (0.9)
2.0	9.5 (2.5)
3.0	19.0 (5.0)
4.0	32.0 (8.5)
5.0	46.0 (12.2)
6.0	63.0 (16.6)
7.0	81.0 (21.4)
8.0	100.0 (26.4)
9.0	114.0 (30.1)
10.0	124.0 (32.8)

[a] *At 2100 rpm and no mass load at point-of-use.*
[b] *Minimum flow setting.*

Rear SCV Flow Output (Approximate)[a]	
SCV Flow Settings	L/min (gal/min)
0.04[b]	—
1.0	1.9 (0.5)[c]
2.0	6.1 (1.6)
3.0	13.6 (3.6)
4.0	20.4 (5.4)
5.0	28.0 (7.4)
6.0	40.9 (10.8)

Rear SCV Flow Output (Approximate)[a]	
SCV Flow Settings	L/min (gal/min)
7.0	62.1 (16.4)
8.0	81.4 (21.5)
9.0	107.1 (28.3)
10.0	132.0 (35.0)

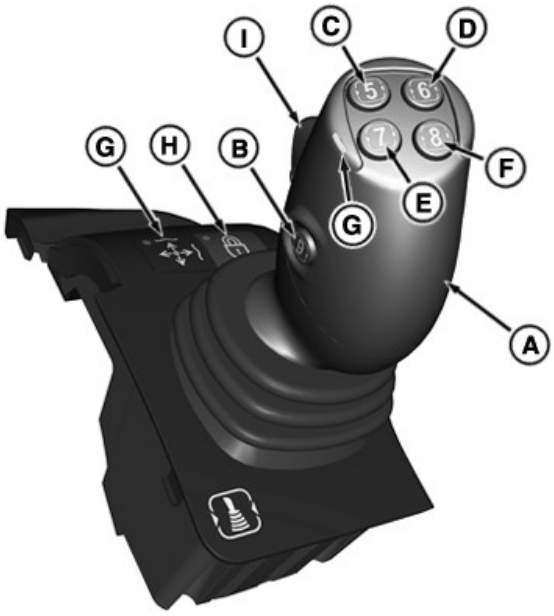
[a]*At 2000 rpm and 454 kg (1000 lb) of load at point-of-use.*
[b]*Minimum flow setting.*
[c]*Observed under no load.*

Hitch Cylinder Diameter mm	Hitch Flow L/min (gal/min)	
	Front	Rear
90/90	61 (16.1)	71 (18.7)
100/100	—	88 (23.2)
100/115	—	102 (26.9)

TS36762,00001F0-19-05MAY21

Operate SCVs with CommandARM Joystick

The operator will need to unlock the joystick after restarting the machine. The joystick is always locked on start-up to prevent unintended movement.



RXA0175041—UN—12FEB20

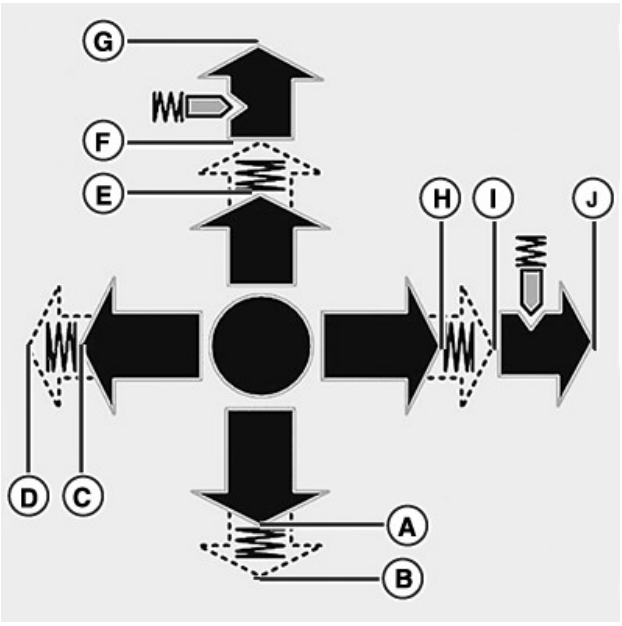
RXA0133735—UN—17JUL13

Controls Setup Icon

- The Control Setup icon appears on reconfigurable buttons (B—F) that may be assigned to control other functions. Review the Controls Setup page to verify the function of each control. For more information on joystick assignments, see Controls Setup in CommandCenter section of this Operator's Manual.
- The axis of the joystick (A) operates combinations of programmed SCV functions.
- For tractors equipped with e23 and e18 transmissions, operator can select transmission gear upshifts using button 5 (C) and downshifts using button 7 (E).
- Joystick activation indicator lights (G) are illuminated when joystick is active.
- Joystick lock (H) locks out electrohydraulic functions for SCVs assigned to joystick.
- Rocker switch (I) operates combinations of programmed SCV functions.
- When joystick Loader Mode setting is ON, operator can activate the bucket shake function. Move joystick to the right twice in brief succession beyond the point of resistance and hold it there. To enable/disable Loader Mode, see SCV Settings—Advanced in this Operator's Manual section.
- Push the joystick all the way forward and engage in detent to activate the float position. Joystick remains in detent until it is pulled back. Detent does not function in Loader Mode.
- In Loader Mode, time detents for SCVs assigned to the joystick axis cannot be adjusted. Only SCV flow can be adjusted for those SCVs.

RD47322,00004C6-19-20JUN22

CommandARM Joystick—Layout and Joystick Lever Functions



RXA0155031—UN—18OCT16

NOTE: Joystick movement descriptions are based on proper hose connection.

Some functions shown may not be available depending on what options tractor is equipped with.

A—Pull joystick back to extend.
B—Pull joystick back beyond the point of detectable resistance to extend detent.
C—Move joystick to the left to extend.
D—Move joystick to the left beyond the point of detectable resistance to extend detent.
E—Push joystick forward to retract.
F—Push joystick forward beyond the point of detectable resistance to retract detent.
G—Push joystick all the way forward and engage in detent to activate the float position.
H—Move joystick to the right to retract.
I—Move joystick to the right beyond the point of detectable resistance to retract detent. For bucket shake function, move the joystick to the right twice in brief succession beyond the point of resistance and hold it there.
J—Move joystick all the way to the right and engage in detent to activate the float position.

RXA0155032—UN—18OCT16

K—Select up on rocker switch beyond the point of detectable resistance for extend detent.
L—Select down on rocker switch beyond the point of detectable resistance for retract detent.
Operator can set any SCV on any axis or rocker switch of the joystick.

KD34109,00006AC-19-20JUN22

Connect/Disconnect Hydraulic Hoses

CAUTION: Escaping fluid under pressure can penetrate the skin causing serious injury.

To avoid injury, always:

- **Protect the hands and body from high-pressure fluids.**
- **Inspect hydraulic hoses periodically for damage (at least once per year).**

  Signs of wear or damage include, but are not limited to, leakage, kinking, cuts, cracks, abrasion, blisters, corrosion, and exposed wire braid.

  Replace worn or damaged hose assemblies immediately with John Deere approved replacement parts.
- **Tighten all connections before applying pressure.**
- **Ensure that all connected lines are as straight as possible.**
- **Search for leaks with a piece of cardboard.**
- **Relieve pressure from the hydraulic system before disconnecting a hydraulic line or other lines.**

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene can result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available in English from the Deere & Company Medical Department in Moline, Illinois, U.S.A., by calling 1-800-822-8262 or +1 309-748-5636.

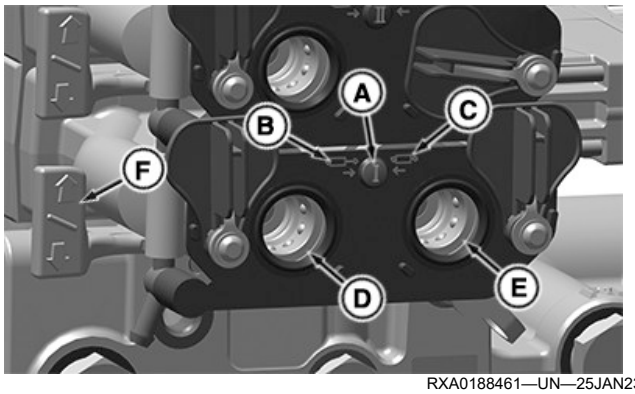
Unintentional implement movement can cause injury. To avoid injury, before attaching or detaching hydraulic hoses, always engage:

- **SCV lock button. See CommandARM Controls—Left Side in the CommandARM Controls section of this Operator's Manual.**
- **Joystick lock (if equipped). See Operate SCVs with CommandARM Joystick in the Selective Control Valves section of this Operator's Manual.**

IMPORTANT: Dirt, dust, or other foreign material can damage the hydraulic system. Avoid damage to the hydraulic system and thoroughly clean the hydraulic hoses, hose ends, and SCVs before connecting an implement.

Steam cleaning or using a high-pressure washer in the area around the SCV connections and electronics can damage equipment. Keep a minimum distance of 200 mm (8 in) between the pressure washer nozzle and hydraulic connections for any pressure washer exceeding 6895 kPa (69 bar) (1000 psi).

SCV Coupler Component Identification and Location



RXA0188461—UN—25JAN23

NOTE: Remote cylinder couplers are designated I through VI (A), where I is the bottom coupler.

Verify that the remote hydraulic hoses are connected to the correct SCV couplers to ensure desired system control operation.

Connect Hydraulic Hoses

1. Lock out the SCV controls inside the cab.
2. Before connecting the hydraulic hoses, determine:
   a. If the symbols on the coupler identification plate indicating cylinder movement (B) or (C) match the desired cylinder travel direction.
   b. The desired SCV connection based on whether the implement uses single-acting or double-acting cylinders:
      - For single-acting cylinders, use the extend coupler (D).
      - For double-acting cylinders, use the extend (D) and retract (E) couplers.
3. To connect the hydraulic hose to the SCV:
   a. Clean the dust covers/caps.
   b. Rotate up or remove the dust covers to expose the SCV couplers.
   c. Push forward the hydraulic coupler sleeve (if equipped).
   d. Move the SCV hose connect lever (F):
      - Push the lever to connect to the retract coupler.

- Pull the lever to connect to the extend coupler.

e. Push the hydraulic hose firmly into the SCV coupler.

f. Pull the hydraulic coupler sleeve (if equipped) backward to lock the house coupler into the receptacle.

Disconnect Hydraulic Hoses

From inside the cab:

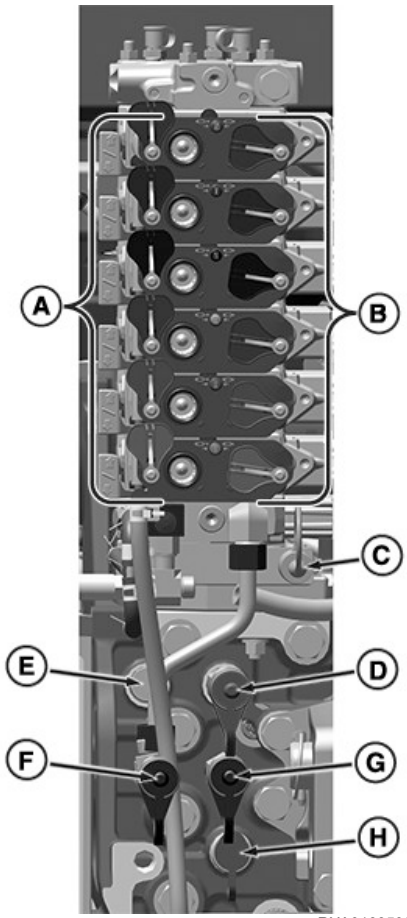
1. Start the tractor.
2. Use the appropriate SCV lever to lower the implement to the ground.
3. Relieve the hydraulic pressure in hoses by moving the SCV control lever or joystick (if equipped) to the float position for a few seconds.
4. Lock out the SCV controls.
5. Shut off the tractor.

From outside the cab:

1. Move the SCV hose connect lever (F) slowly to relieve any pressure buildup of trapped oil:
   - Push the lever to disconnect from the retract coupler.
   - Pull the lever to disconnect from the extend coupler.
2. Remove the hoses from the SCV couplers.
3. Clean the SCV coupler area.
4. Rotate down or replace the dust covers to protect the SCV couplers.

EC82310,0000EF3-19-26JAN23

Component Identification and Location—Rear SCVs



RXA0188500—UN—01FEB23

Select Hydraulic Motors

Select the smallest displacement motor recommend for the function to reduce power loss and heating of hydraulic oil, especially if other functions force the pump to operate at high pressure.

When using hydraulic motors:

- Fully open in-line valves.
- Remove in-line orifices.
- Close the open-center bleed screw (if equipped).

Tractors Not Equipped with Power Beyond or Auxiliary Return Couplers

For these connections:

- Connect the pressure line to the SCV retract coupler (B).
- Connect the return line to the SCV extend coupler (A).
- Use a special return hose tip to prevent flow checking of the return line and back flow if inadvertently reversed.

Tractors Equipped with Auxiliary Motor Return

For these connections:

- Connect the pressure line to the SCV retract coupler (B).
- Connect the return line to the return coupler (F).
- A special return hose tip is not required but is acceptable to use.

Activate the motor (move the SCV control lever to retract detent). To ensure that the pump only operates at the required pressure, set the motor speed with the SCV flow control.

If returning to the SCV, shut off the hydraulic motor (move the SCV control lever to float) to protect it from potential seal damage due to over pressure (or cavitation if using motor return couplers).

Operate Motors with Power Beyond

For these connections:

- A separate flow control valve is required.
- Connect the pressure line to the pressure coupler (D). A coupler can also be added to pressure port (E).
- Connect the return line to a return coupler (F) or (G).
- Connect the load sense line to the load sense coupler (C).

If sensed pressure is upstream of the flow control valve, the pump constantly operates at maximum pressure. If sensed pressure is between the control valve and the motor, the pump operates at load pressure.

Motor Case Drain

Some motors have a separate case drain line to relieve internal leakage. To direct oil to the sump, connect to the sump coupler (H).

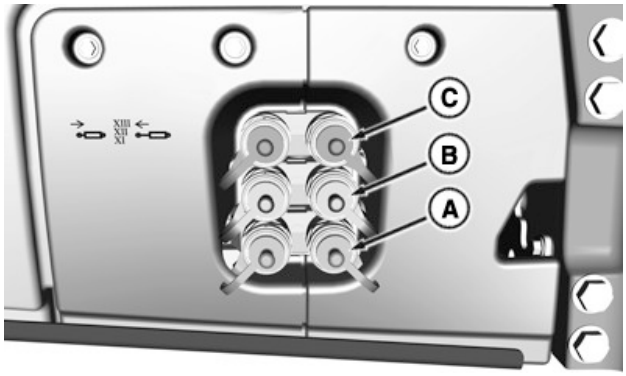
TS36762,0000201-19-03FEB23

Component Identification and Location—Mid-Mount and Front SCVs

IMPORTANT: If equipped with a loader, see the procedure in the loader Operator's Manual to identify the correct hose connections.

SCVs are color coded for easier identification. Hose identification kits are available through your John Deere dealer.

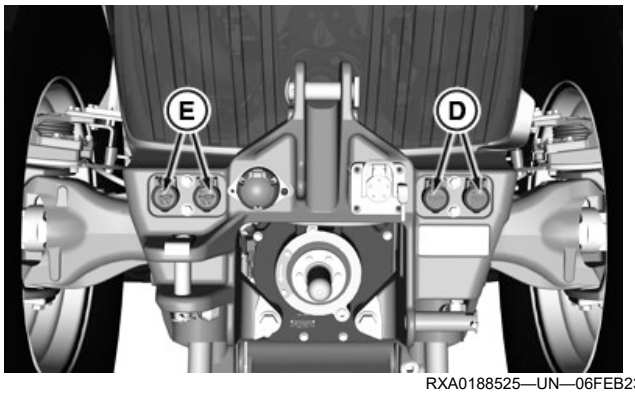
Mid-Mount SCVs



RXA0188524—UN—06FEB23

SCV		
Number	**Color**	**Location**
XI	Green	Mid-Mount (A)
XII	Blue	Mid-Mount (B)
XIII	Brown	Mid-Mount (C)

Front-Mount SCVs



RXA0188525—UN—06FEB23

SCV		
Number	**Color**	**Location**
XIV	Black	Front (D)
XV	Violet	Front (E)

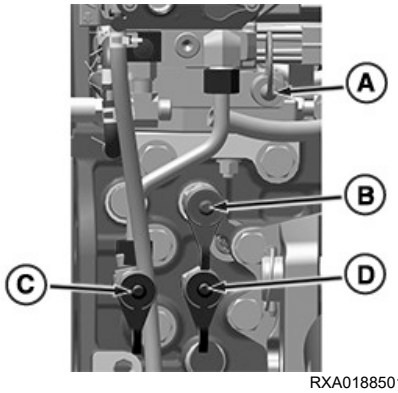
TS36762,00001FC-19-03FEB23

Use Load Sense Hydraulic System—Power Beyond

Power beyond is used as a pressure/flow source for auxiliary functions equipped with independent flow control valves. Use power beyond when:

- Tractor SCV control is not needed.
- The implement control valve generates an external load sense signal to communicate flow demand to the pump.
- No other SCV outlet is available.

Power beyond functions require a load sense signal to regulate pump pressure, therefore, a load sense hydraulic line is needed. Certain equipment may require modification. Special hydraulic couplers are available from your John Deere dealer.



RXA0188501—UN—01FEB23

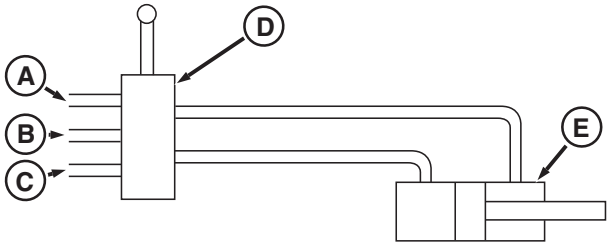
IMPORTANT: Motors without over-running check valves should be connected to a motor return coupler (C) or (D) to prevent return line pressurization when the SCV is returned to neutral.

Connect hoses to the load sense coupler (A), pressure coupler (B), and a return coupler (C) or (D).

TS36762,00001FD-19-02FEB23

Examples Using Load Sense Hydraulic System—Power Beyond

Example 1



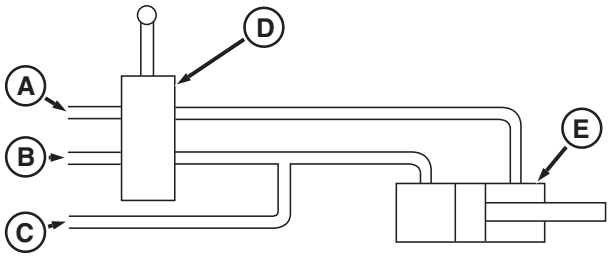
RXA0138783—UN—28JAN14

A—Pressure Coupler
B—Load Sense Coupler
C—Return Coupler (motor return)
D—Control Valve
E—Cylinder

NOTE: Example 1 is the preferred practice.

Control valves with load sense provide a load sense signal to the hydraulic system and can be operated manually or by solenoids.

Example 2



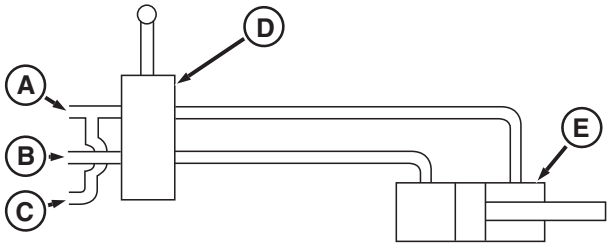
RXA0138782—UN—28JAN14

A—Pressure Coupler
B—Load Sense Coupler
C—Return Coupler (motor return)
D—Control Valve
E—Cylinder

IMPORTANT: The circuit allows cylinder leak-down through the load sense line (C). If leakage is not acceptable for operation, use Example 3.

The control valve directs oil into the extend or retract circuits. Connect the load sense line to the circuit that requires pressure. An example is a trailer lift cylinder with a load that is supported by mechanical stops in the full down position. Load sense signals the pump when increased pressure is needed. Pressure remains low when the load is supported by mechanical stops.

Example 3



RXA0138269—UN—17JAN14

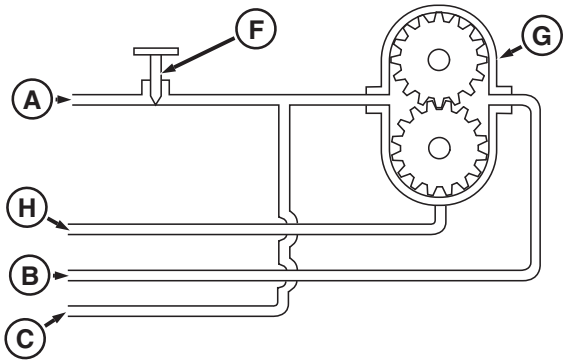
A—Pressure Coupler
B—Load Sense Coupler
C—Return Coupler (motor return)
D—Control Valve
E—Cylinder

IMPORTANT: The system will maintain a maximum pressure of 20000 kPa (200 bar) (2900 psi) as long as power beyond hoses are connected.

The control valve directs oil into the extend or retract circuits (either requiring high pressure). Connect the load sense line to the pressure line before the control

valve. An example is a folding implement, where pressure is needed to extend or retract the cylinders.

Example 4



RXA0138270—UN—17JAN14

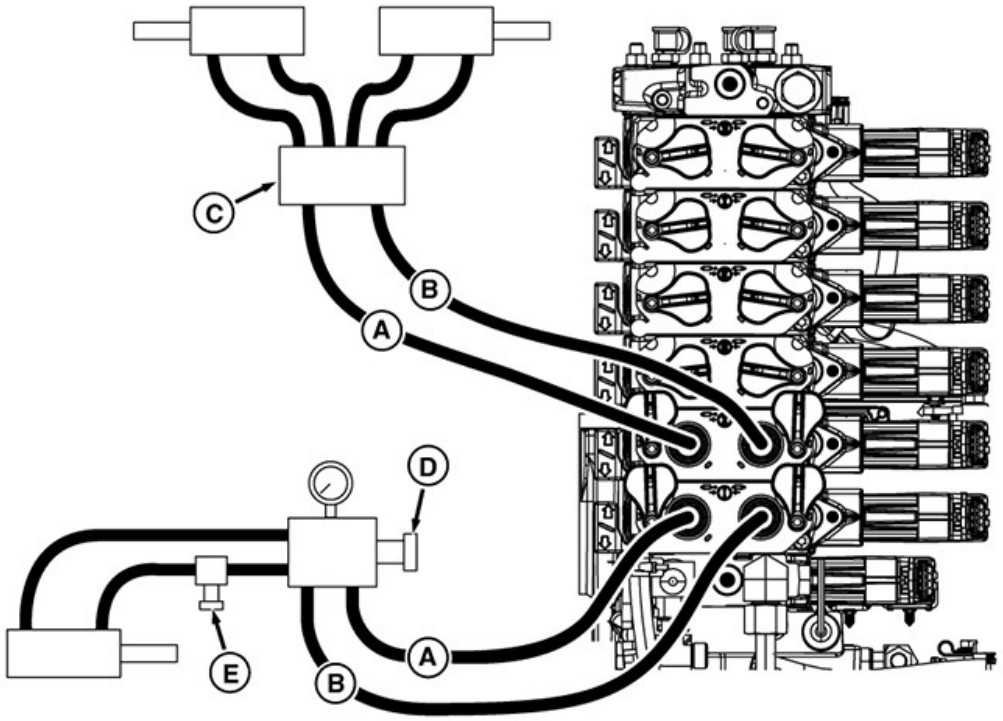
A—Pressure Line
B—Return Line
C—Load Sense Line
F—Pressure-Compensated Flow Valve
G—Hydraulic Motor
H—Motor Case Drain (sump line)

NOTE: The motor speed can fluctuate when other functions cause system pressure change. Minimize fluctuations by installing a pressure-compensated flow control valve.

The pressure-compensated flow control valve is used to regulate hydraulic motor speed. Connect the load sense line to the pressure line after the control valve.

RD47322,00002D5-19-23MAR23

Implement Connections—Active Down Pressure



RXA0188502—UN—01FEB23

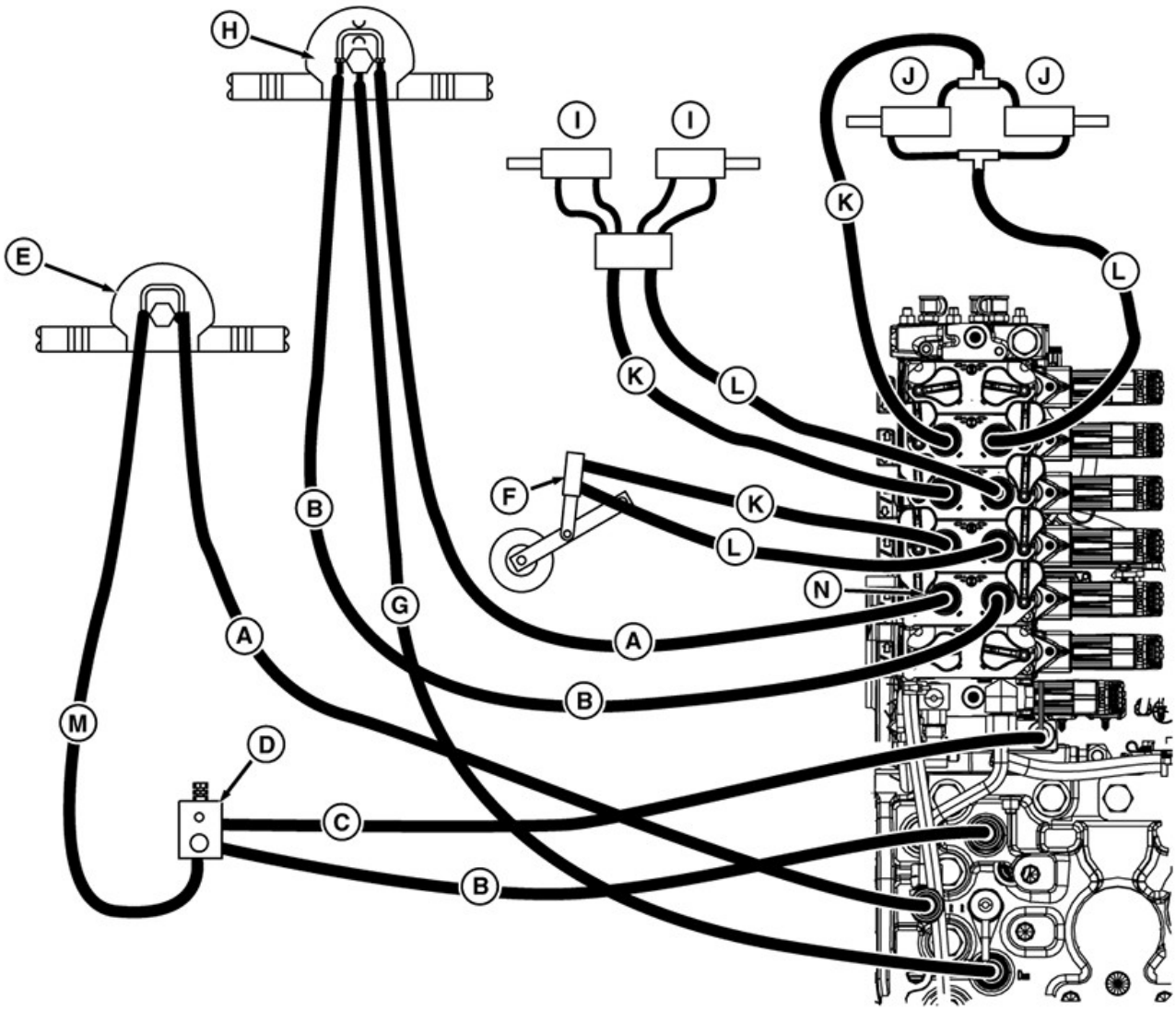
A—Extend Coupler Line
B—Retract Coupler Line
C—Selector Valve
D—Pressure Control Valve
E—Implement Transport Lock Valve

IMPORTANT: Using active down force while operating hydraulic motors can cause overheating. Keep the number of motors in operation to a minimum when active down force is in use.

For implements using active down force (such as grain drills or air seeders), connect the implement as shown in this example. Set the SCV flow to continuous and move the SCV control lever to the retract detent position.

KT81203,00004FD-19-23MAR23

Implement Connections—Vacuum Motors with Power Beyond and Motor Case Drain



RXA0188503—UN—01FEB23

A—Return Line
B—Pressure Line
C—Load Sense Line
D—Control Valve
E—Vacuum Motor
F—Frame Lift Wheel Cylinder
G—Motor Case Drain Line
H—Vacuum Motor
I—Marker Cylinder (2 used)
J—Folding Cylinder (2 used)
K—Extend Coupler Line
L—Retract Coupler Line
M—Controlled Flow Line
N—Special Return Hose Tip

IMPORTANT: Avoid seal damage:

- **When motor return oil is routed to an SCV, a special return hose tip with a check valve is required. The special hose tip prevents high-pressure oil from moving back toward the motor and possibly damaging the seals.**
- **Moving the SCV control lever to neutral will cause the motor to stop abruptly and may damage the seals.**

This example shows connections for a planter application.

The vacuum motor (E) is powered from power beyond through the pressure compensated control valve. The load sense line from the valve (attached to the load sense coupler) signals the hydraulic pump to control pump pressure.

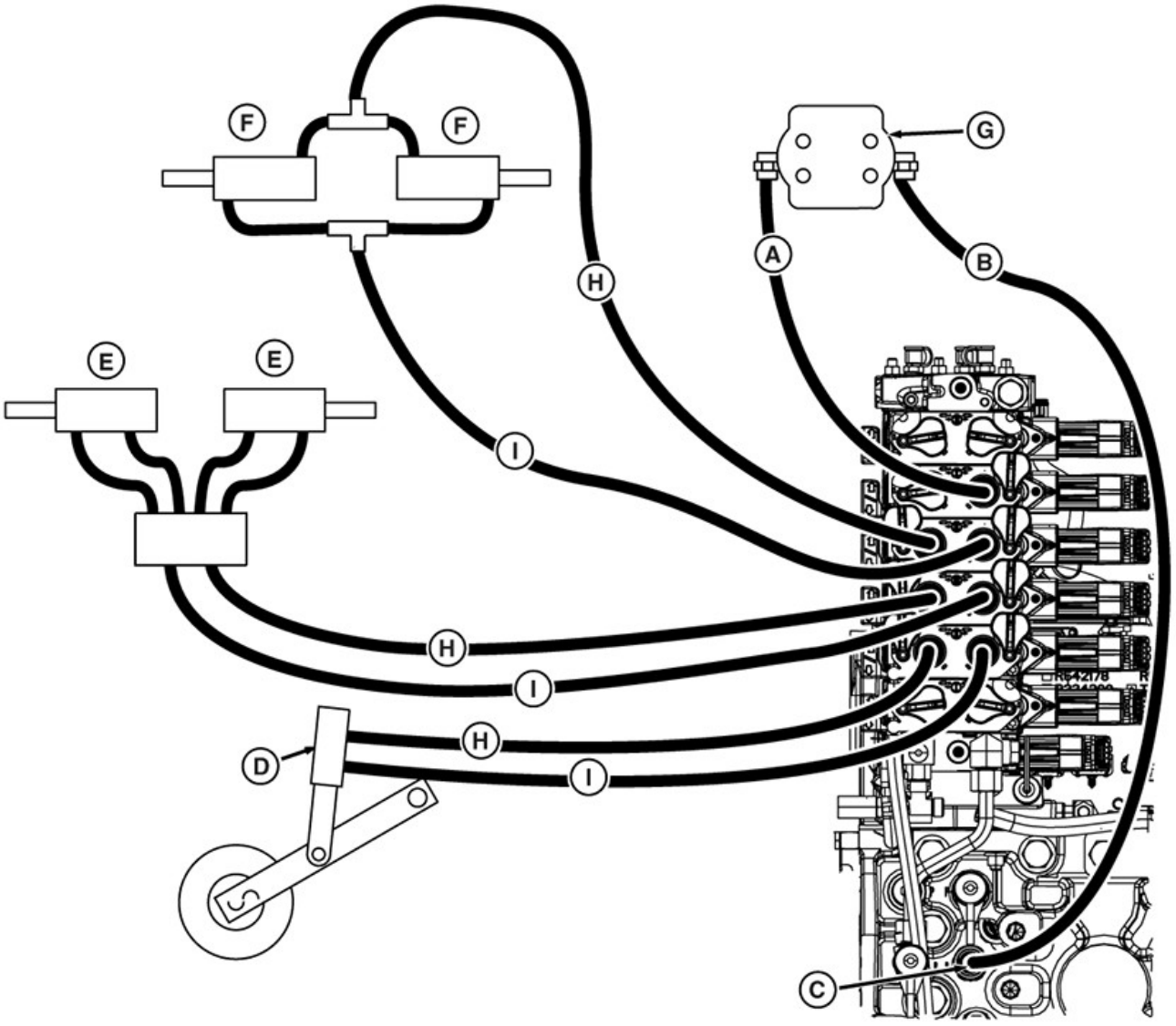
The second vacuum motor (H) is equipped with a motor case drain line (attached to the sump coupler) to direct excess pressure oil from inside the pump to go directly to the sump.

Pressure oil for the second motor comes from the SCV retract coupler. These connections allow the SCV control lever to be moved to the float position without going through the neutral position when shutting off the motor.

For additional information, see the implement Operator's Manual or your John Deere dealer.

KT81203,00004FE-19-02FEB23

Implement Connections—Hydraulic Motor with Motor Return



RXA0188504—UN—01FEB23

A—Pressure Line
B—Return Line
C—Motor Return Coupler
D—Raise/Lower Cylinder
E—Marker Cylinder (2 used)
F—Folding Cylinder (2 used)
G—Hydraulic Motor
H—Extend Coupler Line
I—Retract Coupler Line

IMPORTANT: Moving the SCV control lever to neutral will cause the motor to stop abruptly and may damage the seals.

This example shows connections for a planter application.

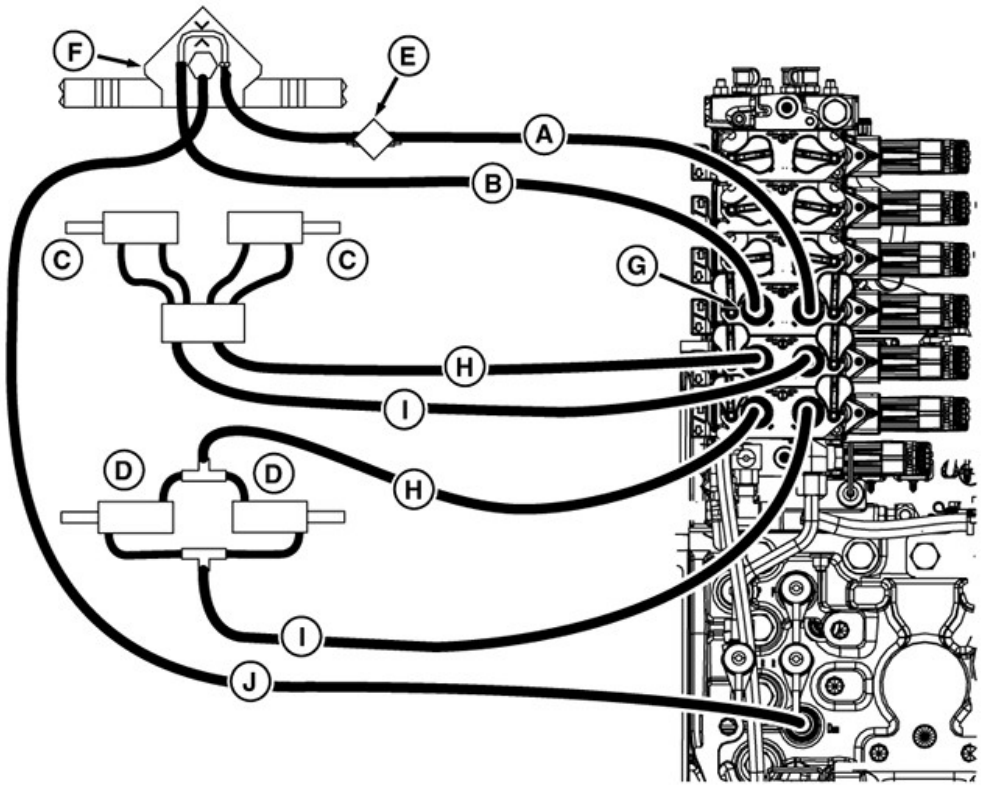
Pressure oil from the SCV retract coupler provides pressure oil to the hydraulic motor and return oil is routed to the sump coupler. These connections allow the SCV control lever to be moved to the float position without going through the neutral position when shutting off the motor.

Load sensing is provided directly from the SCV controlling motor.

For additional information, see the implement Operator's Manual or your John Deere dealer.

KT81203,00004FF-19-02FEB23

Implement Connections—Vacuum Motor with Motor Return Tip



RXA0188505—UN—01FEB23

A—Pressure Line
B—Return Line
C—Marker Cylinder (2 used)
D—Folding Cylinder (2 used)
E—Flow Control Valve
F—Vacuum Motor
G—Special Return Hose Tip
H—Extend Coupler Line
I—Retract Coupler Line
J—Case Drain Line (for motor returns equipped with case drain only)

IMPORTANT: Avoid seal damage:

- **When motor return oil is routed to an SCV, a special return hose tip with a check valve is required. The special hose tip prevents high-pressure oil from moving back toward the motor and possibly damaging the seals.**
- **Moving the SCV control lever to neutral will cause the motor to stop abruptly and may damage the seals.**

This example shows connections for a planter application.

Pressure oil from the vacuum motor comes from the SCV retract coupler through the pressure-compensated control valve. The valve is opened fully and flow is controlled by the SCV. The control valve does not provide a load sense signal to the hydraulic pump. If the control valve is used to control flow, restriction increases pump pressure above that needed to operate the pump. Increased pressure can cause overheating.

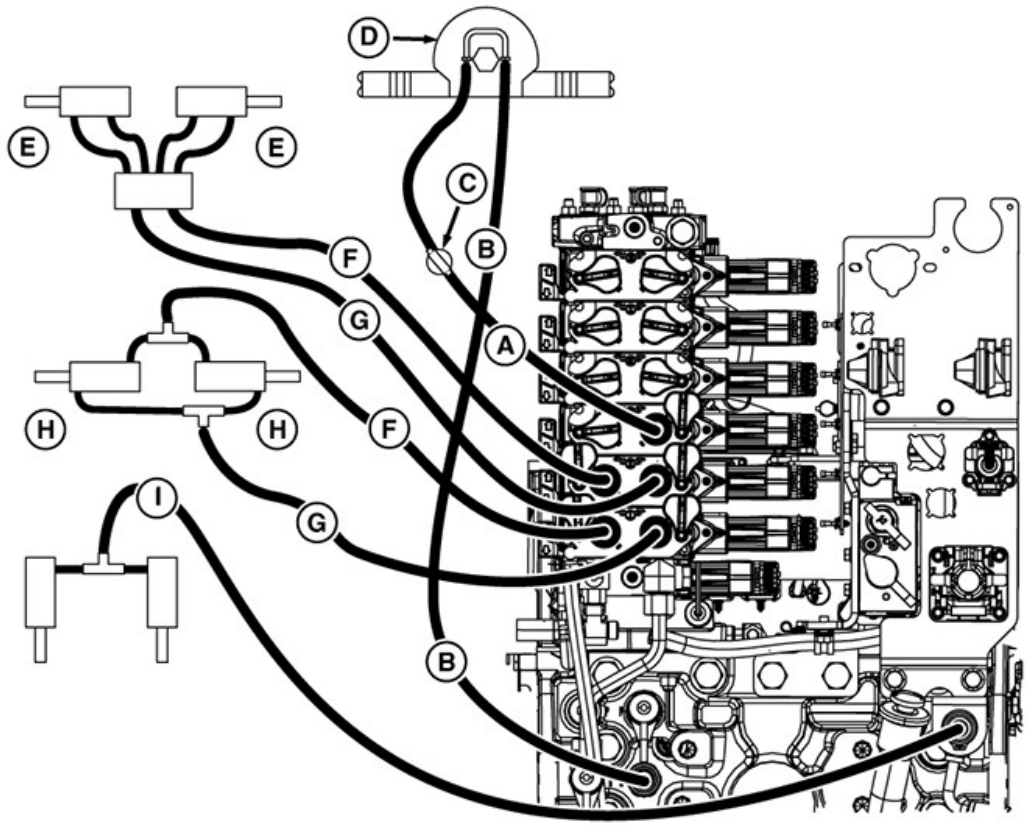
Return oil is routed to the extend coupler. These connections allow the SCV control lever to be moved to the float position without going through the neutral position when shutting off the motor.

On a motor with a case drain, the case drain line is routed to the sump coupler to relieve excessive internal hydraulic pressure.

For additional information, see the implement Operator's Manual or your John Deere dealer.

KT81203,0000500-19-02FEB23

Implement Connections—Hitch Auxiliary Raise in Parallel with Hitch Valve



RXA0188506—UN—01FEB23

A—Pressure Line
B—Return Line
C—Flow Control Valve
D—Vacuum Motor
E—Folding Cylinder (2 used)
F—Extend Coupler Line
G—Retract Coupler Line
H—Marker Cylinder (2 used)
I—Hitch Auxiliary Raise

IMPORTANT: Moving the SCV control lever to neutral will cause the motor to stop abruptly and may damage the seals.

This example shows connections for a planter application with the optional hitch auxiliary raise kit installed in parallel with the hitch valve. The kit is available through your John Deere dealer.

Pressure oil for the vacuum motor comes from the SCV retract coupler through the pressure-compensated control valve. The valve is opened fully and flow is controlled by the SCV. The control valve does not provide a load sense signal to the hydraulic pump. If the control valve is used to control flow, restriction increases pump pressure above that needed to operate the pump. Increased pressure can cause overheating.

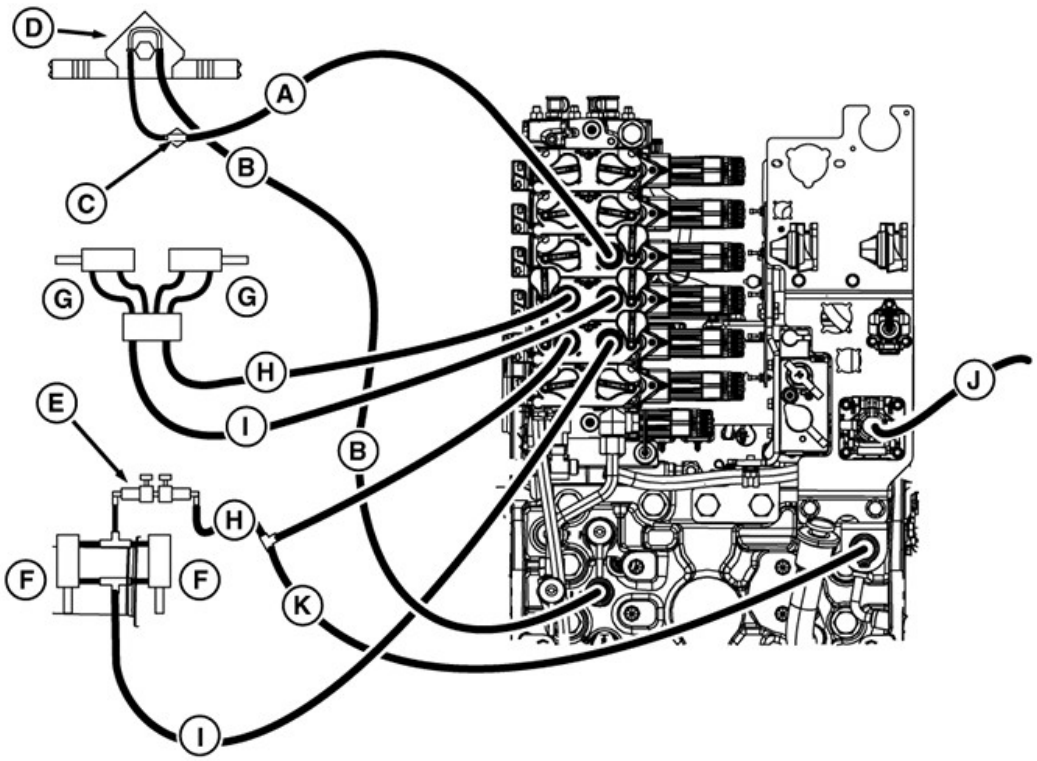
Return oil is routed to the power beyond coupler. These connections allow the SCV control lever to be moved to the float position without going through the neutral position when shutting off the motor.

Hitch auxiliary raise is controlled by the CommandARM joystick.

For additional information, see the implement Operator's Manual or your John Deere dealer.

KT81203,0000501-19-06FEB23

Implement Connections—Hitch Auxiliary Raise in Parallel with SCV



RXA0188507—UN—01FEB23

A—Pressure Line
B—Return Line
C—Flow Control Valve
D—Vacuum Motor
E—Control Valve
F—Hitch Auxiliary Raise
G—Marker Cylinder (2 used)
H—Extend Coupler Line
I—Retract Coupler Line
J—9-Pin Connector with Harness
K—Hitch Auxiliary Raise

This example shows connections for a planter application with the optional hitch auxiliary raise kit installed in parallel with SCV II. The kit is available through your John Deere dealer.

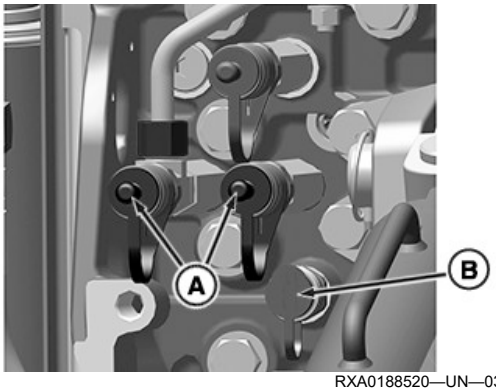
Pressure oil for the vacuum motor comes from the SCV retract coupler through the pressure-compensated control valve. The control valve is used to control flow. Restriction increases pump pressure above that needed to operate the pump. Increased pressure can cause overheating.

Return oil is routed to the power beyond coupler. These connections allow the SCV control lever to be moved to the float position without going through the neutral position when shutting off the motor.

For additional information, see the implement Operator's Manual or your John Deere dealer.

KT81203,0000502-19-16MAR23

Hydraulic Motor Return and Case Drain Kits



RXA0188520—UN—03FEB23

Use the motor case drain sump coupler (B) for low pressure, low flow applications. Motor case drain is used when return oil flow may be too high for a motor return coupler (A) and could cause back pressure that can damage seals in the motor. Motor return and case drain kits are available through your John Deere dealer.

IMPORTANT: Motors without over-running check valves should be connected to a motor return coupler to prevent return line pressurization when the SCV is returned to neutral.

Using a motor return coupler prevents:

- Inadvertent reverse operation.
- Pressurization of the auxiliary function return line.
- Potential flow-checking of the return SCV coupling.

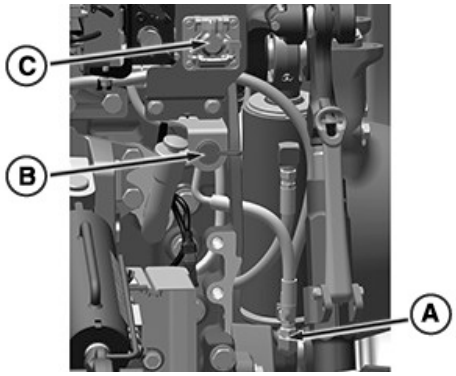
Examples of implements that cannot withstand high pressure applied to both couplers are:

- Hydraulic motors that have return and case drain couplers connected. Failure of the motor housing or shaft seals can result if the return line is pressurized.
- Auxiliary control valves on the implement can allow unexpected movement of cylinders or malfunction if return line pressure is too high.

TS36762,0000200-19-16MAR23

Hitch Auxiliary Raise Kit

In some applications, it is desirable to control a single SCV and the hitch at the same time. For this connection, A hitch auxiliary raise kit is available through your John Deere dealer.



RXA0188518—UN—03FEB23

The CommandARM joystick allows operation of an SCV and the 3-point hitch using one control. The kit connects to the right-hand hitch lift cylinder fitting (A). The auxiliary raise hose connects to the hitch auxiliary raise coupler (B).

The 9-pin connector and jumper harness (C) are required for the hitch auxiliary raise kit. The jumper harness disables the hitch valve and allows the valve to be operated with an SCV.

KT81203,00004FC-19-14MAR23

Implements Requiring Large Volumes of Oil

IMPORTANT: Avoid damage to the hydraulic system:

- **Never add hydraulic oil to the reservoir with the engine running. Doing so can cause the hydraulic reservoir to overflow.**
- **Do not overfill the hydraulic reservoir.**

Removing too much oil can result in malfunction when raising the hitch or using the extend function of SCVs.

If more oil capacity is needed for large one-way cylinders, an optional field installed auxiliary reservoir is available. See your John Deere dealer.

1. Cycle all of the implement cylinders after starting the tractor.
2. Lower the implement to the ground to return most of the oil to the reservoir.
3. Check the hydraulic oil level at the hydraulic oil sight gauge. See Hydraulic System Oil Level in the Service—Check section of this Operator's Manual.
4. Recheck the oil level when the implement is removed.
5. Add or remove hydraulic oil as necessary. If the oil must be drained, see Hydraulic System Oil and Filters in the Service—Change section of this Operator's Manual.

TS36762,00001FF-19-08FEB23

TouchSet Depth Control Settings and Adjustments

CAUTION: Avoid personal injury or death. Do not attempt to install depth control sensors on implements not intended for this system. See implement Operator's Manual.

While engine is running, moving the implement control unit, sensor, connectors, or linkages can result in unexpected movement. Stay clear of implement when starting engine.

TouchSet depth control allows a frequently used height and depth to be set and easily recalled. To use TouchSet depth control, SCV I must be properly connected and set to feature mode.

For more information on:

- Proper connection, see Attach Implement and Control System in this 's Manual section.
- Feature mode, see SCV Settings—Feature Mode in Selective Control Valves section of this 's Manual.
- Height and depth settings, see SCV Settings—Flow Adjustment in Selective Control Valves section of this Operator's Manual.

SCV lever adjustments:

- To move implement to upper or lower set point, briefly hold SCV lever in extend detent or retract detent position.
- To adjust implement position up or down by a fixed amount, tap SCV lever into extend or retract position.

For more information on SCV lever positions, see SCV Control Lever Adjustments in Selective Control Valves section of this Operator's Manual.

KD34109,000058D-19-20JUN22

Connect/Disconnect the Implement Position Connector

CAUTION: Prevent possible personal injury. To prevent implement movement, before connecting/disconnecting implements, always:

1. **Shut off the engine.**
2. **Move the SCV lever to the neutral position.**
3. **Lock out the SCV controls.**

IMPORTANT: Always shut off the engine before connecting or disconnecting the implement position connector. Connecting or disconnecting the implement position connector with the engine running can cause:

- **The implement not to respond to commands.**
- **Diagnostic Trouble Codes (DTC) to appear.**

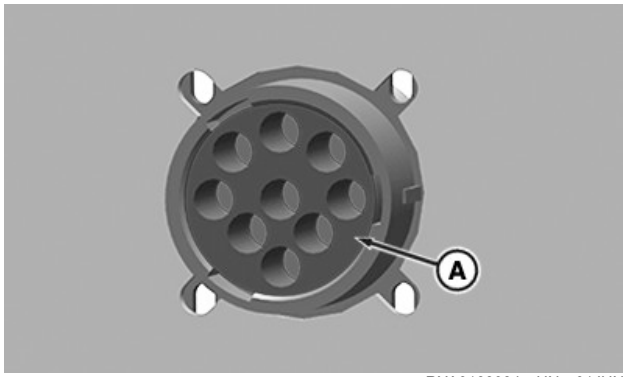
If a DTC appears or the implement fails to respond to commands, reset the implement position connector. See Reset the Implement Position Connector.

Connect the Implement Position Connector

1. Position the rear of the tractor at the front of the implement.
2. Shut off the engine.

CAUTION: Prevent personal injury and equipment damage. Always set the hitch pin into the locked position.

3. Attach the implement to the drawbar.
4. Connect the implement hydraulic hoses. See Connect/Disconnect Hydraulic Hoses in the Hydraulic Connections section of this Operator's Manual.



RXA0188984—UN—01JUN23

Tractor Wiring Harness Connector (A) is on a Bracket to the Right of the SCV Stack

5. Install the implement position connector to the tractor wiring harness connector.

Disconnect the Implement Position Connector

1. Shut off the engine.
2. Uninstall the implement position connector from the tractor wiring harness connector.
3. Disconnect the implement hydraulic hoses.
4. Detach the implement from the drawbar.

Reset the Implement Position Connector

To reset the implement connection:

1. Shut off the engine and allow the CommandCenter to shut down completely.
2. Disconnect the implement harness from the implement connector.
3. Start the tractor and allow the CommandCenter to start completely.

4. Shut off the engine and allow the CommandCenter to shut down completely.
5. Connect the implement harness to the implement connector.
6. Start the engine and allow the CommandCenter to start completely.
7. Operate the implement. If a DTC appears or the implement fails to respond to commands, see your John Deere dealer.

TS36762,0000202-19-16JUN23

Laser Scraper—Scrapers Equipped with Scraper Control Unit

CAUTION: Avoid personal injury or death. While engine is running, moving the scraper control unit, connectors, or linkages can result in unexpected movement. Stay clear of implement when starting engine.

NOTE: The system is used primarily in areas requiring an automated laser guidance system for scraper applications.

Automatic scraper control system allows raising, lowering, and setting the depth for the implement electronically without leaving the cab.

Setup

1. Connect implement to tractor using SCV I, III, or V.
2. Set connected SCV to AUTO. See SCV Settings—Feature Mode in Selective Control Valves section of this Operator's Manual.
3. Set flow for connected SCV. See SCV Settings—Flow Adjustment in Selective Control Valves section of this Operator's Manual.

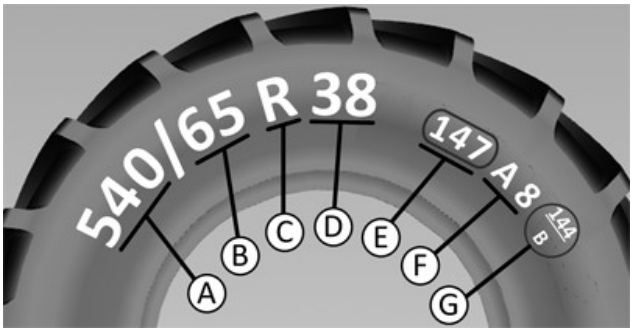
Activation

To activate automatic scraper control system, briefly move corresponding SCV lever to extend detent or retract detent position. For more information on SCV lever positions, see SCV Control Lever Adjustments in Selective Control Valves section of this Operator’s Manual.

KD34109,000058E-19-10NOV20

Determine Tire Load Capacity

CAUTION: Never exceed tire load capacity or permissible axle loads. See Tire Load Index section in this Operator's Manual for more information on permissible max load.



LX299192—UN—18NOV16

Example of Manufacturers' Information on Tire Sidewall

A—Tire Width: Width in millimeters
B—Aspect Ratio: Ratio of tire height to tire width
C—Type: "R" = radial; "—" = cross-ply (example: 18.4-38)
D—Rim Diameter: Diameter in inches
E—Load Index (LI): Maximum permissible load capacity per tire, in relation to speed index (F)
F—Speed Index: Maximum permissible ground speed at which (E) applies
G—LI/Speed Index: Tire load capacity at alternative permitted ground speed

Additional Information That Can Be Displayed on the Sidewall

- **Direction of rotation -** Icon (usually an arrow or group of arrows) indicating tire rotation direction.
- **Maximum load and pressure information -** Maximum load a tire is permitted to carry under specified pressure and operating conditions. See Recommended Pressures charts in Wheels, Tires, and Treads section of this Operator's Manual.
- **Safety warnings -** Important information provided by tire manufacturer.

Tire Load Capacity at a Specific Ground Speed

Load capacity (LI) (E) at maximum permissible ground speed (F) is found on the tire sidewall.

Information listed as (G) indicate that the tire is approved for alternative ground speed and maximum permissible load capacity.

Speed Index (G)	Maximum Permissible Ground Speed km/h (mph)
A6	30 (19)
A8	40 (25)
B	50 (30)
D	65 (40)

Example: a tire sidewall indicating 540/65R38 147A8 (144/B) allows two load and speed index options.

540/65R38 147A8 (144/B)		
Maximum	Tire Load and Speed Index	
	Option 1	Option 2
	147A8	144/B
Load Capacity Per Tire kg (lb)	3075 (6780)	2800 (6175)
Permissible Ground Speed km/h (mph)	40 (25)	50 (30)

Local laws and regulations can restrict travel speeds to figures lower than the travel speeds quoted here.

EC82310,0000400-19-15MAR21

Change Tire Size

IMPORTANT: Before changing size of tire, see Select Tire Combinations in this section of this Operator's Manual.

See your John Deere dealer to recalibrate for tire size.

Perform wheel slip calibration (see Slip Calibrations in CommandCenter section of this Operator's Manual).

TS36762,0000207-19-20JUN22

Select Tire Combinations

IMPORTANT: Mismatched front and rear tire combinations may cause poor performance, excessive power train wear, and other problems. Never:

- **Mix worn and new tires**
- **Mix bias and radial tires**
- **Mix tires of different diameters**
- **Use R2 tires in conjunction with R1 or R1W tires**
- **Convert Group 47/48 tires to Group 49 tires**
- **Convert Group 49 tires to Group 47/48 tires**

If unable to replace tires with same size as original equipment, see your John Deere dealer or tire supplier for guidance.

Tire Group Size

Tires are placed into groups by their Rolling Circumference Index (RCI). Rolling circumference is distance tread travels in one revolution. Tires within a group, regardless of rim size, are same or nearly same diameter.

Required Front/Rear Tire Group Combinations

Front tire must be from a group five group sizes smaller than rear tire group.

Axle	Rear			
	Tire Group	47	48	49
Front	42	-5	—	—
	43	—	-5	—
	44	—	—	-5

Recommended Row and Section Width

Front Tires

Width		RCIGroup Size		
Row[a] mm (in)	Section	42	43	44
508 (20)	320	320/85R38	320/80R42 IF320/ 80R42	—
559 (22)	380	380/85R34	380/80R38 IF380/ 80R38 VF380/ 80R38	—
762 (30)	420	420/90R30	420/85R34 IF420/ 85R34	420/85R38
	480	480/70R30	480/70R34 IF480/ 70R34	—
813 (32)	540	—	540/65R34	—
	600	600/65R28	600/70R30 IF600/ 70R30 VF600/ 70R30	600/65R34
864 (34)	620	—	—	IF620/75R30 VF620/ 75R30
—	650	—	—	650/60R34 IF650/60R34 VF650/ 60R34
—	710	—	—	VF710/ 55R34

[a] *Minimum recommended*

Rear Tires

Width		RCIGroup Size		
Row[a] mm (in)	Section	47	48	49
508 (20)	320	320/90R54[b]	320/105R54	—
559 (22)	380	380/90R50	380/90R54	—
762 (30)	480	480/80R46	480/80R50 IF480/ 80R50	480/95R50
			VF480/ 80R50	
813 (32)	520	520/85R42	520/85R46	—
864 (34)	620	620/70R42	620/70R46	—
	650	650/65R42	650/85R38 IF650/ 85R38 VF650/ 85R38	—
914 (36)	710	710/70R38	710/70R42 IF710/ 70R42 VF710/ 70R42	710/75R42 IF710/75R42 VF710/ 75R42
965 (38)	750	—	—	VF750/ 70R44
1016 (40)	800	—	800/70R38 VF800/ 70R38	—
—	900	—	—	IF900/60R42 VF900/ 60R42

[a] *Minimum recommended*
[b] *Approved in dual configuration only*

TS36762,0000208-19-17APR23

Tire Load Index

IMPORTANT: Tire load capacity can exceed allowable axle loading. Tractors equipped with flange axles or rear duals should be limited to whichever is lower: 179 LI or what is identified on the tire sidewall. Ballast tractor according to engine power and weight split guidelines. For more information, see Performance Ballasting section of this Operator's Manual.

IMPORTANT: Avoid tractor damage. Never exceed the maximum ballast weight when operating with heavy draft loads. See Performance Ballasting section of this Operator's Manual.

Tire industry uses a term "load index" to define a load rating of a tire. Load index indicates maximum amount of weight that can be supported by each tire at manufacturer's maximum rated pressure is shown in this chart.

Load carrying capacity per tire is reduced for tractors equipped with duals.

Load Index	Maximum Load per Tire[a]		Load Index	Maximum Load per Tire[a]	
	Single kg (lb)	Duals kg (lb)		Single kg (lb)	Duals kg (lb)
137	2300 (5071)	2024 (4462)	164	5000 (11023)	4400 (9700)
138	2360 (5203)	2077 (4579)	165	5150 (11354)	4532 (9991)
139	2430 (5357)	2138 (4714)	166	5300 (11684)	4664 (10282)

Load Index	Maximum Load per Tire[a]		Load Index	Maximum Load per Tire[a]	
	Single kg (lb)	Duals kg (lb)		Single kg (lb)	Duals kg (lb)
140	2500 (5512)	2200 (4850)	167	5450 (12015)	4796 (10573)
141	2575 (5677)	2266 (4996)	168	5600 (12346)	4928 (10864)
142	2650 (5842)	2332 (5141)	169	5800 (12787)	5104 (11252)
143	2725 (6008)	2398 (5287)	170	6000 (13228)	5280 (11640)
144	2800 (6173)	2464 (5432)	171	6150 (13558)	5412 (11931)
145	2900 (6393)	2552 (5626)	172	6300 (13889)	5544 (12222)
146	3000 (6614)	2640 (5820)	173	6500 (14330)	5720 (12610)
147	3075 (6779)	2706 (5966)	174	6700 (14771)	5896 (12998)
148	3150 (6945)	2772 (6111)	175	6900 (15212)	6072 (13386)
149	3250 (7165)	2860 (6305)	176	7100 (15653)	6248 (13774)
150	3350 (7385)	2948 (6499)	177	7300 (16094)	6424 (14162)
151	3450 (7606)	3036 (6693)	178	7500 (16535)	6600 (14550)
152	3550 (7826)	3124 (6887)	179	7750 (17086)	6820 (15036)
153	3650 (8047)	3212 (7081)	180	8000 (17637)	
154	3750 (8267)	3300 (7275)	181	8250 (18188)	
155	3875 (8543)	3410 (7518)	182	8500 (18739)	
156	4000 (8818)	3520 (7760)	183	8750 (19290)	
157	4125 (9094)	3630 (8003)	184	9000 (19841)	
158	4250 (9370)	3740 (8245)	185	9250 (20393)	
159	4375 (9645)	3850 (8488)	186	9500 (20944)	
160	4500 (9921)	3960 (8730)	187	9750 (21495)	
161	4625 (10196)	4070 (8973)	188	10000 (22046)	
162	4750 (10472)	4180 (9215)	189	10300 (22707)	
163	4875 (10748)	4290 (9458)	190	10600 (23369)	

[a] *At maximum rated pressure.*

TS36762,0000209-19-23SEP21

Tire Inflation Pressure Guidelines

IMPORTANT: Never exceed the maximum tire inflation pressure stated on tire.

Bead slip can be experienced in high-traction conditions, especially at low inflation pressures. Monitor the tires closely and increase the pressure if bead slip is experienced. It may be required to exceed the pressures listed in the recommended pressure tables found in the Front Wheels and Tires and Rear Wheels and Tires sections of this Operator's Manual.

Check tire inflation pressure while tires are cool, using an accurate dial or stick-type gauge having 10 kPa (0.1 bar) (1 psi) graduations.

NOTE: Use a special air-water gauge and measure with the valve stem at bottom if tires contain liquid ballast.

Correctly inflated radial tires show deflection of sidewall. This is normal and does not harm tire.

Inflation pressures less than 80 kPa (0.8 bar) (12 psi) must be monitored frequently because of the increased risk of low-pressure air leaks.

Maximum tire pressure is specified on the tire sidewall.

Determine Correct Tire Pressure

Implements transfer weight to axles, always include this weight when determining correct inflation pressures. Determine correct tire pressure by weighing tractor using the following procedure:

Rear Implement: Front axle should be weighed with the implement lowered. Rear axle should be weighed with the implement in the transport position.

Front Implement: Front axle should be weighed with the implement in the transport position. The rear axle must be weighed with the implement lowered.

Front- and Rear-mounted Implement: Weigh tractor with both front and rear implement raised.

Set tire inflation pressures according to weight measured. *Ballasting and tire inflation pressure may need to be adjusted when operating conditions change.* Use following tire inflation charts. For tires not found in charts refer to manufacturers recommended inflation pressures.

Managing Tire Inflation Pressures

IMPORTANT: Never exceed maximum tire inflation pressure stated on tire.

Tractors operating with a loader should increase front tire pressures 30 kPa (0.3 bar) (4 psi) above values listed to compensate for weight transfer.

Tractors operating on steep side slopes or furrow plowing should increase rear tire pressures 30 kPa (0.3 bar) (4 psi) above values listed for base pressures 80 kPa (0.8 bar) (12 psi) and above to compensate for lateral weight transfer. For base pressures below 80 kPa (0.8 bar) (12 psi), pressure should be increased by 30%.

TO84419,0000162-19-21APR21

Clamp-On Dual Usage

IMPORTANT: Do not use clamp-on duals for heavy traction work. They are allowed only for use when the following conditions are met including recommended tire sizes and manufacturers.

NOTE: Clamp-on duals not recommended for turning with brake.

Use the right combination of weight and tread widths for the relevant application.

- Maximum total vehicle weight limited to 16000 kg (35274 lb).
- Maximum inner tread width limited to 1930 mm (76 in).
- Maximum outer tread width limited to 3860 mm (152 in).

GH15097,0000846-19-24FEB22

Recommended Pressures—Group 42

Group	42										
Size	320/ 85R38	380/85R34			420/90R30			480/ 70R30	600/65R28		
Load Index	143	137	145	146	142	145	147	152	147[a]	154	
Speed Rating	A8 / B	A8 / B	A8 / B	A8 / B	A8 / B	A8 / B / D	A8 / B / D	A8 / B	A8 / B	A8 / B	D
	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
1814 (4000)	55 (0.55)(8)	62 (0.62)(9)	55 (0.55)(8)	110 (1.1)(16)	83 (0.8)(12)	110 (1.10)(16)	50 (0.55)(8)	55 (0.55)(8)	65 (0.65)(9)	76 (0.7)(11)	69 (0.7)(10)
2041 (4500)	60 (0.6)(9)	62 (0.62)(9)	55 (0.55)(8)	110 (1.1)(16)	83 (0.8)(12)	110 (1.10)(16)	50 (0.55)(8)	55 (0.55)(8)	65 (0.65)(9)	76 (0.7)(11)	69 (0.7)(10)
2268 (5000)	80 (0.80)(12)	62 (0.62)(9)	55 (0.55)(8)	83 (0.83)(12)	83 (0.8)(12)	110 (1.10)(16)	50 (0.55)(8)	55 (0.55)(8)	65 (0.65)(9)	76 (0.7)(11)	69 (0.7)(10)
2495 (5500)	95 (0.95)(14)	62 (0.62)(9)	60 (0.6)(9)	110 (1.1)(16)	83 (0.8)(12)	110 (1.10)(16)	50 (0.55)(8)	70 (0.7)(10)	65 (0.65)(9)	76 (0.7)(11)	69 (0.7)(10)
2722 (6000)	105 (1.05)(15)	70 (0.7)(10)	70 (0.7)(10)	110 (1.1)(16)	83 (0.8)(12)	110 (1.10)(16)	50 (0.55)(8)	75 (0.75)(11)	65 (0.65)(9)	76 (0.7)(11)	69 (0.7)(10)
2948 (6500)	120 (1.2)(17)	90 (0.9)(13)	90 (0.90)(13)	110 (1.1)(16)	83 (0.8)(12)	110 (1.10)(16)	60 (0.6)(9)	85 (0.85)(12)	65 (0.65)(9)	76 (0.7)(11)	69 (0.7)(10)
3175 (7000)	125 (1.25)(18)	95 (0.95)(14)	97 (0.97)(14)	110 (1.1)(16)	83 (0.8)(12)	110 (1.10)(16)	75 (0.75)(11)	90 (0.9)(13)	65 (0.65)(9)	76 (0.7)(11)	69 (0.7)(10)
3402 (7500)	145 (1.45)(21)	110 (1.1)(16)	110 (1.1)(16)	110 (1.1)(16)	83 (0.8)(12)	110 (1.10)(16)	90 (0.9)(13)	105 (1.05)(15)	65 (0.65)(9)	76 (0.7)(11)	69 (0.7)(10)
3629 (8000)	160 (1.6)(23)	110 (1.1)(16)	117 (1.17)(17)	110 (1.1)(16)	83 (0.8)(12)	110 (1.10)(16)	95 (0.95)(14)	110 (1.1)(16)	65 (0.65)(9)	76 (0.7)(11)	69 (0.7)(10)
3856 (8500)	180 (1.80)(26)	125 (1.25)(18)	131 (1.31)(19)	110 (1.1)(16)	83 (0.8)(12)	110 (1.10)(16)	110 (1.1)(16)	120 (1.2)(17)	65 (0.65)(9)	76 (0.7)(11)	69 (0.7)(10)
4082 (9000)	200 (2.0)(29)	130 (1.3)(19)	138 (1.38)(20)	124 (1.24)(18)	83 (0.8)(12)	117 (1.2)(17)	120 (1.2)(17)	125 (1.25)(18)	65 (0.65)(9)	83 (0.8)(12)	76 (0.7)(11)
4309 (9500)	230 (2.3)(34)	145 (1.45)(21)	152 (1.52)(22)	145 (1.4)(21)	83 (0.8)(12)	117 (1.2)(17)	120 (1.2)(17)	140 (1.4)(20)	85 (0.85)(12)	90 (0.9)(13)	90 (0.9)(13)
4536 (10000)	250 (2.5)(38)	150 (1.5)(22)	159 (1.59)(23)	159 (1.6)(23)	83 (0.8)(12)	131 (1.3)(19)	130 (1.3)(19)	150 (1.5)(22)	95 (0.95)(14)	103 (1.0)(15)	97 (1.0)(14)
4763 (10500)	280 (2.8)(41)	160 (1.6)(23)	179 (1.79(26)	179 (1.8)(26)	83 (0.8)(12)	138 (1.4)(20)	140 (1.4)(20)	160 (1.6)(23)	105 (1.05)(15)	110 (1.1)(16)	103 (1.0)(15)
4990 (11000)	303 (3.0)(44)	—	200 (2.0)(29)	200 (2.0)(29)	83 (0.8)(12)	145 (1.45)(21)	145 (1.45)(21)	165 (1.65)(24)	110 (1.1)(16)	110 (1.1)(16)	110 (1.10)(16)
5216 (11500)	324 (3.2)(47)	—	234 (2.34)(34)	207 (2.1)(30)	83 (0.8)(12)	159 (1.6)(23)	160 (1.6)(23)	180 (1.8)(26)	120 (1.2)(17)	117 (1.2)(17)	110 (1.1)(16)
5443 (12000)	359 (3.6)(52)	—	255 (2.55)(37)	221 (2.2)(32)	83 (0.8)(12)	172 (1.7)(25)	160 (1.6)(23)	190 (1.9)(28)	125 (1.25)(18)	124 (1.2)(18)	117 (1.2)(17)
5670 (12500)	—	—	276 (2.76)(40)	228 (2.3)(33)	83 (0.8)(12)	193 (1.9)(28)	190 (1.9)(28)	210 (2.1)(30)	140 (1.4)(20)	138 (1.3)(20)	124 (1.2)(18)
5900 (13000)	—	—	—	241 (2.4)(35)	83 (0.8)(12)	—	215 (2.15)(31)	220 (2.2)(32)	145 (1.45)(21)	145 (1.4)(21)	131 (1.3)(19)
6123 (13500)	—	—	—	—	97 (1.0)(14)	—	240 (2.4)(35)	240 (2.4)(36)	160 (1.6)(23)	159 (1.6)(23)	145 (1.4)(21)
6350 (14000)	—	—	—	—	103 (1.0)(15)	—	—	275 (2.75)(40)	—	165 (1.7)(24)	152 (1.5)(22)
6577 (14500)	—	—	—	—	110 (1.1)(16)	—	—	290 (2.9)(42)	—	179 (1.8)(26)	159 (1.6)(23)
6804 (15000)	—	—	—	—	117 (1.2)(17)	—	—	300 (3.0)(43)	—	186 (1.9)(27)	172 (1.7)(25)
7031 (15500)	—	—	—	—	117 (1.2)(17)	—	—	320 (3.2)(46)	—	200 (2.0)(29)	186 (1.9)(27)

Group	42										
Size	320/85R38	380/85R34			420/90R30			480/70R30	600/65R28		
Load Index	143	137	145	146	142	145	147	152	147[a]	154	
Speed Rating	A8 / B	A8 / B	A8 / B	A8 / B	A8 / B	A8 / B / D	A8 / B / D	A8 / B	A8 / B	A8 / B	D
	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
7257 (16000)	—	—	—	—	131 (1.3)(19)	—	—	—	—	221 (2.2)(32)	207 (2.1)(30)
7484 (16500)	—	—	—	—	138 (1.4)(20)	—	—	—	—	241 (2.4)(35)	221 (2.2)(32)
7950 (17000)	—	—	—	—	145 (1.4)(21)	—	—	—	—	—	234 (2.3)(34)
8170 (17500)	—	—	—	—	159 (1.6)(23)	—	—	—	—	—	—
8400 (18000)	—	—	—	—	165 (1.7)(24)	—	—	—	—	—	—
8391 (18500)	—	—	—	—	179 (1.8)(26)	—	—	—	—	—	—
8618 (19000)	—	—	—	—	186 (1.9)(27)	—	—	—	—	—	—
8845 (19500)	—	—	—	—	200 (2.0)(29)	—	—	—	—	—	—
9071 (20000)	—	—	—	—	207 (2.1)(30)	—	—	—	—	—	—
9298 (20500)	—	—	—	—	214 (2.1)(31)	—	—	—	—	—	—
9525 (21000)	—	—	—	—	221 (2.2)(32)	—	—	—	—	—	—
9977 (22000)	—	—	—	—	228 (2.3)(33)	—	—	—	—	—	—
10430 (23000)	—	—	—	—	241 (2.4)(35)	—	—	—	—	—	—

[a] *154D @ 40 km/h*

TS36762,000020C-19-01MAY19

Recommended Pressures—Group 43

Group	43								
Size	320/80R42	IF320/80R42		380/80R38	IF380/80R38	VF380/80R38	420/85R34	IF420/85R34	480/70R34
Load Index	141	149	150	142	149	154	147	152	143
Speed Rating	A8	A8 / B / D	D	A8 / B	A8 / B / D	D	A8 / B / D	A8 / B / D	A8 / B / D
	Single	Single	Single	Single[a]	Single	Single	Single[b]	Single	Single
Axle Load kg(lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
1814 (4000)	55 (0.55)(8)	40 (0.4)(6)	40 (0.4)(6)	62[a] (0.6)(9)	85 (0.85)(12)	83 (0.8)(12)	62[b] (0.6)(9)	85 (0.85)(12)	75 (0.75)(11)
2041 (4500)	65 (0.65)(9)	40 (0.4)(6)	65 (0.65)(9)	62[a] (0.6)(9)	85 (0.85)(12)	83 (0.8)(12)	62[b] (0.6)(9)	85 (0.85)(12)	75 (0.75)(11)
2268 (5000)	75 (0.75)(11)	55 (0.55)(8)	70 (0.7)(10)	62[a] (0.6)(9)	85 (0.85)(12)	83 (0.8)(12)	62[b] (0.6)(9)	85 (0.85)(12)	75 (0.75)(11)

Group	43								
Size	**320/80R42**	**IF320/80R42**		**380/80R38**	**IF380/80R38**	**VF380/ 80R38**	**420/85R34**	**IF420/85R34**	**480/70R34**
Load Index	**141**	**149**	**150**	**142**	**149**	**154**	**147**	**152**	**143**
Speed Rating	**A8**	**A8 / B / D**	**D**	**A8 / B**	**A8 / B / D**	**D**	**A8 / B / D**	**A8 / B / D**	**A8 / B / D**
	Single	**Single**	**Single**	**Single[a]**	**Single**	**Single**	**Single[b]**	**Single**	**Single**
Axle Load kg(lb)	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**
2495 (5500)	90 (0.9)(13)	70 (0.7)(10)	76 (0.76)(11)	62[a] (0.6)(9)	85 (0.85)(12)	83 (0.8)(12)	62[b] (0.6)(9)	85 (0.85)(12)	75 (0.75)(11)
2722 (6000)	105 (1.05)(15)	76 (0.76)(11)	85 (0.85)(12)	76[a] (0.8)(11)	85 (0.85)(12)	83 (0.8)(12)	69[b] (0.7)(10)	85 (0.85)(12)	75 (0.75)(11)
2948 (6500)	120 (1.2)(17)	90 (0.90)(13)	90 (0.90)(13)	90[a] (0.9)(13)	85 (0.85)(12)	83 (0.8)(12)	76[b] (0.8)(11)	90 (0.90)(13)	75 (0.75)(11)
3175 (7000)	125 (1.25)(18)	95 (0.95)(14)	105 (1.05)(15)	103 (1.0)(15)	90 (0.90)(13)	83 (0.8)(12)	83[b] (0.8)(12)	90 (0.90)(13)	75 (0.75)(11)
3402 (7500)	140 (1.4)(20)	110 (1.1)(16)	110 (1.1)(16)	110 (1.1)(16)	90 (0.90)(13)	83 (0.8)(12)	90[b] (0.9)(13)	90 (0.90)(13)	75 (0.75)(11)
3629 (8000)	150 (1.5)(22)	120 (1.2)(17)	120 (1.2)(17)	117 (1.2)(17)	90 (0.90)(13)	90 (0.9)(13)	97[b] (1.0)(14)	90 (0.90)(13)	75 (0.75)(11)
3855 (8500)	175 (1.75)(25)	125 (1.25)(18)	131 (1.3)(19)	131 (1.3)(19)	105 (1.05)(15)	103 (1.0)(15)	103[b] (1.0)(15)	95 (0.95)(14)	97 (1.0)(14)
4082 (9000)	200 (2.0)(29)	140 (1.4)(20)	138 (1.4)(20)	138 (1.4)(20)	110 (1.1)(16)	110 (1.1)(16)	110 (1.1)(16)	95 (0.95)(14)	103 (1.0)(15)
4309 (9500)	235 (2.35)(34)	150 (1.5)(22)	152 (1.5)(22)	152 (1.5)(22)	120 (1.2)(17)	117 (1.2)(17)	117 (1.2)(17)	95 (0.95)(14)	110 (1.1)(16)
4536 (10000)	260 (2.6)(38)	165 (1.7)(24)	165 (1.7)(24)	159 (1.6)(23)	125 (1.25)(18)	124 (1.2)(18)	131 (1.3)(19)	105 (1.05)(15)	117 (1.2)(17)
4763 (10500)	275 (2.75)(40)	185 (1.85)(27)	186 (1.9)(27)	186 (1.9)(27)	130 (1.3)(19)	131 (1.3)(19)	138 (1.4)(20)	110 (1.1)(16)	124 (1.2)(18)
4990 (11000)	305 (3.05)(44)	200 (2.0)(29)	200 (2.0)(29)	214 (2.1)(31)	140 (1.4)(20)	138 (1.4)(20)	152 (1.5)(22)	120 (1.2)(17)	138 (1.4)(20)
5216 (11500)	—	234 (2.3)(34)	234 (2.3)(34)	234 (2.3)(34)	150 (1.5)(22)	152 (1.5)(22)	159 (1.6)(23)	120 (1.2)(17)	152 (1.5)(22)
5443 (12000)	—	255 (2.55)(37)	255 (2.5)(37)	—	160 (1.6)(23)	159 (1.6)(23)	179 (1.8)(26)	125 (1.25)(18)	—
5670 (12500)	—	276 (2.76)(40)	276 (2.8)(40)	—	175 (1.75)(25)	172 (1.7)(25)	200 (2.0)(29)	140 (1.4)(20)	—
5897 (13000)	—	290 (2.9)(42)	290 (2.9)(42)	—	185 (1.85)(27)	193 (1.9)(28)	221 (2.2)(32)	145 (1.45)(21)	—
6123 (13500)	—	310 (3.1)(45)	310 (3.1)(45)	—	215 (2.15)(31)	214 (2.1)(31)	241 (2.4)(35)	150 (1.5)(22)	—
6350 (14000)	—	324 (3.24)(47)	331 (3.3)(48)	—	240 (2.4)(35)	228 (2.3)(33)	—	160 (1.6)(23)	—
6577 (14500)	—	—	—	—	—	—	—	180 (1.8)(26)	—
6804 (15000)	—	—	—	—	—	—	—	185 (1.85)(27)	—

Group	43								
Size	320/80R42	IF320/80R42		380/80R38	IF380/80R38	VF380/ 80R38	420/85R34	IF420/85R34	480/70R34
Load Index	141	149	150	142	149	154	147	152	143
Speed Rating	A8	A8 / B / D	D	A8 / B	A8 / B / D	D	A8 / B / D	A8 / B / D	A8 / B / D
	Single	Single	Single	Single[a]	Single	Single	Single[b]	Single	Single
Axle Load kg(lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
7031 (1550-0)	—	—	—	—	—	—	—	200 (2.0)(29)	—

[a] *For Mitas tire, recommended pressure is 83 kPa (0.8 bar) (12 psi) up to axle load of 2948 kg (6500 lb).*
[b] *For Mitas tire, recommended pressure is 83 kPa (0.8 bar) (12 psi) up to axle load of 3855 kg (8500 lb).*

Group	43								
Size	480/70R34		540/65R34	600/70R30		IF600/70R30	VF600/70R30		
Load Index	146	155	145	152	158	159	165	168	170
Speed Rating	A8 / B	A8 / B	A8 / B / D	A8 / B / D	D	A8 / B / D	D	D	D
	Single	Single	Single	Single	Single	Single	Single	Single	Single
Axle Load kg(lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
3175 (7000)	65 (0.65)(9)	65 (0.65)(9)	65 (0.65)(9)	65 (0.65)(9)	62 (0.6)(9)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
3402 (7500)	70 (0.7)(10)	70 (0.7)(10)	65 (0.65)(9)	65 (0.65)(9)	62 (0.6)(9)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
3629 (8000)	75 (0.75)(11)	75 (0.75)(11)	65 (0.65)(9)	65 (0.65)(9)	62 (0.6)(9)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
3856 (8500)	85 (0.85)(12)	85 (0.85)(12)	70 (0.7)(10)	65 (0.65)(9)	62 (0.6)(9)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
4082 (9000)	95 (0.95)(14)	95 (0.95)(14)	75 (0.75)(11)	65 (0.65)(9)	62 (0.6)(9)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
4309 (9500)	105 (1.05)(15)	105 (1.05)(15)	85 (0.85)(12)	65 (0.65)(9)	69 (0.7)(10)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
4536 (10000)	110 (1.1)(16)	110 (1.1)(16)	95 (0.95)(14)	65 (0.65)(9)	76 (0.8)(11)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
4763 (10500)	120 (1.2)(17)	120 (1.2)(17)	105 (1.05)(15)	70 (0.7)(10)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
4990 (11000)	125 (1.25)(18)	125 (1.25)(18)	105 (1.05)(15)	75 (0.75)(11)	90 (0.9)(13)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
5216 (11500)	130 (1.3)(19)	130 (1.3)(19)	110 (1.1)(16)	85 (0.85)(12)	97 (1.0)(14)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
5443 (12000)	140 (1.4)(20)	140 (1.4)(20)	120 (1.2)(17)	95 (0.95)(14)	97 (1.0)(14)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
5670 (12500)	145 (1.45)(21)	145 (1.45)(21)	130 (1.3)(19)	105 (1.05)(15)	103 (1.0)(15)	90 (0.9)(13)	69 (0.7)(10)	69 (0.7)(10)	103 (1.0)(15)
5897 (13000)	160 (1.6)(23)	160 (1.6)(23)	140 (1.4)(20)	110 (1.1)(16)	110 (1.1)(16)	97 (1.0)(14)	69 (0.7)(10)	69 (0.7)(10)	103 (1.0)(15)
6123 (13500)	—	180 (1.8)(26)	150 (1.5)(22)	120 (1.2)(17)	117 (1.2)(17)	97 (1.0)(14)	76 (0.8)(11)	76 (0.8)(11)	103 (1.0)(15)
6350 (14000)	—	180 (1.8)(26)	160 (1.6)(23)	130 (1.3)(19)	124 (1.2)(18)	103 (1.0)(15)	76 (0.8)(11)	83 (0.8)(12)	103 (1.0)(15)
6577 (14500)	—	185 (1.85)(27)	—	140 (1.4)(20)	131 (1.3)(19)	110 (1.1)(16)	83 (0.8)(12)	90 (0.9)(13)	103 (1.0)(15)
6804 (15000)	—	185 (1.85)(27)	—	145 (1.45)(21)	138 (1.4)(20)	110 (1.1)(16)	90 (0.9)(13)	90 (0.9)(13)	103 (1.0)(15)

Group	43								
Size	**480/70R34**		**540/65R34**	**600/70R30**		**IF600/70R30**	**VF600/70R30**		
Load Index	**146**	**155**	**145**	**152**	**158**	**159**	**165**	**168**	**170**
Speed Rating	**A8 / B**	**A8 / B**	**A8 / B / D**	**A8 / B / D**	**D**	**A8 / B / D**	**D**	**D**	**D**
	Single	**Single**	**Single**	**Single**	**Single**	**Single**	**Single**	**Single**	**Single**
Axle Load kg(lb)	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**
7031 (15500)	—	190 (1.9)(28)	—	160 (1.6)(23)	145 (1.4)(21)	117 (1.2)(17)	90 (0.9)(13)	97 (1.0)(14)	103 (1.0)(15)
7257 (16000)	—	190 (1.9)(28)	—	—	152 (1.5)(22)	124 (1.2)(18)	97 (1.0)(14)	103 (1.0)(15)	103 (1.0)(15)
7484 (16500)	—	190 (1.9)(28)	—	—	159 (1.6)(23)	131 (1.3)(19)	103 (1.0)(15)	110 (1.1)(16)	110 (1.1)(16)
7711 (17000)	—	200 (2.0)(29)	—	—	165 (1.7)(24)	138 (1.4)(20)	110 (1.1)(16)	110 (1.1)(16)	110 (1.1)(16)
7938 (17500)	—	—	—	—	179 (1.8)(26)	138 (1.4)(20)	110 (1.1)(16)	117 (1.2)(17)	117 (1.2)(17)
8165 (18000)	—	—	—	—	193 (1.9)(28)	145 (1.4)(21)	117 (1.2)(17)	117 (1.2)(17)	117 (1.2)(17)
8391 (18500)	—	—	—	—	207 (2.1)(30)	152 (1.5)(22)	124 (1.2)(18)	117 (1.2)(17)	117 (1.2)(17)
8618 (19000)	—	—	—	—	221 (2.2)(32)	159 (1.6)(23)	124 (1.2)(18)	124 (1.2)(18)	124 (1.2)(18)
8845 (19500)	—	—	—	—	241 (2.4)(35)	—	131 (1.3)(19)	131 (1.3)(19)	131 (1.3)(19)
9070 (20000)	—	—	—	—	—	—	138 (1.4)(20)	138 (1.4)(20)	138 (1.4)(20)
9297 (20500)	—	—	—	—	—	—	138 (1.4)(20)	138 (1.4)(20)	138 (1.4)(20)
9524 (21000)	—	—	—	—	—	—	145 (1.4)(21)	145 (1.4)(21)	145 (1.4)(21)
9751 (21500)	—	—	—	—	—	—	152 (1.5)(22)	152 (1.5)(22)	152 (1.5)(22)
9977 (22000)	—	—	—	—	—	—	159 (1.6)(23)	159 (1.6)(23)	152 (1.5)(22)
10204 (22500)	—	—	—	—	—	—	159 (1.6)(23)	159 (1.6)(23)	159 (1.6)(23)
10431 (23000)	—	—	—	—	—	—	—	172 (1.7)(25)	165 (1.7)(24)
10658 (23500)	—	—	—	—	—	—	—	179 (1.8)(26)	179 (1.8)(26)
10884 (24000)	—	—	—	—	—	—	—	193 (1.9)(28)	186 (1.9)(27)
11111 (24500)	—	—	—	—	—	—	—	200 (2.0)(29)	200 (2.0)(29)
11338 (25000)	—	—	—	—	—	—	—	—	214 (2.1)(31)
11791 (26000)	—	—	—	—	—	—	—	—	234 (2.3)(34)

TS36762,000020D-19-18JAN23

Recommended Pressures—Group 44

Group	44									
Size	600/65R34	IF620/ 75R30	VF620/75R30		650/60R34	IF650/60R34		VF650/60R34		VF710/ 55R34
Load Index	157	164	169	172	159	159	165	165	168	170
Speed Rating	D	D	D	D	D	D	D	D	D	D
	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single
Axle Load kg(lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
2041 (4500)	62 (0.6)(9)	85 (0.85)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)
2268 (5000)	62 (0.6)(9)	85 (0.85)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)
2495 (5500)	62 (0.6)(9)	85 (0.85)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)
2722 (6000)	62 (0.6)(9)	85 (0.85)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)
2948 (6500)	62 (0.6)(9)	85 (0.85)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)
3175 (7000)	62 (0.6)(9)	85 (0.85)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)
3402 (7500)	62 (0.6)(9)	85 (0.85)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)
3629 (8000)	62 (0.6)(9)	85 (0.85)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)
3856 (8500)	62 (0.6)(9)	85 (0.85)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)
4082 (9000)	62 (0.6)(9)	85 (0.85)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)
4309 (9500)	69 (0.7)(10)	85 (0.85)(12)	62 (0.6)(9)	62 (0.6)(9)	69 (0.7)(10)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)
4536 (10000)	76 (0.8)(11)	85 (0.85)(12)	62 (0.6)(9)	62 (0.6)(9)	76 (0.8)(11)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)
4763 (10500)	83 (0.8)(12)	85 (0.85)(12)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)
4990 (11000)	90 (0.9)(13)	85 (0.85)(12)	62 (0.6)(9)	62 (0.6)(9)	90 (0.9)(13)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)
5216 (11500)	97 (1.0)(14)	85 (0.85)(12)	62 (0.6)(9)	62 (0.6)(9)	90 (0.9)(13)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)
5443 (12000)	103 (1.0)(15)	85 (0.85)(12)	62 (0.6)(9)	62 (0.6)(9)	97 (1.0)(14)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)
5670 (12500)	110 (1.1)(16)	85 (0.85)(12)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)	90 (0.9)(13)	90 (0.9)(13)	62 (0.6)(9)	69 (0.7)(10)	83 (0.8)(12)
5897 (13000)	117 (1.2)(17)	85 (0.85)(12)	62 (0.6)(9)	62 (0.6)(9)	110 (1.1)(16)	90 (0.9)(13)	97 (1.0)(14)	69 (0.7)(10)	69 (0.7)(10)	90 (0.9)(13)
6123 (13500)	124 (1.2)(18)	85 (0.85)(12)	62 (0.6)(9)	62 (0.6)(9)	117 (1.2)(17)	97 (1.0)(14)	97 (1.0)(14)	76 (0.8)(11)	76 (0.8)(11)	90 (0.9)(13)
6350 (14000)	131 (1.3)(19)	85 (0.85)(12)	62 (0.6)(9)	69 (0.7)(10)	124 (1.2)(18)	97 (1.0)(14)	103 (1.0)(15)	76 (0.8)(11)	83 (0.8)(12)	90 (0.9)(13)
6577 (14500)	138 (1.4)(20)	90 (0.9)(13)	69 (0.7)(10)	69 (0.7)(10)	131 (1.3)(19)	103 (1.0)(15)	110 (1.1)(16)	83 (0.8)(12)	90 (0.9)(13)	97 (1.0)(14)
6804 (15000)	145 (1.5)(21)	95 (0.95)(14)	69 (0.7)(10)	76 (0.8)(11)	138 (1.4)(20)	110 (1.1)(16)	117 (1.2)(17)	83 (0.8)(12)	90 (0.9)(13)	103 (1.0)(15)
7031 (15500)	159 (1.6)(23)	95 (0.95)(14)	76 (0.8)(11)	76 (0.8)(11)	145 (1.5)(21)	117 (1.2)(17)	117 (1.2)(17)	90 (0.9)(13)	97 (1.0)(14)	110 (1.1)(16)
7257 (16000)	165 (1.7)(24)	105 (1.05)(15)	83 (0.8)(12)	83 (0.8)(12)	152 (1.5)(22)	124 (1.2)(18)	124 (1.2)(18)	97 (1.0)(14)	103 (1.0)(15)	110 (1.1)(16)

Group	44									
Size	**600/65R34**	**IF620/ 75R30**	**VF620/75R30**		**650/60R34**	**IF650/60R34**		**VF650/60R34**		**VF710/ 55R34**
Load Index	**157**	**164**	**169**	**172**	**159**	**159**	**165**	**165**	**168**	**170**
Speed Rating	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**
	Single	**Single**	**Single**	**Single**	**Single**	**Single**	**Single**	**Single**	**Single**	**Single**
Axle Load kg(lb)	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**
7484 (16500)	179 (1.8)(26)	110 (1.1)(16)	83 (0.8)(12)	90 (0.9)(13)	159 (1.6)(23)	131 (1.3)(19)	131 (1.3)(19)	103 (1.0)(15)	110 (1.1)(16)	117 (1.2)(17)
7711 (17000)	193 (1.9)(28)	110 (1.1)(16)	90 (0.9)(13)	90 (0.9)(13)	165 (1.7)(24)	138 (1.4)(20)	138 (1.4)(20)	103 (1.0)(15)	110 (1.1)(16)	117 (1.2)(17)
7938 (17500)	200 (2.0)(29)	120 (1.2)(17)	90 (0.9)(13)	97 (1.0)(14)	179 (1.8)(26)	138 (1.4)(20)	138 (1.4)(20)	110 (1.1)(16)	117 (1.2)(17)	124 (1.2)(18)
8165 (18000)	214 (2.1)(31)	125 (1.25)(18)	97 (1.0)(14)	103 (1.0)(15)	186 (1.9)(27)	145 (1.5)(21)	145 (1.5)(21)	117 (1.2)(17)	117 (1.2)(17)	131 (1.3)(19)
8391 (18500)	228 (2.3)(33)	125 (1.25)(18)	103 (1.0)(15)	110 (1.1)(16)	200 (2.0)(29)	152 (1.5)(22)	152 (1.5)(22)	117 (1.2)(17)	117 (1.2)(17)	138 (1.4)(20)
8618 (19000)	241 (2.4)(35)	130 (1.3)(19)	103 (1.0)(15)	110 (1.1)(16)	207 (2.1)(30)	159 (1.6)(23)	159 (1.6)(23)	124 (1.2)(18)	124 (1.2)(18)	138 (1.4)(20)
8845 (19500)	—	130 (1.3)(19)	110 (1.1)(16)	110 (1.1)(16)	221 (2.2)(33)	—	165 (1.7)(24)	131 (1.3)(19)	131 (1.3)(19)	145 (1.4)(21)
9072 (20000)	—	140 (1.4)(20)	117 (1.2)(17)	117 (1.2)(17)	241 (2.4)(35)	—	179 (1.8)(26)	138 (1.4)(20)	138 (1.4)(20)	145 (1.4)(21)
9297 (20500)	—	152 (1.5)(22)	117 (1.2)(17)	117 (1.2)(17)	—	—	193 (1.9)(28)	138 (1.4)(20)	138 (1.4)(20)	152 (1.5)(22)
9525 (21000)	—	150 (1.5)(22)	124 (1.2)(18)	124 (1.2)(18)	—	—	207 (2.1)(30)	145 (1.5)(21)	145 (1.5)(21)	159 (1.6)(23)
9524 (21500)	—	159 (1.6)(23)	124 (1.2)(18)	131 (1.3)(19)	—	—	214 (2.1)(31)	152 (1.5)(22)	152 (1.5)(22)	159 (1.6)(23)
9977 (22000)	—	159 (1.6)(23)	131 (1.3)(19)	131 (1.3)(19)	—	—	228 (2.3)(33)	159 (1.6)(23)	159 (1.6)(23)	165 (1.7)(24)
10204 (22500)	—	—	138 (1.4)(20)	138 (1.4)(20)	—	—	241 (2.4)(35)	159 (1.6)(23)	159 (1.6)(23)	172 (1.7)(25)
10431 (23000)	—	—	138 (1.4)(20)	138 (1.4)(20)	—	—	—	—	172 (1.7)(25)	179 (1.8)(26)
10658 (23500)	—	—	145 (1.5)(21)	145 (1.5)(21)	—	—	—	—	179 (1.8)(26)	179 (1.8)(26)
10884 (24000)	—	—	152 (1.5)(22)	152 (1.5)(22)	—	—	—	—	193 (1.9)(28)	186 (1.9)(27)
11111 (24500)	—	—	152 (1.5)(22)	159 (1.6)(23)	—	—	—	—	200 (2.0)(29)	200 (2.0)(29)
11338 (25000)	—	—	159 (1.6)(23)	159 (1.6)(23)	—	—	—	—	—	200 (2.0)(29)
11791 (26000)	—	—	—	172 (1.7)(25)	—	—	—	—	—	—
12020 (26500)	—	—	—	179 (1.8)(26)	—	—	—	—	—	—
12245 (27000)	—	—	—	193 (1.9)(28)	—	—	—	—	—	—
12474 (27500)	—	—	—	200 (2.0)(29)	—	—	—	—	—	—

TS36762,000020F-19-11MAY23

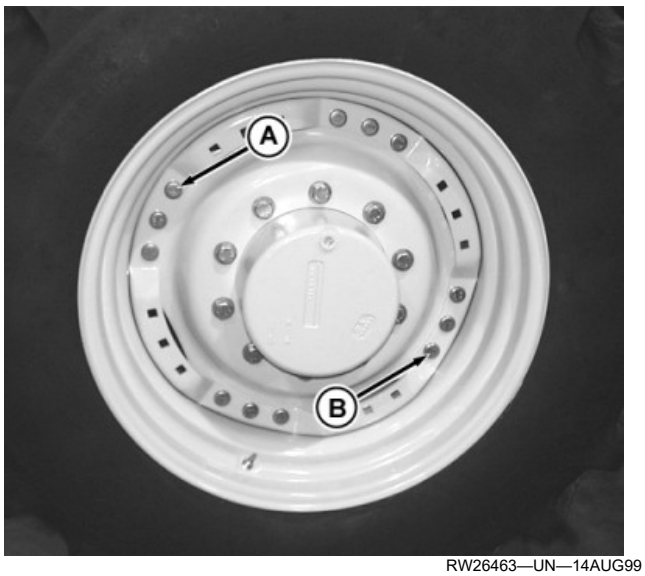
Adjust and Tighten—Front Wheel Bolts

CAUTION: Avoid personal injury and equipment damage. Completely follow torque sequence and procedure. Never operate tractor with loose wheel bolts. Wheel bolts are critical and require retightening.

IMPORTANT: Front duals are not approved or recommended for use with standard MFWD and/or TLS Plus tractors.

NOTE: Both inner and outer bolt patterns of disk have one tight-fit hole and one slot-fit hole 180° from each other, for improved wheel centering.

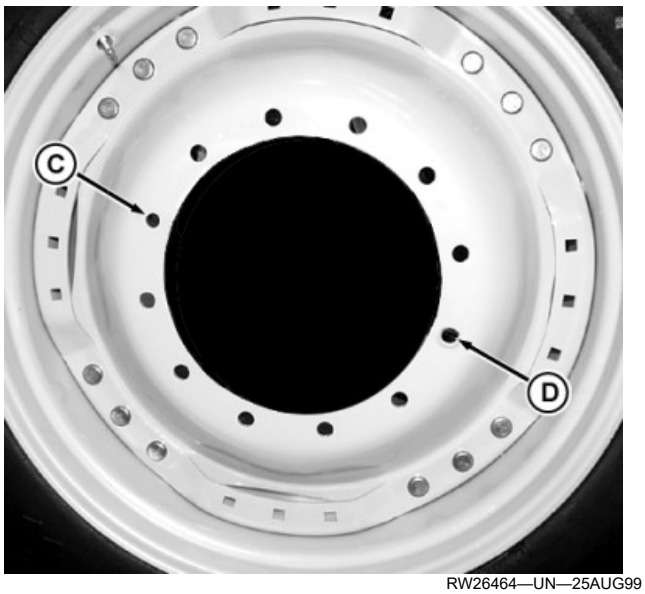
Wheel Disk-to-Rim



RW26463—UN—14AUG99

1. Install and hand-tighten bolt in tight-fit hole (A).
2. Install and hand-tighten bolt in slot-fit hole (B).
3. Install and hand-tighten remaining wheel disk-to-rim bolts.
4. Tighten all bolts to 330 N·m (245 lb·ft) using a star-shaped pattern.
5. Drive tractor 100 m (100 yd) and tighten bolts.
6. Tighten again at 3 hours, 10 hours and daily for the first week of operation and every 500 hours thereafter.

Wheel Disk-to-Hub



RW26464—UN—25AUG99

1. Install cap screw in tight-fit hole (C) and hand tighten cap screw.
2. Install cap screw in slot-fit hole (D) and hand tighten cap screw.
3. Install and hand tighten remaining wheel disk-to-hub cap screws.
4. Tighten all cap screws to 610 N·m (450 lb·ft) using a star-shaped pattern.
5. Drive tractor 100 m (110 yd) and tighten bolts.
6. Tighten again at 3 hours, 10 hours and daily for the first week of operation and every 500 hours thereafter.

TS36762,0000210-19-20JUN22

Toe-In Check

IMPORTANT: Avoid premature tire wear. Excessive toe-in or toe-out will cause premature tire wear on hard-surfaced roads. Toe-in as close to zero as possible will provide the least amount of tire wear on hard-surfaced roads.

1. Make sure the tires are in the straight forward position by driving the tractor in a straight line for at least 15.24 m (50 ft).
2. Verify that equal lengths of the steering cylinder are showing on either side of the tractor.

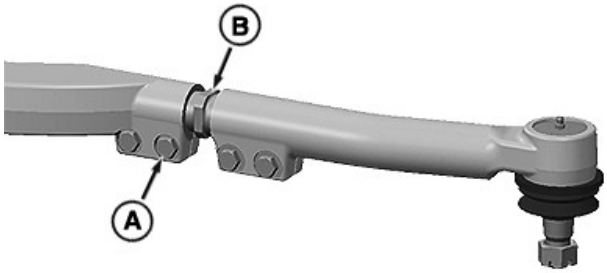
RXA0110374—UN—13SEP10

Distance Between Centerline of Tires

3. Measure the distance between the center line of the tires at the hub level in front of the axle. Mark the point that is measured.
4. Drive forward until the front tires are rotated 180°.

NOTE: When measuring the rear of the tire, make sure both front and rear measurements are from the same point on the tire. If the front measurement of the tire was from the center line, then the rear measurement of the tire must be taken from the tire center line. When performing the rear measurement, the transmission will be in the way. Make the measurement from the tire to the front loader mount pads on each side of the tractor, then add the width of the transmission 531 mm (20.9 in).

5. Repeat step 3 at the rear of the tire at the same point.
6. Subtract the front measurement from the rear measurement. The difference should be toe-in and less than 6 mm (1/4 in). Optimal toe-in is 3 mm (1/8 in). If adjustment is needed, go to step 7.



RXA0152306—UN—07JUN16

7. Loosen the cap screws (A).
8. Divide the difference between the front and rear measurements by two. Adjust each tie rod by this amount to keep the steering wheel centered.
9. Rotate the left adjuster nut (B) to change the tie rod length by the value from step 8. Each turn equals approximately 3 mm (1/8 in).
10. Repeat the adjustment on the right tie rod.
11. Tighten the cap screws to 128 N•m (95 lb•ft).
12. Confirm the adjustment by performing the toe-in check beginning at step 1.

TS36762,0000211-19-04JAN23

Steering Stop, Fender, and Tread Settings

Tire, Steering Stop, and Fender Settings Table Explanation

IMPORTANT: Avoid fender and tire damage. Always adjust fenders before setting steering stop.

To calculate Mean Tread Spacing see Determine Mean Tread Spacing in this section of this Operator's Manual.

Table data defined as:

Description	Example 1	Example 2
	8L1Cw 5625 (221)	16A1A$_a$ 5680 (224)
Wheel rim type	8[a]	16[b]
Wheel setting[c]	L	A
Steering stop setting[d]	1	1
Fender setting[e]	C	A
Wide fender setting	w	[a] or other footnote

Description	Example 1	Example 2
	8L1Cw 5625 (221)	16A1A$_a$ 5680 (224)
Turning diameter in mm (in)	5625 (221)	5680 (224)

[a] 8-position rim setting. See 8-Position Wheel Settings in this section of this Operator's Manual.
[b] 16-position rim setting. See 16-Position Wheel Settings in this section of this Operator's Manual.
[c] See 8- or 16-position Wheel Settings in this section of this Operator's Manual.
[d] See Set Steering Stops in this section of this Operator's Manual.
[e] See Fender Settings in this section of this Operator's Manual.

EC82310,00005E9-19-22JUN22

Tire, Steering Stop, and Fender Settings—1300 MFWD Axle

IMPORTANT: Avoid equipment damage. Further adjustment may be necessary if tire or fender contacts tractor on wide turns.

NOTE: MFWD axles have standard maximum 9° oscillation. Reduced oscillation offers better turning radius and reduces potential for tractor to tire contact. 5° oscillation stops are available from your John Deere dealer.

1300 MFWD Axle with 9° Oscillation Stops							
Tire Size	Tread Setting mm (in)						
	1524 (60)	1575 (62)	1626 (64)	1676 (66)	1727 (68)	1778 (70)	1829 (72)
320/80R42	8A5A 7210 (284)	—	8B4B 6641 (261)	—	8C3C[a] 6204 (244)	—	8D2D[b] 5860 (231)
320/85R38	16A4A 6550 (258)	—	16D3B 6114 (241)	—	16E2C 5772 (227)	—	16H1E 5414 (213)
380/80R38	—	—	—	—	8C5C[a] 7396 (291)	—	8D4D[a] 6824 (269)
380/85R34	8A5A 7210 (284)	—	8B4B 6641 (261)	—	8C3C[a] 6204 (244)	—	8D2D[b] 5860 (231)
420/85R34	8A6A 16A6A 8327 (328)	—	8B5B[c] 16C5B 7303 (288)	—	8C3C[a] 16F3C 6204 (244)		8D2D[b] 16H2D 5860 (231)
420/90R30	8A6A 8327 (328)	—	8B4B 6641 (261)	—	8C3C[a] 6204 (244)	—	8D2D[b] 5860 (231)
16.9R30	8A6A 8327 (328)	—	8B5B[c] 7303 (288)	—	8C4C[a] 6732 (265)	—	8D2D[b] 5860 (231)
480/70R30	8A6A 8327 (328)	—	8B5A 7303 (288)	—	8C4B 6732 (265)	—	8D2C 5860 (231)
480/70R34	—	—	8B5A 16C5A 7303 (288)	—	8C4B 16F4B 6732 (265)	—	8D3C 16H3C 6294 (248)
540/65R34	—	—	—	8B5A 7350 (289)	—	8C4B 6778 (267)	—
600/65R28	—	—	—	—	—	8K4B 6778 (267)	—
600/70R30	—	—	—	—	—	8K5A 7443 (293)	—

[a] Wide fenders use position B.
[b] Wide fenders use position C.
[c] Wide fenders use position A.

1300 MFWD Axle with 9° Oscillation Stops (Continued)								
Tire Size	Tread Setting mm (in)							
	1880 (74)	1930 (76)	1981 (78)	2032 (80)	2083 (82)	2134 (84)	2184 (86)	2235 (88)
320/80R42	—	8E1E 5500 (217)	—	8F0F 5507 (217)	—	8G0G[a] 5593 (220)	—	8H0H 5680 (224)
320/85R38	—	16I0F 5421 (213)	—	16L0F 5507 (217)	—	16M0G 5593 (220)	—	16P0G 5680 (224)
380/80R38	—	8E3E[b] 6384 (251)	—	8F2F[c] 6037 (238)	—	8G1G[a] 5673 (223)	—	8H0H 5680 (224)
380/85R34	—	8E1E 5500 (217)	—	8F0F 5507 (217)	—	8G0G[a] 5593 (220)	—	8H0G 5680 (224)
420/85R34	—	8E2E[b] 16I3E 5948 (234)	—	8F0F 16K2F 5507 (217)	—	8G0G[a] 16N1G 5593 (220)	—	8H0H 16P0H 5680 (224)
420/90R30	—	8E1E 5500 (217)	—	8F0F 5507 (217)	—	8G0G[a] 5593 (220)	—	8H0H 5680 (224)
16.9R30	—	8E2E[d] 5948 (234)	—	8F1F[c] 5587 (220)	—	8G0G[a] 5593 (220)	—	8H0H 5680 (224)
480/70R30	—	8E1E 5500 (217)	—	8F0F 5507 (217)	—	8G0F 5593 (220)	—	8H0G 5680 (224)
480/70R34	—	8E2D 16I2D 5948 (234)	—	8F1E 16K1E 5587 (220)	—	8G0F 16N0F 5593 (220)	—	8H0H 16P0H 5680 (224)
540/65R34	8E3C 6339 (250)	—	8F2D 5992 (236)	—	8G1F 5630 (222)	—	8H0F 5636 (222)	—
600/65R28	8M3C 6339 (250)	—	8N2D 5992 (236)	—	8O1E 5630 (222)	—	8P0F 5636 (222)	—
600/70R30	8M4B 6870 (270)	—	8N3C 6429 (253)	—	8O2E 6081 (239)	—	8P1F 5717 (225)	—
710/55R34[e]	—	—	—	—	8O6W 9571 (377)	—	8P6Y 9621 (379)	—

[a] *Wide fenders use position F.*
[b] *Wide fenders use position C.*
[c] *Wide fenders use position E.*
[d] *Wide fenders use position D.*
[e] *To achieve optimal clearances, fine fender adjustments can be made by loosening the fender rod bolts, holding the fender in the desired position, and tightening the bolts.*

1300 MFWD Axle with 5° Oscillation Stops							
Tire Size	Tread Setting mm (in)						
	1524 (60)	1575 (62)	1626 (64)	1676 (66)	1727 (68)	1778 (70)	1829 (72)
320/80R42	8A5A 7210 (284)	—	8B4B 6641 (261)	—	8C2C 5772 (227)	—	8D2D[a] 5860 (231)
320/85R38	16A4B 6550 (258)	—	16D3B 6114 (241)	—	16E2C 5772 (227)	—	16H1E 5414 (213)
380/80R38	8A6A 8327 (328)	—	8B4B 6641 (261)	—	8C3C[b] 6204 (244)	—	8D2D[a] 5860 (231)
380/85R34	8A5A 7210 (284)	—	8B4B 6641 (261)	—	8C2C 5772 (227)	—	8D1D 5414 (213)
420/85R34	8A6A 16A6A 8327 (328)	—	8B5B[c] 16C5B 7303 (288)	—	8C3C[b] 16F3C 6204 (244)	—	8D2D[a] 16H2D 5860 (231)
420/90R30	8A5A 7210 (284)	—	8B4B 6641 (261)	—	8C3C[b] 6204 (244)	—	8D2D[a] 5860 (231)
16.9R30	8A6A 8327 (328)	—	8B5B 7303 (288)	—	8C3C[b] 6204 (244)	—	8D2D[a] 5860 (231)
480/70R30	8A6A 8327 (328)	—	8B5A 7303 (288)	—	8C3B 6204 (244)	—	8D2C 5860 (231)
480/70R34	—	—	8B5A 16C5A 7303 (288)	—	8C4B 16F4B 6732 (265)	—	8D3C 16H3C 6294 (248)

1300 MFWD Axle with 5° Oscillation Stops							
Tire Size	**Tread Setting mm (in)**						
	1524 (60)	**1575 (62)**	**1626 (64)**	**1676 (66)**	**1727 (68)**	**1778 (70)**	**1829 (72)**
540/65R30	—	8A6A 8375 (330)	—	8B4B 6687 (263)	—	8C3B 6249 (246)	—
540/65R34	—	—	—	8B5A 7350 (289)	—	8C4B 6778 (267)	—
600/65R28	—	—	—	—	—	8K4B 6778 (267)	—
600/70R30	—	—	—	—	—	8K5A 7443 (293)	—

[a]*Wide fenders use position C.*
[b]*Wide fenders use position B.*
[c]*Wide fenders use position A.*

1300 MFWD Axle with 5° Oscillation Stops (Continued)								
Tire Size	**Tread Setting mm (in)**							
	1880 (74)	**1930 (76)**	**1981 (78)**	**2032 (80)**	**2083 (82)**	**2134 (84)**	**2184 (86)**	**2235 (88)**
320/80R42	—	8E1E 5500 (217)	—	8F0F 5507 (217)	—	8G0G[a] 5593 (220)	—	8H0H[a] 5680 (224)
320/85R38	—	16I0F 5421 (213)	—	16L0F 5507 (217)	—	16M0G 5593 (220)	—	16P0G 5680 (224)
380/80R38	—	8E1E 5500 (217)	—	8F1F 5587 (220)	—	8G0G[a] 5593 (220)	—	8H0H[a] 5680 (224)
380/85R34	—	8E1E 5500 (217)	—	8F0F 5507 (217)	—	8G0G[a] 5593 (220)	—	8H0G[a] 5680 (224)
420/85R34	—	8E2E[b] 16I23 5948 (234)	—	8F0F 16K0F 5507 (217)	—	8G0G[a] 16N0G 5593 (220)	—	8H0H[a] 16P0H 5680 (224)
420/90R30	—	8E1E 5500 (217)	—	8F0F 5507 (217)	—	8G0G[a] 5593 (220)	—	8H0H[a] 5680 (224)
16.9R30	—	8E1E 5500 (217)	—	8F1F[c] 5587 (220)	—	8G0G[a] 5593 (220)	—	8H0H[a] 5680 (224)
480/70R30	—	8E1E 5500 (217)	—	8F0F 5507 (217)	—	8G0F 5593 (220)	—	8H0F 5680 (224)
480/70R34	—	8E2D 16I2D 5948 (234)	—	8F1E 16K1E 5587 (220)	—	8G0F 16N0F 5593 (220)	—	8H0-[d] 16P0H 5680 (224)
540/65R30	8E2C 5904 (232)	—	8F1E 5543 (218)	—	8G0F 5550 (218)	—	8H0F 5636 (222)	—
540/65R34	8E3C 6339 (250)	—	8F2D 5992 (236)	—	8G1F 5630 (222)	—	8H0F 5636 (222)	—
600/65R28	8M3C 6339 (250)	—	8N2D 5992 (236)	—	8O1E 5630 (222)	—	8P0F 5636 (222)	—
600/70R30	8M4B 6870 (270)	—	8N2C 5992 (236)	—	8O2E 6081 (239)	—	8P1F 5717 (225)	—
710/55R34[e]	—	—	—	—	8O6W 9571 (377)	—	8P6Y 9621 (379)	—

[a]*Wide fenders use position F.*
[b]*Wide fenders use position C.*
[c]*Wide fenders use position E.*
[d]*Fender not compatible with this setting*
[e]*To achieve optimal clearances, fine fender adjustments can be made by loosening the fender rod bolts, holding the fender in the desired position, and tightening the bolts.*

EC82310,000040A-19-26JUL23

Tire, Steering Stop, and Fender Settings— TLS Plus Axle

IMPORTANT: Avoid equipment damage. Further adjustment may be necessary if tire or fender contacts tractor on wide turns.

TLS Plus Axle							
Tire Size	Tread Setting mm (in)						
	1524 (60)	1575 (62)	1626 (64)	1676 (66)	1727 (68)	1778 (70)	1829 (72)
320/80R42	8A5A 7210 (284)	—	8B4B 6641 (261)	—	8C3C[a] 6204 (244)	—	8D2D[b] 5860 (231)
320/85R38	16A5A 7210 (284)	—	16D3B 6114 (241)	—	16E2C 5772 (227)	—	16H1E 5414 (213)
380/80R38	—	—	8B5B[c] 7303 (288)	—	8C4C[a] 6732 (265)	—	8D3D[a] 6294 (248)
380/85R34	8A5A 7210 (284)	—	8B4B 6641 (261)	—	8C3C[a] 6204 (244)	—	8D2D[b] 5860 (231)
420/85R34	8A6A 16A6A 8327 (328)	—	8B5B[c] 16C5B 7303 (288)	—	8C4C[a] 16F4C 6732 (265)	—	8D3D[b] 16H3D 6294 (248)
420/90R30	8A6A 8327 (328)	—	8B5B[c] 7303 (288)	—	8C3C[a] 6204 (244)	—	8D2D[b] 5860 (231)
16.9R30	8A6A 8327 (328)	—	8B5B[c] 7303 (288)	—	8C4C[a] 6732 (265)	—	8D3D[b] 6294 (248)
480/70R30	8A6A 8327 (328)	—	8B5A 7303 (288)	—	8C4B 6732 (265)	—	8D2C 5860 (231)
480/70R34	—	—	8B6A 16C6A 8423 (332)	—	8C5B 16F5B 7396 (291)	—	8D3C 16H3C 6294 (248)
540/65R30	—	—	—	8B5A 7350 (289)	—	8C3B 6249 (246)	—
540/65R34	—	—	—	8B6A 8470 (333)	—	8C4B 6778 (267)	—
600/65R28	—	—	—	—	—	8K4B 6778 (267)	—
600/65R34	—	—	—	—	—	—	—
600/70R30	—	—	—	—	—	8K5B 7443 (293)	—
620/75R30	—	—	—	—	—	—	—
650/60R34	—	—	—	—	—	—	—

[a]*Wide fenders use position B.*
[b]*Wide fenders use position C.*
[c]*Wide fenders use position A.*

TLS Plus Axle (Continued)								
Tire Size	Tread Setting mm (in)							
	1880 (74)	1930 (76)	1981 (78)	2032 (80)	2083 (82)	2134 (84)	2184 (86)	2235 (88)
320/80R42	—	8E1E 5500 (217)	—	8F1F[a] 5587 (220)	—	8G0G[b] 5593 (220)	—	8H0H 5680 (224)
320/85R38	—	16I0F 5421 (213)	—	16L0F 5507 (217)	—	16M0G 5593 (220)	—	16P0G 5680 (224)
380/80R38	—	8E2E[c] 5948 (234)	—	8F1F 5587 (220)	—	8G0G[a] 5593 (220)	—	8H0H 5680 (224)
380/85R34	—	8E1E 5500 (217)	—	8F0F 5507 (217)	—	8G0G[b] 5593 (220)	—	8H0G 5680 (224)
420/85R34	—	8E2E[c] 16I2E 5948 (234)	—	8F1F 16K1F 5587 (220)	—	8G0G[a] 16N0G 5593 (220)	—	8H0H 16P0H 5680 (224)

TLS Plus Axle (Continued)								
Tire Size	Tread Setting mm (in)							
	1880 (74)	1930 (76)	1981 (78)	2032 (80)	2083 (82)	2134 (84)	2184 (86)	2235 (88)
420/90R30	—	8E1E 5500 (217)	—	8F1F[a] 5587 (220)	—	8G0G[b] 5593 (220)	—	8H0H 5680 (224)
16.9R30	—	8E2E[d] 5948 (234)	—	8F1F[a] 5587 (220)	—	8G0G[b] 5593 (220)	—	8H0H 5680 (224)
480/70R30	—	8E1E 5500 (217)	—	8F1E 5587 (220)	—	8G0F 5593 (220)	—	8H0G 5680 (224)
480/70R34	—	8E2D 16I2D 5948 (234)	—	8F1E 16K1E 5587 (220)	—	8G1F 16N1F 5673 (223)	—	8H0H 16P0H 5680 (224)
540/65R30	8E2C 5904 (232)	—	8F1E 5543 (218)	—	8G0F 5550 (218)	—	8H0F 5636 (222)	—
540/65R34	8E3C 6339 (250)	—	8F2D 5992 (236)	—	8G1F 5630 (222)	—	8H1F 5717 (225)	—
600/65R28	8M3C 6339 (250)	—	8N2D 5992 (236)	—	8O1E 5630 (222)	—	8P0F 5636 (222)	—
600/65R34	—	—	—	—	8O6W 8853 (349)	—	8P4X 7147 (281)	—
600/70R30	8M4C 6870 (270)	—	8N3D 6429 (253)	—	8O2E 6081 (239)	—	8P1F 5717 (225)	—
620/75R30	—	—	—	—	8O6W 8853 (349)	—	8P4X 7147 (281)	—
650/60R34	—	—	—	—	8O6W 8853 (349)	—	8P4X 7147 (281)	—
710/55R34[e]	—	—	—	—	8O6W 9571 (377)	—	8P6Y 9621 (379)	—

[a]Wide fenders use position E.
[b]Wide fenders use position F.
[c]Wide fenders use position C.
[d]Wide fenders use position D.
[e]To achieve optimal clearances, fine fender adjustments can be made by loosening the fender rod bolts, holding the fender in the desired position, and tightening the bolts.

EC82310,0000409-19-26JUL23

Tire, Steering Stop, and Fender Settings—1300 MFWD Axle with Front Hitch

IMPORTANT: Avoid equipment damage. Further adjustment may be necessary if tire or fender contacts tractor on wide turns.

NOTE: If tire size is not listed in the following charts, see the previous charts for 1300 MFWD axle without the front hitch.

NOTE: MFWD axles have standard maximum 9° oscillation. Reduced oscillation offers better turning radius and reduces potential for tractor to tire contact. 5° oscillation stops are available from your John Deere dealer.

1300 MFWD Axle with 9° Oscillation Stops with Front Hitch							
Tire Size	Tread Setting mm (in)						
	1524 (60)	1575 (62)	1626 (64)	1676 (66)	1727 (68)	1778 (70)	1829 (72)
320/80R42	8A6A 8327 (328)	—	8B4B 6641 (261)	—	8C3C[a] 6204 (244)	—	8D2D[b] 5860 (231)
380/80R38	—	—	—	—	8C5C[c] 7396 (291)	—	8D4D[a] 6824 (269)
420/85R34	—	—	8B6B[c] 16C6B 8423 (332)	—	8C4C[a] 16F4C 6732 (265)	—	8D3D[b] 16H3D 6294 (248)
480/70R34	—	—	8B6A 16C6A 8423 (332)	—	8C4B 16F4B 6732 (265)	—	8D3C[d] 16H3C 6294 (248)

1300 MFWD Axle with 9° Oscillation Stops with Front Hitch							
Tire Size	**Tread Setting mm (in)**						
	1524 (60)	**1575 (62)**	**1626 (64)**	**1676 (66)**	**1727 (68)**	**1778 (70)**	**1829 (72)**
540/65R34	—	—	—	—	—	8C4B 6778 (267)	—
600/70R30	—	—	—	—	—	8K6B 8566 (337)	—

[a]*Wide fenders use position B.*
[b]*Wide fenders use position C.*
[c]*Wide fenders use position A.*
[d]*Fender not compatible with this setting*

1300 MFWD Axle with 9° Oscillation Stops with Front Hitch (Continued)								
Tire Size	**Tread Setting mm (in)**							
	1880 (74)	**1930 (76)**	**1981 (78)**	**2032 (80)**	**2083 (82)**	**2134 (84)**	**2184 (86)**	**2235 (88)**
320/80R42	—	8E1E 5500 (217)	—	8F0F 5507 (217)	—	8G0G[a] 5593 (220)	—	8H0H 5680 (224)
380/80R38	—	8E3E[b] 6384 (251)	—	8F2F[c] 6037 (238)	—	8G1G[a] 5673 (223)	—	8H0H 5680 (224)
420/85R34	—	8E2E[b] 16I2E 5948 (234)	—	8F1F 16K1F 5587 (220)	—	8G0G[a] 16N0G 5593 (220)	—	8H0H 16P0H 5680 (224)
480/70R34	—	8E2D 16I2D 5948 (234)	—	8F1E 16K1E 5587 (220)	—	8G0F 16N0F 5593 (220)	—	8H0H 16P0H 5680 (224)
540/65R34	8E3C 6339 (250)	—	8F2D 5992 (236)	—	8G1F 5630 (222)	—	8H0F 5636 (222)	—
600/70R30	8M4C 6870 (270)	—	8N3D 6429 (253)	—	8O2E 6081 (239)	—	8P1F 5717 (225)	—
710/55R34	—	—	—	—	8N6W 9571 (377)	—	8O6W 9621 (379)	—

[a]*Wide fenders use position F.*
[b]*Wide fenders use position C.*
[c]*Wide fenders use position E.*

1300 MFWD Axle with 5° Oscillation Stops with Front Hitch							
Tire Size	**Tread Setting mm (in)**						
	1524 (60)	**1575 (62)**	**1626 (64)**	**1676 (66)**	**1727 (68)**	**1778 (70)**	**1829 (72)**
320/80R42	8A5A 7210 (284)	—	8B4B 6641 (261)	—	8C2C 5772 (227)	—	8D2D[a] 5860 (231)
380/80R38	—	—	8B6B[b] 8423 (332)	—	8C3C[c] 6204 (244)	—	8D2D[a] 5860 (231)
420/85R34	—	—	8B5B[b] 16C5B 7303 (288)	—	8C4C[c] 16F4C 6732 (265)	—	8D3D[a] 16H3D 6294 (248)
480/70R34	—	—	8B5A 16C5A 7303 (288)	—	8C4B 16F4B 6732 (265)	—	8D3C 16H3C 6294 (248)
540/65R34	—	—	—	8B5A 7350 (289)	—	8C4B 6778 (267)	—
600/70R30	—	—	—	—	—	8K5B 7443 (293)	—

[a]*Wide fenders use position C.*
[b]*Wide fenders use position A.*
[c]*Wide fenders use position B.*

1300 MFWD Axle with 5° Oscillation Stops with Front Hitch (Continued)								
Tire Size	Tread Setting mm (in)							
	1880 (74)	1930 (76)	1981 (78)	2032 (80)	2083 (82)	2134 (84)	2184 (86)	2235 (88)
320/80R42	—	8E1E 5500 (217)	—	8F0F 5507 (217)	—	8G0G[a] 5593 (220)	—	8H0H[a] 5680 (224)
380/80R38	—	8E1E 5500 (217)	—	8F1F 5587 (220)	—	8G0G[a] 5593 (220)	—	8H0H[a] 5680 (224)
420/85R34	—	8E2E[b] 16I2E 5948 (234)	—	8F1F 16K1F 5587 (220)	—	8G0G[a] 16N0G 5593 (220)	—	8H0H[a] 16P0H 5680 (224)
480/70R34	—	8E2D 16I2D 5948 (234)	—	8F1E 16K1E 5587 (220)	—	8G0F 16N0F 5593 (220)	—	8H0H 16P0H 5680 (224)
540/65R34	8E3C 6339 (250)	—	8F2D 5992 (236)	—	8G1F 5630 (222)	—	8H0F 5636 (222)	—
600/70R30	8M4C 6870 (270)	—	8N2D 5992 (236)	—	8O2E 6081 (239)	—	8P1F 5717 (225)	—
710/55R34	—	—	—	—	8N6W 9571 (377)	—	8O6W 9621 (379)	—

[a]Wide fenders use position F.
[b]Wide fenders use position C.

js88629,1683139520022-19-03MAY23

Tire, Steering Stop, and Fender Settings—TLS Plus Axle with Front Hitch

IMPORTANT: Avoid equipment damage. Further adjustment may be necessary if tire or fender contacts tractor on wide turns.

NOTE: If tire sizes are not listed in the following charts, see TLS Plus Axle, Tire, Fender, and Steering Stop Settings in this section.

TLS Plus Axle with Front Hitch							
Tire Size	Tread Setting mm (in)						
	1524 (60)	1575 (62)	1626 (64)	1676 (66)	1727 (68)	1778 (70)	1829 (72)
320/80R42	8A6A 8327 (328)	—	8B45B[a] 7303 (288)	—	8C3C[b] 6204 (244)	—	8D2D[c] 5860 (231)
380/80R38	—	—	8B6B[a] 8423 (332)	—	8C5C[a] 7396 (291)	—	8D3D[b] 6294 (248)
420/85R34	—	—	8B6B[a] 16C6B 8423 (332)	—	8C5C[b] 16F5C 7396 (291)	—	8D3D[c] 16H3D 6294 (248)
480/70R34	—	—	8B6A 16C6A 8423 (332)	—	8C5B 16F5B 7396 (291)	—	8D3C 16H3C 6294 (248)
540/65R34	—	—	—	8B6A 8470 (333)	—	8C4B 6778 (267)	—
600/65R34	—	—	—	—	—	—	—
600/70R30	—	—	—	—	—	—	—
620/75R30	—	—	—	—	—	—	—
650/60R34	—	—	—	—	—	—	—

[a]Wide fenders use position A.
[b]Wide fenders use position B.
[c]Wide fenders use position C.

TLS Plus Axle with Front Hitch (Continued)								
Tire Size	Tread Setting mm (in)							
	1880 (74)	1930 (76)	1981 (78)	2032 (80)	2083 (82)	2134 (84)	2184 (86)	2235 (88)
320/80R42	—	8E1E 5500 (217)	—	8F1F[a] 5587 (220)	—	8G0G[b] 5593 (220)	—	8H0H 5680 (224)
380/80R38	—	8E2E[c] 5948 (234)	—	8F1F 5587 (220)	—	8G0G 5593 (220)	—	8H0H 5680 (224)
420/85R34	—	8E2E[c] 16I2E 5948 (234)	—	8F1F 16K1F 5587 (220)	—	8G0G 16N0G 5593 (220)	—	8H0H 16P0H 5680 (224)
480/70R34	—	8E2D 16I2D 5948 (234)	—	8F1E 16K1E 5587 (220)	—	8G1F 16N1F 5673 (223)	—	8H0H 16P0H 5680 (224)
540/65R34	8E3C 6339 (250)	—	8F2D 5992 (236)	—	8G1F 5630 (222)	—	8H1F 5717 (225)	—
600/65R34	—	—	—	—	8O6W 8853 (349)	—	8P4X 7147 (281)	—
600/70R30	8M5C 7537 (297)	—	8N3D 6429 (253)	—	8O2E 6081 (239)	—	8P1F 5717 (225)	—
620/75R30	—	—	—	—	8O6W 8853 (349)	—	8P4X 7147 (281)	—
650/60R34	—	—	—	—	8O6W 8853 (349)	—	8P4X 7147 (281)	—
710/55R34	—	—	—	—	8N6W 9571 (377)	—	8O6W 9621 (379)	—

[a]Wide fenders use position E.
[b]Wide fenders use position F.
[c]Wide fenders use position C.

js88629,1683139654096-19-03MAY23

Tire, Steering Stop, and Fender Settings—1300 MFWD Axle with Front Loader or Loader Mounts

IMPORTANT: Avoid equipment damage. Further adjustment may be necessary if tire or fender contacts tractor on wide turns.

NOTE: Group 44 tires and pivoting fenders are not available with front loader.

MFWD axles have standard maximum 9° oscillation. Reduced oscillation offers better turning radius and reduces potential for tractor to tire contact. 5° oscillation stops are available from your John Deere dealer.

1300 MFWD Axle with 9° Oscillation Stops with Front Loader or Loader Mounts							
Tire Size	Tread Setting mm (in)						
	1524 (60)	1575 (62)	1626 (64)	1676 (66)	1727 (68)	1778 (70)	1829 (72)
320/80R42	8A5- 7210 (284)	—	8B4- 6641 (261)	—	8C3- 6204 (244)	—	8D2- 5860 (231)
320/85R38	16A4- 6550 (258)	—	16D3- 6114 (241)	—	16E2- 5772 (227)	—	16H1- 5414 (213)
380/80R38	—	—	—	—	8C5- 7396 (291)	—	8D4- 6824 (269)
380/85R34	8A5- 7210 (284)	—	8B4- 6641 (261)	—	8C3- 6204 (244)	—	8D2- 5860 (231)
420/85R34	8A6- 16A6- 8327 (328)	—	8B5- 16C5- 7303 (288)	—	8C4- 16F4- 6732 (265)	—	8D3- 16H3- 6294 (248)
420/90R30	8A6- 8327 (328)	—	8B4- 6641 (261)	—	8C3- 6204 (244)	—	8D2- 5860 (231)
16.9R30	8A6- 8327 (328)	—	8B5- 7303 (288)	—	8C4- 6732 (265)	—	8D2- 5860 (231)
480/70R30	8A6- 8327 (328)	—	8B5- 7303 (288)	—	8C4- 6732 (265)	—	8D2- 5860 (231)

1300 MFWD Axle with 9° Oscillation Stops with Front Loader or Loader Mounts							
Tire Size	**Tread Setting mm (in)**						
	1524 (60)	**1575 (62)**	**1626 (64)**	**1676 (66)**	**1727 (68)**	**1778 (70)**	**1829 (72)**
480/70R34	—	—	8B5- 16C5- 7303 (288)	—	8C4- 16F4- 6732 (265)	—	8D3- 16H3- 6294 (248)
540/65R30	—	8A6- 8375 (330)	—	8B4- 6687 (263)	—	8C3- 6249 (246)	—
540/65R34	—	—	—	8B5- 7350 (289)	—	8C4- 6778 (267)	—
600/65R28	—	—	—	—	—	8K4- 6778 (267)	—
600/70R30	—	—	—	—	—	8K5- 7443 (293)	—

1300 MFWD Axle with 9° Oscillation Stops with Front Loader or Loader Mounts (Continued)								
Tire Size	**Tread Setting mm (in)**							
	1880 (74)	**1930 (76)**	**1981 (78)**	**2032 (80)**	**2083 (82)**	**2134 (84)**	**2184 (86)**	**2235 (88)**
320/80R42	—	8E2- 5948 (234)	—	8F2- 6037 (238)	—	8G2- 6126 (241)	—	8H2- 6215 (245)
320/85R38	—	16I1- 5500 (217)	—	16L1- 5587 (220)	—	16M1- 5673 (223)	—	16P1- 5761 (227)
380/80R38	—	8E3- 6384 (251)	—	8F3- 6474 (255)	—	8G3- 6565 (258)	—	8H3- 6656 (262)
380/85R34	—	8E1- 5500 (217)	—	8F1- 5587 (220)	—	8G1- 5673 (223)	—	8H1- 5761 (227)
420/85R34	—	8E3- 16I3- 6384 (251)	—	8F3- 16K3- 6474 (255)	—	8G3- 16N3- 6565 (258)	—	8H3- 16P3- 6656 (262)
420/90R30	—	8E1- 5500 (217)	—	8F1- 5587 (220)	—	8G1- 5673 (223)	—	8H1- 5761 (227)
16.9R30	—	8E2- 5948 (234)	—	8F1- 5587 (220)	—	8G1- 5673 (223)	—	8H1- 5761 (227)
480/70R30	—	8E1- 5500 (217)	—	8F0- 5507 (217)	—	8G0- 5593 (220)	—	8H0- 5680 (224)
480/70R34	—	8E2- 16I2- 5948 (234)	—	8F2- 16K2- 6037 (238)	—	8G2- 16N2- 6126 (241)	—	8H2- 16P2- 6215 (245)
540/65R30	8E2- 5904 (232)	—	8F1- 5543 (218)	—	8G1- 5630 (222)	—	8H1- 5717 (225)	—
540/65R34	8E3- 6339 (250)	—	8F2- 5992 (236)	—	8G2- 6081 (239)	—	8H2- 6170 (243)	—
600/65R28	8M3- 6339 (250)	—	8N2- 5992 (236)	—	8O1- 5630 (222)	—	8P1- 5717 (225)	—
600/70R30	8M4- 6870 (270)	—	8N4- 6962 (274)	—	8O4- 7054 (278)	—	8P4- 7147 (281)	—
710/55R34	—	—	—	—	8N6W 9571 (377)	—	8O6W 9621 (379)	—

1300 MFWD Axle with 5° Oscillation Stops with Front Loader or Loader Mounts							
Tire Size	**Tread Setting mm (in)**						
	1524 (60)	**1575 (62)**	**1626 (64)**	**1676 (66)**	**1727 (68)**	**1778 (70)**	**1829 (72)**
320/80R42	8A5- 7210 (284)	—	8B4- 6641 (261)	—	8C2- 5772 (227)	—	8D2- 5860 (231)
320/85R38	16A4- 6550 (258)	—	16D3- 6114 (241)	—	16E2- 5772 (227)	—	16H1- 5414 (213)
380/80R38	8A6- 8327 (328)	—	8B4- 6641 (261)	—	8C3- 6204 (244)	—	8D3- 6294 (248)
380/85R34	8A5- 7210 (284)	—	8B4- 6641 (261)	—	8C2- 5772 (227)	—	8D1- 5414 (213)
420/85R34	8A6- 16A6- 8327 (328)	—	8B5- 16C5- 7303 (288)	—	8C4- 16F4- 6732 (265)	—	8D3- 16H3- 6294 (248)
420/90R30	8A5- 7210 (284)	—	8B4- 6641 (261)	—	8C3- 6204 (244)	—	8D2- 5860 (231)
16.9R30	8A6- 8327 (328)	—	8B5- 7303 (288)	—	8C3- 6204 (244)	—	8D2- 5860 (231)
480/70R30	8A6- 8327 (328)	—	8B5- 7303 (288)	—	8C3- 6204 (244)	—	8D2- 5860 (231)
480/70R34	8A6- 16A6- 8327 (328)	—	8B5- 16C5- 7303 (288)	—	8C3- 16F3- 6204 (244)	—	8D2- 16H2- 5860 (231)
540/65R30	—	8A6- 8375 (330)	—	8B4- 6687 (263)	—	8C3- 6249 (246)	
540/65R34	—	—	—	8B5- 7350 (289)	—	8C4- 6778 (267)	—
600/65R28	—	—	—	—	—	8K4- 6778 (267)	—
600/70R30	—	—	—	—	—	8K5- 7443 (293)	—

1300 MFWD Axle with 5° Oscillation Stops with Front Loader or Loader Mounts (Continued)								
Tire Size	**Tread Setting mm (in)**							
	1880 (74)	**1930 (76)**	**1981 (78)**	**2032 (80)**	**2083 (82)**	**2134 (84)**	**2184 (86)**	**2235 (88)**
320/80R42	—	8E1- 5500 (217)	—	8F1- 5587 (220)	—	8G1- 5673 (223)	—	8H1- 5761 (227)
320/85R38	—	16I0- 5421 (213)	—	16L0- 5507 (217)	—	16M0- 5593 (220)	—	16P0- 5680 (224)
380/80R38	—	8E3- 6384 (251)	—	8F3- 6474 (255)	—	8G3- 6565 (258)	—	8H3- 6656 (262)
380/85R34	—	8E1- 5500 (217)	—	8F0- 5507 (217)	—	8G0- 5593 (220)	—	8H0- 5680 (224)
420/85R34	—	8E2- 16I2- 5948 (234)	—	8F2- 16K2- 6037 (238)	—	8G2- 16N2- 6126 (241)	—	8H2- 16P2- 6215 (245)
420/90R30	—	8E1- 5500 (217)	—	8F0- 5507 (217)	—	8G0- 5593 (220)	—	8H0- 5680 (224)
16.9R30	—	8E1- 5500 (217)	—	8F1- 5587 (220)	—	8G1- 5673 (223)	—	8H1- 5761 (227)
480/70R30	—	8E2- 5948 (234)	—	8F0- 5507 (217)	—	8G0- 5593 (220)	—	8H0- 5680 (224)
480/70R34	—	8E2- 16I2- 5948 (234)	—	8F2- 16K2- 6037 (238)	—	8G2- 16N2- 6126 (241)	—	8H2- 16P2- 6215 (245)
540/65R30	8E2- 5904 (232)	—	8F1- 5543 (218)	—	8G0- 5550 (218)	—	8H0- 5636 (222)	—

1300 MFWD Axle with 5° Oscillation Stops with Front Loader or Loader Mounts (Continued)								
Tire Size	Tread Setting mm (in)							
	1880 (74)	1930 (76)	1981 (78)	2032 (80)	2083 (82)	2134 (84)	2184 (86)	2235 (88)
540/65R34	8E3-6339 (250)	—	8F2-5992 (236)	—	8G1-5630 (222)	—	8H1-5717 (225)	—
600/65R28	8M3-6339 (250)	—	8N2-5992 (236)	—	8O1-5630 (222)	—	8P0-5636 (222)	—
600/70R30	8M4-6870 (270)	—	8N3-6429 (253)	—	8O2-6081 (239)	—	8P2-6170 (243)	—
710/55R34	—	—	—	—	8N6W 9571 (377)	—	8O6W 9621 (379)	—

js88629,1683139479227-19-03MAY23

Tire, Steering Stop, and Fender Settings—TLS Plus Axle with Front Loader or Loader Mounts

IMPORTANT: Avoid equipment damage. Further adjustment may be necessary if tire or fender contacts tractor on wide turns.

NOTE: Group 44 tires are not available with TLS and front loader. Pivoting fenders are not available with front loaders.

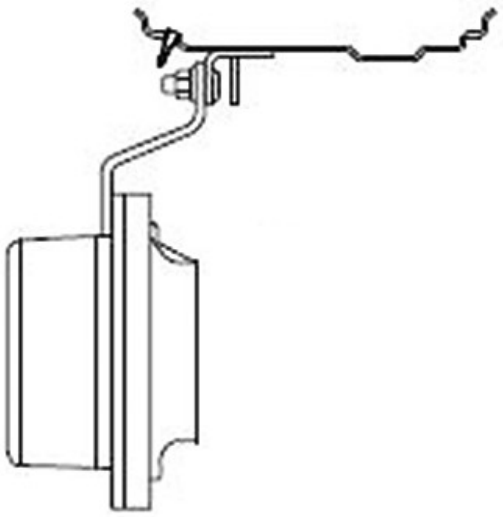
TLS Plus Axle with Front Loader or Loader Mounts							
Tire Size	Tread Setting mm (in)						
	1524 (60)	1575 (62)	1626 (64)	1676 (66)	1727 (68)	1778 (70)	1829 (72)
320/80R42	8A5-7210 (284)	—	8B4-6641 (261)	—	8C3-6204 (244)	—	8D3-6294 (248)
320/85R38	16A5-7210 (284)	—	16D3-6114 (241)	—	16E2-5772 (227)	—	16H1-5414 (213)
380/80R38	—	—	8B6-8423 (332)	—	8C6-8518 (335)	—	8D5-7490 (295)
380/85R34	8A5-7210 (284)	—	8B4-6641 (261)	—	8C3-6204 (244)	—	8D2-5860 (231)
420/85R34	8A6-16A6-8327 (328)	—	8B5-16C5-7303 (288)	—	8C4-16F4-6732 (265)	—	8D4-16H4-6824 (269)
420/90R30	8A6-8327 (328)	—	8B5-7303 (288)	—	8C4-6732 (265)	—	8D2-5860 (231)
16.9R30	8A6-8327 (328)	—	8B5-7303 (288)	—	8C4-6732 (265)	—	8D3-6294 (248)
480/70R30	8A6-8327 (328)	—	8B5-7303 (288)	—	8C4-6732 (265)	—	8D2-5860 (231)
480/70R34	—	—	8B6-16C6-8423 (332)	—	8C5-16F5-7396 (291)	—	8D3-16H3-6294 (248)
540/65R30	—	—	—	8B5-7350 (289)	—	8C3-6249 (246)	—
540/65R34	—	—	—	8B6-8470 (333)	—	8C4-6778 (267)	—
600/65R28	—	—	—	—	—	8K4-6778 (267)	—
600/70R30	—	—	—	—	—	8K5-7443 (293)	—

TLS Plus Axle with Front Loader or Loader Mounts (Continued)								
Tire Size	**Tread Setting mm (in)**							
	1880 (74)	**1930 (76)**	**1981 (78)**	**2032 (80)**	**2083 (82)**	**2134 (84)**	**2184 (86)**	**2235 (88)**
320/80R42	—	8E3- 6384 (251)	—	8F3- 6474 (255)	—	8G3- 6565 (258)	—	8H3- 6656 (262)
320/85R38	—	16I1- 5500 (217)	—	16L1- 5587 (220)	—	16M1- 5673 (223)	—	16P1- 5761 (227)
380/80R38	—	8E4- 6916 (272)	—	8F4- 7008 (276)	—	8G4- 7101 (280)	—	8H4- 7193 (283)
380/85R34	—	8E1- 5500 (217)	—	8F1- 5587 (220)	—	8G1- 5673 (223)	—	8H1- 5761 (227)
420/85R34	—	8E4- 16I4- 6916 (272)	—	8F3- 16K3- 6474 (255)	—	8G3- 16N3- 6565 (258)	—	8H3- 16P3- 6656 (262)
420/90R30	—	8E2- 5904 (232)	—	8F2- 6037 (238)	—	8G2- 6126 (241)	—	8H2- 6215 (245)
16.9R30	—	8E2- 5904 (232)	—	8F2- 6037 (238)	—	8G2- 6126 (241)	—	8H2- 6215 (245)
480/70R30	—	8E1- 5500 (217)	—	8F1- 5587 (220)	—	8G1- 5673 (223)	—	8H1- 5761 (227)
480/70R34	—	8E3- 16I3- 6384 (251)	—	8F3- 16K3- 6474 (255)	—	8G3- 16N3- 6565 (258)	—	8H3- 16P3- 6656 (262)
540/65R30	8E2- 5904 (232)	—	8F1- 5543 (218)	—	8G1- 5630 (222)	—	8H1- 5717 (225)	—
540/65R34	8E3- 6339 (250)	—	8F3- 6429 (253)	—	8G3- 6520 (257)	—	8H3- 6611 (260)	—
600/65R28	8M3- 6339 (250)	—	8N2- 5992 (236)	—	8O1- 5630 (222)	—	8P1- 5717 (225)	—
600/70R30	8M5- 7537 (297)	—	8N5- 7630 (300)	—	8O4- 7054 (278)	—	8P4- 7147 (281)	—
710/55R34	—	—	—	—	8N6W 9571 (377)	—	8O6W 9621 (379)	—

js88629,1683139565030-19-03MAY23

Determine Rim Type

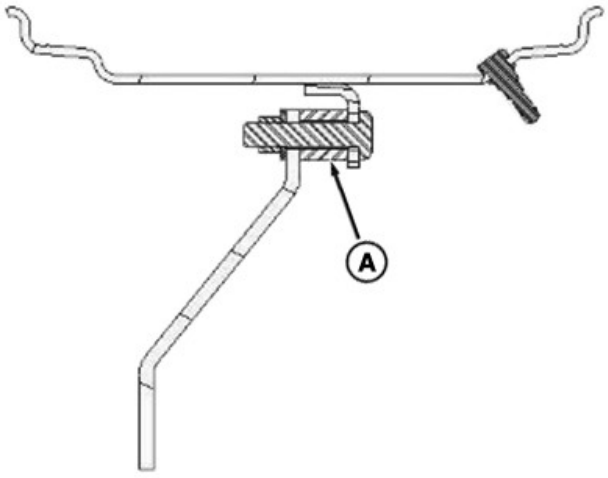
8-Position Rim



RXA0160411—UN—08AUG17

8-Position Rim

16-Position Rim



RXA0160412—UN—08AUG17

16-Position Rim

8-position rim and 16-position rim with spacer (A) uses M16 hardware at the disk to rim flange joint. Torque specification for M16 hardware is 330 N·m (245 lb·ft).

GH15097,0000491-19-29APR19

Wheel Settings—8-Position

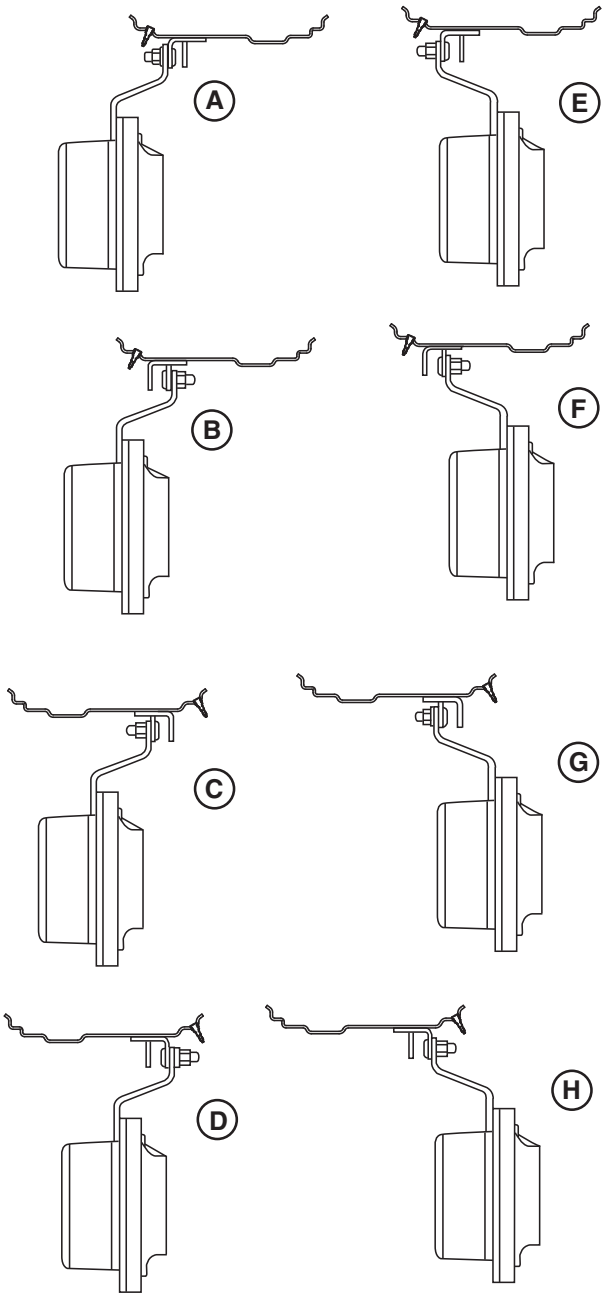
CAUTION: Avoid personal injury. Failure to follow torquing sequence and procedure results in damage to equipment and may result in personal injury.

Secure wheel bolts as described in Adjust and Tighten Front Wheel Bolts in the Front Wheels and Tires section of this Operators Manual.

To adjust fenders and steering stops as required, see Tire, Steering Stop, and Fender Settings tables in this Operator's Manual section.

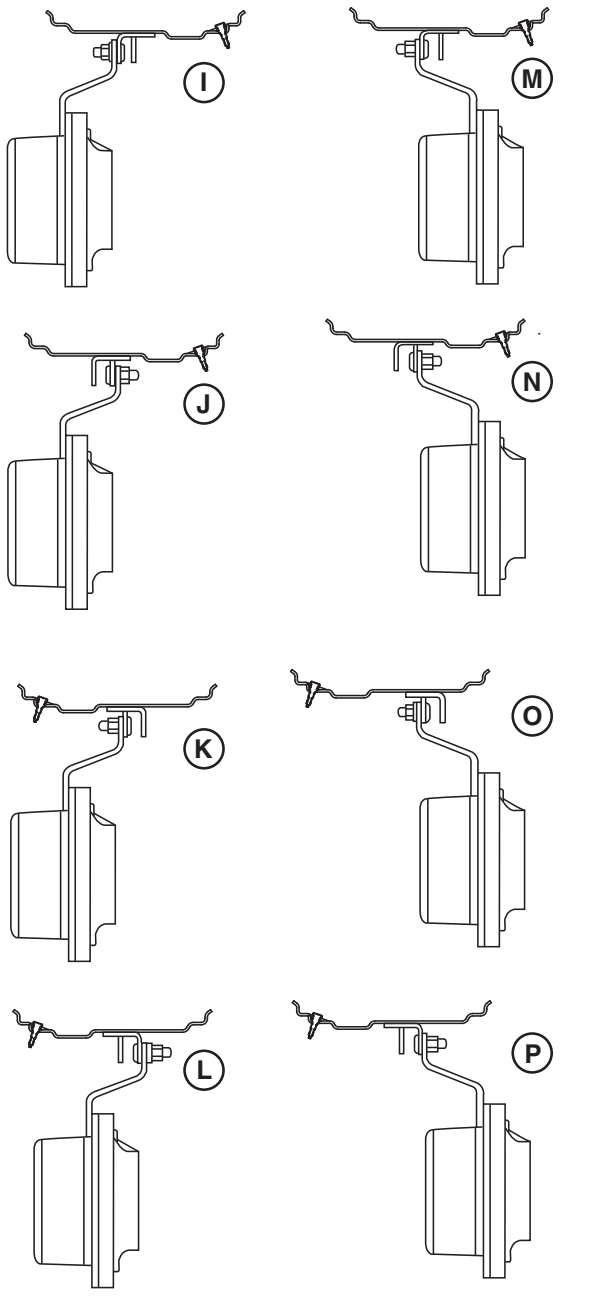
540 mm (20.8 in) Tire Widths and Smaller

Use (A)-(H) for all tires 540 mm (20.8 in) section width or smaller tires. Tread settings are measured at bottom of tire center line.



RXA0062856—UN—01OCT02

540 mm (20.8 in) Tire Widths and Smaller



RXA0062368—UN—01OCT02

600 mm (23.6 in) Tire Widths and Larger

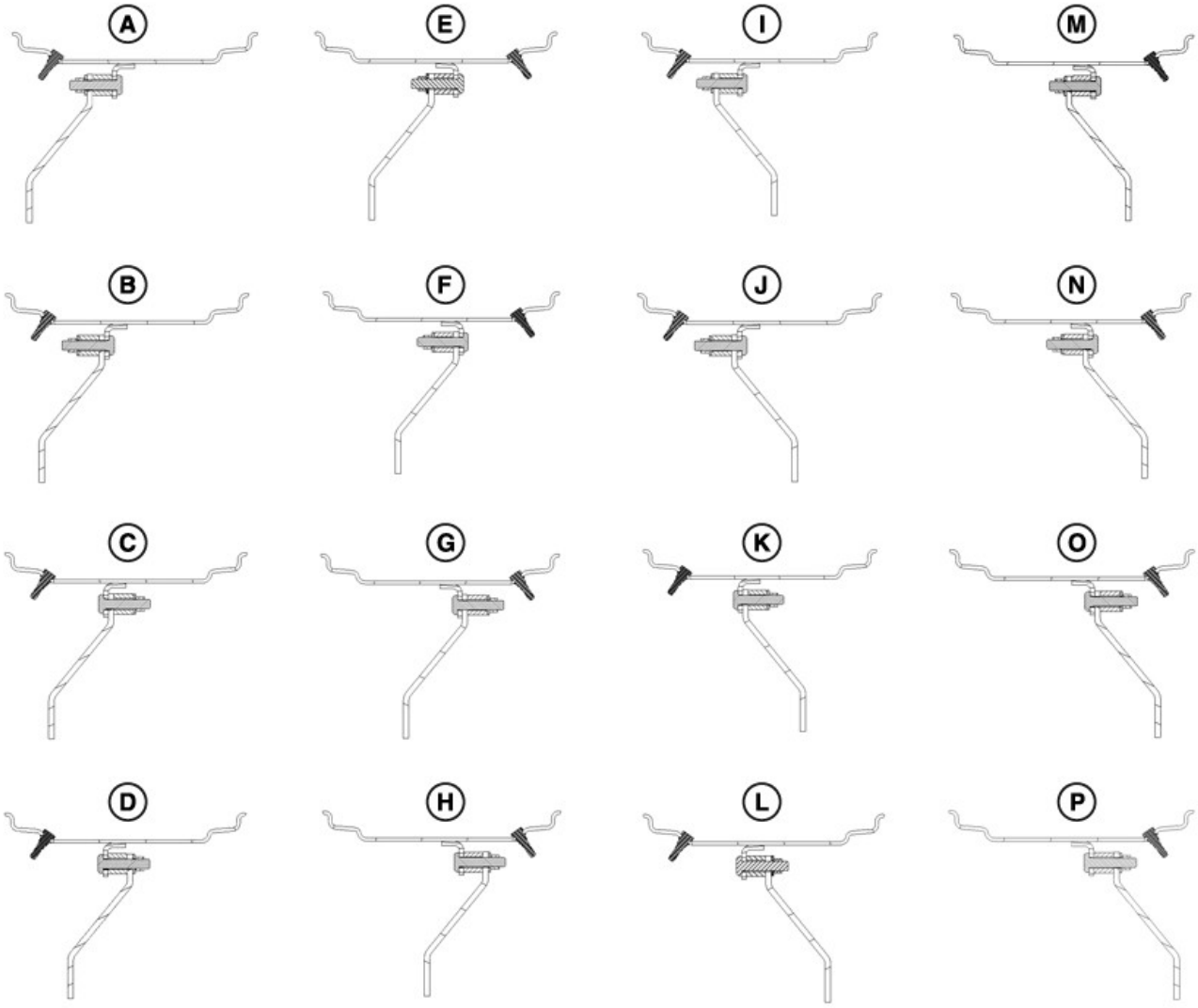
GH15097,0000492-19-14APR21

600 mm (23.6 in) Tire Widths and Larger

Use (I)-(P) for all tires 600 mm (23.6 in) section width or larger tires. Tread settings are measured at bottom of tire center line.

Wheel Setting—16-Position

16-position steel wheel as viewed from behind left tire.



RXA0160413—UN—08AUG17

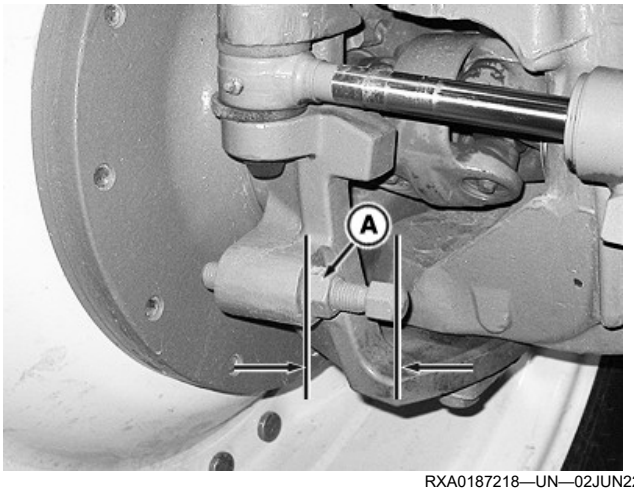
16-Position Steel Wheel Tread Settings

KT81203,000050D-19-07JUL20

Set Steering Stops

NOTE: Adjust fenders (if equipped) and tread settings before setting steering stop positions. Use the following chart as a guide to select the correct steering stop position for the tire size and tread setting. Due to variations in tire size, the settings listed are approximate. The proper steering stop setting is obtained when the tire is 20 mm (0.79 in) away from the frame or side panels when the axle is fully oscillated.

Steering Stop Settings		
Position	**Turn Angle**	**Bolt Length mm (in)**
0	48°	57 (2.24)
1	47°	60 (2.36)
2	42°	73 (2.87)
3	38°	87 (3.43)
4	34°	98 (3.86)
5	30°	109 (4.29)
6	25°	123 (4.84)



RXA0187218—UN—02JUN22

1. Set steering stops to the correct position by measuring the bolt length as illustrated.
2. Tighten steering stop retaining nuts (A) to 250 N·m (185 lb·ft).
3. Turn the steering wheel fully to the right. Impact the knuckle housing to the steering stop five times.
4. Turn the steering wheel fully to the left. Impact the knuckle housing to the steering stop five times.
5. Retighten steering stop retaining nuts to 250 N·m (185 lb·ft).

IMPORTANT: These settings allow 20 mm (0.79 in) minimum clearance at maximum turn and full axle oscillation. Check for interference with front weights, tie rods, and side frames. If equipped, fenders may deflect against the side frame and/or grille screen during a full turn. A minimized turn radius may be obtained by utilizing a shorter stop position.

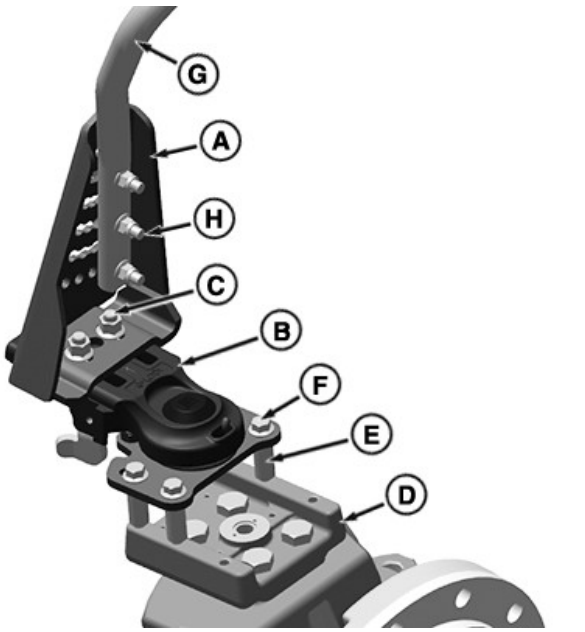
6. Verify the clearance by turning the steering wheel fully to the left and then to the right.

kd34109,1685449213207-19-31MAY23

Fender Settings

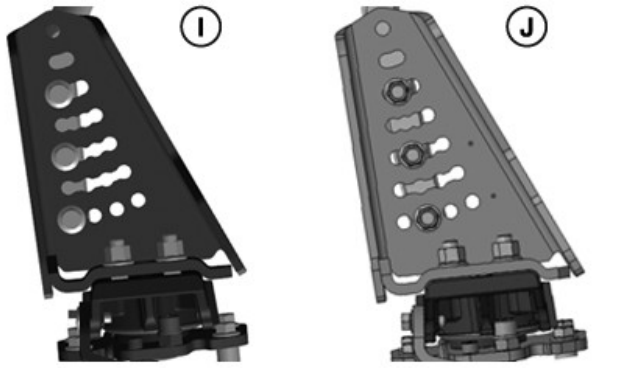
IMPORTANT: Avoid damage to fender, wheel, and hood. Position fender bracket and stopper in recommended positions.

Fender Support and Fender Pivot Installation



RXA0160574—UN—15AUG17

1. Install the fender support (A) to the fender pivot (B) with two M14 x 42 mm cap screws (C). See Fender Bracket Positions in this block for the correct fender bracket position. Tighten the fender pivot cap screws to 140 N·m (104 lb·ft).
2. Install the fender support and pivot assembly on the front axle assembly king pin (D) with the four fender pivot spacers (E) and the four M12 x 85 mm cap screws (F). See Fender Bracket Positions in this block for the correct fender bracket position. Tighten the cap screws to 128 N·m (94 lb·ft).
3. Install the fender rod (G) to the fender support with three M12 x 55 mm cap screws (H). Tighten the fender rod cap screws to 128 N·m (94 lb·ft).



RXA0178904—UN—28JUL20

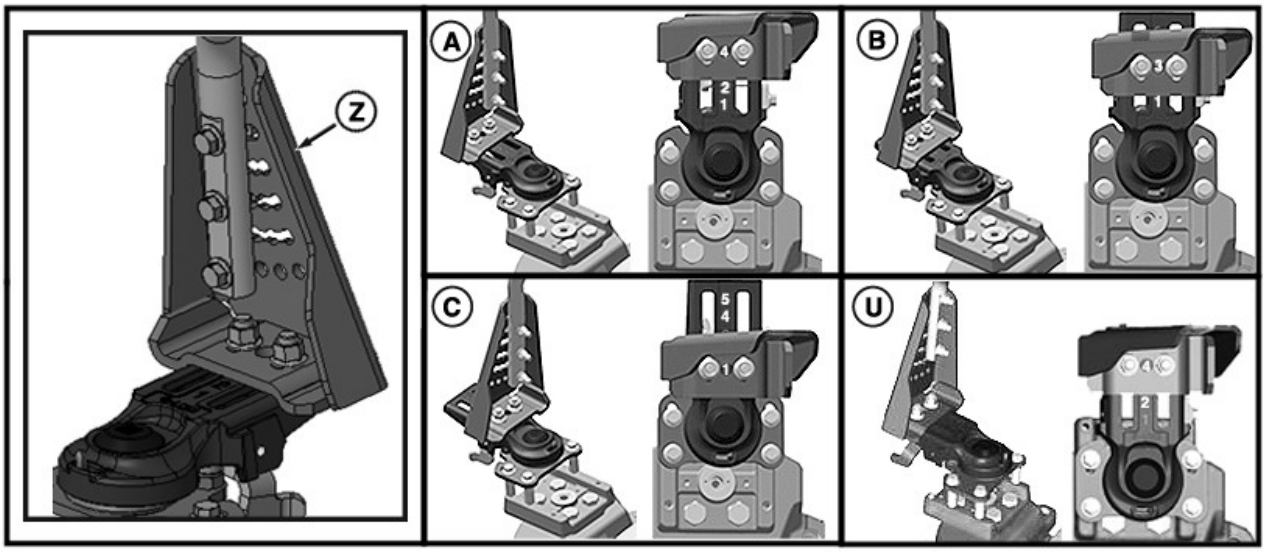
RXA0189033—UN—05JUL23

- (I) shows the fender rod height position for the fender bracket positions A-H.
- (J) shows the fender rod height position for the fender bracket positions U, W, and X (excluding 710/55R34 size tires).
- (K) shows the fender rod height position for the fender bracket positions W and Y with 710/55R34 tires.

Fender Bracket Positions

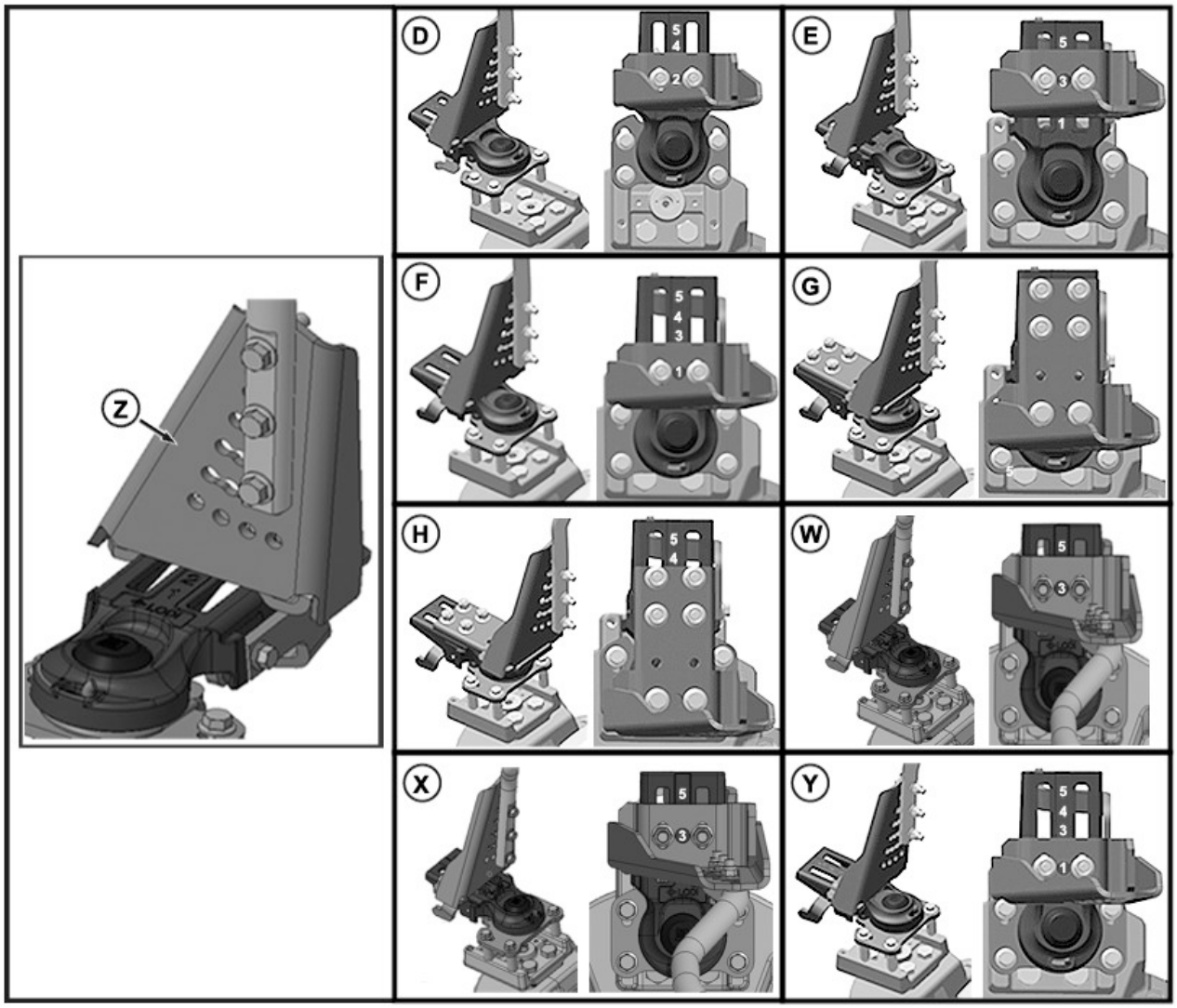
For fender bracket positions:

NOTE: If equipped with Group 42 or 43 tires, fender settings at positions E, F, G, H, U, W, and X require the longer fender stopper bracket. See your John Deere Dealer.



RXA0178905—UN—28JUL20

- A, B, C, and U: Install the fender bracket with the flat surface (Z) of the fender bracket positioned facing inwards towards the engine hood.

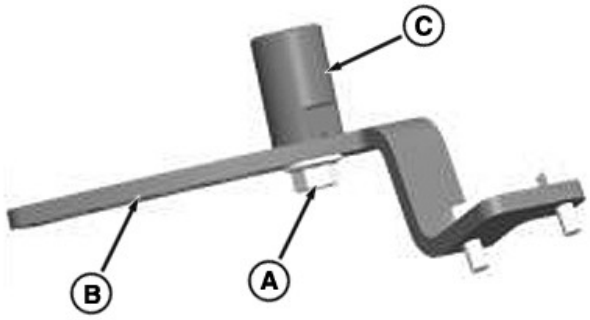


RXA0189121—UN—12JUL23

NOTE: Fender settings at positions G and H require a fender bracket that is not equipped. See your John Deere Dealer.

- D, E, F, G, H, W, X, and Y: Install the fender bracket with the flat surface (Z) of the fender bracket positioned facing outwards towards the tire.

Stopper Bracket

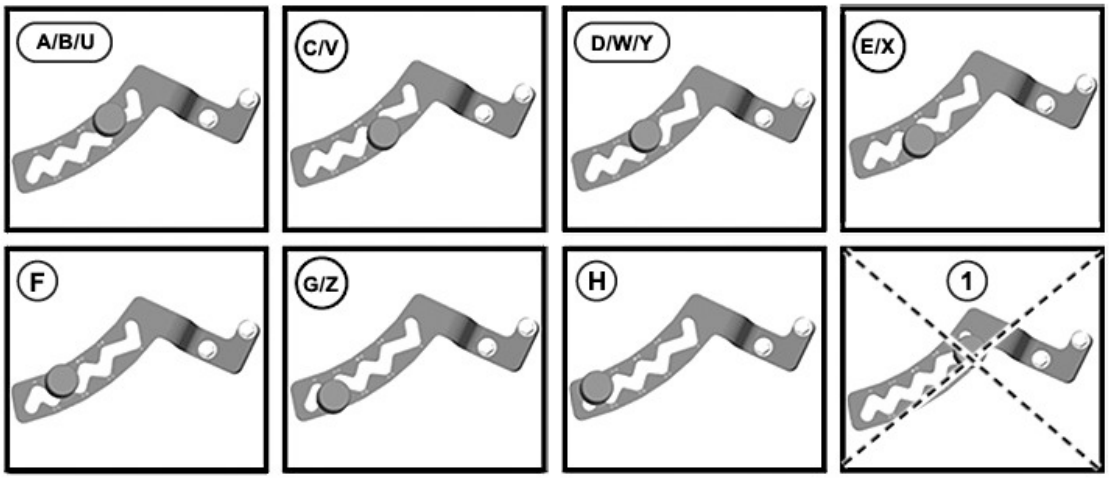


RXA0132027—UN—12APR13

1. Insert cap screw (A) into bracket (B).
2. Screw on stopper (C) from above. (Stopper can be replaced as it wears.) For stopper positions, see Stopper Positions in this block.

3. Verify fender clearance by turning steering wheel to left stop and right stop.
4. Additional adjustment may be necessary, if, on tight turns:
   - Fender contacts hood. Move stopper (C) towards axle, from G position to A position, to move fender further away from hood.
   - Tire contacts fender. Move stopper (C) away from axle, from A position to G position, to move fender further away from tire.

Stopper Positions



RXA0189122—UN—12JUL23

1—Position not used

TS36762,0000213-19-12JUL23

Recommended Pressures—Group 47

Group	47								
Size	320/90R54	380/90R50		480/80R46		520/85R42			
Load Index	149	151		158		157		162	
Speed Rating	A8 / B	A8 / B		A8 / B / D		A8 / B		A8 / B	
	Dual	Single	Dual	Single	Dual	Single	Dual	Single	Dual
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
3629 (8000)	48 (0.5)(7)	90 (0.9)(13)	40 (0.4)(6)	65 (0.65)(9)	40 (0.4)(6)	62 (0.6)(9)	41 (0.4)(6)	85 (0.85)(12)	40 (0.4)(6)
3856 (8500)	55 (0.6)(8)	90 (0.9)(13)	41 (0.4)(6)	65 (0.65)(9)	40 (0.4)(6)	62 (0.6)(9)	41 (0.4)(6)	85 (0.85)(12)	40 (0.4)(6)
4082 (9000)	62 (0.6)(9)	103 (1.0)(15)	41 (0.4)(6)	75 (0.75)(11)	40 (0.4)(6)	62 (0.6)(9)	41 (0.4)(6)	85 (0.85)(12)	40 (0.4)(6)
4309 (9500)	70 (0.7)(10)	110 (1.1)(16)	41 (0.4)(6)	85 (0.85)(12)	40 (0.4)(6)	62 (0.6)(9)	41 (0.4)(6)	85 (0.85)(12)	40 (0.4)(6)
4536 (10000)	69 (0.7)(10)	117 (1.2)(17)	41 (0.4)(6)	90 (0.9)(13)	40 (0.4)(6)	69 (0.7)(10)	41 (0.4)(6)	85 (0.85)(12)	40 (0.4)(6)
4763 (10500)	69 (0.7)(10)	124 (1.2)(18)	48 (0.5)(7)	95 (0.95)(14)	40 (0.4)(6)	76 (0.8)(11)	41 (0.4)(6)	85 (0.85)(12)	40 (0.4)(6)
4990 (11000)	76 (0.8)(11)	131 (1.3)(19)	55 (0.6)(8)	105 (1.05)(15)	40 (0.4)(6)	83 (0.8)(12)	41 (0.4)(6)	85 (0.85)(12)	40 (0.4)(6)
5216 (11500)	83 (0.8)(12)	138 (1.4)(20)	55 (0.6)(8)	110 (1.1)(16)	40 (0.4)(6)	90 (0.9)(13)	41 (0.4)(6)	85 (0.85)(12)	40 (0.4)(6)
5443 (12000)	90 (0.9)(13)	145 (1.4)(21)	62 (0.6)(9)	120 (1.2)(17)	40 (0.4)(6)	97 (1.0)(14)	41 (0.4)(6)	85 (0.85)(12)	40 (0.4)(6)
5670 (12500)	97 (1.0)(14)	159 (1.6)(23)	69 (0.7)(10)	130 (1.3)(19)	40 (0.4)(6)	97 (1.0)(14)	41 (0.4)(6)	85 (0.85)(12)	40 (0.4)(6)
5897 (13000)	103 (1.0)(15)	165 (1.7)(24)	69 (0.7)(10)	145 (1.45)(21)	50 (0.5)(7)	103 (1.0)(15)	41 (0.4)(6)	85 (0.85)(12)	40 (0.4)(6)
6123 (13500)	110 (1.1)(16)	179 (1.8)(26)	76 (0.8)(11)	150 (1.5)(22)	50 (0.5)(7)	110 (1.1)(16)	41 (0.4)(6)	90 (0.9)(13)	40 (0.4)(6)
6350 (14000)	110 (1.1)(16)	207 (2.1)(30)	83 (0.8)(12)	160 (1.6)(23)	55 (0.55)(8)	110 (1.1)(16)	41 (0.4)(6)	95 (0.95)(14)	40 (0.4)(6)
6577 (14500)	117 (1.2)(17)	221 (2.2)(32)	90 (0.9)(13)	165 (1.65)(24)	55 (0.55)(8)	117 (1.2)(17)	48 (0.5)(7)	105 (1.05)(15)	40 (0.4)(6)
6804 (15000)	117 (1.2)(17)	241 (2.4)(35)	90 (0.9)(13)	175 (1.75)(25)	65 (0.65)(9)	124 (1.2)(18)	48 (0.5)(7)	110 (1.1)(16)	40 (0.4)(6)
7031 (15500)	124 (1.2)(18)	—	97 (1.0)(14)	180 (1.8)(26)	70 (0.7)(10)	131 (1.3)(19)	55 (0.6)(8)	120 (1.2)(17)	40 (0.4)(6)
7257 (16000)	131 (1.3)(19)	—	103 (1.0)(15)	190 (1.9)(28)	75 (0.75)(11)	138 (1.4)(20)	55 (0.6)(8)	125 (1.25)(18)	40 (0.4)(6)
7484 (16500)	145 (1.4)(21)	—	110 (1.1)(16)	200 (2.0)(29)	75 (0.75)(11)	138 (1.4)(20)	62 (0.6)(9)	140 (1.4)(20)	40 (0.4)(6)
7711 (17000)	145 (1.4)(21)	—	110 (1.1)(16)	215 (2.15)(31)	80 (0.8)(12)	145 (1.4)(21)	62 (0.6)(9)	150 (1.5)(22)	40 (0.4)(6)
7938 (17500)	152 (1.5)(22)	—	117 (1.2)(17)	220 (2.2)(32)	90 (0.9)(13)	152 (1.5)(22)	69 (0.7)(10)	160 (1.6)(23)	50 (0.5)(7)
8165 (18000)	159 (1.6)(23)	—	117 (1.2)(17)	235 (2.35)(34)	95 (0.95)(14)	159 (1.6)(23)	69 (0.7)(10)	175 (1.75)(25)	55 (0.55)(8)
8391 (18500)	165 (1.7)(24)	—	124 (1.2)(18)	240 (2.4)(35)	105 (1.05)(15)	—	76 (0.8)(11)	180 (1.8)(26)	55 (0.55)(8)
8618 (19000)	172 (1.7)(25)	—	124 (1.2)(18)	—	105 (1.05)(15)	—	76 (0.8)(11)	190 (1.9)(28)	65 (0.65)(9)
8845 (19500)	186 (1.9)(27)	—	131 (1.3)(19)	—	110 (1.1)(16)	—	83 (0.8)(12)	207 (2.07)(30)	65 (0.65)(9)
9072 (20000)	207 (2.1)(30)	—	138 (1.4)(20)	—	110 (1.1)(16)	—	90 (0.9)(13)	220 (2.2)(32)	70 (0.7)(10)

Group	47								
Size	**320/90R54**	**380/90R50**		**480/80R46**		**520/85R42**			
Load Index	**149**	**151**		**158**		**157**		**162**	
Speed Rating	**A8 / B**	**A8 / B**		**A8 / B / D**		**A8 / B**		**A8 / B**	
	Dual	**Single**	**Dual**	**Single**	**Dual**	**Single**	**Dual**	**Single**	**Dual**
Axle Load kg (lb)	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**
9525 (21000)	241 (2.4)(35)	—	145 (1.4)(21)	—	120 (1.2)(17)	—	90 (0.90)(13)	240 (2.4)(35)	70 (0.7)(10)
9979 (22000)	262 (2.6)(38)	—	159 (1.6)(23)	—	130 (1.3)(19)	—	97 (1.0)(14)	—	75 (0.75)(11)
10433 (23000)	283 (2.8)(41)	—	172 (1.7)(25)	—	145 (1.45)(21)	—	103 (1.0)(15)	—	80 (0.8)(12)
10886 (24000)	296 (3.0)(43)	—	186 (1.9)(27)	—	150 (1.5)(22)	—	110 (1.10)(16)	—	90 (0.9)(13)
11340 (25000)	317 (3.2)(46)	—	214 (2.1)(31)	—	160 (1.6)(23)	—	117 (1.2)(17)	—	95 (0.95)(14)
11793 (26000)	—	—	234 (2.3)(34)	—	175 (1.75)(25)	—	117 (1.2)(17)	—	105 (1.05)(15)
12247 (27000)	—	—	—	—	185 (1.85)(27)	—	124 (1.2)(18)	—	110 (1.1)(16)
12701 (28000)	—	—	—	—	190 (1.9)(28)	—	131 (1.3)(19)	—	120 (1.2)(17)
13154 (29000)	—	—	—	—	200 (2.0)(29)	—	138 (1.4)(20)	—	125 (1.25)(18)
13608 (30000)	—	—	—	—	215 (2.15)(31)	—	145 (1.4)(21)	—	140 (1.4)(20)
14061 (31000)	—	—	—	—	220 (2.2)(32)	—	152 (1.5)(22)	—	150 (1.5)(22)
14515 (32000)	—	—	—	—	235 (2.35)(34)	—	159 (1.6)(23)	—	160 (1.6)(23)
14969 (33000)	—	—	—	—	240 (2.4)(35)	—	—	—	175 (1.75)(25)
15422 (34000)	—	—	—	—	—	—	—	—	185 (1.85)(27)
15876 (35000)	—	—	—	—	—	—	—	—	200 (2.0)(29)
16329 (36000)	—	—	—	—	—	—	—	—	240 (2.4)(35)

Group	47						
Size	**620/70R42**		**650/65R42**	**710/70R38**			
Load Index	**160**		**158**	**166**		**171**	
Speed Rating	**A8 / B / D**		**D**	**A8 / B**		**A8 / B / D**	
	Single	**Dual**	**Single**	**Single**	**Dual**	**Single**	**Dual**
Axle Load kg (lb)	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**
4536 (10000)	62 (0.6)(9)	62 (0.6)(9)	60 (0.6)(9)	41 (0.4)(6)	41 (0.4)(6)	62 (0.6)(9)	41 (0.4)(6)
4763 (10500)	62 (0.6)(9)	62 (0.6)(9)	60 (0.6)(9)	41 (0.4)(6)	41 (0.4)(6)	62 (0.6)(9)	41 (0.4)(6)
4990 (11000)	69 (0.7)(10)	62 (0.6)(9)	70 (0.7)(10)	48 (0.5)(7)	41 (0.4)(6)	62 (0.6)(9)	41 (0.4)(6)

Group	47						
Size	620/70R42		650/65R42	710/70R38			
Load Index	160		158	166		171	
Speed Rating	A8 / B / D		D	A8 / B		A8 / B / D	
	Single	Dual	Single	Single	Dual	Single	Dual
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
5216 (11500)	76 (0.8)(11)	62 (0.6)(9)	75 (0.75)(11)	55 (0.6)(8)	41 (0.4)(6)	62 (0.6)(9)	41 (0.4)(6)
5443 (12000)	76 (0.8)(11)	62 (0.6)(9)	85 (0.85)(12)	55 (0.6)(8)	41 (0.4)(6)	62 (0.6)(9)	41 (0.4)(6)
5670 (12500)	83 (0.8)(12)	62 (0.6)(9)	90 (0.9)(13)	62 (0.6)(9)	41 (0.4)(6)	62 (0.6)(9)	41 (0.4)(6)
5897 (13000)	90 (0.9)(13)	62 (0.6)(9)	95 (0.95)(14)	69 (0.7)(10)	41 (0.4)(6)	62 (0.6)(9)	41 (0.4)(6)
6123 (13500)	97 (1.0)(14)	62 (0.6)(9)	95 (0.95)(14)	76 (0.8)(11)	41 (0.4)(6)	62 (0.6)(9)	41 (0.4)(6)
6350 (14000)	103 (1.0)(15)	62 (0.6)(9)	105 (1.05)(15)	76 (0.8)(11)	41 (0.4)(6)	69 (0.7)(10)	41 (0.4)(6)
6577 (14500)	110 (1.1)(16)	62 (0.6)(9)	110 (1.1)(16)	83 (0.8)(12)	41 (0.4)(6)	76 (0.8)(11)	41 (0.4)(6)
6804 (15000)	110 (1.1)(16)	62 (0.6)(9)	110 (1.1)(16)	90 (0.9)(13)	41 (0.4)(6)	83 (0.8)(12)	41 (0.4)(6)
7031 (15500)	117 (1.2)(17)	62 (0.6)(9)	120 (1.2)(17)	90 (0.9)(13)	41 (0.4)(6)	83 (0.8)(12)	41 (0.4)(6)
7257 (16000)	117 (1.2)(17)	62 (0.6)(9)	125 (1.25)(18)	97 (1.0)(14)	41 (0.4)(6)	90 (0.9)(13)	41 (0.4)(6)
7484 (16500)	124 (1.2)(18)	62 (0.6)(9)	130 (1.3)(19)	103 (1.0)(15)	41 (0.4)(6)	90 (0.9)(13)	41 (0.4)(6)
7711 (17000)	131 (1.3)(19)	62 (0.6)(9)	140 (1.4)(20)	103 (1.0)(15)	41 (0.4)(6)	97 (1.0)(14)	41 (0.4)(6)
7938 (17500)	131 (1.3)(19)	62 (0.6)(9)	145 (1.45)(21)	110 (1.1)(16)	41 (0.4)(6)	97 (1.0)(14)	41 (0.4)(6)
8165 (18000)	138 (1.4)(20)	62 (0.6)(9)	150 (1.5)(22)	110 (1.1)(16)	41 (0.4)(6)	103 (1.0)(15)	41 (0.4)(6)
8391 (18500)	145 (1.4)(21)	62 (0.6)(9)	160 (1.6)(23)	117 (1.2)(17)	41 (0.4)(6)	110 (1.1)(16)	41 (0.4)(6)
8618 (19000)	152 (1.5)(22)	69 (0.7)(10)	160 (1.6)(23)	117 (1.2)(17)	48 (0.5)(7)	110 (1.1)(16)	41 (0.4)(6)
8845 (19500)	159 (1.6)(23)	69 (0.7)(10)	—	124 (1.2)(18)	48 (0.5)(7)	117 (1.2)(17)	41 (0.4)(6)
9072 (20000)	152 (1.5)(22)	69 (0.7)(10)	—	124 (1.2)(18)	48 (0.5)(7)	117 (1.2)(17)	41 (0.4)(6)
9525 (21000)	159 (1.6)(23)	76 (0.8)(11)	—	138 (1.4)(20)	55 (0.6)(8)	131 (1.3)(19)	48 (0.5)(7)
9979 (22000)	—	83 (0.8)(12)	—	145 (1.4)(21)	62 (0.6)(9)	138 (1.4)(20)	55 (0.6)(8)
10433 (23000)	—	90 (0.9)(13)	—	159 (1.6)(23)	69 (0.7)(10)	145 (1.4)(21)	62 (0.6)(9)
10886 (24000)	—	97 (1.0)(14)	—	—	76 (0.8)(11)	159 (1.6)(23)	69 (0.7)(10)
11340 (25000)	—	10 3(1.0)(15)	—	—	83 (0.8)(12)	172 (1.7)(25)	69 (0.7)(10)
11793 (26000)	—	110 (1.1)(16)	—	—	83 (0.8)(12)	193 (1.9)(28)	76 (0.8)(11)
12247 (27000)	—	117 (1.2)(17)	—	—	90 (0.9)(13)	214 (2.1)(31)	83 (0.8)(12)
12701 (28000)	—	117 (1.2)(17)	—	—	97 (1.0)(14)	234 (2.3)(34)	90 (0.9)(13)

Group	47						
Size	620/70R42		650/65R42	710/70R38			
Load Index	160		158	166		171	
Speed Rating	A8 / B / D		D	A8 / B		A8 / B / D	
	Single	Dual	Single	Single	Dual	Single	Dual
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
13154 (29000)	—	124 (1.2)(18)	—	—	103 (1.0)(15)	—	90 (0.9)(13)
13608 (30000)	—	131 (1.3)(19)	—	—	103 (1.0)(15)	—	97 (1.0)(14)
14061 (31000)	—	138 (1.4)(20)	—	—	110 (1.1)(16)	—	103 (1.0)(15)
14515 (32000)	—	138 (1.4)(20)	—	—	110 (1.1)(16)	—	103 (1.0)(15)
14969 (33000)	—	152 (1.5)(22)	—	—	117 (1.2)(17)	—	110 (1.1)(16)
15422 (34000)	—	159 (1.6)(23)	—	—	124 (1.2)(18)	—	117 (1.2)(17)
15876 (35000)	—	152 (1.5)(22)	—	—	124 (1.2)(18)	—	117 (1.2)(17)
16329 (36000)	—	159 (1.6)(23)	—	—	131 (1.3)(19)	—	124 (1.2)(18)
16783 (37000)	—	—	—	—	138 (1.4)(20)	—	131 (1.3)(19)
17237 (38000)	—	—	—	—	145 (1.4)(21)	—	131 (1.3)(19)
17690 (39000)	—	—	—	—	152 (1.5)(22)	—	138 (1.4)(20)
18144 (40000)	—	—	—	—	152 (1.5)(22)	—	145 (1.4)(21)
18597 (41000)	—	—	—	—	159 (1.6)(23)	—	152 (1.5)(22)
19047 (42000)	—	—	—	—	—	—	159 (1.6)(23)
19501 (43000)	—	—	—	—	—	—	159 (1.6)(23)
19954 (44000)	—	—	—	—	—	—	172 (1.7)(25)
20408 (45000)	—	—	—	—	—	—	186 (1.9)(27)
20861 (46000)	—	—	—	—	—	—	193 (1.9)(28)
21315 (47000)	—	—	—	—	—	—	207 (2.1)(30)
20408 (48000)	—	—	—	—	—	—	221 (2.2)(32)
20861 (49000)	—	—	—	—	—	—	234 (2.3)(34)
21315 (50000)	—	—	—	—	—	—	241 (2.4)(35)

TS36762,000021D-19-29JAN20

Recommended Pressures—Group 48

NOTE: For Trelleborg Tires, it is recommended not to go below 83 kPa (0.8 bar) (12 psi).

Group	48									
Size	320/105R54		380/90R54		480/80R50		IF480/80R50		520/85R46	
Load Index	163		152		159		166		158	
Speed Rating	A8 / B		A8 / B		A8 / B / D		A8 / B		A8 / B / D	
	Single	Dual	Single	Dual	Single[a]	Dual[b]	Single	Dual	Single[c]	Dual[d]
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
4536 (10000)	131 (1.3)(19)	48 (0.5)(7)	105 (1.1)(15)	55 (0.55)(8)	83[a] (0.8)(12)	62[b] (0.6)(9)	40 (0.4)(6)	41 (0.4)(6)	62[c] (0.6)(9)	41[d] (0.4)(6)
4763 (10500)	138 (1.4)(20)	55 (0.55)(8)	110 (1.1)(16)	55 (0.55)(8)	90[a] (0.9)(13)	62[b] (0.6)(9)	40 (0.4)(6)	41 (0.4)(6)	69[c] (0.7)(10)	41[d] (0.4)(6)
4990 (11000)	145 (1.4)(21)	62 (0.6)(8)	120 (1.2)(17)	55 (0.55)(8)	97[a] (1.0)(14)	62[b] (0.6)(9)	40 (0.4)(6)	41 (0.4)(6)	76[c] (0.8)(11)	41[d] (0.4)(6)
5216 (11500)	159 (1.6)(23)	69 (0.7)(10)	130 (1.3)(19)	55 (0.55)(8)	103 (1.0)(15)	62[b] (0.6)(9)	40 (0.4)(6)	41 (0.4)(6)	83[c] (0.8)(12)	41[d] (0.4)(6)
5443 (12000)	172 (1.7)(25)	76 (0.8)(11)	140 (1.4)(20)	55 (0.55)(8)	110 (1.1)(16)	62[b] (0.6)(9)	40 (0.4)(6)	41 (0.4)(6)	83[c] (0.8)(12)	41[d] (0.4)(6)
5670 (12500)	193 (1.9)(28)	76 (0.8)(11)	150 (1.5)(22)	65 (0.65)(9)	110 (1.1)(16)	62[b] (0.6)(9)	40 (0.4)(6)	41 (0.4)(6)	90[c] (0.9)(13)	41[d] (0.4)(6)
5897 (13000)	214 (2.1)(31)	83 (0.8)(12)	160 (1.6)(23)	65 (0.65)(9)	117 (1.2)(17)	62[b] (0.6)(9)	40 (0.4)(6)	41 (0.4)(6)	97[c] (1.0)(14)	41[d] (0.4)(6)
6123 (13500)	228 (2.3)(33)	90 (0.9)(13)	170 (1.70)(25)	65 (0.65)(9)	117 (1.2)(17)	62[b] (0.6)(9)	40 (0.4)(6)	48 (0.5)(7)	103[a] (1.0)(15)	41[d] (0.4)(6)
6350 (14000)	248 (2.5)(36)	97 (1.0)(14)	180 (1.8)(26)	70 (0.7)(10)	131 (1.3)(19)	62[b] (0.6)(9)	40 (0.4)(6)	48 (0.5)(7)	110[c] (1.1)(16)	41[d] (0.4)(6)
6577 (14500)	262 (2.6)(38)	103 (1.0)(15)	190 (1.9)(28)	70 (0.7)(10)	138 (1.4)(20)	62[b] (0.6)(9)	40 (0.4)(6)	48 (0.5)(7)	117[c] (1.2)(17)	41d (0.4)(6)
6804 (15000)	283 (2.8)(41)	103 (1.0)(15)	200 (2.0)(29)	75 (0.75)(11)	138 (1.4)(20)	62[b] (0.6)(9)	40 (0.4)(6)	48 (0.5)(7)	117[c] (1.2)(17)	41[d] (0.4)(6)
7031 (15500)	296 (3.0)(43)	110 (1.1)(16)	250 (2.5)(36)	75 (0.75)(11)	152 (1.5)(22)	62[b] (0.6)(9)	40 (0.4)(6)	55 (0.6)(8)	124 (1.2)(18)	48[d] (0.5)(7)
7257 (16000)	317 (3.2)(46)	110 (1.1)(16)	—	80 (0.8)(12)	159 (1.6)(23)	69[b] (0.7)(10)	50 (0.5)(7)	50 (0.5)(7)	131 (1.3)(19)	48[d] (0.5)(7)
7484 (16500)	338 (3.4)(49)	117 (1.2)(17)	—	90 (0.9)(13)	159 (1.6)(23)	69[b] (0.7)(10)	50 (0.5)(7)	55 (0.55)(8)	138 (1.4)(20)	55[d] (0.6)(8)
7711 (17000)	359 (3.6)(52)	124 (1.2)(18)	—	95 (0.95)(14)	179 (1.8)(26)	76[b] (0.8)(11)	55 (0.55)(8)	62 (0.6)(9)	138 (1.4)(20)	62[d] (0.6)(9)
7938 (17500)	379 (3.8)(55)	124 (1.2)(18)	—	95 (0.95)(14)	193 (1.9)(28)	76[b] (0.8)(11)	65 (0.65)(9)	62 (0.6)(9)	145 (1.4)(21)	62[d] (0.6)(9)
8165 (18000)	393 (3.9)(57)	131 (1.3)(19)	—	105 (1.05)(15)	207 (2.1)(30)	83[b] (0.8)(12)	65 (0.65)(9)	62 (0.6)(9)	152 (1.5)(22)	69[d] (0.7)(10)
8391 (18500)	414 (4.1)(60)	138 (1.4)(20)	—	105 (1.1)(15)	221 (2.2)(32)	90[b] (0.9)(13)	65 (0.65)(9)	62 (0.6)(9)	159 (1.6)(23)	69[d] (0.7)(10)
8618 (19000)	421 (4.2)(61)	145 (1.4)(21)	—	110 (1.1)(16)	234 (2.3)(34)	90[b] (0.9)(13)	70 (0.7)(10)	69 (0.7)(10)	—	76[d] (0.8)(11)
8845 (19500)	434 (4.3)(63)	152 (1.5)(22)	—	120 (1.2)(17)	—	97[b] (1.0)(14)	70 (0.7)(10)	69 (0.7)(10)	—	76[d] (0.8)(11)
9072 (20000)	448 (4.5)(65)	159 (1.6)(23)	—	130 (1.3)(19)	—	97 (1.0)(14)	70 (0.7)(10)	69 (0.7)(10)	—	76[d] (0.8)(11)
9525 (21000)	483 (4.8)(70)	172 (1.7)(25)	—	140 (1.4)(20)	—	103 (1.0)(15)	75 (0.75)(11)	76 (0.8)(11)	—	83[d] (0.8)(12)
9979 (22000)	—	193 (1.9)(28)	—	150 (1.5)(22)	—	110 (1.1)(16)	85 (0.85)(12)	83 (0.8)(12)	—	90[d] (0.9)(13)

Group	48									
Size	320/105R54		380/90R54		480/80R50		IF480/80R50		520/85R46	
Load Index	163		152		159		166		158	
Speed Rating	A8 / B		A8 / B		A8 / B / D		A8 / B		A8 / B / D	
	Single	Dual	Single	Dual	Single[a]	Dual[b]	Single	Dual	Single[c]	Dual[d]
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
10433 (23000)	—	214 (2.1)(31)	—	160 (1.6)(23)	—	117 (1.2)(17)	90 (0.9)(13)	90 (0.9)(13)	—	103d (1.0)(15)
10886 (24000)	—	234 (2.3)(34)	—	170 (1.70)(25)	—	124 (1.2)(18)	95 (0.95)(14)	97 (1.0)(14)	—	110[d] (1.1)(16)
11340 (25000)	—	255 (2.6)(37)	—	180 (1.8)(26)	—	131 (1.3)(19)	—	10 3(1.0)(15)	—	110 (1.1)(16)
11793 (26000)	—	276 (2.8)(40)	—	190 (1.9)(28)	—	138 (1.4)(20)	—	110 (1.1)(16)	—	117 (1.2)(17)
12247 (27000)	—	290 (2.9)(42)	—	200 (2.0)(29)	—	145 (1.4)(21)	—	117 (1.2)(17)	—	124 (1.2)(18)
12701 (28000)	—	310 (3.1)(45)	—	250 (2.5)(36)	—	159 (1.6)(23)	—	117 (1.2)(17)	—	131 (1.3)(19)
13154 (29000)	—	338 (3.4)(49)	—	—	—	159 (1.6)(23)	—	124 (1.2)(18)	—	138 (1.4)(20)
13608 (30000)	—	359 (3.6)(52)	—	—	—	179 (1.8)(26)	—	131 (1.3)(19)	—	138 (1.4)(20)
14061 (31000)	—	379 (3.8)(55)	—	—	—	200 (2.0)(29)	—	138 (1.4)(20)	—	145 (1.4)(21)
14515 (32000)	—	400 (4.0)(58)	—	—	—	207 (2.1)(30)	—	138 (1.4)(20)	—	159 (1.6)(23)
14969 (33000)	—	421 (4.2)(61)	—	—	—	228 (2.3)(33)	—	152 (1.5)(22)	—	—
15422 (34000)	—	434 (4.3)(63)	—	—	—	—	—	159 (1.6)(23)	—	—
15876 (35000)	—	448 (4.5)(65)	—	—	—	—	—	165 (1.7)(24)	—	—
16329 (36000)	—	462 (4.6)(67)	—	—	—	—	—	172 (1.7)(25)	—	—
16783 (37000)	—	476 (4.8)(69)	—	—	—	—	—	186 (1.9)(27)	—	—
17237 (38000)	—	—	—	—	—	—	—	207 (2.1)(30)	—	—
17690 (39000)	—	—	—	—	—	—	—	221 (2.2)(32)	—	—
18144 (40000)	—	—	—	—	—	—	—	228 (2.3)(33)	—	—
18597 (41000)	—	—	—	—	—	—	—	241 (2.4)(35)	—	—

[a]For Mitas single tire option, recommended pressure is 83 kPa (0.8 bar) (12 psi) up to axle load of 4989 kg (11000 lb).
[b]For Mitas dual tire option, recommended pressure is 83 kPa (0.8 bar) (12 psi) up to axle load of 8844 kg (19500 lb).
[c]For Mitas single tire option, recommended pressure is 103 kPa (1.0 bar) (15 psi) up to axle load of 6804 kg (15000 lb).
[d]For Mitas dual tire option, recommended pressure is 83 kPa (0.8 bar) (12 psi) up to axle load of 10900 kg (24000 lb).

Group	48									
Size	620/70R46		650/85R38		IF650/85R38		VF650/85R38			
Load Index	167		173		179		179		182	
Speed Rating	A8 / B		A8 / B / D		A8 / B / D		D		D	
	Single	Dual	Single	Dual	Single	Dual	Single	Dual	Single	Dual
Axle	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)

Group	48									
Size	620/70R46		650/85R38		IF650/85R38		VF650/85R38			
Load Index	167		173		179		179		182	
Speed Rating	A8 / B		A8 / B / D		A8 / B / D		D		D	
	Single	Dual	Single	Dual	Single	Dual	Single	Dual	Single	Dual
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
Load kg (lb)										
5443 (12000)	76 (0.8)(11)	41 (0.4)(6)	83 (0.8)(12)	83 (0.8)(12)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
5670 (12500)	76 (0.8)(11)	41 (0.4)(6)	83 (0.8)(12)	83 (0.8)(12)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
5897 (13000)	83 (0.8)(12)	41 (0.4)(6)	83 (0.8)(12)	83 (0.8)(12)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
6123 (13500)	90 (0.9)(13)	41 (0.4)(6)	83 (0.8)(12)	83 (0.8)(12)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
6350 (14000)	97 (1.0)(14)	41 (0.4)(6)	83 (0.8)(12)	83 (0.8)(12)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
6577 (14500)	97 (1.0)(14)	41 (0.4)(6)	83 (0.8)(12)	83 (0.8)(12)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
6804 (15000)	103 (1.0)(15)	41 (0.4)(6)	83 (0.8)(12)	83 (0.8)(12)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
7031 (15500)	110 (1.1)(16)	41 (0.4)(6)	83 (0.8)(12)	83 (0.8)(12)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
7257 (16000)	110 (1.1)(16)	41 (0.4)(6)	83 (0.8)(12)	83 (0.8)(12)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
7484 (16500)	117 (1.2)(17)	48 (0.5)(7)	90 (0.9)(13)	83 (0.8)(12)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
7711 (17000)	117 (1.2)(17)	48 (0.5)(7)	90 (0.9)(13)	83 (0.8)(12)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
7938 (17500)	124 (1.2)(18)	48 (0.5)(7)	97 (1.0)(14)	83 (0.8)(12)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
8165 (18000)	131 (1.3)(19)	55 (0.6)(8)	97 (1.0)(14)	83 (0.8)(12)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
8391 (18500)	138 (1.4)(20)	55 (0.6)(8)	97 (1.0)(14)	83 (0.8)(12)	83 (0.8)(12)	83 (0.8)(12)	69 (0.7)(10)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
8618 (19000)	145 (1.4)(21)	62 (0.6)(9)	103 (1.0)(15)	83 (0.8)(12)	90 (0.9)(13)	83 (0.8)(12)	69 (0.7)(10)	62 (0.6)(9)	69 (0.7)(10)	41 (0.4)(6)
8845 (19500)	152 (1.5)(22)	62 (0.6)(9)	110 (1.1)(16)	83 (0.8)(12)	90 (0.9)(13)	83 (0.8)(12)	69 (0.7)(10)	62 (0.6)(9)	69 (0.7)(10)	41 (0.4)(6)
9072 (20000)	152 (1.5)(22)	69 (0.7)(10)	110 (1.1)(16)	83 (0.8)(12)	97 (1.0)(14)	83 (0.8)(12)	76 (0.8)(11)	62 (0.6)(9)	69 (0.7)(10)	41 (0.4)(6)
9297 (20500)	159 (1.6)(23)	69 (0.7)(10)	117 (1.2)(17)	83 (0.8)(12)	97 (1.0)(14)	83 (0.8)(12)	76 (0.8)(11)	62 (0.6)(9)	76 (0.8)(11)	41 (0.4)(6)
9525 (21000)	159 (1.6)(23)	69 (0.7)(10)	117 (1.2)(17)	83 (0.8)(12)	103 (1.0)(15)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	83 (0.8)(12)	41 (0.4)(6)
9751 (21500)	172 (1.7)(25)	76 (0.8)(11)	124 (1.2)(18)	83 (0.8)(12)	110 (1.1)(16)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	83 (0.8)(12)	41 (0.4)(6)
9979 (22000)	179 (1.8)(26)	76 (0.8)(11)	131 (1.3)(19)	83 (0.8)(12)	110 (1.1)(16)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	90 (0.9)(13)	41 (0.4)(6)
10204 (22500)	193 (1.9)(28)	83 (0.8)(12)	138 (1.4)(20)	83 (0.8)(12)	110 (1.1)(16)	83 (0.8)(12)	90 (0.9)(13)	62 (0.6)(9)	90 (0.9)(13)	41 (0.4)(6)
10433 (23000)	207 (2.1)(30)	83 (0.8)(12)	145 (1.4)(21)	83 (0.8)(12)	117 (1.2)(17)	83 (0.8)(12)	90 (0.9)(13)	62 (0.6)(9)	90 (0.9)(13)	41 (0.4)(6)
10658 (23500)	228 (2.3)(33)	90 (0.9)(13)	152 (1.5)(22)	83 (0.8)(12)	117 (1.2)(17)	83 (0.8)(12)	97 (1.0)(14)	62 (0.6)(9)	97 (1.0)(14)	41 (0.4)(6)
10886 (24000)	241 (2.4)(35)	90 (0.9)(13)	159 (1.6)(23)	83 (0.8)(12)	117 (1.2)(17)	83 (0.8)(12)	97 (1.0)(14)	62 (0.6)(9)	103 (1.0)(15)	41 (0.4)(6)

Group	48									
Size	620/70R46		650/85R38		IF650/85R38		VF650/85R38			
Load Index	167		173		179		179		182	
Speed Rating	A8 / B		A8 / B / D		A8 / B / D		D		D	
	Single	Dual	Single	Dual	Single	Dual	Single	Dual	Single	Dual
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
11111 (24500)	—	97 (1.0)(14)	172 (1.7)(25)	83 (0.8)(12)	124 (1.2)(18)	83 (0.8)(12)	103 (1.0)(15)	62 (0.6)(9)	103 (1.0)(15)	41 (0.4)(6)
11340 (25000)	—	97 (1.0)(14)	179 (1.8)(26)	83 (0.8)(12)	131 (1.3)(19)	83 (0.8)(12)	103 (1.0)(15)	62 (0.6)(9)	110 (1.1)(16)	41 (0.4)(6)
11793 (26000)	—	103 (1.0)(15)	200 (2.0)(29)	83 (0.8)(12)	138 (1.4)(20)	83 (0.8)(12)	110 (1.1)(16)	62 (0.6)(9)	110 (1.1)(16)	41 (0.4)(6)
12247 (27000)	—	110 (1.1)(16)	214 (2.1)(31)	83 (0.8)(12)	145 (1.4)(21)	83 (0.8)(12)	117 (1.2)(17)	62 (0.6)(9)	117 (1.2)(17)	41 (0.4)(6)
12701 (28000)	—	110 (1.1)(16)	234 (2.3)(34)	83 (0.8)(12)	152 (1.5)(22)	83 (0.8)(12)	124 (1.2)(18)	62 (0.6)(9)	124 (1.2)(18)	48 (0.5)(7)
13154 (29000)	—	117 (1.2)(17)	—	90 (0.9)(13)	159 (1.6)(23)	83 (0.8)(12)	131 (1.3)(19)	62 (0.6)(9)	131 (1.3)(19)	48 (0.5)(7)
13608 (30000)	—	117 (1.2)(17)	—	90 (0.9)(13)	172 (1.7)(25)	83 (0.8)(12)	138 (1.4)(20)	62 (0.6)(9)	138 (1.4)(20)	48 (0.5)(7)
14061 (31000)	—	124 (1.2)(18)	—	97 (1.0)(14)	186 (1.9)(27)	83 (0.8)(12)	145 (1.4)(21)	62 (0.6)(9)	138 (1.4)(20)	55 (0.6)(8)
14515 (32000)	—	138 (1.4)(20)	—	97 (1.0)(14)	200 (2.0)(29)	83 (0.8)(12)	152 (1.5)(22)	62 (0.6)(9)	152 (1.5)(22)	62 (0.6)(9)
14969 (33000)	—	145 (1.4)(21)	—	103 (1.0)(15)	221 (2.2)(32)	90 (0.9)(13)	159 (1.6)(23)	69 (0.7)(10)	159 (1.6)(23)	69 (0.7)(10)
15422 (34000)	—	145 (1.4)(21)	—	103 (1.0)(15)	241 (2.4)(35)	90 (0.9)(13)	165 (1.7)(24)	69 (0.7)(10)	159 (1.6)(23)	69 (0.7)(10)
15876 (35000)	—	152 (1.5)(22)	—	110 (1.1)(16)	—	97 (1.0)(14)	—	76 (0.8)(11)	172 (1.7)(25)	69 (0.7)(10)
16329 (36000)	—	159 (1.6)(23)	—	117 (1.2)(17)	—	97 (1.0)(14)	—	76 (0.8)(11)	186 (1.9)(27)	76 (0.8)(11)
16783 (37000)	—	165 (1.7)(24)	—	117 (1.2)(17)	—	103 (1.0)(15)	—	83 (0.8)(12)	200 (2.0)(29)	83 (0.8)(12)
17237 (38000)	—	172 (1.7)(25)	—	124 (1.2)(18)	—	110 (1.1)(16)	—	83 (0.8)(12)	—	90 (0.9)(13)
17690 (39000)	—	186 (1.9)(27)	—	131 (1.3)(19)	—	110 (1.1)(16)	—	90 (0.9)(13)	—	90 (0.9)(13)
18144 (40000)	—	200 (2.0)(29)	—	138 (1.4)(20)	—	117 (1.2)(17)	—	90 (0.9)(13)	—	90 (0.9)(13)
18597 (41000)	—	221 (2.2)(32)	—	152 (1.5)(22)	—	117 (1.2)(17)	—	97 (1.0)(14)	—	97 (1.0)(14)
19051 (42000)	—	241 (2.4)(35)	—	159 (1.6)(23)	—	117 (1.2)(17)	—	97 (1.0)(14)	—	97 (1.0)(14)
19504 (43000)	—	—	—	172 (1.7)(25)	—	124 (1.2)(18)	—	103 (1.0)(15)	—	103 (1.0)(15)
19958 (44000)	—	—	—	179 (1.8)(26)	—	131 (1.3)(19)	—	103 (1.0)(15)	—	110 (1.1)(16)
20412 (45000)	—	—	—	186 (1.9)(27)	—	131 (1.3)(19)	—	110 (1.1)(16)	—	110 (1.1)(16)
20865 (46000)	—	—	—	200 (2.0)(29)	—	138 (1.4)(20)	—	110 (1.1)(16)	—	110 (1.1)(16)
21319 (47000)	—	—	—	207 (2.1)(30)	—	138 (1.4)(20)	—	117 (1.2)(17)	—	117 (1.2)(17)
21772 (48000)	—	—	—	221 (2.2)(32)	—	145 (1.4)(21)	—	117 (1.2)(17)	—	117 (1.2)(17)
22226 (49000)	—	—	—	228 (2.3)(33)	—	152 (1.5)(22)	—	124 (1.2)(18)	—	117 (1.2)(17)

Group	48									
Size	620/70R46		650/85R38		IF650/85R38		VF650/85R38			
Load Index	167		173		179		179		182	
Speed Rating	A8 / B		A8 / B / D		A8 / B / D		D		D	
	Single	Dual	Single	Dual	Single	Dual	Single	Dual	Single	Dual
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
22680 (50000)	—	—	—	241 (2.4)(35)	—	152 (1.5)(22)	—	124 (1.2)(18)	—	124 (1.2)(18)
23133 (51000)	—	—	—	—	—	152 (1.5)(22)	—	131 (1.3)(19)	—	131 (1.3)(19)
23587 (52000)	—	—	—	—	—	165 (1.7)(24)	—	131 (1.3)(19)	—	138 (1.4)(20)
24040 (53000)	—	—	—	—	—	172 (1.7)(25)	—	138 (1.4)(20)	—	138 (1.4)(20)
24494 (54000)	—	—	—	—	—	179 (1.8)(26)	—	138 (1.4)(20)	—	138 (1.4)(20)
24948 (55000)	—	—	—	—	—	186 (1.9)(27)	—	145 (1.4)(21)	—	145 (1.4)(21)
25401 (56000)	—	—	—	—	—	200 (2.0)(29)	—	145 (1.4)(21)	—	152 (1.5)(22)
25855 (57000)	—	—	—	—	—	207 (2.1)(30)	—	152 (1.5)(22)	—	152 (1.5)(22)
26308 (58000)	—	—	—	—	—	221 (2.2)(32)	—	159 (1.6)(23)	—	159 (1.6)(23)
26762 (59000)	—	—	—	—	—	234 (2.3)(34)	—	159 (1.6)(23)	—	159 (1.6)(23)
27216 (60000)	—	—	—	—	—	241 (2.4)(35)	—	—	—	—

TS36762,000021F-19-13JUL21

Recommended Pressures—Group 48—Continued

-Group	48									
Size	710/70R42				IF710/70R42		VF710/70R42			
Load Index	168		173		179		179		182	
Speed Rating	A8 / B		A8 / B / D		A8 / B / D		D		D	
	Single	Dual	Single	Dual	Single	Dual	Single	Dual	Single	Dual
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
5443 (12000)	55 (0.6)(8)	41 (0.4)(6)	83 (0.8)(12)	62 (0.6)(9)	83 (0.8)(12)	41 (0.4)(6)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
5670 (12500)	62 (0.6)(9)	41 (0.4)(6)	83 (0.8)(12)	62 (0.6)(9)	83 (0.8)(12)	41 (0.4)(6)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
5897 (13000)	62 (0.6)(9)	41 (0.4)(6)	83 (0.8)(12)	62 (0.6)(9)	83 (0.8)(12)	41 (0.4)(6)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
6123 (13500)	69 (0.7)(10)	41 (0.4)(6)	83 (0.8)(12)	62 (0.6)(9)	83 (0.8)(12)	41 (0.4)(6)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
6350 (14000)	69 (0.7)(10)	41 (0.4)(6)	83 (0.8)(12)	62 (0.6)(9)	83 (0.8)(12)	41 (0.4)(6)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
6577 (14500)	76 (0.8)(11)	41 (0.4)(6)	83 (0.8)(12)	62 (0.6)(9)	83 (0.8)(12)	41 (0.4)(6)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)

-Group	48									
Size	**710/70R42**				**IF710/70R42**		**VF710/70R42**			
Load Index	**168**		**173**		**179**		**179**		**182**	
Speed Rating	**A8 / B**		**A8 / B / D**		**A8 / B / D**		**D**		**D**	
	Single	**Dual**	**Single**	**Dual**	**Single**	**Dual**	**Single**	**Dual**	**Single**	**Dual**
Axle Load kg (lb)	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**
6804 (15000)	83 (0.8)(12)	41 (0.4)(6)	83 (0.8)(12)	62 (0.6)(9)	83 (0.8)(12)	41 (0.4)(6)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
7031 (15500)	83 (0.8)(12)	41 (0.4)(6)	83 (0.8)(12)	62 (0.6)(9)	83 (0.8)(12)	41 (0.4)(6)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
7257 (16000)	90 (0.9)(13)	41 (0.4)(6)	90 (0.9)(13)	62 (0.6)(9)	83 (0.8)(12)	41 (0.4)(6)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
7484 (16500)	97 (1.0)(14)	41 (0.4)(6)	97 (1.0)(14)	62 (0.6)(9)	83 (0.8)(12)	41 (0.4)(6)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
7711 (17000)	103 (1.0)(15)	41 (0.4)(6)	103 (1.0)(15)	62 (0.6)(9)	83 (0.8)(12)	41 (0.4)(6)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
7938 (17500)	103 (1.0)(15)	41 (0.4)(6)	103 (1.0)(15)	62 (0.6)(9)	83 (0.8)(12)	41 (0.4)(6)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
8165 (18000)	110 (1.1)(16)	41 (0.4)(6)	110 (1.1)(16)	62 (0.6)(9)	83 (0.8)(12)	41 (0.4)(6)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
8391 (18500)	110 (1.1)(16)	41 (0.4)(6)	110 (1.1)(16)	62 (0.6)(9)	90 (0.9)(13)	41 (0.4)(6)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
8618 (19000)	117 (1.2)(17)	41 (0.4)(6)	117 (1.2)(17)	62 (0.6)(9)	90 (0.9)(13)	41 (0.4)(6)	69 (0.7)(10)	62 (0.6)(9)	69 (0.7)(10)	41 (0.4)(6)
8845 (19500)	117 (1.2)(17)	48 (0.5)(7)	117 (1.2)(17)	62 (0.6)(9)	90 (0.9)(13)	48 (0.5)(7)	69 (0.7)(10)	62 (0.6)(9)	69 (0.7)(10)	41 (0.4)(6)
9072 (20000)	124 (1.2)(18)	48 (0.5)(7)	124 (1.2)(18)	62 (0.6)(9)	97 (1.0)(14)	48 (0.5)(7)	76 (0.8)(11)	62 (0.6)(9)	69 (0.7)(10)	41 (0.4)(6)
9297 (20500)	124 (1.2)(18)	48 (0.5)(7)	124 (1.2)(18)	62 (0.6)(9)	97 (1.0)(14)	48 (0.5)(7)	76 (0.8)(11)	62 (0.6)(9)	76 (0.8)(11)	41 (0.4)(6)
9525 (21000)	131 (1.3)(19)	55 (0.6)(8)	131 (1.3)(19)	62 (0.6)(9)	103 (1.0)(15)	48 (0.5)(7)	76 (0.8)(11)	62 (0.6)(9)	76 (0.8)(11)	41 (0.4)(6)
9751 (21500)	138 (1.4)(20)	55 (0.6)(8)	138 (1.4)(20)	62 (0.6)(9)	110 (1.1)(16)	48 (0.5)(7)	83 (0.8)(12)	62 (0.6)(9)	83 (0.8)(12)	41 (0.4)(6)
9979 (22000)	138 (1.4)(20)	62 (0.6)(9)	138 (1.4)(20)	62 (0.6)(9)	110 (1.1)(16)	48 (0.5)(7)	83 (0.8)(12)	62 (0.6)(9)	83 (0.8)(12)	41 (0.4)(6)
10204 (22500)	145 (1.4)(21)	62 (0.6)(9)	145 (1.4)(21)	62 (0.6)(9)	110 (1.1)(16)	55 (0.6)(8)	90 (0.9)(13)	62 (0.6)(9)	90 (0.9)(13)	41 (0.4)(6)
10433 (23000)	152 (1.5)(22)	62 (0.6)(9)	152 (1.5)(22)	62 (0.6)(9)	117 (1.2)(17)	55 (0.6)(8)	90 (0.9)(13)	62 (0.6)(9)	90 (0.9)(13)	41 (0.4)(6)
10658 (23500)	152 (1.5)(22)	69 (0.7)(10)	152 (1.5)(22)	69 (0.7)(10)	117 (1.2)(17)	55 (0.6)(8)	97 (1.0)(14)	62 (0.6)(9)	90 (0.9)(13)	41 (0.4)(6)
10886 (24000)	159 (1.6)(23)	69 (0.7)(10)	159 (1.6)(23)	69 (0.7)(10)	124 (1.2)(18)	55 (0.6)(8)	97 (1.0)(14)	62 (0.6)(9)	97 (1.0)(14)	41 (0.4)(6)
11111 (24500)	159 (1.6)(23)	69 (0.7)(10)	159 (1.6)(23)	69 (0.7)(10)	124 (1.2)(18)	55 (0.6)(8)	103 (1.0)(15)	62 (0.6)(9)	103 (1.0)(15)	41 (0.4)(6)
11340 (25000)	—	76 (0.8)(11)	172 (1.7)(25)	76 (0.8)(11)	131 (1.3)(19)	55 (0.6)(8)	103 (1.0)(15)	62 (0.6)(9)	103 (1.0)(15)	41 (0.4)(6)
11793 (26000)	—	76 (0.8)(11)	186 (1.9)(27)	76 (0.8)(11)	138 (1.4)(20)	62 (0.6)(9)	110 (1.1)(16)	62 (0.6)(9)	110 (1.1)(16)	41 (0.4)(6)
12247 (27000)	—	83 (0.8)(12)	200 (2.0)(29)	83 (0.8)(12)	145 (1.4)(21)	62 (0.6)(9)	117 (1.2)(17)	62 (0.6)(9)	117 (1.2)(17)	41 (0.4)(6)
12701 (28000)	—	90 (0.9)(13)	228 (2.3)(33)	90 (0.9)(13)	152 (1.5)(22)	69 (0.7)(10)	124 (1.2)(18)	62 (0.6)(9)	117 (1.2)(17)	48 (0.5)(7)
13154 (29000)	—	97 (1.0)(14)	—	97 (1.0)(14)	159 (1.6)(23)	69 (0.7)(10)	131 (1.3)(19)	62 (0.6)(9)	131 (1.3)(19)	48 (0.5)(7)
13608 (30000)	—	103 (1.0)(15)	—	103 (1.0)(15)	172 (1.7)(25)	76 (0.8)(11)	138 (1.4)(20)	62 (0.6)(9)	138 (1.4)(20)	48 (0.5)(7)

-Group	48									
Size	710/70R42				IF710/70R42		VF710/70R42			
Load Index	168		173		179		179		182	
Speed Rating	A8 / B		A8 / B / D		A8 / B / D		D		D	
	Single	Dual	Single	Dual	Single	Dual	Single	Dual	Single	Dual
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
14061 (31000)	—	110 (1.1)(16)	—	110 (1.1)(16)	193 (1.9)(28)	83 (0.8)(12)	145 (1.4)(21)	62 (0.6)(9)	138 (1.4)(20)	55 (0.6)(8)
14515 (32000)	—	110 (1.1)(16)	—	110 (1.1)(16)	207 (2.1)(30)	83 (0.8)(12)	152 (1.5)(22)	62 (0.6)(9)	152 (1.5)(22)	62 (0.6)(9)
14969 (33000)	—	117 (1.2)(17)	—	117 (1.2)(17)	228 (2.3)(33)	90 (0.9)(13)	159 (1.6)(23)	69 (0.7)(10)	159 (1.6)(23)	69 (0.7)(10)
15422 (34000)	—	117 (1.2)(17)	—	117 (1.2)(17)	241 (2.4)(35)	90 (0.9)(13)	165 (1.7)(24)	69 (0.7)(10)	159 (1.6)(23)	69 (0.7)(10)
15876 (35000)	—	124 (1.2)(18)	—	124 (1.2)(18)	—	97 (1.0)(14)	—	76 (0.8)(11)	172 (1.7)(25)	69 (0.7)(10)
16329 (36000)	—	124 (1.2)(18)	—	124 (1.2)(18)	—	97 (1.0)(14)	—	76 (0.8)(11)	186 (1.9)(27)	76 (0.8)(11)
16783 (37000)	—	131 (1.3)(19)	—	131 (1.3)(19)	—	103 (1.0)(15)	—	76 (0.8)(11)	200 (2.0)(29)	76 (0.8)(11)
17237 (38000)	—	138 (1.4)(20)	—	138 (1.4)(20)	—	110 (1.1)(16)	—	83 (0.8)(12)	—	83 (0.8)(12)
17690 (39000)	—	145 (1.4)(21)	—	145 (1.4)(21)	—	110 (1.1)(16)	—	83 (0.8)(12)	—	90 (0.9)(13)
18144 (40000)	—	145 (1.4)(21)	—	145 (1.4)(21)	—	117 (1.2)(17)	—	90 (0.9)(13)	—	90 (0.9)(13)
18597 (41000)	—	152 (1.5)(22)	—	152 (1.5)(22)	—	117 (1.2)(17)	—	97 (1.0)(14)	—	90 (0.9)(13)
19051 (42000)	—	159 (1.6)(23)	—	159 (1.6)(23)	—	117 (1.2)(17)	—	97 (1.0)(14)	—	97 (1.0)(14)
19504 (43000)	—	159 (1.6)(23)	—	159 (1.6)(23)	—	124 (1.2)(18)	—	103 (1.0)(15)	—	103 (1.0)(15)
19958 (44000)	—	—	—	172 (1.7)(25)	—	131 (1.3)(19)	—	103 (1.0)(15)	—	103 (1.0)(15)
20412 (45000)	—	—	—	179 (1.8)(26)	—	131 (1.3)(19)	—	110 (1.1)(16)	—	110 (1.1)(16)
20865 (46000)	—	—	—	193 (1.9)(28)	—	138 (1.4)(20)	—	110 (1.1)(16)	—	110 (1.1)(16)
21319 (47000)	—	—	—	200 (2.0)(29)	—	145 (1.4)(21)	—	117 (1.2)(17)	—	117 (1.2)(17)
21772 (48000)	—	—	—	207 (2.1)(30)	—	145 (1.4)(21)	—	117 (1.2)(17)	—	117 (1.2)(17)
22226 (49000)	—	—	—	221 (2.2)(32)	—	152 (1.5)(22)	—	124 (1.2)(18)	—	117 (1.2)(17)
22680 (50000)	—	—	—	241 (2.4)(35)	—	152 (1.5)(22)	—	124 (1.2)(18)	—	124 (1.2)(18)
23133 (51000)	—	—	—	—	—	159 (1.6)(23)	—	131 (1.3)(19)	—	131 (1.3)(19)
23587 (52000)	—	—	—	—	—	165 (1.7)(24)	—	131 (1.3)(19)	—	131 (1.3)(19)
24040 (53000)	—	—	—	—	—	172 (1.7)(25)	—	138 (1.4)(20)	—	138 (1.4)(20)
24494 (54000)	—	—	—	—	—	186 (1.9)(27)	—	138 (1.4)(20)	—	138 (1.4)(20)
24948 (55000)	—	—	—	—	—	193 (1.9)(28)	—	145 (1.4)(21)	—	145 (1.4)(21)
25401 (56000)	—	—	—	—	—	207 (2.1)(30)	—	145 (1.4)(21)	—	145 (1.4)(21)

-Group	48									
Size	**710/70R42**				**IF710/70R42**		**VF710/70R42**			
Load Index	**168**		**173**		**179**		**179**		**182**	
Speed Rating	**A8 / B**		**A8 / B / D**		**A8 / B / D**		**D**		**D**	
	Single	**Dual**	**Single**	**Dual**	**Single**	**Dual**	**Single**	**Dual**	**Single**	**Dual**
Axle Load kg (lb)	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**
25855 (57000)	—	—	—	—	—	214 (2.1)(31)	—	152 (1.5)(22)	—	152 (1.5)(22)
26308 (58000)	—	—	—	—	—	228 (2.3)(33)	—	159 (1.6)(23)	—	159 (1.6)(23)
26762 (59000)	—	—	—	—	—	234 (2.3)(34)	—	159 (1.6)(23)	—	159 (1.6)(23)
27216 (60000)	—	—	—	—	—	241 (2.4)(35)	—	—	—	—

Group	48							
Size	**800/70R38**				**VF800/70R38**			
Load Index	**173**		**178**		**184**		**187**	
Speed Rating	**A8 / B / D**		**D**		**D**		**D**	
	Single	**Dual**	**Single**	**Dual**	**Single**	**Dual**	**Single**	**Dual**
Axle Load kg (lb)	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**
5443 (12000)	62 (0.6)(9)	41 (0.4)(6)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)	41 (0.4)(6)
5670 (12500)	62 (0.6)(9)	41 (0.4)(6)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)	41 (0.4)(6)
5897 (13000)	62 (0.6)(9)	41 (0.4)(6)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)	41 (0.4)(6)
6123 (13500)	62 (0.6)(9)	41 (0.4)(6)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)	41 (0.4)(6)
6350 (14000)	62 (0.6)(9)	41 (0.4)(6)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)	41 (0.4)(6)
6577 (14500)	62 (0.6)(9)	41 (0.4)(6)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)	41 (0.4)(6)
6804 (15000)	62 (0.6)(9)	41 (0.4)(6)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)	41 (0.4)(6)
7031 (15500)	69 (0.7)(10)	41 (0.4)(6)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)	41 (0.4)(6)
7257 (16000)	69 (0.7)(10)	41 (0.4)(6)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)	41 (0.4)(6)
7484 (16500)	76 (0.8)(11)	41 (0.4)(6)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)	41 (0.4)(6)
7711 (17000)	76 (0.8)(11)	41 (0.4)(6)	69 (0.7)(10)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)	41 (0.4)(6)
7938 (17500)	83 (0.8)(12)	41 (0.4)(6)	69 (0.7)(10)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)	41 (0.4)(6)
8165 (18000)	83 (0.8)(12)	41 (0.4)(6)	76 (0.8)(11)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)	41 (0.4)(6)
8391 (18500)	90 (0.9)(13)	41 (0.4)(6)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	48 (0.5)(7)	41 (0.4)(6)
8618 (19000)	97 (1.0)(14)	41 (0.4)(6)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	48 (0.5)(7)	41 (0.4)(6)

Group	48							
Size	800/70R38				VF800/70R38			
Load Index	173		178		184		187	
Speed Rating	A8 / B / D		D		D		D	
	Single	Dual	Single	Dual	Single	Dual	Single	Dual
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
8845 (19500)	97 (1.0)(14)	41 (0.4)(6)	90 (0.9)(13)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	48 (0.5)(7)	41 (0.4)(6)
9072 (20000)	103 (1.0)(15)	41 (0.4)(6)	90 (0.9)(13)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	48 (0.5)(7)	41 (0.4)(6)
9297 (20500)	110 (1.1)(16)	41 (0.4)(6)	97 (1.0)(14)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	55 (0.55)(8)	41 (0.4)(6)
9525 (21000)	110 (1.1)(16)	41 (0.4)(6)	97 (1.0)(14)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
9751 (21500)	110 (1.1)(16)	41 (0.4)(6)	103 (1.0)(15)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)
9979 (22000)	117 (1.2)(17)	41 (0.4)(6)	103 (1.0)(15)	62 (0.6)(9)	69 (0.7)(10)	62 (0.6)(9)	69 (0.7)(10)	41 (0.4)(6)
10204 (22500)	117 (1.2)(17)	41 (0.4)(6)	110 (1.1)(16)	62 (0.6)(9)	69 (0.7)(10)	62 (0.6)(9)	69 (0.7)(10)	41 (0.4)(6)
10433 (23000)	117 (1.2)(17)	48 (0.5)(7)	110 (1.1)(16)	62 (0.6)(9)	69 (0.7)(10)	62 (0.6)(9)	69 (0.7)(10)	41 (0.4)(6)
10658 (23500)	124 (1.25)(18)	55 (0.55)(8)	117 (1.2)(17)	62 (0.6)(9)	76 (0.8)(11)	62 (0.6)(9)	69 (0.7)(10)	41 (0.4)(6)
10886 (24000)	124 (1.25)(18)	55 (0.55)(8)	117 (1.2)(17)	62 (0.6)(9)	76 (0.8)(11)	62 (0.6)(9)	76 (0.8)(11)	41 (0.4)(6)
11111 (24500)	131 (1.3)(19)	55 (0.55)(8)	117 (1.2)(17)	62 (0.6)(9)	76 (0.8)(11)	62 (0.6)(9)	76 (0.8)(11)	41 (0.4)(6)
11340 (25000)	138 (1.4)(20)	50 (0.5)(7)	124 (1.25)(18)	62 (0.6)(9)	83 (0.8)(12)	62 (0.6)(9)	83 (0.8)(12)	41 (0.4)(6)
11793 (26000)	145 (1.45)(21)	62 (0.6)(9)	131 (1.3)(19)	62 (0.6)(9)	90 (0.9)(13)	62 (0.6)(9)	90 (0.9)(13)	41 (0.4)(6)
12247 (27000)	152 (1.5)(22)	69 (0.7)(10)	138 (1.4)(20)	62 (0.6)(9)	97 (1.0)(14)	62 (0.6)(9)	90 (0.9)(13)	41 (0.4)(6)
12701 (28000)	159 (1.6)(23)	69 (0.7)(10)	145 (1.45)(21)	62 (0.6)(9)	97 (1.0)(14)	62 (0.6)(9)	97 (1.0)(14)	41 (0.4)(6)
13154 (29000)	—	76 (0.8)(11)	152 (1.5)(22)	62 (0.6)(9)	103 (1.0)(15)	62 (0.6)(9)	103 (1.0)(15)	41 (0.4)(6)
13608 (30000)	—	76 (0.8)(11)	159 (1.6)(23)	69 (0.7)(10)	110 (1.1)(16)	62 (0.6)(9)	110 (1.1)(16)	41 (0.4)(6)
14061 (31000)	—	83 (0.8)(12)	172 (1.7)(25)	76 (0.8)(11)	117 (1.2)(17)	62 (0.6)(9)	117 (1.2)(17)	41 (0.4)(6)
14515 (32000)	—	83 (0.8)(12)	186 (1.9)(27)	76 (0.8)(11)	124 (1.2)(18)	62 (0.6)(9)	117 (1.2)(17)	41 (0.4)(6)
14969 (33000)	—	90 (0.9)(13)	193 (1.9)(28)	83 (0.8)(12)	124 (1.2)(18)	62 (0.6)(9)	124 (1.2)(18)	48 (0.5)(7)
15422 (34000)	—	97 (1.0)(14)	207 (2.1)(30)	90 (0.9)(13)	131 (1.3)(19)	62 (0.6)(9)	131 (1.3)(19)	48 (0.5)(7)
15876 (35000)	—	103 (1.0)(15)	228 (2.3)(33)	90 (0.9)(13)	138 (1.4)(20)	62 (0.6)(9)	138 (1.4)(20)	48 (0.5)(7)
16329 (36000)	—	110 (1.1)(16)	241 (2.4)(35)	97 (1.0)(14)	145 (1.4)(21)	62 (0.6)(9)	138 (1.4)(20)	55 (0.6)(8)
16783 (37000)	—	110 (1.1)(16)	—	97 (1.0)(14)	145 (1.4)(21)	62 (0.6)(9)	145 (1.4)(21)	62 (0.6)(9)
17237 (38000)	—	110 (1.1)(16)	—	103 (1.0)(15)	152 (1.5)(22)	62 (0.6)(9)	159 (1.6)(23)	69 (0.7)(10)
17690 (39000)	—	117 (1.2)(17)	—	110 (1.1)(16)	159 (1.6)(23)	69 (0.7)(10)	159 (1.6)(23)	69 (0.7)(10)

Group	48							
Size	800/70R38				VF800/70R38			
Load Index	173		178		184		187	
Speed Rating	A8 / B / D		D		D		D	
	Single	Dual	Single	Dual	Single	Dual	Single	Dual
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
18144 (40000)	—	117 (1.2)(17)	—	110 (1.1)(16)	—	69 (0.7)(10)	165 (1.7)(24)	69 (0.7)(10)
18597 (41000)	—	117 (1.2)(17)	—	110 (1.1)(16)	—	76 (0.8)(11)	179 (1.8)(26)	69 (0.7)(10)
19051 (42000)	—	124 (1.2)(18)	—	117 (1.2)(17)	—	76 (0.8)(11)	193 (1.9)(28)	76 (0.8)(11)
19504 (43000)	—	131 (1.3)(19)	—	117 (1.2)(17)	—	76 (0.8)(11)	—	76 (0.8)(11)
19958 (44000)	—	138 (1.4)(20)	—	124 (1.2)(18)	—	83 (0.8)(12)	—	83 (0.8)(12)
20412 (45000)	—	138 (1.4)(20)	—	124 (1.2)(18)	—	83 (0.8)(12)	—	83 (0.8)(12)
20865 (46000)	—	145 (1.4)(21)	—	131 (1.3)(19)	—	90 (0.9)(13)	—	90 (0.9)(13)
21319 (47000)	—	152 (1.5)(22)	—	138 (1.4)(20)	—	90 (0.9)(13)	—	90 (0.9)(13)
21772 (48000)	—	152 (1.5)(22)	—	138 (1.4)(20)	—	97 (1.0)(14)	—	90 (0.9)(13)
22226 (49000)	—	159 (1.6)(23)	—	145 (1.4)(21)	—	97 (1.0)(14)	—	97 (1.0)(14)
22680 (50000)	—	159 (1.6)(23)	—	152 (1.5)(22)	—	103 (1.0)(15)	—	103 (1.0)(15)
23133 (51000)	—	—	—	152 (1.5)(22)	—	103 (1.0)(15)	—	103 (1.0)(15)
23587 (52000)	—	—	—	159 (1.6)(23)	—	110 (1.1)(16)	—	110 (1.1)(16)
24040 (53000)	—	—	—	165 (1.7)(24)	—	110 (1.1)(16)	—	110 (1.1)(16)
24494 (54000)	—	—	—	172 (1.7)(25)	—	117 (1.2)(17)	—	110 (1.1)(16)
24948 (55000)	—	—	—	172 (1.7)(25)	—	117 (1.2)(17)	—	117 (1.2)(17)
25401 (56000)	—	—	—	179 (1.8)(26)	—	117 (1.2)(17)	—	117 (1.2)(17)
25855 (57000)	—	—	—	186 (1.9)(27)	—	124 (1.2)(18)	—	117 (1.2)(17)
26308 (58000)	—	—	—	193 (1.9)(28)	—	124 (1.2)(18)	—	124 (1.2)(18)
26762 (59000)	—	—	—	200 (2.0)(29)	—	131(1.3)(19)	—	131(1.3)(19)
27216 (60000)	—	—	—	—	—	—	—	—

KD34109,0000933-19-13JUN22

Recommended Pressures—Group 49

Group	49						
Size	480/95R50	710/75R42	IF710/75R42	VF710/75R42			
Load Index	164	175	176	181		184	
Speed Rating	A8 / B / D	A8 / B / D	A8 / B / D	D		D	
	Dual	Single	Single	Single	Dual	Single	Dual
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
4762 (10500)	41 (0.4)(6)	62 (0.6)(9)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
4989 (11000)	41 (0.4)(6)	62 (0.6)(9)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
5215 (11500)	41 (0.4)(6)	62 (0.6)(9)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
5442 (12000)	41 (0.4)(6)	62 (0.6)(9)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
5669 (12500)	41 (0.4)(6)	62 (0.6)(9)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
5896 (13000)	41 (0.4)(6)	62 (0.6)(9)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
6122 (13500)	41 (0.4)(6)	62 (0.6)(9)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
6349 (14000)	41 (0.4)(6)	62 (0.6)(9)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
6576 (14500)	41 (0.4)(6)	62 (0.6)(9)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
6804 (15000)	41 (0.4)(6)	62 (0.6)(9)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
7031 (15500)	48 (0.5)(7)	69 (0.7)(10)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
7257 (16000)	48 (0.5)(7)	76 (0.8)(11)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
7484 (16500)	55 (0.6)(8)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
7711 (17000)	55 (0.6)(8)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
7938 (17500)	62 (0.6)(9)	90 (0.8)(13)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
8165 (18000)	62 (0.6)(9)	90 (0.8)(13)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
8391 (18500)	69 (0.7)(10)	90 (0.8)(13)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
8618 (19000)	69 (0.7)(10)	97 (1.0)(14)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
8845 (19500)	76 (0.8)(11)	97 (1.0)(14)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)	103 (1.0)(15)
9072 (20000)	76 (0.8)(11)	103 (1.0)(15)	90 (0.9)(13)	69 (0.7)(10)	62 (0.6)(9)	69 (0.7)(10)	103 (1.0)(15)
9297 (20500)	83 (0.8)(12)	103 (1.0)(15)	90 (0.9)(13)	69 (0.7)(10)	62 (0.6)(9)	69 (0.7)(10)	103 (1.0)(15)
9525 (21000)	83 (0.8)(12)	110 (1.1)(16)	97 (1.0)(14)	69 (0.7)(10)	62 (0.6)(9)	69 (0.7)(10)	103 (1.0)(15)
9751 (21500)	90 (0.9)(13)	110 (1.1)(16)	97 (1.0)(14)	76 (0.8)(11)	62 (0.6)(9)	76 (0.8)(11)	103 (1.0)(15)
9979 (22000)	90 (0.9)(13)	117 (1.2)(17)	103 (1.0)(15)	76 (0.8)(11)	62 (0.6)(9)	76 (0.8)(11)	103 (1.0)(15)
10204 (22500)	97 (1.0)(14)	124 (1.2)(18)	103 (1.0)(15)	76 (0.8)(11)	62 (0.6)(9)	83 (0.8)(12)	103 (1.0)(15)

Group	49						
Size	**480/95R50**	**710/75R42**	**IF710/75R42**	**VF710/75R42**			
Load Index	**164**	**175**	**176**	**181**		**184**	
Speed Rating	**A8 / B / D**	**A8 / B / D**	**A8 / B / D**	**D**		**D**	
	Dual	**Single**	**Single**	**Single**	**Dual**	**Single**	**Dual**
Axle Load kg (lb)	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**	**kPa (bar)(psi)**
10433 (23000)	97 (1.0)(14)	124 (1.2)(18)	110 (1.1)(16)	83 (0.8)(12)	62 (0.6)(9)	83 (0.8)(12)	103 (1.0)(15)
10658 (23500)	103 (1.0)(15)	131 (1.3)(19)	110 (1.1)(16)	83 (0.8)(12)	62 (0.6)(9)	90 (0.9)(13)	103 (1.0)(15)
10886 (24000)	103 (1.0)(15)	131 (1.3)(19)	110 (1.1)(16)	90 (0.9)(13)	62 (0.6)(9)	90 (0.9)(13)	103 (1.0)(15)
11111 (24500)	110 (1.1)(16)	138 (1.4)(20)	117 (1.2)(17)	90 (0.9)(13)	62 (0.6)(9)	90 (0.9)(13)	103 (1.0)(15)
11340 (25000)	110 (1.1)(16)	145 (1.4)(21)	117 (1.2)(17)	97 (1.0)(14)	62 (0.6)(9)	97 (1.0)(14)	103 (1.0)(15)
11793 (26000)	110 (1.1)(16)	152 (1.5)(22)	124 (1.2)(18)	103 (1.0)(15)	62 (0.6)(9)	103 (1.0)(15)	103 (1.0)(15)
12247 (27000)	117 (1.2)(17)	159 (1.6)(23)	131 (1.3)(19)	103 (1.0)(15)	62 (0.6)(9)	110 (1.1)(16)	103 (1.0)(15)
12701 (28000)	124 (1.2)(18)	172 (1.7)(25)	138 (1.4)(20)	110 (1.1)(16)	62 (0.6)(9)	110 (1.1)(16)	103 (1.0)(15)
13154 (29000)	131 (1.3)(19)	186 (1.9)(27)	145 (1.4)(21)	117 (1.2)(17)	62 (0.6)(9)	117 (1.2)(17)	103 (1.0)(15)
13608 (30000)	138 (1.4)(20)	200 (2.0)(29)	159 (1.6)(23)	124 (1.2)(18)	62 (0.6)(9)	124 (1.2)(18)	103 (1.0)(15)
14061 (31000)	145 (1.4)(21)	221 (2.2)(32)	159 (1.6)(23)	131 (1.3)(19)	62 (0.6)(9)	131 (1.3)(19)	103 (1.0)(15)
14515 (32000)	152 (1.5)(22)	241 (2.4)(35)	—	138 (1.4)(20)	62 (0.6)(9)	138 (1.4)(20)	103 (1.0)(15)
14969 (33000)	159 (1.6)(23)	—	—	145 (1.4)(21)	62 (0.6)(9)	138 (1.4)(20)	103 (1.0)(15)
15422 (34000)	165 (1.7)(24)	—	—	152 (1.5)(22)	62 (0.6)(9)	152 (1.5)(22)	103 (1.0)(15)
15876 (35000)	186 (1.9)(27)	—	—	152 (1.5)(22)	62 (0.6)(9)	159 (1.6)(23)	103 (1.0)(15)
16329 (36000)	200 (2.0)(29)	—	—	159 (1.6)(23)	69 (0.7)(10)	159 (1.6)(23)	103 (1.0)(15)
16783 (37000)	214 (2.1)(31)	—	—	—	69 (0.7)(10)	172 (1.7)(25)	103 (1.0)(15)
17237 (38000)	234 (2.3)(34)	—	—	—	76 (0.8)(11)	179 (1.8)(26)	103 (1.0)(15)
17687 (39000)	—	—	—	—	76 (0.8)(11)	200 (2.0)(29)	103 (1.0)(15)
18141 (40000)	—	—	—	—	83 (0.8)(12)	—	103 (1.0)(15)
18594 (41000)	—	—	—	—	83 (0.8)(12)	—	103 (1.0)(15)
17237 (42000)	—	—	—	—	90 (0.9)(13)	—	103 (1.0)(15)
17687 (43000)	—	—	—	—	90 (0.9)(13)	—	103 (1.0)(15)
18141 (44000)	—	—	—	—	97 (1.0)(14)	—	103 (1.0)(15)
18594 (45000)	—	—	—	—	97 (1.0)(14)	—	103 (1.0)(15)
20862 (46000)	—	—	—	—	103 (1.0)(15)	—	—

Group	49						
Size	480/95R50	710/75R42	IF710/75R42	VF710/75R42			
Load Index	164	175	176	181		184	
Speed Rating	A8 / B / D	A8 / B / D	A8 / B / D	D		D	
	Dual	Single	Single	Single	Dual	Single	Dual
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
21315 (47000)	—	—	—	—	103 (1.0)(15)	—	—
21769 (48000)	—	—	—	—	110 (1.1)(16)	—	—
22222 (49000)	—	—	—	—	110 (1.1)(16)	—	—
22676 (50000)	—	—	—	—	117 (1.2)(17)	—	—
23129 (51000)	—	—	—	—	117 (1.2)(17)	—	—
23583 (52000)	—	—	—	—	124 (1.2)(18)	—	—
24036 (53000)	—	—	—	—	124 (1.2)(18)	—	—
24490 (54000)	—	—	—	—	131 (1.3)(19)	—	—
24943 (55000)	—	—	—	—	131 (1.3)(19)	—	—
25397 (56000)	—	—	—	—	138 (1.4)(20)	—	—
25850 (57000)	—	—	—	—	138 (1.4)(20)	—	—
26304 (58000)	—	—	—	—	145 (1.4)(21)	—	—
26757 (59000)	—	—	—	—	145 (1.4)(21)	—	—

Group	49						
Size	VF750/70R44	VF750/75R44	IF900/60R42		VF900/60R42		
Load Index	183	183	180	186	185		189
Speed Rating	D	D	D	D	D		D
	Single	Single	Single	Single	Single	Dual	Single
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
6804 (15000)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)
7031 (15500)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)
7257 (16000)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)
7484 (16500)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)
7711 (17000)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)
7938 (17500)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)

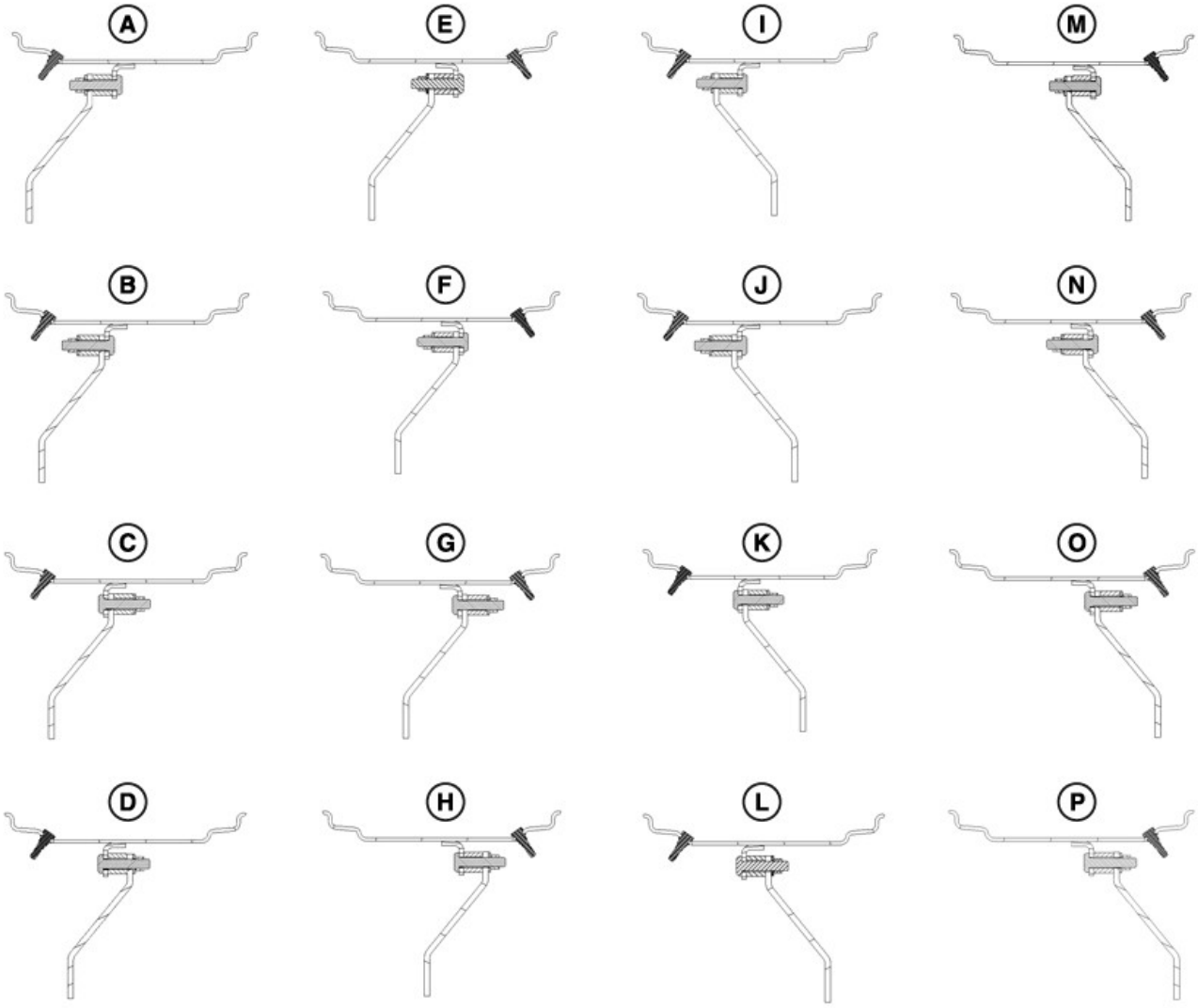
Group	49						
Size	VF750/70R44	VF750/75R44	IF900/60R42		VF900/60R42		
Load Index	183	183	180	186	185		189
Speed Rating	D	D	D	D	D		D
	Single	Single	Single	Single	Single	Dual	Single
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
8165 (18000)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)
8391 (18500)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)
8618 (19000)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)
8845 (19500)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)
9072 (20000)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)
9297 (20500)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)
9525 (21000)	62 (0.6)(9)	62 (0.6)(9)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)
9751 (21500)	69 (0.7)(10)	69 (0.7)(10)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)
9979 (22000)	69 (0.7)(10)	69 (0.7)(10)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	62 (0.6)(9)
10204 (22500)	76 (0.8)(11)	76 (0.8)(11)	83 (0.8)(12)	83 (0.8)(12)	69 (0.7)(10)	62 (0.6)(9)	69 (0.7)(10)
10433 (23000)	76 (0.8)(11)	76 (0.8)(11)	90 (0.9)(13)	90 (0.9)(13)	69 (0.7)(10)	62 (0.6)(9)	69 (0.7)(10)
10658 (23500)	76 (0.8)(11)	76 (0.8)(11)	90 (0.9)(13)	90 (0.9)(13)	69 (0.7)(10)	62 (0.6)(9)	69 (0.7)(10)
10886 (24000)	83 (0.8)(12)	83 (0.8)(12)	90 (0.9)(13)	97 (1.0)(14)	76 (0.8)(11)	62 (0.6)(9)	69 (0.7)(10)
11111 (24500)	83 (0.8)(12)	83 (0.8)(12)	97 (1.0)(14)	97 (1.0)(14)	76 (0.8)(11)	62 (0.6)(9)	76 (0.8)(11)
11340 (25000)	90 (0.9)(13)	90 (0.9)(13)	97 (1.0)(14)	103 (1.0)(15)	76 (0.8)(11)	62 (0.6)(9)	76 (0.8)(11)
11793 (26000)	90 (0.9)(13)	90 (0.9)(13)	103 (1.0)(15)	110 (1.1)(16)	83 (0.8)(12)	62 (0.6)(9)	90 (0.9)(13)
12247 (27000)	97 (1.0)(14)	97 (1.0)(14)	110 (1.1)(16)	110 (1.1)(16)	90 (0.9)(13)	62 (0.6)(9)	90 (0.9)(13)
12701 (28000)	97 (1.0)(14)	97 (1.0)(14)	117 (1.2)(17)	117 (1.2)(17)	97 (1.0)(14)	62 (0.6)(9)	97 (1.0)(14)
13154 (29000)	103 (1.0)(15)	103 (1.0)(15)	124 (1.2)(18)	124 (1.2)(18)	103 (1.0)(15)	62 (0.6)(9)	103 (1.0)(15)
13608 (30000)	110 (1.1)(16)	110 (1.1)(16)	131 (1.3)(19)	131 (1.3)(19)	103 (1.0)(15)	62 (0.6)(9)	110 (1.1)(16)
14061 (31000)	117 (1.2)(17)	117 (1.2)(17)	138 (1.4)(20)	138 (1.4)(20)	110 (1.1)(16)	62 (0.6)(9)	110 (1.1)(16)
14515 (32000)	124 (1.2)(18)	124 (1.2)(18)	138 (1.4)(20)	145 (1.4)(21)	117 (1.2)(17)	62 (0.6)(9)	117 (1.2)(17)
14969 (33000)	131 (1.3)(19)	131 (1.3)(19)	145 (1.45)(21)	152 (1.5)(22)	124 (1.2)(18)	62 (0.6)(9)	117 (1.2)(17)
15422 (34000)	138 (1.4)(20)	138 (1.4)(20)	152 (1.5)(22)	159 (1.6)(23)	124 (1.2)(18)	62 (0.6)(9)	124 (1.2)(18)
15876 (35000)	138 (1.4)(20)	138 (1.4)(20)	159 (1.6)(23)	159 (1.6)(23)	131 (1.3)(19)	62 (0.6)(9)	131 (1.3)(19)
16329 (36000)	145 (1.45)(21)	145 (1.45)(21)	—	172 (1.7)(25)	138 (1.4)(20)	62 (0.6)(9)	138 (1.4)(20)

Group	49						
Size	VF750/70R44	VF750/75R44	IF900/60R42		VF900/60R42		
Load Index	183	183	180	186	185		189
Speed Rating	D	D	D	D	D		D
	Single	Single	Single	Single	Single	Dual	Single
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
16783 (37000)	152 (1.5)(22)	152 (1.5)(22)	—	186 (1.9)(27)	145 (1.45)(21)	62 (0.6)(9)	138 (1.4)(20)
17237 (38000)	159 (1.6)(23)	159 (1.6)(23)	—	200 (2.0)(29)	145 (1.45)(21)	62 (0.6)(9)	145 (1.45)(21)
17687 (39000)	—	—	—	207 (2.1)(30)	152 (1.5)(22)	62 (0.6)(9)	159 (1.6)(23)
18141 (40000)	—	—	—	221 (2.2)(32)	159 (1.6)(23)	69 (0.7)(10)	159 (1.6)(23)
18594 (41000)	—	—	—	234 (2.3)(34)	—	69 (0.7)(10)	165 (1.65)(24)
17237 (42000)	—	—	—	—	—	69 (0.7)(10)	179 (1.8)(26)
17687 (43000)	—	—	—	—	—	76 (0.8)(11)	179 (1.8)(26)
18141 (44000)	—	—	—	—	—	76 (0.8)(11)	193 (1.9)(28)
18594 (45000)	—	—	—	—	—	83 (0.8)(12)	200 (2.0)(29)
20862 (46000)	—	—	—	—	—	83 (0.8)(12)	—
21315 (47000)	—	—	—	—	—	90 (0.9)(13)	—
21769 (48000)	—	—	—	—	—	90 (0.9)(13)	—
22222 (49000)	—	—	—	—	—	97 (1.0)(14)	—
22676 (50000)	—	—	—	—	—	97 (1.0)(14)	—
23129 (51000)	—	—	—	—	—	103 (1.0)(15)	—
23583 (52000)	—	—	—	—	—	103 (1.0)(15)	—
24036 (53000)	—	—	—	—	—	103 (1.0)(15)	—
24490 (54000)	—	—	—	—	—	110 (1.1)(16)	—
24943 (55000)	—	—	—	—	—	110 (1.1)(16)	—
25397 (56000)	—	—	—	—	—	117 (1.2)(17)	—
25850 (57000)	—	—	—	—	—	117 (1.2)(17)	—
26304 (58000)	—	—	—	—	—	124 (1.2)(18)	—
26757 (59000)	—	—	—	—	—	124 (1.2)(18)	—

TS36762,0000222-19-13JAN22

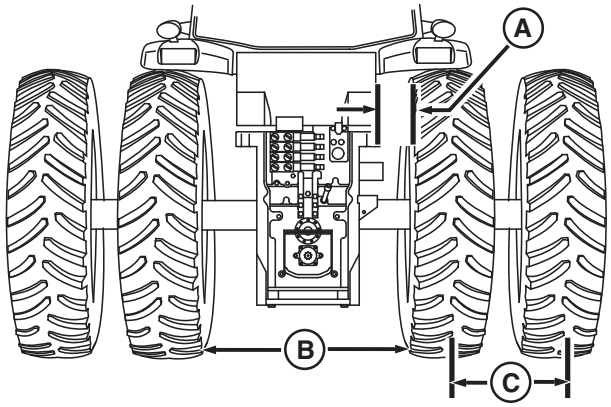
16-Position Rear Wheel Settings

16-Position steel wheel as viewed from behind left tire.



RXA0160413—UN—08AUG17
TS36762,0000223-19-27AUG18

Rear Wheel, Tire, and Tread Guidelines



RXA0160415—UN—08AUG17

CAUTION: Avoid personal injury and tractor instability. Never operate with single tires having tread width less than 1520 mm (60 in).

Turning while operating at transport speeds with narrow tread widths can cause tractor instability. Increase tread width to improve stability.

IMPORTANT: Tires must have at least 25 mm (1 in) clearance with fenders (A). Distance between tires (B) must be at least 1015 mm (40 in) with tires equal distances from tractor centerline.

With sway blocks in upper position (sway allowed), minimum distance between tires must be 1090 mm (43 in) to prevent interference.

Do not exceed 2800 mm (110 in) between single tires for pulling heavy loads.

To provide a wider range of settings, complete wheel can be installed on other side of tractor. In doing so, maintain correct direction of tire rotation.

Check for adequate clearance between implement and rear tires.

DO NOT mix radial and bias-ply tires on same axle.

Drive and dual tires mounted on same axle should all be inflated to same pressure.

Cast wheels are used inside and steel wheels on outside on tractors with duals.

Over inflating a radial tire reduces machine performance. Using correct inflation pressures will result in optimum tractive performance.

Minimum Spacing for Dual Tires (C) mm (in)	
Tread setting is measured between center of tires	
Tire Section	Minimum Spacing
480 (18.4)	549 (21.6)
520 (20.8)	591 (23.3)
620 (24.5)	695 (27.4)
650 (25.5)	726 (28.6)
710 (28.0)	788 (31)

TS36762,0000224-19-08AUG17

Minimum Tread Setting with Air Trailer Brakes and Inner Wheel Weights

IMPORTANT: Avoid tractor component damage. Follow weight specifications.

These restrictions only apply to tractors equipped with optional air trailer brakes.

Minimum Tread Setting With Air Trailer Brakes And Inner Wheel Weights						
		Options				
		1	2	3	4	5
		Inner Wheel Weight Options kg (lb)				
		205 (452)	72 (159) + 205 (452)	205 (452) + 205 (452)	72 (159) + 205 (452) + 205 (452)	620 (1367)
Wheel Type	Dish Position	Minimum Tread Setting mm (in)				
Cast[a]	In	1829 (72)	1829 (72)	2032 (80)	—	1880 (74)
		1880 (74)	1981 (78)	2134 (84)	—	2134 (84)
	Out	2134 (84)	2134 (84)	—	—	2184 (86)
		2184 (86)	—	—	—	—
Steel	In	—	2083 (82)	—	—	—
	Out	—	—	—	—	—
Flanged Axle		—	—	—	—	—

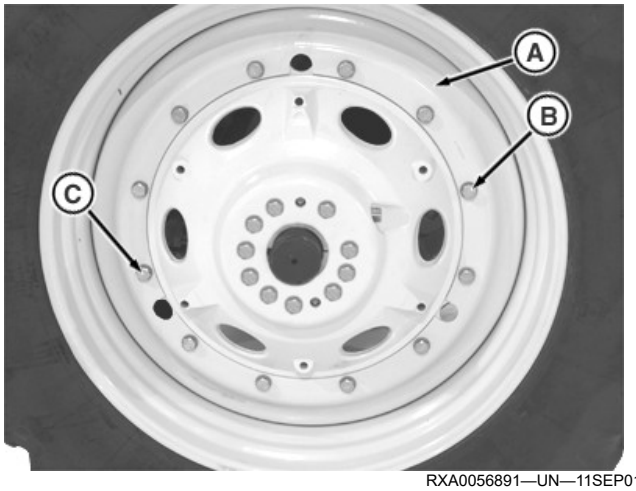
[a] *Tire section width less than 800 mm*

TS36762,0000225-19-01JUL21

Install Rear Drive Wheel to Cast Hub

CAUTION: Avoid equipment damage and the possibility of personal injury. Failure to follow torquing sequence and procedure will result in equipment damage and may result in personal injury.

IMPORTANT: Carefully follow procedure for retightening wheel bolts. Failure to do so could lead to wheel hub damage.



RXA0056891—UN—11SEP01

Wheel rim (A) has one tight-fit hole smaller than other holes. One slot-fit hole is 180° from tight fit hole, for improved wheel centering.

1. Install and hand-tighten bolt in the tight-fit hole (B).
2. Install and hand-tighten bolt in slot-fit hole (C).
3. Install and hand-tighten remaining bolts.
4. Tighten all bolts to 610 N·m (450 lb·ft) using a star-shaped pattern.
5. Drive tractor 100 meters (100 yd) and retighten bolts.
6. Tighten again at 3 hours, 10 hours, and daily for first week of operation and every 250 hours thereafter.

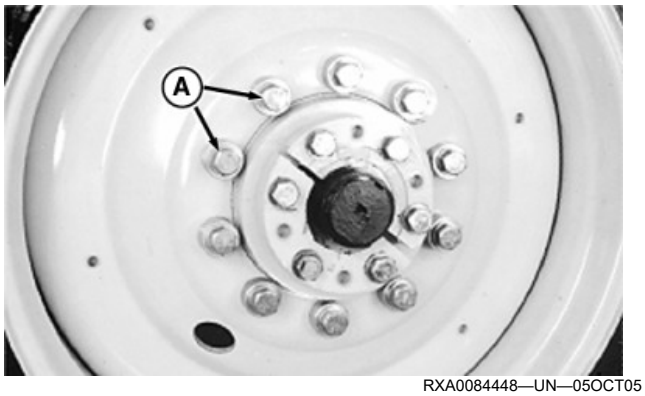
TS36762,0000228-19-07AUG17

Install Rear Steel Wheel to Hub

CAUTION: Avoid equipment damage and the possibility of personal injury. Failure to follow torquing sequence and procedure will result in equipment damage and may result in personal injury.

IMPORTANT: Carefully follow procedure for tightening wheel bolts. Failure to do so could result in equipment damage.

Check hole sizes on duals, wheel rim may have one tight-fit hole smaller than other holes. One slot-fit hole is 180° from tight fit hole, for improved wheel centering.



RXA0084448—UN—05OCT05

1. Install and hand tighten bolts (A).
2. Tighten all bolts to 610 N·m (450 lb·ft) using a star-shaped pattern.
3. Drive tractor 100 meters (100 yd) and retighten bolts.
4. Tighten again at 3 hours, 10 hours, and daily for first week of operation and every 250 hours thereafter.

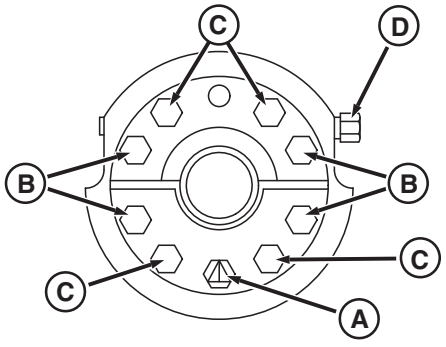
TS36762,0000229-19-07AUG17

Adjust and Tighten Rear Steel Wheels with Cast Hubs

CAUTION: Avoid personal injury. Never run the engine with transmission in gear and rear wheels off the ground. MFWD wheels could pull rear wheels off support. MFWD must be disengaged and transmission in NEUTRAL to rotate axle.

Avoid equipment damage and the possibility of personal injury. Failure to follow torquing sequence and procedure will result in equipment damage and may result in personal injury.

1. Raise tractor on level ground and turn wheels so rack on axle is on top.



RXA0151803—UN—07APR16

2. Loosen lower hub center cap screw (A) against

retaining nut and loosen outer hub sleeve cap screws (B).

NOTE: Strike end of axle with a heavy hammer and use penetrating oil if sleeves are difficult to break loose.

3. Tighten inner jack cap screws (C) on upper and lower hub sleeves as necessary to loosen sleeves.

NOTE: Observe tread width limitations when adjusting rear wheels.

4. Turn adjusting cap screw (D) to slide wheel to desired position.
5. Loosen the jack cap screws (C) all the way against stop.
6. Tighten hub sleeve cap screws (B) to 200 N·m (150 lb·ft) beginning with center cap screw in lower sleeve, then tighten remaining cap screws in diagonal method.
7. Tighten cap screws to 400 N·m (300 lb·ft) using same sequence.
8. Drive tractor a minimum of 100 meters (100 yd) and tighten cap screws to 610 N·m (450 lb·ft).

IMPORTANT: Some sleeve cap screws may loosen as sleeve is tightened. Repeat star shaped torquing pattern until ALL sleeve cap screws maintain proper torque. Failure to follow procedure could result in damage to equipment and may result in personal injury.

9. Retighten cap screws after working 3 hours, 10 hours, and daily during first week of operation and every 250 hours thereafter.

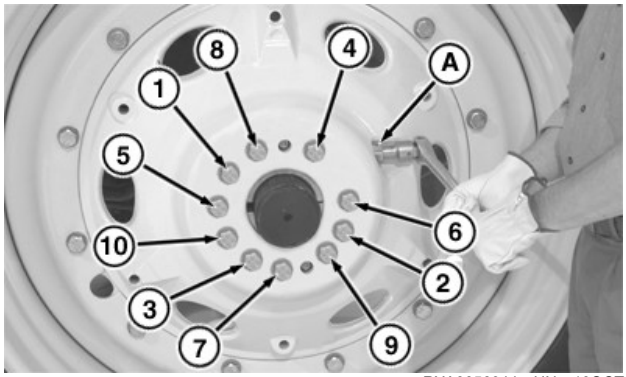
TS36762,000022A-19-07AUG17

Adjust and Tighten Rear Wheels—10-Bolt Heavy-Duty Hubs

CAUTION: Avoid personal injury. Never run the engine with transmission in gear and rear wheels off the ground. MFWD wheels could pull rear wheels off support. Disengage MFWD and put transmission in NEUTRAL to rotate axle. Never operate tractor with a loose rim, wheel, or hub.

Avoid equipment damage and the possibility of personal injury. Failure to follow torquing sequence and procedure will result in equipment damage and may result in personal injury.

1. Raise tractor on level ground with rack upward on the axle.



RXA0056944—UN—10OCT01

2. Loosen (without removing) sleeve cap screws (1—10) enough to move wheel.

IMPORTANT: Do not loosen or remove the two socket head cap screws. Doing so could result in wheel jamming or damage.

3. Turn pinion gear (A) to move wheel to desired position.
4. Tighten sleeve cap screws (1—10) in numerical order to 400 N·m (300 lb·ft). Make sure wheel is perpendicular to axle.
5. Tighten sleeve cap screws (1—10) in numerical order to 610 N·m (450 lb·ft).
6. Drive tractor a minimum of 100 meters (100 yd) and retighten cap screws in numerical order to 610 N·m (450 lb·ft).

CAUTION: Some sleeve cap screws may loosen as sleeve is tightened. Repeat numerical torquing pattern until ALL sleeve cap screws maintain proper torque. Failure to follow procedure could result in damage to equipment and may result in personal injury.

7. Tighten cap screws after working 3 hours, 10 hours, and daily during first week of operation and every 250 hours thereafter.

TS36762,000022B-19-07AUG17

Adjust and Tighten Rear Wheels—12-Bolt Heavy-Duty Hubs

CAUTION: Avoid personal injury. Never run the engine with transmission in gear when adjusting wheels. Wheels on the ground could pull supported wheels off jackstands.

Never operate tractor with a loose rim, wheel, or hub.

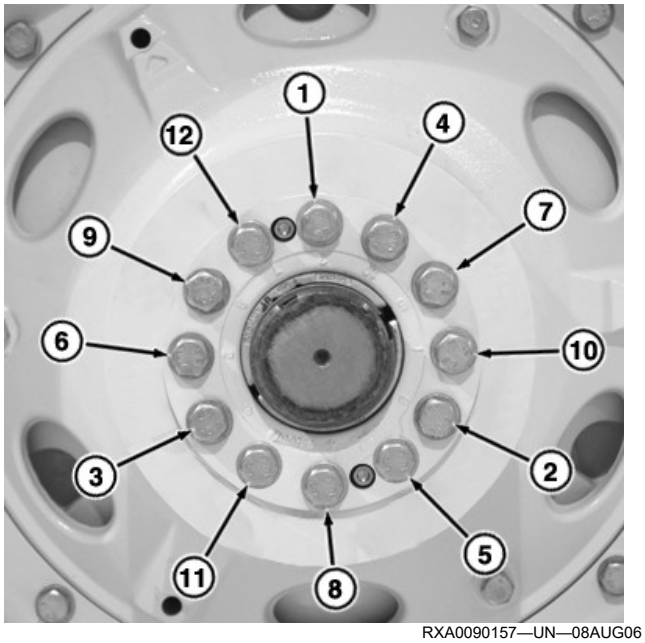
Avoid equipment damage and the possibility of personal injury. Failure to follow torquing sequence and procedure will result in equipment damage and may result in personal injury.

IMPORTANT: Tractors are equipped with 12 cap screw heavy-duty drive wheels and hubs. Numbers indicating proper torquing sequences are cast into wheel hub.

Carefully follow procedure. Failure to do so could lead to sleeve or cast wheel damage.

Clean any paint, grease, film, rust or debris from axle shafts, cap screws, and threads before positioning and installing wheel sleeves and cast wheel. DO NOT apply any lubricant to cap screws, threads, wheel, or axle.

1. Raise tractor on level ground and support tractor with jackstands.



RXA0090157—UN—08AUG06

2. Loosen (without removing) sleeve cap screws (1—12) enough to move wheel.

IMPORTANT: Do not loosen or remove two socket head cap screws. Doing so could result in wheel jamming or damage.

CAUTION: Avoid personal injury. Use a hoist, wheel dolly, or proper lifting equipment to safely slide and adjust wheels on axles.

3. Move wheel to desired position.
4. Tighten cap screws (1—12) in numerical torque sequence to 400 N·m (300 lb·ft). Make sure wheel is perpendicular to axle.
5. Tighten cap screws (1—12) in numerical order to 610 N·m (450 lb·ft).

CAUTION: Some sleeve cap screws may loosen as sleeve is tightened. Repeat star-shaped numbered sequence torquing pattern until ALL sleeve cap screws maintain proper torque. Failure to follow procedure could result in damage to equipment and may result in personal injury.

6. Drive tractor unloaded in a large figure-8 pattern a minimum of four times and tighten cap screws in numerical order to 610 N·m (450 lb·ft).

IMPORTANT: Keep wheel sleeve cap screws tightened to specification. If tractor is operated with loose wheel sleeves or under-torqued cap screws, damage to sleeves and cast wheels may result.

7. Tighten cap screws to 610 N·m (450 lb·ft) after working 3 hours, 10 hours, and daily during first week of operation or until cap screws do not move when retightening.

TS36762,000022C-19-07AUG17

Single Wheel Tread Settings

IMPORTANT: Avoid equipment damage. Never position rear treads narrower than 1676 mm (66 in) on tractors equipped with tires narrower than 520 mm and two 205 kg (452 lb) inner wheel weights.

See Minimum Tread Setting with Air Trailer Brakes and Inner Wheel Weights in this section of this Operator's Manual for further restrictions on tractors equipped with optional air trailer brakes.

320 Tire mm (in)				
Position	**Minimum**	**2550 (100.4) Axle Maximum**	**2808 (110.5) Axle Maximum**	**3012 (118.5) Axle Maximum**
IN	1524 (60)	1963 (77.3)	2202 (86.7)	2406 (94.7)
OUT	1806 (71.1)	2536 (99.8)	2506 (98.6)	2710 (106.7)

380 Tire mm (in)				
Position	**Minimum**	**2550 (100.4) Axle Maximum**	**2808 (110.5) Axle Maximum**	**3012 (118.5) Axle Maximum**
IN	1524 (60)	1963 (77.3)	2202 (86.7)	2406 (94.7)
OUT	1806 (71.1)	2536 (99.8)	2506 (98.6)	2710 (106.7)

480 Tire mm (in)				
Position	**Minimum**	**2550 (100.4) Axle Maximum**	**2808 (110.5) Axle Maximum**	**3012 (118.5) Axle Maximum**
IN	1524 (60)	1963 (77.3)	2202 (86.7)	2406 (94.7)
OUT	1806 (71.1)	2536 (99.8)	2506 (98.6)	2710 (106.7)

520 Tires mm (in)				
Position	**Minimum**	**2550 (100.4) Axle Maximum**	**2808 (110.5) Axle Maximum**	**3012 (118.5) Axle Maximum**
IN	1555 (61.2)	2005 (78.9)	2202 (86.7)	2449 (96.4)
OUT	1806 (71.1)	2310 (90.9)	2506 (98.6)	2754 (108.4)

620 Tire mm (in)				
Position	**Minimum**	**2550 (100.4) Axle Maximum**	**2808 (110.5) Axle Maximum**	**3012 (118.5) Axle Maximum**
IN	1662 (65.4)	2005 (78.9)	2202 (86.7)	2449 (96.4)
OUT	1806 (71.1)	2310 (90.9)	2506 (98.6)	2754 (108.4)

650 Tire mm (in)				
Position	**Minimum**	**2550 (100.4) Axle Maximum**	**2808 (110.5) Axle Maximum**	**3012 (118.5) Axle Maximum**
IN	1702 (67.0)	2005 (78.9)	2202 (86.7)	2449 (96.4)
OUT	1806 (71.1)	2310 (90.9)	2506 (98.6)	2754 (108.4)

710 Tire mm (in)				
Position	**Minimum**	**2550 (100.4) Axle Maximum**	**2808 (110.5) Axle Maximum**	**3012 (118.5) Axle Maximum**
IN	1758 (69.2)	2005 (78.9)	2202 (86.7)	2449 (96.4)
OUT	1806 (71.1)	2310 (90.9)	2506 (98.6)	2754 (108.4)

750 Tire mm (in)				
Position	**Minimum**	**2550 (100.4) Axle Maximum**	**2808 (110.5) Axle Maximum**	**3012 (118.5) Axle Maximum**
IN	1788 (70.4)	2036 (80.2)	2294 (90.3)	2496 (98.3)
OUT	1788 (70.4)	2230 (87.8)	2488 (98.0)	2690 (105.9)

800 Tire mm (in)				
Position	**Minimum**	**2550 (100.4) Axle Maximum**	**2808 (110.5) Axle Maximum**	**3012 (118.5) Axle Maximum**
IN	1866 (73.5)	2087 (82.2)	2344 (92.3)	2549 (100.4)
OUT	—	—	—	—

900 Tire mm (in)				
Position	**Minimum**	**2550 (100.4) Axle Maximum**	**2808 (110.5) Axle Maximum**	**3012 (118.5) Axle Maximum**
IN	1942 (76.5)	2087 (82.2)	2344 (92.3)	2549 (100.4)
OUT	—	—	—	—

TS36762,000022E-19-07JUL20

Dual Wheel Tread Settings

IMPORTANT: Avoid equipment damage. Never position rear treads narrower than 1676 mm (66 in) on tractors equipped with tires narrower than 520 mm and with two 205 kg (452 lb) inner wheel weights.

See Minimum Tread Setting with Air Trailer Brakes and Inner Wheel Weights in this section of this Operator's Manual for further restrictions on tractors equipped with optional air trailer brakes.

320 Tire									
Inner Tire mm (in)						Dual Tire mm (in)			
Position	**Minimum**	**2808 (110.5) Axle**		**3012 (118.5) Axle**		**Position**	**Minimum**	**2808 (110.5) Axle**	**3012 (118.5) Axle**
		Maximum	**Maximum[a]**	**Maximum**	**Maximum[a]**			**Maximum**	**Maximum**
IN	1524 (60)	1692 (66.6)	1774 (69.8)	1896 (74.6)	1978 (77.9)	D	2290 (90.2)	2458 (96.8)	2662 (104.8)
OUT	1810 (71.3)	—	2078 (81.8)	1896 (74.6)	2282 (89.8)	D	2952 (116.2)[a]	3220 (126.7)[a]	2662 (104.8)
OUT	1810 (71.3)	—	2078 (81.8)	1896 (74.6)	2282 (89.8)	D	2576 (101.4)	3220 (126.7)[a]	2662 (104.8)
IN	1524 (60)	1774 (69.8)	1774 (69.8)	1978 (77.9)	1978 (77.9)	G	2462 (96.9)	2711 (106.7)	2915 (114.8)
OUT	1810 (71.3)	1946 (76.6)	2078 (81.8)	2150 (84.6)	2282 (89.8)	G	2576 (101.4)	2711 (106.7)	2915 (114.8)
IN	1524 (60)	1774 (69.8)	1774 (69.8)	1978 (77.9)	1978 (77.9)	L	2614 (102.9)	2864 (112.7)	3068 (120.8)
OUT	1810 (71.3)	2078 (81.8)	2078 (81.8)	2282 (89.8)	2282 (89.8)	L	2596 (102.2)	2864 (112.7)	3068 (120.8)
IN	1524 (60)	1774 (69.8)	1774 (69.8)	1978 (77.9)	1978 (77.9)	O	2868 (112.9)	3118 (122.7)	3322 (130.8)
OUT	1810 (71.3)	2078 (81.8)	2078 (81.8)	2282 (89.8)	2282 (89.8)	O	2850 (112.2)	3118 (122.7)	3322 (130.8)
IN	1524 (60)	1774 (69.8)	1774 (69.8)	1978 (77.9)	1978 (77.9)	P	2920 (115)	3168 (124.7)	3372 (132.8)
OUT	1810 (71.3)	2078 (81.8)	2078 (81.8)	2282 (89.8)	2282 (89.8)	P	2900 (114.2)	3168 (124.7)	3372 (132.8)

[a] *With 15 in extension on dual.*

380 Tire									
Inner Tire mm (in)						Dual Tire mm (in)			
Position	**Minimum**	**2808 (110.5) Axle**		**3012 (118.5) Axle**		**Position**	**Minimum**	**2808 (110.5) Axle**	**3012 (118.5) Axle**
		Maximum	**Maximum[a]**	**Maximum**	**Maximum[a]**			**Maximum**	**Maximum**
IN	1524 (60)	1770 (69.7)	1770 (69.7)	1974 (77.7)	1974 (77.7)	G	2414 (95)	2711 (106.7)	2915 (114.8)
OUT	1806 (71.1)	1822 (71.7)	2074 (81.7)	2026 (79.8)	2278 (89.7)	G	2698 (106.2)	2711 (106.7)	2915 (114.8)

380 Tire									
Inner Tire mm (in)						Dual Tire mm (in)			
Position	Minimum	2808 (110.5) Axle		3012 (118.5) Axle		Position	Minimum	2808 (110.5) Axle	3012 (118.5) Axle
		Maximum	Maximum[a]	Maximum	Maximum[a]			Maximum	Maximum
IN	1524 (60)	1770 (69.7)	1770 (69.7)	1974 (77.7)	1974 (77.7)	L	2618 (103.1)	2864 (112.7)	3068 (120.8)
OUT	1806 (71.1)	1974 (77.7)	2074 (81.7)	2178 (85.7)	2278 (89.7)	L	2698 (106.2)	2864 (112.7)	3068 (120.8)
IN	1524 (60)	1770 (69.7)	1770 (69.7)	1974 (77.7)	1974 (77.7)	O	2872 (113.1)	3118 (122.7)	3322 (130.8)
OUT	1806 (71.1)	2074 (81.7)	2074 (81.7)	2278 (89.7)	2278 (89.7)	O	2850 (112.2)	3118 (122.7)	3322 (130.8)
IN	1524 (60)	1770 (69.7)	1770 (69.7)	1974 (77.7)	1974 (77.7)	P	2922 (115)	3168 (124.7)	3372 (132.8)
OUT	1806 (71.1)	2074 (81.7)	2074 (81.7)	2278 (89.7)	2278 (89.7)	P	2900 (114.2)	3168 (124.7)	3372 (132.8)

[a]*With 15 in extension on dual.*

18.4 and 480 Tires									
Inner Tire mm (in)						Dual Tire mm (in)			
Position	Minimum	2808 (110.5) Axle		3012 (118.5) Axle		Position	Minimum	2808 (110.5) Axle	3012 (118.5) Axle
		Maximum	Maximum[a]	Maximum	Maximum[a]			Maximum	Maximum
IN	1524 (60)	—	1770 (69.7)	1508 (59.4)	1974 (77.7)	IN	2918 (114.9)[a]	3164 (124.6)[a]	2606 (102.6)
OUT	1806 (71.1)	—	2066 (81.3)	—	2270 (89.4)	IN	3058 (120.4)	3164 (124.6)[a]	3368 (132.6)[a]
IN	1524 (60)	1770 (69.7)	1770 (69.7)	1974 (77.7)	1974 (77.7)	OUT	2822 (111.1)	3068 (120.8)	3272 (128.9)
OUT	1806 (71.1)	1970 (77.5)	2074 (81.7)	2174 (85.6)	2278 (89.7)	OUT	3058 (120.4)	3068 (120.8)	3272 (128.9)

[a]*With 15 in extension on dual.*

520 Tire									
Inner Tire mm (in)						Dual Tire mm (in)			
Position	Minimum	2808 (110.5) Axle		3012 (118.5) Axle		Position	Minimum	2808 (110.5) Axle	3012 (118.5) Axle
		Maximum	Maximum[a]	Maximum	Maximum[a]			Maximum	Maximum
IN	1563 (61.5)	—	1770 (69.7)	—	1974 (77.7)	IN	2903 (114.3)[a]	3062 (120.6)[a]	3266 (128.6)[a]
OUT	1806 (71.1)	—	1880 (74)	—	2084 (82)	IN	3146 (123.9)[a]	—	3266 (128.6)[a]
IN	1563 (61.5)	1770 (69.7)	1770 (69.7)	1974 (77.7)	1974 (77.7)	OUT	2935 (115.6)	3170 (124.8)	3372 (132.7)
OUT	1806 (71.1)	1952 (76.9)	2074 (81.7)	2192 (86.3)	2278 (89.7)	OUT	3146 (123.9)	3170 (124.8)	3372 (132.7)

[a]*With 15 in extension on dual.*

620 Tire									
Inner Tire mm (in)						Dual Tire mm (in)			
Position	Minimum	2808 (110.5) Axle		3012 (118.5) Axle		Position	Minimum	2808 (110.5) Axle	3012 (118.5) Axle
		Maximum	Maximum[a]	Maximum	Maximum[a]			Maximum	Maximum
IN	1681 (66.2)	1770 (69.7)	1770 (69.7)	1974 (77.7)	1974 (77.7)	OUT	3283 (129.3)	3310 (130.3)	3512 (138.3)
OUT	1806 (71.1)	1952 (76.9)	2074 (81.7)	2156 (84.9)	2278 (89.7)	OUT	3408 (134.2)	—	3512 (138.3)

[a]*With 15 in extension on dual.*

650 Tire									
Inner Tire mm (in)						Dual Tire mm (in)			
Position	Minimum	2808 (110.5) Axle		3012 (118.5) Axle		Position	Minimum	2808 (110.5) Axle	3012 (118.5) Axle
		Maximum	Maximum[a]	Maximum	Maximum[a]			Maximum	Maximum
IN	1702 (67.0)	1770 (69.7)	1770 (69.7)	1974 (77.7)	1974 (77.7)	OUT	3352 (132.0)	3361 (132.3)	3563 (140.3)
OUT	1806 (71.1)	1890 (74.4)	2074 (81.7)	2094 (82.4)	2278 (89.7)	OUT	3456 (136.1)	—	3563 (140.3)

[a] *With 15 in extension on dual.*

710 Tire									
Inner Tire mm (in)						Dual Tire mm (in)			
Position	Minimum	2808 (110.5) Axle		3012 (118.5) Axle		Position	Minimum	2808 (110.5) Axle	3012 (118.5) Axle
		Maximum	Maximum[a]	Maximum	Maximum[a]			Maximum	Maximum
IN	1758 (69.2)	1764 (69.4)	1770 (69.7)	1968 (77.5)	1974 (77.7)	OUT	3538 (139.3)	—	3629 (142.9)
OUT	1806 (71.1)	—	2074 (81.7)	1968 (77.5)	2278 (89.7)	OUT	3586 (141.2)	—	3629 (142.9)

[a] *With 15 in extension on dual.*

800 Tire									
Inner Tire mm (in)						Dual Tire mm (in)			
Position	Minimum	2808 (110.5) Axle		3012 (118.5) Axle		Position	Minimum	2808 (110.5) Axle	3012 (118.5) Axle
		Maximum	Maximum[a]	Maximum	Maximum[a]			Maximum	Maximum
IN	1866 (73.5)	1774 (69.8)	1776 (69.9)	1978 (77.9)	1980 (78)	OUT	3882 (152.8)	—	4521 (178.0)[b]

[a] *With 15 in extension on dual.*
[b] *With 10 in extension on dual.*

TS36762,0000231-19-07JUL20

Dual Wheel Row Crop Settings and Dual Hub Extensions

IMPORTANT: Avoid tractor damage. Never position rear treads narrower than 1676 mm (66 in) on tractors equipped with tires narrower than 520 mm and with two 205 kg (452 lb) inner wheel weights.

Dual Rear Tire and Hub Extensions - 18.4 or 480 Section

Spacing mm (in)	**Row**	508 (20)	559 (22)	762 (30)	813 (32)	864 (34)	914 (36)	965 (38)	1016 (40)
	Inner Wheel	—	—	1524 (60)	1626 (64)	1727 (68)	1829 (72)	1930 (76)	2032 (80)
	Dual Wheel	—	—	3045 (120)	3251 (128)	3454 (136)	3657 (144)	3861 (152)	4064 (160)
Dual Axle Extension mm (in)	2808 (110.5)	—	—	NR[a]	127 (5)	254 (10)	254 (10)	381 (15)	—
	3012 (118.5)	—	—	NR[a]	NR[a]	127 (5)	254 (10)	254 (10)	381 (15)

[a] *Dual hub extension, not required for tread setting*

Dual Rear Tire and Hub Extensions - 520 or 20.8 Section

Spacing mm (in)	**Row**	508 (20)	559 (22)	762 (30)	813 (32)	864 (34)	914 (36)	965 (38)	1016 (40)
	Inner Wheel	—	—	—	1626 (64)	1727 (68)	1829 (72)	1930 (76)	2032 (80)
	Dual Wheel	—	—	—	3251 (128)	3454 (136)	3657 (144)	3861 (152)	4064 (160)
Dual Axle Extension mm (in)	2808 (110.5)	—	—	—	127 (5)	254 (10)	254 (10)	381 (15)	—
	3012 (118.5)	—	—	—	—	127 (5)	254 (10)	254 (10)	381 (15)

Dual Rear Tire and Hub Extensions - 620 or 710 Section

Spacing mm (in)	**Row**	508 (20)	559 (22)	762 (30)	813 (32)	864 (34)	914 (36)	965 (38)	1016 (40)
	Inner Wheel	—	—	—	—	—	—	—	2032 (80)
	Dual Wheel	—	—	—	—	—	—	—	160
Dual Axle Extension mm (in)	2808 (110.5)	—	—	—	—	—	—	—	381 (15)
	3012 (118.5)	—	—	—	—	—	—	—	330 (13)

TS36762,0000232-19-31JAN20

Adjust Air Seat

RXA0167353—UN—03APR19

Air Seat

NOTE: Select, premium, or ultimate indicates the comfort and convenience package the feature is included with if not included with all.

RXA0167320—UN—03APR19

Armrest Height Control

Left-Hand Armrest Height — turn adjustment knob counterclockwise to loosen. Move armrest up or down to desired position and tighten by turning knob clockwise.

RXA0167321—UN—03APR19

Armrest Inclination Control

Left-Hand Armrest Inclination — turn adjustment knob to adjust incline angle of armrest.

RXA0167322—UN—03APR19

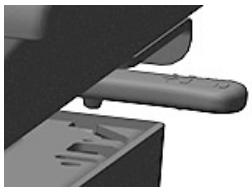
Swivel Lockout Control

Seat Swivel — place lever in up position to allow seat to swivel. Place in down position (shown) to lock out seat from swiveling. Seat can be locked out in several positions.

RXA0167344—UN—03APR19

Fore/Aft Attenuation Lockout Control

Fore/Aft Attenuation — place lever in forward position (shown) to allow movement. Place lever in rear position to lock out movement. Seat must be in center position to lock.



RXA0167345—UN—03APR19

Left/Right Attenuation Lockout Control

Left/Right Attenuation — place lever in forward position (shown) to allow movement. Place lever in rear position to lock out movement. Seat must be in center position to lock.

RXA0167343—UN—03APR19

Ride Firmness Control

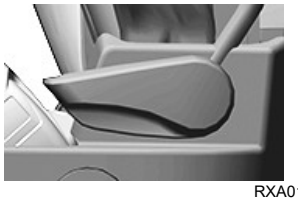
Ride Firmness — move lever to one of three levels of ride firmness:

- Most firm (forward position)
- Medium firmness (center position)
- Least firm (rear position)

RXA0167326—UN—03APR19

Seat Height Control

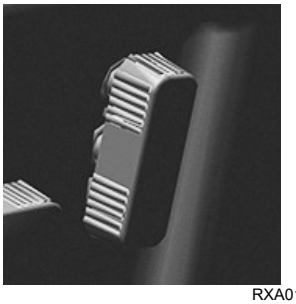
Seat Height — push up (up arrow shown) to raise seat or down (down arrow shown) to lower seat.



RXA0167340—UN—03APR19

Backrest Angle Control - Select

Backrest Angle (Select) — pull lever up and adjust angle. Release lever when desired angle is reached. Backrest locks into nearest detent.



RXA0167327—UN—03APR19

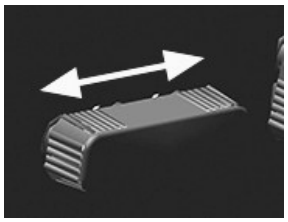
Backrest Angle Control - Premium and Ultimate

Backrest Angle (Premium and Ultimate) — push control in the same direction as desired for backrest to move.

RXA0167341—UN—03APR19

Fore/Aft Position Control - Select

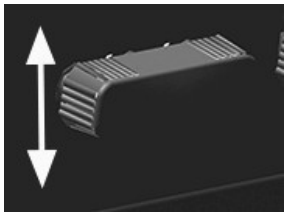
Fore/Aft Seat Position (Select) — pull up on bar and adjust position. Release bar when desired position is reached. Seat locks into nearest detent.



RXA0167328—UN—03APR19

Fore/Aft Position Control - Premium and Ultimate

Fore/Aft Seat Position (Premium and Ultimate) — push control in the same direction as desired for seat to move.



RXA0167329—UN—03APR19

Cushion Tilt Control - Premium and Ultimate

Cushion Tilt (Premium and Ultimate) — push front of control in the same direction as desired for front of cushion to move.

RXA0167342—UN—03APR19

Lumbar Adjustment Control - Select

Lumbar Adjustment (Select) — move lever to adjust amount of lumbar support. Continue to move lever until desired amount of support is reached.

RXA0167330—UN—03APR19

Lumbar Height Control - Premium

Lumbar Height (Premium) — push up (up arrow) to raise lumbar support or down (down arrow) to lower lumbar support.

RXA0167331—UN—03APR19

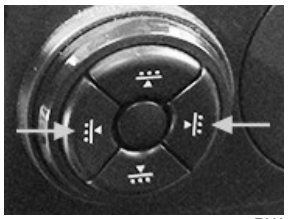
Lumbar Height Control - Ultimate

Lumbar Height (Ultimate) — push up (top control) to raise lumbar support or down (bottom control) to lower lumbar support.

RXA0167332—UN—03APR19

Lumbar Extension Control - Premium

Lumbar Extension (Premium) — push add (+) or remove (-) to adjust amount of air in lumbar support.



RXA0167333—UN—03APR19

Lumbar Extension Control - Ultimate

Lumbar Extension (Ultimate) — push add (right-hand control) or remove (left-hand control) to adjust amount of air in lumbar support.

RXA0167334—UN—03APR19

Cushion Length Control - Premium and Ultimate

Cushion Length (Premium and Ultimate) — push increase (top) or decrease (bottom) to adjust cushion length.

RXA0167335—UN—03APR19

Back Bolsters Control - Ultimate

Back Bolsters (Ultimate) — push add (+) or remove (-) to adjust amount of air in backrest bolsters.

RXA0167337—UN—03APR19

Massage Control - Ultimate

Massage (Ultimate) — push down (1) to select massage pattern one or up (2) to select massage pattern two. Press the selected pattern again to turn off massaging. Massage feature times out after 10 minutes.

RXA0173802—UN—14JAN20

Vent/Heat Control - Ultimate

Vent/Heat (Ultimate) — push left (blue icon) to select vent or right (red icon) to select heat.

RXA0173801—UN—14JAN20

Vent/Heat Intensity Control - Ultimate

Vent/Heat Intensity (Ultimate) — select one of three settings:

- High (top)
- Off (center)
- Low (bottom)

KD34109,00004B0-19-09DEC20

Adjust ActiveSeat II

RXA0167319—UN—04APR19

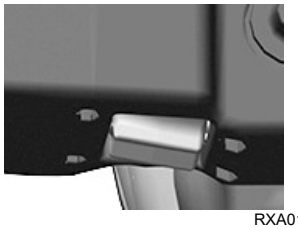
ActiveSeat II

NOTE: Premium or ultimate indicates the comfort and convenience package the feature is included with if not included with both.

RXA0167320—UN—03APR19

Armrest Height Control

Left-Hand Armrest Height — turn adjustment knob counterclockwise to loosen. Move armrest up or down to desired position and tighten by turning knob clockwise.



RXA0167321—UN—03APR19

Armrest Inclination Control

Left-Hand Armrest Inclination — turn adjustment knob to adjust incline angle of armrest.

RXA0167322—UN—03APR19

Swivel Lockout Control

Seat Swivel — place lever in up position to allow seat to swivel. Place in down position (shown) to lock out seat from swiveling. Seat can be locked out in several positions.

RXA0169491—UN—02JUL19

Lateral Attenuation Lockout Control

Lateral Attenuation — rotate lever forward until parallel with the floor (lever will tighten) to lockout lateral movement. Rotate lever rearward until parallel with the floor (lever will tighten) to unlock and allow lateral movement.

RXA0167325—UN—03APR19

Ride Firmness Control

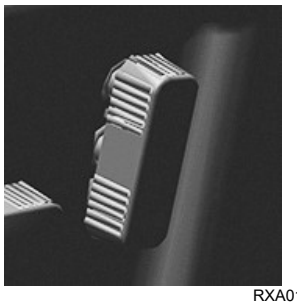
Ride Firmness — select one of three levels of ride firmness:

- Most firm (+)
- Medium firmness (center position)
- Least firm (-)

RXA0167326—UN—03APR19

Seat Height Control

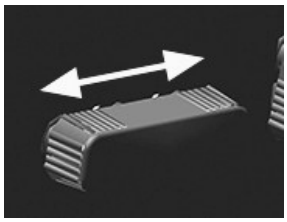
Seat Height — push up (up arrow shown) to raise seat or down (down arrow shown) to lower seat.



RXA0167327—UN—03APR19

Backrest Angle Control

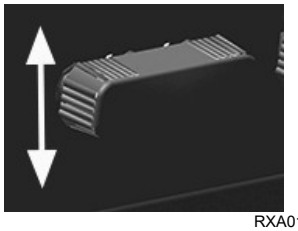
Backrest Angle — push control in the same direction as desired for backrest to move.



RXA0167328—UN—03APR19

Fore/Aft Position Control

Fore/Aft Seat Position — push control in the same direction as desired for seat to move.



RXA0167329—UN—03APR19

Cushion Tilt Control

Cushion Tilt — push front of control in the same direction as desired for front of cushion to move.

RXA0167330—UN—03APR19

Lumbar Height Control - Premium

Lumbar Height (Premium) — push up (up arrow) to raise lumbar support or down (down arrow) to lower lumbar support.

RXA0167331—UN—03APR19

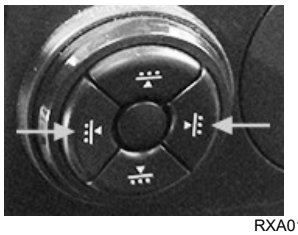
Lumbar Height Control - Ultimate

Lumbar Height (Ultimate) — push up (top control) to raise lumbar support or down (bottom control) to lower lumbar support.

RXA0167332—UN—03APR19

Lumbar Extension Control - Premium

Lumbar Extension (Premium) — push add (+) or remove (-) to adjust amount of air in lumbar support.



RXA0167333—UN—03APR19

Lumbar Extension Control - Ultimate

Lumbar Extension (Ultimate) — push add (right-hand control) or remove (left-hand control) to adjust amount of air in lumbar support.

RXA0167334—UN—03APR19

Cushion Length Control

Cushion Length — push increase (top) or decrease (bottom) to adjust cushion length.

RXA0167335—UN—03APR19

Back Bolsters Control - Ultimate

Back Bolsters (Ultimate) — push add (+) or remove (-) to adjust amount of air in backrest bolsters.

RXA0167337—UN—03APR19

Massage Control - Ultimate

Massage (Ultimate) — push down (1) to select massage pattern one or up (2) to select massage pattern two. Press the selected pattern again to turn off massaging. Massage feature times out after 10 minutes.

RXA0173802—UN—14JAN20

Vent/Heat Control - Ultimate

Vent/Heat (Ultimate) — push left (blue icon) to select vent or right (red icon) to select heat.

RXA0173801—UN—14JAN20

Vent/Heat Intensity Control - Ultimate

Vent/Heat Intensity (Ultimate) — select one of three settings:

- High (top)
- Off (center)
- Low (bottom)

KD34109,00004B1-19-21JUN22

Operator Presence Sensor

⚠ CAUTION: Avoid injury. SCV does not automatically disengage when system senses that operator is out of seat.

If operator leaves seat, an audible warning sounds for 5 seconds when:

- Brake and clutch pedals are not depressed, and machine is stopped in NEUTRAL or speed is zero. Machine goes into PARK after 7 seconds.
- PTO is engaged. If Auto Disengage is ignored, PTO automatically disengages after 7 seconds. For more information on Auto Disengage, see PTO Settings—Auto Disengage in PTO—General Information section of this Operator's Manual.

- SCV lever is in detent flow position.

TS36762,000023D-19-19APR21

Adjust Instructional Seat

CAUTION: Keep all other riders off tractor and equipment to avoid injury. Instructional seat is provided only for training operators or diagnosing machine problems. Always wear seat belt.

RXA0167301—UN—02APR19

Instructional Seat

RXA0167302—UN—02APR19

Backrest Down

Seat Backrest — push backrest forward to use as a writing surface.

RXA0167303—UN—02APR19

Cushion Up

Seat Cushion — push seat cushion up to allow more room for entering and exiting cab.

KT81203,000058D-19-02APR19

Adjust Mirrors

NOTE: Some items are only available if machine is equipped with the associated option.

RXA0173907—UN—15JAN20

Mirror Example — Dual Mirror

Manual Mirror — push mirror edges to adjust angle. Mirrors with one mirror and the bottom mirror on dual mirrors are adjusted manually.

RXA0167461—UN—12APR19

Manual Telescoping Lock Lever

Manual Telescoping — pull lock lever down to allow adjustment. Slide mirror arm to desired position. Push lock lever back up to lock into desired position.

RXA0168462—UN—31MAY19

Electric Mirror Controls Example

Electric mirror controls are next to radio.

RXA0167462—UN—12APR19

Select Left/Right Mirror

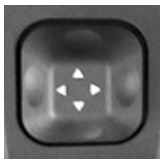
Select Mirror — select left-hand arrow to allow adjustments to left-hand electric mirror. Select right-hand arrow to allow adjustments to right-hand electric mirror.

RXA0167463—UN—12APR19

Electric Mirror Adjustment

NOTE: Mirror angle controls are on right-hand side.

Electric Mirror — after selecting mirror to be adjusted, select arrows to adjust mirror angle in corresponding direction. The top mirror on a dual mirror is an electric adjustment.



RXA0167463—UN—12APR19

Electric Telescoping Adjustment

NOTE: Telescoping controls are on left-hand side.

Electric Telescoping — after selecting mirror to be adjusted, select left-hand arrow to extend or right-hand arrow to retract mirror arm.

RXA0167464—UN—12APR19

Heat Adjustment

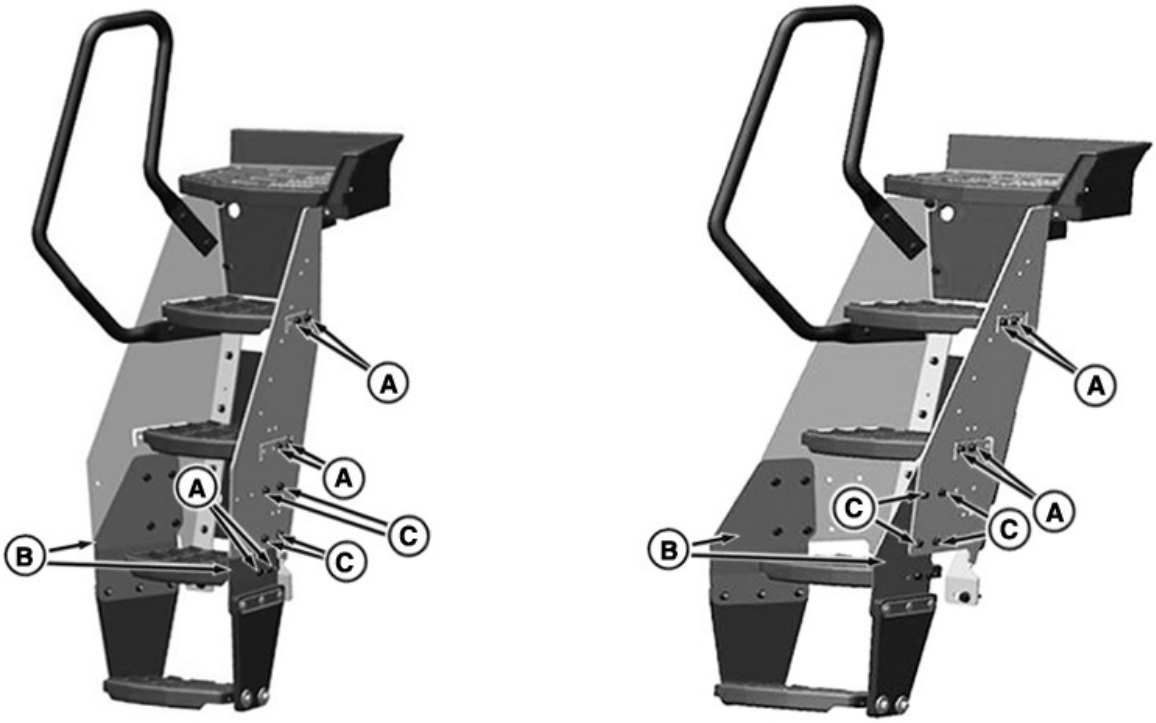
Heated Mirror — push up to turn on or down to turn off mirror heat. Icon is illuminated when heat is on.

KD34109,00004B2-19-16JAN20

Left-Hand Steps

NOTE: Bolts are shown on the right-hand side of the step assembly. Remove and insert bolts on both sides during the procedure.

Configure the Steps on a Tractor Equipped with Group 49 Tires

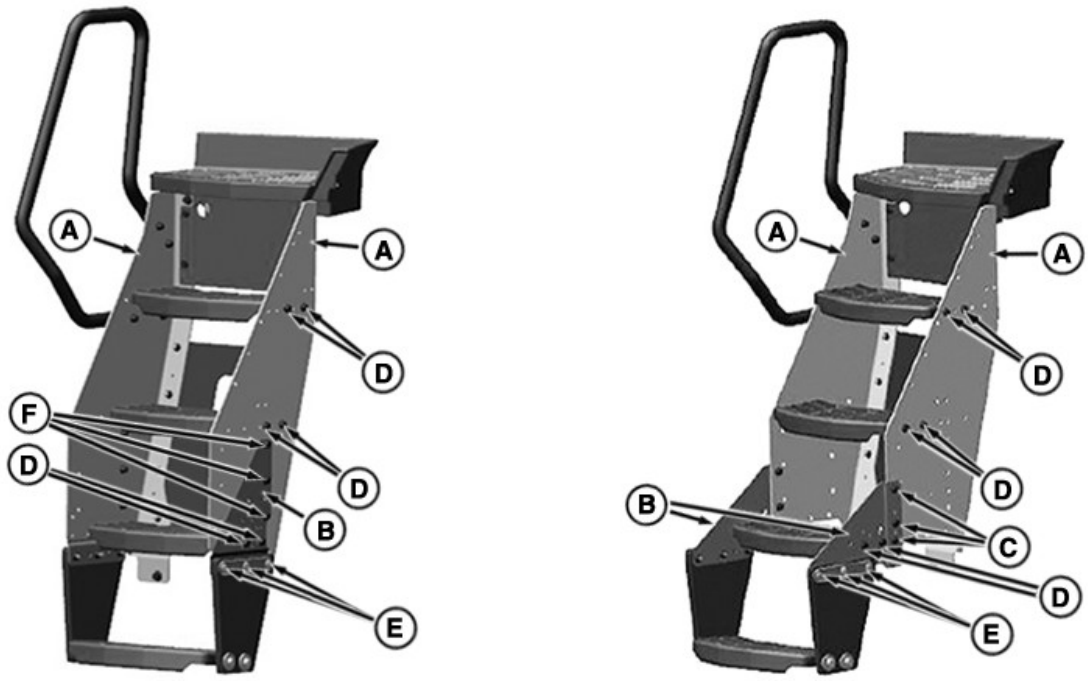


RXA0171126—UN—12NOV19

Tractors Equipped With Group 49 Tires: Narrow Position (Left-Hand Image) and Wide Position (Right-Hand Image)

1. Remove bolts (A).
2. Position steps. To position steps in the:
   - Wide position: Use the round bolt hole.
   - Narrow position: Use the square bolt hole.
3. Insert bolts (A). Tighten bolts to 37 N·m (27 lb·ft).
4. Remove bolts (C).
5. Position bracket (B). To position the bracket in the:
   - Wide position: Use the round bolt hole.
   - Narrow position: Use the square bolt hole.
6. Insert bolts (C). Tighten bolts to 37 N·m (27 lb·ft).

Configure the Steps on a Tractor Equipped with Group 47/48 Tires



RXA0171127—UN—13NOV19

Tractors Equipped With Group 47/48 Tires: Narrow Position (Left-Hand Image) and Wide Position (Right-Hand Image)

1. Remove bolts (D).
2. Position steps. To position steps in the:
   - Wide position: Use the round bolt hole.
   - Narrow position: Use the square bolt hole.
3. Insert bolts (D). Tighten bolts to 37 N·m (27 lb·ft).
4. Position bracket (B). To position the bracket from the:
   - Wide position to the narrow position.
     a. Remove bolts (E).
     b. Remove bolts (C).
     c. Position brackets (B) on panel (A) as shown in the left-hand image.
     d. Install bolts (E). Tighten bolts to 12 N·m (8.9 lb·ft).
     e. Install bolts (C) at location (F). Tighten bolts to 37 N·m (27 lb·ft).
   - Narrow position to the wide position.
     a. Remove bolts (E).
     b. Remove bolts (F).
     c. Position brackets (B) on panel (A) as shown in the right-hand image.
     d. Install bolts (F) at location (C). Tighten bolts to 37 N·m (27.3 lb·ft).
     e. Install bolts (E). Tighten bolts to 12 N·m (8.9 lb·ft).

ZZASX1U,0000044-19-25APR22

Right-Hand Service Steps

CAUTION: Avoid physical injury. The exhaust and muffler shrouds could be hot. Use caution when using the right-hand service steps to access the right-hand platform.

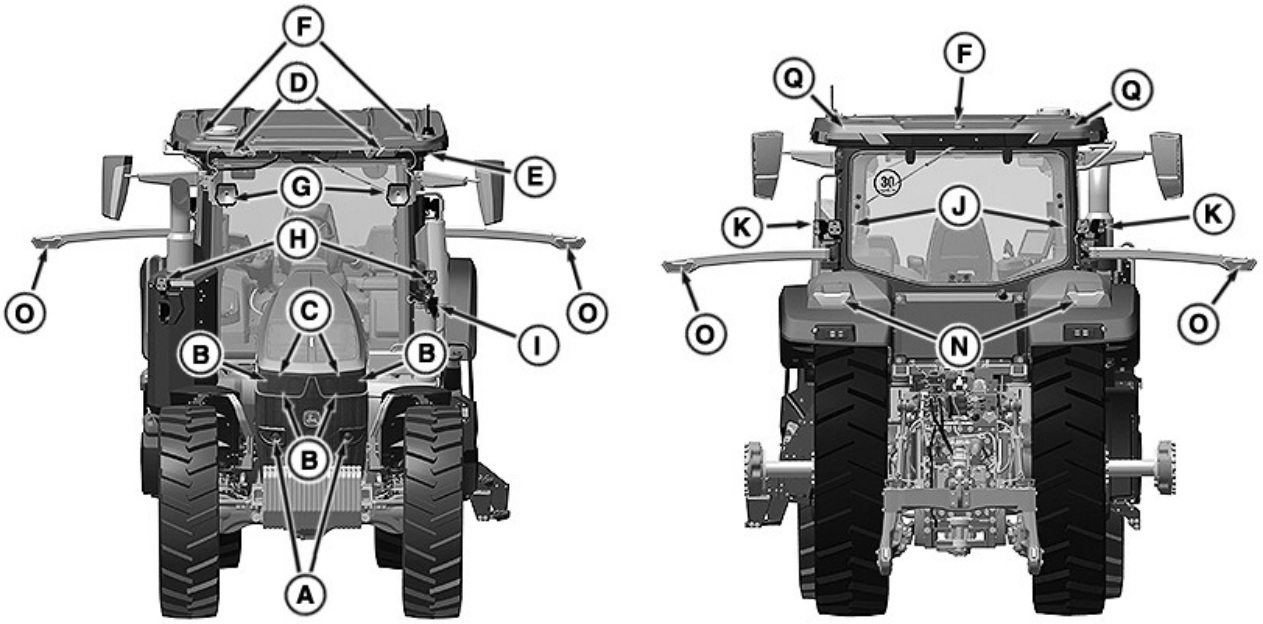
RXA0171129—UN—04OCT19
ZZASX1U,0000045-19-11DEC19

Steps

Light Identification

CAUTION: Avoid injury or death caused by a collision with another vehicle.

- **Always follow local laws and regulations for all equipment lighting and marking.**
- **Comply with all traffic regulations.**
- **Never use worklights on public roadways or highways, which could temporarily blind or confuse other drivers.**
- **Dim road lights to low-beam for oncoming vehicles.**



RXA0174285—UN—12JUL21

Left—Front View; Right—Rear View

A—Low Beam Road Light (2 used)
B—Worklight (if equipped) (4 used)
C—High Beam Road Light (2 used)
D—Roof Worklight (8 used)
E—Convenience Light (if equipped) (8 used)
F—Beacon Light (if equipped) (3 used)
G—Auxiliary Driving Light (if equipped) (2 used)
H—Front Belt Worklight (2 used)
I—Front Belt Line Worklight (if equipped) (2 used)
J—Rear Belt Line Worklight (2 used)
K—Rear Belt Line Worklight (if equipped) (2 used)
N—Rear Fender Light (2 used)
O—Extremity Arm Light (if equipped) (4 used)
Q—Hazard Warning Light (2 used)

ZZASX1U,0000050-19-19DEC22

Lights Settings—Access

Access Application through Display:

RXA0167075—UN—20MAR19

Menu

1. Menu

RXA0167076—UN—20MAR19

Machine Settings

2. Machine Settings tab

RXA0168488—UN—05JUN19

Lights

3. Lights

Access Application through Navigation Bar:

RXA0168455—UN—05JUN19

Lights

Press lights button on navigation bar below display.

KD34109,00004D2-19-22JUN22

Lights Settings

Lights application allows you to access light preset configurations. To adjust settings for presets, select corresponding tab. For lights specific to your machine, see Light Identification in this Operator's Manual section. For lighting controls, see Operate Lights in Front Console section of this Operator's Manual.

NOTE: Worklights are configurable. Road lights are not configurable.

Items Accessible on Lights Main Page:

NOTE: Some items only display if machine is equipped with the associated option.

RXA0168489—UN—31MAY19

Worklights Preset 1

Worklights Preset 1 — easily turn on a group of frequently used lights. See Lights Settings—Worklights Presets in this Operator's Manual section.

RXA0168490—UN—31MAY19

Worklights Preset 2

Worklights Preset 2 — easily turn on a group of frequently used lights. See Lights Settings—Worklights Presets in this Operator's Manual section.

RXA0168491—UN—31MAY19

Hood/Belt Line Lights

Hood/Belt Line Lights — toggle between hood and belt line lights when lights are in road mode. See Lights Settings—Hood/Belt Line Lights in this Operator's Manual section.

RXA0168492—UN—31MAY19

Highlighted Tab

Highlighted Tab — indicates which tab is selected.

RXA0168493—UN—31MAY19

Light with Fault

Light with Fault — exclamation point indicates that light is in error. Example: light bulb is burnt out.

RXA0167071—UN—21MAR19

Advanced Settings

Advanced Settings — access further adjustments and less common settings. See Lights Settings—Advanced in this Operator's Manual section.

Implement Light Connection:

7-Pin Outlet — connect implement lights to tractor. See 7-Pin Outlet in this Operator's Manual section.

Run Page Modules

Add modules for this application to run pages using Layout Manager. See the G5 CommandCenter Operator's Manual.

Example:

RXA0168494—UN—31MAY19

Road Lights

NOTE: Different modules may be available for your application.

Road Lights — quickly toggle between hood and belt line light groups.

Shortcut Keys

Add shortcut keys for this application to the shortcut bar using Layout Manager. See the G5 CommandCenter Operator's Manual.

Example:

RXA0168495—UN—31MAY19

Road Lights

NOTE: Different shortcut keys may be available for your application.

Road Lights — quickly toggle between hood and belt line light groups.

kd34109,1665686045943-19-13OCT22

Lights Settings—Worklights Presets

Customize light presets for specific customer needs.

Procedure to Modify:

1. Select desired tab:

RXA0168489—UN—31MAY19

Worklights Preset 1

a. Worklights preset 1.

RXA0168490—UN—31MAY19

Worklights Preset 2

b. Worklights preset 2.

RXA0168546—UN—31MAY19

Linked

- Select Link on toggle to link paired left-hand and right-hand lights for simultaneous on and off operation on all tabs.

RXA0168547—UN—31MAY19

Unlinked

- Select Unlink on toggle to allow paired left-hand and right-hand lights individual on and off operation on all tabs.

RXA0168548—UN—31MAY19

Light

RXA0168549—UN—31MAY19

Light Pair

RXA0168550—UN—31MAY19

Trailer Light

2. Select desired light, light pair, and/or trailer light keys for lights you want illuminated.

RXA0168551—UN—31MAY19

Highlighted Key

NOTE: Key is highlighted when selected.

KD34109,00004D4-19-30AUG22

Lights Settings—Hood/Belt Line Lights

Hood/belt line lights tab allows you to toggle between hood and belt line lights when lights are in road mode.

Procedure to Modify:

RXA0168552—UN—31MAY19

Hood Lights Enabled

Select to enable hood lights.

RXA0168553—UN—31MAY19

Belt Line Lights Enabled

Select to enable belt line lights.

KD34109,00004D5-19-22JUN22

Lights Settings—Advanced

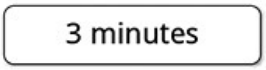
Advanced settings allows you to access further adjustments and less common settings.

Items Accessible on Advanced Settings Page:

RXA0168554—UN—31MAY19

Check Box - Enabled

Machine Entrance/Exit Lighting — select to illuminate convenience lights upon entrance and exit of machine. Box will display with a check mark when enabled. For convenience light locations, see Light Identification in this Operator's Manual section.



RXA0168555—UN—31MAY19

Selection Box

Engine Off Delayed Lighting — lighting remains on for a specified duration after engine is turned off. Select box to display a list of exit lighting durations to choose from. List also contains OFF to disable exit lighting.

KD34109,00005AB-19-22JUN22

Hazard and Extremity Lights

CAUTION: Avoid injury or death caused by a collision with another vehicle. Always:

- **Use road lights, extremity lights, and turn signals when operating tractor on a road or highway at night or during the day.**
- **Follow local laws and regulations for all equipment lighting and marking.**
- **Comply with all traffic regulations.**

Extremity lights alert other vehicles of the tractor's extended width. If the tractor width changes, refer to local laws and regulations to ensure that the tractor remains in compliance.

NOTE: Depending on region and installed equipment, amber hazard lights can cease to operate as indicator lights when the Hazard Switch is activated.

Push hazard lights button to activate flashing hazard and extremity lights.

- For the hazard lights button location, see CommandARM Climate, Radio, and Lighting Controls in CommandARM section of this Operator's Manual.
- For hazard and extremity lights locations, see Light Identification in this section of this Operator's Manual. Hazard and extremity indicator lights include:
  - Front and rear roof lights.
  - Rear fender lights (equipped with an amber lens).
  - Belt line lights.

IMPORTANT: To avoid damage, extremity lights can be retracted when parking tractor in a storage building.

Extremity lights. Extremity lights are lit when these functions are active:

- Hazard flashers.
- Turn indicators.
- Position lamps.

TS36762,0000250-19-21JUN22

Beacon Light

Three beacon lights are on the top of the cab:

- Two beacon lights at each front corner.
- One beacon light at the center rear.

For exact location, see Light Identification in this section of this Operator's Manual.

Push beacon light button to activate rotary beacon light. For beacon light button location, see CommandARM Climate, Radio, and Lighting Controls in CommandARM section of this Operator's Manual.

TS36762,0000251-19-21JUN22

7-Pin Outlet

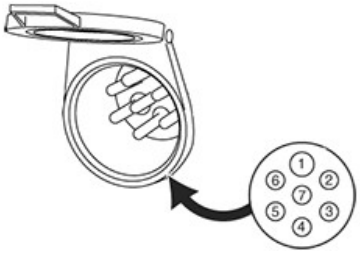
CAUTION: Avoid accidents. Always use auxiliary light on towed implement when tractor rear signals and other lights are obscured.

7-pin outlet allows operator to connect implement lights to the tractor.

Contact your John Deere dealer for:

- Matching 7-pin plug.
- Methods to connect tractor light switch with 7-pin connector accessory wires.

Outlet Diagram and Terminal Functions Chart



RXA0168557—UN—31MAY19

Outlet Diagram

Terminal Numbers	Function	
	Rear Connection	Front Connection
1	Ground	
2	Flood (Implement Lights)	
3	Left Turn Signal	
4	Brake Lights	Not Used
5	Right Turn Signal	
6	Tail Light	
7	Accessory	Not Used

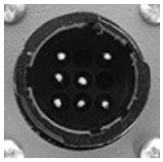
KD34109,00004D7-19-27AUG19

Right-Hand Side Console

RXA0188748—UN—07MAR23

Right-Hand Side Console Example

NOTE: Some items are only available if machine is equipped with the associated option.



RXA0169821—UN—02AUG19

ISO 11783 Connector

ISO 11783 Connector — use to connect ISO 11783 compliant components.

RXA0188747—UN—07MAR23

Implement Ethernet Connector

Implement Ethernet Connector — use to connect components for high-speed communication between the tractor and compatible implements.

RXA0167979—UN—17MAY19

CommandCenter USB Input

CommandCenter USB Input — use to transfer data and reprogram CommandCenter. Input does not charge devices.

RXA0169780—UN—30JUL19

12 V Accessory Outlets

12 V Accessory Outlet — use to connect auxiliary equipment.

RXA0167982—UN—17MAY19

Outlet Pins

Outlet pins provide the following:

- Ground - pictured at top
- Unswitched battery power - pictured bottom left
- Switched power (key) - pictured bottom right

RXA0167983—UN—17MAY19

Radio AUX and USB Inputs

NOTE: AUX and USB inputs are only available if a radio is equipped.

Radio AUX and USB Inputs — use to connect AUX and USB devices to radio. Provides 500 mA output current for charging USB devices.

RXA0167984—UN—17MAY19

Diagnostic Connector (Dealer Use Only) — used for dealer diagnostics.

KD34109,000052C-19-03APR23

CommandARM Storage

RXA0183536—UN—02JUN21

CommandArm Storage Accessories

RXA0167981—UN—17MAY19

12 V Accessory Outlet

12 V Accessory Outlet — use to connect auxiliary equipment.

KD34109,000052D-19-21JUN22

Right-Hand Front Corner Post

RXA0188982—UN—11JUL23

Right-Hand Front Corner Post Example

NOTE: Some items are only available if machine is equipped with the associated option.

RXA0167986—UN—17MAY19

Display Connector

Display Connector — use to connect a universal display.

RXA0167987—UN—17MAY19

Ethernet Connector

Ethernet Connector — use to connect an Ethernet cable.

RXA0167988—UN—17MAY19

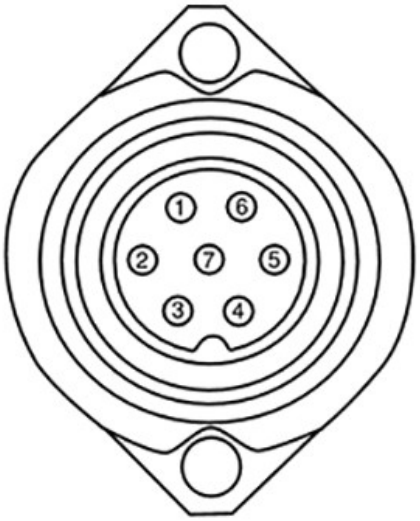
GreenStar Display Connector

GreenStar Display Connector — use to connect GreenStar Display.

RXA0167989—UN—17MAY19

ISO 11786 Connector

ISO 11786 Connector — use to connect implements to receive radar or GPS speed signal.



RXA0169832—UN—05AUG19

ISO 11786 Outlet Diagram

Terminal Numbers	Function
1	True Ground Speed
2	Buffered Wheel Speed
3	—
4	—
5	—
6	Implement Switch
7	Ground

KD34109,000052E-19-26MAY23

Left-Hand Rear Corner Post

RXA0167975—UN—17MAY19

Left-Hand Rear Corner Post Example

NOTE: Some items are only available if machine is equipped with the associated option.

RXA0167981—UN—17MAY19

12 V Accessory Outlet

12 V Accessory Outlet — use to connect auxiliary equipment.

RXA0167990—UN—17MAY19

AC Outlets

AC (Alternating Current) Outlet — use to power devices with AC connections. One of two outlet types displayed will be equipped on machine, 120 V (pictured left) or 230 V (pictured right).

KD34109,000052F-19-09AUG19

Right-Hand Rear Corner Post

RXA0188426—UN—10JAN23

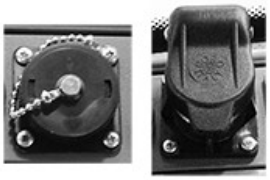
Right-Hand Rear Corner Post Example

NOTE: Some items are only available if machine is equipped with the associated option.

RXA0188427—UN—10JAN23

USB-C Charging Ports

USB-C Charging Ports — use to charge devices with USB-C cable. Provides charging capability of up to 3 A (18 watt) for the top port and up to 3 A (36 watt) for the bottom port.



RXA0167980—UN—17MAY19

12 V Accessory Outlets

12 V Accessory Outlet — use to connect auxiliary equipment.

RXA0167982—UN—17MAY19

Outlet Pins

Outlet pins provide the following:

- Ground - pictured at top
- Unswitched battery power - pictured bottom left
- Switched power (key) - pictured bottom right

KD34109,0000530-19-17JAN23

Refrigerator and Cool/Storage Box

RXA0167977—UN—17MAY19

Refrigerator and Cool/Storage Box Example

NOTE: Some items are only available if machine is equipped with the associated option.

Cool/Storage Box Items:

RXA0167991—UN—17MAY19

Vent

Vent — open vent to allow storage contents to match temperature being delivered through HVAC system.

Refrigerator Items:

RXA0167992—UN—17MAY19

Power

Power — press to turn on cooling. Press again to turn off.

RXA0167993—UN—17MAY19

Power/Troubleshooting Indicator

Power/Troubleshooting Indicator — indicates the system status. If the indicator shows a:

- Solid green light, the refrigerator is on.
- Flashing or solid red light, the refrigerator is off, and an operational fault has occurred. See your John Deere dealer.

RXA0167994—UN—17MAY19

Cold Setting

Cold Setting — press button to select cold setting. Each press moves to next setting. Indicator for selected setting is illuminated. The larger the indicator, the colder the setting is.

KD34109,0000531-19-28SEP21

Sunshade

RXA0169822—UN—02AUG19

Sunshade

Pull-down sunshade reduces glare when operating in bright sunlight. The pull-down sunshade allows operator flexibility in amount of window coverage.

KD34109,0000532-19-02AUG19

Storage Compartments

RXA0167996—UN—17MAY19

Fender Storage

Fender Storage — storage compartment inside cab under passenger/instructional seat.

RXA0167997—UN—17MAY19

Overhead Storage

Overhead Storage — storage compartment on inside roof of cab.

RXA0167998—UN—17MAY19

Operator's Manual Storage

Operator's Manual Storage — compartment on right-hand side of passenger/instructional seat to store Operator's Manual.

KD34109,0000533-19-30JUL19

Monitor Bracket Mounts

RXA0167999—UN—17MAY19

Monitor Bracket Mount Example

Mount implement monitors using brackets and M10 cap screws. See your John Deere dealer for brackets.

Mounting Locations:

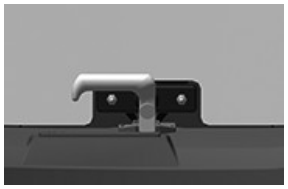
- Front right-hand corner post (two mounts)
- Rear right-hand corner post (two mounts)
- Rear left-hand corner post (one mount) if emergency hammer is not equipped

KD34109,0000534-19-30JUL19

Emergency Exit

If cab door is blocked in an emergency situation, removable rear cab window provides large exit path.

CAUTION: Avoid injury from broken glass. Before using hammer, cover eyes, face, and uncovered skin. Use emergency exit only when cab door is blocked.



RXA0168000—UN—17MAY19

Rear Window Lever

Rear Window Lever — lift lever and push out glass to exit.

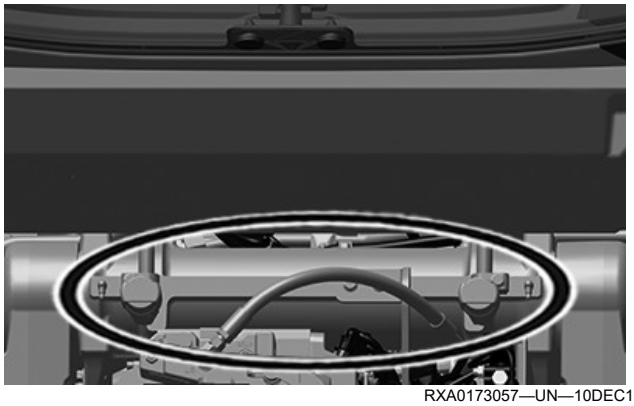
RXA0168001—UN—17MAY19

Emergency Hammer

Emergency Hammer (If Equipped) — use hammer to break window if exits are blocked.

Rear Window Exit Procedure:

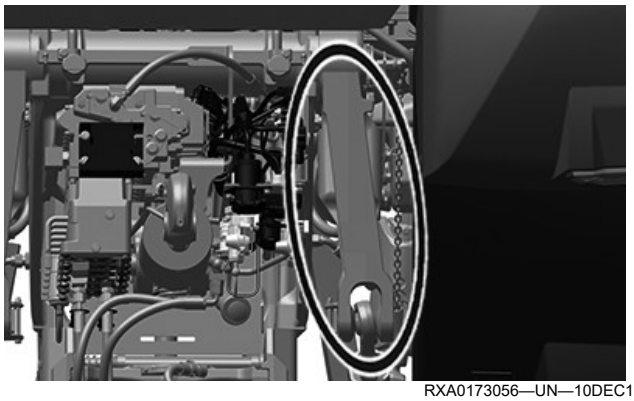
1. Step down onto:



RXA0173057—UN—10DEC19

Top of Hitch Frame Example

a. Top of hitch frame (8RT and 8RX tractors).

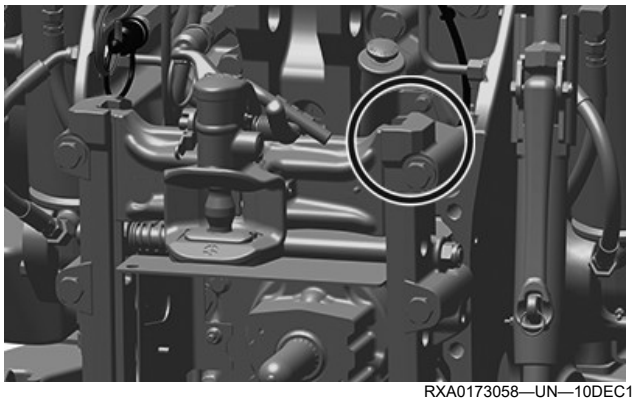


RXA0173056—UN—10DEC19

Lift Arm Example (Right-Hand Side)

b. Right-hand lift arm (7R and 8RW tractors).

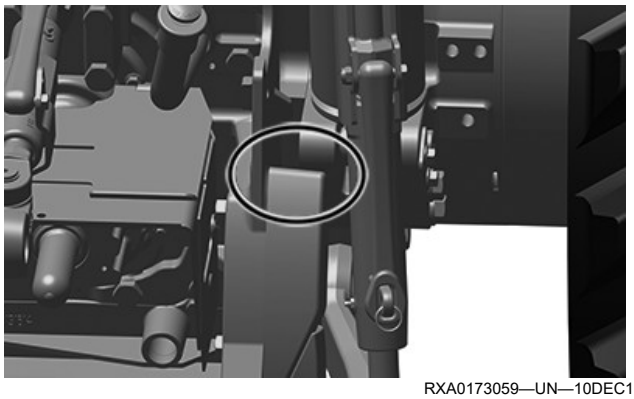
2. Step down onto:



RXA0173058—UN—10DEC19

Rear Hitch Support Example (Right-Hand Side)

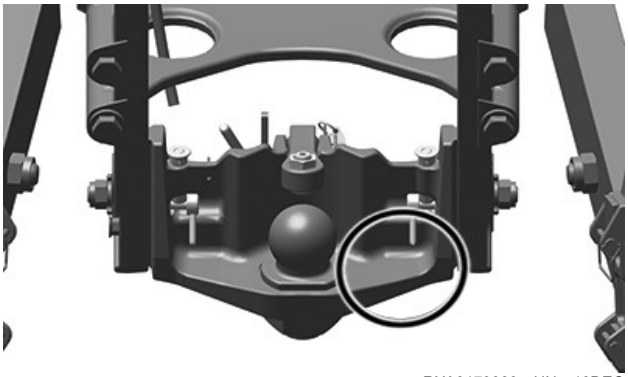
a. Rear hitch support (7R, 8RW, and 8RX tractors).



RXA0173059—UN—10DEC19

Right-Hand Sway Block Example

b. Right-hand sway block (8RT tractors).



RXA0173060—UN—10DEC19

Lowest Rear Mechanical Coupling Example (Right-Hand Side)

3. Step down onto lowest rear mechanical coupling.
4. Step onto the ground.

KD34109,0000535-19-09DEC19

Install Business Band/Citizens Band (CB) Antenna and/or Radio

Custom CB or business band radio installation requires special tools and skills to tune antenna for lowest possible voltage standing wave ratio (VSWR). Qualified professional should be employed or consulted before attempting installation. Contact your John Deere dealer for recommendations. Included specifications are useful to installer.

CAUTION: Avoid personal injury. Never mount business band radio antenna to rear of cab. Never route antenna cable near harness for electrical system controllers or operator controls. Failure to follow these precautions could expose operator to radio frequency energy levels higher than recommended by American National Standards Institute (ANSI) and/or could cause undesirable performance of electronically controlled systems.

Disconnect battery ground cable before any electrical repair.

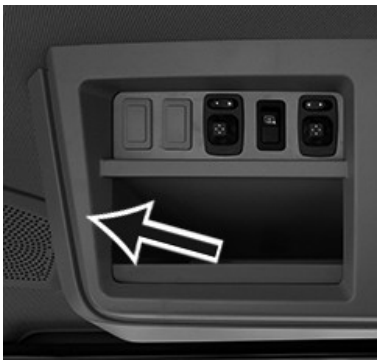
NOTE: Do not mount microphones or accessories to bottom of radio bezel.

Business band radios are specially licensed radios in the US and Canada that operate in the UHF/VHF frequency bands.

Specifications for Factory Installed Radio Installation Kit:

- Roof Antenna Mount: NMO type.
- Cable Specifications: Cable length is 3.35 m (11 ft) from antenna mount to PL-259 radio connector. RG-58/U cable has 50 ohms intrinsic impedance.
- Roof Ground Plane: Grounded large antenna counterpoise foil under green cab roof allows installation of either 1/4 or 1/2 wave antenna.
- CB Antenna: Normal CB antenna can be attached to factory installed NMO antenna mount through use of an appropriate adapter. Special CB antenna already equipped with NMO base may alternatively be used.

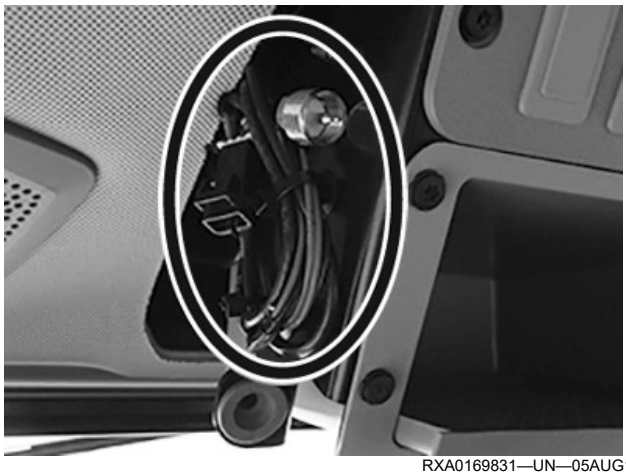
Procedure to Install:



RXA0168002—UN—17MAY19

Radio Bezel

1. Remove radio bezel by pulling.



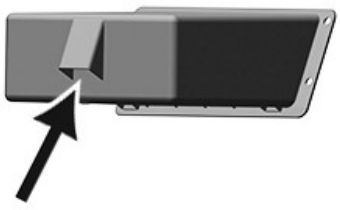
RXA0169831—UN—05AUG19

Antenna and Power Cables

2. Release antenna and power cables from bracket.

   Power cable wire identification:

   - A - Switched power (key) - red
   - B - Ground - black
   - C - Unswitched power - red



RXA0168004—UN—17MAY19

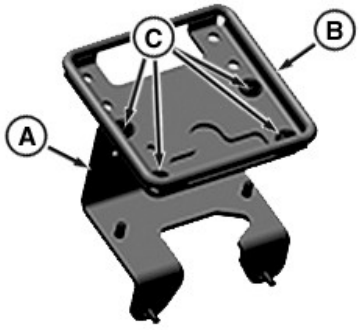
Hole for Connectors

3. Route cables through hole in back of compartment.
4. Connect cables to radio.
5. Place radio in compartment.
6. Replace radio bezel.

KD34109,0000536-19-16DEC19

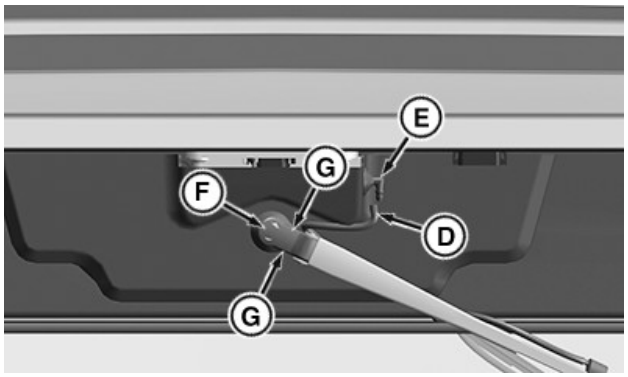
Mount StarFire Receiver

Mount StarFire Receiver to machine using mounting kit and following procedure. To order kit, see your John Deere dealer.



RXA0167843—UN—08MAY19

1. Attach bracket (A) to bracket (B) using cap screws (C).

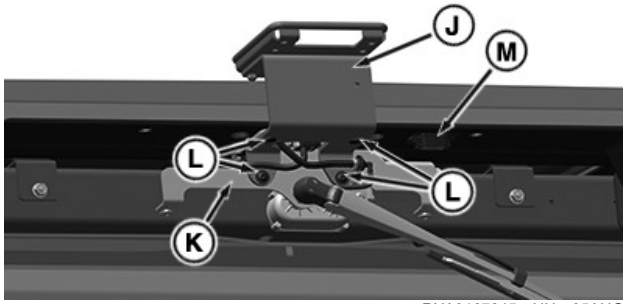


RXA0167897—UN—10MAY19

2. Disconnect front washer fluid hose (D) from fitting (E).
3. Pull tabs (G) apart to remove cover (F).
4. Remove nut from wiper motor shaft.
5. Remove wiper.

RXA0167898—UN—13MAY19

6. Remove cap screws (H).
7. Remove cover (I).



RXA0167845—UN—05AUG19

8. Attach StarFire bracket (J) to front wiper support (K) using cap screws (L).
9. Complete steps 2—7 in reverse to reassemble.
10. Mount receiver to bracket.

NOTE: If StarFire Integrated Receiver is equipped, it does not function when external StarFire Receiver is connected.

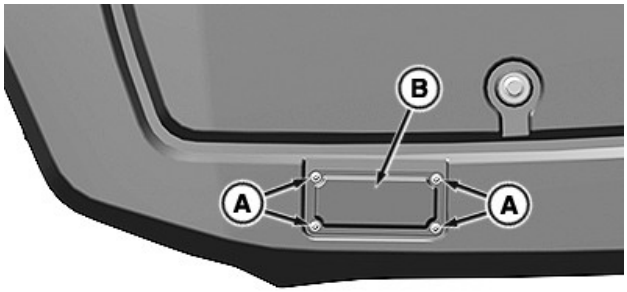
11. Connect receiver to connector (M).

KD34109,00004C8-19-21JUN22

Mount RTK (Real-Time Kinematic) Radio

NOTE: If machine was ordered with RTK radio, mounting bracket and radio are installed from factory. Radio must be removed from bracket to drill antenna hole. Reinstall radio and install antenna (located in cab) using information from the following procedure.

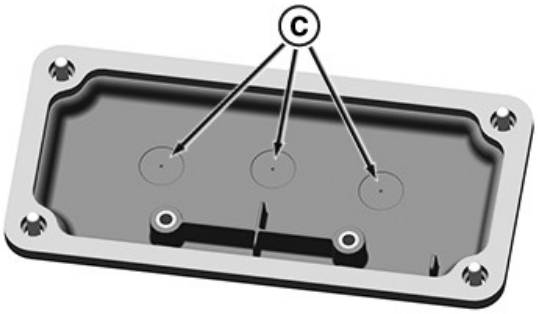
Mount RTK radio to machine using mounting kit and following procedure. To order kit, see your John Deere dealer.



RXA0167853—UN—09MAY19

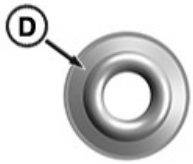
Right-Hand Side Roof

1. Remove cap screws (A) and cover (B).



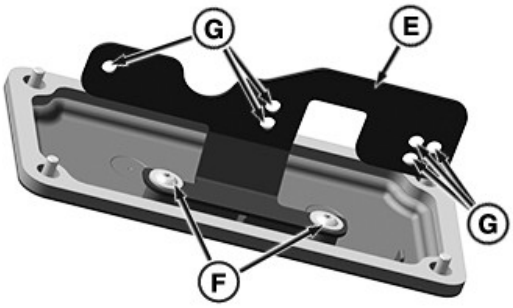
RXA0167854—UN—09MAY19

2. Drill a 31.8 mm (1.25 inch) hole at marker (C) corresponding to antenna location for your radio.



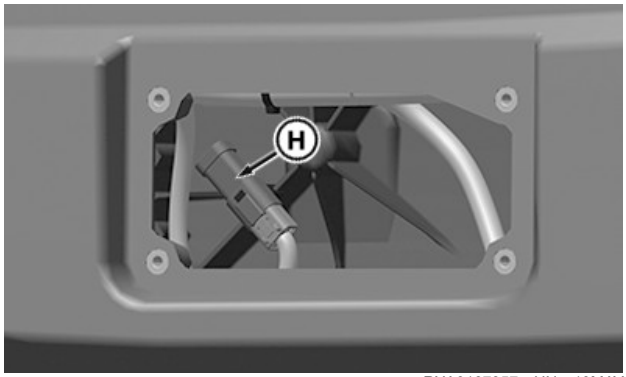
RXA0167855—UN—09MAY19

3. Attach grommet (D) to drilled hole.



RXA0167856—UN—09MAY19

4. Attach bracket (E) to cover using cap screws (F).
5. Attach radio to bracket using holes (G).

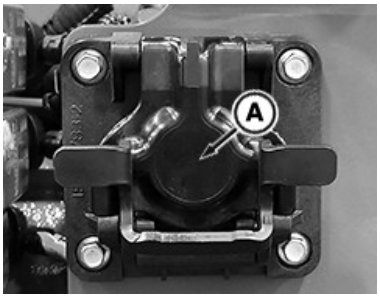


RXA0167857—UN—10MAY19

6. Connect radio to connector (H).
7. Reattach cover.
8. Attach antenna.

KD34109,00004C9-19-29APR21

Implement Connector



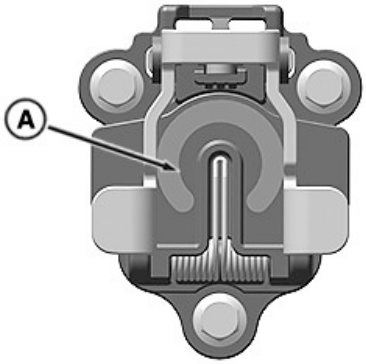
RXA0169781—UN—30JUL19

The implement connector (A) is located on the rear implement bracket next to the SCV stack.

Front implement connectors are available for install through your John Deere dealer.

KD34109,0000537-19-06MAR23

Implement Ethernet Connector



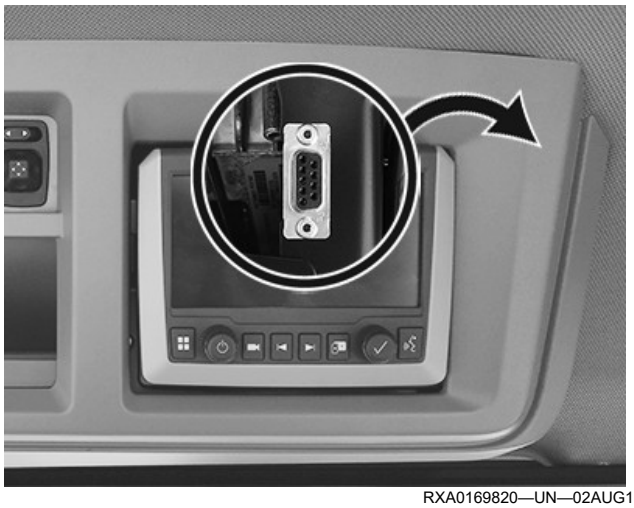
RXA0188727—UN—03MAR23

The implement Ethernet connector (A) (if equipped) enables high-speed communication between the tractor

and compatible implements. The connector is located on the rear implement bracket next to the SCV stack.

kd34109,1677792589673-19-11JUL23

RS232 Serial Communication Connection



RXA0169820—UN—02AUG19

RS232 Serial Communication Connection

Connection provides NMEA0183 GPS data and is located behind upper right-hand side of radio bezel.

KD34109,0000538-19-02AUG19

HVAC Settings—Access

Access Application through Display:

RXA0167075—UN—20MAR19

Menu

1. Menu

RXA0167076—UN—20MAR19

Machine Settings

2. Machine Settings tab

RXA0167626—UN—26APR19

HVAC

3. HVAC

Access Application through Navigation Bar:

RXA0167627—UN—26APR19

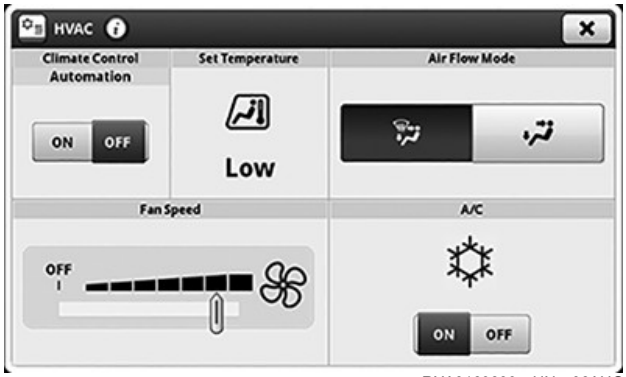
HVAC

Press HVAC button on navigation bar below display.

KD34109,00004B7-19-08DEC21

HVAC Settings

HVAC application is used to adjust the temperature, fan speed, and air flow mode inside the cab.



RXA0169839—UN—06AUG19

HVAC Example

Items Accessible on HVAC Main Page:

RXA0167628—UN—26APR19

ON/OFF

Climate Control Automation — enable or disable automatic control of Fan Speed, Air Flow Mode, and A/C. See HVAC Settings—Climate Control Automation in this Operator's Manual section.

RXA0167629—UN—26APR19

Set Temperature

Set Temperature — set desired temperature inside cab. See HVAC Settings—Set Temperature in this Operator's Manual section.

RXA0167630—UN—26APR19

Air Flow Mode

Air Flow Mode — adjust distribution of air flow inside cab. See HVAC Settings—Air Flow Mode in this Operator's Manual section.

RXA0167631—UN—26APR19

Fan Speed

Fan Speed — control fan speed inside cab. See HVAC Settings—Fan Speed in this Operator's Manual section.

RXA0167632—UN—26APR19

A/C

Air Conditioning (A/C) — enable or disable air conditioning. See HVAC Settings—Air Conditioning in this Operator's Manual section.

Run Page Modules

Add modules for this application to run pages using Layout Manager. See the G5 CommandCenter Operator's Manual.

Example:

RXA0167633—UN—26APR19

A/C

NOTE: Different modules may be available for your application.

A/C — toggle gives you direct access to enable/disable the A/C.

Shortcut Keys

Add shortcut keys for this application to the shortcut bar using Layout Manager. See the G5 CommandCenter Operator's Manual.

Example:

RXA0167634—UN—26APR19

ON

NOTE: Different shortcut keys may be available for your application.

A/C — quick access to turn air conditioning ON and OFF.

kd34109,1665686496991-19-13OCT22

HVAC Settings—Climate Control Automation

Climate Control Automation automatically controls Fan Speed, Air Flow Mode, and A/C based on Set Temperature.

When enabled, the following conditions apply:

- Changing Set Temperature does not disable AUTO mode.
- Selecting Fan Speed, Air Flow Mode, or A/C overrides and disables AUTO mode.
- Pressing Fan Speed or Air Flow Mode buttons on CommandARM overrides and disables AUTO mode.

RXA0167628—UN—26APR19

ON/OFF

Select ON to enable or OFF to disable.

KD34109,00004B9-19-21JUN22

HVAC Settings—Set Temperature

Use Set Temperature to select a desired cab temperature.

Procedure to Modify:

RXA0167629—UN—26APR19

Set Temperature

1. Select Set Temperature module to display Set Temperature page.

RXA0167639—UN—26APR19

Adjust Set Temperature

2. Select (+) to increase or (-) to decrease value.

RXA0167129—UN—25MAR19

Close

3. Select to close.

Alternate Procedure to Modify:

Temperature Button — button on CommandARM to

adjust temperature. See CommandARM Climate, Radio, and Lighting Controls in CommandARM Controls section of this Operator's Manual.

KD34109,00004BA-19-21JUN22

HVAC Settings—Air Flow Mode

Air Flow Mode is used to adjust distribution of air flow inside the cab.

NOTE: Air conditioning automatically turns on when defrost air flow mode is selected.

Procedure to Modify:

RXA0167630—UN—26APR19

Air Flow Mode

Select desired air flow mode on toggle bar.

RXA0169349—UN—28JUN19

AUTO

If Climate Control Automation is enabled, toggle bar changes to AUTO. If selected, Climate Control Automation is overridden and disabled.

RXA0167636—UN—26APR19

Defrost/Operator/Floor

Defrost, Operator, and Floor — directs air flow at operator and floor, and defrosts the windshield.

RXA0167637—UN—26APR19

Operator/Floor

Operator and Floor — directs air flow at operator and floor.

Alternate Procedure to Modify:

Air Flow Mode Button — button on CommandARM to select mode of air flow. See CommandARM Climate, Radio, and Lighting Controls in CommandARM Controls section of this Operator's Manual.

KD34109,00004BB-19-21JUN22

HVAC Settings—Fan Speed

Fan Speed page allows control of the fan speed inside the cab.

Procedure to Modify:

RXA0167641—UN—26APR19

Fan Speed

1. Select Fan Speed module to display Fan Speed page.

RXA0167642—UN—26APR19

Adjust Fan Speed

2. Select (-) to decrease or (+) to increase speed setting.

RXA0167129—UN—25MAR19

Close

3. Select to close.

RXA0167643—UN—26APR19

AUTO

If Climate Control Automation is enabled, setting display changes to AUTO. If selected, Climate Control Automation is overridden and disabled.

Alternate Procedure to Modify:

Fan Speed Button — button on CommandARM to adjust fan speed. See CommandARM Climate, Radio, and Lighting Controls in CommandARM Controls section of this Operator's Manual.

KD34109,00004BC-19-21JUN22

HVAC Settings—Air Conditioning

IMPORTANT: To avoid possible compressor damage, turn air conditioning OFF if system is not cooling properly.

NOTE: Air conditioning turns ON when defrost air flow mode is selected.

Procedure to Modify:

RXA0167628—UN—26APR19

ON/OFF

Select ON to enable or OFF to disable air conditioning.

RXA0167645—UN—26APR19

AUTO

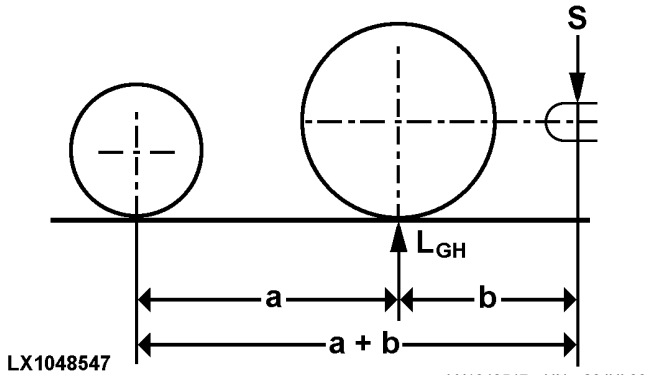
If Climate Control Automation is enabled, toggle bar changes to AUTO. If selected, Climate Control Automation is overridden and disabled.

KD34109,00004BD-19-18OCT19

How to Calculate Maximum Permissible Download on Trailer Hitch (EU 1322/2014)

CAUTION: Avoid personal injury or equipment damage.

- **At least 20% of the vehicle's total unladen mass must be on the front axle.**
- **Trailer hitch download must not exceed the trailer hitch limit specified by the manufacturer.**
- **Never exceed the maximum permissible rear axle load.**



LX1048547—UN—20JUL09

Calculation of maximum permissible download at the trailer hitch in relation to Load Index (LI)

- The load index can be read on the sidewall of the tire. If the index is not provided, refer to the tire's load capacity as quoted by the tire manufacturer.
- The load index is quoted in conjunction with a Speed index (SI)
- As a rule, the load capacity of the tire in kg can be derived directly from the LI; see Tire Load Index in the Wheels and Tires—General Information section of this Operator's Manual.

As a general rule, SI A8 implies a top speed of 40 km/h (25 mph), while SI B implies a top speed of 50 km/h (31 mph). If the SI is different, the manufacturer's instructions apply.

Calculate maximum trailer hitch download as follows:

$$S = \frac{(H_{perm} - L_{GH}) * a}{a + b}$$, where

H_{perm} = the smaller value from 2*load capacity of a tire on the rear axle and the maximum permissible rear axle load in kg

L_{GH} = the mass in kg acting on the ground through the rear wheels (to be ascertained by weighing)

a = the wheelbase (the horizontal distance between the front and rear axles)

b = the rear overhang (the horizontal distance between the center of the rear axle and center of the hitch point)

Example of how to calculate maximum trailer hitch download:

Given that: Empty mass on rear axle L_{GH} = 1800 kg
Wheelbase a = 2100 mm
Overhang b = 600 mm
Tire marking = 130A8
Maximum permitted speed of tractor = 40 km/h (25 mph)
Permissible rear axle load = 3500 kg
H_{perm} = 3500 kg
(1900 kg * 2 = 3800 kg, rear axle load = 3500 kg)

$$S = \frac{(3500\ kg - 1800\ kg) * 2100\ mm}{2100\ mm + 600\ mm} = 1322\ kg$$

EC82310,0000E04-19-05FEB20

Mechanical Towed Coupling Load Limitations

Mechanical Towed Coupling Load Limitations	
Hitch Rails	**Maximum Vertical Static Load kg (lb)**
With automatic and manual trailer hitches	
Lowest position	2500 (4400)[a]
All other positions	2000 (4400)
With piton-fix	
Lowest position	3000 (8815)[a]
All other positions	2000 (4400)
With K80 ball-type	
Lowest position	4000 (8815)[a]
All other positions	2000 (4400)

[a]Maximum permitted travel speed is 40 km/h (24.9 mph). At travel speeds above 40 km/h (24.9 mph), the maximum permissible static vertical load is limited to 2000 kg (4400 lb).

EC82310,0000E08-19-05APR23

General Ballasting Information

This section covers maximum weights, proper setup, and ballast limitations.

Adjust ballast to allow 8—12% slippage when operating. Field tests show that maximum available horsepower occurs in this range.

Major Considerations

Proper ballast configuration is required to ensure sufficient:

- Weight on the front axle for steering authority.
- Weight on the rear axle for:

  - Braking.
  - Stability when an implement is attached to front of tractor.
- Traction to pull a high draft load efficiently.
- Total weight and static balance for a given implement type (towed, integral, or semi-integral). Always reevaluate the ballast configuration when changing from one implement or attachment to another.

Effects of an improper ballast configuration:

Too Little Ballast	Too Much Ballast
Excessive slip	Soil compaction
Power transfer loss	Power loss
Tread wear	Increased load
Fuel waste	
Reduced productivity	

Ballast Limitations

IMPORTANT: Exceeding Maximum Ballast Weight (MBW) can void the warranty due to “overload” conditions.

Maximum Ballast Weight (MBW): 15920 kg (35100 lb)

To extend drive-train life never operate tractor with continuous full-power loads below 7.1 km/h (4.4 mph). With any transmission, ground speed can slow briefly in hard-pull situations, but recover to faster speeds during normal operations.

MBW is the vehicle weight and any added ballast at which the tractor power transmission system is qualified for operation under full draft load for extended periods of time. MBW:

- Does not include the vertical load induced by hitch or drawbar-mounted implements.
- Includes fluids at the maximum level (fuel, DEF, and hydraulic oil) and operator.

Adherence to MBW ensures satisfactory power-train life and minimal ground compaction. Increases in the vehicle weight, while decreasing speed results in higher torque through the power train components (such as gears/shafts/bearings/clutches). If ballast limitations are not followed and vehicle is operated at slow speeds, premature failure of the power train can occur.

Ballast is limited to the lowest capacity of either the tire or the tractor. Never exceed the carrying capacity of each tire. If more weight is needed, consider installing larger tires. See Tire Load Index in the Wheels and Tires —General Information section of this Operator’s Manual.

If the vehicle weight exceeds the Maximum Ballast Weight (MBW) due to other attachments, draft load shall be limited to the MBW-equivalent draft to ensure long term damage to the drivetrain of the vehicle does not occur. Care shall be taken to not operate the vehicle in such a manner that a single tire section loses contact with the ground or permanent damage to vehicle structure may occur.

EC82310,0000F1E-19-20APR21

General Guidelines

IMPORTANT: Avoid damage to the tractor. Never exceed the maximum ballast weight of 15920 kg (35100 lb) when operating with heavy draft loads.

Tractor Weight Based on Engine Power

A guide to ballasting tractors is to use engine horsepower combined with necessary ballast for a particular job – light, medium, or heavy. Start process with lightest ballast that can handle job. Then add ballast as necessary to get performance desired.

NOTE: Correct weight split must be maintained when adding or removing ballast. Cast weight is preferred to obtain best tractive performance.

More or less weight is necessary when different travel speeds are used. Higher speeds do not require as much weight. Final indication of correct ballast is slip measured in field.

NOTE: Use radar or GPS to monitor slip. Checking slip is manually possible, but only shows slip in area of field where check is performed. See Measuring Slip section in this Operator’s Manual.

The correct tractor weight to efficiently deliver power to the ground for draft applications depends on travel speed. Consult table for recommended weight based on expected travel speed and drawbar/hitch load.

Recommended Travel Speeds	
Implement Draft	**Ground Speed km/h (mph)**
Light	8.7 (5.4) and faster
Medium	7.2 - 8.7 (4.5 - 5.4)
Heavy	7.2 (4.5) and slower

Light Implement—45 kg/PS (101 lb/hp)

Examples: Drawn planters, air seeders, and PTO-operated equipment that place small vertical loads on the drawbar.

Model	Engine PS (hp)	Total Weight kg (lb)
210	210 (207)	9450 (20834)
230	230 (227)	10350 (22818)
250	250 (247)	11250 (24802)
270	270 (266)	12150 (26786)
290	290 (286)	13050 (28770)
310	310 (306)	13950 (30754)
330	330 (325)	14850 (32739)
350	350 (345)	15750 (34723)

Medium Implement—50 kg/PS (112 lb/hp)

Examples: Implements that place a larger vertical load on the drawbar such as disks, chisel plows, and field cultivators.

Model	Engine PS (hp)	Total Weight kg (lb)
210	210 (207)	10500 (23149)
230	230 (227)	11500 (25353)
250	250 (247)	12500 (27558)
270	270 (266)	13500 (29762)
290	290 (286)	14500 (31967)
310	310 (306)	15500 (34172)
330	330 (325)	15920 (35100)[a]
350	350 (345)	15920 (35100)[a]

[a]Maximum Ballasted Weight (MBW) is 15920 kg (35100 lb).

Heavy Implement—55 kg/PS (123 lb/hp)

Examples: Implements that place large vertical loads on the hitch or the drawbar such as rippers or hitch-mounted planters.

Model	Engine PS (hp)	Total Weight kg (lb)
210	210 (207)	11550 (25463)
230	230 (227)	12650 (27888)
250	250 (247)	13750 (30314)
270	270 (266)	14850 (32739)
290	290 (286)	15920 (35100)[a]
310	310 (306)	15920 (35100)[a]
330	330 (325)	15920 (35100)[a]
350	350 (345)	15920 (35100)[a]

[a]Maximum Ballasted Weight (MBW) is 15920 kg (35100 lb).

EC82310,0000F44-19-26JUN23

General Weight Split Guidelines

CAUTION: When determining front and rear axle ballast, ensure that permissible axle loads and maximum permissible machine weight (including mounted implements) are not exceeded (see Specifications Section in this Operator's Manual).

IMPORTANT: Avoid damage to the tractor. Never exceed:

- **The maximum ballast weight of 15920 kg (35100 lb) when operating with heavy draft loads.**
- **The front tire carrying capacities when using high percentages of front weight. See Tire Load Index in the Wheels and Tires—General Information section of this Operator's Manual.**

The weight split varies depending on the application. Increase front axle weight to insure steering authority when using a heavy drawbar load or hitch-mounted implements.

Weight split requirements are based on type of implement or attachment being used. Maintaining sufficient weight on the front and the rear axles to provide steering authority under both field and transport conditions is a primary consideration. Other factors as indicated in following tables must also be considered.

NOTE: Mean tread spacings wider than 2769 mm (109 in) have reduced maximum front axle loads. See Determine Mean Tread Spacing in the Steering Stop, Fender, and Tread Settings section of this Operator's Manual.

MFWD Front Axle

Implement Type	MFWD/TLS Plus
Towed	40/60
Semi-Integral	40/60
Integral	40/60[a]

[a]Front weight requirements are determined by weight of hitch-mounted implements. Add enough front weights to maintain steering control. See Implement Codes in this section of this Operator's Manual.

In all cases percentage on front axle must be increased if needed for steering security and stability.

No more than 40% weight on the front axle. This is required for power hop control. See Controlling Power Hop-MFWD Tractors Without TLS Plus Front Axle in this section of this Operator's Manual.

EC82310,0000F20-19-21JUN22

Ballast Options

IMPORTANT: Avoid damage to the tractor. Never exceed the maximum ballast weight of 15920 kg (35100 lb) when operating with heavy draft loads.

Quick-Tatch™ Suitcase Weights—Front

Quik-Tatch weights weigh 43 kg (95 lb) each. Up to 24 weights can be installed. These combinations are limited by front axle option.

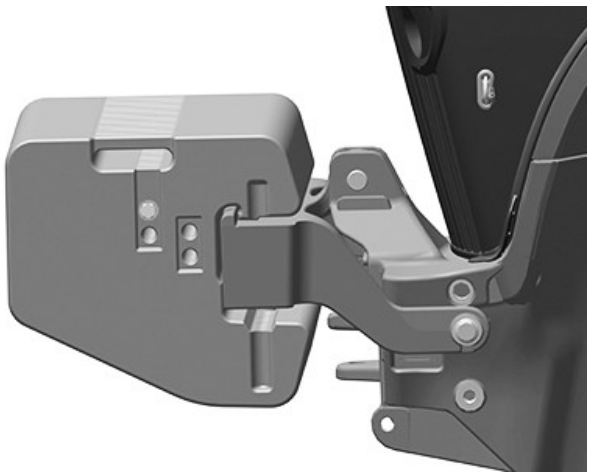
The standard front weight support and front suitcase weights:

- Are not compatible with a front hitch or a front loader.
- Must be removed before a front hitch or front loader is installed.

Front suitcase weights are mounted in one of two ways:

RXA0151920—UN—21APR16

- Standard front weight support.



RXA0151909—UN—21APR16

- Front hitch/PTO-ready option with standard front weight support.

Large Block Weights

Large block weights can be installed on the front hitch.

Wheel Weights—Rear Wheels

Rear wheel weights must be installed with appropriate starter weights. Certain configurations are not available. See Rear Wheel Weight Use in this section of this Operator's Manual.

Weight Adjustment

Ballast				Axle Weight Adjustment kg (lb)	
Location	Type		Weight kg (lb)	Front	Rear
Front	Weight Support	Standard	124 (273)	+166 (+366)	-42 (-93)
		Hitch-Ready	365 (805)	+500 (+1102)	-135 (-298)
	Suitcase		43 (95)	+62 (+137)	-19 (-42)
	Hitch	Ground-Engaging	544 (1199)	+492 (+1085)	-80 (-176)
		Carrier	479 (1056)	+388 (+855)	-90 (-198)
	PTO		187 (412)	+225 (+496)	-38 (-84)
	Large Block Weights		900 (1984)	+1296 (+2857)	-396 (-873)
			1150 (2535)	+1656 (+3651)	-506 (-1116)
			1500 (3307)	+2190 (+4828)	-690 (-1521)
			1800 (3968)	+2628 (+5794)	-828 (-1825)
Rear	Wheel Weights		70 (154)	—	+70 (+154)
			620 (1367)	—	+620 (+1367)
			900 (1984)	—	+900 (+1984)
			72 (159)	—	+72 (+159)

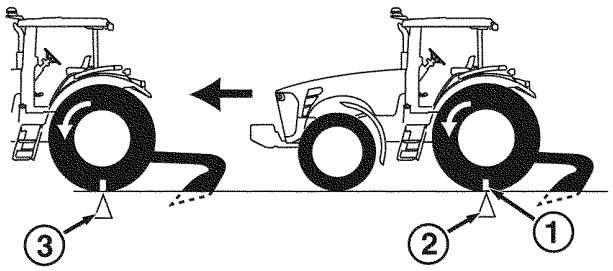
Ballast			Axle Weight Adjustment kg (lb)	
Location	Type	Weight kg (lb)	Front	Rear
		205 (452)	—	+205 (+452)
		530 (1169)	—	+530 (+1169)

EC82310,0000F42-19-23SEP21

Measure Slip

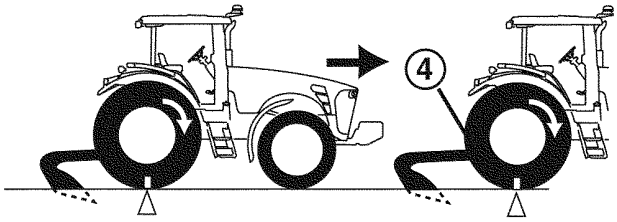
IMPORTANT: Slip measurement requires an implement attached to tractor. Manual measurement also requires an assistant. Avoid physical injury. Ensure that the assistant is clear of tractor and implement during procedure.

NOTE: Tractors equipped with an optional radar unit or GPS can automatically determine percentage of slip. Radar and GPS must be calibrated correctly. (See the CommandCenter section in this Operator's Manual).



RXA0117187—UN—13MAY11

1. Mark a rear tire.
2. Mark a starting point on the ground with the tractor moving and the implement lowered in the ground.
3. Follow tractor and mark ground again where marked tire completes ten full revolutions.



RXA0117188—UN—13MAY11

4. Repeat procedure with implement raised at the same working speed. Count revolutions between same two marks.
5. Use the second count to determine slip on the chart.

NOTE: 8—12% is ideal for tractors with MFWD engaged.

6. Adjust ballast or load to give correct slippage.

NOTE: Available horsepower is greatly reduced when the slip drops below minimum percent.

Slippage Chart		
Wheel Revolutions (Step 4)	% Slip	Action
10	0	Remove Ballast
9-1/2	5	Remove Ballast
9	10	Correct Ballast
8-1/2	15	Add Ballast
8	20	Add Ballast
7-1/2	25	Add Ballast
7	30	Add Ballast

EC82310,0000D14-19-21JUN22

Ballast Suggestions for Specific Types of Implements used with MFWD Tractors

Recommendations offered as starting points when ballasting for operations with several common types of implements. Some deviations may be needed for specific circumstances.

Towed Draft Implements

Towed draft implements such as disks, chisel plows and field cultivators that place small vertical tongue loads on tractor drawbar.

Without Front Suspension

Model	Ballast Location and Type	
	Front Suitcase Quantity	Rear Wheel Weight kg (lb)
7R: 210	—	—
7R: 230 and 250	0[a]	1 pair 205 (452)

Model	Ballast Location and Type	
	Front Suitcase Quantity	Rear Wheel Weight kg (lb)
7R: 270	6	1 pair each 72 (159) 620 (1367)
7R: 290, 310, 330, and 350	12	1 pair each 72 (159) 205 (452) 620 (1367)

[a]*With Weight Support*

Towed Trailers, Slurry Tanks and Fertilizer Tanks

NOTE: It may be practical to use less front weight with smaller trailers, but steering security and stability must be assured.

In all cases percentage on front axle must be increased if needed for steering security and stability.

Trailers that place a high vertical tongue load on tractor.

Model	Ballast Location and Type	
	Front	Rear Wheel Weight
All	20—24 Suitcase Weights or 900 kg (1984 lb) Block	None required[a]

[a]*If rear weights are already installed, it is not necessary to remove them.*

Integral and Semi-Integral Implements

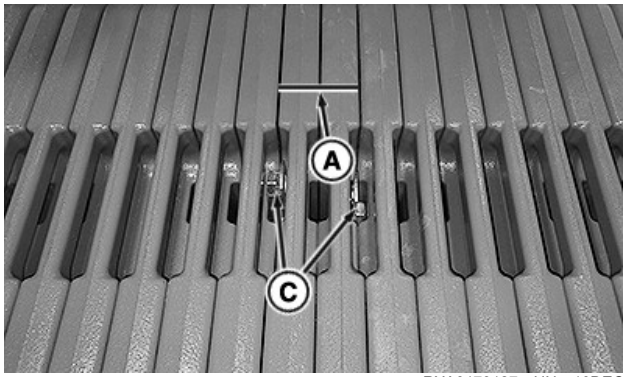
Model	Ballast Location and Type	
	Front	Rear Wheel Weight
All	20 Suitcase Weights or 900 kg (1984 lb) Block	—

EC82310,00003F9-19-17FEB22

Quik-Tatch Weight Use

Standard Front Weight Support

No more than 24 Quik-Tatch weights can be installed on the tractor standard front weight support.



RXA0173127—UN—10DEC19

Front Weight Support (A) and (C)

1. Install Quik-Tatch weights balanced on each side of the center point. The first two weights must be installed as a pair (A).
2. To install:
   - Two to six weights:

RXA0173128—UN—10DEC19

Front Weight Support (B)

     a. Insert one retaining bolt (B) through the hole in one side of the weights and secure the bolt with a nut on the other side of the weights.
     b. Tighten the bolt to 230 N·m (170 lb·ft).
   - Eight or more weights:
     a. Insert and position two retainers (C) between the weights. Position one retainer with the threaded hole pointing upward, and position one retainer with the threaded hole pointing downward.
     b. Run two retaining bolts (B) through the holes at both sides of the weights, threading each bolt into the threaded hole on the retainer.
     c. Tighten the bolts to 230 N·m (170 lb·ft).
3. Retighten the retaining bolts after 10 hours of use.

EC82310,0000F23-19-21JUN22

Rear Wheel Weight Use

CAUTION: Avoid injury when installing the wheel weights. Use appropriate lifting devices for installation or have the job performed by your John Deere dealer.

IMPORTANT: Avoid damage to the tractor and the wheel components.

- **Maintain a 25 mm (1 in) minimum clearance between the inside wheel weights and the tractor components.**
- **762 mm (30 in) tread setting limits installation of only one 205 kg (452 lb) weight on inside of wheel.**

Wheel Weight Types

Wheel	Type	Cast	
	Weight Location	Inner	
		Inside	Outside
Weight kg (lb)	620 (1367)	Yes	—
	70 (154)[a]	—	—
	900 (1984)	—	—
	72 (159)[b]	Yes	Yes[c]
	205 (452)	Yes	Yes[dc]

[a] *Starter weight for 900 kg (1984 lb) weight.*
[b] *Starter weight for 205 kg (452 lb) weight.*
[c] *Not compatible with duals.*
[d] *Must be mounted to 72 kg (159 lb) starter weight.*

Wheel	Type	Steel		
	Weight Location	Inner[a]		Outer Dual
		Inside[b]	Outside	Outside
Weight kg (lb)	620 (1367)	—	—	—
	70 (154)[c]	—	Yes[d]	Yes[e]
	530 (1168)	—	Yes[fdg]	—
	900 (1984)	—	Yes[fdgh]	Yes[fge]
	72 (159)[i]	—	Yes[d]	Yes[e]
	205 (452)	—	Yes[jd]	Yes[je]

[a] *Flanged axle*
[b] *Not compatible with flanged axle.*
[c] *Starter weight for 900 kg (1984 lb) weight.*
[d] *Not compatible with duals.*
[e] *Not compatible with triples.*
[f] *Must be mounted to 70 kg (154 lb) starter weight.*
[g] *Requires 42-, 46-, or 50-inch diameter rim. Not compatible with other rim sizes.*
[h] *Requires rear tire with load rating greater than 151.*
[i] *Starter weight for 205 kg (452 lb) weight.*
[j] *Must be mounted to 72 kg (159 lb) starter weight.*

Rear Wheel Weight Installation

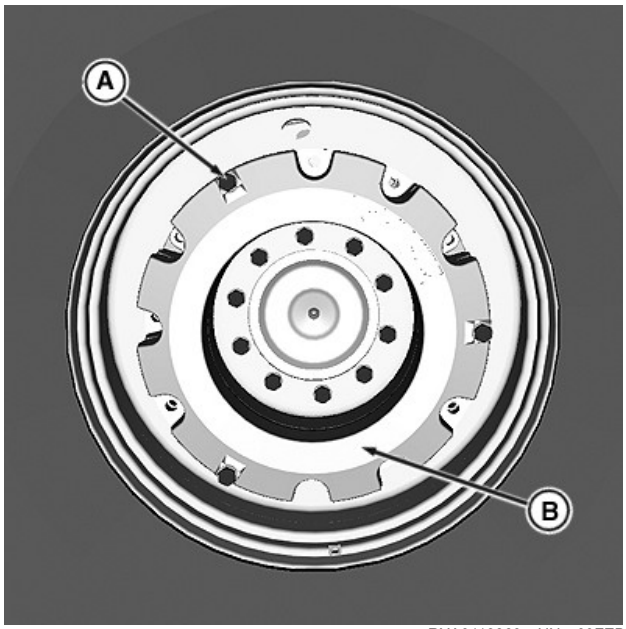
To install the rear wheel weights on:

- Flanged axles, see Rear Wheel Weight Installation—Flanged Axle in this section of this Operator's Manual.
- Single drive wheels, see Rear Wheel Weight Installation—Single Drive Wheel in this section of this Operator's Manual.
- Dual drive wheels, see Rear Wheel Weight Installation—Dual Drive Wheels in this section of this Operator's Manual.

EC82310,0000F24-19-01JUL21

Rear Wheel Weight Installation—Flanged Axles

IMPORTANT: Avoid equipment damage. Never use 620 kg (1367 lb) wheel weights on flanged axles.



RXA0113869—UN—09FEB11

A 72 kg (159 lb) starter weight must be attached to wheel disk using three cap screws (A) before 205 kg (452 lb) weights (B) can be attached.

Two 205 kg (452 lb) weights can be attached to outside of rim.

Install Rear Wheel Weights

To install a rear wheel weight:

1. Align weight (A) with wheel.
2. Install and hand-tighten bolts.
3. Tighten bolts to 310 N·m (230 lb·ft) for M16 and 610 N·m (450 lb·ft) for M20 using a star-shaped pattern.
4. Drive tractor approximately 100 m (110 yd).
5. Retighten bolts.
6. Retighten bolts after 3 hours, 10 hours, and every 250 hours of operation thereafter.

To install additional weights, repeat procedure.

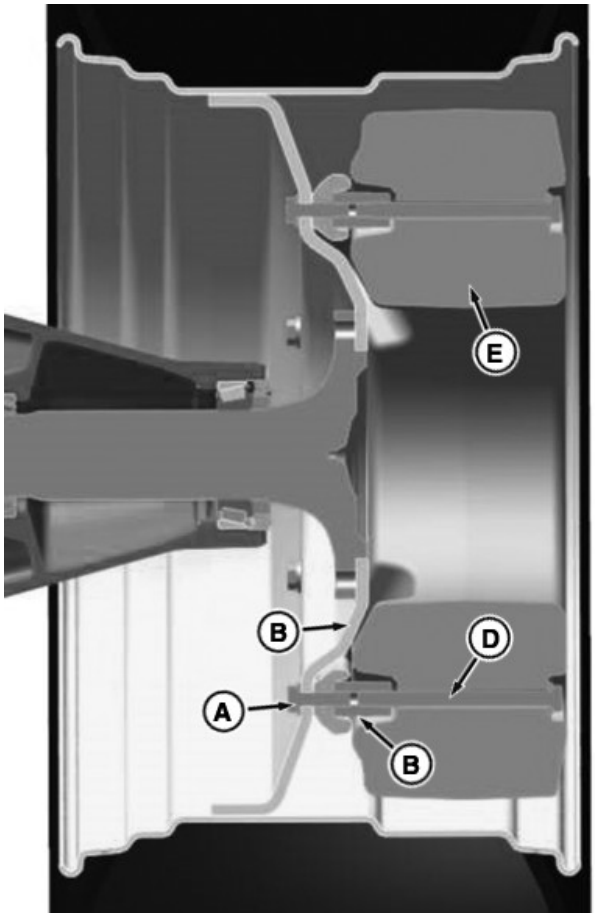
Install a 70 kg (154 lb) Starter Weight with the 900 kg (1984 lb) Wheel Weight or, Install a 70 kg (154 lb) Starter Weight with the 530 kg (1168 lb) Wheel Weight

CAUTION: Avoid injury when installing weights as they are heavy.

- **Use appropriate lifting devices for installation or have the work performed by your John Deere dealer.**
- **Install the wheel weights with the wheel on the tractor.**

IMPORTANT: Avoid damage to the tractor and wheel components.

- **After installation, tighten the wheel weight bolts every 3 hours and 10 hours (daily) for the first week of operation or until bolts do not move when tightened.**
- **If the outer wheel weight is removed, retighten the inside cap screws 610 N•m (450 lb•ft).**
- **Never install these weights on tractors equipped with triple wheels.**
- **The 530 kg (1168 lb), 900 kg (1984 lb), and 70 kg (154 lb) outer rear wheel weights can be installed on the steel wheels of a tractor equipped with single wheels and 42-, 46-, or 50-inch rims.**



RXA0179316—UN—24AUG20

1. Insert the M20 x 80 bolts (A) through the washers on the inside of wheel (B).
2. Attach the 70 kg (154 lb) starter weight to the wheel using six cap screws and six nuts (C). Tighten the cap screws to 610 N•m (450 lb•ft).
3. Insert bolt (D) through washers and outer weight (E) to engage with nut (C). Tighten the cap screws to 610 N•m (450 lb•ft).
   - 530 kg (1169 lb) weight, use the M20 x 140 bolts.
   - 900 kg (1984 lb) weight, use the M20 x 245 bolts.
4. Drive the tractor 100 m (100 yd) and retighten the outer cap screws.
5. Repeat the steps for the wheel on the opposite side of the tractor.

TS36762,00002B8-19-01JUL21

Rear Wheel Weight Installation—Single Cast Drive Wheel

Install a 72 kg (159 lb) Starter Weight with the 205 kg (452 lb) Wheel Weight on a Cast Drive Wheel

CAUTION: Avoid injury when installing weights as they are heavy. Use appropriate lifting devices for installation or have the work performed by your John Deere dealer.

IMPORTANT: Avoid damage to the tractor and wheel components.

- **After installation, tighten the wheel weight bolts every 3 hours and 10 hours (daily) for the first week of operation or until bolts do not move when tightened.**
- **Never:**
  - **Install more than three 205 kg (452 lb) wheel weights.**
  - **Install these weights on tractors equipped with duals.**

1. Install the 72 kg (154 lb) starter weight on the wheel. Tighten the wheel weight bolts to 610 N•m (450 lb•ft).

RXA0080173—UN—08APR05

2. Install the wheel weight (A). For additional weights:
   a. Install the bolts in the previous weight.
   b. Rotate alternate weights to align bolts with weight holes.

   Tighten the wheel weight bolts to 610 N•m (450 lb•ft).
3. Drive the tractor 100 m (100 yd) and retighten the bolts.
4. Repeat the steps for the wheel on the opposite side of the tractor.

EC82310,0000F25-19-19AUG20

Rear Wheel Weight Installation—Dual Drive Wheels

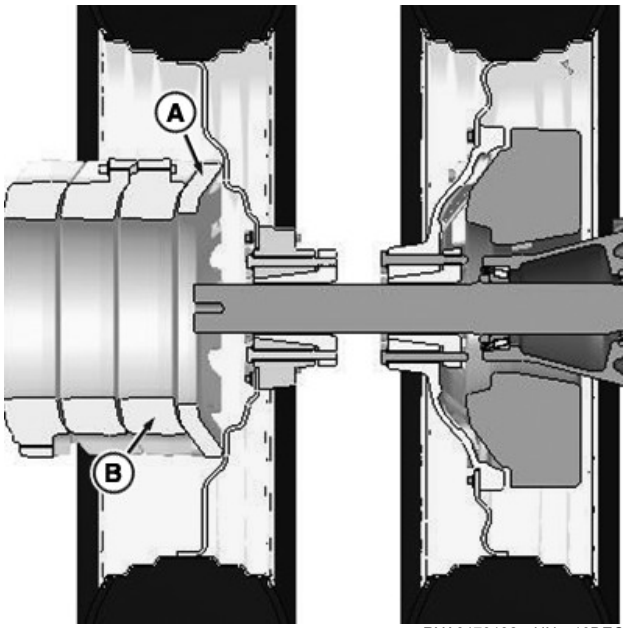
Install a 72 kg (159 lb) Starter Weight with the 205 kg (452 lb) Wheel Weight

CAUTION: Avoid injury when installing weights as they are heavy. Use appropriate lifting devices for installation or have the work performed by your John Deere dealer.

IMPORTANT: Avoid damage to the tractor and wheel components.

- **After installation, tighten the wheel weight bolts every 3 hours and 10 hours (daily) for the first week of operation or until bolts do not move when tightened.**
- **Never:**
  - **Install more than three 205 kg (452 lb) wheel weights.**
  - **Install these weights on tractors equipped with triple wheels.**

1. Install the 72 kg (154 lb) starter weight on the wheel. Tighten the wheel weight bolts to 610 N•m (450 lb•ft).



RXA0173132—UN—10DEC19

2. Install the wheel weight (A). For additional weights:
   a. Install the bolts in the previous weight.
   b. Rotate alternate weights (B) to align bolts with weight holes.

Tighten the wheel weight bolts to 610 N•m (450 lb•ft).

3. Drive the tractor 100 m (100 yd) and retighten the outer cap screws.
4. Repeat the steps for the wheel on the opposite side of the tractor.

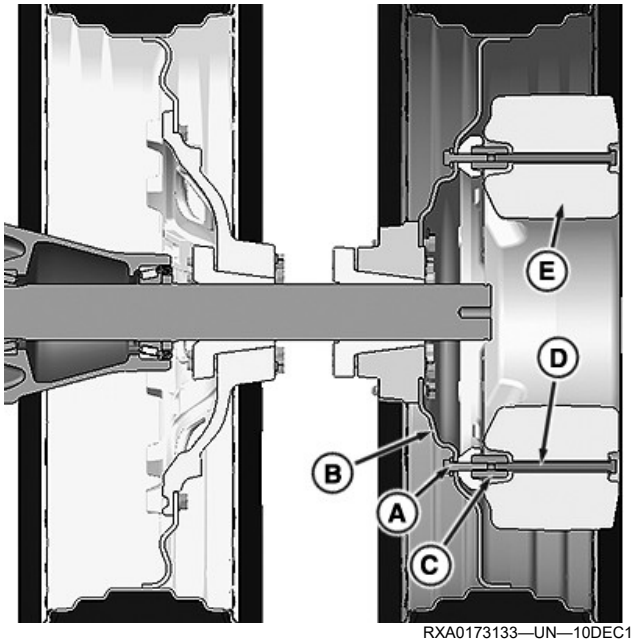
Install a 70 kg (154 lb) Starter Weight with the 900 kg (1984 lb) Wheel Weight

CAUTION: Avoid injury when installing weights as they are heavy.

- **Use appropriate lifting devices for installation or have the work performed by your John Deere dealer.**
- **Install the wheel weights with the wheel on the tractor.**

IMPORTANT: Avoid damage to the tractor and wheel components.

- **After installation, tighten the wheel weight bolts every 3 hours and 10 hours (daily) for the first week of operation or until bolts do not move when tightened.**
- **If the outer wheel weight is removed, retighten the inside cap screws 610 N•m (450 lb•ft).**
- **Never install these weights on tractors equipped with triple wheels.**
- **The 900 kg (1984 lb) and 70 kg (154 lb) outer rear wheel weights can be installed on the dual steel wheels of a tractor equipped with 42-, 46-, or 50-inch rims.**



RXA0173133—UN—10DEC19

1. Insert the M20 x 80 bolts (A) through the washers on the inside of wheel (B).
2. Attach the 70 kg (154 lb) starter weight to the wheel using six cap screws and six nuts (C). Tighten the cap screws to 610 N•m (450 lb•ft).
3. Insert bolt (D) through washers and outer weight (E) to engage with nut (C). Tighten the cap screws to 610 N•m (450 lb•ft).
4. Drive the tractor 100 m (100 yd) and retighten the outer cap screws.
5. Repeat the steps for the wheel on the opposite side of the tractor.

EC82310,0000F26-19-30JUN21

Controlling Power Hop-MFWD Tractors Without TLS Plus Front Axle

CAUTION: Avoid physical injury and equipment damage. Never exceed maximum rated tire pressure imprinted on tire sidewall.

Power hop is a condition where tractor exhibits severe bounce and/or pitch motions at field working speeds when pulling a towed implement. It can occur when pulling medium to high draft loads in loose, dry soil on top of a firm base and/or when climbing hills. As a result, tractor cannot maintain pull due to either loss of traction, rough ride or both. Make adjustments only after assuring guidelines for optimum performance with towed implements have been followed. Guidelines:

- No more than 40% of weight on front axle.
- If liquid ballast is used in rear tires, do not exceed 40% fill (4 o'clock valve stem position). See Liquid Ballast Use in this section of this Operator's Manual.
- Set front and rear inflation pressures correctly, based on static axle loads.

If power hop occurs, perform procedure. Make adjustment described in step, the drive tractor. If power hop still occurs, move to next step. When a step eliminates power hop, begin normal operation.

CAUTION: Avoid physical injury and equipment damage. Never exceed maximum rated tire pressure imprinted on tire sidewall.

1. Increase front inflation pressures by 20.7 kPa (0.2 bar) (3 psi).
2. Increase front inflation pressures in increments of 20.7 kPa 0.2 bar (3 psi). Repeat this step as needed but never exceed maximum rated tire pressure as imprinted on tire sidewall.
3. If maximum rated tire pressure is reached, remove all front ballast weights

4. Install 75% liquid in front tires. Re-inflate front tires to maximum pressure rating for tires.

TS36762,0000265-19-21JUN22

Calculate Tractor Ballast Package

CAUTION: Avoid physical injury or equipment damage due to improper ballast or tire pressure. Never:

- **Operate tractor if ballast package causes instability or unsafe conditions.**
- **Exceed maximum axle load capacity.**
- **Exceed maximum rated tire pressure imprinted on tire sidewall.**

Tractor efficiency and service life are increased when:

- tractor is correctly ballasted for work task,
- weight is split appropriately between the front and rear of the tractor, and
- tires are inflated correctly.

Examples show correct method of integrating data from tables and information from this Operator's Manual section to determine best possible working ballast for individual tractors and operations.

Example 1

Step 1: Tractor Configuration

1A—Show tractor options.

Model	7R: 230 FT4/Stage V
Axle	1300 MFWD
Transmission	e23
Fuel Fill	Full
Engine PS (hp)	230 (227)

1B—Show tire options.

Axle	Front	Rear
Tires	420/90R30	480/80R46

1C—List ballast options.

Axle		Front	Rear
Ballast Weights	Weight Support and Standard Hitch	Yes	—
	Quik-Tatch	—	
	Wheel	—	—

Step 2: Calculate Total Tractor Weight

Find and show:

- Unballasted tractor weight. See Unballasted Tractor Weight in this section of this Operator's Manual.
- Ballast weights. See Ballast Options in this section of this Operator's Manual.
- Add or subtract front and rear axle weights to find adjusted tractor weight for each axle.
- Add front and rear adjusted tractor weights to calculate total tractor weight.

Axle		Front kg (lb)	Rear kg (lb)
Unballasted Tractor Weight		3842 (8470)	7256 (15997)
Ballast Weights	Weight Support and Standard Hitch	+769 (+1696)	-166 (-366)
	Quik-Tatch	—	—
	Wheel	—	—
Tractor Weight	Adjusted	4611 (10166)[a]	7090 (15631)[a]
	Total	11701 (25797)	

[a] *Weigh axle for actual load.*

Step 3: Results

3A—Calculate weight split.

- Front axle: divide front axle weight by total tractor weight to find weight split, then multiply result by 100.
- Rear axle: Subtract front axle result from 100.

Ideal weight split is 40% front to 60% rear. See General Weight Split Guidelines in this section of this Operator's Manual.

Axle	Front	Rear
Weight Split %	39	61

3B—Calculate power to weight ratio. Divide total tractor weight by engine hp to find weight to power ratio. Engine hp is listed in Step 1A.

Engine Power kg/PS (lb/hp)	51 (114)

3C—Find recommended implement draft and travel speed with PTO power to weight ratio as calculated in Step 3B. See General Guidelines for Tractor Weight Based on PTO Power in this section of this Operator's Manual.

Recommended	Implement Draft	Medium
	Travel Speed km/h (mph)	8.7—7.2 (5.4—4.5)

3D—Determine recommended tire inflation pressures.

- For implements that place light load on drawbar (such as planter or air seeder) use front and rear tire sizes and axle weights to find required inflation

pressures. See Recommended Pressure charts in Front and Rear Wheels, Tires, and Treads sections of this Operator's Manual.

- For implements that generate high weight transfer add approximately 50 kPa (0.5 bar, 7 psi) to rear tires, but never exceed maximum rated pressure as imprinted on sidewall. With aid of an assistant, visually check tire deflection when tractor is pulling hard in field to confirm that tires are not under-inflated with these pressures.
- For trailers, tankers, or any heavy implement, rear inflation pressures must be increased substantially to support extra weight at transport speeds. Exact amount depends on load. It is typically more than double the base amount. With implement raised, weigh rear axle of loaded tractor on a platform scale, then find the required inflation pressures. Never exceed tire rating for maximum load or inflation pressure.

Example 2

Step 1: Tractor Configuration

1A—Show tractor options.

Model	7R: 290 FT4/Stage V
Axle	TLS
Transmission	IVT/AutoPowr
Fuel Fill	Full
Engine PS (hp)	290 (286)

1B—Show tire options.

Axle	Front	Rear
Tires	420/85R34	480/80R50 (Dual)

1C—List ballast options.

Axle		Front	Rear
Ballast Weights	Weight Support	Yes	—
	Quik-Tatch	16	
	Wheel	—	72 (159) 1 pair 620 (1367) 1 pair

Step 2: Calculate Total Tractor Weight

Find and show:

- Unballasted tractor weight. See Unballasted Tractor Weight in this section of this Operator's Manual.
- Ballast weights. See Ballast Options in this section of this Operator's Manual.
- Add or subtract front and rear axle weights to find adjusted tractor weight for each axle.
- Add front and rear adjusted tractor weights to calculate total tractor weight.

Axle		Front kg (lb)	Rear kg (lb)
Unballasted Tractor Weight		4135 (9116)	7380 (16270)
Ballast Weights	Weight Support	166 (366)	-42 (-93)
	Quik-Tatch	1152 (2544)	-352 (-784)
	Wheel	—	1384 (3052)
Tractor Weight	Adjusted	5453 (12026)[a]	8370 (18453)[a]
	Total	13823 (30474)	

[a]*Weigh axle for actual load.*

Step 3: Results

3A—Calculate weight split.

- Front axle: divide front axle weight by total tractor weight to find weight split, then multiply result by 100.
- Rear axle: Subtract front axle result from 100.

Ideal weight split is 40% front to 60% rear. See General Weight Split Guidelines in this section of this Operator's Manual.

Axle	Front	Rear
Weight Split %	39	61

3B—Calculate power to weight ratio. Divide total tractor weight by engine hp to find weight to power ratio. Engine hp is listed in Step 1A.

Engine Power kg/PS (lb/hp)	47 (106)

3C—Find recommended implement draft and travel speed with PTO power to weight ratio as calculated in Step 3B. See General Guidelines for Tractor Weight Based on PTO Power in this section of this Operator's Manual.

Recommended	Implement Draft	Medium
	Travel Speed km/h (mph)	8.7—7.2 (5.4—4.5)

3D—Determine recommended tire inflation pressures.

- For implements that place light load on drawbar (such as planter or air seeder) use front and rear tire sizes and axle weights to find required inflation pressures. See Recommended Pressure charts in Front and Rear Wheels, Tires, and Treads sections of this Operator's Manual.
- For implements that generate high weight transfer add approximately 50 kPa (0.5 bar, 7 psi) to rear tires, but never exceed maximum rated pressure as imprinted on sidewall. With aid of an assistant, visually check tire deflection when tractor is pulling hard in field to confirm that tires are not under-inflated with these pressures.
- For trailers, tankers, or any heavy implement, rear inflation pressures must be increased substantially to

support extra weight at transport speeds. Exact amount depends on load. It is typically more than double the base amount. With implement raised, weigh rear axle of loaded tractor on a platform scale, then find the required inflation pressures. Never exceed tire rating for maximum load or inflation pressure.

EC82310,0000F45-19-21JUN22

Add Rear Ballast For Front Loader

CAUTION: Prevent personal injury or death from tractor/loader rollover. Ballast tractor according to table for normal loader operation. Some operations require additional ballast to maximize stability.

Select one of following ballasting options:

Rear Ballast with H480 Loader[a]			
Rear Wheel Configuration		Ballast kg (lb)	
		Axle	Hitch[b]
Singles	Steel	2500 (5510)	—
		750 (1655)	1000 (2205)
	Cast	2310 (5095)	—
		560 (1235)	1000 (2205)
Duals	Steel	1590 (3505)	—
		—	885 (1950)
	Cast	1400 (3085)	—
		—	750 (1655)

[a]Minimum required with rear tread set at 1800 mm (71 in) or greater. If equipped, include fluid in rear tires in ballast total.
[b]Ballast must be installed 1200 mm (47.25 in) behind rear axle.

KT81203,000050B-19-29NOV16

Ballast Suggestions—Hitch-Mounted Implements

CAUTION: Avoid loss of steering control. Do not attempt to transport an implement without adequate front ballast.

IMPORTANT: Use a scale to check static weight, especially with heavy implements. Static weight remaining on front wheels with implement lifted should always be at least 50% of front axle weight with implement resting on ground.

NOTE: Implements with a center of gravity greater than 610 mm (24 in) will have a higher implement code and will require additional weight on rear axle. (See Implement Codes in this section for more details.)

Determine the following:

1. MFWD or MFWD with TLS
2. Front tires with or without liquid ballast
3. Implement weight (fully loaded)
4. Record weight.

Approximate Weight kg (lb)		Front Ballast Required (Suitcase Weights)
Implement	Added to Rear Axle by Hitch Load	
1786 (3938)	3015 (6646)	—
1819 (4011)	3070 (6769)	
1914 (4220)	3230 (7122)	Support Only
2009 (4429)	3348 (7382)	
2104 (4638)	3509 (7735)	2
2199 (4847)	3631 (8005)	4
2293 (5056)	3752 (8271)	6
2388 (5265)	3836 (8457)	8
2483 (5475)	3997 (8811)	10
2578 (5684)	4081 (8997)	12
2672 (5893)	4240 (9347)	12

EC82310,00003FD-19-21JUN22

Unballasted Tractor Weight Charts

The unballasted tractor weights are calculated by averaging and computed based on a tractor equipped with the following options:

- IVT/AutoPowr transmission.
- Front Tires: See notes within chart
- No front hitch or PTO
- No front weight support.

The base tractor weight assumes:

- A full fuel tank.
- Full hydraulic and coolant systems.
- Engine oil at full.
- No fluid in the tires
- Cast rear drive wheel

Additional considerations:

- Weight difference between available transmissions is relatively insignificant.
- Front and rear weight splits are shown as percentages.
- For TLS with front brakes, add 94 kg (207 lb).

If more accurate weights are needed, see your John Deere dealer.

Group 47

NOTE: Weights are calculated using group 42 420/ 90R30 front tires.

320/90R54	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Kg (lb)	Front	3733 (8231)	3733 (8231)	3868 (8529)	3868 (8529)	3834 (8454)	3834 (8454)	3969 (8752)	3969 (8752)
	Rear	6262 (13808)	7192 (15858)	6278 (13843)	7208 (15894)	6414 (14143)	7344 (16194)	6430 (14178)	7360 (16229)
	Total	9995 (22039)	10925 (24090)	10146 (22372)	11076 (24423)	10248 (22597)	11178 (24647)	10399 (22930)	11329 (24980)
Weight Split (F%/R%)		37 / 63	34 / 66	38 / 62	35 / 65	37 / 63	34 / 66	38 / 62	35 / 65

[a]*For TLS Plus with front brakes, add 94 kg (207 lb).*

380/90R50	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Kg (lb)	Front	3733 (8231)	3733 (8231)	3868 (8529)	3868 (8529)	3834 (8454)	3834 (8454)	3969 (8752)	3969 (8752)
	Rear	6192 (13653)	7082 (15616)	6208 (13689)	7098 (15651)	6344 (13989)	7234 (15951)	6360 (14024)	7250 (15986)
	Total	9925 (21885)	10815 (23847)	10076 (22218)	10966 (24180)	10178 (22442)	11068 (24405)	10329 (22775)	11219 (24738)
Weight Split (F%/R%)		38 / 62	35 / 65	38 / 62	35 / 65	38 / 62	35 / 65	38 / 62	35 / 65

[a]*For TLS Plus with front brakes, add 94 kg (207 lb).*

480/80R46	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Kg (lb)	Front	3733 (8231)	3733 (8231)	3868 (8529)	3868 (8529)	3834 (8454)	3834 (8454)	3969 (8752)	3969 (8752)
	Rear	6206 (13684)	7082 (15616)	6222 (13720)	7102 (15660)	6358 (14019)	7234 (15951)	6374 (14055)	7254 (15995)
	Total	9939 (21915)	10815 (23847)	10090 (22248)	10970 (24189)	10192 (22473)	11068 (24405)	10343 (22806)	11223 (24747)
Weight Split (F%/R%)		38 / 62	35 / 65	38 / 62	35 / 65	38 / 62	35 / 65	38 / 62	35 / 65

[a]*For TLS Plus with front brakes, add 94 kg (207 lb).*

520/85R42	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Kg (lb)	Front	3733 (8231)	3733 (8231)	3868 (8529)	3868 (8529)	3834 (8454)	3834 (8454)	3969 (8752)	3969 (8752)
	Rear	6272 (13830)	4252 (9376)	6288 (13865)	7268 (16026)	6424 (14165)	4404 (9711)	6440 (14200)	7420 (16361)
	Total	10005 (22061)	7985 (17607)	10156 (22394)	11136 (24555)	10258 (22619)	8238 (18165)	10409 (22952)	11389 (25113)
Weight Split (F%/R%)		37 / 63	47 / 53	38 / 62	35 / 65	37 / 63	47 / 53	38 / 62	35 / 65

[a]*For TLS Plus with front brakes, add 94 kg (207 lb).*

620/70R42	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Kg (lb)	Front	3733 (8231)	3733 (8231)	3868 (8529)	3868 (8529)	3834 (8454)	3834 (8454)	3969 (8752)	3969 (8752)
	Rear	6460 (14244)	7606 (16771)	6476 (14280)	7622 (16807)	6612 (14579)	7758 (17106)	6628 (14615)	7774 (17142)
	Total	10193 (22476)	11339 (25002)	10344 (22809)	11490 (25335)	10446 (23033)	11592 (25560)	10597 (23366)	11743 (25893)

620/70R42	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Split (F%/R%)		37 / 63	33 / 67	37 / 63	34 / 66	37 / 63	33 / 67	37 / 63	34 / 66

[a]*For TLS Plus with front brakes, add 94 kg (207 lb).*

650/65R42	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Kg (lb)	Front	3733 (8231)	—	3868 (8529)	—	3834 (8454)	—	3969 (8752)	—
	Rear	6422 (14161)	—	6438 (14196)	—	6574 (14496)	—	6590 (14531)	—
	Total	10155 (22392)	—	10306 (22725)	—	10408 (22950)	—	10559 (23283)	—
Weight Split (F%/R%)		37 / 63	—	38 / 62	—	37 / 63	—	38 / 62	—

[a]*For TLS Plus with front brakes, add 94 kg (207 lb).*

710/70R38	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Kg (lb)	Front	3733 (8231)	3733 (8231)	3868 (8529)	3868 (8529)	3834 (8454)	3834 (8454)	3969 (8752)	3969 (8752)
	Rear	6500 (14333)	7672 (16917)	6516 (14368)	7688 (16952)	6652 (14668)	7824 (17252)	6668 (14703)	7840 (17287)
	Total	10233 (22564)	11405 (25148)	10384 (22897)	11556 (25481)	10486 (23122)	11658 (25706)	10637 (23455)	11809 (26039)
Weight Split (F%/R%)		36 / 64	33 / 67	37 / 63	33 / 67	37 / 63	33 / 67	37 / 63	34 / 66

[a]*For TLS Plus with front brakes, add 94 kg (207 lb).*

Group 48

NOTE: Weights are calculated using group 43 420/ 85R34 front tires.

320/105R54	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Kg (lb)	Front	3899 (8597)	3899 (8597)	4034 (8895)	4034 (8895)	4000 (8820)	4000 (8820)	4135 (9118)	4135 (9118)
	Rear	6118 (13490)	6896 (15206)	6134 (13525)	6912 (15241)	6270 (13825)	7048 (15541)	6286 (13861)	7064 (15576)
	Total	10017 (22087)	10795 (23803)	10168 (22420)	10946 (24136)	10270 (22645)	11048 (24361)	10421 (22978)	11199 (24694)
Weight Split (F%/R%)		39 / 61	36 / 64	40 / 60	37 / 63	39 / 61	36 / 64	40 / 60	37 / 63

[a]*For TLS Plus with front brakes, add 94 kg (207 lb).*

380/90R54	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Kg (lb)	Front	3899 (8597)	3899 (8597)	4034 (8895)	4034 (8895)	4000 (8820)	4000 (8820)	4135 (9118)	4135 (9118)
	Rear	6222 (13720)	7142 (15748)	6238 (13755)	7158 (15783)	6374 (14055)	7294 (16083)	6390 (14090)	7310 (16119)
	Total	10121 (22317)	11041 (24345)	10272 (22650)	11192 (24678)	10374 (22875)	11294 (24903)	10525 (23208)	11445 (25236)
Weight Split (F%/R%)		39 / 61	35 / 65	39 / 61	36 / 64	39 / 61	35 / 65	39 / 61	36 / 64

[a]*For TLS Plus with front brakes, add 94 kg (207 lb).*

480/80R50	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Kg (lb)	Front	3899 (8597)	3899 (8597)	4034 (8895)	4034 (8895)	4000 (8820)	4000 (8820)	4135 (9118)	4135 (9118)
	Rear	6302 (13896)	7212 (15902)	6318 (13931)	7228 (15938)	6454 (14231)	7364 (16238)	6470 (14266)	7380 (16273)
	Total	10201 (22493)	11111 (24500)	10352 (22826)	11262 (24833)	10454 (23051)	11364 (25058)	10605 (23384)	11515 (25391)
Weight Split (F%/R%)		38 / 62	35 / 65	39 / 61	36 / 64	38 / 62	35 / 65	39 / 61	36 / 64

[a]*For TLS Plus with front brakes, add 94 kg (207 lb).*

520/85R46	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Kg (lb)	Front	3899 (8597)	3899 (8597)	4034 (8895)	4034 (8895)	4000 (8820)	4000 (8820)	4135 (9118)	4135 (9118)
	Rear	6362 (14028)	7432 (16388)	6378 (14063)	7448 (16423)	6514 (14363)	7584 (16723)	6530 (14399)	7600 (16758)
	Total	10261 (22626)	11331 (24985)	10412 (22958)	11482 (25318)	10514 (23183)	11584 (25543)	10665 (23516)	11735 (25876)
Weight Split (F%/R%)		38 / 62	34 / 66	39 / 61	35 / 65	38 / 62	35 / 65	39 / 61	35 / 65

[a]*For TLS Plus with front brakes, add 94 kg (207 lb).*

620/70R46	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Kg (lb)	Front	3899 (8597)	3899 (8597)	4034 (8895)	4034 (8895)	4000 (8820)	4000 (8820)	4135 (9118)	4135 (9118)
	Rear	6422 (14161)	7552 (16652)	6438 (14196)	7568 (16687)	6574 (14496)	7704 (16987)	6590 (14531)	7720 (17023)
	Total	10321 (22758)	11451 (25249)	10472 (23091)	11602 (25582)	10574 (23316)	11704 (25807)	10725 (23649)	11855 (26140)
Weight Split (F%/R%)		38 / 62	34 / 66	39 / 61	35 / 65	38 / 62	34 / 66	39 / 61	35 / 65

[a]*For TLS Plus with front brakes, add 94 kg (207 lb).*

650/85R38	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Kg (lb)	Front	3899 (8597)	3899 (8597)	4034 (8895)	4034 (8895)	4000 (8820)	4000 (8820)	4135 (9118)	4135 (9118)
	Rear	6522 (14381)	7732 (17049)	3568 (7867)	7748 (17084)	6674 (14716)	7884 (17384)	3720 (8203)	7900 (17420)
	Total	10421 (22978)	11631 (25646)	7602 (16762)	11782 (25979)	10674 (23536)	11884 (26204)	7855 (17320)	12035 (26537)
Weight Split (F%/R%)		37 / 63	34 / 66	53 / 47	34 / 66	37 / 63	34 / 66	53 / 47	34 / 66

[a]*For TLS Plus with front brakes, add 94 kg (207 lb).*

710/70R42	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Kg (lb)	Front	3899 (8597)	3899 (8597)	4034 (8895)	4034 (8895)	4000 (8820)	4000 (8820)	4135 (9118)	4135 (9118)
	Rear	6602 (14557)	7930 (17486)	6618 (14593)	7946 (17521)	6754 (14893)	8082 (17821)	6770 (14928)	8098 (17856)
	Total	10501 (23155)	11829 (26083)	10652 (23488)	11980 (26416)	10754 (23713)	12082 (26641)	10905 (24046)	12233 (26974)
Weight Split (F%/R%)		37 / 63	33 / 67	38 / 62	34 / 66	37 / 63	33 / 67	38 / 62	34 / 66

[a]*For TLS Plus with front brakes, add 94 kg (207 lb).*

800/70R38	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Kg (lb)	Front	3899 (8597)	3899 (8597)	4034 (8895)	4034 (8895)	4000 (8820)	4000 (8820)	4135 (9118)	4135 (9118)
	Rear	6773 (14934)	8232 (18152)	6789 (14970)	8248 (18187)	6952 (15270)	8384 (18487)	6941 (15305)	8400 (18522)
	Total	10672 (23532)	12131 (26749)	10823 (23865)	12282 (27082)	10925 (24090)	12384 (27307)	11076 (24423)	12535 (27640)
Weight Split (F%/R%)		37 / 63	32 / 68	37 / 63	33 / 67	37 / 63	32 / 68	37 / 63	33 / 67

[a]*For TLS Plus with front brakes, add 94 kg (207 lb).*

IF480/ 80R50	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Kg (lb)	Front	3899 (8597)	3899 (8597)	4034 (8895)	4034 (8895)	4000 (8820)	4000 (8820)	4135 (9118)	4135 (9118)
	Rear	6438 (14196)	7479 (16491)	6454 (14231)	7495 (16526)	6590 (14531)	7631 (16826)	6606 (14566)	7647 (16862)
	Total	10337 (22793)	11378 (25088)	10488 (23126)	11529 (25421)	10590 (23351)	11631 (25646)	10741 (23684)	11782 (25979)
Weight Split (F%/R%)		38 / 62	34 / 66	38 / 62	35 / 65	38 / 62	34 / 66	38 / 62	35 / 65

[a]*For TLS Plus with front brakes, add 94 kg (207 lb).*

IF710/ 70R42	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Kg (lb)	Front	3899 (8597)	3899 (8597)	4034 (8895)	4034 (8895)	4000 (8820)	4000 (8820)	4135 (9118)	4135 (9118)
	Rear	6643 (14648)	8025 (17695)	6659 (14683)	8041 (17730)	6795 (14983)	8177 (18030)	6811 (15018)	8193 (18066)
	Total	10542 (23245)	11924 (26292)	10693 (23578)	12075 (26625)	10795 (23803)	12177 (26850)	10946 (24136)	12328 (27183)
Weight Split (F%/R%)		37 / 63	33 / 67	38 / 62	33 / 67	37 / 63	33 / 67	38 / 62	34 / 66

[a]*For TLS Plus with front brakes, add 94 kg (207 lb).*

VF650/ 85R38	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Kg (lb)	Front	3899 (8597)	3899 (8597)	4034 (8895)	4034 (8895)	4000 (8820)	4000 (8820)	4135 (9118)	4135 (9118)
	Rear	6617 (14590)	7871 (17356)	6633 (14626)	7887 (17391)	6769 (14926)	8023 (17691)	6785 (14961)	8039 (17726)
	Total	10516 (23188)	11770 (25953)	10667 (23521)	11921 (26286)	10769 (23746)	12023 (26511)	10920 (24079)	12174 (26844)
Weight Split (F%/R%)		37 / 63	33 / 67	38 / 62	34 / 66	37 / 63	33 / 67	38 / 62	34 / 66

[a]*For TLS Plus with front brakes, add 94 kg (207 lb).*

VF710/ 70R42	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Kg (lb)	Front	3899 (8597)	3899 (8597)	4034 (8895)	4034 (8895)	4000 (8820)	4000 (8820)	4135 (9118)	4135 (9118)
	Rear	6659 (14683)	8035 (17717)	6675 (14718)	8051 (17752)	6811 (15018)	8187 (18052)	6827 (15054)	8203 (18088)
	Total	10558 (23280)	11934 (26314)	10709 (23613)	12085 (26647)	10811 (23838)	12187 (26872)	10962 (24171)	12338 (27205)
Weight Split (F%/R%)		37 / 63	33 / 67	38 / 62	33 / 67	37 / 63	33 / 67	38 / 62	34 / 66

[a]*For TLS Plus with front brakes, add 94 kg (207 lb).*

VF800/ 70R38	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Kg (lb)	Front	3899 (8597)	3899 (8597)	4034 (8895)	4034 (8895)	4000 (8820)	4000 (8820)	4135 (9118)	4135 (9118)
	Rear	6868 (15144)	8450 (18632)	6884 (15179)	8466 (18668)	7020 (15479)	8602 (18967)	7036 (15514)	8618 (19003)
	Total	10767 (23741)	12349 (27230)	10918 (24074)	12500 (27563)	11020 (24299)	12602 (27787)	11171 (24632)	12753 (28120)
Weight Split (F%/R%)		36 / 64	32 / 68	37 / 63	32 / 68	36 / 64	32 / 68	37 / 63	32 / 68

[a]*For TLS Plus with front brakes, add 94 kg (207 lb).*

Group 49

NOTE: Weights are calculated using group 44 650/ 60R34 front tires.

480/95R50	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Kg (lb)	Front	3989 (8796)	4040 (8908)	4074 (8983)	4175 (9206)	4090 (9018)	4090 (9018)	4175 (9206)	4175 (9206)
	Rear	6744 (14871)	7750 (17089)	6760 (14906)	7766 (17124)	6896 (15206)	7902 (17424)	6912 (15241)	7918 (17459)
	Total	10733 (23666)	11790 (25997)	10834 (23889)	11941 (26330)	10986 (24224)	11992 (26442)	11087 (24447)	12093 (26665)
Weight Split (F%/R%)		37 / 63	34 / 66	38 / 62	35 / 65	37 / 63	34 / 66	38 / 62	35 / 65

[a]*For TLS Plus with front brakes, add 94 kg (207 lb).*

710/75R42	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Kg (lb)	Front	3939 (8685)	3939 (8685)	4074 (8983)	4074 (8983)	4040 (8908)	4040 (8908)	4175 (9206)	4175 (9206)
	Rear	6637 (14635)	8030 (17706)	6653 (14670)	8046 (17741)	6789 (14970)	8182 (18041)	6805 (15005)	8198 (18077)
	Total	10576 (23320)	11969 (26392)	10727 (23653)	12120 (26725)	10829 (23878)	12222 (26950)	10980 (24211)	12373 (27282)
Weight Split (F%/R%)		37 / 63	33 / 67	38 / 62	34 / 66	37 / 63	33 / 67	38 / 62	34 / 66

[a]*For TLS Plus with front brakes, add 94 kg (207 lb).*

IF900/ 60R42	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Kg (lb)	Front	3939 (8685)	—	4074 (8983)	—	4040 (8908)	—	4175 (9206)	—
	Rear	7047 (15539)	—	7063 (15574)	—	7199 (15874)	—	7215 (15909)	—
	Total	10986 (24224)	—	11137 (24557)	—	11239 (24782)	—	11390 (25115)	—
Weight Split (F%/R%)		36 / 64	—	37 / 63	—	36 / 64	—	37 / 63	—

[a]*For TLS Plus with front brakes, add 94 kg (207 lb).*

VF710/ 75R42	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Kg (lb)	Front	3939 (8685)	—	4074 (8983)	—	4040 (8908)	—	4175 (9206)	—
	Rear	6685 (14740)	—	6701 (14776)	—	6837 (15076)	—	6853 (15111)	—
	Total	10624 (23426)	—	10775 (23759)	—	10877 (23984)	—	11028 (24317)	—

VF710/ 75R42	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Split (F%/R%)		37 / 63	—	38 / 62	—	37 / 63	—	38 / 62	—

[a]*For TLS Plus with front brakes, add 94 kg (207 lb).*

VF750/ 70R44	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Kg (lb)	**Front**	3939 (8685)	—	4074 (8983)	—	4040 (8908)	—	4175 (9206)	—
	Rear	6737 (14855)	—	6753 (14890)	—	6889 (15190)	—	6905 (15226)	—
	Total	10676 (23541)	—	10827 (23874)	—	10929 (24098)	—	11080 (24431)	—
Weight Split (F%/R%)		37 / 63	—	38 / 62	—	37 / 63	—	38 / 62	—

[a]*For TLS Plus with front brakes, add 94 kg (207 lb).*

VF900/ 60R42	Model	7R: 210, 230, 250, and 270				7R: 290, 310, 330, and 350			
	Front Axle	1300 MFWD		TLS Plus[a]		1300 MFWD		TLS Plus[a]	
	Rear Tires	Singles	Duals	Singles	Duals	Singles	Duals	Singles	Duals
Weight Kg (lb)	**Front**	3939 (8685)	—	4074 (8983)	—	4040 (8908)	—	4175 (9206)	—
	Rear	7286 (16066)	—	7302 (16101)	—	7438 (16401)	—	7454 (16436)	—
	Total	11225 (24751)	—	11376 (25084)	—	11478 (25309)	—	11629 (25642)	—
Weight Split (F%/R%)		35 / 65	—	36 / 64	—	35 / 65	—	36 / 64	—

[a]*For TLS Plus with front brakes, add 94 kg (207 lb).*

kd34109,1652820179332-19-21JUN22

Implement and Tractor Codes

CAUTION: Do not attempt to transport an implement without adequate front ballast. Loss of steering control may result.

IMPORTANT: Use a scale to check static weight, especially with heavy implements. Static weight remaining on front wheels with implement lifted should always be at least 50 percent of weight with implement resting on ground.

Determine following:

- MFWD, or TLS Plus
- Front tires with or without liquid

Find implement code in John Deere implement Operator's Manual.

To find implement code for non-John Deere implements, use following procedure:

1. Estimate implement center of gravity (find or estimate fore-and-aft balance point)
2. Measure distance from implement hitch point to center of gravity. Record distance (inches). Add 37 to this figure.
3. Determine implement weight (fully loaded). Record weight.
4. Multiply Step 2 by Step 3. Divide by 1000.
5. Resulting number is implement code.

   Use prior information and refer to appropriate chart to determine how many Quik-Tatch weights are required.

Implement Code	Quik-Tatch Weights Required	
	7R: 230 MFWD	7R: 250—350 TLS
0—175	—	—
176—204		
205—224		
225—245		
246—266		
267—288		
289—309	No front weight support	
310—345	0[a]	
346—351	2	
352—372	4	
373—393	6	No front weight support
394—414	8	0[a]
415—436	10	2

Implement Code	Quik-Tatch Weights Required	
	7R: 230 MFWD	7R: 250—350 TLS
437—456	12	4
457—472	14	6
473—493	16	8
494—514	18	10
515—535	20	12
536—556	22	14
557—577	24	16
578—591	—	18
592—613		20
614—633		22
634—655		24
Add to implement code when:		
Fluid is added to front tires	60	60
Quick-hitch is removed	15	15

[a]*Front weight support only*

EC82310,0000F3E-19-21JUN22

IMPORTANT: Never fill any tire to more than 90 percent. More solution could damage tires. Alcohol as liquid ballast is not recommended. Fill all rear tires on each axle to the same level and a maximum of 40%.

IMPORTANT: Avoid tractor damage. Liquid ballast is not compatible with John Deere CTIS.

Water or calcium chloride solution can be used to provide economical ballast. Used properly, it will not damage tires, tubes, or rims. However, liquid ballast is not recommended as it causes: a stiffening effect resulting in a harsh ride; difficulty in handling; spills if flats occur; and greater susceptibility to power hop when used in rear tires. As a last alternative, up to 75 percent fill can be used in MFWD front tires for weight or to provide stiffness to assist in power hop control.

Freezing points of calcium chloride and water mixture	
Mixture	**Freezing Point**
420 g/L (3.5 lb/gal)	-45°C (-50°F)
600 g/L (5.0 lb/gal)	-50°C (-60°F)

Liquid Ballast Use

CAUTION: Installing liquid ballast requires special equipment and training. See your John Deere dealer or a tire service store.

Tire Size	Front Tire: Calcium Chloride Mixture Ratio[a] kg (lb)			
	40% Fill		75% Fill	
	420 g/L (3.5 lb/gal)	600 g/L (5.0 lb/gal)	420 g/L (3.5 lb/gal)	600 g/L (5.0 lb/gal)
320/85R38	92 (203)	97 (214)	172 (379)	181 (399)
IF320/80R42	94 (207)	100 (220)	188 (414)	200 (440)
380/85R34	137 (302)	159 (350)	182 (401)	223 (491)
380/80R38 IF380/80R38 VF380/80R38	147 (323)	169 (371)	192 (422)	233 (513)
420/85R34 IF420/85R34 VF420/85R34	169 (373)	197 (433)	226 (496)	277 (610)
420/85R38	206 (455)	225 (496)	387 (854)	422 (931)
420/90R30	179 (393)	206 (453)	234 (516)	286 (628)
480/70R30	182 (400)	194 (427)	340 (750)	363 (800)
480/70R34	203 (446)	236 (518)	270 (594)	332 (731)
540/65R34	226 (498)	239 (527)	156 (344)	169 (373)
600/65R28	265 (582)	304 (668)	344 (757)	417 (917)
600/70R30 IF600/70R30 VF600/70R30	299 (657)	344 (756)	391 (859)	475 (1045)
600/65R34	281 (620)	300 (661)	563 (1241)	600 (1322)
650/60R34 IF650/60R34 VF650/60R34	328 (721)	376 (827)	426 (937)	516 (1135)
VF710/55R34	359 (791)	412 (906)	466 (1026)	565 (1242)

Tire Size	Front Tire: Calcium Chloride Mixture Ratio[a] kg (lb)			
	40% Fill		75% Fill	
	420 g/L (3.5 lb/gal)	600 g/L (5.0 lb/gal)	420 g/L (3.5 lb/gal)	600 g/L (5.0 lb/gal)
LSW1000/40R32 LSW1000/45R32	611 (1347)	666 (1469)	1145 (2526)	1249 (2754)

[a]*Ballast amount for a single tire*

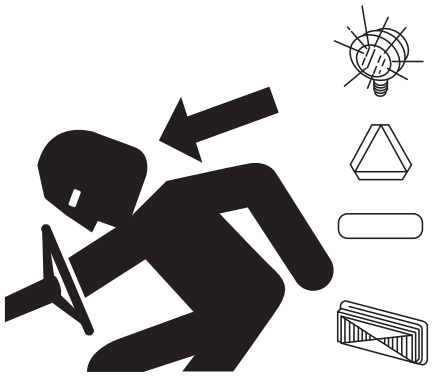
Tire Size	Rear Tire: Calcium Chloride Mixture Ratio[a] kg (lb)	
	40% Fill	
	420 g/L (3.5 lb/gal)	600 g/L (5.0 lb/gal)
320/90R54	138 (305)	258 (569)
320/105R54	157 (345)	167 (367)
380/90R50	195 (430)	206 (455)
380/90R54	194 (426)	205 (453)
480/80R46	274 (604)	293 (646)
480/80R50 IF480/80R50 VF480/80R50	288 (634)	308 (678)
480/95R50 IF480/95R50	361 (796)	384 (847)
520/85R42	349 (770)	371 (818)
520/85R46	375 (827)	400 (882)
620/70R42	411 (905)	439 (967)
620/70R46	421 (929)	451 (995)
650/85R38 IF650/85R38 VF650/85R38	561 (1237)	597 (1316)
650/65R42	401 (884)	429 (947)
710/70R38	495 (1092)	526 (1159)
710/70R42 IF710/70R42 VF710/70R42	558 (1231)	597 (1316)
710/75R42 IF710/75R42 VF710/75R42	580 (1279)	618 (1362)
VF750/70R44	697 (1538)	760 (1677)
800/70R38 VF800/70R38	650 (1433)	694 (1529)
IF900/60R42 VF900/60R42	705 (1552)	752 (1657)
LSW1100/45R46	1006 (2219)	1097 (2420)

[a]*Ballast amount for a single tire*

EC82310,0000D1E-19-17JUL23

Performance Ballasting

Drive Tractor on Roads



RXA0086597—UN—09FEB06

CAUTION: Avoid personal injury or death from losing control of tractor. When driving tractor on roads:

- **Wear seat belts.**
- **Latch brake pedals together.**
- **If equipped, use speed control pedal instead of speed control lever.**
- **Reduce speed when driving on icy, wet, or graveled surfaces.**
- **Ballast tractor correctly. See Performance Ballasting section of this Operator's Manual.**
- **Prevent wheels from locking and skidding on tractors equipped with IVT/AutoPowr and EVT/eAutoPowr transmissions. See Operate Transmission—IVT in IVT/AutoPowr Transmission section of this Operator's Manual.**
- **Avoid holes, ditches, sharp turns, hill sides, and obstructions that may cause tractor to roll over.**
- **Frequently check for traffic from the rear, especially in turns, and use turn signal lights.**
- **Always operate flashing lights when traveling on a highway or public roads, except where prohibited by law.**

Lights—Use headlights and turn signals day and night. Follow local regulations for equipment lighting and marking. Keep lighting and marking visible and in good working order. Replace or repair lighting and marking that has been damaged or lost. An implement safety lighting kit is available from your John Deere dealer.

IMPORTANT: Damage to brakes could result if brake pedals are not locked together during transport when using AutoClutch.

Brakes—Tap brake pedal to ensure that differential lock (if equipped) is not engaged. Latch brake pedals together before driving on a road. Avoid hard application of brakes.

MFWD (If Equipped)—Disengage MFWD when transporting tractor. When driving on roads, engage AUTO or brake assist position of MFWD switch to provide four wheel braking.

Remote Cylinders—Position control levers appropriately to eliminate possibility of lowering an implement during transport by inadvertently bumping control lever/levers. See procedure in Selective Control Valves section of this Operator's Manual.

Front or Rear Hitch (If Equipped)—Position hitch control lever appropriately to eliminate possibility of lowering an implement during transport by inadvertently bumping raise/lower lever. See procedure in Front and Rear Hitch sections of this Operator's Manual.

TS36762,000026C-19-10AUG22

Transport with Ballast

CAUTION: Avoid possible injury or equipment damage when transporting heavy rear-mounted implements.

- **Drive slowly over rough ground, regardless of how much ballast is used.**
- **Add weight to front end if needed to maintain stability and steering control. Heavy pulling and heavy rear-mounted implements tend to lift front wheels.**

Use implement code in implement Operator's Manual to determine the minimum number of front weights required.

TS36762,000026D-19-05MAY22

Towed Loads and Transport with Ballast

CAUTION: Avoid possible injury from losing control while towing a load. Stopping distance increases on slopes and with increased speed and weight of towed loads.

Tractor wheels/tracks may lock and skid on slippery downhill slopes on tractors equipped with IVT/AutoPowr or EVT/eAutoPowr transmissions. See Operate Transmission—IVT in IVT/AutoPowr Transmission section of this Operator's Manual.

Never exceed the maximum transport speed for the implement. Before transporting a towed implement, refer to implement Operator's Manual and implement decals to determine maximum transport speed. This tractor is capable of operating at transport speeds which exceed the maximum allowable transport speed for most towed implements. For John Deere implements, use the implement codes found in the implement Operator's Manual. For non-John Deere implements, see Implement and Tractor Codes in Performance Ballasting section of this Operator's Manual. Failure to adhere to the maximum transport speed for the implement or to have correct ballast can result in:

- **Loss of control of tractor/implement combination.**
- **Reduced or no ability to stop during braking.**
- **Implement tire failure.**
- **Damage to implement structure or components.**

When towing equipment without brakes:

- **Do not transport at speeds greater than 25 km/h (16 mph).**
- **Towed device must weigh less than 1.5 times the ballasted tractor weight.**

When towing equipment with brakes:

- **If the manufacturer does not specify a maximum transport speed, do not transport at speeds above 40 km/h (25 mph).**
- **When transporting at speeds up to 40 km/h (25 mph), the fully loaded implement must weigh less than 4.5 times the tractor weight.**
- **When transporting at speeds between 40 km/h (25 mph)—50 km/h (31 mph), the fully loaded implement must weigh less than 3 times the tractor weight.**

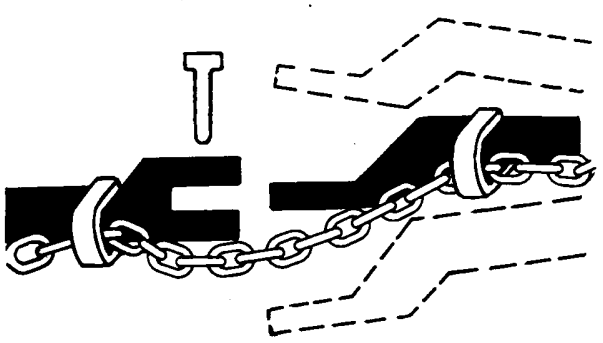
The tractor must be heavy and powerful enough with adequate braking power for the towed load. Add ballast to the tractor or lighten the implement load.

Drive slowly enough to maintain safe control. Be alert for skids. Shift to a lower gear for hillsides, rough ground, and sharp turns, especially when transporting heavy equipment.

Never operate the tractor with the transmission in the NEUTRAL position or with the clutch disengaged.

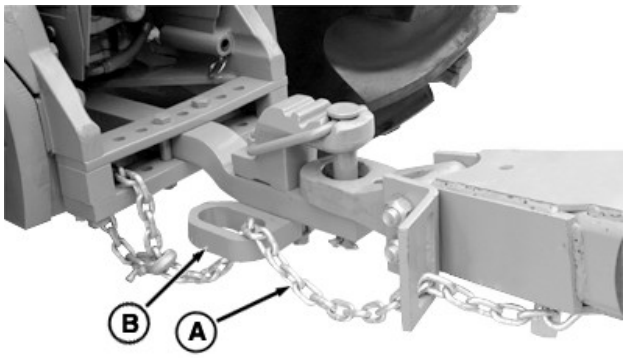
TS36762,000026E-19-18APR23

Use Safety Chain



TS217—UN—23AUG88

CAUTION: Avoid possible accident and injury by using a safety chain on drawn equipment. Use a safety chain with a strength rating equal to or greater than gross weight of equipment. Provide only enough slack in chain to permit turning.



RXA0082663—UN—28JUL05

Attach safety chain (A) to drawbar support or other specified anchor locations.

IMPORTANT: Do not use safety chain for towing or possible damage to tractor, implement, and drawbar may result. Safety chain is provided only for transport.

Do not use intermediate support (B) as an attaching point, load may break free. As shown, intermediate support is used to keep safety chain from dragging.

Attach and check operation of trailer brakes if equipped.

CAUTION: Slow down when transporting heavy implements.

Drive slowly enough to maintain safe control. Shift to a lower gear for hillsides, rough ground, and sharp turns, especially when transporting heavy equipment.

On icy or graveled grades, be alert for skids which could result in loss of steering control.

Never coast down hill.

Use caution when operating tractor at transport speeds. Reduce speed if towing heavy loads. Heavy towed or rear mounted implements may start swaying in transport. Consult towed equipment Operator's Manual for recommended transport speeds.

TS36762,000026F-19-05MAY22

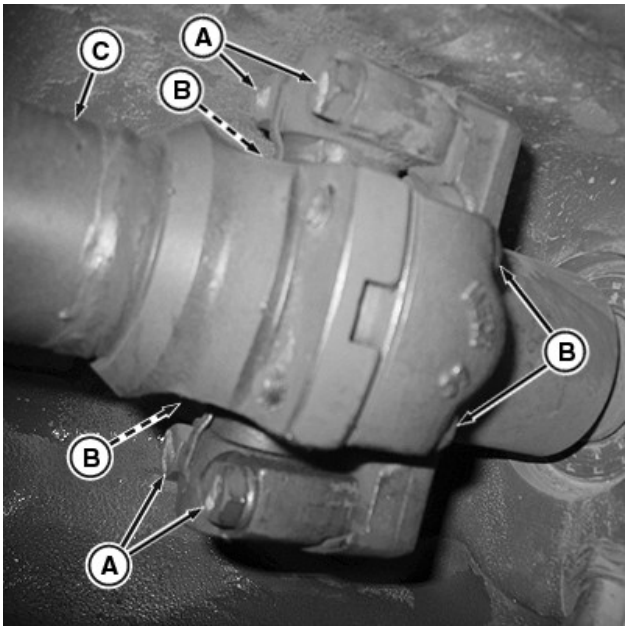
Tow Tractor

CAUTION: Avoid personal injury or death. Disconnect MFWD drive shaft if towing tractor with front wheels on a carrier. Loss of electrical power or transmission-hydraulic system pressure engages MFWD and will pull tractor off carrier, regardless of MFWD switch position.

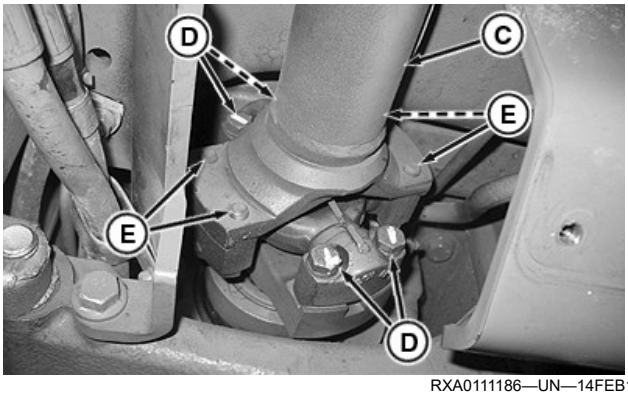
If tractor is ACS equipped and hydraulic oil temperature is less than -10° C (14° F), backup pump will not turn on. Tractor will not have brakes or steering. If tractor still must be moved, contact your John Deere dealer.

IMPORTANT: Avoid transmission and power train component damage:

- **Never attempt to start tractor by towing. Engine will not start.**
- **If possible, operate engine above 1250 rpm to provide lubrication, power steering, and power brakes. Have an operator steer and brake tractor.**
- **Do not tow tractor faster than 8 km/h (5 mph). Do not exceed 3 km/h (2 mph) for first 10 minutes in below freezing temperatures.**
- **Check transmission-hydraulic oil level. Add 4 L (1 gal) for each 152 mm (6 in) front wheels are raised off the ground. Do not raise wheels more than 305 mm (12 in). Drain excess oil after transporting.**



RXA0111188—UN—14FEB11



RXA0111186—UN—14FEB11

1. If equipped with MFWD, disconnect drive shaft if towing tractor with front wheels on a carrier:
   a. Remove shields.
   b. Remove both sets of cap screws (A, B) on rear MFWD drive shaft U-joint.
   c. Remove both sets of cap screws (D, E) on front MFWD drive shaft U-joint.
   d. Slide MFWD drive shaft (C) forward and out from tractor.
2. Tap brake pedals to make sure differential lock is not engaged.
3. Move reverser to:
   - e23 Transmission: Move reverser to NEUTRAL position.
   - IVT/AutoPowr Transmission:
     - Engine running: Move reverser to NEUTRAL position.
     - Engine off: Keep reverser in PARK position.

4. Release park brake. See Tow Mode in this section of this Operator's Manual.

DB71512,0000137-19-23JUN22

Tow Mode

NOTE: If tractor must be moved immediately, pulling tractor a short distance while tractor is in PARK will not damage brake system.

Before tractor can be towed, park brake must be released, if possible. If tractor loses electrical power, park brake can re-engage. If tractor has no electrical power, a 100 Amp electrical source must be connected. See Battery Booster Or Charger in Engine Operation Section of this Operator's Manual.

NOTE: Removing come home mode fuse enables electric hydraulic pump supplying oil for braking and steering. Enabling electric hydraulic pump allows tractor to be operated at a maximum of 8 km/h (5 mph) forward speed and 3 km/h (1.8 mph) reverse speed.

1. Turn key to off position.
2. Wait for display to shut down.
3. Remove fuse 32 and retain. For fuse location, see Load Center—Cab in Service—Electrical section of this Operator's Manual.
4. Turn key to run position.
5. Wait for Transmission Come Home Mode Active to display on CommandCenter.

NOTE: To protect drivetrain, some DTCs may prevent tractor park brake from releasing until DTC can be cleared. Contact your John Deere Dealer for assistance.

6. Place tractor in NEUTRAL.
7. Verify transmission is in NEUTRAL by looking at corner post display.
8. Steering and braking are supplied by backup pump.
9. When destination is reached, put transmission shift lever in PARK position.
10. Turn key to off position.
11. Replace come home mode fuse.

TS36762,0000273-19-21JUN22

Come Home Mode

Come home mode is used when tractor becomes inoperable due to failures and must be moved. In come-home mode, tractor can be moved short distances at reduced speeds.

The following limits apply:

- 16-Speed PowerShift transmission (8R Tractors) — maximum engine speed of 1500 rpm.
- e23 transmissions (7 and 8 Series Tractors) — maximum engine speed of 1500 rpm and Efficiency Manager is disabled.
- IVT-AutoPowr transmission (7 and 8 Series Tractors) — maximum tractor speed of 5 km/h (3.1 mph).
- EVT-eAutoPowr transmission (8 Series Tractors) — maximum tractor speed of 5 km/h (3.1 mph).

CAUTION: Avoid injury. When driving tractor in come home mode:

- **Do not exceed tractor limited capability.**
- **Braking may require additional force due to possible lower hydraulic pressure.**

1. Turn key to off position.
2. Wait for display to shut down.
3. Remove come home mode fuse and retain. For fuse location, see Load Center—Cab in Service—Electrical section of this Operator's Manual.
4. Start engine within 3 seconds of turning key to run position.
5. Transmission Come Home Mode Active displays on CommandCenter.
6. Step on brake pedal momentarily.
7. Depress clutch pedal.
8. Select Forward or Reverse direction.

NOTE: DTCs limiting motion will continue to limit motion in come home mode. If a DTC defaults machine to NEUTRAL, park brake will still release and machine can be towed. See Tow Tractor in this Operator's Manual section.

If DTC defaults tractor to PARK, park brake will not release until DTC is cleared. Contact your John Deere dealer for assistance.

9. Release clutch pedal to put tractor into motion.
10. When destination is reached, put transmission shift lever in PARK position.
11. Turn key switch to off position.
12. Replace come home mode fuse.

KD34109,000053F-19-21JUN22

Carrier Transport

IMPORTANT: Avoid tractor damage:

- **Only haul a disabled tractor on a flat bed carrier.**
- **Transport regulations vary. Contact local transportation officials for local transportation requirements.**

Drive Tractor onto Carrier

CAUTION: A second person is required to guide the driver onto the flat bed carrier. Make sure the tractor is centered on the carrier and watch for potential hazards that may cause injury but are not apparent to the driver. Drive carefully.

1. Steer the tractor straight ahead.
2. Stop the tractor.
3. Place the transmission into PARK.

NOTE: If the park brake has been disengaged, engage the park brake. See Tow Tractor in this Operator's Manual section.

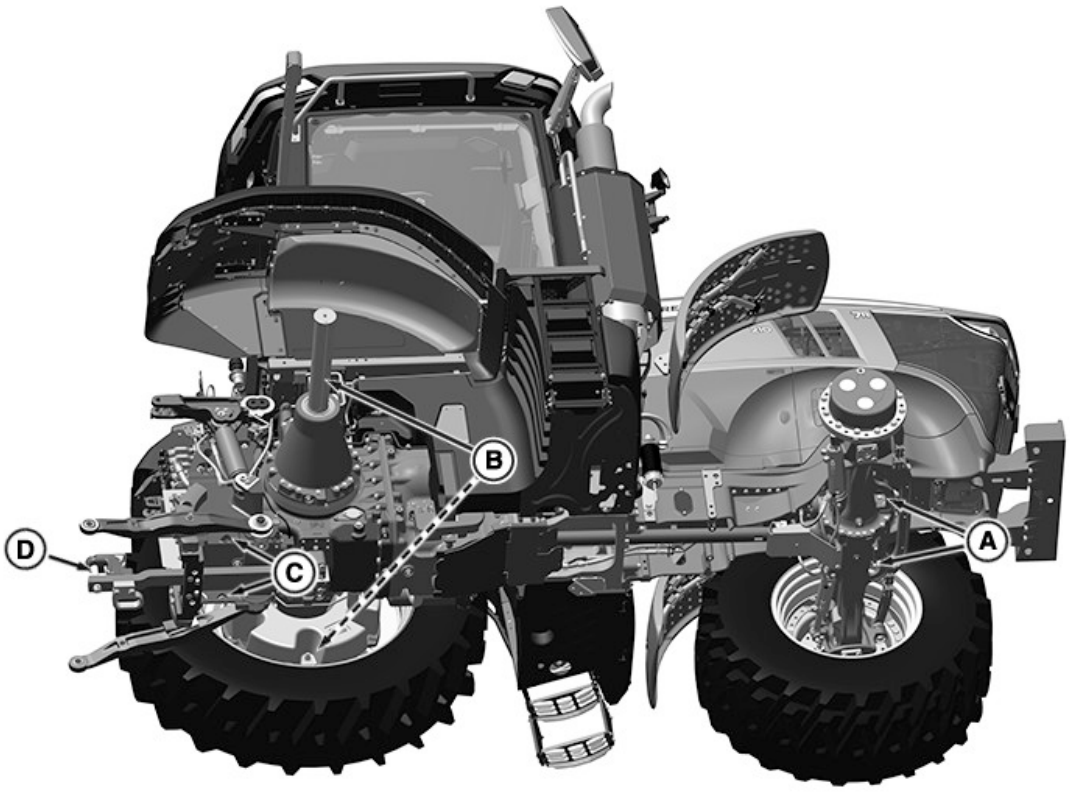
4. Shut off the engine.
5. Remove the key.

Tractor Tie-Down Locations

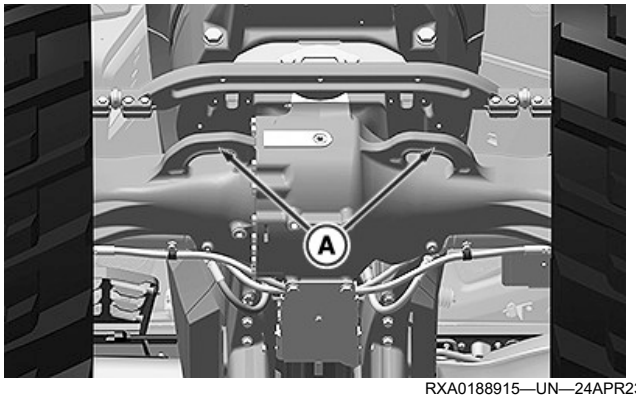
CAUTION: Avoid accident and/or injury:

- **Use tie-down devices to secure the tractor to the carrier.**
- **Do not wrap chain around the mechanical front-wheel drive shaft or axle housing.**

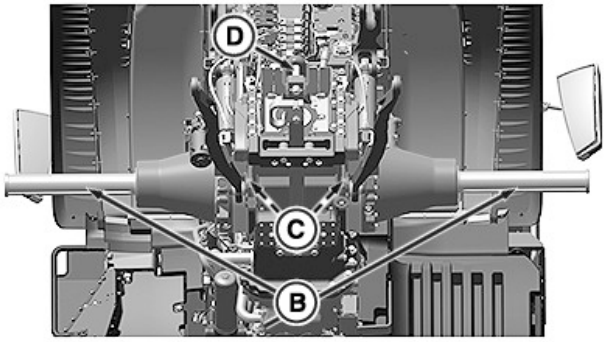
NOTE: Suspension collapse is not necessary for transporting the tractor. Use a rubber or protective material to prevent paint damage.



RXA0188914—UN—02MAY23



RXA0188915—UN—24APR23



RXA0188916—UN—02MAY23

Attach tie-down devices securely to:

- Front Axle (A)
- Rear Axle (B)
- Rear Hitch Casting (C)
- Rear Drawbar Pin (D)

TS36762,0000272-19-16MAY23

Freeing a Mired Tractor

CAUTION: Freeing a mired tractor can involve safety hazards. Avoid physical injury, tractor damage, or property damage:

- **Verify that the tractor surroundings are clear of people and other hazards before attempting to free a mired tractor.**
- **A tow chain or tow bar could fail and recoil from a stretched condition.**
- **A mired tractor could tip rearward.**
- **The towing machine could overturn.**

IMPORTANT: Avoid tractor damage or property damage:

- **Never:**
  - **Use the front weight support as a tow point or to push other tractors or implements.**
  - **Use the front suspended axle to tow the tractor.**
  - **Attempt to start the tractor by towing.**
  - **Attempt to clear excess soil material by driving the tractor after the mired tractor is freed.**
- **Always:**
  - **Have an operator steer and brake the mired tractor. If possible, maintain a minimum of 1250 engine rpm to provide power for lubrication, steering, and brakes.**
  - **Tow the tractor in as straight a line as possible. Pulling at an angle causes heavy side loads and can damage the suspended axle or frame.**
  - **Stop immediately if the tracks are spinning and begin to dig below the surface level of soil. Track damage can occur due to material ingestion between the track and drive system components.**
  - **Remove excess material from the undercarriage and drive system components of the freed tractor before driving the tractor under its own power.**

To Free a Mired Tractor

1. Unhitch and move any towed implements.
2. Attach a tow chain or tow bar to the mired tractor. See Tow Points in this section of this Operator's Manual. If the mired tractor is to be pulled:
   - Rearward (preferred): Attach at the drawbar.
   - Forward: Attach at the tow point.
3. Pull the mired tractor.

EC82310,0000B45-19-11NOV19

Determine Tractor Engine Type

IMPORTANT: To determine tractor engine type, see Engine Serial Number in Identification Numbers section of this Operator's Manual.

Correct engine oil specification and oil change interval is determined by a number of factors. One important consideration is type of engine aftertreatment installed. To determine engine type, see Engine Serial Number in Identification Numbers section of this Operator's Manual.

RX32825,0001798-19-14DEC16

Minimizing the Effect of Cold Weather on Diesel Engines

John Deere diesel engines are designed to operate effectively in cold weather.

However, for effective starting and cold-weather operation, a little extra care is necessary. The following information outlines steps that can minimize the effect that cold weather may have on starting and operation of your engine. See your John Deere dealer for additional information and local availability of cold-weather aids.

Use Winter Grade Fuel

When temperatures fall below 0°C (32°F), winter grade fuel (No. 1-D in North America) is best suited for cold-weather operation. Winter grade fuel has a lower cloud point and a lower pour point.

Cloud point is the temperature at which wax begins to form in the fuel. This wax causes fuel filters to plug. **Pour point** is the lowest temperature at which movement of the fuel is observed.

NOTE: On average, winter grade diesel fuel has a lower Btu (heat content) rating. Using winter grade fuel may reduce power and fuel efficiency, but should not cause any other engine performance effects. Check the grade of fuel being used before troubleshooting for low-power complaints in cold-weather operation.

Air Intake Heater

An air intake heater is an available option for some engines to aid cold weather starting.

Ether

An ether port on the intake is available to aid cold weather starting.

CAUTION: Ether is highly flammable. Do not use ether when starting an engine equipped with glow plugs or an air intake heater.

Coolant Heater

An engine block heater (coolant heater) is an available option to aid cold weather starting.

Seasonal Viscosity Oil and Proper Coolant Concentration

Use seasonal grade viscosity engine oil based on the expected air temperature range between oil changes and a proper concentration of low silicate antifreeze as recommended. (See DIESEL ENGINE OIL and ENGINE COOLANT requirements in this section.)

Diesel Fuel Cold Flow Additive

Use John Deere Fuel-Protect Diesel Fuel Conditioner (winter formula), which contains anti-gel chemistry, or equivalent fuel conditioner to treat non-winter grade fuel (No. 2-D in North America) during the cold-weather season. This generally extends operability to about 10° C (18°F) below the fuel cloud point. For operability at even lower temperatures, use winter grade fuel.

IMPORTANT: Treat fuel when outside temperature drops below 0°C (32°F). For best results, use with untreated fuel. Follow all recommended instructions on label.

Biodiesel

When operating with biodiesel blends, wax formation can occur at warmer temperatures. Begin using John Deere Fuel-Protect Diesel Fuel Conditioner (winter formula) or equivalent at 5°C (41°F) to treat biodiesel fuels during the cold-weather season. Use B5 or lower blends at temperatures below 0°C (32°F). Use only winter grade petroleum diesel fuel at temperatures below -10°C (14°F).

Winterfronts

Use of fabric, cardboard, or solid winterfronts is not recommended with any John Deere engine. Their use can result in excessive engine coolant, oil, and charge air temperatures. This can lead to reduced engine life, loss of power and poor fuel economy. Winterfronts may also put abnormal stress on fan and fan drive components potentially causing premature failures.

If winterfronts are used, they should never totally close off the grill frontal area. Approximately 25% area in the center of the grill should remain open at all times. At no time should the air blockage device be applied directly to the radiator core.

Radiator Shutters

If equipped with a thermostatically controlled radiator shutter system, this system should be regulated in such a way that the shutters are completely open by the time the coolant reaches 93°C (200°F) to prevent excessive intake manifold temperatures. Manually controlled systems are not recommended.

If air-to-air aftercooling is used, the shutters must be

completely open by the time the intake manifold air temperature reaches the maximum allowable temperature out of the charge air cooler.

For more information, see your John Deere dealer.

DX,FUEL10-19-13JAN18

Oil Filters

Filtration of oils is critically important for proper operation and lubrication. John Deere brand oil filters have been designed and produced specifically for John Deere applications.

John Deere filters adhere to engineering specifications for quality of the filter media, filter efficiency rating, strength of the bond between the filter media and the element end cap, fatigue life of the canister (if applicable), and pressure capability of the filter seal. Non-John Deere branded oil filters might not meet these key John Deere specifications.

Always change oil filters regularly as specified in this manual.

DX,FILT1-19-11APR11

Diesel Fuel

Consult your local fuel distributor for properties of the diesel fuel available in your area.

In general, diesel fuels are blended to satisfy the low temperature requirements of the geographical area in which they are marketed.

Diesel fuels specified to EN 590 or ASTM D975 are recommended. Renewable diesel fuel produced by hydrotreating animal fats and vegetable oils is basically identical to petroleum diesel fuel. Renewable diesel that meets EN 590, ASTM D975, or EN 15940 is acceptable for use at all percentage mixture levels.

Required Fuel Properties

In all cases, the fuel shall meet the following properties:

Cetane number of 40 minimum. Cetane number greater than 47 is preferred, especially for temperatures below –20 °C (–4 °F) or elevations above 1675 m (5500 ft.).

Cloud Point should be below the expected lowest ambient temperature or **Cold Filter Plugging Point** (CFPP) should be a maximum 10°C (18°F) below the fuel cloud point.

Fuel lubricity should pass a maximum scar diameter of 0.52 mm as measured by ASTM D6079 or ISO 12156-1. A maximum scar diameter of 0.45 mm is preferred.

Diesel fuel quality and sulfur content must comply with all existing emissions regulations for the area in which the engine operates. DO NOT use diesel fuel with sulfur content greater than 10 000 mg/kg (10 000 ppm).

Materials such as copper, lead, zinc, tin, brass and bronze should be avoided in fuel handling, distribution and storage equipment as these metals can catalyze fuel oxidation reactions which can lead to fuel system deposits and plugged fuel filters.

E-Diesel fuel

DO NOT use E-Diesel (Diesel fuel and ethanol blend). Use of E-Diesel fuel in any John Deere machine may void the machine warranty.

CAUTION: Avoid severe injury or death due to the fire and explosion risk from using E-Diesel fuel.

Sulfur Content for Interim Tier 4, Final Tier 4, Stage III B, Stage IV, and Stage V Engines Above 560 kW

- Use ONLY diesel fuel with a maximum of 500 mg/kg (500 ppm) sulfur content.

Sulfur Content for Interim Tier 4, Final Tier 4, Stage III B, Stage IV Engines, and Stage V Engines

- Use ONLY ultra low sulfur diesel (ULSD) fuel with a maximum of 15 mg/kg (15 ppm) sulfur content.

Sulfur Content for Tier 3 and Stage III A Engines

- Use of diesel fuel with sulfur content less than 1000 mg/kg (1000 ppm) is RECOMMENDED.
- Use of diesel fuel with sulfur content 1000—2000 mg/kg (1000—2000 ppm) REDUCES the oil and filter change interval.
- BEFORE using diesel fuel with sulfur content greater than 2000 mg/kg (2000 ppm), contact your John Deere dealer.

Sulfur Content for Tier 2 and Stage II Engines

- Use of diesel fuel with sulfur content less than 2000 mg/kg (2000 ppm) is RECOMMENDED.
- Use of diesel fuel with sulfur content 2000—5000 mg/kg (2000—5000 ppm) REDUCES the oil and filter change interval.[1]
- BEFORE using diesel fuel with sulfur content greater than 5000 mg/kg (5000 ppm), contact your John Deere dealer.

Sulfur Content for Other Engines

- Use of diesel fuel with sulfur content less than 5000 mg/kg (5000 ppm) is RECOMMENDED.
- Use of diesel fuel with sulfur content greater than 5000 mg/kg (5000 ppm) REDUCES the oil and filter change interval.

IMPORTANT: Do not mix used diesel engine oil or any other type of lubricating oil with diesel fuel.

Improper fuel additive usage may cause damage on fuel injection equipment of diesel engines.

DX,FUEL1-19-01NOV22

Supplemental Diesel Fuel Additives

Diesel fuel can be the source of performance or other operational problems for many reasons. Some causes include poor lubricity, contaminants, low cetane number, and a variety of properties that cause fuel system deposits. These and others are referenced in other sections of this Operator's Manual.

To optimize engine performance and reliability, closely follow recommendations on fuel quality, storage, and handling, which are found elsewhere in this Operator's Manual.

To further aid in maintaining performance and reliability of the engine's fuel system, John Deere has developed a family of fuel additive products for most global markets. The primary products include Fuel-Protect Diesel Fuel Conditioner (full feature conditioner in winter

[1] *See DX,ENOIL12,OEM, DX,ENOIL12,T2,STD, or DX,ENOIL12,T2, EXT for more information on Engine Oil and Filter Service Intervals.*

and summer formulas) and Fuel-Protect Keep Clean (fuel injector deposit removal and prevention). Availability of these and other products varies by market. See your local John Deere dealer for availability and additional information about fuel additives that might be right for your needs.

DX,FUEL13-19-07FEB14

Biodiesel Fuel

Biodiesel fuel is comprised of monoalkyl esters of long chain fatty acids derived from vegetable oils or animal fats. Biodiesel blends are biodiesel mixed with petroleum diesel fuel on a volume basis.

Before using fuel containing biodiesel, review the Biodiesel Use Requirements and Recommendations in this Operator's Manual.

Environmental laws and regulations can encourage or prohibit the use of biofuels. Operators should consult with appropriate governmental authorities prior to using biofuels.

John Deere Stage V Engines Operating in the European Union

Where the engine is to be operated within the Union on diesel or non-road gas-oil, a fuel with a FAME content not greater than 8% volume/volume (B8) shall be used.

John Deere Engines with Exhaust Filter Except Stage V Engines Operating in the European Union

Biodiesel blends up to B20 can be used ONLY if the biodiesel (100% biodiesel or B100) meets ASTM D6751, EN 14214, or equivalent specification. Expect a 2% reduction in power and a 3% reduction in fuel economy when using B20.

Biodiesel concentrations above B20 can harm the engine's emission control systems and should not be used. Risks include, but are not limited to, more frequent stationary regeneration, soot accumulation, and increased intervals for ash removal.

John Deere Fuel conditioners or equivalent, which contain detergent and dispersant additives, are required when using biodiesel blends from B10 to B20, and are recommended when using lower biodiesel blends.

John Deere Engines Without Exhaust Filter

Biodiesel blends up to B20 can be used ONLY if the biodiesel (100% biodiesel or B100) meets ASTM D6751, EN 14214, or equivalent specification. Expect a 2% reduction in power and a 3% reduction in fuel economy when using B20.

These John Deere engines can operate on biodiesel blends above B20 (up to 100% biodiesel). Operate at levels above B20 ONLY if the biodiesel is permitted by law and meets the EN 14214 specification (primarily available in Europe). Engines operating on biodiesel blends above B20 might not fully comply with or be permitted by all applicable emissions regulations. Expect up to a 12% reduction in power and an 18% reduction in fuel economy when using 100% biodiesel.

John Deere fuel conditioners or equivalent, which contain detergent and dispersant additives, are required when using biodiesel blends from B10 to B100, and are recommended when using lower biodiesel blends.

Biodiesel Use Requirements and Recommendations

The petroleum diesel portion of all biodiesel blends must meet the requirements of ASTM D975 (US) or EN 590 (EU) commercial standard.

Biodiesel users in the U.S. are strongly encouraged to purchase biodiesel blends from a BQ-9000 Certified Marketer and sourced from a BQ-9000 Accredited Producer (as certified by the National biodiesel Board). Certified Marketers and Accredited Producers can be found at the following website: http://www.bq9000.org.

Biodiesel contains residual ash. Ash levels exceeding the maximums allowed in either ASTM D6751 or EN14214 can result in more rapid ash loading and require more frequent cleaning of the Exhaust Filter (if present).

The fuel filter can require more frequent replacement when using biodiesel fuel, particularly if switching from diesel. Check engine oil level daily prior to starting engine. A rising oil level can indicate fuel dilution of the engine oil. Biodiesel blends up to B20 must be used within 90 days of the date of biodiesel manufacture. Biodiesel blends above B20 must be used within 45 days from the date of biodiesel manufacture.

When using biodiesel blends up to B20, the following must be considered:

- Cold-weather flow degradation
- Stability and storage issues (moisture absorption, microbial growth)
- Possible filter restriction and plugging (usually a problem when first switching to biodiesel on used engines)
- Possible fuel leakage through seals and hoses (primarily an issue with older engines)
- Possible reduction of service life of engine components

Request a certificate of analysis from your fuel distributor to ensure that the fuel is compliant with the specifications provided in this Operator's Manual.

Consult your John Deere dealer for John Deere fuel products to improve storage and performance with biodiesel fuels.

The following must also be considered if using biodiesel blends above B20:

- Possible coking or blocked injector nozzles, resulting

in power loss and engine misfire if John Deere fuel additives and conditioners or equivalent containing detergent/dispersants are not used
- Possible crankcase oil dilution (requiring more frequent oil changes)
- Possible lacquering or seizure of internal components
- Possible formation of sludge and sediments
- Possible thermal oxidation of fuel at elevated temperatures
- Possible compatibility issues with other materials (including copper, lead, zinc, tin, brass, and bronze) used in fuel handling, distribution, and storage equipment
- Possible reduction in water separator efficiency
- Possible damage to paint if exposed to biodiesel
- Possible corrosion of fuel injection equipment
- Possible elastomeric seal and gasket material degradation (primarily an issue with older engines)
- Possible high acid levels within fuel system
- Because biodiesel blends above B20 contain more ash, using blends above B20 can result in more rapid ash loading and require more frequent cleaning of the Exhaust Filter (if present)

IMPORTANT: Raw pressed vegetable oils are NOT acceptable for use as fuel in any concentration in John Deere engines. Their use could cause engine failure.

DX,FUEL7-19-13JAN18

Lubricity of Diesel Fuel

Most diesel fuels manufactured in the United States, Canada, and the European Union have adequate lubricity to ensure proper operation and durability of fuel injection system components. However, diesel fuels manufactured in some areas of the world may lack the necessary lubricity.

IMPORTANT: Make sure the diesel fuel used in your machine demonstrates good lubricity characteristics.

Fuel lubricity should pass a maximum scar diameter of 0.52 mm as measured by ASTM D6079 or ISO 12156-1. A maximum scar diameter of 0.45 mm is preferred.

If fuel of low or unknown lubricity is used, add John Deere Fuel-Protect Diesel Fuel Conditioner (or equivalent) at the specified concentration.

Lubricity of BioDiesel Fuel

Fuel lubricity can improve significantly with BioDiesel blends up to B20 (20% BioDiesel). Further increase in lubricity is limited for BioDiesel blends greater than B20.

DX,FUEL5-19-07FEB14

Handling and Storing Diesel Fuel

CAUTION: Reduce the risk of fire. Handle fuel carefully. DO NOT fill the fuel tank when engine is running. DO NOT smoke while you fill the fuel tank or service the fuel system.

Fill the fuel tank at the end of each day's operation to prevent water condensation and freezing during cold weather.

Keep all storage tanks as full as practical to minimize condensation.

Ensure that all fuel tank caps and covers are installed properly to prevent moisture from entering. Monitor water content of the fuel regularly.

When using biodiesel fuel, the fuel filter may require more frequent replacement due to premature plugging.

Check engine oil level daily prior to starting engine. A rising oil level may indicate fuel dilution of the engine oil.

IMPORTANT: The fuel tank is vented through the filler cap. If a new filler cap is required, always replace it with an original vented cap.

When fuel is stored for an extended period or if there is a slow turnover of fuel, add a fuel conditioner to stabilize the fuel. Keeping the free water drained and treating the bulk fuel storage tank quarterly with a maintenance dose of a biocide will prevent microbial growth. Contact your fuel supplier or John Deere dealer for recommendations.

DX,FUEL4-19-13JAN18

Fill Fuel Tank

TS202—UN—23AUG88

CAUTION: Handle fuel with care: It is highly flammable. Do not refuel the machine while smoking or when near open flame or sparks.

Always stop engine before refueling machine. Fill fuel tank outdoors.

Prevent fires by keeping machine clean of accumulated trash, grease, and debris. Always clean up spilled fuel.

IMPORTANT: To confirm which engine your tractor is equipped with, see Engine Serial Number in Identification Numbers section of this Operator's Manual.

IMPORTANT: To prevent damage to tractor fuel injection system and other components, never put Diesel Exhaust Fluid (DEF) into fuel tank or fuel system.

RXA0167614—UN—23APR19

IMPORTANT: For machines with Final Tier 4/Stage V engine, use only ultra low sulfur fuel as specified on decal. For other machines, see Diesel Fuel in this section of this Operator's Manual.

IMPORTANT: For machines with Final Tier 4/Stage V engine, best practice is to refill DEF tank each fuel tank is refilled to assure sufficient DEF is always available. See Refilling Diesel Exhaust Fluid (DEF) Tank in Diesel Exhaust Fluid (DEF) section of this Operator's Manual.

Watch fuel level. Low fuel indicator on corner post fuel display will flash when approximately 39 L (10 gal.) of fuel remains. Regardless of fuel level, fill fuel tank at end of each day to prevent condensation in tank. Condensation can be produced when trapped moist air cools. Use fuel as specified for machine's engine.

To open fuel tank cap, lift latch lever and turn 90° counterclockwise, then lift fuel cap from filler neck. Replace and securely latch cap after fueling is complete.

RX32825,0000424-19-25APR19

Testing Diesel Fuel

A fuel analysis program can help to monitor the quality of diesel fuel. The fuel analysis can provide critical data such as calculated cetane index, fuel type, sulfur content, water content, appearance, suitability for cold weather operations, bacteria, cloud point, acid number, particulate contamination, and whether the fuel meets ASTM D975 or equivalent specification.

Contact your John Deere dealer for more information on diesel fuel analysis.

DX,FUEL6-19-13JAN18

Fuel Filters

The importance of fuel filtration cannot be overemphasized with modern fuel systems. The combination of increasingly restrictive emission regulations and more efficient engines requires fuel system to operate at much higher pressures. Higher pressures can only be achieved using fuel injection components with very close tolerances. These close manufacturing tolerances have significantly reduced capacities for debris and water.

John Deere brand fuel filters have been designed and produced specifically for John Deere engines.

To protect the engine from debris and water, always change engine fuel filters as specified in this manual.

DX,FILT2-19-14APR11

Diesel Exhaust Fluid (DEF)

Diesel Exhaust Fluid (DEF) — Use in Selective Catalytic Reduction (SCR) Equipped Engines

In order to maintain the emissions performance of the engine, it is essential to use and refill DEF in accordance with the specification.

Diesel exhaust fluid (DEF) is a high purity liquid that is injected into the exhaust system of engines equipped with selective catalytic reduction (SCR) systems. Maintaining the purity of DEF is important to avoid malfunctions in the SCR system. Engines requiring DEF shall use a product that meets the requirements for aqueous urea solution 32 (AUS 32) according to ISO 22241-1.

The use of John Deere Diesel Exhaust Fluid is recommended. John Deere Diesel Exhaust Fluid is available at your John Deere dealer in a variety of package sizes to suit your operational needs.

If John Deere Diesel Exhaust Fluid is not available, use DEF that is certified by the American Petroleum Institute (API) Diesel Exhaust Fluid Certification Program or by the AdBlue Diesel Exhaust Fluid Certification Program. Look for the API certification symbol or the AdBlue name on the container.

RG30211—UN—08MAR18

In some cases, DEF is referred to by one or more of these names:

- Urea
- Aqueous Urea Solution 32
- AUS 32
- AdBlue
- NOx Reduction Agent
- Catalyst Solution

DX,DEF(T)-19-08APR22

Storing Diesel Exhaust Fluid (DEF)

CAUTION: Avoid contact with eyes. In case of contact, immediately flush eyes with large amounts of water for a minimum of 15 minutes. Reference the Materials Safety Data Sheet (MSDS) for additional information.

Do not ingest DEF. In the event DEF is ingested, contact a physician immediately. Reference the Materials Safety Data Sheet (MSDS) for additional information.

IMPORTANT: It is unlawful to tamper with or remove any component of the aftertreatment system. Do not use DEF that does not meet the required specifications or operate the engine with no DEF.

Never attempt to create DEF by mixing agricultural grade urea with water. Agricultural grade urea does not meet the necessary specifications and can damage the aftertreatment system.

Do not add any chemicals or additives to DEF in an effort to prevent freezing. Any chemicals or additives added to DEF can damage the aftertreatment system.

Never add water or any other fluid in place of, or in addition to DEF. Operating with a modified DEF or using an unapproved DEF can damage the aftertreatment system.

Storage information provided below is for reference and is to be used as a guideline only.

It is preferred to store DEF out of extreme ambient temperatures. DEF freezes at –11°C (12°F). Exposure to temperatures greater than 30°C (86°F) can degrade DEF over time. Do not store DEF in direct sunlight.

Dedicated DEF storage containers must be sealed between uses to prevent evaporation and contamination. Containers made of polyethylene, polypropylene, or stainless steel are recommended to transport and store DEF.

Ideal conditions for storage of DEF are:

- Store at temperatures between –5°C and 30°C (23°F and 86°F)
- Store in dedicated containers sealed to avoid contamination and evaporation

Under these conditions, DEF is expected to remain useable for a minimum of 18 months. Storing DEF at higher temperatures can reduce its useful life by approximately 6 months for every 5°C (9°F) temperature above 30°C (86°F).

If unsure how long or under what conditions DEF has been stored, test DEF. See Testing Diesel Exhaust Fluid (DEF).

Long-term storage in the DEF tank (over 12 months) is not recommended. If long-term storage is necessary, test DEF prior to operating engine. See Testing Diesel Exhaust Fluid (DEF).

It is recommended to purchase DEF in quantities that will be consumed within 12 months.

DX,DEF,STORE-19-15JUL20

Refilling Diesel Exhaust Fluid (DEF) Tank

TS1731—UN—23AUG13

CAUTION: Avoid contact with eyes. In case of contact, immediately flush eyes with large amounts of water for a minimum of 15 minutes. Reference the Materials Safety Data Sheet (MSDS) for additional information.

Do not ingest DEF. In the event DEF is ingested, contact a physician immediately. Reference the Materials Safety Data Sheet (MSDS) for additional information.

IMPORTANT: Use only distilled water to rinse components that are used to deliver DEF. Tap water can contaminate DEF. If distilled water is not available, rinse with clean tap water, then thoroughly rinse with ample amounts of DEF.

If DEF is spilled or contacts any surface other than the storage tank, immediately clean the surface with clear water. DEF is corrosive to painted and unpainted metallic surfaces and can distort some plastic and rubber components.

If DEF is filled into engine fuel tank or other fluid compartment, do not operate engine until system is properly purged of DEF. Contact your John Deere dealer immediately to determine how to clean and purge the system.

Reasonable care should be taken when refilling the DEF tank. Ensure that the DEF tank cap area is free of debris before removing the cap. Seal containers of DEF between use to prevent contamination and evaporation.

Avoid splashing DEF and do not allow DEF to come into contact with skin, eyes, or mouth.

DEF is not harmful to handle, but DEF can be corrosive to materials such as steel, iron, zinc, nickel, copper, aluminum, and magnesium. Use suitable containers to transport and store DEF. Containers made of polyethylene, polypropylene, or stainless steel are recommended.

Avoid prolonged contact with skin. In case of accidental contact, wash skin immediately with soap and water.

Keep anything used to store or dispense DEF clean of dirt and dust. Wash and rinse containers or funnels thoroughly with distilled water to remove contaminants.

If an unapproved fluid, such as diesel fuel or coolant is added to the DEF tank, contact your John Deere dealer immediately to determine how to clean and purge the system.

If water has been added to the DEF tank, a tank cleaning is necessary. See Cleaning DEF Tank in this manual. After refilling the tank, check the DEF concentration. See Testing Diesel Exhaust Fluid (DEF).

The operator must maintain appropriate DEF levels at all times. Check the DEF level daily and refill the tank as needed. The filling port is identified by a blue colored cap embossed with the following DEF symbol.

DX,DEF,REFILL-19-15JUL20

Fill DEF Tank—FT4/Stage V Engine

CAUTION: DEF contains urea. Do not get the substance in eyes. In case of contact, immediately flush eyes with large amounts of water for a minimum of 15 minutes. Do not take internally. In the event DEF is ingested, contact a physician immediately. Reference Materials Safety Data Sheet (MSDS) for additional information.

IMPORTANT: To determine tractor engine type, see Engine Serial Number in Identification Numbers Section of this Operator's Manual.

IMPORTANT: Never put DEF in diesel fuel tank, or diesel fuel in DEF tank.

RXA0152773—UN—13JUL16

To avoid drastic changes in tractor performance, always keep DEF level above topmost red mark on cornerpost display (A). Monitor DEF level on cornerpost display and refill as necessary. Refill DEF tank every time tractor is

refueled. See Diesel Exhaust Fluid (DEF) — Use in Selective Catalytic Reduction (SCR) Equipped Engines in this section of this Operator's Manual.

IMPORTANT: If DEF is spilled or contacts any surface other than the storage tank, immediately clean the surface with clear water. DEF is corrosive to painted and unpainted metallic surfaces and can distort some plastic and rubber components.

To fill DEF tank:

1. Before using containers, funnels, etc. to dispense DEF, wash and rinse items thoroughly with distilled water to remove contaminants.

RXA0167615—UN—23APR19

2. Wipe DEF tank filler cap, area around cap, and filler neck to reduce chance of contaminating DEF.
3. Slide DEF tank cap from lock to unlock position and turn cap 90° counterclockwise.
4. Lift cap from filler neck.

IMPORTANT: Avoid overfilling DEF tank.

Completely filling DEF tank at lower temperatures can cause a blockage in filler neck. If temperatures are expected to reach below -11°C (12°F), do not fill DEF tank more than half way according to DEF level display on corner post. Observe temperature guidelines to assure ability to refill tank.

5. Using funnel, carefully fill DEF tank. DO NOT over fill DEF tank. Best final fill level is determined by ambient air temperature guide:
   - Ambient air temperature at or above -11° C (12° F): Completely fill tank.
   - Ambient air temperature below -11° C (12° F): Keep fill tank level below the filler neck. Although main portion of DEF tank is heated to keep DEF from freezing, filler neck is not heated. Fluid in neck may freeze, preventing refill DEF tank until fluid melts.
6. Replace and securely latch DEF tank cap. Cap can be locked with a padlock.
7. Carefully clean any spills, using clean (preferably distilled) water.

If an unapproved fluid, such as diesel fuel, or engine coolant is added to vehicle DEF tank, see Diesel Exhaust Fluid (DEF) Tank in Service—Clean section of this Operator's Manual.

RX32825,000179A-19-08JUN21

Testing Diesel Exhaust Fluid (DEF)

IMPORTANT: Using DEF with the correct concentration is critical to engine and aftertreatment system performance. Extended storage and other conditions can adversely alter the DEF concentration.

If DEF quality is questionable, draw a sample out of the DEF tank or storage tank into a clear container. DEF must be crystal clear with a light ammonia smell. If DEF appears cloudy, has a colored tint, or has a profound ammonia smell, it is likely not within specification. DEF in this condition should not be used. Drain tank, flush with distilled water and refill with new or good DEF. After refilling the tank, check the DEF concentration.

If the DEF passes the visual and smell test, check the DEF concentration with a handheld refractometer calibrated to measure DEF.

DEF concentration should be checked when the engine has been stored for extended periods, or if there is suspicion the engine or packaged DEF fluid has been contaminated with water.

Two approved tools are available through your John Deere dealer:

- JDG11594 Digital DEF Refractometer—A digital tool providing an easy to read concentration measurement
- JDG11684 DEF Refractometer—Low-cost alternative tool providing an analog reading

Follow instructions included with either tool to obtain the measurement.

The correct DEF concentration is 31.8—33.2% urea. If the DEF concentration is not within specification, drain the DEF tank, flush with distilled water and fill with new or good DEF. If packaged DEF is not within specification, dispose of DEF packages and replace with new or good DEF.

DX,DEF,TEST-19-13JUN13

Disposal of Diesel Exhaust Fluid (DEF)

Although there is little issue with minor spillage of DEF on the ground, large amounts of DEF should be

contained. If large spills occur, contact local environmental authorities for assistance with clean-up.

If a substantial quantity of DEF is not within specification, contact the DEF supplier for assistance with disposal. Do not dump substantial quantities of DEF onto the ground or send DEF to wastewater treatment facilities.

DX,DEF,DISPOSE-19-13JUN13

Diesel Engine Oil Service Interval for Operation at High Altitude

To avoid excessive oil degradation and potential engine damage, reduce oil and filter service intervals to 50% of the original recommended values when operating engines at altitudes above **1675 m (5500 ft)**.

Oil analysis may allow longer service intervals.

Use only approved oil types.

Example of Original Hours	Corresponding High Altitude Hours
125	60
150	75
175	85
200	100
250	125
275	135
300	150
350	175
375	185
400	200
500	250

DX,ENOIL,SERV,HIALT-19-11NOV14

John Deere Break-In Plus Engine Oil — Interim Tier 4, Final Tier 4, Stage IIIB, Stage IV, and Stage V

New engines are filled at the factory with John Deere Break-In Plus Engine Oil. During the break-in period, add John Deere Break-In Plus Engine Oil, as needed to maintain the specified oil level.

Operate the engine under various conditions, particularly heavy loads with minimal idling, to help seat engine components properly.

During the initial operation of a new or rebuilt engine, change the oil and filter between a minimum of 100 hours and maximum equal to the interval specified for John Deere Plus-50 II oil.

After an engine overhaul, fill the engine with John Deere Break-In Plus Engine Oil.

If John Deere Break-In Plus Engine Oil is not available, use an SAE 10W-30 viscosity grade diesel engine oil meeting one of the following:

- API Service Category CK-4
- API Service Category CJ-4
- ACEA Oil Sequence E9
- ACEA Oil Sequence E6

If one of these oils is used during the initial operation of a new or rebuilt engine, change the oil and filter between a minimum of 100 hours and a maximum of 250 hours.

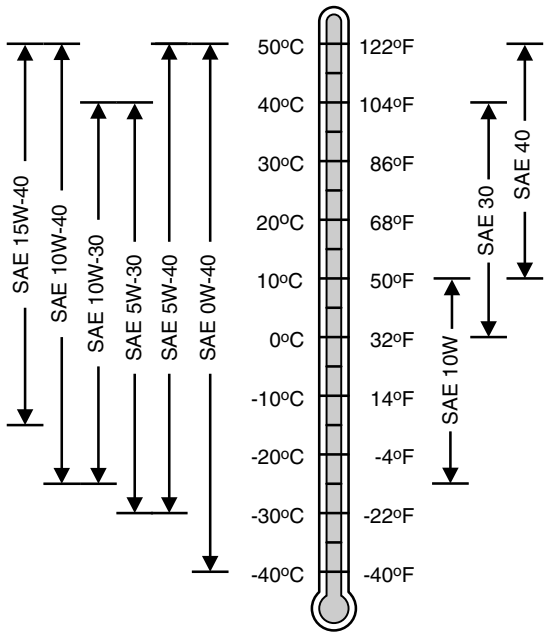
IMPORTANT: Do not use any other engine oils during the initial break-in of a new or rebuilt engine.

John Deere Break-In Plus Engine Oil can be used for all John Deere diesel engines at all emission certification levels.

After the break-in period, use John Deere Plus-50 II or other diesel engine oil as recommended in this manual.

DX,ENOIL16(T)-19-05APR22

Diesel Engine Oil — Interim Tier 4, Final Tier 4, Stage IIIB, Stage IV, and Stage V



TS1743—UN—25APR19

Oil Viscosities for Air Temperature Ranges

Failure to follow applicable oil standards and drain intervals can result in severe engine damage that might not be covered under warranty. Warranties, including the emissions warranty, are not conditioned on the use of John Deere oils, parts, or service.

Use an oil viscosity based on the expected air temperature range during the period between oil changes.

John Deere Plus-50 II is the recommended engine oil.

Extended service intervals may apply when John Deere Plus-50 II engine oil is used. Refer to the engine oil drain interval table and consult your John Deere dealer for more information.

If John Deere Plus-50 II engine oil is not available,

engine oil meeting one or more of the following may be used:

- API Service Category CK-4
- API Service Category CJ-4
- ACEA Oil Sequence E9
- ACEA Oil Sequence E6

DO NOT use engine oil containing more than 1.0% sulfated ash, 0.12% phosphorus, or 0.4% sulfur.

Multi-viscosity diesel engine oils are preferred.

Diesel fuel quality and fuel sulfur content must comply with all existing emissions regulations for the area in which the engine operates.

IMPORTANT: Use only ultra low sulfur diesel (ULSD) fuel with a maximum sulfur content of 15 mg/kg (15 ppm).

DX,ENOIL14(T)-19-05APR22

Engine Oil and Filter Service Intervals — Interim Tier 4, Final Tier 4, Stage IIIB, Stage IV, and Stage V Engines

Failure to follow applicable oil standards and drain intervals can result in severe engine damage that might not be covered under warranty. Warranties, including the emissions warranty, are not conditioned on the use of John Deere oils, parts, or service.

Recommended oil and filter service intervals are based on a combination of oil pan capacity, type of engine oil and filter used, and sulfur content of the diesel fuel. Actual service intervals also depend on operation and maintenance practices.

Approved Oil Types:

- John Deere Plus-50 II
- “Other Oils” include API CK-4, API CJ-4, ACEA E9, and ACEA E6

Use oil analysis to evaluate the condition of the oil and to aid in the selection of the proper oil and filter service interval. Contact your John Deere dealer or other qualified service provider for more information on engine oil analysis.

Change the oil and oil filter at least once every 12 months even if the hours of operation are fewer than the otherwise recommended service interval.

Diesel fuel sulfur content affects engine oil and filter service intervals. Higher fuel sulfur levels reduce oil and filter service intervals.

IMPORTANT: Use of diesel fuel with sulfur content less than 15 mg/kg (15 ppm) is REQUIRED.

NOTE: The 500-hour extended oil and filter change interval is only allowed if all of the following conditions are met:

- *Use of diesel fuel with sulfur content less than 15 mg/kg (15 ppm)*
- *Use of John Deere Plus-50 II oil*
- *Use of an approved John Deere oil filter*

Engine operation at high altitude decreases oil change intervals. See Diesel Engine Oil Service Interval for Operation at High Altitude for additional information.

Engine Oil and Filter Service Intervals	
John Deere Plus-50 II	500 hours
Other Oils	250 hours
Oil analysis may extend the service interval of “Other Oils” to a maximum not to exceed the interval of Plus-50 II oils. Oil analysis means taking a series of oil samples at 50-hour increments beyond the normal service interval until either the data indicates the end of useful oil life or the maximum service interval of John Deere Plus-50 II oils is reached.	

IMPORTANT: To avoid engine damage:

- **Reduce oil and filter service intervals by 50% when using biodiesel blends greater than B20**
- **Oil analysis may allow longer service intervals**
- **Use only approved oil types**

DX,ENOIL15,IT4,120toMAX(T)-19-05APR22

Diesel Engine Coolant (Engine with Wet Sleeve Cylinder Liners)

Failure to follow applicable coolant standards and drain intervals can result in severe engine damage that may not be covered under warranty. Warranties, including the emissions warranty, are not conditioned on the use of John Deere coolants, parts, or service.

Preferred Coolants

The following pre-mix engine coolants are preferred:

- **John Deere Cool-Gard II**
- **John Deere Cool-Gard II PG**

Cool-Gard II pre-mix coolant is available in several concentrations with different freeze protection limits as shown in the following table.

Cool-Gard II Pre-Mix	Freeze Protection Limit
Cool-Gard II 20/80	-9°C (16°F)
Cool-Gard II 30/70	-16°C (3°F)
Cool-Gard II 50/50	-37°C (-34°F)
Cool-Gard II 55/45	-45°C (-49°F)
Cool-Gard II PG 60/40	-49°C (-56°F)
Cool-Gard II 60/40	-52°C (-62°F)

Not all Cool-Gard II pre-mix products are available in all countries.

Use Cool-Gard II PG when a non-toxic coolant formulation is required.

Additional Recommended Coolants

The following engine coolant is also recommended:

- John Deere Cool-Gard II Concentrate in a 40—60% mixture of concentrate with quality water

IMPORTANT: When mixing coolant concentrate with water, do not use less than 40% or greater than 60% concentration of coolant. Less than 40% gives inadequate additives for corrosion protection. Greater than 60% can result in coolant gelation and cooling system problems.

Other Coolants

Other ethylene glycol or propylene glycol base coolants may be used if they meet the following specification:

- Pre-mix coolant meeting ASTM D6210 requirements
- Is formulated with a 2-ethylhexanoic acid (2-EHA) free additive package
- Coolant concentrate meeting ASTM D6210 requirements in a 40—60% mixture of concentrate with quality water

If coolant meeting one of these specifications is unavailable, use coolant concentrate or pre-mix coolant that has a minimum of the following chemical and physical properties:

- Provides cylinder liner cavitation protection according to either the John Deere Cavitation Test Method or a fleet study run at or above 60% load capacity
- Is formulated with a nitrite-free additive package
- Is formulated with a 2-ethylhexanoic acid (2-EHA) free additive package
- Protects the cooling system metals (cast iron, aluminum alloys, and copper alloys such as brass) from corrosion

Water Quality

Water quality is important to the performance of the cooling system. Deionized or demineralized water is recommended for mixing with ethylene glycol and propylene glycol base engine coolant concentrate.

Coolant Drain Intervals

Drain and flush the cooling system and refill with fresh coolant at the indicated interval, which varies with the coolant used.

When Cool-Gard II or Cool-Gard II PG is used, the drain interval is 6 years or 6000 hours of operation.

If a coolant other than Cool-Gard II or Cool-Gard II PG is used, reduce the drain interval to 2 years or 2000 hours of operation.[1]

IMPORTANT: Do not use cooling system sealing additives or antifreeze that contains sealing additives.

Do not mix ethylene glycol and propylene glycol base coolants.

Do not use coolants that contain nitrites.

DX,COOL3(T)-19-04APR22

John Deere Cool-Gard II Coolant Extender

Some coolant additives gradually deplete during engine operation. For Cool-Gard II pre-mix and Cool-Gard II Concentrate, replenish coolant additives between drain intervals by adding Cool-Gard II Coolant Extender.

Cool-Gard II Coolant Extender should not be added unless indicated by Cool-Gard II Test Strips. These test strips provide a simple, effective method to check the freeze point, additive levels, and pH of your engine coolant.

[1] Coolant analysis may extend the service interval of other "Coolants" to a maximum not to exceed the interval of Cool-Gard II coolants. Coolant analysis means taking a series of coolant samples at 1000 hour increments beyond the normal service interval until either the data indicate the end of useful coolant life or the maximum service interval of Cool-Gard II is reached.

Test the coolant solution at intervals of 12 months and whenever excessive coolant is lost through leaks or overheating.

IMPORTANT: Do not use Cool-Gard II Test Strips with Cool-Gard II PG.

Cool-Gard II Coolant Extender is a chemically matched additive system for use with all Cool-Gard II coolants. Cool-Gard II Coolant Extender is not intended for use with nitrite-containing coolants.

IMPORTANT: Do not add a supplemental coolant additive when the cooling system is drained and refilled with any of the following:

- **John Deere Cool-Gard II**
- **John Deere Cool-Gard II PG**

The use of non-recommended supplemental coolant additives can result in additive drop-out, gelation of the coolant, or corrosion of cooling system components.

Add the recommended concentration of Cool-Gard II Coolant Extender. DO NOT add more than the recommended amount.

DX,COOL16(T)-19-11APR22

Operating in Warm Temperature Climates

John Deere engines are designed to operate using recommended engine coolants.

Always use a recommended engine coolant, even when operating in geographical areas where freeze protection is not required.

IMPORTANT: Water may be used as coolant *in emergency situations only.*

Foaming, hot surface aluminum and iron corrosion, scaling, and cavitation occur when water is used as the coolant, even when coolant conditioners are added.

Drain cooling system and refill with recommended engine coolant as soon as possible.

DX,COOL6-19-17FEB20

Water Quality for Mixing with Coolant Concentrate

Engine coolants are a combination of three chemical components: ethylene glycol (EG) or propylene glycol (PG) antifreeze, inhibiting coolant additives, and quality water.

Water quality is important to the performance of the cooling system. Deionized or demineralized water is recommended for mixing with ethylene glycol and propylene glycol base engine coolant concentrate.

All water used in the cooling system should meet the following minimum specifications for quality:

Chlorides	<40 mg/L
Sulfates	<100 mg/L
Total solids	<340 mg/L
Total dissolved I hardness	<170 mg/L
pH	5.5—9.0

IMPORTANT: Do not use bottled drinking water because it often contains higher concentrations of total dissolved solids.

Freeze Protection

The relative concentrations of glycol and water in the engine coolant determine its freeze protection limit.

Ethylene Glycol	Freeze Protection Limit
40%	-24°C (-12°F)
50%	-37°C (-34°F)
60%	-52°C (-62°F)
Propylene Glycol	**Freeze Protection Limit**
40%	-21°C (-6°F)
50%	-33°C (-27°F)
60%	-49°C (-56°F)

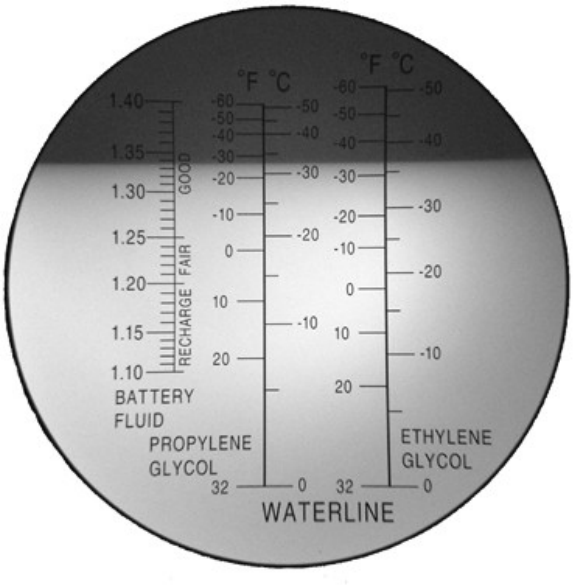
DO NOT use a coolant-water mixture greater than 60% ethylene glycol or 60% propylene glycol.

DX,COOL19-19-13JAN18

Testing Coolant Freeze Point

TS1732—UN—04SEP13

SERVICEGARD Part Number 75240



TS1733—UN—04SEP13

Image with a Drop of 50/50 Coolant Placed on the Refractometer Window

The use of a handheld coolant refractometer is the quickest, easiest, and most accurate method to determine the coolant freeze point. This method is more accurate than a test strip or a float-type hydrometer, which can produce poor results.

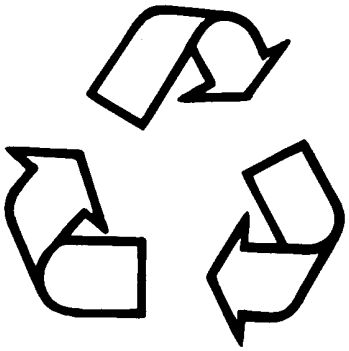
A coolant refractometer is available through your John Deere dealer under the SERVICEGARD tool program. Part number 75240 provides an economical solution for accurate freeze point determination in the field.

To use this tool:

1. Allow cooling system to cool to ambient temperatures.
2. Open radiator cap to expose coolant.
3. With the included dropper, collect a small coolant sample.
4. Open the lid of the refractometer, place one drop of coolant on the window, and close the lid.
5. Look through the eyepiece and focus as necessary.
6. Record the listed freeze point for the type of coolant (ethylene glycol coolant or propylene glycol) being tested.

DX,COOL,TEST(T)-19-04APR22

Disposing of Coolant



TS1133—UN—15APR13

Recycle Waste

Improperly disposing of engine coolant can threaten the environment and ecology.

Use leakproof containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.

Do not pour waste onto the ground, down a drain, or into any water source.

Inquire on the proper way to recycle or dispose of waste from your local environmental or recycling center, or from your John Deere engine distributor or servicing dealer.

RG,RG34710,7543-19-26APR18

Other Lubricants

Lubricant Storage

Your equipment can operate at top efficiency only when clean lubricants are used.

Use clean containers to handle all lubricants.

Store lubricants and containers in an area protected from dust, moisture, and other contamination. Store containers on their side to avoid water and dirt accumulation.

Make certain that all containers are properly marked to identify their contents.

Properly dispose of all old containers and any residual lubricant they may contain.

DX,LUBST-19-11APR11

Alternative and Synthetic Lubricants

Conditions in certain geographical areas may require lubricant recommendations different from those printed in this manual.

Some John Deere brand coolants and lubricants may not be available in your location.

Consult your John Deere dealer to obtain information and recommendations.

Synthetic lubricants may be used if they meet the performance requirements as shown in this manual.

The temperature limits and service intervals shown in this manual apply to John Deere branded fluids or fluids that have been tested and/or approved for use in John Deere equipment.

Re-refined base stock products may be used if the finished lubricant meets the performance requirements.

DX,ALTER-19-13JAN18

Mixing of Lubricants

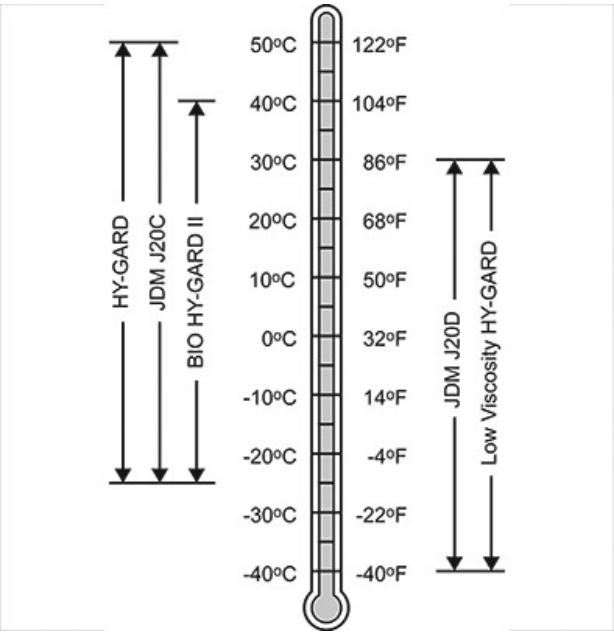
In general, avoid mixing different brands or types of oil. Oil manufacturers blend additives in their oils to meet certain specifications and performance requirements.

Mixing different oils can interfere with the proper functioning of these additives and degrade lubricant performance.

Consult your John Deere dealer to obtain specific information and recommendations.

DX,LUBMIX-19-18MAR96

Transmission and Hydraulic Oil



RG30204—UN—08MAR18

Oils for Air Temperature Ranges

Use an oil viscosity based on the expected air temperature range during the period between oil changes.

The following oils are preferred:

- John Deere Hy-Gard
- John Deere Low Viscosity Hy-Gard

Other oils can be used if they meet one of the following:

- John Deere Standard JDM J20C
- John Deere Standard JDM J20D

Use John Deere Bio Hy-Gard II oil when a biodegradable fluid is required.[1]

DX,ANTI(T)-19-04APR22

Use Correct Viscosity Front PTO Oil in Cold Weather

CAUTION: Avoid personal injury. Keep PTO area clear of bystanders. PTO shaft or attached implement may rotate prior to engine start in cold weather.

When air temperatures are expected to drop below -5°

[1] *Bio Hy-Gard II meets or exceeds the minimum biodegradability of 80% within 21 days according to CEC L-33-T-82 test method. Bio Hy-Gard II must not be mixed with mineral oils because doing this reduces the biodegradability and makes proper oil recycling impossible.*

C (23° F), use John Deere Low Viscosity HY-GARD oil in the self contained front PTO reservoir.

Other oils can be used if they meet John Deere Standard JDM J20D.

RX32825,000179B-19-21JUN22

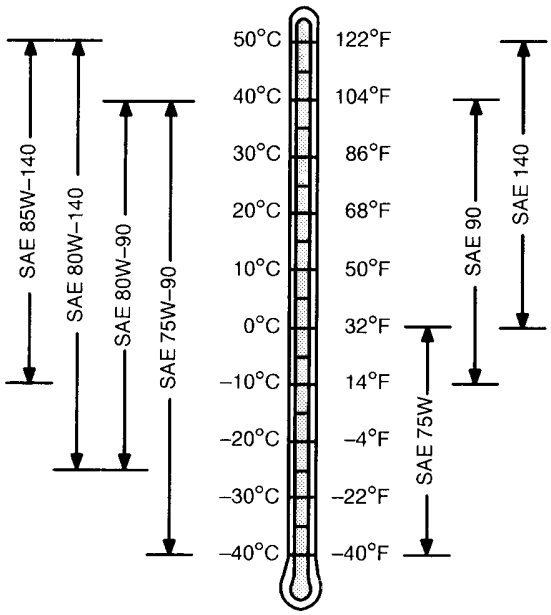
Transmission Recalibration

Tractor transmission is factory filled with John Deere HY-GARD oil.

When changing transmission/hydraulic oil from one viscosity to another, transmission electronic control unit may need to be recalibrated in order to maintain smooth shifting characteristics. See your John Deere dealer.

RX32825,000179C-19-21JUN22

Gear Oil



TS1653—UN—14MAR96

Use an oil viscosity suitable for the expected air temperature range during the period between oil changes.

The following oils are preferred:

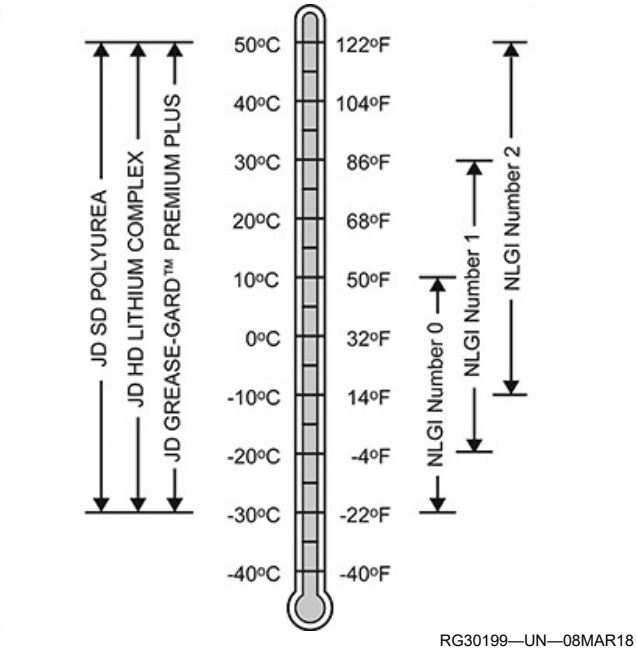
- John Deere EXTREME-GARD
- John Deere GL-5 GEAR LUBRICANT

Other oils may be used if they meet the API GL-5 service classification.

DX,GEOIL(T)-19-06APR22

Multipurpose Extreme Pressure (EP) Grease

IMPORTANT: For automated lubrication systems, different ambient air temperatures must be considered.



RG30199—UN—08MAR18

Greases for Air Temperature Ranges

Use grease based on NLGI consistency numbers and the expected air temperature range during the service interval.

John Deere SD Polyurea Grease is preferred.

The following greases are also recommended:

- John Deere HD Lithium Complex Grease
- John Deere Grease-Gard Premium Plus

Other greases may be used if they meet the following:

- NLGI Performance Classification GC-LB
- ISO-L-X-BDHB 2 or DIN KP 2 N-10 Lithium Complex, Non-Synthetic Base Oil (100 to 220 mm2/s @ 40°C)

IMPORTANT: Some types of thickeners, base oils, and additives used in greases are not compatible with others. Mixing greases should be avoided. Consult your grease supplier before mixing different types of grease.

DX,GREA1(T)-19-06APR22

Service Sections Overview

CAUTION: Avoid personal injury. After completing any service procedure, reinstall any shields or covers that have been removed and close and securely latch hood.

IMPORTANT: This publication is not a detailed service manual. Procedures shown cover routine maintenance and service. For more detailed service information, purchase a Technical Manual through your John Deere dealer.

Recommended service intervals are for average conditions. Service more often if tractor is operated under adverse conditions.

Service sections provide information on service processes and procedures.

Fuel, Lubrication, and Coolants Sections: Information on approved fluids for operation and service. Also included are guides to selection of correct service intervals for such procedures as engine oil refill.

Break-In Service: Perform listed services during first 100 hours of operation.

Service—Record Charts: Charts are provided to:

- Determine what service tasks must be performed when.
- Record when services have been performed.

Service Procedure Sections: Various scheduled and unscheduled service procedures are organized by procedure type within six sections. Appropriate Service sections and task names are referenced in Service Record Charts (example: Change: Engine Oil and Filter). Electrical section includes all service information for lighting, fuses, and relays.

Troubleshooting Sections: Procedural troubleshooting is provided, as well as information on dealing with Diagnostic Trouble Codes (DTCs) that may display on the CommandCenter.

RX32825,00000A5-19-21JUN22

Service Tasks Performed As Required

IMPORTANT: Perform service tasks when instruments or tractor function indicates that they are required, even if at a time other than specified in Service Interval charts.

Occasionally, operating conditions may require a scheduled service to be performed sooner than indicated on Service Interval charts (for example, air filters). When such a task is performed, record its completion in an As Required Service chart.

RX32825,00017C6-19-04JAN17

Identify Tractor Engine Emissions Status

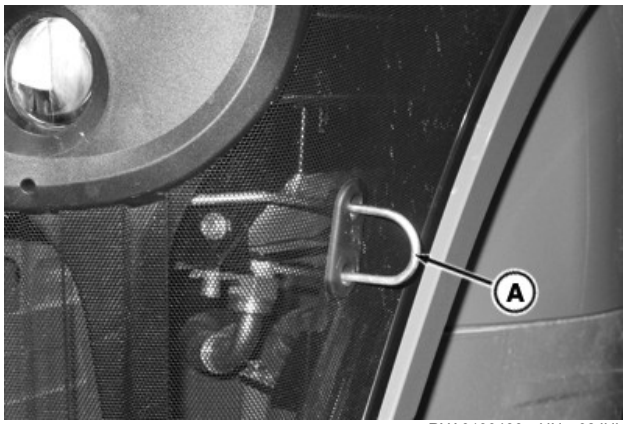
IMPORTANT: To determine tractor engine type, see Engine Serial Number in Identification Number Section of this Operator's Manual.

Some service procedures differ depending upon emissions equipment with which tractor engine is equipped.

RX32825,0001764-19-14DEC16

Open Hood

CAUTION: Avoid injury. Close and latch hood securely before starting engine.

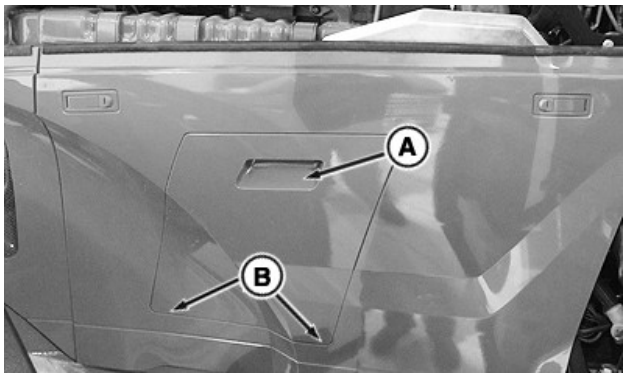


RXA0133488—UN—02JUL13

Pull hood release (A) and raise hood.

KT81203,0000636-19-23JAN17

Remove Engine Access Panel



RXA0134202—UN—13AUG13

Engine access panel is located within left-hand engine side shield. It allows access to the engine oil dipstick.

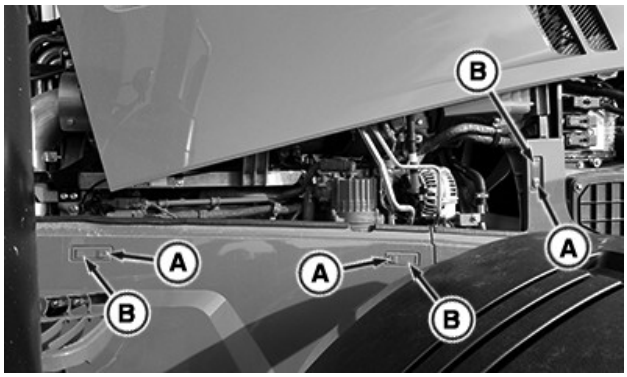
Use hand grip recess (A) and pull outward on panel. Lift panel from alignment tabs along panel bottom edge (B). Panel is secured to tractor with a wire cable.

RX32825,0001758-19-02NOV16

Remove Engine Side Shields

Remove engine side shield on either side of engine for access to most engine components.

1. Open hood, see Open Hood in this Operator's Manual section.



RXA0162808—UN—11APR18

2. Turn side shield latch lock (A) clockwise 90 degrees.
3. Depress latch buttons (B).
4. Lift shield from alignment brackets within engine compartment.

⚠ CAUTION: Never start engine without side shields installed and hood securely closed and latched.

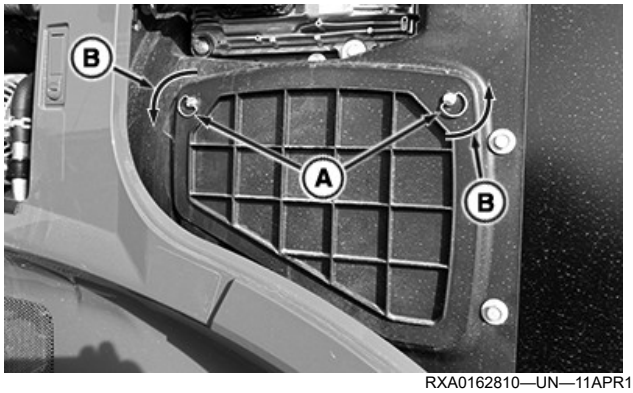
5. Before starting engine, replace shields and secure and lock latch buttons. Securely close hood.

RX32825,0001765-19-18APR18

Remove Radiator Shields

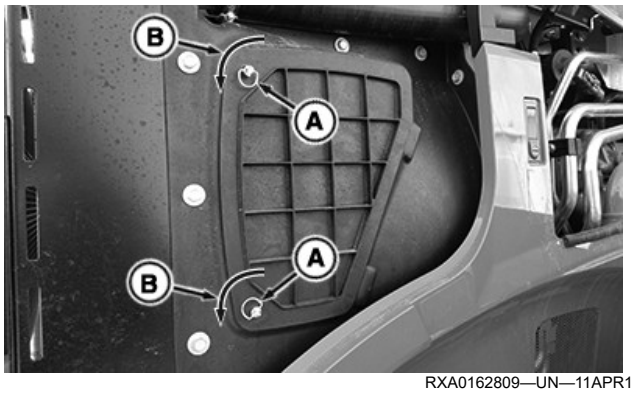
Remove radiator shield on either side of engine for access to area between rear of cooling package and fan..

1. Open hood, see Open Hood in this Operator's Manual section.



RXA0162810—UN—11APR18

Right-Hand Radiator Shield



RXA0162809—UN—11APR18

Left-Hand Radiator Shield

2. Raise latch loops (A) and twist 90 degrees counterclockwise (B).
3. Pivot shield outward and remove.
4. When work is completed, reinstall shields. Push latch loops flush with shield surface.

⚠ CAUTION: Never start engine without hood securely closed and latched.

5. Before starting engine, securely close hood.

RX32825,0001766-19-18APR18

Remove Battery Compartment Cover

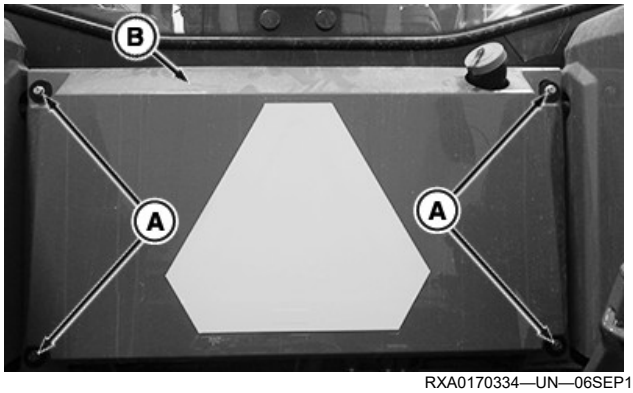
RXA0133316—UN—25JUN13

Remove battery compartment cover to access batteries, connections, and cables.

Grasp handle (A) and pull forward and upward to remove battery compartment cover. Strong magnets hold cover in place.

RX32825,0001759-19-02NOV16

Remove Cab Rear Panel



RXA0170334—UN—06SEP19

1. Remove the four rear cab panel screws (A).
2. Remove the cab rear panel (B).

RX32825,000175A-19-28JAN20

Jack Up Tractor—Lifting Points and Support Stand Placement (EU 1322/2014)

CAUTION: Use approved lifting equipment only.

Jack up the tractor on firm, level ground only. Before doing any further work on tractor, secure it using suitable support stands.

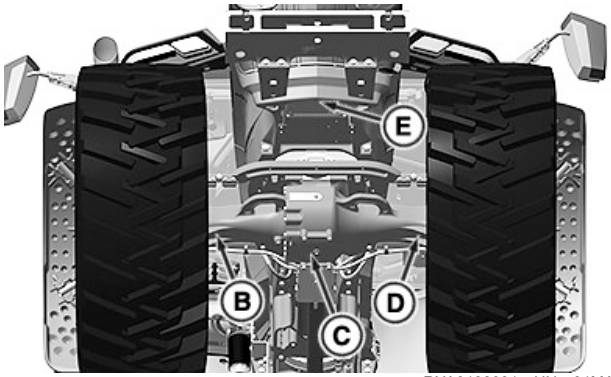
Special John Deere tools shown can be used for this purpose. Support stands are available from your John Deere dealer.

Lifting Points

Recommended lifting points for jacking up the tractor. Use appropriate and suitable lifting devices.

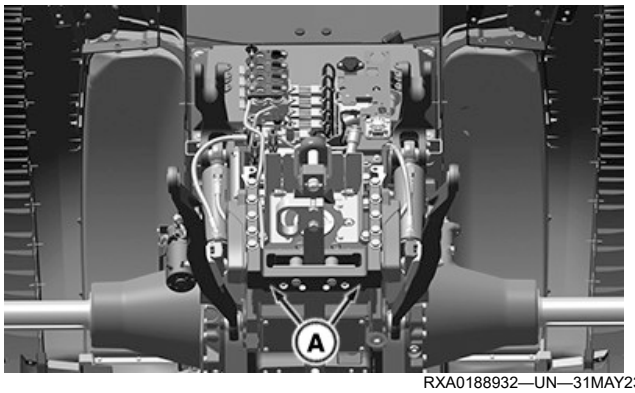
RXA0188930—UN—12JUN23

Lift Points (underside)



RXA0188931—UN—31MAY23

Lift Points (front)



RXA0188932—UN—31MAY23

Lift Points (rear drawbar)

A—Raise the rear of the tractor (Example: to remove the rear wheel)

B—Raise the right-hand end of the front axle (Example: to remove the right-hand front wheel)

C—Raise the center of the axle (Use the wooden wedges to prevent the axle from pivoting)

D—Raise the left-hand end of the front axle (Example: to remove the left-hand front wheel)

CAUTION: Never attempt to lift tractor using front weights or front weight support.

E—Raise the front end of tractor under the front frame

F—Rear axle support stand placement

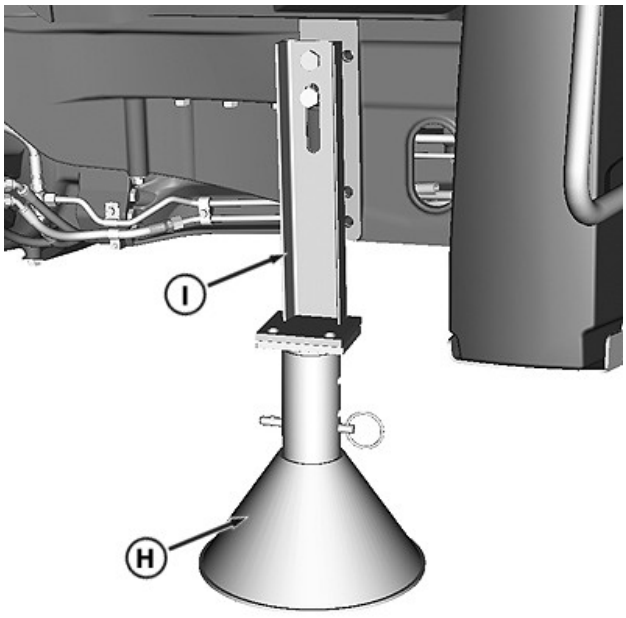
G—Chassis side support stand placement

Support Stand Placement

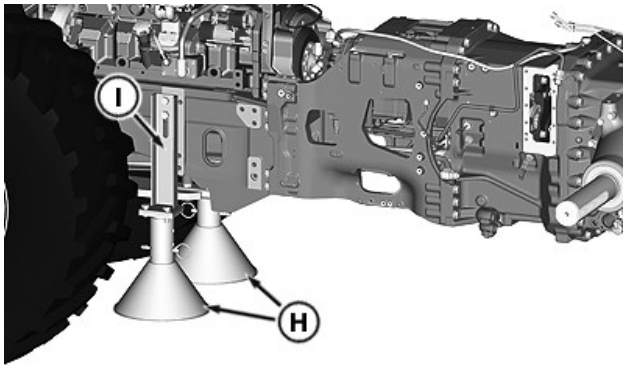
1. Disconnect the battery ground cable. See Batteries and Connections in Service—Electrical section of this Operator's Manual.

CAUTION: Avoid personal injury. Always use appropriate equipment to install, change, or uninstall weights. If appropriate equipment is not available, have the job performed by your John Deere dealer.

2. Remove the front weights or the front hitch, if equipped.



RXA0154548—UN—05OCT16



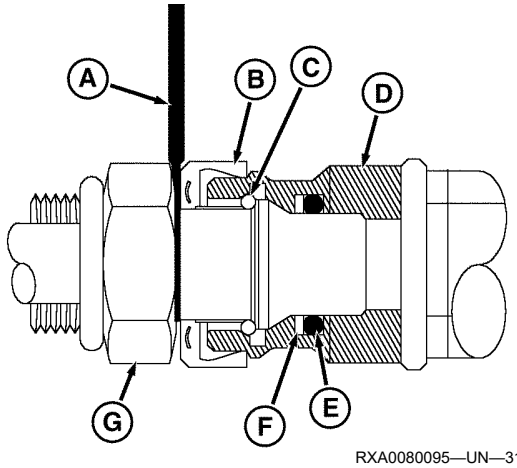
RXA0154549—UN—06OCT16

3. Raise the front of the tractor and install JT07211 Rear Differential Support Stand (H) with KJD10539 Support Stand Adapter (I) using M20 x 40 mm (10.9 grade) cap screws to both sides of the tractor.

DB71512,0000141-19-31MAY23

Service and Connect STC (Snap-to-Connect) Fittings

CAUTION: Do not disconnect STC (Snap-to-Connect) fitting when under pressure. Failure to relieve pressure before disconnecting fitting may result in personal injury, damage to equipment or both.



RXA0080095—UN—31MAR05

STC fittings are used on steel lines, hose connections and come in a variety of sizes. JDG1885 STC tool (A) is designed as a spacer to move release ring (B) inward which releases retaining ring (C). Purchase tool from your John Deere dealer.

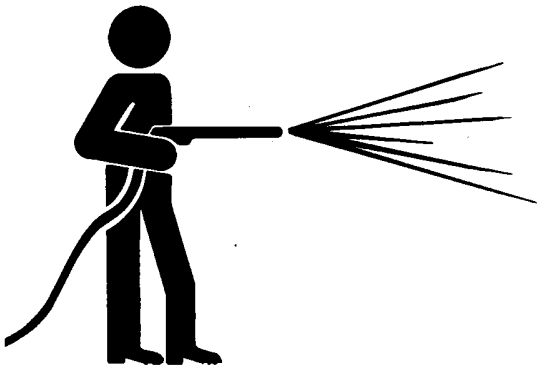
IMPORTANT: Do not use tool to pry fittings apart. Prying with tool may damage fitting and tool.

NOTE: If retaining ring, back up ring (F) or O-ring (E) are damaged. See your John Deere dealer for replacement kit, and replace all three parts.

1. Insert correct STC tool between release ring and fitting.
2. Remove hose or line from connector.
3. Before connecting STC fitting and mating check surfaces for:
   - Nicks
   - Scratches
   - Flat spots
4. Check for wear or damage:
   - O-ring
   - Back up ring
   - Retaining ring
5. Check for contaminates:
   - Female end (D)
   - Male end (G)
6. Place release ring on male end fitting.
7. Push fitting halves together until a definite snap and solid stop is felt.
8. Pull back on hose to make sure that fitting halves are locked together.

RX32825,000175C-19-23JUN22

High-Pressure Washer Use



T6642EJ—UN—18OCT88

IMPORTANT: Avoid damage to components. Always use reduced pressure and spray at a 45—90° angle. Never spray pressurized water directly at:

- **Electronic/electrical components and connectors.**
- **Bearings and hydraulic seals.**
- **Fuel injection pumps.**
- **Exhaust outlet.**
- **Engine air intake.**
- **Fluid tanks' fill openings and breathers.**
- **Any sensitive parts and components.**

RX32825,000175D-19-18JUN19

Do Not Modify Fuel System

IMPORTANT: Increasing horsepower, or altering any aspect of fuel and air delivery on emissions certified engines beyond factory rating, causes emission levels beyond what is approved by United States Environmental Protection Agency (EPA) or equivalent agency. Violations of regulations may result in substantial fines to persons or companies committing such violations.

Tractor warranty is void if power level is changed from factory specifications.

Do not attempt to service injection pump or fuel injectors yourself. Special training and special tools are required. See your John Deere dealer.

RX32825,000175E-19-01AUG17

Bleed Fuel System

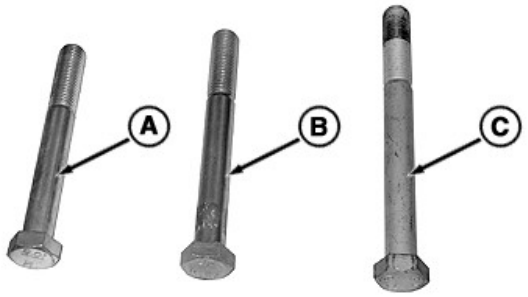
If Diagnostic Trouble Code (DTC) indicates fuel system problem, and fuel system and filters are found to be correct - or if (even without a DTC present) tractor does

not run correctly or fails to start, fuel injection system may need to be bled of air.

1. Turn key switch to run position. Electric fuel pump starts and bleeds air from the fuel system.
2. Allow pump to run for 30 seconds to 1 minute before attempting to restart engine. If the problem persists, see your John Deere dealer.

SV81855,00001F2-19-05MAR19

Identify Zinc-Flake Coated Fasteners



RXA0073812—UN—03MAR04

Standard cap screws (A) are of a reflective silver color.

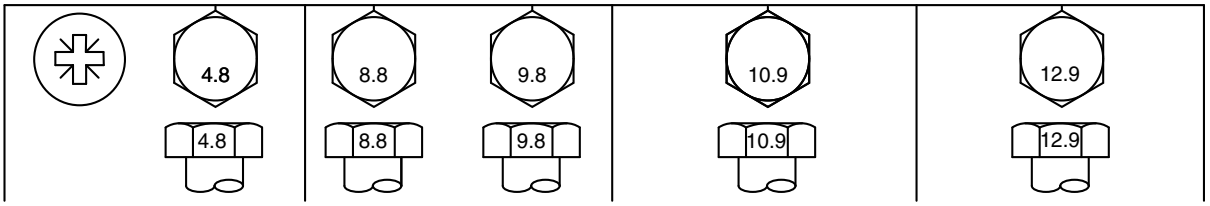
Zinc Plated cap screws (B) are of a reflective bright silver or gold color.

Zinc-Flake Coated cap screws (C) are of a dull silver, gold, or black color.

NOTE: Zinc-Flake Coated fasteners are tightened to lubricated specifications, unless otherwise noted. See Torque Value Charts in this Operator's Manual section.

RX32825,0001761-19-31OCT22

Metric Bolt and Screw Torque Values



TS1742—UN—31MAY18

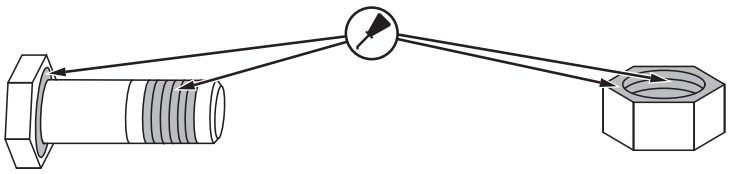
Bolt or Screw Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Hex Head[a]		Flange Head[b]		Hex Head[a]		Flange Head[b]		Hex Head[a]		Flange Head[b]		Hex Head[a]		Flange Head[b]	
	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in
M6	3.6	31.9	3.9	34.5	6.7	59.3	7.3	64.6	9.8	86.7	10.8	95.6	11.5	102	12.6	112
									N·m	lb·ft	N·m	lb·ft	N·m	lb·ft	N·m	lb·ft
M8	8.6	76.1	9.4	83.2	16.2	143	17.6	156	23.8	17.6	25.9	19.1	27.8	20.5	30.3	22.3
			N·m	lb·ft	N·m	lb·ft	N·m	lb·ft								
M10	16.9	150	18.4	13.6	31.9	23.5	34.7	25.6	46.8	34.5	51	37.6	55	40.6	60	44.3
	N·m	lb·ft														
M12	—	—	—	—	55	40.6	61	45	81	59.7	89	65.6	95	70.1	105	77.4
M14	—	—	—	—	87	64.2	96	70.8	128	94.4	141	104	150	111	165	122
M16	—	—	—	—	135	99.6	149	110	198	146	219	162	232	171	257	190
M18	—	—	—	—	193	142	214	158	275	203	304	224	322	245	356	263
M20	—	—	—	—	272	201	301	222	387	285	428	316	453	334	501	370
M22	—	—	—	—	365	263	405	299	520	384	576	425	608	448	674	497
M24	—	—	—	—	468	345	518	382	666	491	738	544	780	575	864	637
M27	—	—	—	—	683	504	758	559	973	718	1080	797	1139	840	1263	932

Bolt or Screw Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Hex Head[a]		Flange Head[b]		Hex Head[a]		Flange Head[b]		Hex Head[a]		Flange Head[b]		Hex Head[a]		Flange Head[b]	
M30	—	—	—	—	932	687	1029	759	1327	979	1466	1081	1553	1145	1715	1265
M33	—	—	—	—	1258	928	1398	1031	1788	1319	1986	1465	2092	1543	2324	1714
M36	—	—	—	—	1617	1193	1789	1319	2303	1699	2548	1879	2695	1988	2982	2199

The nominal torque values listed are for general use only with the assumed wrenching accuracy of 20%, such as a manual torque wrench.
DO NOT use these values if a different torque value or tightening procedure is given for a specific application.
For lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application.

Replace fasteners with the same or higher property class. If higher property class fasteners are used, tighten these to the strength of the original.

- Make sure that fastener threads are clean.
- Apply a thin coat of Hy-Gard or equivalent oil under the head and on the threads of the fastener, as shown in the following image.
- Be conservative with the amount of oil to reduce the potential for hydraulic lockup in blind holes due to excessive oil.
- Properly start thread engagement.

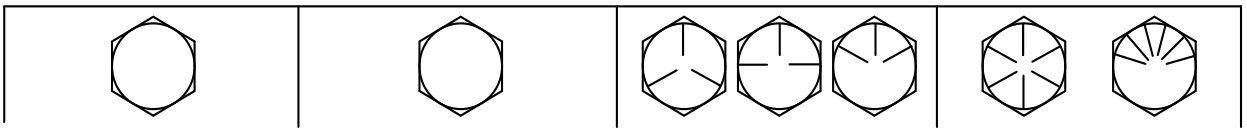


TS1741—UN—22MAY18

[a] *Hex head column values are valid for ISO 4014 and ISO 4017 hex head, ISO 4162 hex socket head, and ISO 4032 hex nuts.*
[b] *Hex flange column values are valid for ASME B18.2.3.9M, ISO 4161, or EN 1665 hex flange products.*

DX,TORQ2(T)-19-09MAY22

Unified Inch Bolt and Screw Torque Values



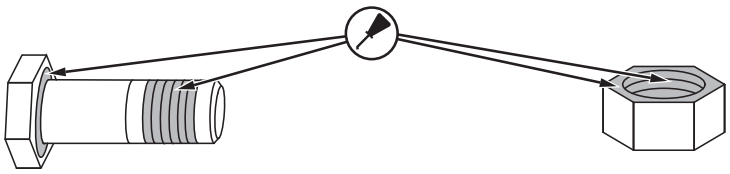
TS1671—UN—01MAY03

Bolt or Screw Size	SAE Grade 1[a]				SAE Grade 2[b]				SAE Grade 5, 5.1 or 5.2				SAE Grade 8 or 8.2			
	Hex Head[c]		Flange Head[d]		Hex Head[c]		Flange Head[d]		Hex Head[c]		Flange Head[d]		Hex Head[c]		Flange Head[d]	
	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in
1/4	3.1	27.3	3.2	28.4	5.1	45.5	5.3	47.3	7.9	70.2	8.3	73.1	11.2	99.2	11.6	103
													N·m	lb·ft	N·m	lb·ft
5/16	6.1	54.1	6.5	57.7	10.2	90.2	10.9	96.2	15.7	139	16.8	149	22.2	16.4	23.7	17.5
									N·m	lb·ft	N·m	lb·ft				
3/8	10.5	93.6	11.5	102	17.6	156	19.2	170	27.3	20.1	29.7	21.9	38.5	28.4	41.9	30.9
					N·m	lb·ft	N·m	lb·ft								
7/16	16.7	148	18.4	163	27.8	20.5	30.6	22.6	43	31.7	47.3	34.9	60.6	44.7	66.8	49.3
	N·m	lb·ft	N·m	lb·ft												
1/2	25.9	19.1	28.2	20.8	43.1	31.8	47	34.7	66.6	49.1	72.8	53.7	94	69.3	103	75.8
9/16	36.7	27.1	40.5	29.9	61.1	45.1	67.5	49.8	94.6	69.8	104	77	134	98.5	148	109
5/8	51	37.6	55.9	41.2	85	62.7	93.1	68.7	131	96.9	144	106	186	137	203	150
3/4	89.5	66	98	72.3	149	110	164	121	230	170	252	186	325	240	357	263
7/8	144	106	157	116	144	106	157	116	370	273	405	299	522	385	572	422
1	216	159	236	174	216	159	236	174	556	410	609	449	785	579	860	634
1-1/8	305	225	335	247	305	225	335	247	685	505	751	554	1110	819	1218	898

Bolt or Screw Size	SAE Grade 1[a]				SAE Grade 2[b]				SAE Grade 5, 5.1 or 5.2				SAE Grade 8 or 8.2			
	Hex Head[c]		Flange Head[d]		Hex Head[c]		Flange Head[d]		Hex Head[c]		Flange Head[d]		Hex Head[c]		Flange Head[d]	
1-1/4	427	315	469	346	427	315	469	346	957	706	1051	775	1552	1145	1703	1256
1-3/8	564	416	618	456	564	416	618	456	1264	932	1386	1022	2050	1512	2248	1658
1-1/2	743	548	815	601	743	548	815	601	1665	1228	1826	1347	2699	1991	2962	2185

The nominal torque values listed are for general use only with the assumed wrenching accuracy of 20%, such as a manual torque wrench. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application.	Replace fasteners with the same or higher property class. If higher property class fasteners are used, tighten these to the strength of the original.

- Make sure that fastener threads are clean.
- Apply a thin coat of Hy-Gard or equivalent oil under the head and on the threads of the fastener, as shown in the following image.
- Be conservative with the amount of oil to reduce the potential for hydraulic lockup in blind holes due to excessive oil.
- Properly start thread engagement.



TS1741—UN—22MAY18

[a]Grade 1 applies for hex cap screws over 6 in (152 mm) long, and for all other types of bolts and screws of any length.
[b]Grade 2 applies for hex cap screws (not hex bolts) up to 6 in (152 mm) long.
[c]Hex head column values are valid for ISO 4014 and ISO 4017 hex head, ISO 4162 hex socket head, and ISO 4032 hex nuts.
[d]Hex flange column values are valid for ASME B18.2.3.9M, ISO 4161, or EN 1665 hex flange products.

DX,TORQ1(T)-19-09MAY22

Service—Break-In (100 Hours or Less)

Perform Break-In Checks

IMPORTANT: Initial break-in service interval of a new or rebuilt wet sleeve engine with John Deere Break-In Plus oil must last at least 100 hours to assure surface mating of rings and liners has had an opportunity to occur. 100 hour minimum interval applies to all new or rebuilt engines. Maximum service interval is the same as service interval recommended for your engine in Engine Oil and Filter Service Intervals of Fuel, Lubricants and Coolant section of this Operator Manual. To confirm which engine your tractor is equipped with, see Engine Serial Number in Identification Number section of this Operator's Manual.

If engine oil must be added prior to first normal oil change, use John Deere Break-In Plus engine oil.

For subsequent oil changes, see Engine Oil and Filter Service Intervals for your engine located in Engine Oil Section of this Operator's Manual.

General Break-In

During first 100 hours of operation:

- Operate engine at heavy loads without reaching sustained maximum load.
- Avoid idling engine longer than 5 minutes. If engine idles longer than 5 minutes, stop engine.
- Closely observe coolant temperature during operation.
- Check engine air intake system hoses and clamps. See appropriate Air Intake System topic in Service—Check section of this Operator’s Manual.
- Check for fluid leaks.
- Tighten wheel, wheel weight, and axle bolts after 3 hours, after 10 hours and daily for first week of operation. See appropriate topic in Service—Tighten section of this Operator’s Manual.

Daily or 10 Hour Service

Perform normal daily or 10 hour services. See 10 Hour or Daily chart in Service—Record Charts section of this Operator’s Manual.

For first 100 hours of tractor operation, perform these additional services daily or every 10 hours:

- Drain water separator. See Water Separator in Service—Check section of this Operator’s Manual.
- Lubricate rear and front (if equipped) hitch components. See Front Hitch and Rear Hitch in Service—Lubricate section of this Operator’s Manual.
- Inspect tires for cuts and punctures. See Tires in Service—Check section of this Operator’s Manual.

After service is performed, reset appropriate service interval hours display to zero. See the G5 CommandCenter Operator’s Manual.

JL41210,0000A62-19-01MAR23

Service—Record Charts

Service Record Chart Overview

The service record chart is provided to:

- Record when services have been performed.
- Document additional service details as needed.

Suggested Documentation

- Engine Oil and Filter Change: Indicate which oil was used for refill and record date and hours of operation at each service.
- As Required Service: Record services and repairs that are performed at other than regular service intervals.
- Yearly Service: The listed service tasks are performed annually or at some multiple of years. Record service date and hours.

10-hour (Daily) and 50-hour Service Tasks

It is not recommended to record 10-hour (daily) and 50-hour service tasks on the service record chart. If desired, record the completion of these services in a separate notebook.

RX32825,0000022-19-05APR21

Service Interval Chart

Charts show which service tasks must be completed at what engine operating hours or years. If a service task indicates a year and an hourly interval, adhere to whichever interval occurs first.

First word of each task title (For example: CHECK or LUBRICATE) directs the person performing service to the appropriate Service Procedure section in this Operator's Manual. Upon completion of a service task, verify that there are no additional tasks (from lower accumulated intervals) to perform at the same time.

Record service tasks when completed on the Service Record Chart found in this section of this Operator's Manual.

Use the engine hour meter display to determine when service must be performed. The hour meter operates whenever the engine is running and shows the accumulated hours of engine operation. Although the hour meter is factory set to 250 hours, it can be reset to any desired elapsed time. See Service Intervals in CommandCenter section of this Operator's Manual.

Service Task	Operating Hours or Interval										
	Year/s	As Re-quired	Daily or 10	50	250	500	1000	1500	3000	4500	6000
CHECK engine oil level			•								
CHECK hydraulic system oil level			•								
DRAIN fuel water separator			•								
CHECK tires				•							
LUBRICATE front axle fittings (TLS)			[a]		•						
LUBRICATE rear hitch				[b]	•						
LUBRICATE front hitch[c]				[b]	•						
CHECK transmission PARK system					•						
CHECK Front PTO housing oil level[c]					•						
CHECK secondary brake[c]					•						
CHECK hitch and drawbar wear					•						
LUBRICATE front axle fittings (MFWD)			[d]			•					
TIGHTEN wheel and wheel weight bolts			[e]			•					
CLEAN dual beam radar sensor[c]						•					
CHANGE fuel filters						•					
CHECK engine air intake system						•					
CHECK water pump weep hole[f]						•					
CHANGE optional fuel water filter element						•					
CHANGE engine oil and filter[g]	1					•					
CLEAN MFWD or TLS axle vent breather	1						•				
CHANGE cab filters	1						•				
CHECK engine coolant freeze point	1						•				
CHANGE engine primary and secondary air filters[h]	1						•				

Service Task	Operating Hours or Interval										
	Year/s	As Re-quired	Daily or 10	50	250	500	1000	1500	3000	4500	6000
CHECK TLS plus accumulator charge pressure[i]	1							•			
CHANGE hydraulic oil and filters								•			
CHANGE wheel hub oil								•			
CHANGE MFWD or TLS plus axle housing oil								•			
CHANGE front PTO housing oil and filter[c]								•			
LUBRICATE draft link support shaft bushing								•			
CHECK fan belt and fan belt tensioner	1							•			
CHANGE DEF tank vent filter[j]								•			
CHANGE fuel tank vent filter								•			
CHANGE SCV pilot valve filter								•			
CHANGE crankcase ventilation filter[k]								•			
CHANGE DEF in-line supply filter[j]	3								•		
CHANGE DEF dosing unit filter[j]	3								•		
CHECK engine valve clearance[i]									•		
CHANGE transmission driveshaft damper[li]										•	
CHANGE engine crankshaft damper[i]										•	
CHANGE engine coolant[m]	6										•
CHECK seat belts	1										
ELECTRIC service batteries and connections	1										
CHANGE trailer air brake air dryer filter[c]	2										
CHECK engine and exhaust compartments for debris		•									
CLEAN Implement Connector		•									

[a]Normal lubrication is every 250 operating hours. If used in extremely wet conditions, lubricate daily or every 10 operating hours.
[b]Normal lubrication is every 250 operating hours. If used daily, lubricate every 50 operating hours.
[c]If equipped.
[d]Normal lubrication is every 500 operating hours. If used in extremely wet conditions, lubricate daily or every 10 operating hours.
[e]After 3 hours, 10 hours, and daily for the first week of operation
[f]9.0 L engine only.
[g]Service in accordance with information in appropriate Diesel Oil and Filter Service Intervals topic in Engine Oil section of this Operator's Manual. Record oil used in Service—Record Charts—Engine Oil and Filter.
[h]Service may be required more frequently depending upon operating conditions.
[i]See your John Deere dealer.
[j]Final Tier 4/Stage V engines only.
[k]6.8 L engine only.
[l]7R: 330 and 350 tractor dampers require no regular service.
[m]INITIAL change interval is 6 years or 6000 operating hours, provided cooling system is topped off using only John Deere Cool-Gard II and premix. SCHEDULED interval (2 years or 2000 operating hours) can be extended up to 6 years and 6000 operating hours, depending upon coolant being used. See Drain Intervals for Diesel Engine Coolant in Engine Coolant section of this Operator's Manual.

RX32825,00000BE-19-25JAN23

Service Record Chart

Record details of service intervals in the space provided. If more space is required, use a separate notebook.

Date	Hours	Notes

Date	Hours	Notes

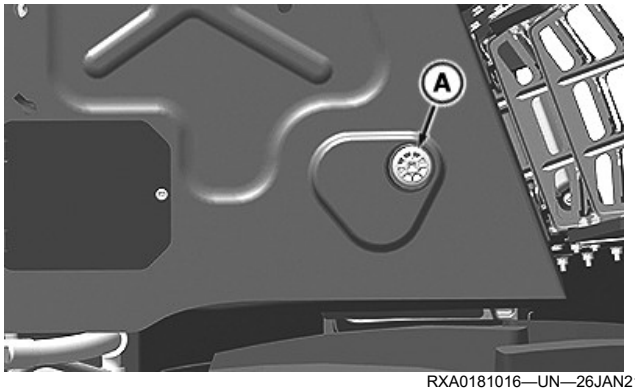
Date	Hours	Notes

Date	Hours	Notes

EC82310,0000B12-19-05AUG20

Access DEF Tank Drain Plug

NOTE: Plug location may vary based on configuration. Plug will always be on lower left-hand side of fuel tank area.



RXA0181016—UN—26JAN21

Remove drain plug (A) to drain DEF from tank.

Check O-ring for defects. Replace if needed.

Clean DEF Tank. See Diesel Exhaust Fluid (DEF) Tank in this section of this Operator's Manual.

Clean out any DEF crystallization in threads.

IMPORTANT: Do not over torque drain plug. Over torquing can cause plug to spin in tank and lead to leaks.

Install drain plug and tighten to 25 N·m (18 lb·ft).

TS36762,0000125-19-04MAY22

Cleaning Diesel Exhaust Fluid (DEF) Tank

CAUTION: Avoid contact with eyes. In case of contact, immediately flush eyes with large amounts of water for a minimum of 15 minutes. Reference the Materials Safety Data Sheet (MSDS) for additional information.

IMPORTANT: If DEF is spilled or contacts any surface other than the storage tank, immediately clean the surface with clear water. DEF is corrosive to painted and unpainted metallic surfaces and can distort some plastic and rubber components.

Spilled DEF, if left to dry or if only wiped away with a cloth, leaves a white residue. Improperly cleaned DEF spill can interfere with diagnosis of Selective Catalytic Reduction (SCR) system leakage problems.

If foreign material or fluid has been added to the DEF tank, drain the DEF tank, flush, and fill with new DEF.

If DEF quality is in question, pull a sample out of the DEF tank and place into a clear container. DEF should be crystal clear with a light ammonia smell. If DEF appears cloudy, has a colored tint, or has a profound ammonia smell, it is likely not within specification. DEF in this condition should not be used.

1. Remove drain plug (if equipped), and drain or siphon bad DEF from DEF tank.

NOTE: Cleaning can take place with DEF tank installed or removed.

2. Clean DEF tank with new DEF.

   DEF must pass visual, smell, and concentration checks before running the engine. See Diesel Exhaust Fluid (DEF) – For Use In Selective Catalytic Reduction (SCR) Equipped Engines in the Fuels, Lubricants, and Coolants Section for more information.

3. Drain or siphon DEF tank.

NOTE: Repeat steps 2—3 until DEF tank has been cleaned.

4. **Early version:** Change DEF dosing unit filter and DEF tank header suction screen.

   Later version: Change DEF dosing unit filter and DEF inline filter.

5. If removed, install DEF tank drain plug.
6. If removed, install DEF tank.
7. Fill DEF tank with new DEF.
8. Check DEF concentration with DEF refractometer, such as JDG11594 or JDG11684. The correct DEF concentration is 31.8% — 33.2%. See your authorized dealer for more information.
9. If DEF is not within specification, does not appear clear, or does not have a slight ammonia smell, contact your authorized dealer.

DX,DEF,CLEANTANK-19-18SEP19

Tractor Exterior

IMPORTANT: Avoid damage to the engine, components, and tractor exterior.

RXA0171853—UN—05NOV19

- **Never direct liquid spray to the engine air intake (A) area. If water is sprayed into the engine air intake, drain the filter housing and allow the housing and filter to dry before starting the engine.**
- **For high-pressure washer use: Always use reduced pressure and spray at a 45—90° angle. Never spray pressurized water directly at:**
  - **Electronic/electrical components and connectors.**
  - **Bearings and hydraulic seals.**
  - **Fuel injection pumps.**
  - **Exhaust outlet.**
  - **Engine air intake.**
  - **Any fluid tanks fill openings and breathers.**
  - **Any sensitive parts and components.**
- **Never use strong soaps, chemical detergents, or cleaning agents containing acids, caustics, or abrasives. It is best to use commercially available non-detergent car wash products that do not:**
  - **Remove the protective wax.**
  - **Harm the paint finish.**

- Wash the tractor regularly, particularly if it has been exposed to herbicides, pesticides, road salt, or other chemical agents.
- Never wash the tractor in direct sunlight.
- Rinse all cleaning agents away promptly. Never allow them to dry on the painted surface.
- Waxing the tractor occasionally is recommended to remove residue and further protect the paint finish. Never use waxes containing abrasive compounds.
- Inspect paint surface during washing or waxing for chips and scratches. Repaint any areas where paint has been damaged.

To help enhance paint finishes, see your John Deere dealer for cleaners, waxes, and touch-up paints that are compatible with the tractor.

EC82310,0000B9C-19-26APR21

Clean Display

IMPORTANT: Always clean display screen with power off. Cleaning screen while operating could result in unintended button selections.

To clean display, power down and wipe screen with a soft cloth sprayed with a non-ammonia based cleaner, such as John Deere glass or multipurpose cleaner.

DX,PC,CLEAN,DISP-19-21OCT16

Clean Seat

Follow cleaning instructions for your seat material.

Fabric

1. Gently scrape off any large pieces with dry cloth.
2. Dampen clean cloth with soda water.
3. Work outside of stain inward, feathering along edge of stain.
4. Pat cleaned area dry using a white cloth that is clean and dry.

Leather

1. Gently scrape off any large pieces with dry cloth.
2. Dampen a white cloth that is clean, dry, and soft with water (a diaper works best).
3. Lightly wipe cloth against bar of mild soap (low suds).
4. Wipe seat with light pressure.
5. Wipe again with a clean and damp cloth.
6. Pat cleaned area dry using a white cloth that is clean and dry.

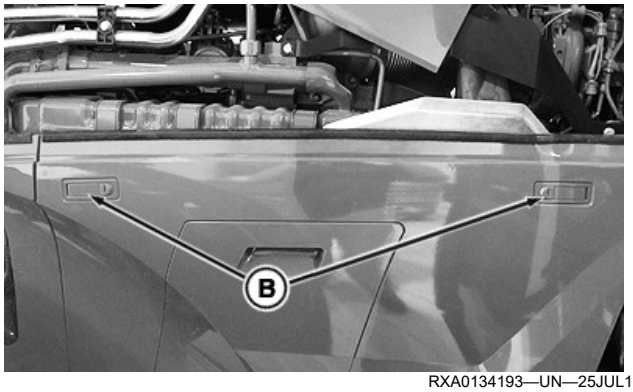
KD34109,00004DF-19-14NOV19

Engine Cooling System

If tractor coolant temperature is excessive, or if debris is seen to be accumulating on cooling system components, clean components to help reduce excess temperatures.

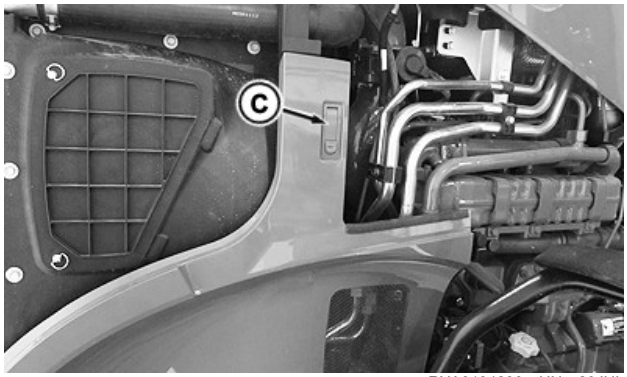
1. Stop engine and remove key.

2. Clean grille and side screens using a brush.
3. Open hood, see Open Hood in Service—General Information section of this Operator's Manual.



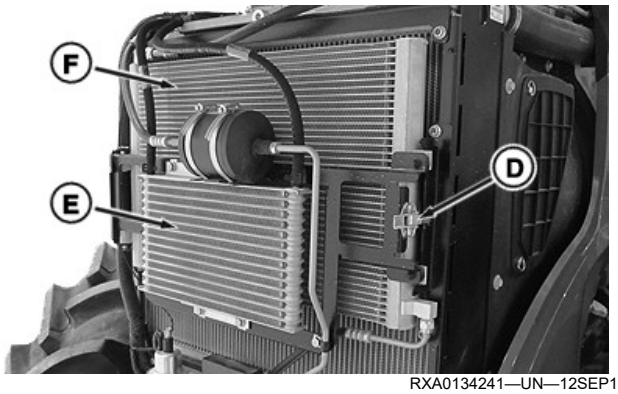
RXA0134193—UN—25JUL13

4. Depress latch buttons (B) to remove left rear side shield.



RXA0134230—UN—29JUL13

5. Depress latch button (C) to remove left front side shield.



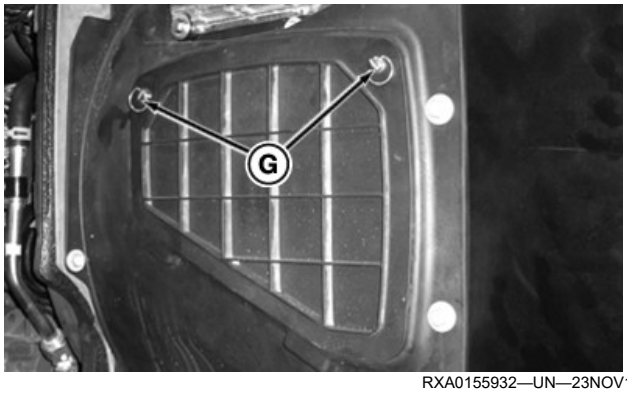
RXA0134241—UN—12SEP13

6. Release air conditioning condenser latch (D) on right side of air conditioning condenser (E) and engine coolant radiator (F).
7. Pivot air conditioner condenser and engine coolant radiator forward and left.

IMPORTANT: Directing pressurized water at electronic/electrical components or connectors, bearings and hydraulic seals, fuel injection pumps or other sensitive parts and components may cause product malfunctions. Reduce pressure, and spray at a 45 to 90 degree angle.

Directing pressurized air at electronic/electrical components or connectors, may cause buildup of static electricity and product malfunctions.

8. Use compressed air or water to clean air conditioner condenser. Straighten any bent fins.



RXA0155932—UN—23NOV16

9. Release fan shroud service door latches (G) on either side of tractor.

RXA0135407—UN—12SEP13

10. Use compressed air or water to clean hydraulic oil cooler (H) and engine coolant radiator. Straighten any bent fins.
11. Reposition and secure components, shields, and hood.

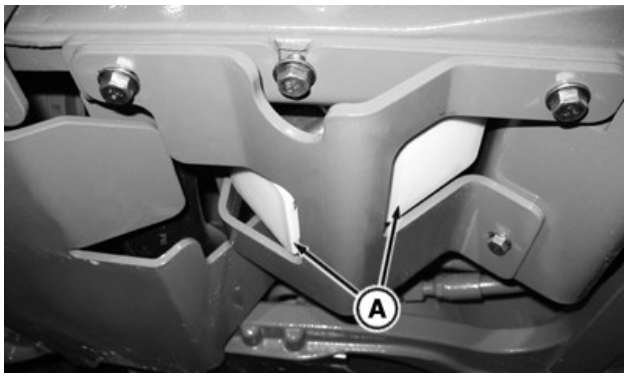
TS36762,0000123-19-25MAR21

Dual Beam Radar Sensor

IMPORTANT: Inspect radar sensor horns for dirt or debris build up, which may affect accuracy performance. Service may be required more often in some operating conditions.

Avoid use of high pressure washer nozzle pointed directly at radar.

Avoid damage to radar and wiring harness when using sharp tools to remove dirt or packed mud around radar unit.



RXA0133518—UN—09JUL13

Dual beam radar sensor (A) is located on bottom of transmission.

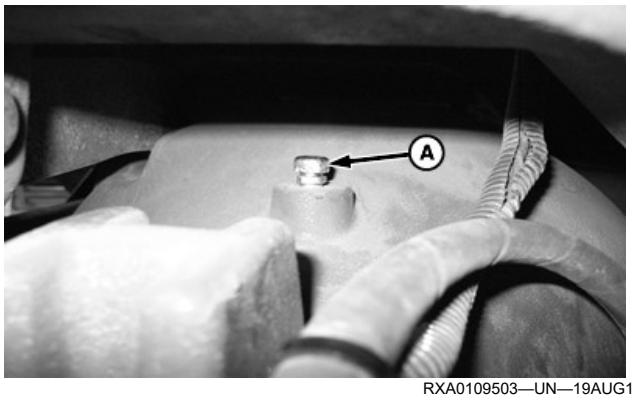
1. Check radar sensor for damage.
2. Clean radar sensor with warm water and mild soap.
3. Dry with clean soft cloth.

TS36762,0000127-19-19JUN17

MFWD or TLS Plus Axle Vent Breather

IMPORTANT: Allowing excess dirt and foreign material to build up in vent filter may cause damage to axle seals.

Interval may vary according to operating conditions.



RXA0109503—UN—19AUG10

Remove axle vent filter (A). If vent filter is packed with dirt, soak in solvent. Clean by blowing air through vent filter (bottom to top).

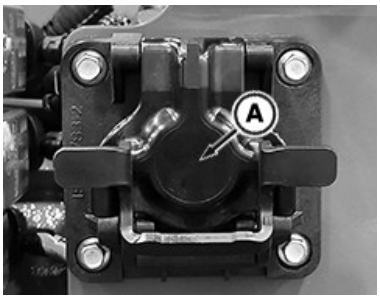
TS36762,000012A-19-21JUN22

Implement Connector

IMPORTANT: Inspect implement connector and implement ethernet connector (if equipped) as required for dirt or debris buildup. Service may be required more often in some operating conditions.

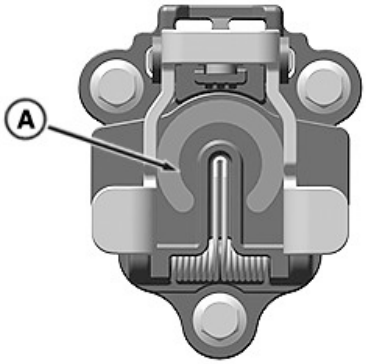
Avoid damage to implement connector. Do not use compressed air or pressurized water to clean implement connector.

1. Locate the implement connector. See Implement Connector or Implement Ethernet Connector in Accessories section of this Operator's Manual.



RXA0169781—UN—30JUL19

Implement Connector



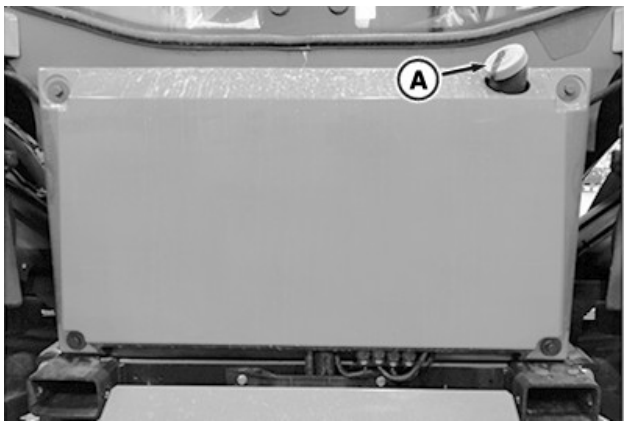
RXA0188727—UN—03MAR23

Implement Ethernet Connector

2. Open implement connector cover (A).
3. Clean implement connector with John Deere Electronic Contact Cleaner.

JL41210,0000ABB-19-23MAY23

Windshield Washer Fluid Level



RXA0175542—UN—25FEB20

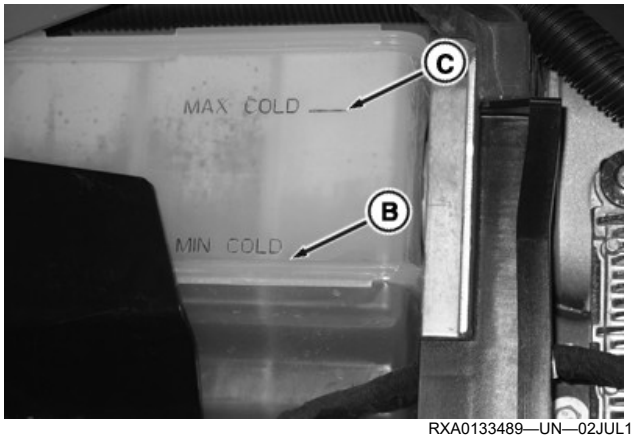
Windshield washer reservoir (A) is located at right rear of tractor cab. Fill reservoir with a washer fluid. In cold climates, fill with non-freezing windshield washer fluid.

EC82310,00007D3-19-10MAY22

Engine Coolant Level

Coolant level is monitored electrically. When coolant is low a diagnostic trouble code will appear on CommandCenter. Check coolant level manually and refill system as necessary.

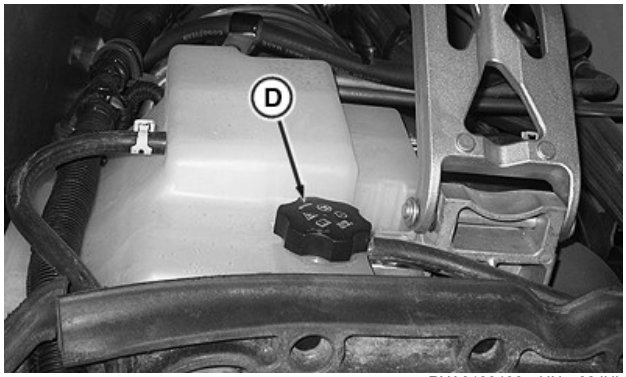
1. Open hood, see Open Hood in Service—General Information section of this Operator's Manual.



RXA0133489—UN—02JUL13

Deaeration Tank

2. Check coolant level on side of deaeration tank. Level should be at or above MIN COLD (B) but below MAX COLD (C). If level is low, before adding coolant, check for any signs of leakage. Repair if necessary.



RXA0133490—UN—02JUL13

IMPORTANT: Do not open deaeration tank cap (D) when engine is warm. Doing so will add air to coolant system.

If coolant level is low, but there is no sign of an external leak, there may be an internal coolant leak. Contact your John Deere dealer.

3. Wait until engine is cool. Remove deaeration tank cap and add coolant. See Engine Coolant section of this Operator's Manual. Do not fill above MAX COLD line.
4. Reinstall deaeration tank cap.
5. Close and secure hood.

TS36762,000013E-19-03NOV22

Engine Coolant Freeze Point

IMPORTANT: Perform coolant service every 1000 hours or annually, whichever comes first.

CAUTION:

TS281—UN—15APR13

Explosive release of fluids from pressurized cooling system can cause serious burns.

Shut off engine. Only remove cap when cool enough to touch with bare hands. Slowly loosen cap to release pressure before fully removing.

1. Open hood, see Open Hood in Service—General Information section of this Operator's Manual.

IMPORTANT: Do not open deaeration tank cap when engine is warm. Doing so will add air to coolant system.

2. Slowly turn deaeration tank cap to relieve pressure, see Check Engine Coolant Level in this section of the Operator's Manual. Remove cap.
3. Test coolant. Use TY26605 Cool-Gard II Test Strips available from your John Deere dealer. Follow instructions on back of reader card in test strip pack. Or, a more precise test device is available, see Testing Coolant Freeze Point in Engine Coolant section of this Operator's Manual.
4. Add TY26603 Cool-Gard II Extender (available from your John Deere dealer) as indicated by color matrix on reader card in test strip pack. If tank is too full, drain a small amount of coolant from system before extender is added.
5. Visually check cap O-ring for sealing effectiveness. A correctly sealing O-ring will have imprint of tank neck mating surface with no apparent scratches or leak paths. If O-ring is not sealing correctly, replace cap.
6. Install deaeration tank cap.
7. Close and securely latch hood.

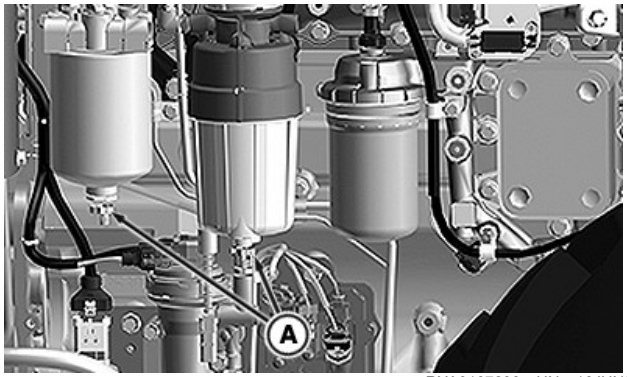
RX32825,00017B2-19-03NOV22

Water Separator

IMPORTANT: Water can damage fuel systems. If excessive water is found, draining fuel tanks may be required. See Fuel Tank Sump in this section of this Operator's Manual.

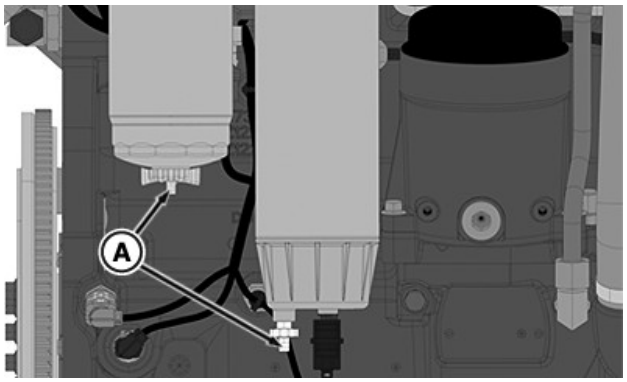
Water in fuel collects in bottom of fuel filters. When separator sensor identifies water in fuel system, service alert indicator flashes on corner post display. Alarm sounds for five seconds and corresponding message appears on CommandCenter display.

1. Open hood, see Open Hood in Service—General Information section of this Operator's Manual.
2. Remove right engine side shield, see Remove Engine Side Shield in Service—General Information section of this Operator's Manual.



RXA0187230—UN—16JUN22

6.8 L Engine



RXA0187113—UN—29APR22

9.0 L Engine

3. Rotate drain valve nut (A) counterclockwise to open and drain accumulated water.

NOTE: Secondary filter drain valve may not be present on all applications or service filters.

4. Close drain valve nut.
5. Reinstall side shield.
6. Securely close hood.

TS36762,000013F-19-26JUN23

Optional Fuel Water Separator (If Equipped)

1. Park machine on a flat, level surface.
2. Lower equipment to ground.
3. Shut off engine.

RXA0168512—UN—03JUN19

4. Thoroughly clean the exterior of the fuel filter and water separator assembly (A) and surrounding area.
5. Place a suitable container under the drain hose.
6. Open drain valve (B).
7. Allow water and sediment to drain into a suitable container.
8. Close drain valve.
9. Dispose of waste properly.
10. Bleed fuel system. See Bleed Fuel System in the Service—General Information section of this Operator's Manual.

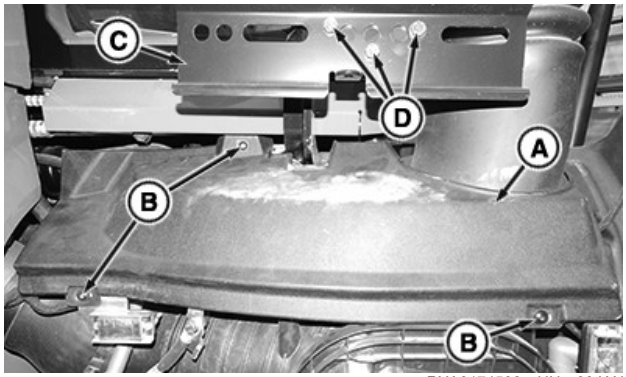
EC82310,0000863-19-09JUN21

Engine Air Filter Precleaner System

IMPORTANT: Do not remove engine air filters while servicing precleaner system.

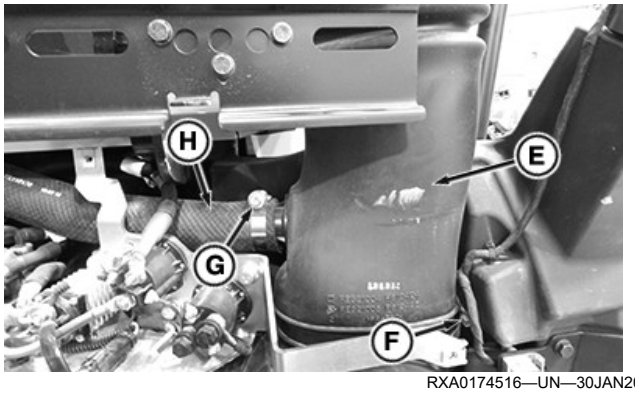
NOTE: Service interval may vary due to operating conditions. If engine air filters clog prematurely, intake precleaner components may be dirty. Inspect and clean or replace precleaner components.

1. Disconnect battery ground (-) cable.
2. Remove battery compartment cover.



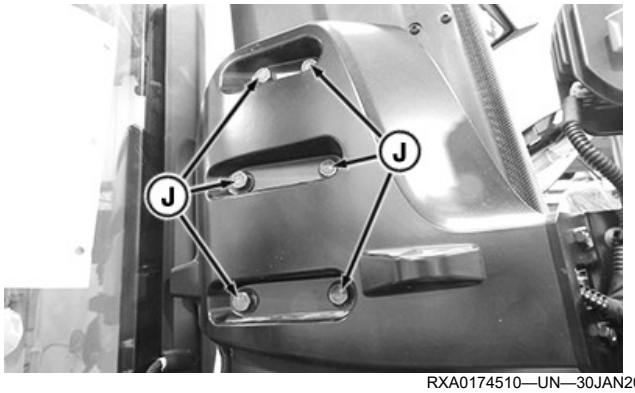
RXA0174508—UN—30JAN20

3. Remove screws (B) holding aspirator hose cover (A). Remove aspirator hose cover.
4. Remove screws (D) holding tool box support bracket (C). Remove tool box support bracket.



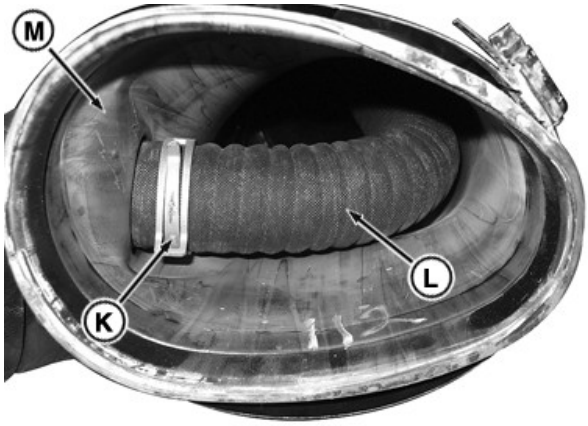
RXA0174516—UN—30JAN20

5. Loosen clamp (F) holding precleaner assembly (E) to air cleaner canister.
6. Loosen clamps (G) securing aspirator hose (H) to aspirator check valve and aspirator hose to precleaner assembly (E).
7. Remove aspirator hose (H).



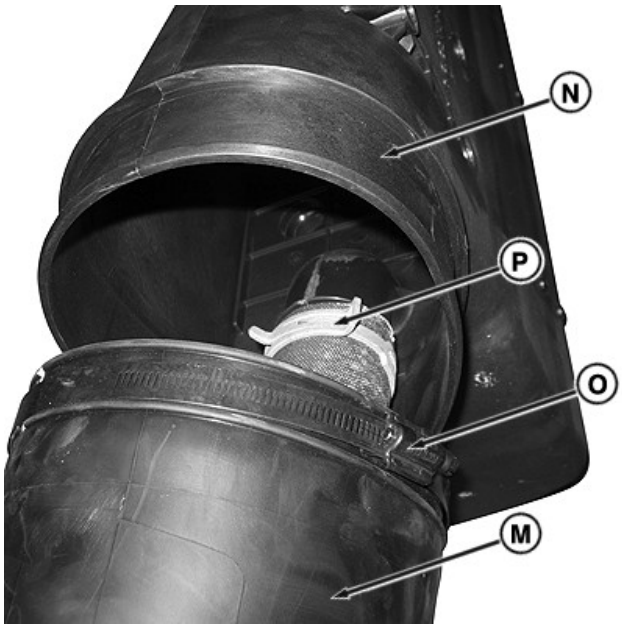
RXA0174510—UN—30JAN20

8. Remove cap screws (J) holding precleaner to support bracket and lift precleaner assembly from air cleaner canister.



RXA0155620—UN—10NOV16

9. Remove lower aspirator hose clamp (K) to remove aspirator hose (L) from precleaner extension tube (M).



RXA0155621—UN—10NOV16

10. Loosen clamp (O) holding precleaner (N) to extension tube (M).
11. Remove upper aspirator hose clamp (P) to separate aspirator hose from precleaner. Remove precleaner from extension tube.
12. Inspect components for damage. Replace as necessary.
13. Clean dust from aspirator tubes using compressed air, not to exceed 500 kPa (5 bar) (75 psi).
14. Thoroughly wash precleaner and precleaner extension tube in warm [maximum 65.5° C (150° F)] water mixed with a small amount of commercially available non-detergent car wash product. Rinse in clean water. Thoroughly dry before reinstallation.
15. Check aspirator check valve internal flap for freedom of movement. If flap does not move easily, remove check valve assembly and clean or replace as necessary.
16. Inspect aspirator hoses for damage or cracking. Replace as necessary.
17. Reassemble all components in reverse order of disassembly. Tighten according to specifications:

Torque — Specification

Aspirator Hose Clamps (G, K, P)	10 N·m (7.4 lb·ft)
Precleaner Mounting Cap Screws (J)	25 N·m (18.5 lb·ft)
Precleaner Clamp (F)	6.5 N·m (4.8 lb·ft)
Precleaner to Extension Tube Hose Clamp (O)	6.5 N·m (4.8 lb·ft)

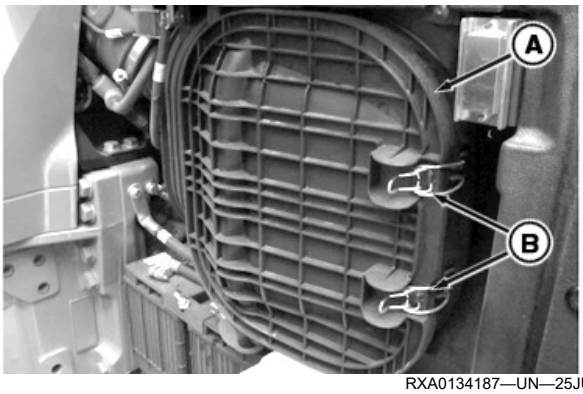
TS36762,000012B-19-30JAN20

Primary and Secondary Engine Air Filters

IMPORTANT: Inspect filters annually or when a related diagnostic trouble code appears. Replacement interval may vary due to operating conditions. If primary filter appears good upon inspection, but diagnostic trouble code remains ON, replace primary engine air filter. Replace secondary engine air filter at every second primary filter change.

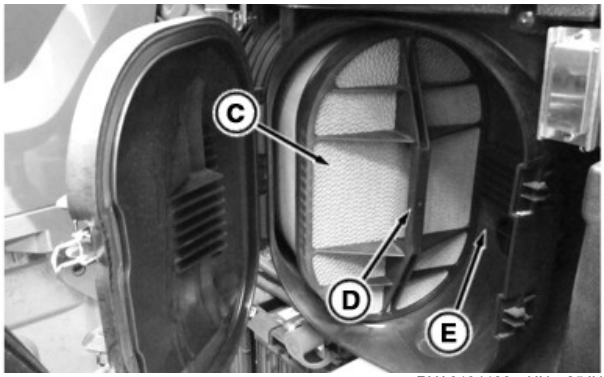
Carefully remove and examine primary and secondary filters for breaks or tears or excessive dirt accumulation. To inspect filters:

1. Remove battery compartment cover.



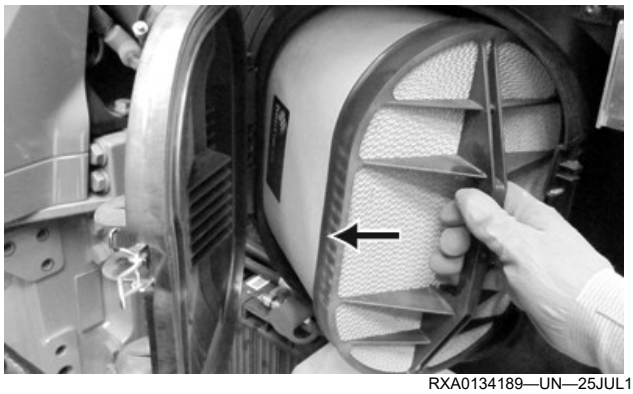
RXA0134187—UN—25JUL13

2. Unfasten two clamps (B) and open filter cover (A).



RXA0134188—UN—25JUL13

3. Pull handle (D) towards front of tractor to release primary air filter from raised retainer (E).



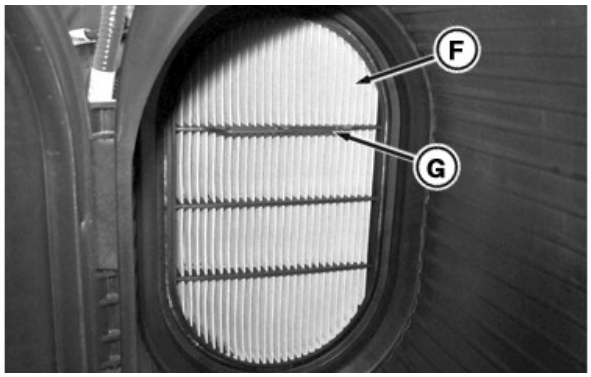
RXA0134189—UN—25JUL13

Remove Primary Filter

4. Pull on handle to remove primary filter (C).
5. Clean dirt from inside of canister and cover.

IMPORTANT: If a filter is dirty, replace it. Do not attempt to clean filters.

6. Carefully inspect primary filter, looking for excessive dirt and debris accumulation or rips in filter element. Replace if excessively dirty or if damaged.



RXA0155766—UN—16NOV16

RXA0134191—UN—25JUL13

Remove Secondary Filter

7. To protect air intake system, only remove secondary filter far enough from canister to allow inspection. Pull on handle (G) to slide top part of secondary filter (F) out first. Inspect secondary filter.

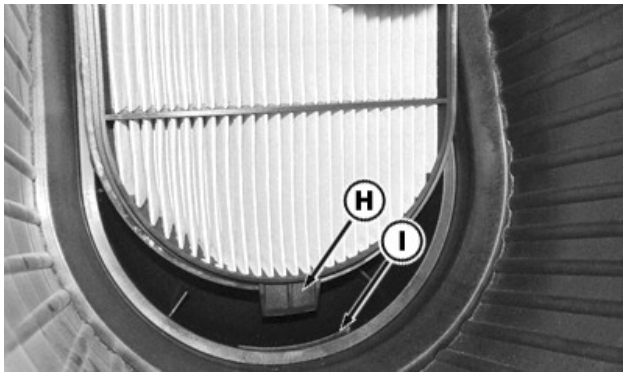
IMPORTANT: Failure to properly install primary and secondary filters will cause damage to engine. When installing primary air filter, make sure filter is properly seated behind raised retainer.

Replace secondary filter every second primary air filter change or if secondary filter is found to be damaged or excessively dirty.

8. If secondary filter is found to be in good condition and has been replaced at last primary filter change, reinsert it into filter canister. Then reinstall original - or install new - primary filter. Replace filter and battery covers.

IMPORTANT: Install new secondary filter immediately to prevent dust from entering air intake system.

9. If secondary filter is damaged or excessively dirty, or if the primary filter has been replaced once before without replacing secondary filter, remove and discard secondary filter.



RXA0155767—UN—16NOV16

Install secondary filter, place tab (H) in slot (I).

11. Firmly press around edge of secondary filter to properly seat filter against filter housing.

12. Install new or reinstall original primary filter.
13. Close cover and fasten cover clamps.
14. Reinstall battery compartment cover.

RX32825,0001797-19-16NOV16

Engine and Exhaust Compartments

IMPORTANT: Accumulated crop residue inside engine compartment can reduce engine and cooling system performance. If tractor has been operated in field conditions which might have caused debris accumulation, inspect and clean engine compartment as necessary.

Directing pressurized water at electronic/ electrical components, connectors, bearings and hydraulic seals, fuel injection pump, engine air intake, or other sensitive parts and components may cause product malfunctions. Reduce pressure, and spray at a 45° to 90° angle. See Tractor Exterior in Service—Clean section of this Operator's Manual.

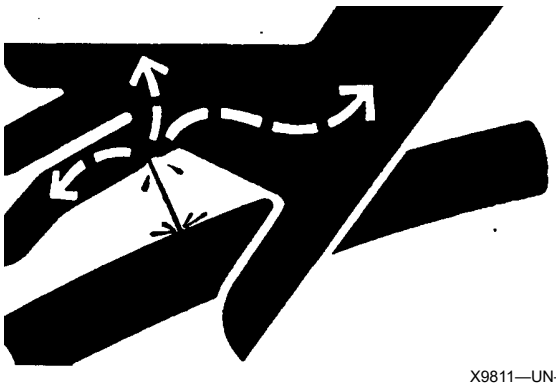
Directing pressurized air at electronic/electrical components or connectors, may cause buildup of static electricity and product malfunctions.

Never steam clean or pour cold water on an injection pump that is operating or hot. Pump could seize.

1. Shut off engine and allow time for engine to cool.
2. Remove front engine side shield. See Remove Front Engine Side Shield in Service—General Information section of this Operator's Manual.
3. Remove any crop or debris within engine and exhaust compartments, especially around turbocharger, exhaust manifold, and exhaust aftertreatment system.
4. Reinstall all engine side shields.
5. Close and securely latch hood.

TS36762,000012C-19-05APR21

Air Conditioning System



X9811—UN—23AUG88

CAUTION: Avoid possible injury. Improper servicing may cause refrigerant to penetrate eyes and skin or cause burns.

IMPORTANT: R-134a refrigerant must be used in air conditioning system. Service requires special equipment and procedures. See your John Deere dealer.

NOTE: Some oil seepage from compressor shaft seal is normal.

Perform following checks if air conditioning system does not cool, or cooling is intermittent:

- Confirm that system does not function correctly. Access HVAC page on CommandCenter. Set fan speed to highest setting and temperature to coldest setting. See HVAC Settings—Fan Speed in HVAC section of this Operator's Manual. Operate engine at 2000 rpm. Check air vents to confirm that cold air is not present.
- Inspect and clean cab air filters. Replace filters if necessary. See Cab Filters in Service—Change section of this Operator's Manual.
- Clean grille and radiator. See Engine Cooling System in Service—Clean section of this Operator's Manual.
- Check air vents for cold air flow.

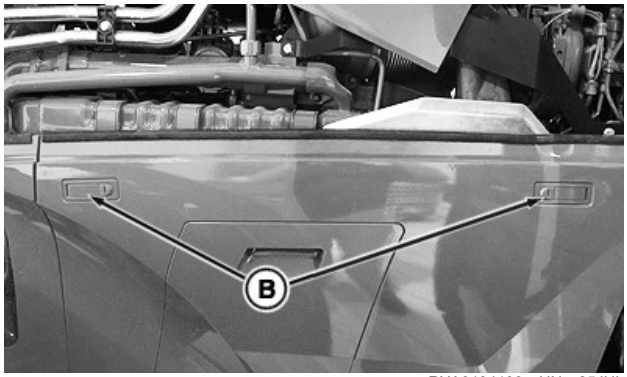
If problems persist, see your John Deere dealer.

TS36762,000012D-19-21JUN22

Engine Water Pump Weep Hole

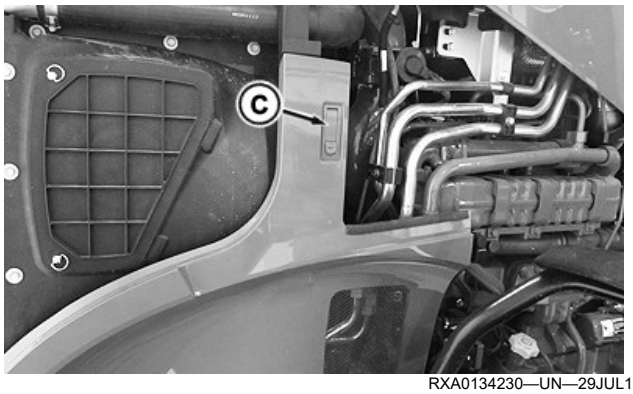
1. Open hood, see Open Hood in Service—General Information section of this Operator's Manual.

CAUTION: Avoid injury. Allow engine sufficient time to cool before checking weep hole.



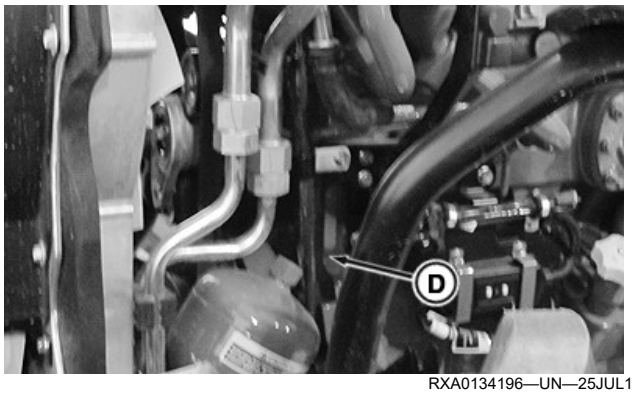
RXA0134193—UN—25JUL13

2. Depress latch buttons (B) to remove left rear side shield.



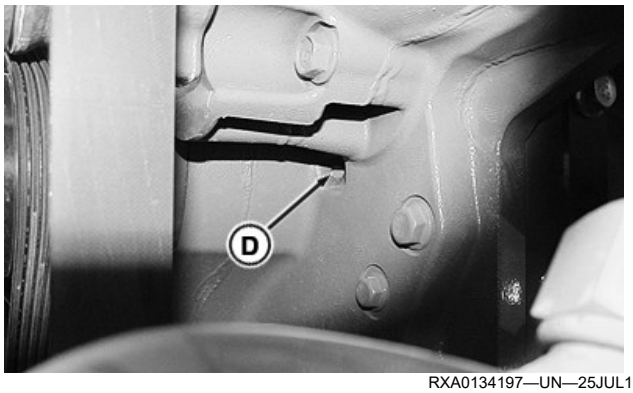
RXA0134230—UN—29JUL13

3. Depress latch button (C) to remove left front side shield.



RXA0134196—UN—25JUL13

Front Left-hand Side of Engine - 9.0 L Shown



RXA0134197—UN—25JUL13

Engine Weep Hole - 9.0 L Shown

4. Inspect weep hole (D) for oil or coolant leakage.
5. Close and secure hood and reinstall side shields.

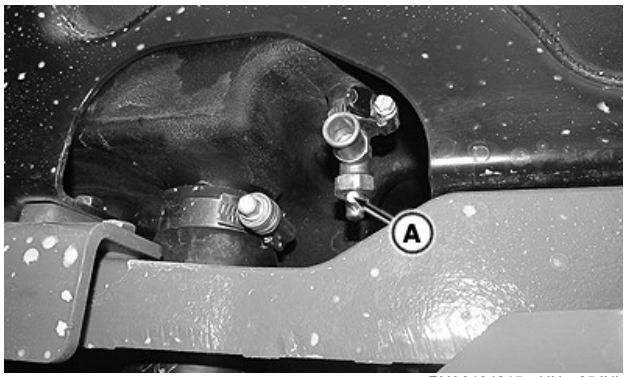
If leakage is detected, see your John Deere dealer to replace complete coolant pump assembly (repair parts are not available).

- Oil leakage indicates a damaged rear seal.
- Coolant leakage indicates a damaged front seal.

TS36762,000012E-19-25MAR21

Fuel Tank Sump

NOTE: Drain fuel tank sump if fuel filters are replaced frequently or water is found in the fuel tank. Service may be required more often under some conditions.



RXA0134215—UN—25JUL13

Drain fitting is recessed into inboard edge of right fuel tank.

IMPORTANT: Use wrench to hold drain fitting while opening or closing tee or damage to tank threads can occur.

Open drain tee (A).

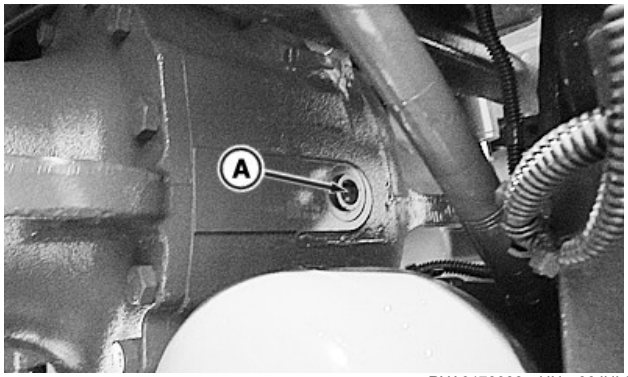
Drain fuel from tanks until clean fuel appears from tank, then close drain tee

TS36762,000012F-19-08SEP17

MFWD or TLS Plus Axle Housing Oil Level

IMPORTANT: If there are any indications of oil leaks, do not operate tractor until the source has been determined and repairs made.

1. Park tractor on level ground.



RXA0178988—UN—30JUL20

Axle Housing—Left-Hand Side

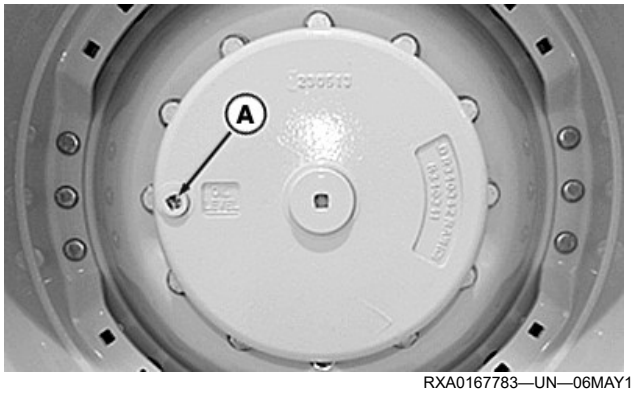
2. Remove fill/check plug (A). Oil level should be just below plug hole.
3. If oil level is low, add oil until level is correct. Use John Deere HY-GARD oil as specified in Transmission and Hydraulic Oil in Other Lubricants section of this Operator's Manual.
4. Apply pipe sealant with TEFLON, or equivalent, to threads of fill/check plug.
5. Install fill/check plug and tighten to 70 N·m (52 lb·ft).

TS36762,0000130-19-21JUN22

Wheel Hub Oil Level

IMPORTANT: If there are any indications of oil leaks, do not operate tractor until the source has been determined and repairs made.

1. Park tractor on level ground.
2. Maneuver tractor forward or backward until the words OIL LEVEL cast into wheel hub are horizontal.



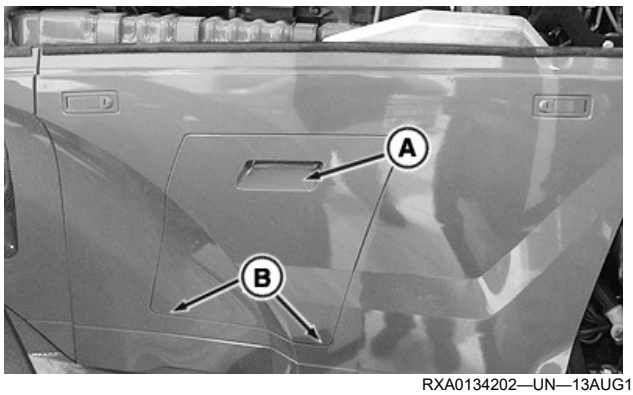
RXA0167783—UN—06MAY19

3. Remove wheel hub drain/fill plug (A). Oil level should be just below fill hole.
4. If oil level is low, fill to bottom of fill hole. See Gear Oil in Other Lubricants section of this Operator's Manual.
5. Apply pipe sealant with TEFLON, or equivalent, to threads of drain/fill plug.
6. Install and tighten drain/fill plug to 80 N·m (59 lb·ft).
7. Repeat procedure with other wheel hub

RX32825,0001853-19-26JUN23

Engine Oil Level

1. Park tractor on level ground.
2. Stop engine and remove key.



RXA0134202—UN—13AUG13

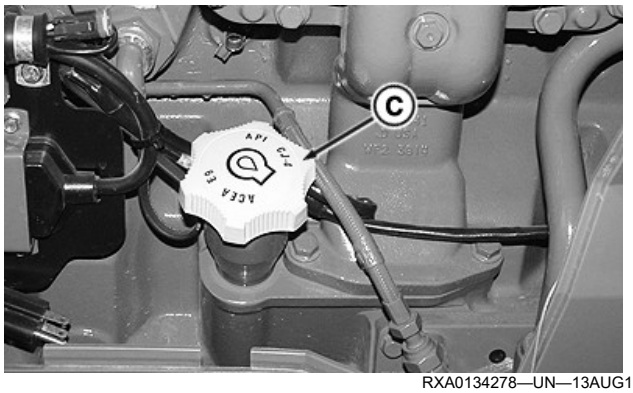
Engine Access Panel-Left-hand Side

CAUTION: Avoid injury resulting from contact with hot engine components. Allow engine to cool before removing access panel.

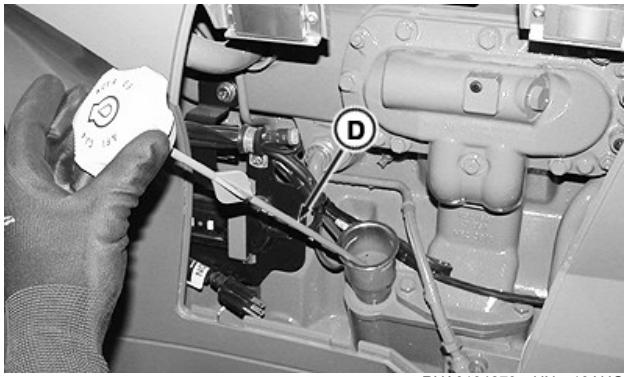
3. Remove engine access panel. Pull outward, using hand grip recess (A). Magnets secure top of panel. Lift panel from alignment tabs at bottom (B).

IMPORTANT: Do not operate engine with oil level below "ADD" mark on dipstick.

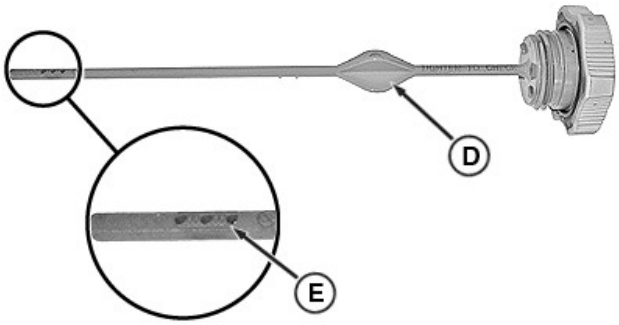
NOTE: Fully tighten filler cap to check oil. Oil level at top of crosshatch area on dipstick is considered FULL.



RXA0134278—UN—13AUG13



RXA0134279—UN—13AUG13



RXA0109390—UN—16AUG10

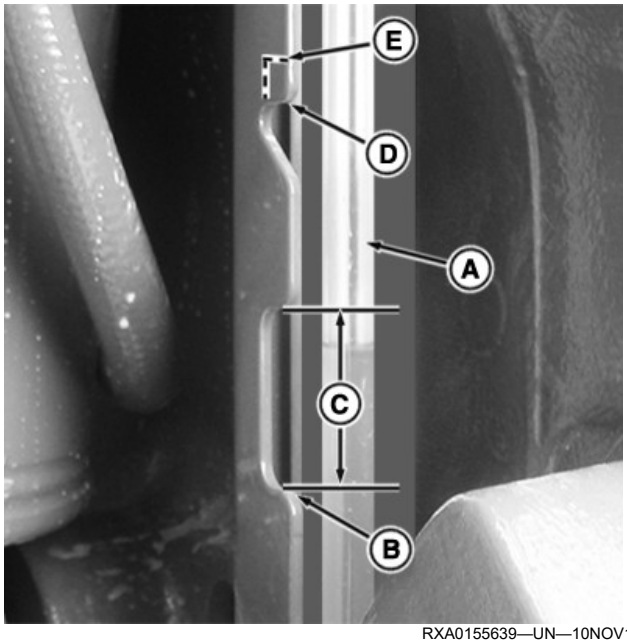
4. Dipstick is attached to filler cap (C). Remove cap and clean dipstick. Retighten cap, then remove and check oil level on dipstick (D). Oil level should be between ”ADD” mark and top (E) of crosshatch area on dipstick.
5. If needed, remove cap and add oil recommended in Engine Oil section of this Operator’s Manual.
6. Reinstall engine access panel.

TS36762,0000134-19-12JUN19

Hydraulic System Oil Level

IMPORTANT: While tractor is in operation, oil level will vary above maximum operating level and below normal operating range. For accurate reading closely follow procedure.

1. Park tractor on level ground and fully lower rear hitch.
2. Shut off engine.
3. Wait 30 minutes or until oil level stabilizes in sight tube before checking oil level.



RXA0155639—UN—10NOV16

4. Check oil level in sight glass (A) at rear of tractor.

IMPORTANT: Overfilling transmission-hydraulic oil can result in decreased operating efficiency. Except when operating in side-hill or high volume applications, keep oil level at or slightly below top of normal operating range. Never fill system above maximum operating level.

NOTE: Oil level may need to be adjusted based on expected operating conditions. See special operating condition instructions below.

Hydraulic oil sensor detects a low oil level or hydraulic oil loss. DTC appears on display. Check hydraulic oil level and fill to normal operating range.

5. If transmission-hydraulic oil level is at or below add oil indication (B), slowly add oil to reach top of normal operating range indicator (C). Use oil as specified in Transmission and Hydraulic Oil in Other Lubricants section of this Operator’s Manual. From add oil level, adding approximately these amounts of oil will bring oil level to top of normal operating range.

Transmission	Without Optional Auxiliary Oil Reservoir	With Optional Auxiliary Oil Reservoir
IVT/AutoPowr	16 L (17 qt)	18 L (19 qt)
e23	16 L (17 qt)	18 L (19 qt)

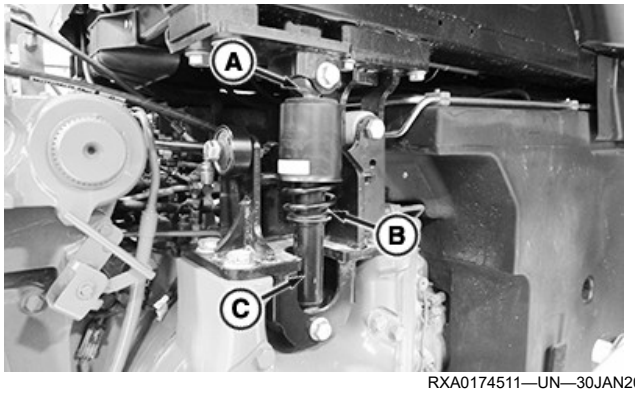
IMPORTANT: Examine oil level indicator. If tractor is not equipped with optional auxiliary oil reservoir, maximum operating level indication will be as shown (D). If tractor has optional oil reservoir installed, maximum operating level indicator will be higher (E).

If oil appears milky or foamy, oil may be contaminated with water, change oil immediately. If oil is discolored or smells burned, oil may be overheating. See your John Deere dealer.

For Side-Hill Applications or High Oil Volume Requirements: To prevent low oil levels, additional oil may be required when operating on side hills or when using implements which require large volumes of oil to function. Oil level should be at or slightly below maximum operating level (D or E).

TS36762,0000135-19-21JUN22

Mechanical Cab Suspension Components



RXA0174511—UN—30JAN20

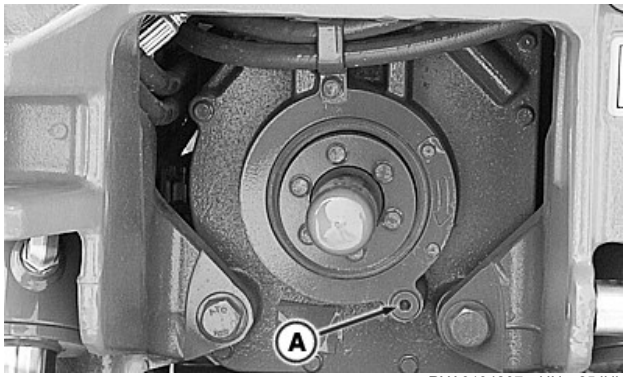
1. Check bushings (A) for degraded or missing rubber. If rubber is damaged replace complete bushing assembly.
2. Check coil spring (B) for breakage, replace if broken.
3. Check shock (C) for signs of leaking oil, replace if leaking.

BH38674,0000D4F-19-30JAN20

Front PTO Housing Oil Level

IMPORTANT: Normal front PTO service interval is every 1500 hours. However, change oil and replace filter after first 250 hours of tractor use. See 1500 Hour Service in this Operator's Manual.

1. Park tractor on level surface.



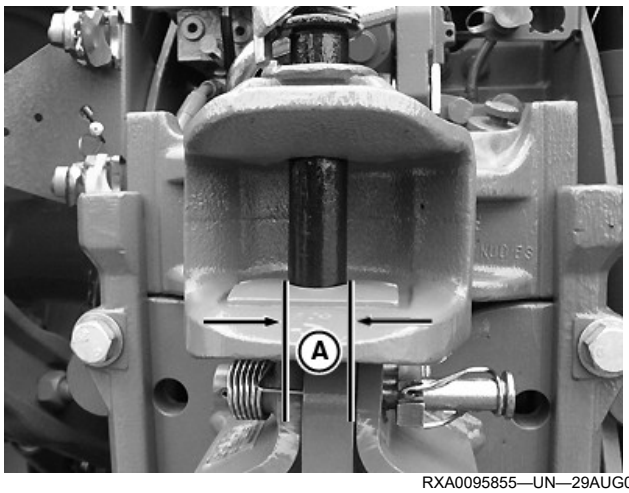
RXA0134207—UN—25JUL13

2. Remove plug (A). Oil level should be just below plug hole.
3. If low, add oil until level is correct. See Transmission and Hydraulic Oil in Other Lubricants section of this Operator's Manual.
4. Install plug.

TS36762,0000139-19-14DEC16

Manually Operated Hitch

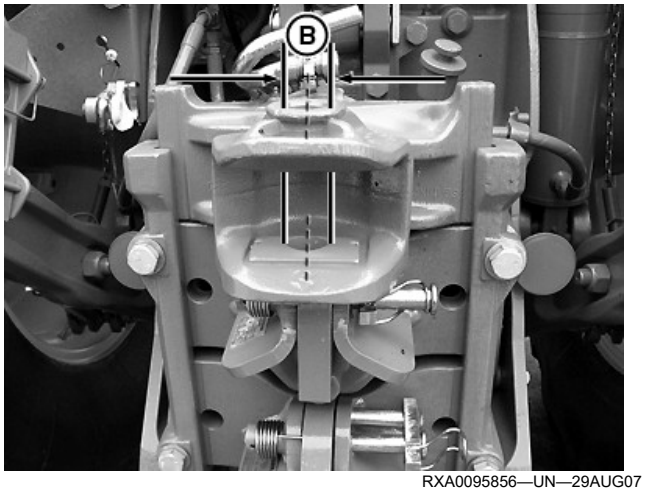
CAUTION: Parts that have reached or exceeded their wear limit must be replaced with new parts.



RXA0095855—UN—29AUG07

Check diameter (A) of hitch pin.

Specification	
Hitch pin—Wear limit or minimum diameter	29.0 mm (1.14 in)

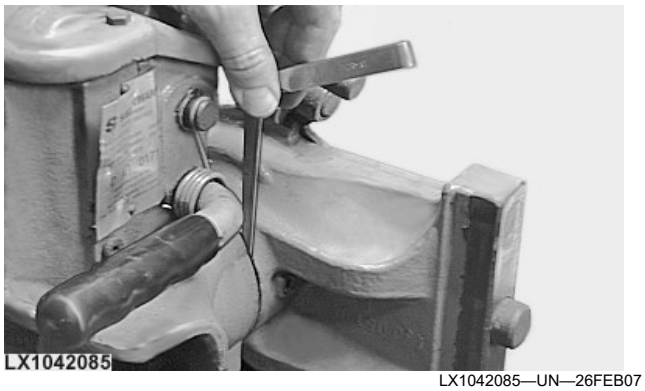


RXA0095856—UN—29AUG07

Check diameter (B) of receiver hole.

Specification

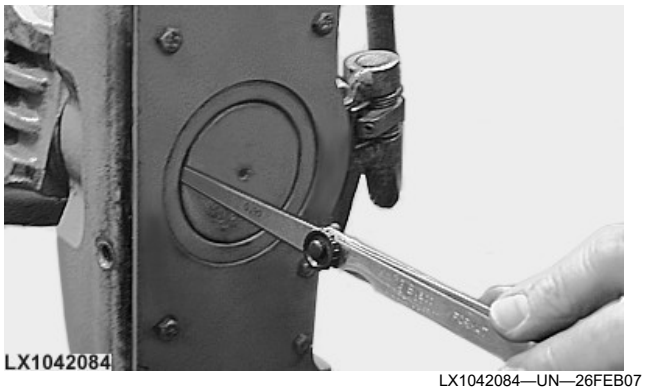
Top and bottom receiver holes (measured in direction of travel)—Wear limit or maximum permitted diameter. . . . . 35.0 mm (1.38 in) (oval)



LX1042085—UN—26FEB07

Gap "X"

Replace retaining wire if:
Gap (X) is greater then 3 mm (0.118 in.)



LX1042084—UN—26FEB07

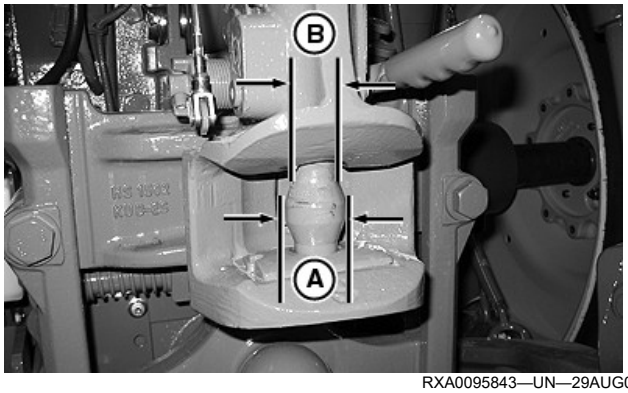
Bearing Play "Y"

IMPORTANT: If bearing play (Y) is greater than 1.5 mm (0.059 in) entire trailer hitch must be replaced with a new hitch.

RW29387,0000658-19-05JUL17

Remote Controlled Hitch

CAUTION: Parts that have reached or exceeded their wear limit must be replaced with new parts.



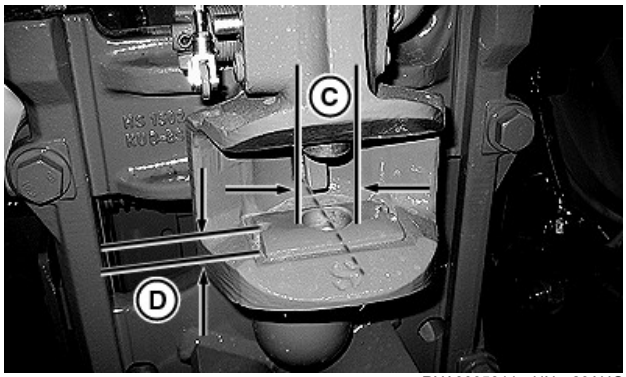
RXA0095843—UN—29AUG07

Check diameters (A and B) of the hitch pin.

Specification

Ball-shaped hitch pin—Wear limit or minimum diameter (A). . . . . 36 mm (1.42 in)

Ball-shaped hitch pin—Wear limit or minimum diameter (B). . . . . 27 mm (1.06 in)



RXA0095844—UN—29AUG07

Check diameter (C) of the receiver hole.

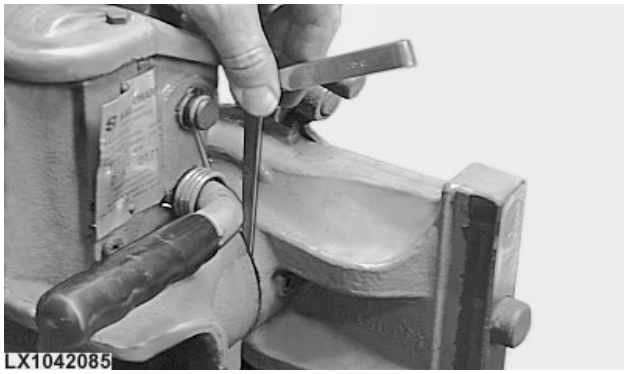
Specification

Bottom receiver hole (in direction of travel)—Wear limit or maximum permitted diameter. . . . . 34 mm (1.33 in) (oval)

Check thickness (D) of wear plate.

Specification

Wear plate—Wear limit or maximum permitted thickness. . . . . 6 mm (0.24 in)



LX1042085—UN—26FEB07

Gap "X"

Replace retaining wire if:
Gap (X) is greater than 3 mm (0.118 in)

LX1042084—UN—26FEB07

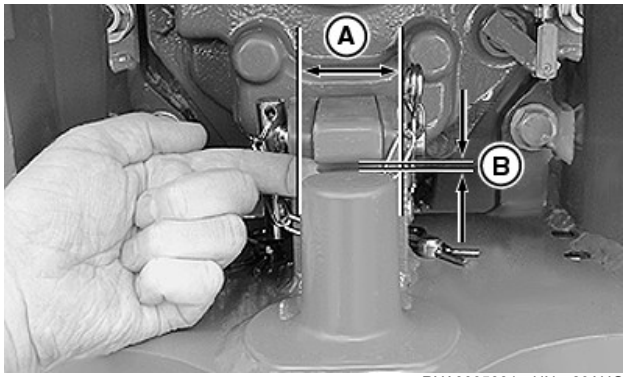
Bearing Play "Y"

IMPORTANT: If bearing play (Y) is greater than 1.5 mm (0.059 in) the entire trailer hitch must be replace with a new hitch.

RW29387,0000659-19-18SEP17

Tow Hitch (Piton Fix)

CAUTION: Parts that have reached or exceeded their wear limit must be replaced with new parts.



RXA0095864—UN—29AUG07

Check gap (B) at catch.

Specification

Gap at catch—Maximum permissible clearance. . . . . 10.0 mm (0.39 in)

Check pin diameter (A).

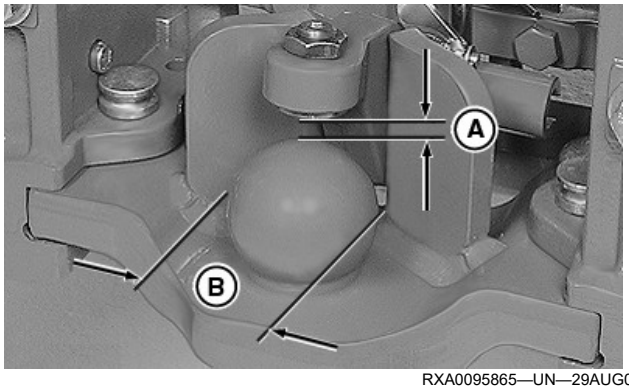
Specification

Pin—Wear limit or minimum diameter. . . . . 41.5 mm (1.63 in)

RW29387,000065A-19-05JUL17

Ball-Type Tow Hitch

CAUTION: Parts that have reached or exceeded their wear limit must be replaced with new parts.



RXA0095865—UN—29AUG07

Check gap (A) at catch.

Specification

Gap at catch—Maximum permissible clearance. . . . . 4.0 mm (0.16 in)

Check ball diameter (B).

Specification

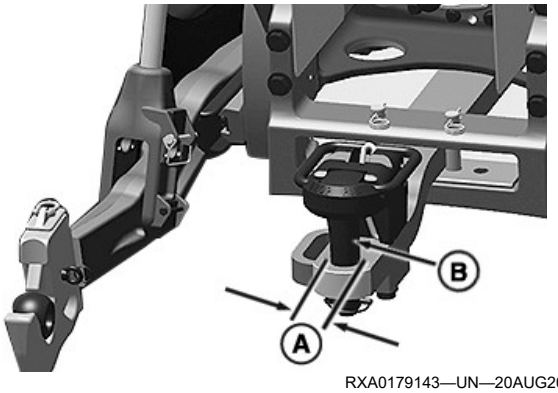
Ball diameter—Wear limit or minimum diameter. . . . . 78.0 mm (3.07 in)

RW29387,000065B-19-05JUL17

Hitch and Drawbar Wear

CAUTION: Avoid equipment damage. Replace parts that have reached or exceeded their wear limit.

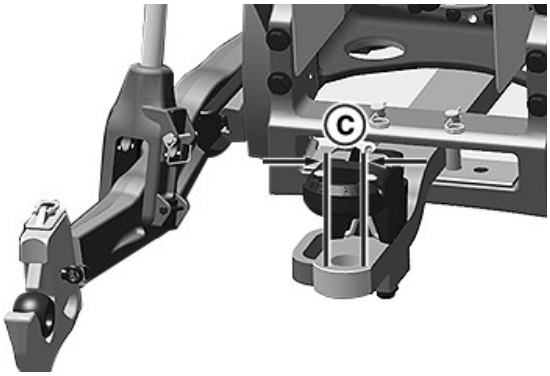
NOTE: If tractor is equipped with trailer hitch, pickup hitch, or deluxe stabilizers, see corresponding procedures in this section of the Operator's Manual.



RXA0179143—UN—20AUG20

1. Check the diameter (A) of the pin (B).

Hitch Pin Specification		
Drawbar Category	Measurement mm (in)	
	Nominal Diameter	Wear Limit or Minimum Diameter
3	38.10 (1.50)	35.70 mm (1.40)
4	50.80 (2.00)	47.60 mm (1.87)



RXA0179144—UN—20AUG20

2. Check the diameter (C) at the top and bottom of the pin receiver hole.

Top and Bottom Receiver Hole Specification		
Drawbar Category	Measurement[a] mm (in)	
	Nominal Diameter	Wear Limit or Maximum Permissible Diameter[b]
3	41.28 (1.62)	43.30 (1.70)
4	52.80 (2.07)	55.40 (2.18)

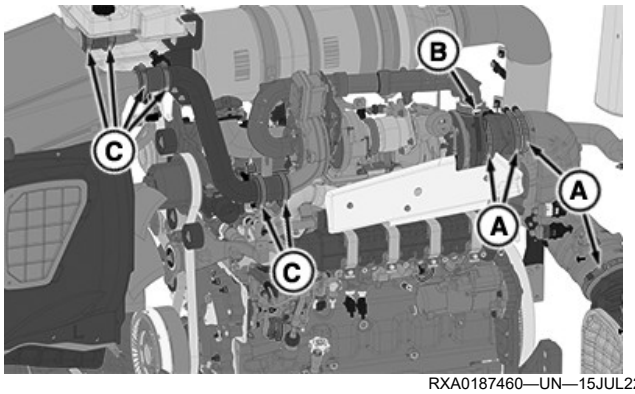
[a] *Measured in the direction of travel.*
[b] *Oval*

KD34109,0000911-19-22DEC21

Engine Air Intake System—6.8 L Engine

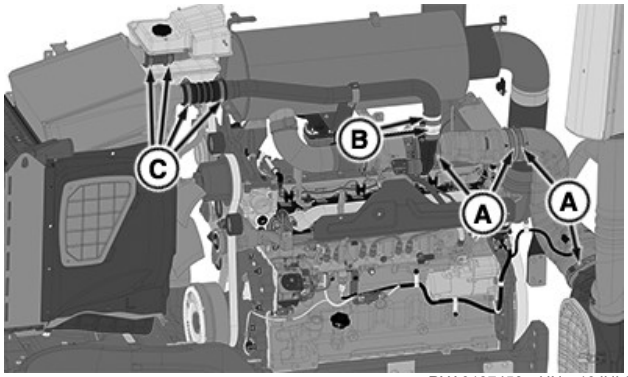
IMPORTANT: To determine which engine your tractor is equipped with, see Engine Serial Number in Identification Numbers section of this Operator's Manual.

1. Open hood, see Open Hood in Service—General Information section of this Operator's Manual.
2. Remove engine side shield. See Remove Engine Side Shields in Service—General Information section of this Operator's Manual.
3. Remove battery compartment cover.
4. Tighten air intake system hose clamps to specification:



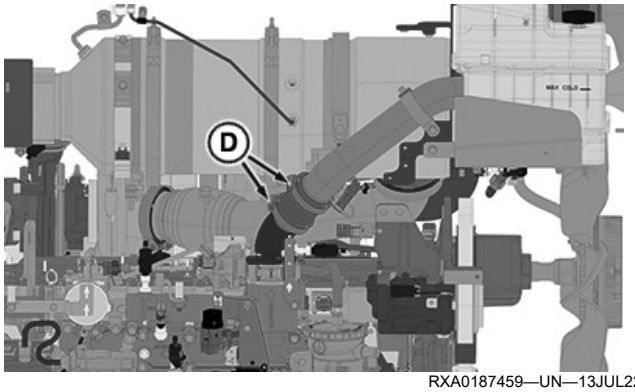
RXA0187460—UN—15JUL22

Dual Turbo



RXA0187458—UN—13JUL22

Single Turbo



RXA0187459—UN—13JUL22

a. Intake clamps (A) to 10 N·m (88 lb·in).

b. Turbo outlet (B) to 12 N·m (106 lb·in).

c. Charge air cooler clamps (C) to 12 N·m (106 lb·in). Re-torque after 3 minutes.

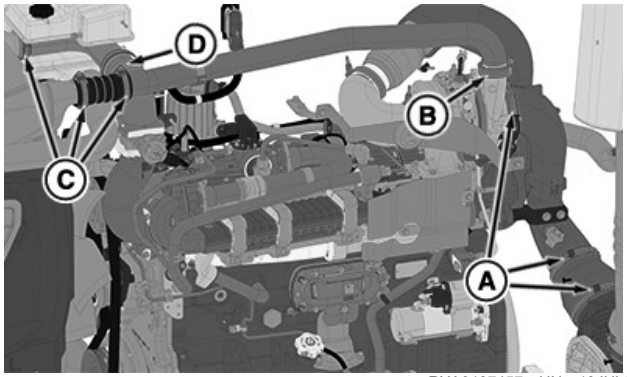
d. Intake manifold clamps (D) to 12 N·m (106 lb·in). Re-torque after 3 minutes.

TS36762,000013A-19-15JUL22

Engine Air Intake System—9.0 L Engine

IMPORTANT: To determine which engine your tractor is equipped with, see Engine Serial Number in Identification Numbers section of this Operator's Manual.

1. Open hood, see Open Hood in Service—General Information section of this Operator's Manual.
2. Remove engine side shields. See Remove Engine Side Shields in Service—General Information section of this Operator's Manual.
3. Tighten air intake system hose clamps to specification:



RXA0187457—UN—13JUL22

a. Intake clamps (A) to 10 N·m (88 lb·in).

b. Turbo outlet clamp (B) to 12 N·m (106 lb·in).

c. Charge air cooler clamps (C) to 12 N·m (106 lb·in). Re-torque after 3 minutes.

d. Intake manifold clamp (D) to 12 N·m (106 lb·in).

TS36762,000013C-19-15JUL22

Tires

IMPORTANT: Keep tires at recommended pressure to insure maximum performance. See inflation pressure tables in Front and Rear Wheels, Tires, and Treads sections of this Operator's Manual.

Inspect tires for cuts or breaks and repair. Adjust and maintain tire pressure according to recommended pressure charts for optimum field performance. Check pressure of each tire at least once a week. If tires contain liquid ballast, use a special air-water gauge, and measure with valve stem positioned at bottom.

TS36762,000013D-19-14DEC16

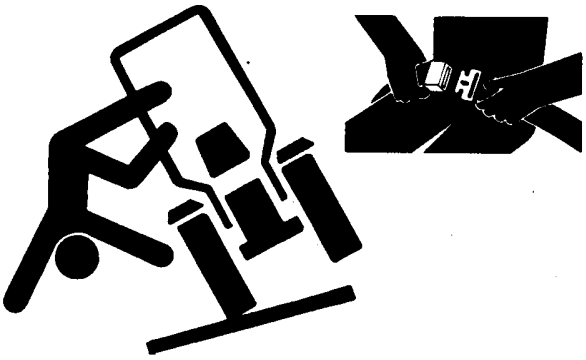
TLS Plus Accumulator Charge Pressure

IMPORTANT: Perform service every 1000 hours or annually, whichever comes first.

See your John Deere dealer.

TS36762,0000141-19-21JUN22

Seat Belts



TS205—UN—23AUG88

CAUTION: If seat belt system, including mounting hardware, buckle, belt, or retractor shows any sign of damage such as cuts, fraying, extreme or unusual wear, discoloration or abrasion, the entire seat belt system should be replaced immediately. Replace the belt system only with replacement parts approved for your machine.

RXA0174320—UN—28JAN20

Inspect seat belts (A) and mounting hardware. If seat belts need to be replaced, see your John Deere dealer.

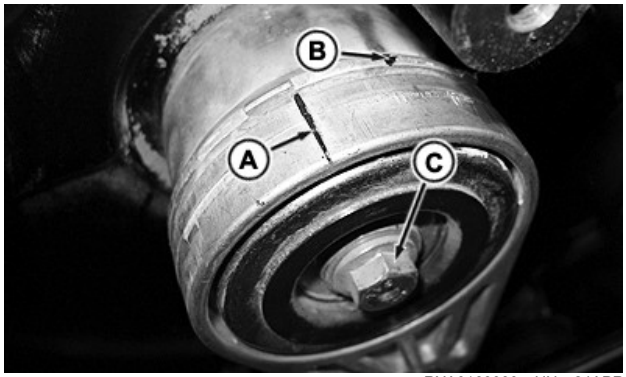
TS36762,0000146-19-28JAN20

Fan Belt Tensioner and Fan Belt

1. Remove fan belt. See Fan Belt in Service—Change section of this Operator's Manual.
2. Examine fan belt tensioner assembly for visible damage. If tensioner is:

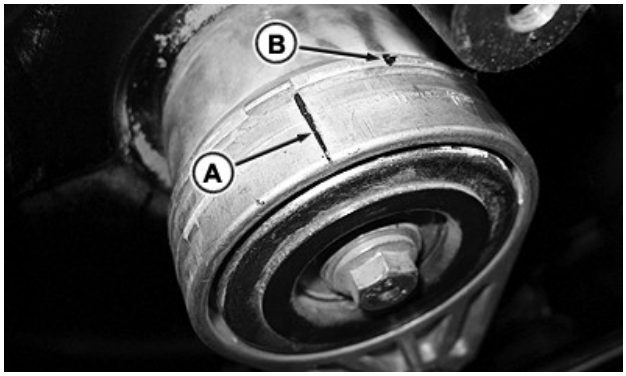
   Damaged, secure replacement tensioner, then go to step 6.

   Not damaged, go to step 3.



RXA0163039—UN—24APR18

3. Measure 21 mm (13/16 in) from mark on tensioner arm (A) and put mark (B) on mounting bracket.
4. Place torque wrench socket on cap screw (C).



RXA0163040—UN—24APR18

5. Rotate tensioner arm with torque wrench until marks (A and B) align together. Check torque wrench measurement. If measurement is not within 18-23 N·m (159-204 lb·in), replace tensioner. If tensioner:

   Must be replaced, go to step 6.

   Is within specification, go to step 8.
6. Replace tensioner assembly,
7. Apply thread lock and sealer Loctite 242 to pivot cap screw. Install cap screw and tighten to 70 N·m (51 lb·ft) torque.
8. Inspect fan belt. If belt is:

   Worn or damaged, secure replacement fan belt. Then go to step 9.

   In good condition, go to step 9.
9. Install fan belt. See Fan Belt in Service—Change section of this Operator's Manual.

TS36762,0000147-19-23JUN22

Engine Valve Clearance

NOTE: To confirm which engine your tractor is equipped with, see Engine Serial Number in Identification Numbers section of this Operator's Manual.

See your John Deere dealer.

TS36762,0000148-19-14DEC16

Transmission PARK System

CAUTION: Avoid physical injury, tractor damage, or property damage:

- **Verify that the tractor surroundings are clear of people before testing.**
- **If the transmission PARK system does not operate correctly, repair immediately. See your John Deere dealer.**

1. Position the tractor on a 20—30% slope with the front of the tractor pointing down the slope.
2. Shift the transmission into PARK.

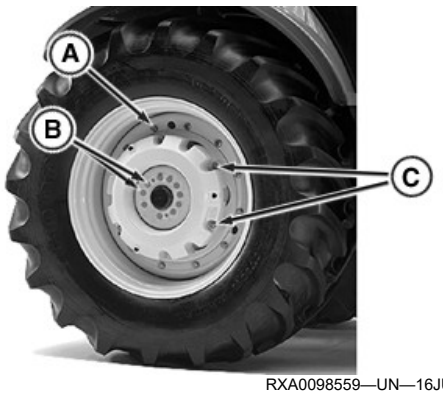
   To verify the location of PARK on the transmission, see Shift Transmission in the appropriate Transmission section of this Operator's Manual.
3. If the tractor does not hold in a stationary position on an incline with the transmission in the PARK position, repair the transmission immediately. See your John Deere dealer.

EC82310,0000BA6-19-25NOV19

Wheel and Wheel Weight Bolts

CAUTION: Avoid the possibility of personal injury. Never operate the tractor with loose wheel or wheel weight bolts. Failure to follow torquing procedure may result in personal injury. Wheel and wheel weight bolts are critical and require repeated torquing to assure secure tightness.

IMPORTANT: Failure to follow correct tightening procedure could result in equipment damage.

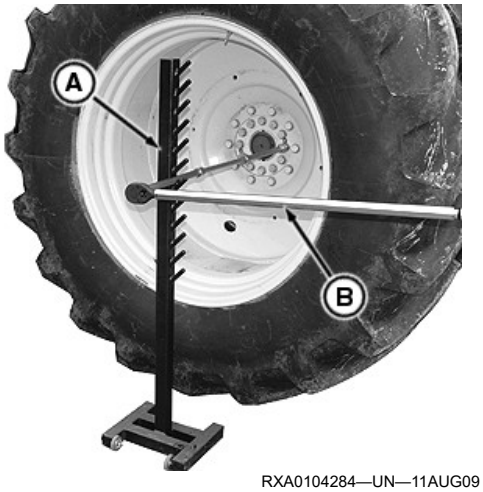


RXA0098559—UN—16JUN08

Tighten front and rear wheel bolts (A), hub bolts (B), and wheel weight bolts (C) using appropriate torquing procedures described below.

RX32825,000177F-19-15NOV16

Use Wheel Tightening Stand



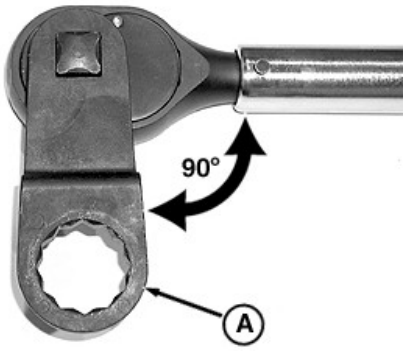
RXA0104284—UN—11AUG09

Wheel tightening stand (A) may be used to support the torque wrench (B) when tightening cap screws at different heights.

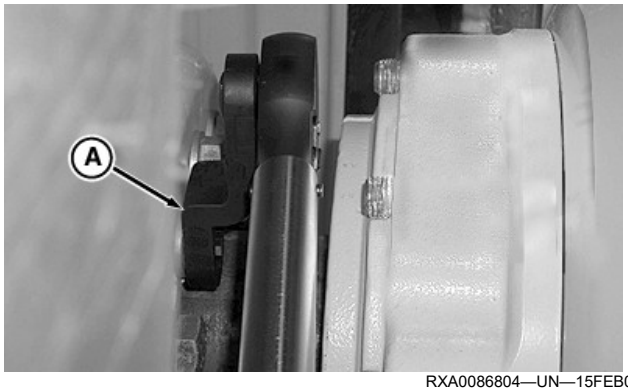
See your John Deere dealer to order or for information on how to build your own.

RX32825,0001780-19-13OCT22

Use Wheel Torque Wrench Adapter



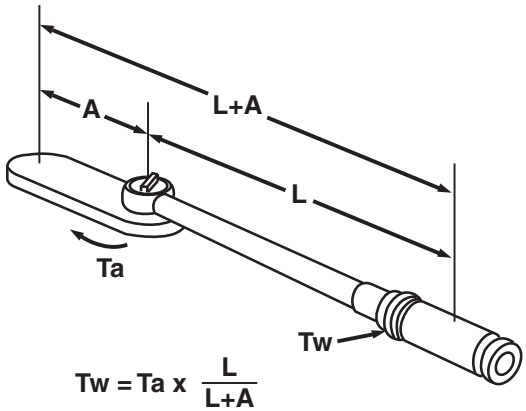
RXA0086802—UN—15FEB06



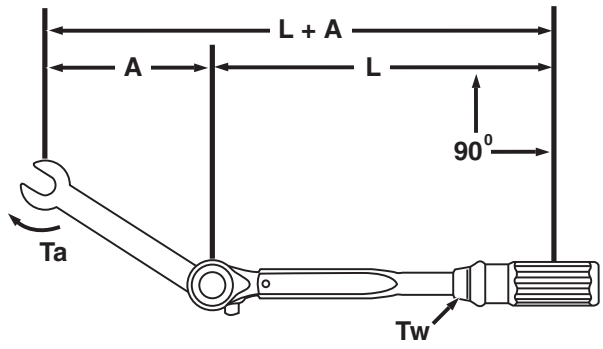
RXA0086804—UN—15FEB06

Install JDG679 Torque Wrench Adapter (A) [32 mm (3/4 in) drive] improves access to sleeve bolts on inner cast wheels with outside duals in place. JDG679 may be required for torquing wheel hardware for tractors equipped with John Deere CTIS. See your John Deere dealer.

Install adapter at **90° angle** from torque wrench shaft to assure correct torque specification of 610 N·m (450 lb·ft).



RXA0061214—UN—19JUN02



RXA0062101—UN—15AUG02

When unable to use adapter at 90° angle from torque wrench shaft, use formula to calculate correct torque wrench setting (Tw) to obtain desired final torque on bolts.

Tw	=	Torque setting on torque wrench
Ta	=	Torque actually being applied to bolt
L	=	Length from point of force (center of the wrench handle) to center of head of torque wrench
A	=	Application distance from center of torque wrench head to center of adapter [95 mm (3.75 in)]

Example: Torque wrench length = 0.91 m (36 in), wrench adapter = 0.1 m (4 in), Value Tw for torque wrench setting is 549 N·m (405 lb·ft).

RX32825,0001781-19-28JAN21

Rear Wheel Weight Bolts

CAUTION: Avoid the possibility of personal injury. Never operate tractor with loose wheel weight bolts. Failure to follow torquing procedure may result in personal injury. Wheel weight bolts are critical and require repeated torquing to assure secure tightness.

IMPORTANT: Failure to follow tightening procedure could result in equipment damage.

RXA0130316—UN—15JAN13

Tighten all wheel weight bolts (A) to 310 N·m (230 lb·ft) for M16 and 610 N·m (450 lb·ft) for M20.

Drive tractor approximately 100 m (100 yd). Then check bolt torque and retighten until bolts maintain torque specification.

IMPORTANT: Keep wheel weight bolts tightened to specification. If tractor is operated with loose bolts, damage to equipment may occur.

Retighten bolts after working 3 hours, again after 10 hours and daily for first week of operation or until bolts do not move when retorqued.

RX32825,0001782-19-13NOV17

Front Wheel Bolts

CAUTION: Avoid the possibility of personal injury. Never operate tractor with loose wheel bolts. Failure to follow torquing procedure may result in personal injury. Wheel bolts are critical to operation and require repeated torquing to assure secure tightness.

IMPORTANT: Failure to follow tightening procedure could result in equipment damage.

RXA0130317—UN—15JAN13

Tighten all wheel disk to rim bolts (A) to 300 N·m (225 lb·ft) and wheel disk to hub bolts (B) (eight-position and two-position wheels) to 600 N·m (445 lb·ft).

Drive tractor approximately 100 m (100 yd). Then check bolt torque and retighten until bolts maintain torque specification.

IMPORTANT: Keep wheel bolts tightened to specification. If tractor is operated with loose bolts, damage to equipment may occur.

Retighten bolts after working 3 hours, again after 10 hours and daily for first week of operation or until bolts do not move when retorqued.

RX32825,0001783-19-13NOV17

Rear Drive Wheel to Cast Hub Bolts

CAUTION: Avoid the possibility of personal injury. Never operate tractor with loose wheel bolts. Failure to follow torquing procedure may result in personal injury. Wheel bolts are critical to operation and require repeated torquing to assure secure tightness.

IMPORTANT: Failure to follow tightening procedure could result in equipment damage.

RXA0130486—UN—15JAN13

Heavy Duty Cast 10-Bolt Hub

Tighten all wheel to hub bolts (A) to 600 N·m (445 lb·ft).

Drive tractor approximately 100 m (100 yd). Then check bolt torque and retighten until bolts maintain torque specification.

IMPORTANT: Keep wheel bolts tightened to specification. If tractor is operated with loose bolts, damage to equipment may occur.

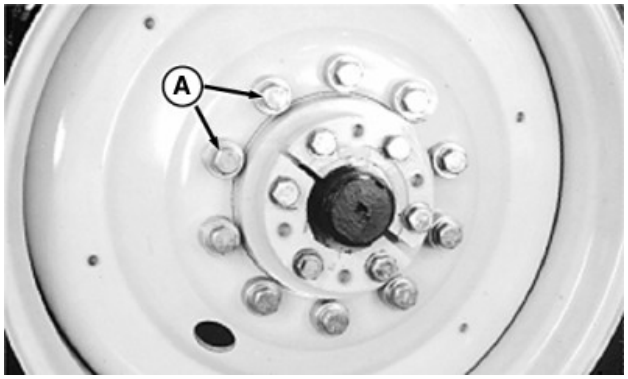
Retighten bolts after working 3 hours, again after 10 hours and daily for first week of operation or until bolts do not move when retorqued.

RX32825,0001784-19-13NOV17

Rear Steel Wheel to Hub Bolts

CAUTION: Avoid the possibility of personal injury. Never operate tractor with loose wheel bolts. Failure to follow torquing procedure may result in personal injury. Wheel bolts are critical to operation and require repeated torquing to assure secure tightness.

IMPORTANT: Failure to follow tightening procedure could result in equipment damage.



RXA0084448—UN—05OCT05

Standard Hub

Tighten all wheel to hub bolts (A) to 600 N·m (445 lb·ft).

Drive tractor approximately 100 m (100 yd). Then check bolt torque and retighten until bolts maintain final torque specification.

IMPORTANT: Keep wheel bolts tightened to specification. If tractor is operated with loose bolts, damage to equipment may occur.

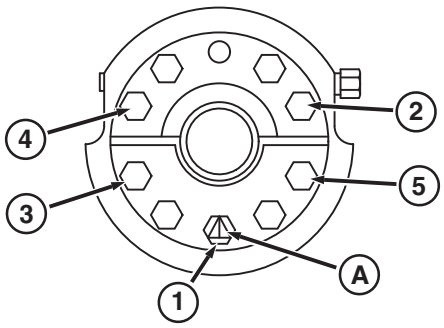
Retighten bolts after working 3 hours, again after 10 hours and daily for first week of operation or until bolts do not move when retorqued.

RX32825,0001785-19-13NOV17

Rear Steel Wheels—Cast Hub Bolts

CAUTION: Avoid the possibility of personal injury. Never operate tractor with loose wheel bolts. Failure to follow procedure may result in personal injury. Wheel bolts are critical to operation and require repeated torquing to assure secure tightness.

IMPORTANT: Some bolts may loosen as sleeve is tightened. Repeat torquing sequence until ALL sleeve bolts maintain proper torque. Failure to follow procedure could result in damage to equipment.



RXA0155678—UN—11NOV16

Tighten five hub sleeve bolts (1-5) to 204 N·m (150 lb·ft) in sequence shown beginning with center cap screw (A) in lower sleeve.

Tighten bolts to 410 N·m (300 lb·ft) using same tightening sequence.

Drive tractor approximately 100 m (100 yd). Then tighten bolts to 600 N·m (445 lb·ft).

IMPORTANT: Keep wheel bolts tightened to specification. If tractor is operated with loose bolts, damage to equipment may occur.

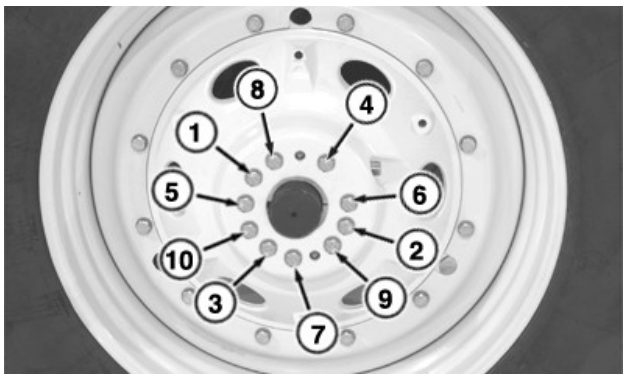
Retighten bolts after working 3 hours, again after 10 hours and daily for first week of operation or until bolts do not move when retorqued.

RX32825,0001786-19-13NOV17

Rear Wheel Bolts—Heavy-Duty Cast 10-Bolt Hubs

CAUTION: Avoid the possibility of personal injury. Never operate tractor with loose wheel bolts. Failure to follow procedure may result in personal injury. Wheel bolts are critical to operation and require repeated torquing to assure secure tightness.

IMPORTANT: Some bolts may loosen as sleeve is tightened. Repeat torquing sequence until ALL bolts maintain proper torque. Failure to follow procedure could result in damage to equipment.



RXA0130320—UN—15JAN13

Heavy Duty Cast Drive Hub

Tighten wheel to hub bolts (1-10) to 400 N·m (300 lb·ft) in numerical sequence shown.

Tighten bolts to 610 N·m (450 lb·ft) in numerical sequence shown.

Drive tractor approximately 100 m (100 yd). Using numerical sequence shown, check bolt torque and retighten to 610 N·m (450 lb·ft).

IMPORTANT: Keep wheel bolts tightened to specification. If tractor is operated with loose bolts, damage to equipment may occur.

Retighten bolts after working 3 hours, again after 10 hours and daily for first week of operation or until bolts do not move when retorqued.

RX32825,0001787-19-08JUN21

IMPORTANT: Keep wheel bolts tightened to specification. If tractor is operated with loose bolts, damage to equipment may occur.

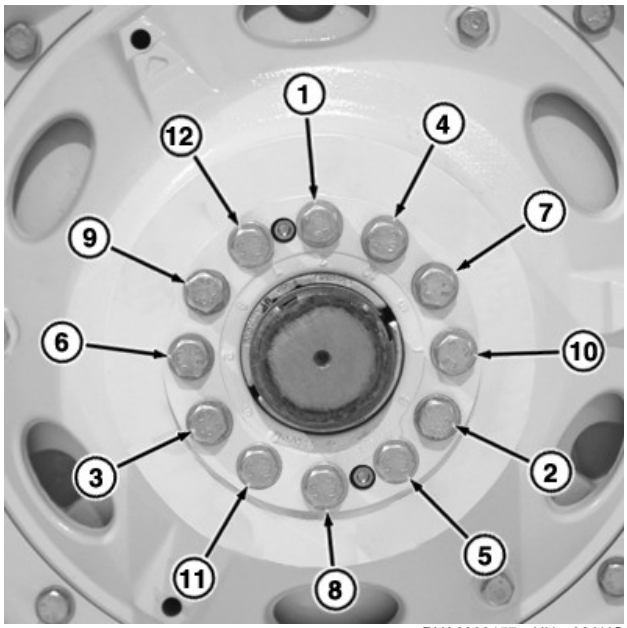
Retighten bolts after working 3 hours, again after 10 hours and daily for first week of operation or until bolts do not move when retorqued.

RX32825,0001788-19-13NOV17

Rear Wheel Bolts—Heavy-Duty 12-Bolt Hubs

CAUTION: Avoid the possibility of personal injury. Never operate tractor with loose wheel bolts. Failure to follow procedure may result in personal injury. Wheel bolts are critical to operation and require repeated torquing to assure secure tightness.

IMPORTANT: Some bolts may loosen as sleeve is tightened. Repeat torquing sequence until ALL bolts maintain proper torque. Numbers indicating proper torquing sequences are cast into wheel hub. Failure to follow procedure could result in damage to equipment.



RXA0090157—UN—08AUG06

12-Bolt Heavy-Duty Drive Wheel

Tighten wheel to hub bolts (1-12) to 405 N·m (300 lb·ft) in numerical sequence shown until torque is maintained.

Tighten bolts to 610 N·m (450 lb·ft) in numerical sequence shown.

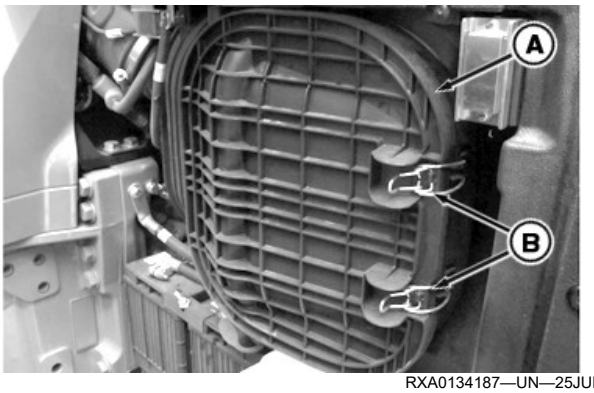
Drive tractor unloaded in a large figure-8 pattern a minimum of four times and retighten bolts to 610 N·m (450 lb·ft) in numerical sequence shown.

Engine Primary and Secondary Air Filters

IMPORTANT: Inspect filters annually or when a related diagnostic trouble code appears. Replacement interval may vary due to operating conditions. Replace secondary engine air filter at every second primary filter change.

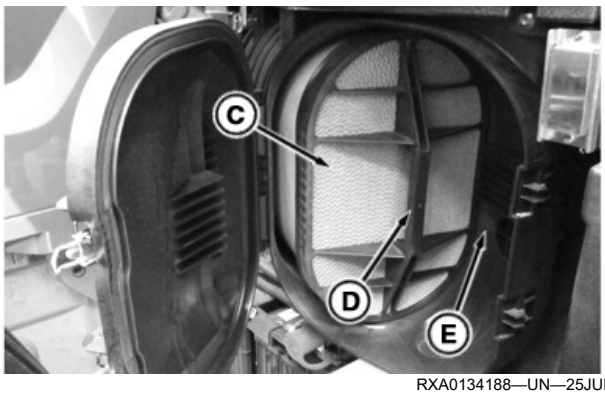
If diagnostic trouble code indicates plugged engine air filter, replace primary filter and inspect or replace secondary filter.

1. Remove battery compartment cover.



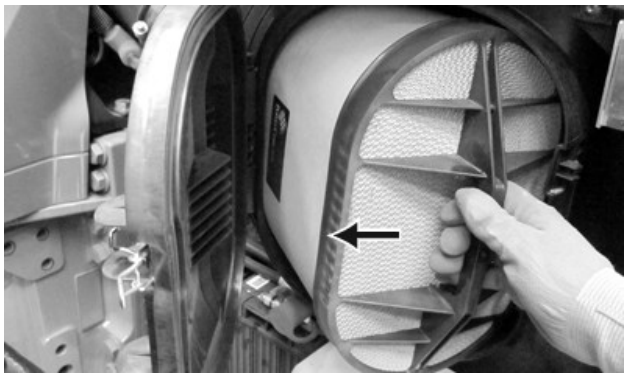
RXA0134187—UN—25JUL13

2. Unfasten two clamps (B) and open filter cover (A).



RXA0134188—UN—25JUL13

3. Pull handle (D) towards front of tractor to release primary air filter from raised retainer (E).



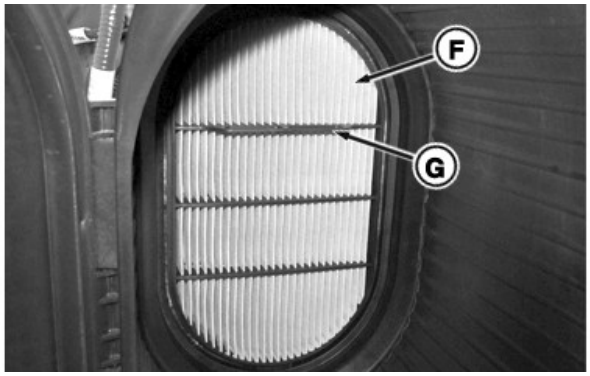
RXA0134189—UN—25JUL13

Pull Handle to Remove Primary Air Filter

4. Pull on handle to remove primary filter (C).
5. Clean dirt from inside of canister and cover.

IMPORTANT: If either filter is dirty, replace it. Do not attempt to clean filters.

6. Remove primary air filter.



RXA0155574—UN—09NOV16

RXA0134191—UN—25JUL13

7. To protect air intake system, only remove secondary filter far enough from canister to allow inspection. Pull on handle (G) to slide top part of secondary filter (F) out first. Inspect secondary filter.

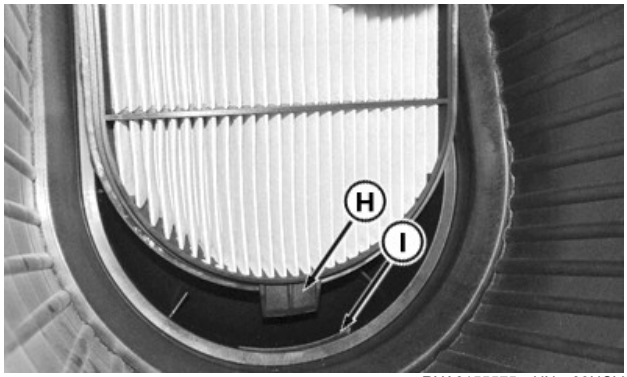
IMPORTANT: Failure to properly install primary and secondary filters will cause damage to engine. When installing primary air filter, make sure filter is properly seated behind raised retainer.

Replace secondary filter every second primary air filter change or if secondary filter is found to be damaged or excessively dirty.

8. If secondary filter is found to be in good condition and has been replaced at last primary filter change, reinsert it into filter canister. Then install new primary filter. Replace filter and battery covers.

IMPORTANT: Install new secondary filter immediately to prevent dust from entering air intake system.

9. If secondary filter is damaged or excessively dirty, or if primary filter has been replaced once before without replacing secondary filter, remove and discard secondary filter.



RXA0155575—UN—09NOV16

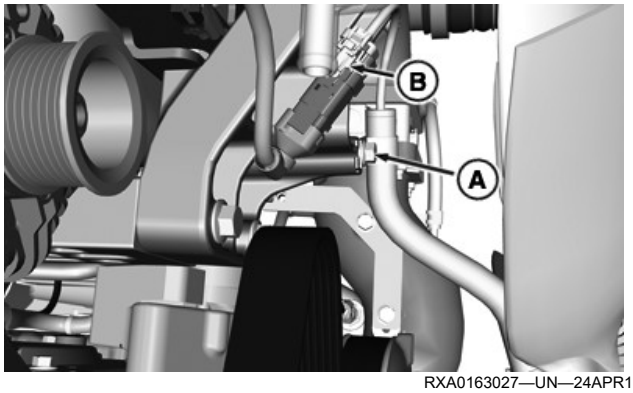
10. To install secondary filter, place tab (H) in slot (I).
11. Firmly press around edge of secondary filter to properly seat filter against filter housing.
12. Install new primary filter.
13. Close filter cover and fasten cover clamps.
14. Reinstall battery compartment cover.

TS36762,000014C-19-08SEP17

Fan Belt

IMPORTANT: Removal of belt requires an assistant.

1. Open hood. See Open Hood in Service—General Information section of this Operator's Manual.
2. Remove engine side shields. See Remove Engine Side Shields in Service—General Information section of this Operator's Manual.

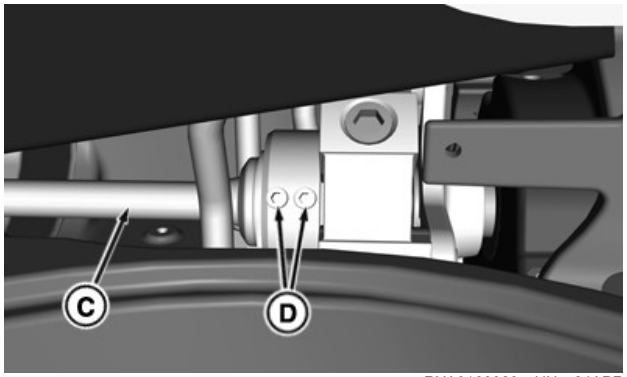


RXA0163027—UN—24APR18

3. Remove cap screw (A).
4. Disconnect fan drive connector (B).
5. If tractor is:

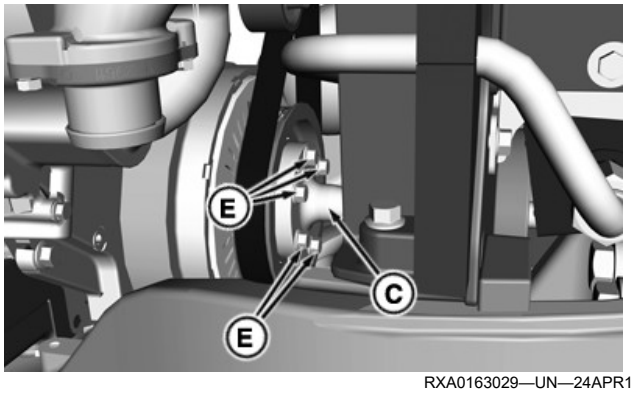
   Not equipped with front PTO, go to step 10.

   Equipped with front PTO, go to step 6.



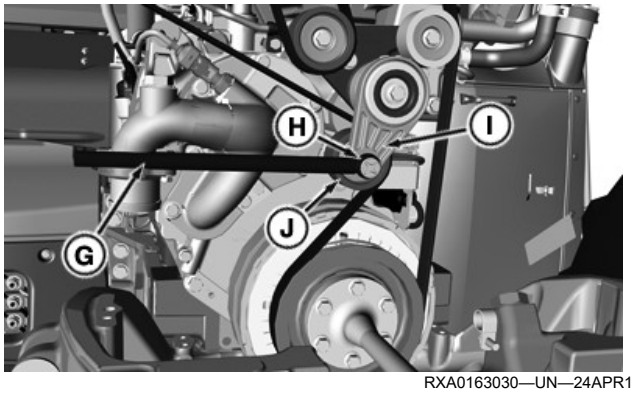
RXA0163028—UN—24APR18

6. Rotate PTO driveshaft (C) using JDG820 Flywheel Rotation Tool. Tool is available from your John Deere dealer.
7. Remove front PTO hub set screws (D).



RXA0163029—UN—24APR18

8. Remove PTO driveshaft cap screws (E).
9. Slide PTO driveshaft forward.



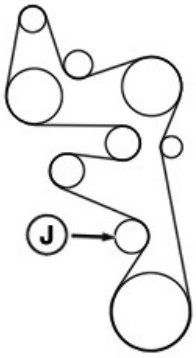
RXA0163030—UN—24APR18

9.0 L Engine Shown

10. Insert 1/2 inch drive ratchet or breaker bar (G) into square hole (H) on belt tensioner arm (I).
11. Twist tensioner arm to reduce tension on belt.
12. While continuing to apply pressure with breaker bar, have assistant remove belt from tensioner pulley (J).
13. Release force on tensioner.
14. Remove belt from remaining pulleys.

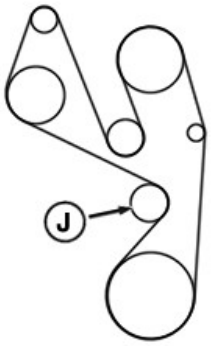
IMPORTANT: Belt tension is controlled by an automatic belt tensioner. Tensioner does not require adjustment.

15. Inspect tensioner for function and wear. See Fan Belt Tensioner and Fan Belt in Service—Check section of this Operator's Manual.
16. Inspect pulleys for and wear. Replace if necessary.



RXA0163031—UN—24APR18

6.8 L Engine Fan Belt Routing (Viewed from Front)



RXA0163032—UN—24APR18

9.0 L Engine Fan Belt Routing (Viewed from Front)

17. Install belt onto all pulleys except tensioner.
18. Release tension on tensioner using 1/2 in drive breaker bar.
19. Have assistant install belt around tensioner pulley.
20. Slowly release force on tensioner.
21. Connect fan drive connector.
22. Install clamp cap screw and tighten to 27.5 N·m (243 lb·in) torque.
23. If tractor is:

    Not equipped with front PTO, go to step 28.

    Equipped with front PTO, go to step 24.
24. Slide PTO driveshaft rearward.
25. Rotate PTO driveshaft using JDG820 tool.
26. Install PTO driveshaft cap screws and tighten to 73 N·m (54 lb·ft) torque.
27. Install front PTO hub set screws and tighten to 55 N·m (41 lb·ft) torque.

CAUTION: Never start engine without side shields installed and hood securely closed and latched.

28. Install left and right engine side shields.
29. Securely close and latch hood.

DB71512,0000136-19-25MAR21

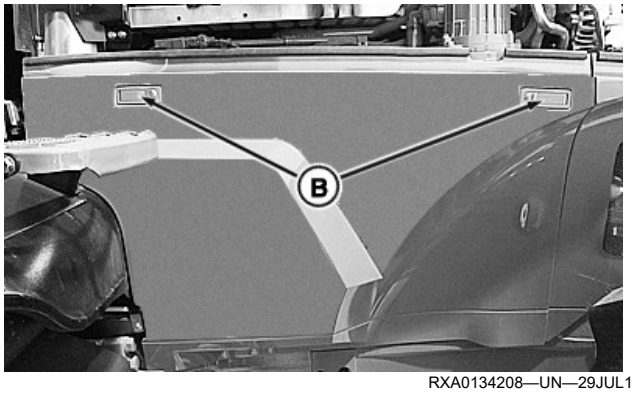
Engine Oil and Filter—6.8 L Engine

IMPORTANT: Sulfur content should not exceed 0.10%. Sulfur content less than 0.10% is preferred. See Engine Oil and Filter Service Intervals in Engine Oil section of this Operator's Manual for your engine.

NOTE: Initial break-in service interval of a new or rebuilt wet sleeve engine with Break-In Plus must go at least 100 hours to assure surface mating of rings and liners has had opportunity to occur. 100 hour minimum applies to all new or rebuilt engines. Maximum service interval are the same as service interval recommendations listed in Engine Oil and Filter Service Intervals in the Engine Oil section of this Operator's Manual for your engine. To determine which engine your tractor is equipped with, see Engine Serial Number in Identification Numbers section of this Operator's Manual.

For subsequent oil changes, see Engine Oil and Filter Service Intervals for your engine located in Engine Oil Section of this Operator's Manual.

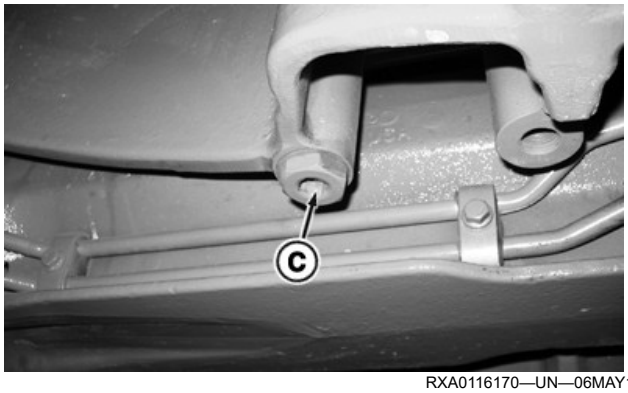
1. Operate engine for approximately 5 minutes to warm oil.
2. Stop engine and remove key.
3. Open hood, see Open Hood in Service—General Information section of this Operator's Manual.



RXA0134208—UN—29JUL13

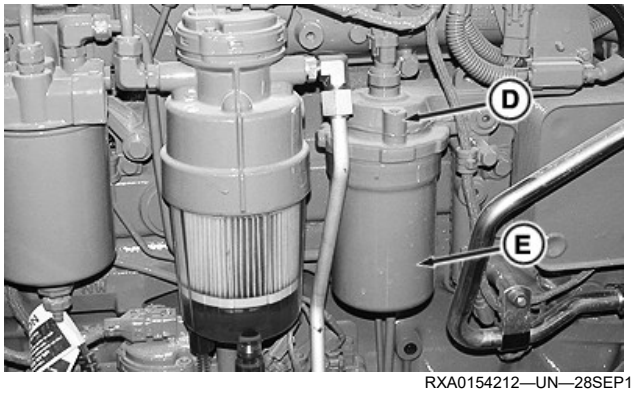
4. Depress latch buttons (B) to remove right side engine access panel.

5. Remove right side engine access panel.
6. Remove engine fill cap (at dipstick).



RXA0116170—UN—06MAY11

7. Put a large catch pan below engine drain plug (C).
8. Remove plug to drain oil while engine is warm.



RXA0154212—UN—28SEP16

9. Using an oil filter wrench, remove oil filter (E) from oil filter housing (D).
10. Dispose of used oil and oil filter in accordance with local laws and ordinances.
11. Lubricate new filter seal with clean oil.
12. Insert oil filter until gasket contacts oil filter housing surface. Hand tighten additional 1/2 turn.
13. Install drain plug after oil has been drained from crankcase. Tighten to 102 N·m (75 lb·ft).

IMPORTANT: Overfilling engine oil may result in loss of engine performance or damage to engine components. Check oil level during refill to assure that correct amount of oil is added.

14. Refill crankcase at engine fill cap with seasonal viscosity grade oil. See Engine Oil section of this Operator's Manual. For crankcase capacity, see Capacities in Specifications section of this Operator's Manual.
15. Check for correct oil level using dipstick.
16. Reinstall right side engine access panel.
17. Securely close hood.
18. Start engine and check for leaks.
19. Stop engine. Recheck oil level. Add oil if necessary.

TS36762,000014A-19-25MAR21

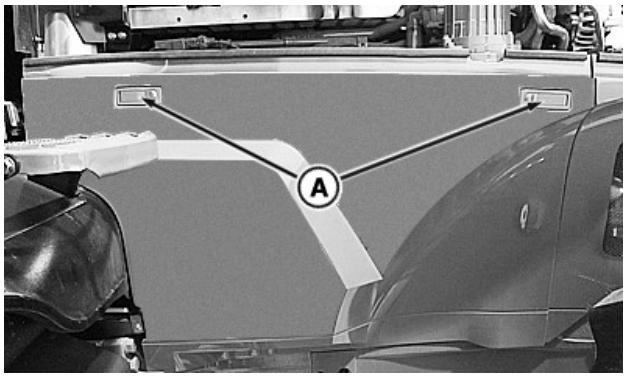
Engine Oil and Filter—9.0 L Engine

IMPORTANT: Sulfur content should not exceed 0.10%. Sulfur content less than 0.10% is preferred. See Engine Oil and Filter Service Intervals in Engine Oil section of this Operator's Manual for your engine.

NOTE: Initial break-in service interval of a new or rebuilt wet sleeve engine with Break-In Plus must go at least 100 hours to assure surface mating of rings and liners has had opportunity to occur. 100 hour minimum applies to all new or rebuilt engines. Maximum service interval are the same as service interval recommendations listed in Engine Oil and Filter Service Intervals in Engine Oil section of this Operator's Manual for your engine. To determine which engine your tractor is equipped with, see Engine Serial Number in Identification Numbers section of this Operator's Manual.

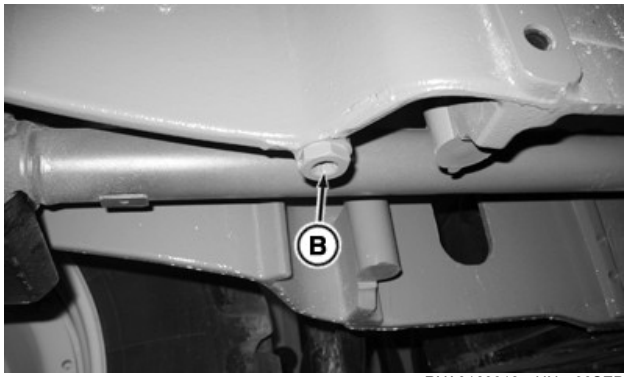
For subsequent oil changes, see Engine Oil and Filter Service Intervals for your engine located in the Engine Oil section of this Operator's Manual.

1. Operate engine for approximately 5 minutes to warm oil.
2. Stop engine and remove key.
3. Open hood, see Open Hood in Service—General Information section of this Operator's Manual.



RXA0160912—UN—08SEP17

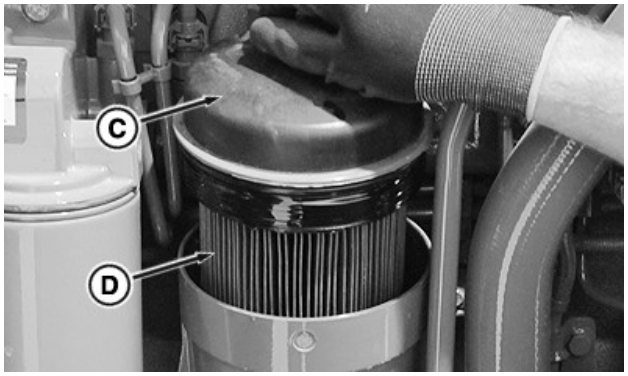
4. Depress latch buttons (A) to remove right side engine access panel.
5. Remove right side engine access panel.
6. Remove engine fill cap (at dipstick).



RXA0160913—UN—08SEP17

7. Put a large catch pan below engine oil drain plug (B).
8. Remove plug to drain oil while engine is warm.

NOTE: Do not remove plug on oil filter housing base. Oil automatically drains back into crankcase when filter is removed.

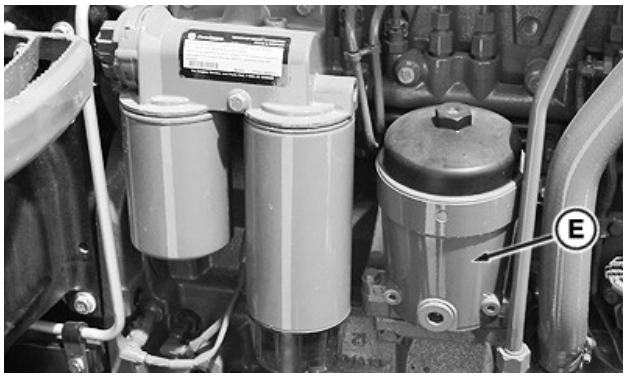


RXA0160914—UN—08SEP17

9. Using a 32 mm wrench, unscrew oil filter cover (C) and lift as shown. Allow filter (D) to drain into crankcase.
10. Remove filter cover with oil filter attached.

RXA0136207—UN—24OCT13

11. While holding cover, strike filter against solid surface to remove filter as shown.
12. Dispose of used oil and oil filter in accordance with local laws and ordinances.
13. Find new O-ring provided with new filter element. Lubricate new O-ring with a small amount of engine oil.
14. Remove old O-ring and replace with new O-ring.
15. Press new filter into cover until it snaps into place.



RXA0160915—UN—08SEP17

16. Insert filter and cover into oil filter housing (E). Tighten cover to 40 N·m (30 lb·ft).
17. Install drain plug after oil has been drained from crankcase and tighten to 102 N·m (75 lb·ft).

IMPORTANT: Overfilling engine oil may result in loss of engine performance or damage to engine components. Check oil level during refill to assure that correct amount of oil is added.

18. Refill crankcase with seasonal viscosity grade oil. See Engine Oil in the Engine Oil section of this Operator's Manual. For crankcase capacity, see Capacities in Specifications section of this Operator's Manual.
19. Check for correct oil level using dipstick.
20. Reinstall right side engine access panel.
21. Securely close hood.
22. Start engine and check for leaks.
23. Stop engine. Recheck oil level. Add oil if necessary.

TS36762,000014D-19-25MAR21

Fuel Filters

CAUTION: Always shut off engine and remove key before performing maintenance work on fuel filter.

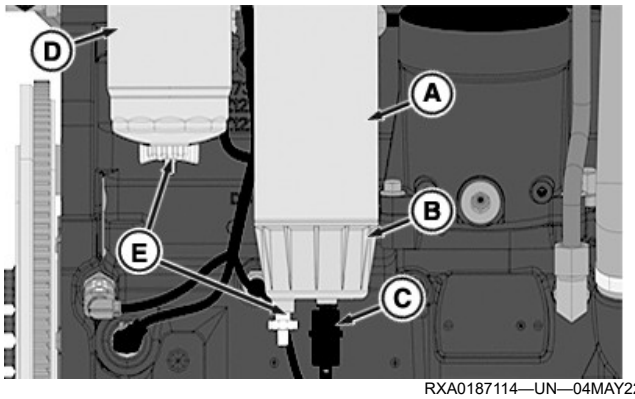
IMPORTANT: To determine which engine your tractor is equipped with, see Engine Serial Number in Identification Numbers section of this Operator's Manual.

NOTE: Drain fuel tank sump if fuel filters are replaced frequently or water in the fuel tank. See Fuel Tank Sump in Service—Check section of this Operator's Manual.

Service may be required more often under some conditions.

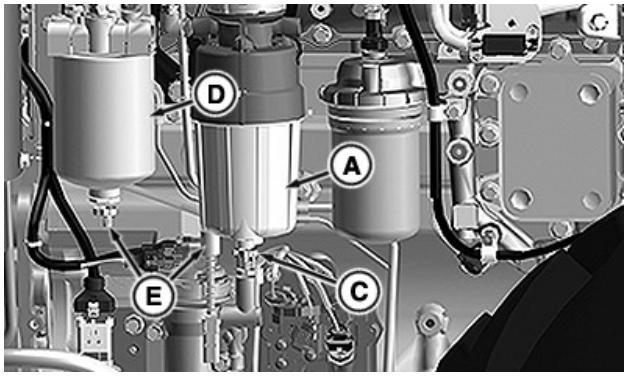
NOTE: Replacement filters may not be same size as filters installed at factory

1. Open hood. See Open Hood in Service—General Information section of this Operator's Manual.
2. Remove right engine side shield, see Remove Engine Side Shield in Service—General Information section of this Operator's Manual.
3. Thoroughly clean exterior of fuel filters and surrounding area.
4. Close fuel shutoff valve. See Optional Fuel Water Separator Filter Element (If Equipped) in this section of the Operator's Manual for fuel shutoff valve.



RXA0187114—UN—04MAY22

9.0 L Engine



RXA0187231—UN—13JUN22

6.8 L Engine

5. Open drain valve nut (E) of fuel filters (A & D) to drain water and contaminants into a suitable container.

NOTE: Secondary filter drain valve may not be present on all applications or service filters.

6. Disconnect the Water-In-Fuel (WIF) sensor connector (C) from primary fuel filter.
7. Remove fuel filters using a suitable filter wrench.
8. Remove water separator bowl (B) from primary fuel filter. Clean water separator bowl with compressed air.
9. Inspect filter header and filter canister sealing surfaces. Clean as required.
10. Place new seal on water separator bowl. Lubricate seal with clean diesel fuel.
11. Install water separator bowl onto new fuel filter element until seal contacts canister, then turn an additional 1/2 turn.

IMPORTANT: Do NOT prefill either fuel filter with fuel.

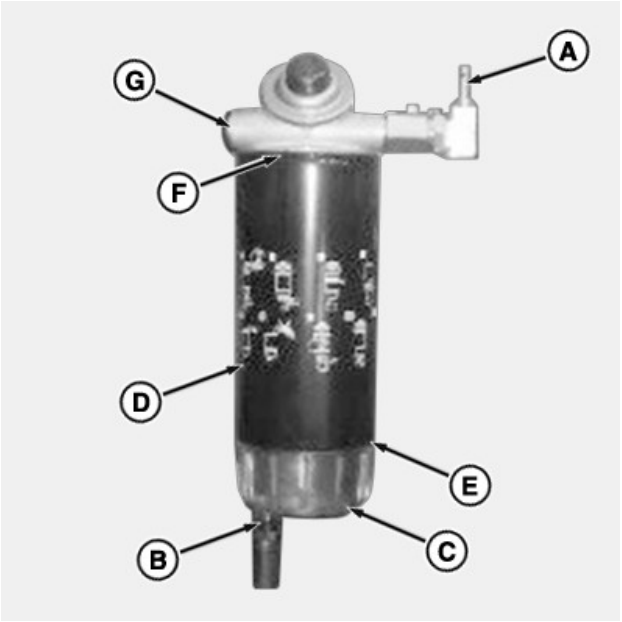
12. Lubricate new filter element seals with clean diesel fuel and install filters onto filter header. Tighten until seal contacts header base, then turn an additional 1/2 to 3/4 turn.
13. Reconnect Water-In-Fuel (WIF) sensor.
14. Turn key to ON position for 60 seconds to prime the fuel system prior to starting engine.

NOTE: Multiple key cycles may be necessary for a complete prime.

TS36762,000014E-19-16JUN22

Optional Fuel Water Separator Filter Element (If Equipped)

1. Park machine on a flat, level surface.
2. Lower equipment to ground.
3. Shut off engine.



RXA0168513—UN—03JUN19

4. Close fuel shutoff valve (A).
5. Thoroughly clean fuel filter assembly and surrounding area to prevent dirt and debris from entering the fuel system.

CAUTION: Fuel in filter is under high pressure. Open drain valve on bottom of the fuel filter housing to relieve pressure before removing filter.

NOTE: Catch fluids with an approved container and dispose of according to employer and government guidelines.

6. Connect a fuel drain line to the filter drain valve (B) on bottom of the filter housing.
7. Open filter drain valve.
8. Drain all fuel.
9. Close drain valve.
10. Remove and retain water separator bowl (C) from filter element.
11. Remove and discard filter element (D).
12. Clean water separator bowl with compressed air.
13. Inspect filter housing and filter canister sealing surfaces. Clean as required.
14. Place new seal (E) on the water separator bowl.
15. Lubricate seal with clean diesel fuel.

IMPORTANT: Avoid damage to the fuel system components due to unfiltered fuel. Never prefill fuel filter.

16. Install water separator bowl onto new filter element. Tighten water separator bowl 1/2 of a turn after seal contacts filter element.
17. Lubricate new filter element seal (F) with clean diesel fuel.
18. Install filter element assembly to the filter housing (G).
19. Tighten filter element 1/2—3/4 of a turn after seal contacts filter housing.
20. Open fuel shutoff valve.
21. Bleed fuel system. See Bleed Fuel System in the Service—General Information section of this Operator's Manual.

EC82310,0000865-19-26APR21

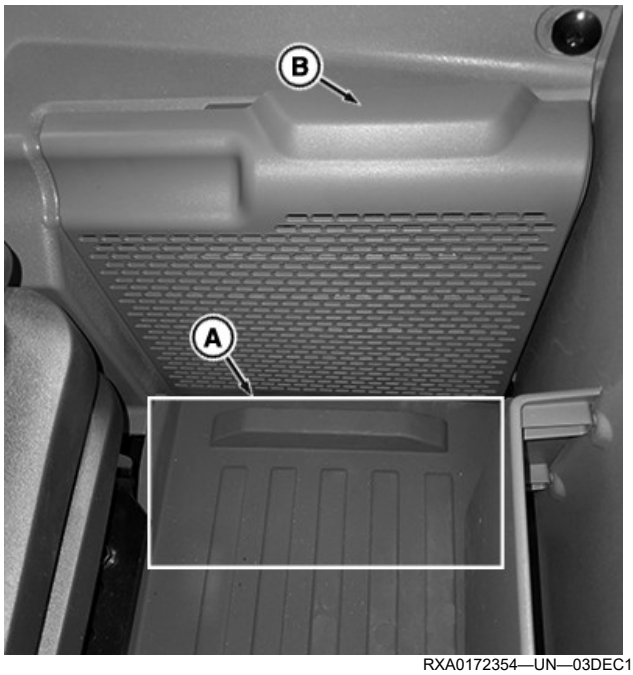
Cab Filters

Cab Recirculation Air Filter

CAUTION: Avoid personal injury. The cab recirculation air filter is not designed to filter out harmful chemicals. Before using agricultural chemicals, review and adhere to all cautions and instructions located in the:

- **Implement Operator's Manual.**
- **Chemical Material Safety Data Sheets (MSDS).**

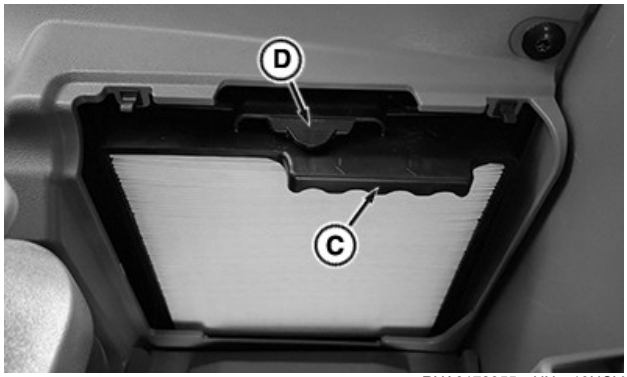
IMPORTANT: Avoid damage to the cab air recirculation system:



RXA0172354—UN—03DEC19

- **The cab air recirculation system creates enough suction to pull lightweight material onto the cab recirculation air intake cover. Keep the area directly in front of the cab recirculation air intake (A) clear of lightweight material. Failure to do so can cause reduced HVAC performance.**
- **Replacement interval varies according to operating conditions. Normal service is 1000 hours or annually, whichever occurs first.**

1. Switch off the HVAC fan.
2. Locate the cab recirculation air intake behind the operators seat on the lower left-hand side of the rear cab wall.
3. Remove the cab recirculation air intake cover by grasping handle (B) and pulling the intake cover forward and up.



RXA0172355—UN—19NOV19

4. Remove the cab recirculation air filter by grasping the air filter handle (C) while pressing tab (D) and pull the air filter forward.
5. Insert a new cab recirculation air filter.
6. Replace the cab recirculation air intake cover.

Cab Fresh Air Filter

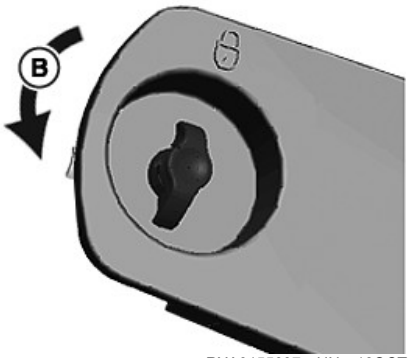
CAUTION: Cab air filters are not designed to filter out harmful chemicals. Follow instructions in implement Operator's Manual and those given by chemical manufacturer when using agricultural chemicals.

IMPORTANT: Replacement interval can vary according to operating conditions. Normal service is 1000 hours or annually, whichever occurs first.

RXA0099137—UN—19SEP08

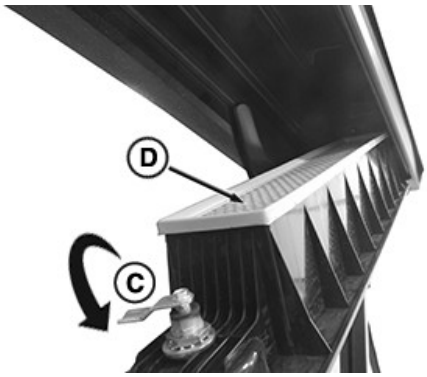
1. Support cover (A).

NOTE: Filter cover latch has three positions; open, latched, and locked. Cover is not locked when in latched position.



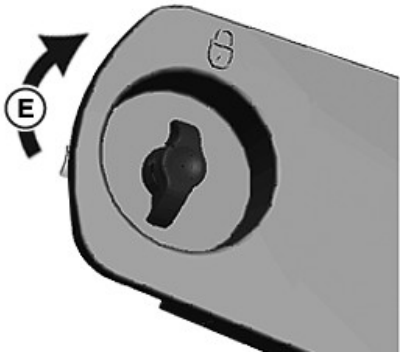
RXA0155037—UN—18OCT16

2. Turn knob fully counterclockwise (B) to unlatch cover.



RXA0172403—UN—22NOV19

3. Swing down (C) cover.
4. Remove and discard old fresh air filter (D).
5. Wipe down inside and outside of filter cover with a clean cloth.
6. Install new filter.



RXA0155035—UN—18OCT16

7. Close cover and turn knob fully clockwise (E) to securely lock latch.

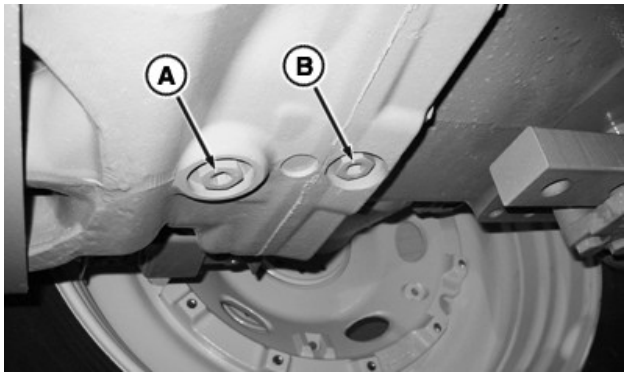
TS36762,000014F-19-05MAY22

Hydraulic Oil and Filters

1. Drive tractor to warm transmission-hydraulic oil to 38° C (100° F). Oil temperature is available on CommandCenter display. See Warm-Up Transmission-Hydraulic System in Transmission—

General Information section of this Operator's Manual.

2. Park tractor on level surface.
3. Lower hitch.
4. Let engine run at idle for 1 to 2 minutes, then stop engine.
5. Move drawbar to side so oil can drain unobstructed.



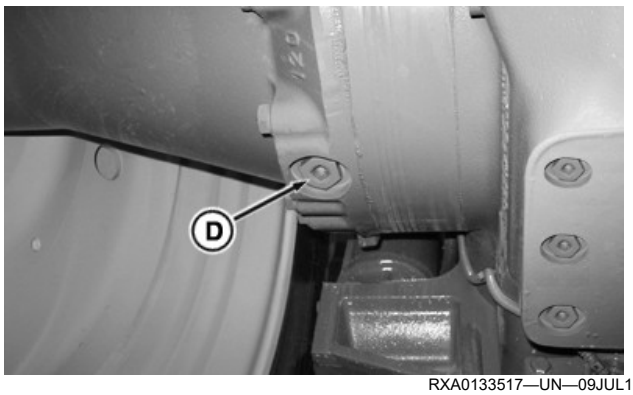
RXA0133515—UN—09JUL13

e23 or IVT/AutoPowr Transmission

6. Remove transmission drain plug (A).
7. Remove reservoir drain plug (B).

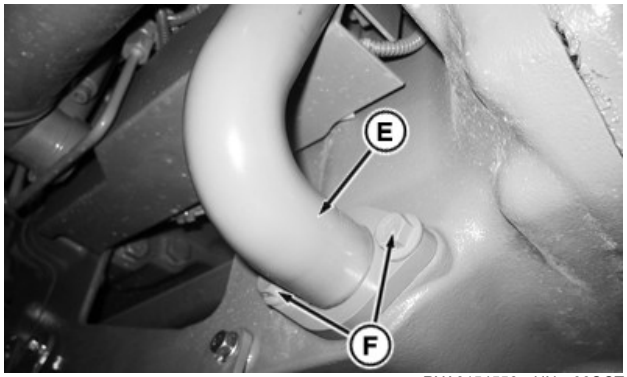
RXA0133516—UN—09JUL13

8. Remove PTO drain plug (C).



RXA0133517—UN—09JUL13

9. Remove each axle final drive drain plug (D) from each axle.



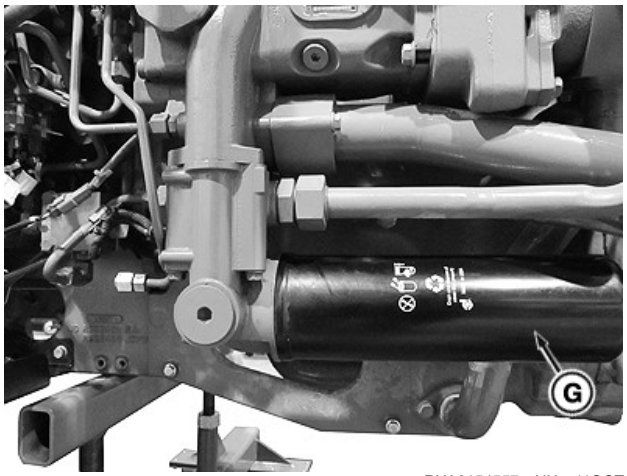
RXA0154556—UN—06OCT16

e23 or IVT/AutoPowr Transmission - Left-Hand Side

10. Remove suction screen cover cap screw (F).
11. Remove suction screen cover (E).
12. Remove suction screen and wash carefully in cleaning solvent. Blow dry with compressed air.

IMPORTANT: When installing scavenge and lube lines on suction screen cover, do not forget to install O-rings. Failure to do so will cause leakage.

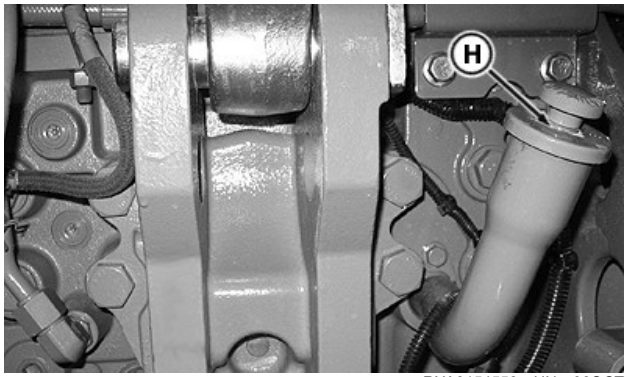
13. Install screen and oil lines (if removed). Ensure gaskets and O-rings are correctly positioned.



RXA0154557—UN—11OCT16

Left-Hand Side of Tractor

14. Remove transmission/hydraulic oil filter (G).
15. Lubricate new filter seal with clean hydraulic oil.
16. Install filter until gasket contacts surface. Hand tighten additional 1/2 turn.
17. Install drain plugs after oil has drained and tighten to 102 N·m (75 lb·ft).



RXA0154558—UN—06OCT16

Rear of Tractor

18. Remove fill tube cap (H) and add 160 L (42.3 gal) of hydraulic oil. Use oil as specified in Transmission-Hydraulic Oil in Engine Oil section of this Operator's Manual.

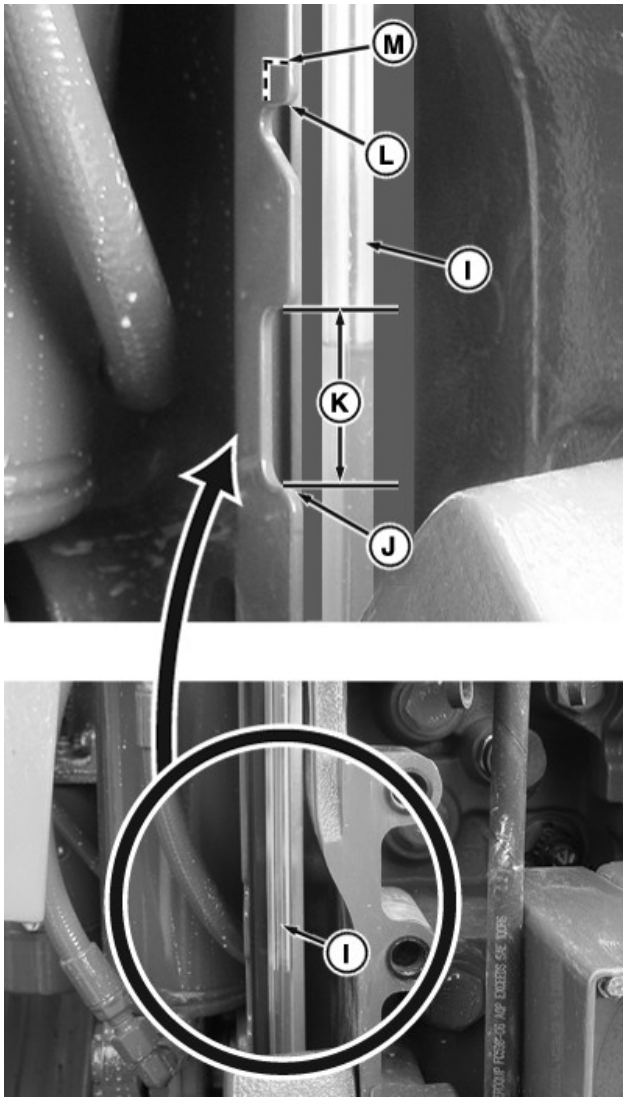
IMPORTANT: Fully insert and firmly tighten fill cap to assure proper hydraulic system operation.

19. Install and firmly tighten fill cap.
20. Start and leave engine at slow idle for 5 minutes. Oil level should rise in sight glass as tractor operates.

IMPORTANT: Wait at least 1/2 hour after engine was shut off to check hydraulic system oil level.

Overfilling transmission-hydraulic oil can result in decreased operating efficiency. Except when operating in side-hill or high volume applications, keep oil level at or slightly below top of normal operating range. Never fill system above maximum operating level.

21. Shut off engine and wait at least 1/2 hour to allow oil to stabilize before checking oil level.



RXA0154559—UN—06OCT16

22. Check oil level in sight glass (I) at rear of tractor.

IMPORTANT: Examine oil level indicator. If tractor is not equipped with optional auxiliary oil reservoir, maximum operating level indication will be as shown (L). If tractor has optional oil reservoir installed, maximum operating level indicator will be higher (M).

NOTE: Oil level may need to be adjusted based on expected operating conditions. See special operating condition instructions below.

23. If transmission-hydraulic oil level is at or below add oil indication (J), slowly add oil to reach top of normal operating range indicator (K). From add oil level, adding approximately these amounts of oil will bring oil level to top of normal operating range.

Transmission	Without Optional Auxiliary Oil Reservoir	Add With Optional Auxiliary Oil Reservoir
IVT /AutoPowr	16 L (17 qt)	18 L (19 qt)
e23	16 L (17 qt)	18 L (19 qt)

Road Transportation: In applications where tractor is mainly used for road transport and light hydraulic work, adjust oil level to lower end of normal operating range. A lower oil level allows tractor to operate more efficiently at transport speeds with less power loss and heat generation.

For Side-Hill Applications or High Oil Volume Requirements: To prevent low oil levels, additional oil may be required when operating on side hills or when using implements which require large volumes of oil to function. Oil level should be at or slightly below maximum operating level (L or M).

TS36762,0000151-19-23JUN22

Wheel Hub Oil

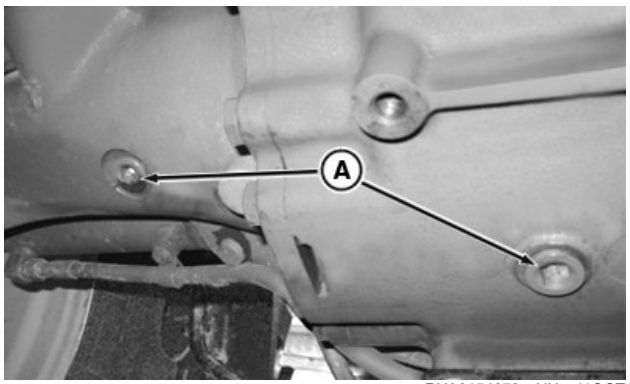
1. Park tractor on level ground.

RXA0136209—UN—24OCT13

2. Maneuver tractor forward or backward until drain/fill plug (A) is at bottom of hub.
3. Remove drain/fill plug and drain oil.
4. When oil has drained, maneuver tractor so that words OIL LEVEL cast into wheel hub are horizontal.
5. Fill MFWD or ILS hub with oil through drain/fill hole until oil is even with bottom of hole. See Gear Oil in Other Lubricants section of this Operator's Manual. For wheel hub capacity, see Capacities in Specifications section of this Operator's Manual.
6. Install drain/fill plug and tighten to 80 N·m (59 ft·lb).
7. Repeat procedure with other hub.

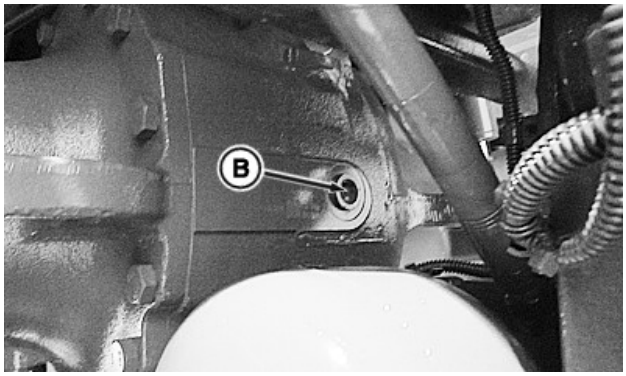
RX32825,0000686-19-16JUN22

MFWD or TLS Plus Axle Housing Oil



RXA0154670—UN—11OCT16

1. Drain oil. Remove drain plugs (A) from axle housing and differential housing.
2. Install drain plugs after oil has drained and tighten to 70 N·m (52 lb·ft).



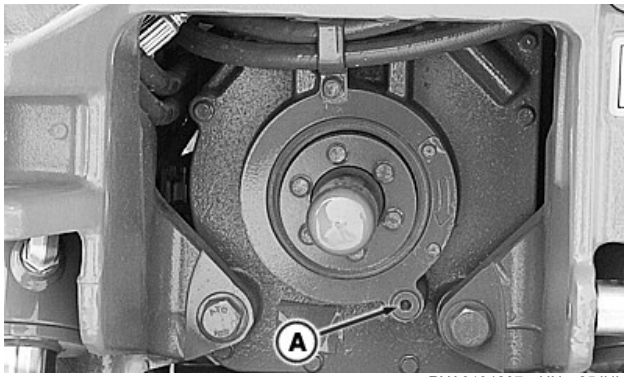
RXA0154669—UN—11OCT16

3. Remove fill/check plug (B).
4. Fill axle housing with John Deere Hy-Gard oil as specified in Transmission and Hydraulic Oil in Other Lubricants section of this Operator's Manual. Add oil until level is even with bottom of fill/check hole. For axle housing capacity, see Capacities in Specifications section of this Operator's Manual.
5. When oil level is correct, apply pipe sealant with TEFLON, or equivalent, to threads of fill/check plug.
6. Install fill/check plug and tighten to 70 N·m (52 lb·ft).

TS36762,0000153-19-21JUN22

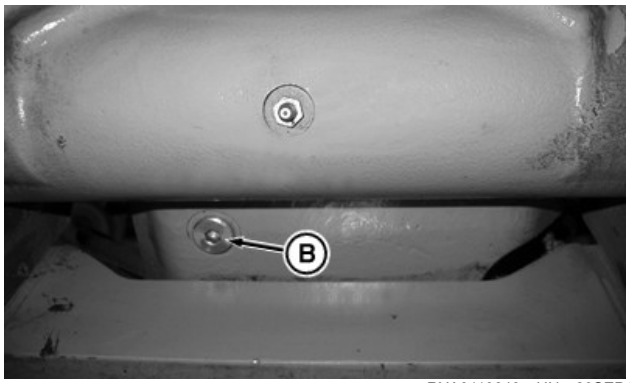
Front PTO Housing Oil and Filter

IMPORTANT: Normal front PTO service interval is every 1500 hours. However, change oil and replace filter after first 250 hours of tractor use.



RXA0134207—UN—25JUL13

1. Remove fill (A) plug.



RXA0110843—UN—29SEP10

2. Remove drain (B) plug.
3. Install drain plug after oil has drained.

RXA0134225—UN—26JUL13

4. Remove filter (C).
5. Lubricate new filter seal with clean hydraulic oil.
6. Install filter until seal contacts surface. Hand tighten additional 1/2 turn.

IMPORTANT: When ambient temperature is expected to drop below -5° C (23° F), use John Deere Low Viscosity Hy-Gard oil.

7. Fill with appropriate John Deere Hy-Gard as specified in Transmission and Hydraulic Oil or Use Correct Viscosity Front PTO Oil In Cold Weather in Other Lubricants section of this Operator's Manual. Fill through fill hole until oil is even with bottom of hole.
8. Install fill plug.

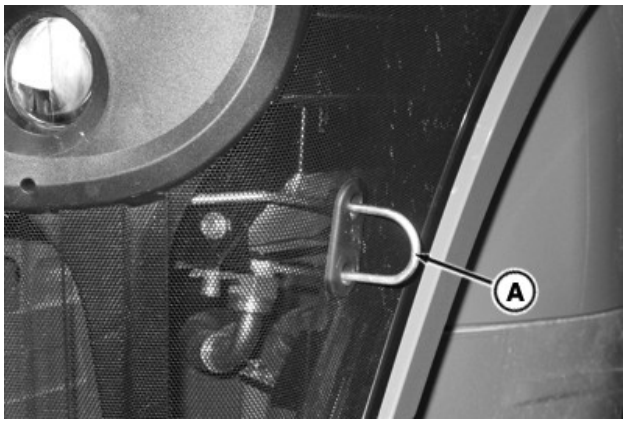
IMPORTANT: Confirm front PTO disconnect is set to allow PTO operation. Oil will not be distributed to drive train if PTO is disconnected.

9. Set front PTO disconnect to turn PTO on. See Operate Front PTO in Front PTO section of this Operator's Manual.
10. Start tractor and operate front PTO for several minutes.
11. Stop tractor and recheck oil level at fill plug. Add additional oil if necessary.

TS36762,0000154-19-21JUN22

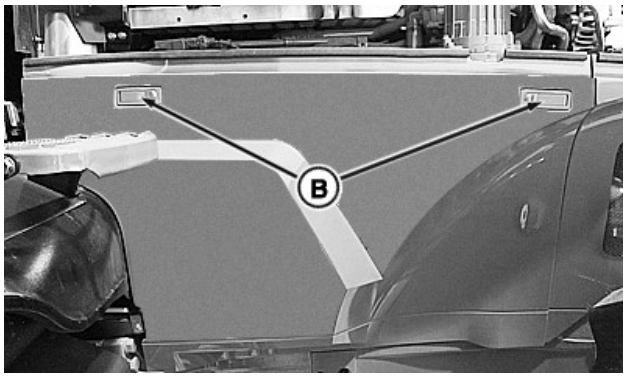
Crankcase Ventilation Filter—6.8 L Engine

NOTE: To determine which engine your tractor is equipped with, see Engine Serial Number in Identification Numbers section of this Operator's Manual.



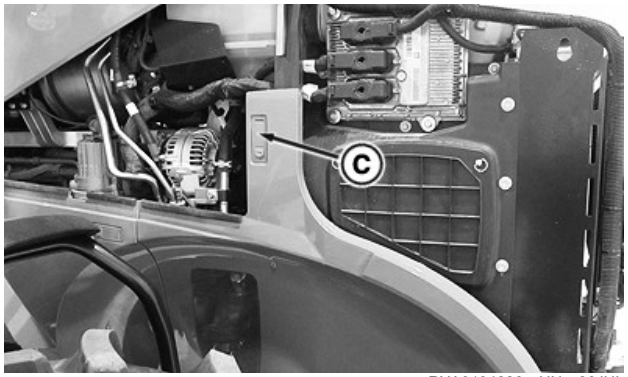
RXA0133488—UN—02JUL13

1. Open hood, see Open Hood in Service—General Information section of this Operator's Manual.



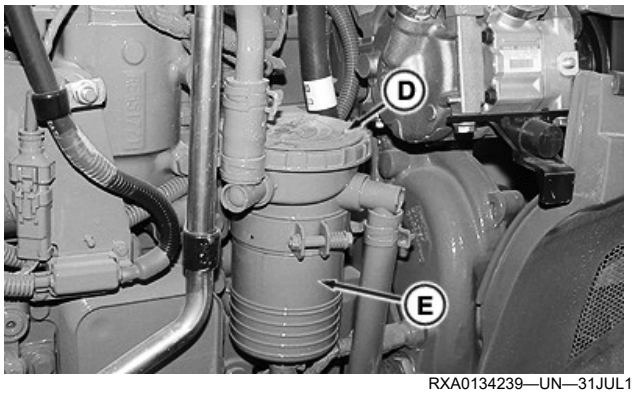
RXA0134208—UN—29JUL13

2. Depress latch buttons (B) and remove right rear side shield.



RXA0134226—UN—26JUL13

3. Depress latch button (C) and remove right front side shield.



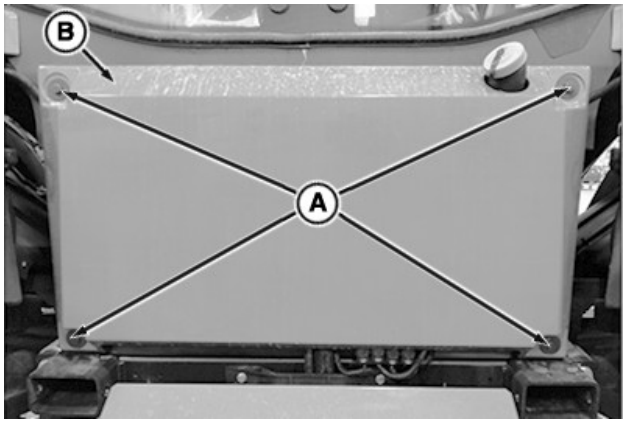
RXA0134239—UN—31JUL13

4. Remove filter lid (D).
5. Remove open crankcase ventilation filter from inside of filter housing (E).
6. To install new filter, align tabs on new filter with tabs on inside of filter housing.
7. Replace lid and hand tighten.
8. Reinstall front and rear side shields.
9. Close and securely latch hood.

TS36762,0000155-19-25MAR21

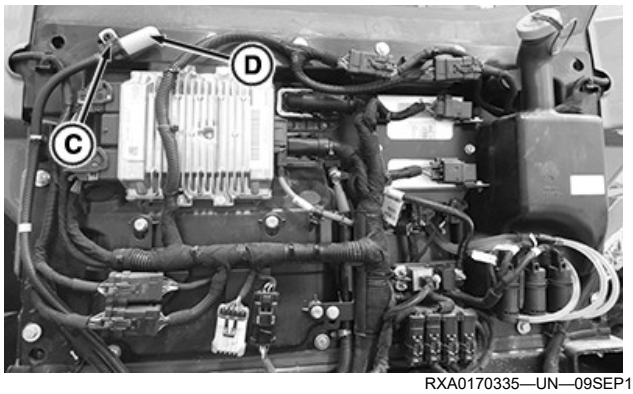
Fuel Tank Vent Filter

IMPORTANT: Ensure fuel tank vent breather hose is not pinched by clamps or rear panel during reassembly. If vent is restricted fuel tank damage can occur.



RXA0175608—UN—26FEB20

1. Remove four rear cab panel cap screws (A) and remove rear panel (B).

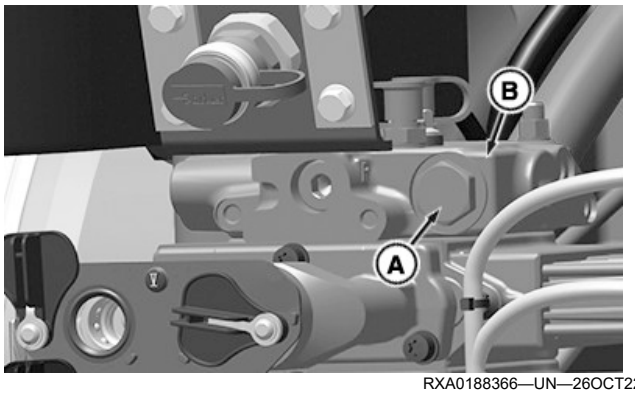


RXA0170335—UN—09SEP19

2. Loosen clamp (C) and slide fuel tank vent filter (D) from clamp.
3. Release tension hose clamp and slide down on hose to remove vent filter.
4. Replace vent filter, slide tension hose clamp up on hose and reinstall filter through clamp. Tighten clamp.
5. Replace rear cab panel and tighten cap screws.

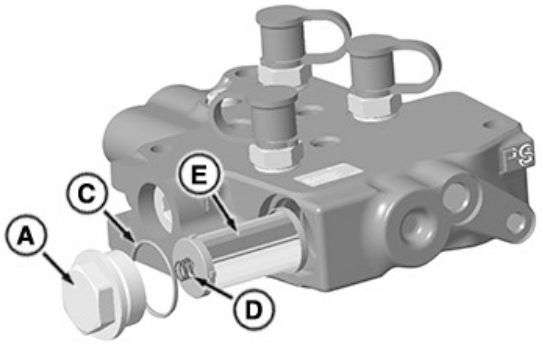
JL41210,0000A25-19-05AUG21

SCV Pilot Valve Filter



RXA0188366—UN—26OCT22

1. Use a socket to remove the 27mm hex plug (A) from SCV pilot filter housing (B).

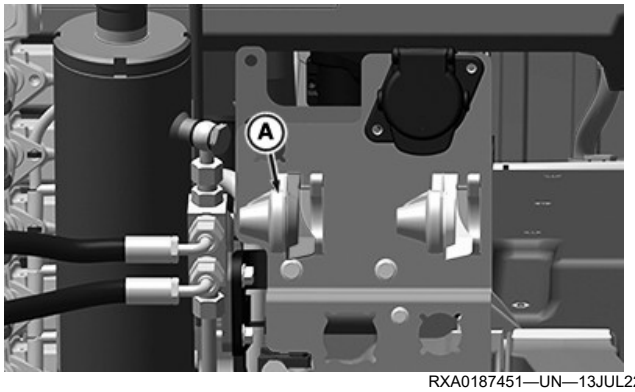


RXA0188365—UN—26OCT22

2. Remove O-ring (C), spring (D), and SCV pilot filter (E).
3. Install new O-ring, SCV pilot filter, and spring.
4. Install hex plug and torque to 145 N·m (107 lb·ft).

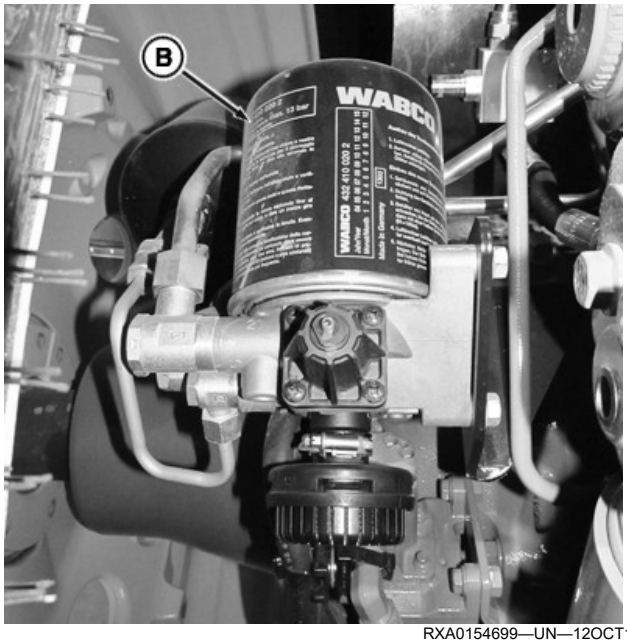
TS36762,0000157-19-31JAN23

Trailer Air Brake Dryer Filter



RXA0187451—UN—13JUL22

1. With engine off, manually depress release valve inside red trailer air brake coupler (A).



RXA0154699—UN—12OCT16

2. After all air pressure is released, remove trailer air brake dryer filter (B) with O-ring and discard.
3. Lubricate new filter gasket with clean oil.
4. Install new trailer air brake dryer filter until O-ring contacts air dryer surface. Hand tighten additional 1/2 turn.

TS36762,0000159-19-13JUL22

DEF Tank Vent Filter

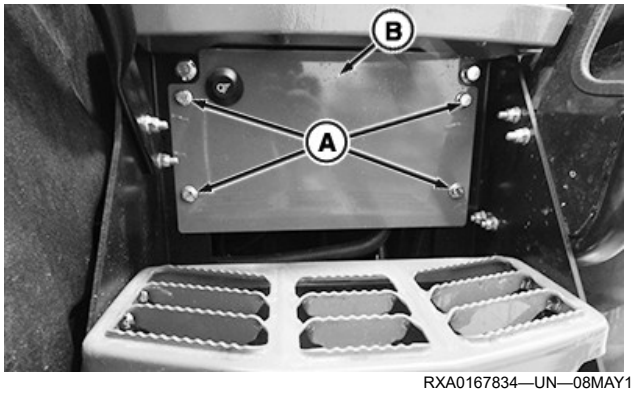
CAUTION: DEF contains urea. Do not get the substance in eyes. If contact is made, immediately flush eyes with large amounts of water for a minimum of 15 minutes. Do not take internally. In the event DEF is ingested, contact a physician immediately. Reference Material Safety Data Sheet (MSDS) for additional information.

IMPORTANT: To determine tractor engine type, see Engine Serial Number in Identification Numbers Section of this Operator's Manual.

Initial replacement 1500 hours of operation or 1 year whichever comes first. Thereafter, replace every 1500 hours of operation.

Using incorrect or unapproved aftertreatment components can cause damage to vehicle's aftertreatment system and reduce ability of aftertreatment system to function correctly. Never interchange aftertreatment components between Interim Tier 4/Stage III B and Final Tier 4/Stage V equipped vehicles.

If DEF is spilled or contacts any surface other than the storage tank, immediately clean the surface with clear water. DEF is corrosive to painted and unpainted metallic surfaces and can distort some plastic and rubber components.



RXA0167834—UN—08MAY19

1. Remove cap screws (A) and shield (B).

RXA0174321—UN—28JAN20

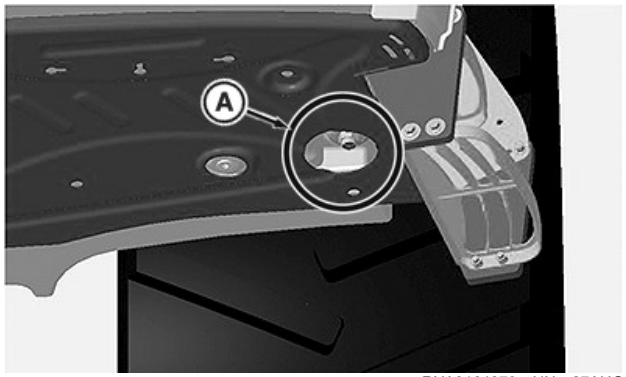
2. Remove DEF tank vent (C) located above DEF dosing unit.
3. Install new DEF tank vent filter.
4. Reinstall DEF tank shield and DEF tank shield cap screws. Tighten to 37 N·m (27 lb·ft).

TS36762,0000158-19-01JUN20

Access In-Line DEF Filter

IMPORTANT: Avoid damage to the emissions system:

- **Change the DEF dosing unit filter every 3 years or 3000 operating hours, whichever occurs first.**
- **Do not begin service on the filter until the light on the battery disconnect switch has gone out. See Battery Disconnect Switch in Engine Operation section of this Operator's Manual.**



RXA0164379—UN—27AUG18

1. Locate the in-line DEF filter assembly (A) beneath the stairs.
2. To change the in-line DEF filter, see Change Diesel Exhaust Fluid (DEF) In-Line Filter in this section of the Operator's Manual.

JL41210,0000AC0-19-29JUN21

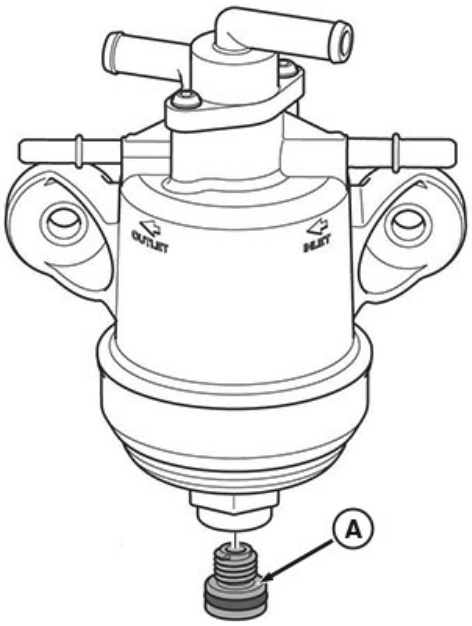
Change Diesel Exhaust Fluid (DEF) In-Line Filter

CAUTION: Avoid possible personal injury. In case of DEF contact, immediately flush eyes with large amounts of water for a minimum of 15 minutes. Reference the Materials Safety Data Sheet (MSDS) for additional information. Do not ingest DEF. In the event DEF is ingested, contact a physician immediately. Reference the Materials Safety Data Sheet (MSDS) for additional information.

IMPORTANT: Avoid corrosion of vehicle parts or surfaces. If DEF is spilled or contacts any surface other than the storage tank, immediately clean the surface with clear water. DEF is corrosive to painted and unpainted metallic surfaces and can distort some plastic and rubber components. Spilled DEF, if left to dry or if only wiped away with a cloth, will leave a white residue. Improperly cleaned DEF spill may interfere with diagnosis of Selective Catalytic Reduction (SCR) system leakage problems.

NOTE: See your John Deere equipment technical manual or OEM manufacturer's technical manual for in-line DEF filter location.

IMPORTANT: Avoid system and filter damage. Ensure that DEF system is not frozen before changing filter. If system is frozen, operate engine until system has thawed completely.



RG30728—UN—08AUG18

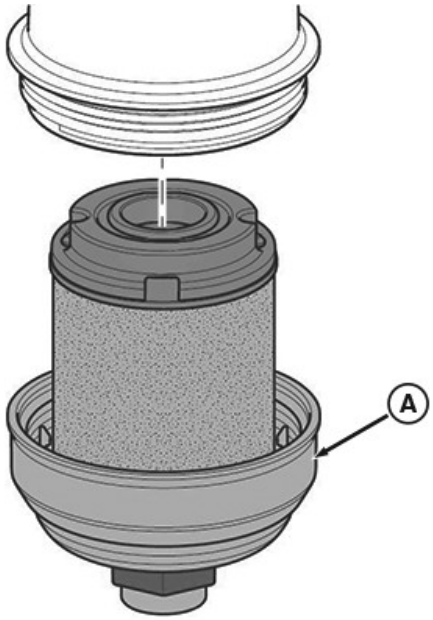
DEF Fluid Removal

A—Drain Plug with O-Ring

1. Remove drain plug with O-ring (A) and discard.

NOTE: Container must be DEF compatible and hold at least 300 mL (0.32 qt).

2. Drain DEF into a proper container.



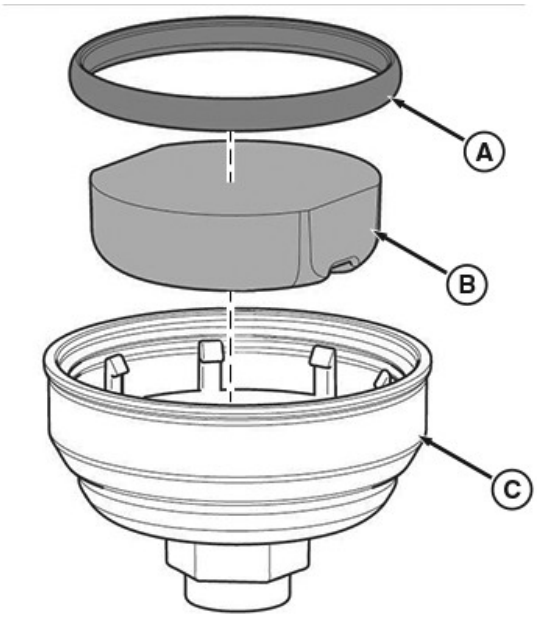
RG30727—UN—08AUG18

Filter Removal

A—Filter Housing

3. Rotate filter housing (A) counterclockwise and pull down.
4. Remove and discard filter from housing (A).

NOTE: If necessary, tap filter to loosen from filter housing (A).



RG30726—UN—08AUG18

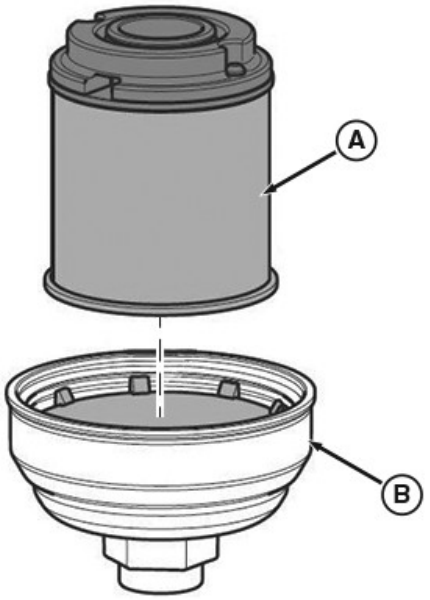
Filter Housing Components

A—O-Ring
B—Foam Compensation Element
C—Filter Housing

5. Remove and discard O-ring (A) and foam compensation element (B).

NOTE: Filter housing should be cleaned with clean DEF before installing new components to remove any sediment debris or contamination.

6. Install new O-ring (A) and foam compensation element (B) into filter housing (C).

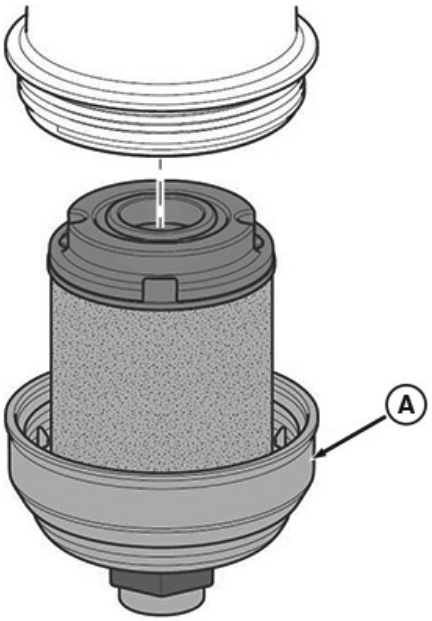


RG30725—UN—08AUG18

Filter Housing and Components Installation

A—Filter
B—Filter Housing

7. Install new filter (A) into filter housing (B).



RG30727—UN—08AUG18

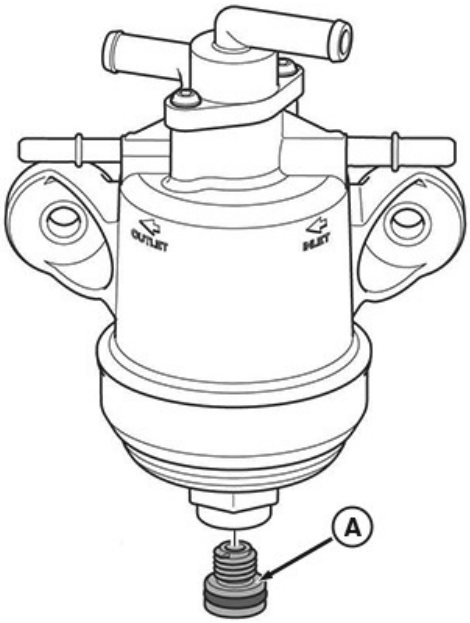
In-Line DEF Filter Housing Installation

A—Filter Housing

8. Install filter housing (A) with O-ring, foam compensation element, and filter element.
9. Rotate filter housing (A) clockwise and tighten to specification.

Specification

In-Line DEF Filter Housing—Torque. . . . . 25 N·m (221 lb·in)



RG30728—UN—08AUG18

In-Line DEF Filter Drain Plug

A—Drain Plug with O-Ring

10. Install new drain plug with O-ring (A). Tighten to specification.

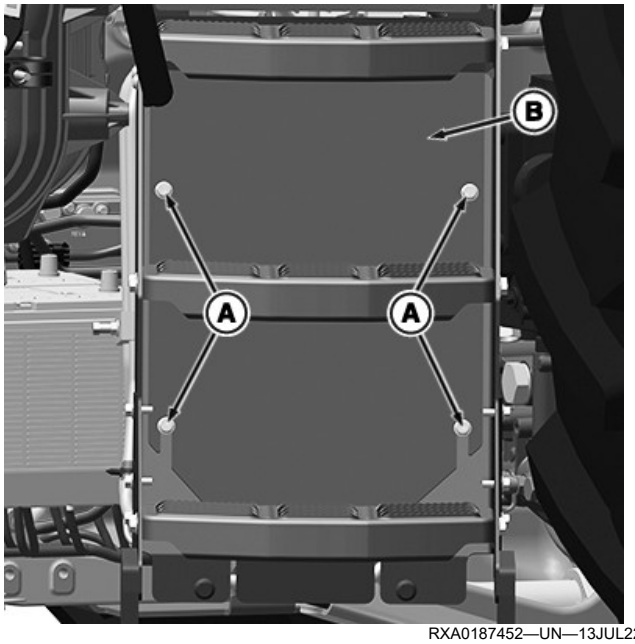
Specification

In-Line DEF Filter Drain Plug—Torque. . . . . 4 N·m (35 lb·in)

DX,DEF,CHANGE,INLINE,FILT-19-15APR20

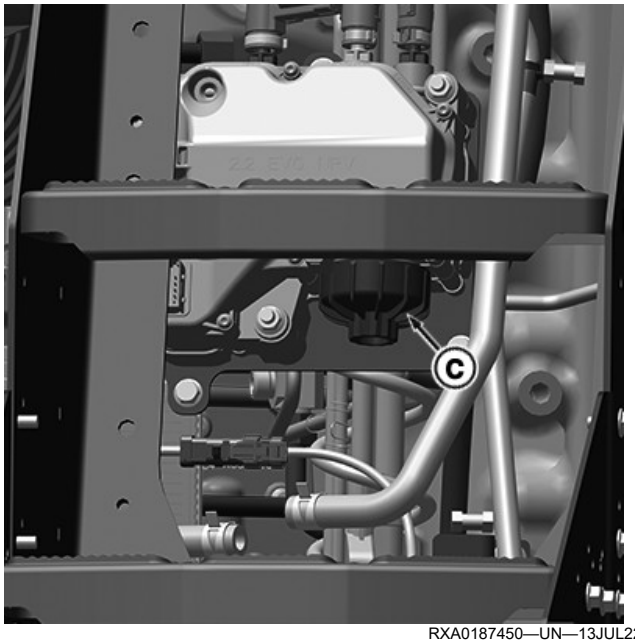
Access DEF Dosing Unit Filter

IMPORTANT: Avoid damage to the emissions system. Change the DEF dosing unit filter every 3 years or 3000 operating hours, whichever occurs first.



RXA0187452—UN—13JUL22

1. Remove cap screws (A).
2. Remove shield (B).

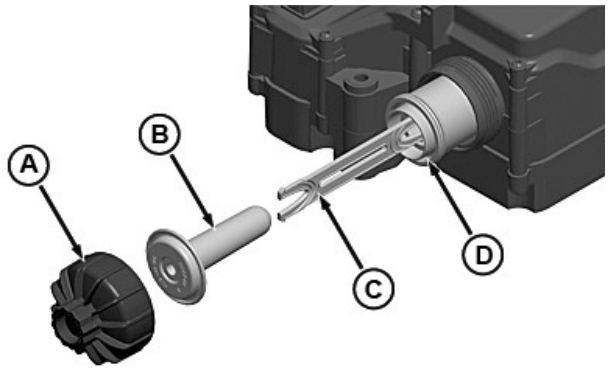


RXA0187450—UN—13JUL22

3. The DEF dosing unit filter (C) is underneath the DEF dosing unit.
4. To replace the DEF dosing unit filter, see Change Diesel Exhaust Fluid (DEF) Dosing Unit Filter in this Operator's Manual section.
5. Install the shield and cap screws and tighten the cap screws to 37 N·m (27 lb·ft).

JL41210,0000AC1-19-13JUL22

Change Diesel Exhaust Fluid (DEF) Dosing Unit Filter



RG22534—UN—21MAR13

DEF Dosing Unit Filter

A—DEF Dosing Unit Filter Cover
B—DEF Dosing Unit Filter Equalizing Element
C—DEF Dosing Unit Filter Tool (supplied with new filter)
D—DEF Dosing Unit Filter

CAUTION: Avoid contact with eyes. In case of contact, immediately flush eyes with large amounts of water for a minimum of 15 minutes. Reference the Materials Safety Data Sheet (MSDS) for additional information.

IMPORTANT: If DEF is spilled or contacts any surface other than the storage tank, immediately clean the surface with clear water. DEF is corrosive to painted and unpainted metallic surfaces and can distort some plastic and rubber components.

Spilled DEF, if left to dry or if only wiped away with a cloth, leaves a white residue. Improperly cleaned DEF spill can interfere with diagnosis of Selective Catalytic Reduction (SCR) system leakage problems.

NOTE: See your John Deere equipment technical manual or OEM manufacturer's technical manual for DEF dosing unit filter location.

IMPORTANT: Avoid system and filter damage. Ensure that DEF system is not frozen before changing filter. If system is frozen, operate engine until system has thawed completely.

1. Remove DEF dosing unit filter cover (A).
2. Remove and discard DEF dosing unit filter equalizing element (B).

NOTE: DEF dosing unit filter tool (C) is supplied with replacement filter.

3. Insert "Black" end of DEF dosing unit filter tool (C) into DEF dosing unit filter (D) until CLICK is felt or

heard indicating DEF dosing unit filter tool is fully engaged.

NOTE: A tool such as a screwdriver can be inserted into DEF dosing unit filter tool slot to assist removal.

4. Pull DEF dosing unit filter tool and DEF dosing unit filter from DEF dosing unit. Discard DEF dosing unit filter and DEF dosing unit filter tool.
5. Clean DEF dosing unit threads and mating surfaces with distilled water.
6. Lubricate DEF filter O-rings with clean DEF. Carefully insert DEF dosing unit filter into DEF dosing unit.
7. Install new DEF dosing unit filter equalizing element into DEF dosing unit filter.
8. Install DEF dosing unit filter cover and tighten to specification.

Specification

DEF Dosing Unit Filter Cover—Torque. . . . . 23 N·m (204 lb·in)

DX,DEF,CHANGE,FILT-19-31OCT19

Transmission Torsional Damper

NOTE: Not required for all tractor configurations, refer to Service Interval Chart in Service—Record Charts.

See your John Deere dealer.

EC82310,0000049-19-16JUN22

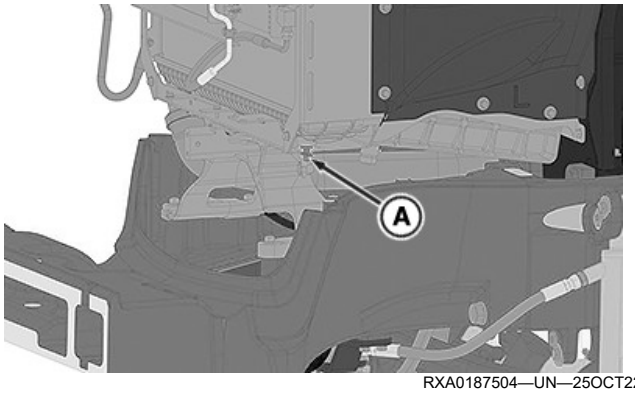
Engine Crankshaft Damper—9.0 L Engine

See your John Deere dealer.

TS36762,000015C-19-26JUL22

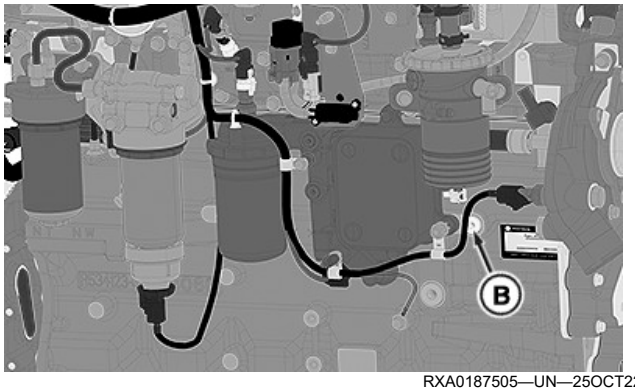
Engine Coolant

IMPORTANT: Engine Coolant *INITIAL* change interval is 6 years or 6000 hours, provided cooling system is topped off using only John Deere Cool-Gard II and premix . After initial service, *SCHEDULED* interval (2 years or 2000 hours) can be extended up to 6 years or 6000 hours depending on coolant used. Follow recommendations in Drain Intervals for Diesel Engine Coolant in Fuels, Lubricants, and Coolant section of this manual.Complete engine coolant change interval includes replacing engine thermostat/thermostats in addition to flushing the system. For complete coolant change interval service, see your John Deere dealer.



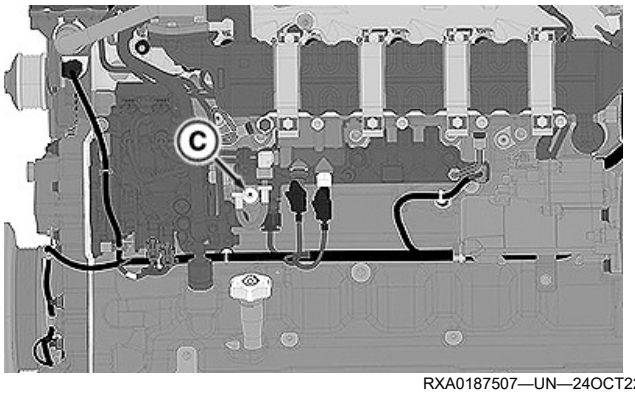
RXA0187504—UN—25OCT22

Radiator Drain



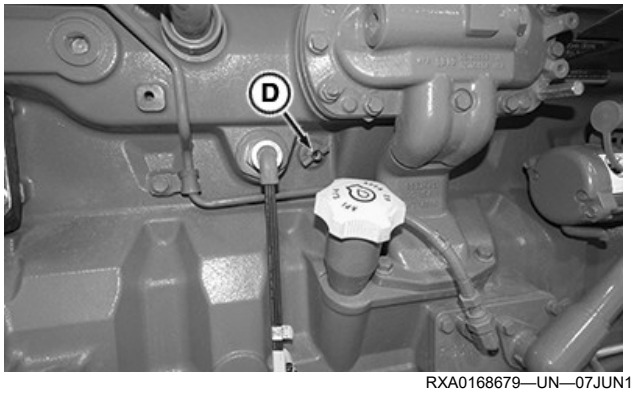
RXA0187505—UN—25OCT22

Right Hand Drain Plug (6.8 L Engine Only)



RXA0187507—UN—24OCT22

Left Hand Drain Plug (6.8 L Engine Only)



RXA0168679—UN—07JUN19

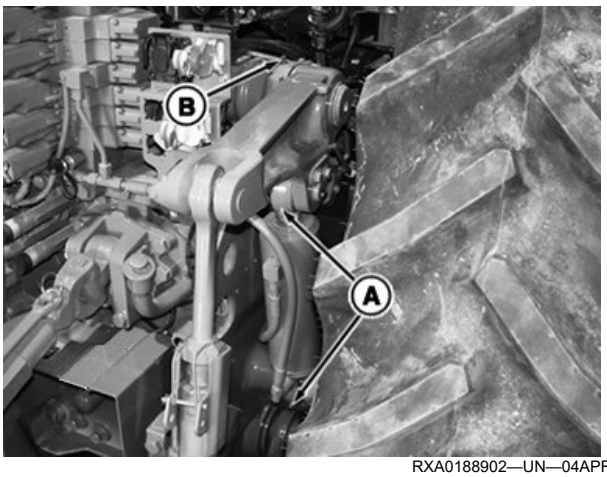
Right Hand Drain (9.0 L Engine Only)

JL41210,0000A35-19-26JUL22

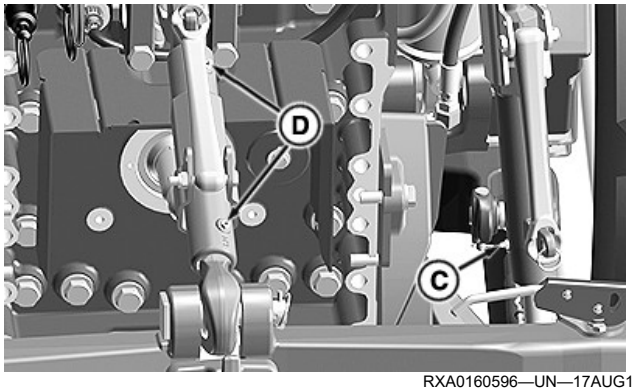
Rear Hitch

IMPORTANT: Normal lubrication is every 250 hours. If used daily, lubricate every 50 hours.

Lower hitch before lubricating hitch components.



RXA0188902—UN—04APR23



RXA0160596—UN—17AUG17

Lubricate lift cylinders (A), rockshaft (B), and lift arms (C) on both sides of tractor.

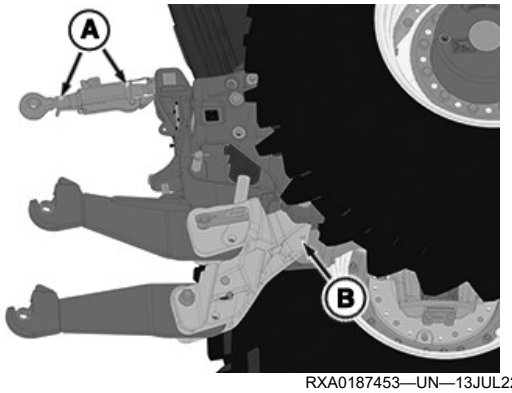
Lubricate mechanical center link (D).

Use John Deere SD Polyurea grease or other grease as specified in Multipurpose Extreme Pressure (EP) Grease in Other Lubricants section of this Operator's Manual.

RX32825,0001791-19-04APR23

Front Hitch

IMPORTANT: Normal lubrication is every 250 hours. If used daily, lubricate every 50 hours.



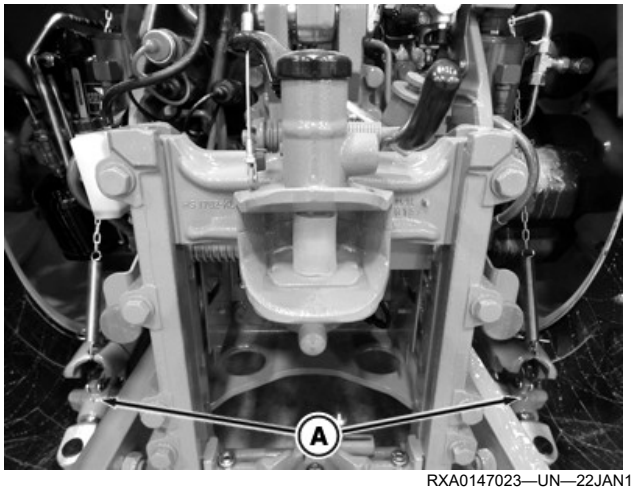
RXA0187453—UN—13JUL22

Grease center link grease points (A) and main pivot point through grease fitting (B) underneath front hitch

Use John Deere SD Polyurea grease or other grease as specified in Multipurpose Extreme Pressure (EP) Grease in Other Lubricants section of this Operator's Manual.

RX32825,0001792-19-14JUL22

Deluxe Stabilizers



RXA0147023—UN—22JAN15

Lubricate deluxe stabilizers (A).

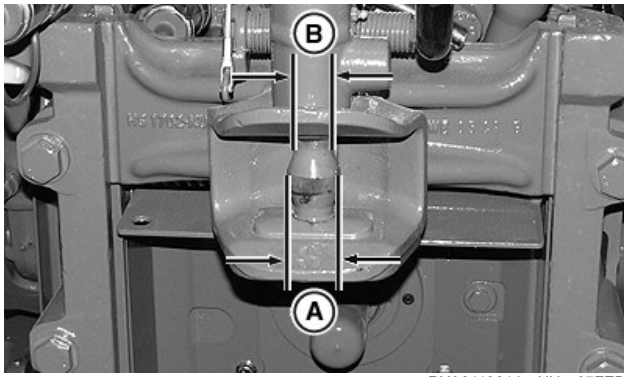
Use John Deere SD Polyurea grease or other grease as specified in Multipurpose Extreme Pressure (EP) Grease in Other Lubricants section of this Operator's Manual.

SV81855,000035F-19-08MAY18

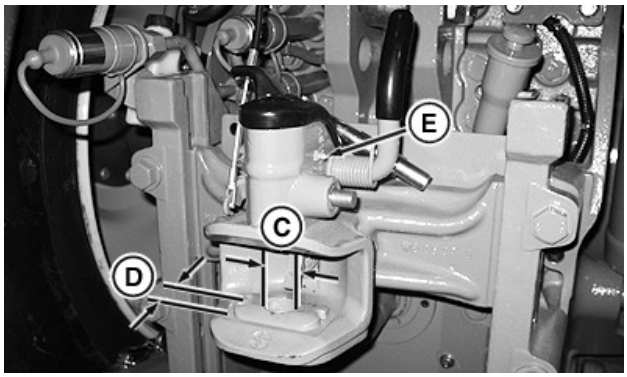
Trailer Hitch

CAUTION: Avoid injury or damage to equipment. Replace parts that have reached or exceeded their wear limit.

Trailer Hitch



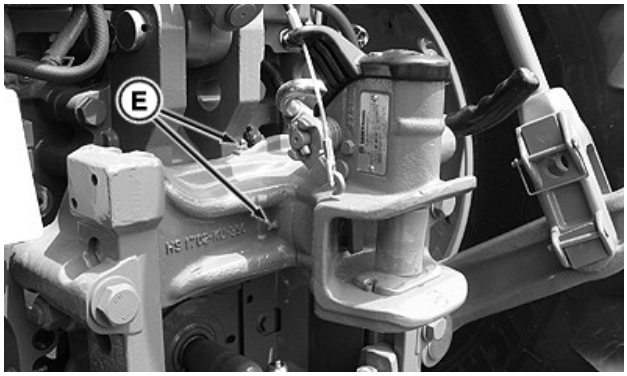
RXA0113614—UN—07FEB11



RXA0113616—UN—07FEB11

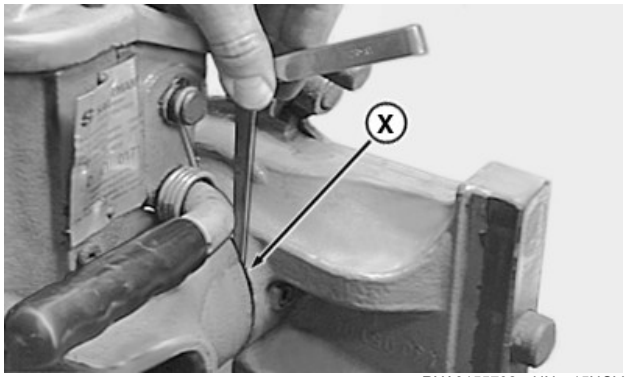
Specifications	
Large Diameter (A)	36 mm (1.42 in) Minimum
Small Diameter (B)	27 mm (1.06 in) Minimum
Receiver Hole Diameter (C)	34 mm (1.33 in) Maximum
Wear Plate Thickness (D)[a]	6 mm (0.24 in) Minimum

[a]*Minimum Permitted Thickness*

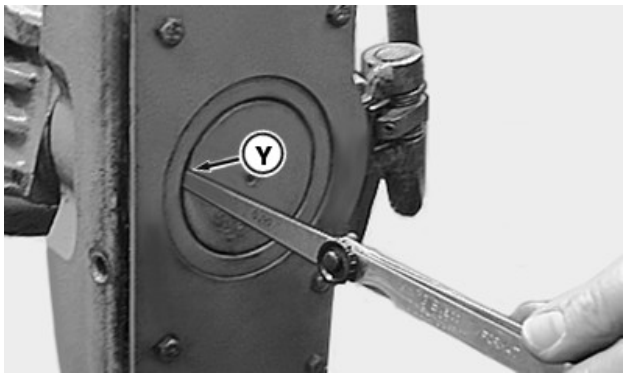


RXA0118760—UN—21JUL11

Lubricate grease fittings (E). Use John Deere multi-purpose grease as specified in Multipurpose Extreme Pressure (EP) Grease in Other Lubricants section of this Operator's Manual.



RXA0155702—UN—15NOV16

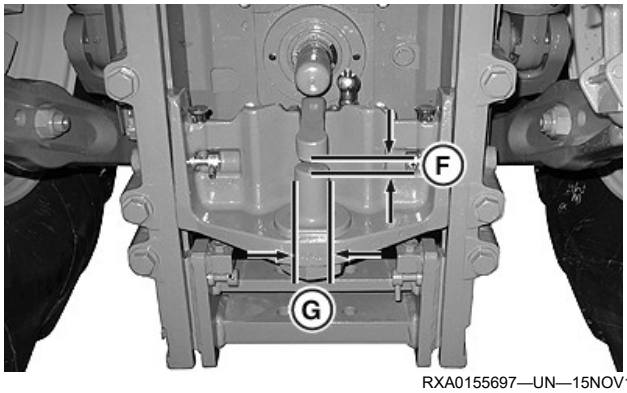


RXA0155703—UN—15NOV16

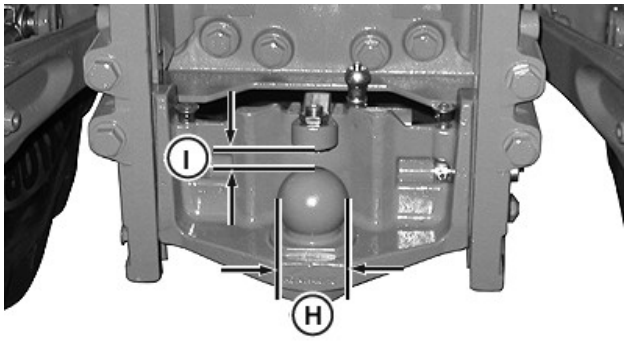
IMPORTANT: If bearing play (Y) is greater than 1.5 mm (0.059 in), replace entire trailer hitch assembly.

Replace internal retaining wire if gap (X) is greater than 3 mm (0.118 in).

Couplings



RXA0155697—UN—15NOV16



RXA0155698—UN—15NOV16

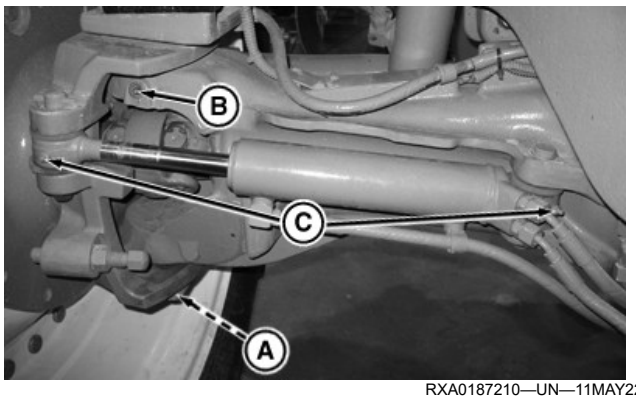
Specifications	
Piton Coupling Pin Diameter (G)	41.5 mm (1.63 in) Minimum
Gap (F)	10 mm (0.39 in) Maximum
Ball Coupling Ball Diameter (H)	78 mm (0.39 in) Minimum
Gap (I)	4 mm (0.16 in) Maximum

RX32825,0001794-19-01OCT21

Lubricate Front Axle Fittings (MFWD or TLS™)

IMPORTANT: Normal lubrication is 250 hours for TLS™ equipped tractors and 500 hours for non-TLS™ equipped tractors. If used in extremely wet conditions, lubricate daily or every 10 operating hours.

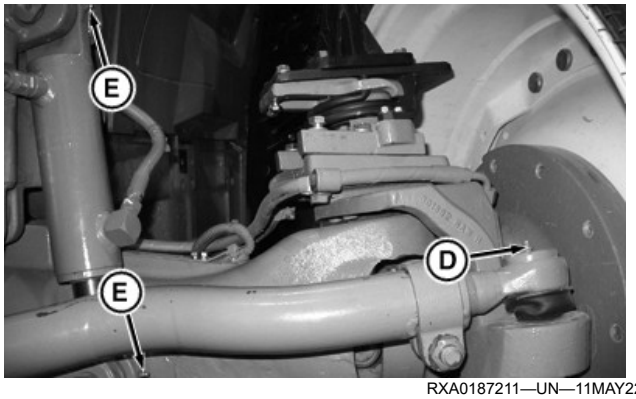
Use John Deere SD Polyurea grease or other grease as specified in Multipurpose Extreme Pressure (EP) Grease in Other Lubricants section of this Operator's Manual.



RXA0187210—UN—11MAY22

Kingpins—Lubricate fittings (A and B) until grease appears at orifice on bottom end of each kingpin bearing.

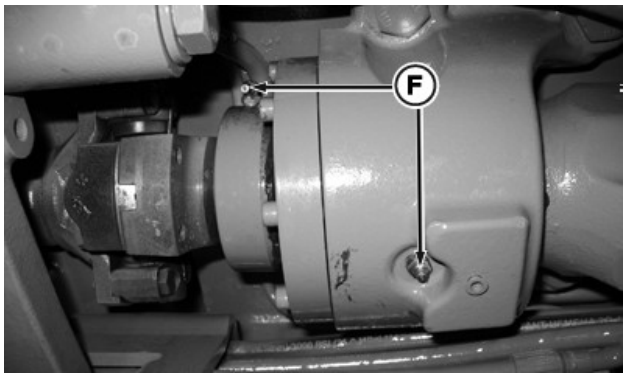
Steering Cylinder—Lubricate fittings (C).



RXA0187211—UN—11MAY22

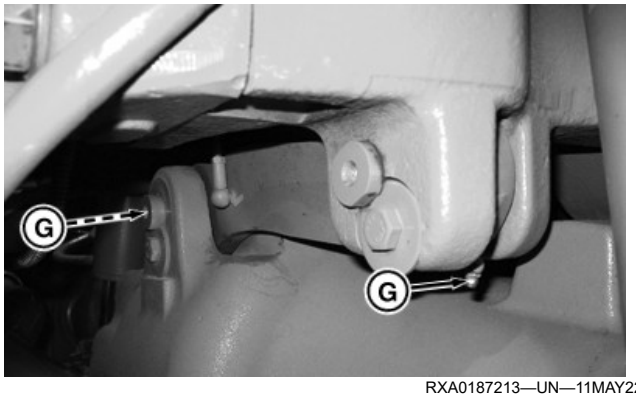
Tie Rods—Lubricate fittings (D).

Axle Cylinder—Lubricate top and bottom fittings (E) (TLS™ Plus Only).



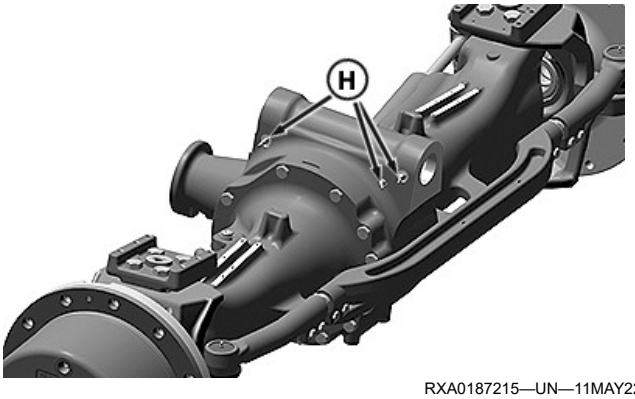
RXA0187212—UN—11MAY22

Input Bearing Housing—Lubricate front and rear fittings (F) (TLS™ Plus Only).



RXA0187213—UN—11MAY22

Panhard Rod —Lubricate left and right fittings (G) (TLS™ Plus Only).



RXA0187215—UN—11MAY22

Upper Pivot Fittings

Upper Pivot Fittings —Lubricate front and rear fittings (H) (Non-TLS™ Only).

NOTE: All fittings, except for axle pivot (F), panhard rod (G), and upper pivot fittings (H) are the same for left-hand and right-hand sides.

U-Joints

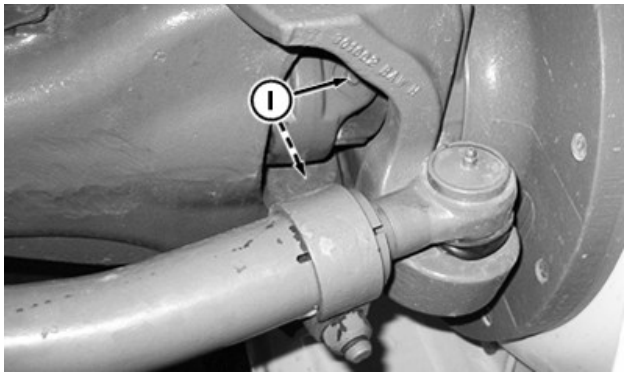
IMPORTANT: No normal service interval. If used in extremely wet conditions service daily or every 10 hours.

Use John Deere SD Polyurea grease or other grease as specified in Multipurpose Extreme Pressure (EP) Grease in Other Lubricants section of this Operator's Manual.

Drilled passages in the U-joint allow grease to reach all four bearings from a single grease fitting.

For normal operations, U-joints are sealed and not permanently equipped with grease fittings. To lubricate, proceed as follows:

1. Replace plugs with M10 thread 90° grease fittings. See your John Deere dealer for correct part. Tighten to 0.904 N·m (8 lb·in).
2.

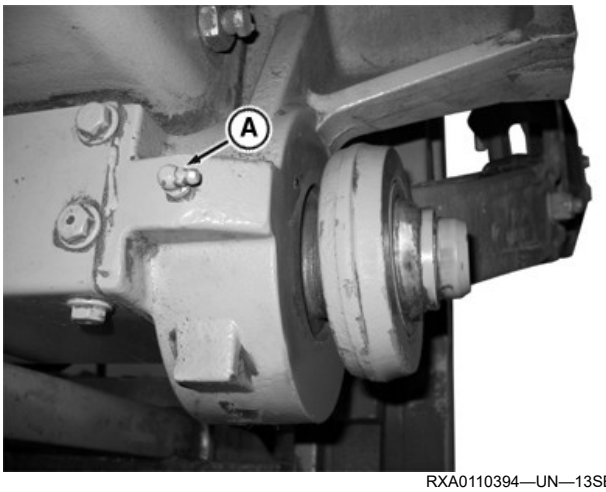


RXA0187214—UN—11MAY22

Apply grease to both U-joints at lubrication points (I).

RX32825,000178E-19-20MAY22

Draft Link Support Shaft Bushing



RXA0110394—UN—13SEP10

Under Rear Left-hand Side of Tractor

Apply one or two shots of grease to support shaft grease fitting (A). Use John Deere SD Polyurea grease or other grease as specified in Multipurpose Extreme Pressure (EP) Grease in Other Lubricants section of this Operator's Manual.

RX32825,0001793-19-08MAY18

Service—Electrical Overview

In addition to fuses and relays mounted in fuse panels (behind operator's seat), tractors are also equipped with solid state load centers located in two electronic control units.

These solid-state load centers replace fused relay circuits previously used. Their primary function is to control the majority of high current loads such as rear fender lights and horn. Load center circuitry monitors loads and voltages providing fast reaction time and ability to alert operator if a circuit overloads or if voltage is out of specification, i.e. open circuit (undercurrent) or short circuit (over-current).

If circuit is faulty and a diagnostic trouble code is generated, circuit will stay OFF and diagnostic trouble code will remain active until circuit is recycled by operator. If circuit or one of its components is turned back ON and problem is no longer present, system will function normally.

As an example, if a light circuit is determined to have an over-current condition, load center system will shut the circuit off. If operator turns light switch off and back on, and system senses zero amps when light controlled by the switch is off, system will turn system back on and normal operation will turn back on.

If total current load of load center exceeds a preset level, software will automatically shut down system, turning off one circuit at a time. Logic circuit will wait a few seconds between circuit shutdowns to determine if total controller current has fallen below preset level, or if additional circuits should be turned off.

Solid state circuits are rated for a fixed value. If additional electrical devices need to be added to tractor, it is recommend to use a power strip or convenience outlets in conjunction with an off/on switch. Splicing into a wire in the wrong location could cause circuit to overload and shut circuit down.

If extra implement lights and controls, such as switches are needed, contact your John Deere dealer. A dealer can provide information on correct method to tie in a light switch with one of accessory wires located in 7 pin terminal on back of tractor.

TS36762,000015E-19-25MAR21

Welding Near Electronic Control Units

TS953—UN—15MAY90

IMPORTANT: Do not jump-start engines with arc welding equipment. Currents and voltages are too high and may cause permanent damage.

1. Disconnect the negative (-) battery cable(s).
2. Disconnect the positive (+) battery cable(s).
3. Connect the positive and negative cables together. Do not attach to vehicle frame.
4. Clear or move any wiring harness sections away from welding area.
5. Connect welder ground close to welding point and away from control units.
6. After welding, reverse Steps 1—5.

DX,WW,ECU02-19-14AUG09

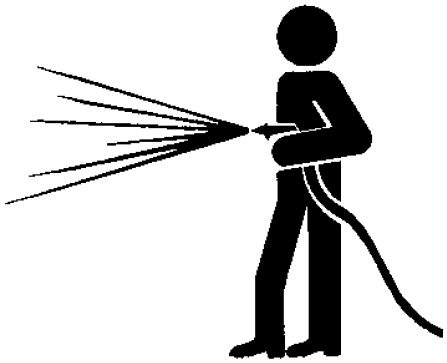
Keep Electronic Control Unit Connectors Clean

IMPORTANT: Do not open control unit and do not clean with a high-pressure spray. Moisture, dirt, and other contaminants may cause permanent damage.

1. Keep terminals clean and free of foreign debris. Moisture, dirt, and other contaminants may cause the terminals to erode over time and not make a good electrical connection.
2. If a connector is not in use, put on the proper dust cap or an appropriate seal to protect it from foreign debris and moisture.
3. Control units are not repairable.
4. Since control units are the components LEAST likely to fail, isolate failure before replacing by completing a diagnostic procedure. (See your John Deere dealer.)
5. The wiring harness terminals and connectors for electronic control units are repairable.

DX,WW,ECU04-19-11JUN09

Compressed Air Use

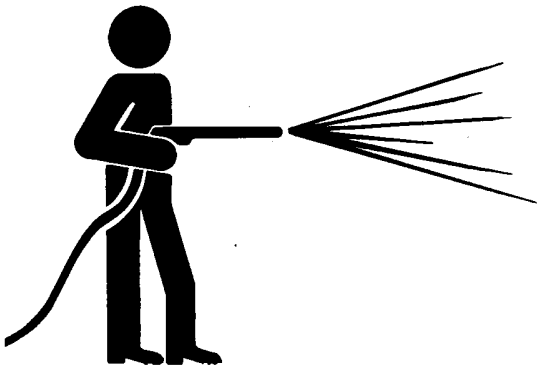


RW56455—UN—30JUN97

IMPORTANT: Directing pressurized air at electronic/electrical components or connectors, may cause buildup of static electricity and product malfunctions.

TS36762,000015F-19-21JUN17

High-Pressure Washers Use



T6642EJ—UN—18OCT88

IMPORTANT: Directing pressurized water at electronic/electrical components or connectors, bearings and hydraulic seals, fuel injection pumps, exhaust outlet or other sensitive parts and components may cause product malfunctions. Reduce pressure, and spray at a 45 to 90 degree angle. When washing do not direct any water towards the exhaust or any fill tank openings.

TS36762,0000160-19-21JUN17

Disconnect Battery

CAUTION: Avoid injury or damage to tractor systems from inadvertent contact with electrical power. Disconnect battery when directed.

IMPORTANT: Prevent damage to the tractor emissions system. Never disconnect the battery disconnect switch while the battery disconnect switch light is illuminated. See Battery Disconnect Switch in Engine Operation section of this Operator's Manual.

TS36762,0000161-19-11FEB20

Service Batteries and Connections

RXA0086786—UN—14FEB06

CAUTION: It can cause a buildup of static charge leading to potential injury.

Battery gas can explode. Keep sparks and flames away from batteries. Use flashlight to check battery electrolyte level.

Never check battery charge by placing metal object across posts. Use a voltmeter or hydrometer.

Always remove battery ground cables before positive battery cables and connect them last. Do not let disconnected ground terminal touch metal surface.

WARNING: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. **Wash hands after handling.**

CAUTION: Avoid contact with poisonous sulfuric acid in battery electrolyte. Battery acid can burn skin, damage clothing, and cause blindness if splashed into eyes.

NOTE: Although this battery is a maintenance free battery, conditions such as long periods of operation at high ambient temperatures and excessive engine cranking may require adding water. See label on battery.

For optimum battery performance, keep battery terminals clean and tight. For replacement batteries, follow manufacturer's recommendations.

IMPORTANT: Prevent damage to the tractor emissions system. Never disconnect the battery disconnect switch while the light is illuminated. See Battery Disconnect Switch in Engine Operation section of this Operator's Manual.

1. Turn off battery disconnect switch.
2. Remove battery compartment cover. See Remove Battery Compartment Cover in Service—General Information section of this Operator's Manual.
3. Disconnect negative battery cables, then positive battery cables.

IMPORTANT: Never use compressed air to clean batteries.

4. Remove any corrosion with terminal brush, then clean terminals and battery posts using baking soda and water solution.
5. Rinse with clean water and air dry.
6. If batteries have been removed for service, slide batteries back into compartment. Install battery retaining clamp.
7. Connect positive battery cables, then connect negative battery cables.
8. Apply thin coat of grease to cable ends.
9. Reinstall battery compartment cover.
10. Turn battery disconnect switch on.

TS36762,0000145-19-25MAR21

Load Center—Cab

IMPORTANT: Prevent damage to the tractor:

- **Emissions System. Never disconnect the battery disconnect switch while the battery disconnect switch light is illuminated. See Battery Disconnect Switch in Engine Operation section of this Operator's Manual.**
- **Electrical system.**
  - **Ensure that the key switch is in the OFF position before changing fuses.**
  - **Replacement fuse must be the same rating as the original fuse.**

Access Cab Load Center

RXA0167377—UN—05APR19

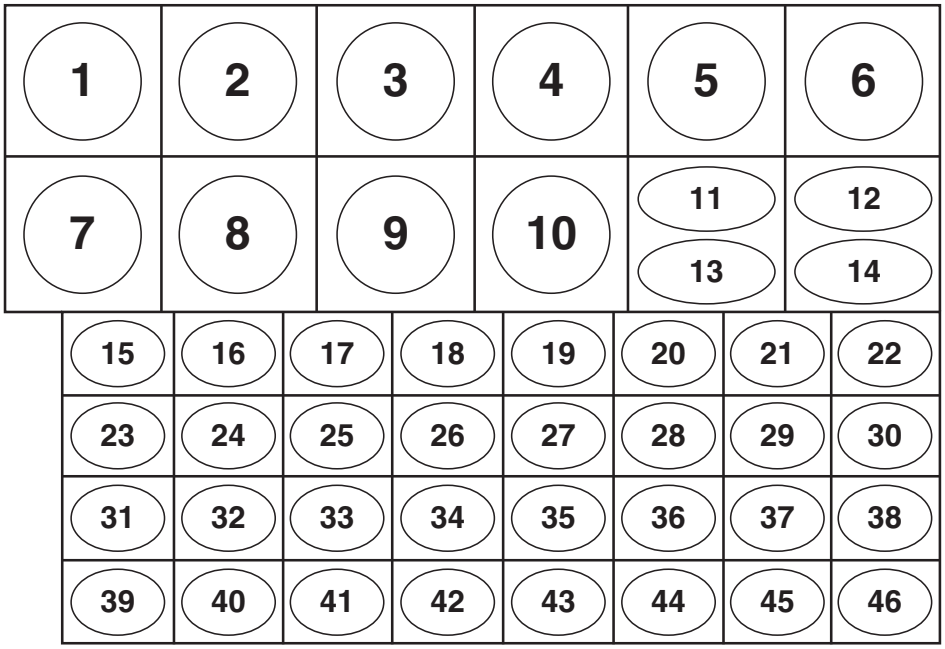
Behind Side Panel (A) at Lower Right of Operator's Seat

Remove the side panel to access the cab load center.

Relay/Fuse Identification

K—Relay
F—Fuse

Relay/Fuse Locations



RXA0173765—UN—13JAN20

1—K2: Ignition
2—K18: HVAC Blowers
3—Not Used
4—K4: Trailer Accessory Lighting
5—K20: Seat
6—K6: Accessory
7—K9: 2-Track Suspension[1]
8—K8: Trailer Flood
9—K9: Buzzer
10—K10: Autonomy Relay
11—F35: Active Seat (if equipped) (40A)
12—F40: DC-AC Inverter (40A)
13—F33: Accessory (70A)
14—F37: HVAC Blowers (40A)
15—F15: Convenience, Lighter, and CB (30A)
16—F01: Key/Switch Battery (05A)
17—F02: Operator Presence Switch (10A)
18—F03: Automatic Temperature Control (10A)
19—F17: USB Power Armrest (05A)
20—F20: Radio ACC Power (10A)
21—F24: Cameras (10A)
22—F23: CB, Refrigerator (30A)
23—F05: Radio (10A)
24—F07: MTG JDLink Controller, Ethernet Switch, and GPS Receiver (10A)
25—F09: CommandCenter Server (10A)
26—F10: Trailer Flood (30A)
27—Spare (15A)
28—F27: Convenience Outlets (30A)
29—F31: Power Mirrors; Trailering Lights (if equipped) (20A)
30—F54: Auxiliary Outlets (30A)
31—F11: Trailer Lighting (30A)
32—F08: Armrest Controller (15A)
33—F13: Steering Controller (15A)
34—F55: Vehicle Autonomy Controller (05A)
35—F32: Come Home (10A)
36—F19: Seat Suspension (20A)
37—F41: Seat Top (20A)
38—F42: Seat Top (30A)
39—F18: Primary Display Unit (10A)
40—F47: Cab Front Console Controller (15A)
41—F16: 2-Track Suspension Motor (30A)[1]
42—Spare (10A)
43—Not Used
44—Not Used
45—F49: Accessory (low current), Subwoofer (20A)
46—F46: USB Power C-Post (10A)

DB71512,000003C-19-25MAY23

Load Center—Front

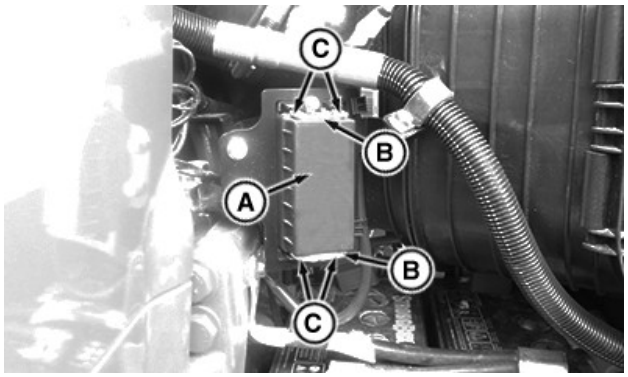
IMPORTANT: Prevent damage to the tractor:

- **Emissions system. Never disconnect the battery disconnect switch while the light is illuminated. See Battery Disconnect Switch in Engine Operation section of this Operator's Manual.**
- **Electrical system.**
  - **Ensure that the key switch is in the OFF position before changing fuses.**
  - **Replacement fuse must be the same rating as the original fuse.**

1. Remove the battery compartment cover. See Remove Battery Compartment Cover in Service—

[1] Fuse present on R, RX, and RT tractors. Functional on RT only.

General Information section of this Operator's Manual.

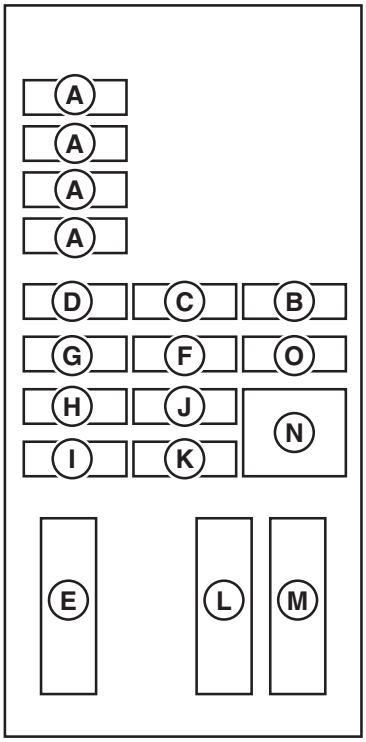


RXA0171282—UN—10OCT19

2. The front load center (A) is located behind the battery compartment cover.
3. To release the load center cover and access the load center fuses:
   a. Gently slide the yellow locking tabs (B) towards the load center cover front face.
   b. Squeeze the four black tabs (C) inward towards the load center cover.
4. Replace the load center cover and the battery compartment cover when the service is complete.

Relay/Fuse Identification

KE—Relay
FE—Fuse



RXA0187508—UN—18JUL22

Front Load Center Fuses

A—Spare
B—FE01 ECU[2] (25A)
C—FE02 ECU[3] (25A)
D—FE03 ECU[2] (25A)
E—FE04 PAPTOS[4] (40A)
F—FE07 Alternator (10A)
G—FE08 Steering Controller (15A)
H—FE09 Front Controller[5] (25A)
I—FE10 Front Controller[6] (10A)
J—FE14 Auto Ether[7] (15A)
K—FE28 Rear Chassis Control Unit (10A)
L—FE30 Implement ECU (30A)
M—FE100 Implement Power (60A)
N—KE14 Heater[7]
O—Not Used

TS36762,0000170-19-18JUL22

Access Master Fuses

CAUTION: Disconnect both negative and positive battery connections from both batteries prior to fuse inspection or replacement.

IMPORTANT: Prevent damage to the tractor:

- **Emissions system. Never disconnect the battery disconnect switch while the light is illuminated. See Battery Disconnect Switch**

[2] Final Tier 4 only
[3] 20A for Stage II tractors only
[4] 3-Speed PTO Option Only
[5] Front Hitch
[6] TLS™ or Front Hitch Only
[7] 9L Stage V/Final Tier 4 with Ether Only

in Engine Operation section of this Operator's Manual.

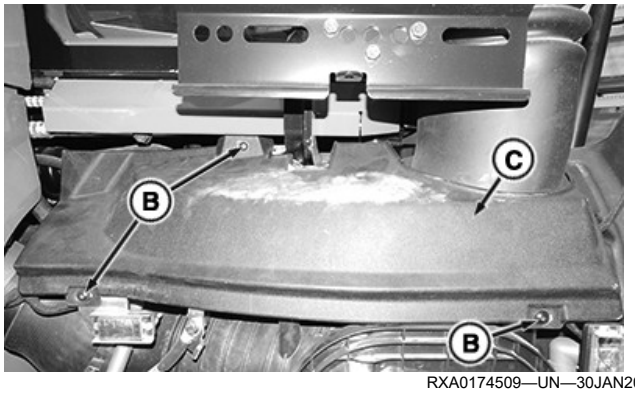
- **Electrical system.**

  - **Do not attempt to disassemble master fuses unless instructed by your John Deere dealer.**
  - **Ensure that the key switch is in the OFF position before changing fuses.**
  - **Replacement fuse must be the same rating as the original fuse.**

Master fuse module is located inside battery compartment.

RXA0135033—UN—15AUG13

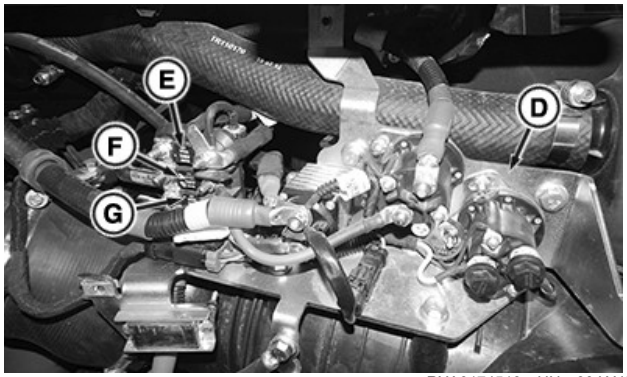
Grasp battery compartment cover handle (A) and pull forward and up to remove cover. Strong magnets secure cover.



RXA0174509—UN—30JAN20

Remove top cover retaining screws (B) and remove cover (C) to access master fuse module.

Tractor may be equipped with one of two master fuse configurations.



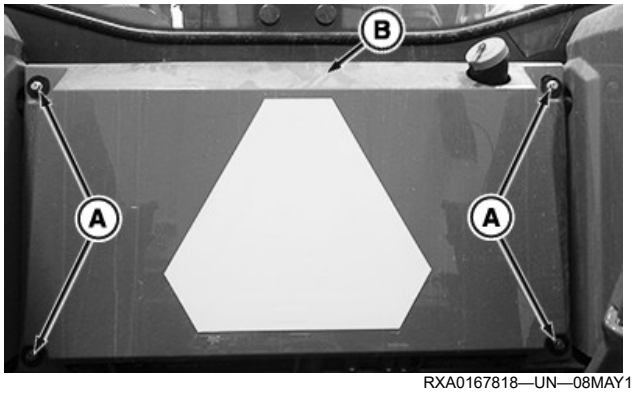
RXA0174513—UN—30JAN20

Tractor equipped with a back-up hydraulic pump (D):

- Master Fuse (E) — 300 Amps
- Backup Hydraulic Pump (If Equipped) (F) — 250 Amps
- Alternator Battery Relay (G) — 300 Amps

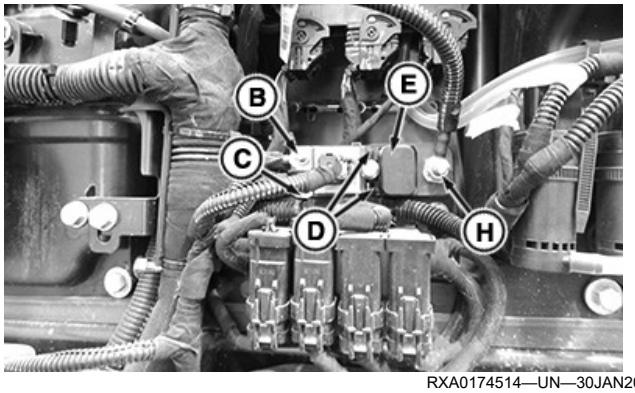
TS36762,0000163-19-30JAN20

Access Implement Power Relay Module Fuses



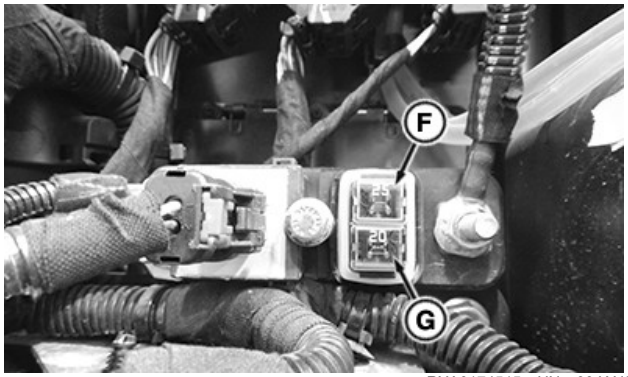
RXA0167818—UN—08MAY19

Remove four cap screws (A) and cab rear cover. Implement Power Relay Module is located in upper left corner of rear cab panel. Module routes power to Implement Bus Breakaway Connector.



RXA0174514—UN—30JAN20

Power comes into module from battery at battery power input stud (H).



RXA0174515—UN—30JAN20

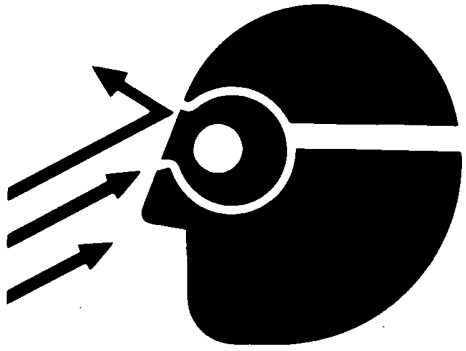
Switched power lug (B) is protected by a 25 Amp fuse (F). Unswitched power lug (C) is protected by a 20 Amp fuse (G).

To Change Fuses

1. Press down on fuse cover tabs (D) and remove fuse cover (E).
2. To remove, pull fuse straight rearward.
3. Replace with new fuse.
4. Reinstall cover and slide tabs over cover edge to secure.

TS36762,0000164-19-30JAN20

Handle Halogen Light Bulbs Safely



TS266—UN—23AUG88

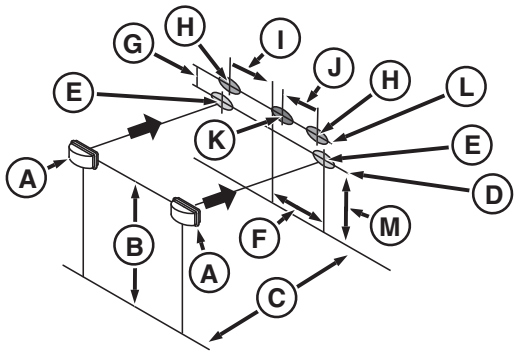
H39474—UN—30JUN00

CAUTION: Halogen bulbs (A) contain gas under pressure. Handling a bulb improperly could cause it to shatter into flying fragments. To avoid possible injury:

- **Turn light switch off and allow bulbs to cool before changing. Leave switch off until bulb change is done.**
- **Wear eye protection.**
- **Handle bulb by its base. Keep bulb oil free; wear gloves to avoid touching glass.**
- **Do not drop or scratch bulb. Keep moisture away.**
- **Place used bulb in the new bulb carton and dispose of properly. Keep out of reach of children.**

TS36762,0000165-19-05SEP17

Adjust Headlights



RXA0161046—UN—11OCT17

1. Park tractor on level surface with low beam road lights (A) 7.5 meters (25 ft) (C) from a straight wall. Tractor must be perpendicular to wall. Turn on low beam road lights.
2. Measure distance (B) from center of road light low beam lamps to ground.
3. Mark a horizontal line (D) on wall 0.7 times height (B).
4. On wall, mark each road light low beam center (E).
5. Determine total distance between centers of road light low beams.
6. Calculate one-half distance determined in step 5.
7. Mark vertical line at distance calculated in step 6 from center of right-hand low beam center.
8. Distance (F) between center of road light low beam and center line should be 914 mm (36 in). Adjust as necessary, see Adjust Front Grille Lights in this section of this Operator's Manual.
9. Turn on road light high beams.
10. Adjust road light high beams so edge of bright area

(L) is **at least** one tenth of distance (M) **above** road light low beam centers (E). Distance (G) is approximately 355 mm (14 in).

11. On wall, mark each road light high beam center (H), then mark a horizontal center line between center of road light high beams.
12. Distance (I) between center of road light high beams and center line should be 787 mm (31 in). Adjust as necessary, see Adjust Front Grille Lights in this section of this Operator's Manual.
13. Configure inner hood lights ON.
14. Turn on field lights. Inner hood light beam center (K) should be on horizontal line between centers of road light high beams. Adjust as necessary.
15. Distance (J) between inner hood light beam center (K) and light center line should be 635 mm (25 in). Adjust as necessary.

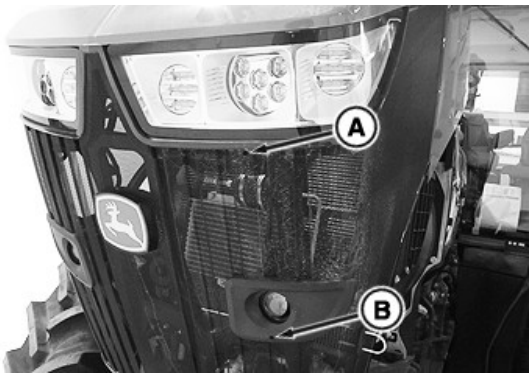
TS36762,0000169-19-05APR18

Adjust Front Grille Lights

Adjust the front grille lights as needed. Perform the adjustments on each side of the tractor.

Adjust High Beam Headlights

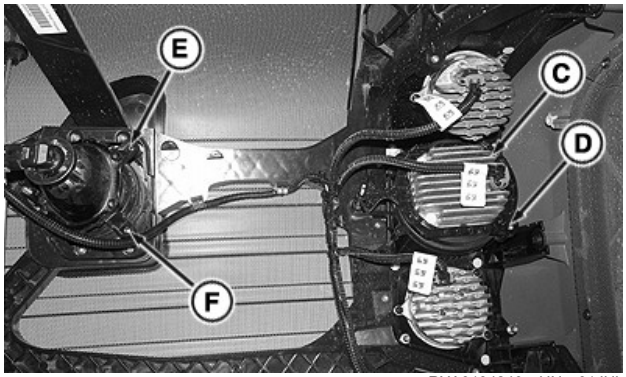
To adjust the high beam headlights:



RXA0134244—UN—31JUL13

Left-Hand Lights Shown

- Turn the adjustment screw (A):
  - Clockwise to lower the light beam.
  - Counterclockwise to raise the light beam.
- Turn the adjustment screws:



RXA0134249—UN—31JUL13

Right-Hand Lights Shown

  - (C) Clockwise to raise and tilt in the light beam.
  - (D) Counterclockwise to raise and tilt out the light beam.

Adjust the Low Beam Road Lights

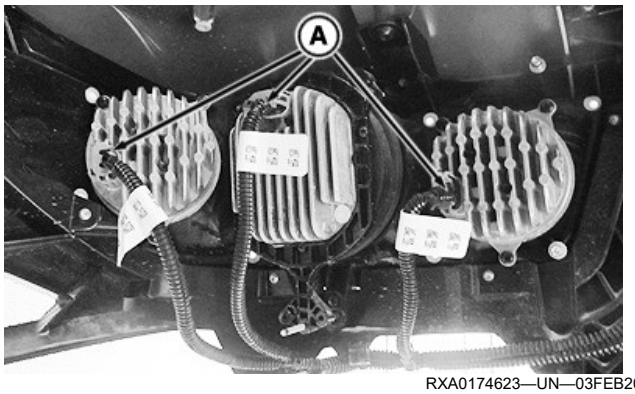
To adjust the low beam road lights:

- Turn the adjustment screw (B):
  - Clockwise to lower the light beam.
  - Counterclockwise to raise the light beam.
- Turn the adjustment screws:
  - (E) Clockwise to raise and tilt out the light beam.
  - (F) Counterclockwise to raise and tilt in the light beam.

ZZASX1U,0000056-19-03FEB20

Change Front HID/LED Light Assembly

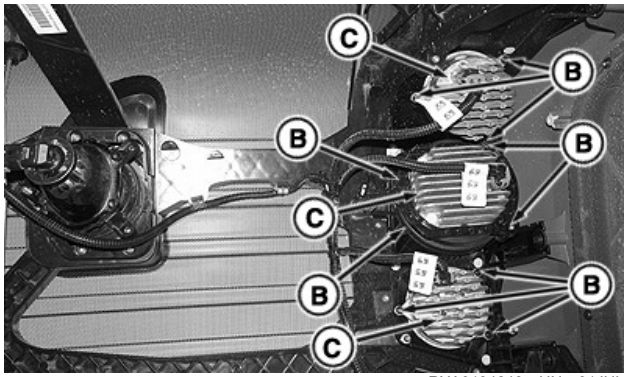
1. Open hood, see Open Hood in Service—General Information section of this Operator's Manual.



RXA0174623—UN—03FEB20

Right-Hand Side Shown

2. Disconnect harness connector (A).



RXA0134248—UN—31JUL13

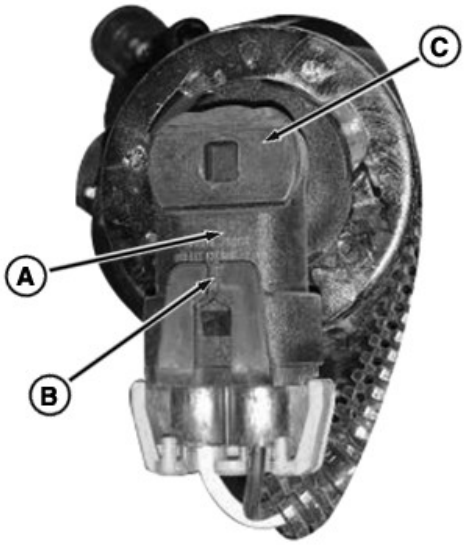
Right-Hand Side Shown

3. Remove screws (B) and light assembly (C).
4. Remove and replace the light assembly.
5. Install new light assembly in reverse order of removal.
6. Close and secure hood.

ZZASX1U,0000055-19-25MAR21

Change Halogen Bulbs

1. Disconnect the wiring harness plug by lifting retaining tab (B).



RXA0173828—UN—03FEB20

2. Rotate base (A) counterclockwise 1/4 turn and remove.
3. Remove and replace the halogen light assembly (C).
4. Connect the wiring harness.

ZZASX1U,0000057-19-03FEB20

Change Front/Rear Belt Line Work Lights

Replace a Halogen Bulb

RXA0174703—UN—04FEB20

1. Disconnect the rear wiring harness.
2. Push in, twist, and pull to remove the halogen bulb receptacle from the light housing.
3. Replace the halogen bulb.
4. Replace the halogen bulb receptacle into the light housing.
5. Connect the rear wiring harness.

Replace a LED Light Assembly

RXA0174821—UN—06FEB20

1. Disconnect the rear wiring harness.
2. Remove nut (A).

3. Replace the LED light assembly.
4. Secure the LED light assembly with the nut.
5. Connect the rear wiring harness.

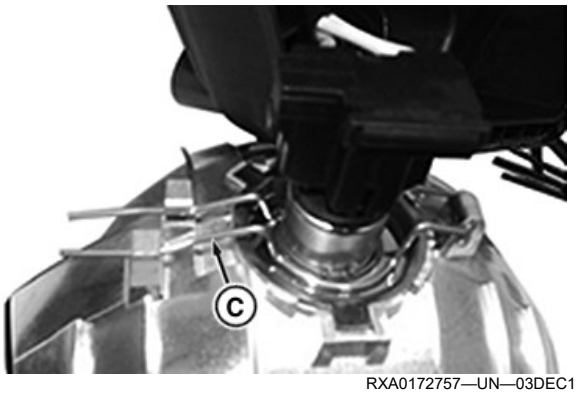
ZZASX1U,0000067-19-26APR21

Change Auxiliary Driving Light

To locate this light, see Light Identification in the Lights section of this Operator's Manual.

RXA0172756—UN—03DEC19

1. Remove screws (A).
2. Remove the frame (B) from the light housing.
3. Remove the wiring harness.



RXA0172757—UN—03DEC19

4. Remove the clip holding the bulb in place (C).
5. Remove and replace the light bulb.
6. Reassemble in reverse order.

EC82310,0000B82-19-14MAY20

Change Wrap-Around Cab Light

RXA0172758—UN—03DEC19

1. Use a flat head screwdriver to gently pry out and remove the light assembly at slot (A).
2. Disconnect the harness connectors.
3. Remove and replace the light assembly.
4. Reassemble in the reverse order.

ZZASX1U,0000058-19-26APR21

Change Cab Roof Light

RXA0172759—UN—03DEC19

Cab Roof Light—LED Light Option Shown

1. Gently pry light out the light assembly using a flat tip screwdriver in slot (A).
2. The cab roof light is equipped with either an LED assembly or a halogen bulb. To replace the cab roof light if the light assembly contains:
   - An LED assembly:
     a. Disconnect the harness connector.
     b. Replace the LED assembly.
     c. Reconnect the harness connector.
     d. Insert the cab roof light assembly into the cab roof until it snaps into place.
   - A halogen bulb:
     a. Remove the halogen bulb base from the light assembly.

b. Remove and replace the halogen bulb from the halogen bulb base.
c. Insert the halogen bulb base into the light assembly.
d. Insert the cab roof light assembly into the cab roof until it snaps into place.

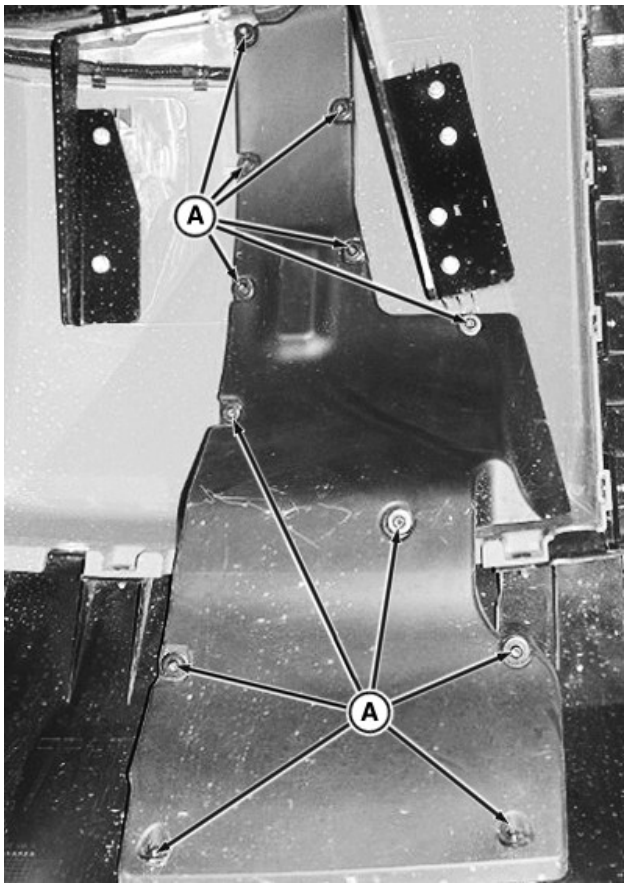
EC82310,0000B84-19-14MAY20

4. Remove and replace the light assembly.
5. Reassemble in the reverse order.

ZZASX1U,000006B-19-26JUN23

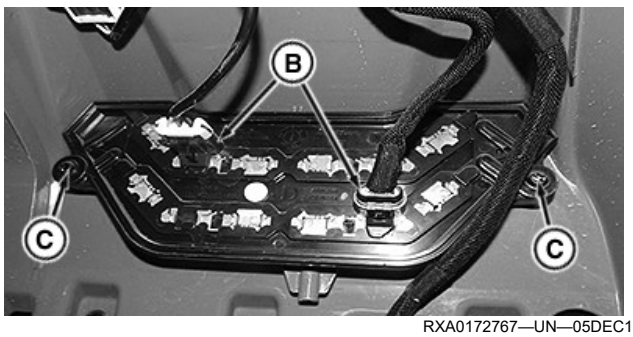
Change Rear Fender Light—Rear Indicator

Rear Indicator



RXA0172766—UN—03DEC19

1. Remove screws from under fender (A).



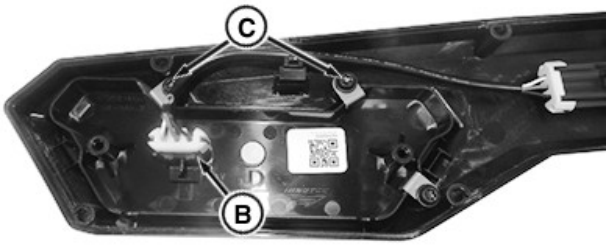
RXA0172767—UN—05DEC19

2. Disconnect the harness connector (B).
3. Remove screws (C).

Change Extremity Arm Light

RXA0172768—UN—03DEC19

1. Remove screws (A).



RXA0172769—UN—03DEC19

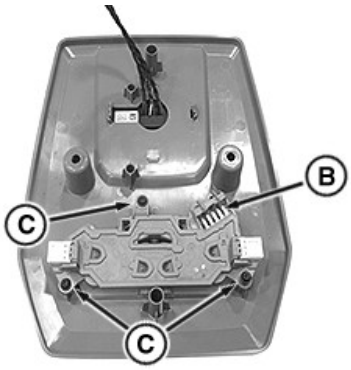
2. Remove screws (C).
3. Disconnect the harness connector (B).
4. Replace with a new light assembly.
5. Reassemble in the reverse order.

ZZASX1U,0000065-19-29JUN23

Change Cab Dome Light

RXA0172763—UN—03DEC19

1. Remove screws (A).



RXA0172764—UN—05DEC19

2. Disconnect wiring harness (B).
3. Remove screws (C) holding the light assembly.
4. Replace with new light assembly.
5. Reassemble in the reverse order.

EC82310,0000B8A-19-04APR23

Troubleshooting—Procedures

Troubleshooting Features

Some features listed in this Operator's Manual section may not be applicable to all tractor configurations and regions. See your John Deere dealer for unresolved product issues.

KD34109,0000944-19-19JUL21

Electrical System

Low Battery Voltage (key switch on and engine off)

Problem	Solution
Defective battery.	Check that battery voltage is 12.0—14.5 V. Service or replace battery/batteries. See your John Deere dealer.
Low charging voltage with engine running.	See your John Deere dealer.
High resistance in charging circuit.	See your John Deere dealer.

Low Charging Voltage (engine running)

Problem	Solution
Low engine speed.	Increase engine speed.
Auxiliary drive belt slips and is not fully powering the alternator.	Check the auxiliary drive belt tension.
Defective battery.	Check that battery voltage is 12.0—14.5 V. See your John Deere dealer.
Defective alternator.	See your John Deere dealer.
Excessive electrical load.	Decrease electrical load. See your John Deere dealer.
Loose or corroded connections.	Clean and tighten connections.
Sulfated or worn-out batteries.	Check that battery voltage is 12.0—14.5 V. Service or replace battery/batteries. See your John Deere dealer.
Loose or defective alternator belt.	Check the auxiliary belt tension. Replace belt.

Excessive Charging Voltage (engine running)

Problem	Solution
Faulty connection to the alternator.	Check wiring connections.
Defective regulator.	See your John Deere dealer.

Starter Inoperative

Problem	Solution
Faulty starter or starter solenoid.	See your John Deere dealer.
Loose or corroded connections.	Clean and tighten loose connections.
Low battery output.	Service or replace battery/batteries. See your John Deere dealer.
Failed fuse.	Check fuses. See Center Load—Front in Service—Electrical section of this Operator's Manual. Check the alternator/battery relay fuse. See Access Master Fuses in Service—Electrical section of this Operator's Manual.
Failed relay.	See your John Deere dealer.
Excessive cranking attempts.	To protect the starter, the ECU may prevent starting if several crank/no start events have occurred. Wait 2 minutes and attempt starting again.

Starter Turns Over Slowly

Problem	Solution
Low battery output.	Check that battery voltage is 12.0—14.5 V. Service or replace battery/batteries. See your John Deere dealer.
Crankcase oil is too heavy.	Use the correct viscosity oil. See Engine Oil section of this Operator's Manual.
Loose or corroded connections.	Clean and tighten loose connections.
Excessive hydraulic load.	Ensure SCVs are in neutral and disconnect the implement hose in the rear load sense port (if used).

Entire Electrical System Does Not Function

Problem	Solution
Faulty battery connection.	Clean and tighten connections.
Battery disconnect system switch in the off position.	Turn the battery disconnect switch to the on position.
Sulfated or worn out batteries.	Check that battery voltage is 12.0—14.5 V. Service or replace battery/batteries. See your John Deere dealer.
Failed master fuse.	Check the master fuse. See Access Master Fuses in Service—Electrical section of this Operator's Manual.
Loose or corroded connections and/or grounds.	Clean and tighten loose connections.

KD34109,000093A-19-30MAY23

Engine

Engine Is Hard to Start or Does Not Start

Problem	Solution
Incorrect starting procedure.	Review the starting procedure.
Failed relay.	Check the relay. See Load Center—Cab in Service—Electrical section of this Operator's Manual.
Failed fuse.	Check the fuses. See Load Center—Front in Service—Electrical section of this Operator's Manual.
No fuel.	Check the fuel tank. Add clean fuel. See Fuel section of this Operator's Manual.
Air in the fuel line.	Bleed the fuel line. With the engine off, turn the key to the run position for 60 seconds.
Cold weather.	Check cold-weather starting aids. See Cold Weather Operation section of this Operator's Manual.
Slow starter speed.	See Starter Turns Over Slowly in Electrical System in this Operator's Manual section.
Crankcase oil is too heavy.	Use the correct viscosity oil. See Engine Oil section of this Operator's Manual.
Incorrect type of fuel.	Use the correct fuel type for the operating conditions. Consult the fuel supplier to determine if necessary.
Water, dirt, or air in the fuel system.	Drain, flush, fill, and bleed the system. See Service—General Information section of this Operator's Manual.
Clogged fuel filter.	Replace the filter elements. See Service—Change section of this Operator's Manual.
Dirty or faulty injectors.	See your John Deere dealer.
Excessive hydraulic load.	Ensure SCVs are in neutral and disconnect the implement hose in the rear load sense port (if used).

Engine Knocks

Problem	Solution
Insufficient oil.	Add oil. See Engine Oil section of this Operator's Manual.
During warm-up, the pilot injection system activates and deactivates depending on the engine operating temperature.	It is normal for the pilot injection system to activate and deactivate depending on the engine operating temperature.
Low engine coolant temperature.	Replace the thermostats. See Service—Change section of this Operator's Manual.
Engine overheats.	See Engine Overheats later in Engine Troubleshooting.

Engine Runs Irregularly or Stalls Frequently

Problem	Solution
Low coolant temperature.	Replace the thermostats. See Service—Change section of this Operator's Manual.
Clogged fuel filters.	Replace the filter elements. See Service—Change section of this Operator's Manual.
Water, dirt, or air in the fuel system.	Drain, flush, fill, and bleed the system. See Service—General Information section of this Operator's Manual.
Water in the fuel system.	See Fuel Tank Sump in Service—Check section of this Operator's Manual.
Fuel tank vent is obstructed.	Clean the vent. Check the vent lines for restrictions. Replace the vent filter. See Service—Change section of this Operator's Manual.
Dirty or faulty injectors.	See your John Deere dealer.

Below Normal Engine Temperature

Problem	Solution
Defective thermostat.	Replace the thermostat. See Service—Change section of this Operator's Manual.
Defective temperature gauge or sender.	See your John Deere dealer.

Fan Drive Speed Surges at a Low Engine Speed

Problem	Solution
Fan drive problem.	See your John Deere dealer.

Throttle Does Not Allow Full Engine Speed

Problem	Solution
Maximum Set Speed is on and limiting maximum engine rpm.	Adjust Maximum Set Speed to maximum rpm.
Cold oil can limit the engine speed to 1500 rpm.	Warm up the transmission-hydraulic oil. See your John Deere dealer.
Engine derate is active.	Check the CommandCenter for diagnostic trouble codes. See Troubleshooting—Diagnostic Trouble Codes (DTC) section of this Operator's Manual.

Lack of Power

Problem	Solution
Engine is overloaded.	Reduce load or shift to a lower gear.
Low or high idle speed.	Adjust or turn off the Max Engine Speed setting. Set IVT/AutoPowr or EVT/eAutoPowr correctly. Check the applicable transmission section of this Operator's Manual. See your John Deere dealer.
Intake air restriction.	Service the air cleaner. See Service—Check section of this Operator's Manual.

Problem	Solution
Clogged fuel filters.	Replace the fuel filter elements. See Service—Change section of this Operator's Manual.
Water in the fuel system.	See Fuel Tank Sump in Service—Check section of this Operator's Manual.
Incorrect type of fuel.	Use the correct fuel. See the appropriate fuel information in Fuel section of this Operator's Manual.
Engine is overheated.	See Engine Overheats later in Engine Troubleshooting.
Below normal engine temperature.	Check the thermostat. See Service—Change section of this Operator's Manual.
Incorrect valve clearance.	See your John Deere dealer.
Dirty or faulty injectors.	See your John Deere dealer.
Turbocharger does not function.	See your John Deere dealer.
Leaking exhaust manifold gasket.	See your John Deere dealer.
Implement adjusted incorrectly.	See implement Operator's Manual.
Restricted fuel inlet.	Clean or replace the fuel line. See Service—Change section of this Operator's Manual.
Incorrect ballast.	Adjust the ballast to load. See Performance Ballasting section of this Operator's Manual.

Low Oil Pressure

Problem	Solution
Low oil level.	Add oil. See Engine Oil section of this Operator's Manual.
Incorrect type of oil.	Drain and refill the crankcase with the correct quality and viscosity of oil. See Engine Oil section of this Operator's Manual.

High Oil Consumption

Problem	Solution
Crankcase oil is too light.	Use the correct viscosity oil. See the appropriate engine oil information in Engine Oil section of this Operator's Manual.
Oil leakage.	Check for leaks in the lines and around the gaskets and the drain plug.
Defective turbocharger.	See your John Deere dealer.
Restricted engine breather tube.	Clean the engine breather tube.

Engine Emits Smoke

Problem	Solution
Incorrect type of fuel.	Use the correct fuel. See the appropriate fuel information in Fuel section of this Operator's Manual.
Clogged or dirty air cleaner.	Service the air cleaner.
Engine is overloaded.	Reduce the load or shift to a lower gear.
Injection nozzles are dirty.	See your John Deere dealer.
Turbocharger does not function.	See your John Deere dealer.

Engine Overheats

Problem	Solution
Dirty radiator core, oil cooler, or grille screens.	Remove all trash and clean the coolers. See Service—Check section of this Operator's Manual.
Engine is overloaded.	Reduce the load or shift to a lower gear.
Low engine oil level.	Check the oil level and add oil as required. See Engine Oil section of this Operator's Manual.
Low coolant level.	Fill the de-aeration tank to the correct level. Check the radiator and hoses for loose connections or leaks.
Faulty radiator cap.	Replace the radiator cap.

Problem	Solution
Fan drive malfunction.	See your John Deere dealer.
Cooling system blockage.	Flush the cooling system. See Service—Clean section of this Operator's Manual. See your John Deere dealer.
Defective thermostat.	Replace the thermostat. See Service—Change section of this Operator's Manual.
Defective temperature gauge or sender.	See your John Deere dealer.
Loose or defective auxiliary drive belt slipping on coolant pump pulley (6.8 and 13.6 L engines only).	Check the auxiliary belt tension. Replace belt.

High Fuel Consumption

Problem	Solution
Clogged or dirty air cleaner.	Service the air cleaner. See Service—Check section of this Operator's Manual.
Engine is overloaded.	Reduce the load or shift to a lower gear.
Injection nozzles are dirty.	See your John Deere dealer.
Implement is incorrectly adjusted.	See implement Operator's Manual.
Excessive ballast.	Adjust the ballast to load. See Performance Ballasting section of this Operator's Manual.

KD34109,000093B-19-30MAY23

Hitch

Insufficient Transport Clearance

Problem	Solution
Center link is too short.	Adjust the center link.
Center link is in the wrong position.	Put the hitch center link in the correct hole. See Rear Hitch section of this Operator's Manual.
Lift links are too short.	Adjust the lift links.
Implement is not level.	Level the implement.
Implement is not adjusted correctly.	See implement Operator's Manual.
Upper Limit is not set correctly.	Adjust Upper Limit in the CommandCenter.
Suspension (if equipped) leveling does not function correctly or extends above level.	Refer to suspension information in this Operator's Manual.

Hitch Fails to Follow the Lever

Problem	Solution
Malfunction in the lever position sensor circuit or hitch position sensor.	See your John Deere dealer.

Poor Position Control

Problem	Solution
Hitch Load Depth is not set correctly.	Adjust Load Depth in the CommandCenter.
Malfunction in the lever position sensor circuit or hitch position sensor.	See your John Deere dealer.
Suspension (if equipped) leveling does not function correctly during large draft changes.	Refer to suspension information in this Operator's Manual.

Hitch Drops Slowly

Problem	Solution
Hitch Drop Rate is not set correctly.	Adjust Drop Rate in the CommandCenter. See Rear Hitch section of this Operator's Manual.

Hitch Fails to Lift or Lifts Slowly

Problem	Solution
Excessive load on the hitch.	Reduce load.
Center link is in the wrong position.	Put the hitch center link in the correct hole.
Hitch valve leaks.	See your John Deere dealer.
Hitch Upper Limit setting limits lift height.	Adjust Upper Limit in the CommandCenter.
Lack of lubrication.	Lubricate the hitch mechanisms. See Service—Lubricate section of this Operator's Manual.
Manual hitch drain is open.	See Hitch Manual Lowering in Rear Hitch section of this Operator's Manual. Ensure that the screw is not in the open position.
Cold hydraulic oil.	Allow the oil to heat up to the operating temperature.

Implement Not Operating at the Desired Depth

Problem	Solution
Lift links are too short.	Adjust the lift links.
Lack of soil penetration.	See implement Operator's Manual.
Draft sensor fails.	See your John Deere dealer.
Implement is not level.	See implement Operator's Manual.

Insufficient or No Hitch Response to Draft Load

Problem	Solution
Hitch Load Depth is not set correctly.	Adjust Load Depth in the CommandCenter.
Hitch Drop Rate is too slow.	Adjust Drop Rate in the CommandCenter.

Hitch Too Responsive

Problem	Solution
Hitch Load Depth is not set correctly.	Adjust Load Depth in the CommandCenter. See Rear Hitch section of this Operator's Manual.

Hitch Settles Too Fast after Tractor Is Parked and Engine Is Shut Off

Problem	Solution
Internal leakage.	See your John Deere dealer.
Manual hitch drain is open.	See Hitch Manual Lowering in Rear Hitch section of this Operator's Manual. Ensure that the screw is not in the open position.

Hitch Does Not Move (controls not working, including rear raise/lower switch)

Problem	Solution
Failed fuse.	Replace the fuse. See Load Center—Cab in Service—Electrical section of this Operator's Manual.
Hitch does not move with an intact fuse.	Check the CommandCenter for diagnostic trouble codes. See Troubleshooting—Diagnostic Trouble Codes section of this Operator's Manual.

External Raise/Lower Switch Does Not Move the Hitch

Problem	Solution
Failure of the raise/lower switch, connector, or wiring harness.	See your John Deere dealer.
Lever is in transport lock.	Move the lever out of transport. Unlock it in the CommandCenter.

Pickup Hitch Operates Incorrectly

Problem	Solution
Pickup hitch does not latch.	Adjust the pickup hitch. See Rear Hitch section of this Operator's Manual.

Excessive Implement Movement

Problem	Solution
Hitch sways too much.	Adjust the sway blocks to minimize hitch movement. See Rear Hitch section of this Operator's Manual.

KD34109,000093C-19-30MAY23

Hydraulic System

Entire Hydraulic System Fails to Function

Problem	Solution
Low oil supply.	Check the hydraulic oil level.
Clogged hydraulic filter.	Replace the oil filters. See Service—Change section of this Operator's Manual.
Clogged hydraulic oil suction screen.	Clean the screen. See Service—Clean section of this Operator's Manual.
Oil cooler air passages are clogged.	Clean the oil cooler.
High-pressure internal leak.	See your John Deere dealer.
Hydraulic pump driveline damaged or failed.	Check hydraulic pump driveline for damage.

Hydraulic Oil Overheats

Problem	Solution
Low or high oil supply.	Check the hydraulic oil level. See Service—Change section of this Operator's Manual.
Clogged oil cooler air passages.	Clean the oil cooler and condenser in the front cooling module.
Internal leaks.	See your John Deere dealer.
Implement hydraulic load is not matched to the tractor or not properly routed back into the tractor hydraulic system.	See Hydraulic Connections section of this Operator's Manual. See implement Operator's Manual. See your John Deere dealer.
Clogged oil screen.	Clean the filter screen. See Service—Change section of this Operator's Manual. See your John Deere dealer.

KD34109,000093D-19-30MAY23

Operator's Station

Excessive Dust Enters Cab

Problem	Solution
Defective seal around the cab filter element, door seal, or window seal.	Check the condition of the seals. Check that the filter installation is correct. See Service—Change Section of this Operator's Manual.
Defective cab filter.	Check the cab recirculation air filter and cab fresh air filter. See Service—Change Section of this Operator's Manual.
Inadequate blower air flow.	See Blower Air Flow Too Low later in Operator's Station Troubleshooting.

Blower Air Flow Too Low

Problem	Solution
Clogged filter or air intake screen.	Inspect the cab recirculation and cab fresh air filters and the screen for blockage. See Service—Change section of this Operator's Manual.
Clogged heater core or evaporator core.	Clean the heater core or evaporator core.
Frozen heater core.	Thaw the heater core. See your John Deere dealer.

Blower Malfunctioning

Problem	Solution
Blower does not work.	Check the CommandCenter for diagnostic trouble codes. See Troubleshooting—Diagnostic Trouble Codes section of this Operator's Manual. See your John Deere dealer.
Failed fuse.	Check the air conditioner fuses. See Load Center—Cab in Service—Electrical section of this Operator's Manual.
Failed relay.	Check the air conditioning relay. See Load Center—Cab in Service—Electrical section of this Operator's Manual.

Heater Does Not Switch Off

Problem	Solution
Heater hoses are connected incorrectly.	See your John Deere dealer.
Failed water valve actuator.	See your John Deere dealer.

Air Conditioner Not Cooling

Problem	Solution
Low refrigerant.	See your John Deere dealer.
Debris blocks the condenser.	Clean the condenser.
Belt slips.	Check the belt tension. See Service—Check section of this Operator's Manual.
CommandCenter air conditioning is set to OFF on the HVAC page.	Set the air conditioning to ON in the CommandCenter. See HVAC Settings in HVAC section of this Operator's Manual.
Clogged filter or air intake screen.	Inspect the cab recirculation and cab fresh air filters and the screen for blockage. See Service—Change section of this Operator's Manual.
Clogged heater core or evaporator core.	Clean the heater core or evaporator core.
Frozen heater core.	Thaw the heater core. See your John Deere dealer.

Seat Suspension Not Working

Problem	Solution
Failed fuse.	Check the seat fuses. See Load Center—Cab in Service—Electrical section of this Operator's Manual.

Radio Does Not Function

Problem	Solution
Failed fuse.	Check the radio fuses. See Load Center—Cab in Service—Electrical section of this Operator's Manual.
Radio cutting in and out.	Check the antenna and ground connection.

KD34109,000093F-19-30MAY23

Selective Control Valve (SCV)

Remote Cylinder Does Not Lift a Load

Problem	Solution
Flow blockage (worn hydraulic tips).	Cycle the SCV levers. Replace the hydraulic tips and check the connections.
Excessive load.	Reduce load.
SCV lever or joystick is not assigned to the expected SCV.	Change the SCV hose to the desired SCV. Reassign the SCV lever or joystick control to the desired SCV. See Selective Control Valves section of this Operator’s Manual.
Hoses are not installed correctly.	Install the hoses correctly and firmly into SCV.
Incorrect remote cylinder size.	Use the correct cylinder size. See Hydraulic Connections section of this Operator’s Manual.
SCV control lever lock is engaged.	Release the SCV control lever lock.
Incorrect or damaged hose tips.	Replace the hose tips.

Remote Cylinder Rate of Travel Too Fast or Too Slow

Problem	Solution
Incorrect flow rate.	Adjust the Flow setting.

Direction of Remote Cylinder Travel Is Reversed

Problem	Solution
Incorrect hose connections.	Reverse the hose connections.

Hoses Do Not Couple

Problem	Solution
Incorrect hose male connectors.	Replace the hose tips with ISO-5675 fittings.
Too much system pressure.	Release pressure from the implement or tractor.

Detent Does Not Hold or Releases Too Soon

Problem	Solution
Detent Time set incorrectly.	Set the correct detent Time.
SCV lever is not released to neutral soon enough.	Return the SCV lever to the center after being in the detent position for more than 0.8 seconds.

SCV Lever Does Not Release

Problem	Solution
SCV is unexpectedly in float mode.	Do not push the lever down when in the forward position.
Lever mechanism failed.	See your John Deere dealer.
Flow control or detent release setting incorrect.	Adjust the detent relief setting.

Implement Does Not Operate or Does Not Operate Correctly

Problem	Solution
Incorrect hose connections.	See implement Operator's Manual. See your John Deere dealer.

Feedback from Top SCVs or Hydraulic Pump

Problem	Solution
Hydraulic pump is making noise.	Make sure that continuous flow oil is not returning to a pressure-free port. See Hydraulic Connections section of this Operator’s Manual.

SCV Is Unresponsive

Problem	Solution
SCV is not operating correctly.	Check the CommandCenter for diagnostic trouble codes. See Troubleshooting—Diagnostic Trouble Codes section of this Operator’s Manual. Verify that transport lock is off.

KD34109,0000940-19-15JUN23

Steering System

Difficult or No Steering

Problem	Solution
Electrical or hydraulic malfunction.	Check the CommandCenter for diagnostic trouble codes. See Troubleshooting—Diagnostic Trouble Codes section of this Operator’s Manual. See your John Deere dealer.
Tractor is over-ballasted or the front axle is overloaded.	See Performance Ballasting section of this Operator’s Manual.

Tractor Turning Radius Larger than Desired or Tractor Difficult to Turn when Under Load

Problem	Solution
Implement causes side-loading greater than the steering system can overcome when attempting to turn.	Raise the implement. Slow down during a turn or execute a turn by doing a series of brief short turns. Add ballast. See Performance Ballasting section of this Operator’s Manual. Let the drawbar swing. See Drawbar section of this Operator’s Manual.
Electrical or hydraulic malfunction.	Check the CommandCenter for diagnostic trouble codes. See Troubleshooting—Diagnostic Trouble Codes section of this Operator’s Manual. See your John Deere dealer.
Differential lock preventing turning under load.	See Differential Lock in Drivetrain section of this Operator’s Manual.

Tractor Drifts or Pulls to One Side

Problem	Solution
Implement causing side load on the tractor.	Adjust the implement to eliminate any side draft. Widen the rear wheels out to the stops or add duals. See Rear Wheels and Tires section of this Operator's Manual. Add ballast. See Performance Ballasting section of this Operator's Manual. Let the drawbar swing. See Drawbar section of this Operator's Manual.

Tractor Turning Radius Larger than Desired with No Load

Problem	Solution
Electrical or hydraulic malfunction.	Check the CommandCenter for diagnostic trouble codes. See Troubleshooting—Diagnostic Trouble Codes section of this Operator's Manual. See your John Deere dealer.
Attempting to turn while stopped (loose soil, heavy ballast); steering load exceeds the system capacity.	Maintain forward or reverse motion while turning. Increase vehicle speed and/or hold the steering wheel against the stop for a couple of seconds to allow greater steering force. Check the steering stops. See Steering Stop, Fender, and Tread Settings section of this Operator's Manual.

Tractor Turning Radius Larger than Desired with the Tractor in High Gear or with Low Engine Speed

Problem	Solution
Minimum turn radius is greater in high gears and at a higher speed.	Utilize the turn brakes for a narrower turning radius (not applicable to 8RT and 9 Series Tractors). Shift down before the turn. See the appropriate transmission section of this Operator's Manual. Reduce vehicle speed before a turn to reduce oversteering.
Maximum steering pump oil flow is less at a lower engine speed, reducing the power available to make the turn.	Increase engine speed before a turn.

KD34109,0000941-19-30MAY23

Tractor Operation

Tractor Bounces or Jumps

Problem	Solution
Power hop or wheel hop.	See Performance Ballasting section of this Operator's Manual.
Loose wheel hardware.	Tighten the hardware to the correct specification. See Service—Tighten section of this Operator's Manual.
Wheel slip.	Check the CommandCenter for the wheel slip percentage.
ILS malfunction (8R wheel tractors only).	Refer to ILS in this Operator's Manual section.

KD34109,0000942-19-30MAY23

Transmission

Hydraulic Oil Leak between Transmission and Engine

Problem	Solution
Clogged transmission vent screen.	Clean the vent screen. See the appropriate Transmission section of this Operator's Manual. See your John Deere dealer.

Transmission Shifts Slowly and Tractor Steers Hard

Problem	Solution
Cold oil.	See Transmission—General Information section of this Operator's Manual.

Transmission Slips, Shifts Roughly or Abruptly after Oil Change

Problem	Solution
Recalibrate the transmission.	See your John Deere dealer.

Transmission Starts Out Too Quickly or Slowly

Problem	Solution
No identifiable problem.	Change the start-up gear through CommandCenter settings (16-speed PST and e23 only). See the appropriate Transmission section of this Operator's Manual. Adjust the CommandPRO settings. See CommandPRO Joystick—Acceleration/Deceleration Response in IVT-AutoPowr Transmission with CommandPRO Joystick section of this Operator's Manual.

AutoClutch Engages Too Quickly or Too Slowly when Pressing Brake Pedals

Problem	Solution
No identifiable problem.	Verify that the brake pedals are latched together. Adjust the AutoClutch sensitivity settings. See Transmission—General Information section of this Operator's Manual.

Tractor Will Not Achieve Maximum Speed

Problem	Solution
Brake pedals unlocked.	Ensure that the brake pedals are latched together. See Brakes section of this Operator's Manual (not applicable to 8RT and 9 Series Tractors).

Incorrect Wheel Speed Displayed

Problem	Solution
Incorrect tire size calibration or wheel slip value.	Complete the radar and wheel slip calibrations. See CommmandCenter section of this Operator's Manual.

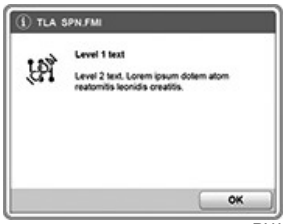
KD34109,0000943-19-15JUN23

STOP, Service, and Information Alerts on CommandCenter

CommandCenter alert overlays display control unit, diagnostic trouble code (DTC), system, and solution. If condition is out of range, the control unit followed by an industry standard number displays. Numbers to the left of the decimal indicate the system and numbers to the right of decimal indicate the condition.

Some alert indicators can be acknowledged by pressing OK. If condition still exists, diagnostic trouble code may reappear later. Follow solution on CommandCenter. If situation cannot be corrected, contact your John Deere dealer. For more information on DTCs, refer to Diagnostics Center. For access information, see Access Diagnostic Trouble Codes in this Operator's Manual section.

IMPORTANT: Engine will shut down automatically if STOP signal is received when operator is out of the seat for longer than 3 seconds and the transmission control is in PARK. CommandCenter display can be reset by cycling key switch.



RXA0167778—UN—06MAY19

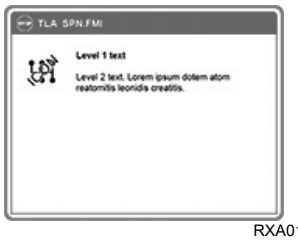
Information Alert Overlay

Information Alert — in some situations, information (INFO) indicator light comes on continuously and alarm pattern sounds for 2 seconds, indicating a fault condition. Tractor operations can continue without damage but performance of some functions may be degraded. Operating in a different manner may correct and clear an out-of-range condition.

RXA0167779—UN—06MAY19

Service Alert Overlay

Service Alert — light flashes and an alarm pattern sounds five times. A performance or operational problem has been detected and must be resolved as soon as possible. Continued operations can cause a service alert to escalate into a STOP alert. If appropriate corrective action is not taken soon (service, repair, operate in a different manner), a significant reduction in performance and/or damage to machine will occur.



RXA0167780—UN—06MAY19

STOP Alert Overlay

STOP Alert — light flashes and an alarm pattern sounds continuously. A serious malfunction requiring immediate attention has occurred. If situation allows, stop operations immediately, reduce engine speed to idle, and shut down engine. Turn key to run position to observe CommandCenter display for problem identification and solution. It may be necessary to access the stored codes. See Access Diagnostic Trouble Codes in this Operator's Manual section. Correct problem before restarting. If ignored, damage to machine will occur.

TS36762,0000281-19-21JUN22

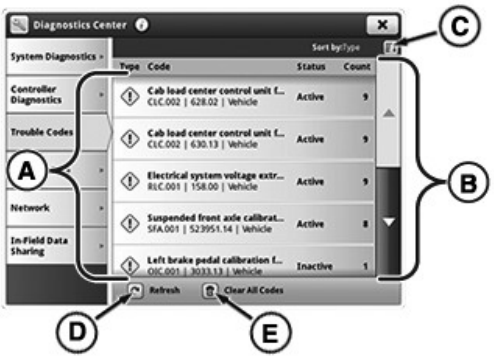
Access Diagnostic Trouble Codes

NOTE: If problem is not resolved after cycling power to tractor or following solution on CommandCenter page, see your John Deere dealer.

Not all active DTCs are displayed. Follow steps to retrieve stored DTCs.

RXA0133360—UN—26JUL13

1. Select Menu.
2. Select System tab.
3. Select Diagnostics Center icon.
4. Select Trouble Codes tab.



RXA0166979—UN—14MAR19

5. Select desired diagnostic trouble code from list (A). Use arrow keys (B) to access additional diagnostic trouble codes in the list.

Additional Features on Trouble Codes Page

Sort by: (C) — select to sort list by Code, Controller, Count, Status, or Type.

Refresh (D) — select to display the most up-to-date list of codes and counts. Page automatically refreshes upon entry.

Clear All Codes (E) — select to clear inactive DTCs and reset counts to zero. A message displays to verify action since it cannot be undone.

TS36762,0000283-19-21JUN22

Place Tractor in Storage

IMPORTANT: If tractor will not be used for more than three months, the following recommendations for storage and removal from storage will minimize corrosion and deterioration.

NOTE: Whenever possible store tractor in a building or under a roof to avoid damage resulting from prolonged exposure to the elements.

1. Lower hitch.
2. Change engine oil and replace filter (if required).

NOTE: Do not add BioDiesel fuel if placing tractor in storage.

3. Drain fuel tank and add back approximately 19 L (5 gal) of fuel.

IMPORTANT: Final Tier 4/Stage V Engines Only: To determine tractor engine type, see Engine Serial Number in Identification Numbers section of this Operator's Manual. Long-term storage of Diesel Exhaust Fluid (DEF) in vehicle (over six months) is not recommended. If long-term storage is necessary, periodic testing of DEF is recommended to ensure that urea concentration does not fall out of specification.

4. Final Tier 4 and Stage V tractors: Diesel Exhaust Fluid (DEF) has a limited shelf life, but may be stored in vehicle for as long as six months, depending upon storage conditions, see Storing DEF in Diesel Exhaust Fluid (DEF) section of this Operator's Manual. If draining DEF tank is necessary, see Draining DEF Tank in Fuel, Lubricants, and Coolant section of this Operator's Manual for proper procedure.
5. Using plastic bags and either tape or tie-bands, seal air inlets and exhaust, crankcase vent tube, radiator overflow hose, and transmission-hydraulic system fill cap.

IMPORTANT: Prevent damage to the tractor emissions system. Never disconnect the battery disconnect switch while the battery disconnect switch light is illuminated or blinking. See Battery Disconnect Switch in Engine Operation section of this Operator's Manual.

IMPORTANT: Prevent damage to electrical components. Avoid storing tractor equipped with EVT/eAutoPowr in temperatures below -40° C (-40°F).

6. Turn off the battery disconnect switch.
7. Disconnect batteries. See Service Batteries and Connections in Service—Electrical section of this Operator's Manual.
8. Remove and store batteries in a cool, dry location. Keep batteries charged.[1]
9. Coat all exposed (machined) metal surfaces such as lift cylinders and steering cylinder rods with light coat of grease.
10. Lubricate all grease fittings.

If tractor must be stored outside, follow these additional precautions:

1. Cover instrument panel, control levers, and seat with sheets of material or cardboard to protect against sun rays.
2. Thoroughly clean the tractor exterior. See Tractor Exterior in the Service—Clean section of this Operator's Manual.
3. Wax or cover entire tractor with waterproof material.
4. Raise tires or tracks off the ground and/or cover them to protect from heat and sunlight.

TS36762,0000284-19-17AUG22

Remove Tractor from Storage

1. Remove all coverings placed in or on tractor while preparing for storage.

IMPORTANT: To avoid engine damage, unseal crankcase vent tube.

2. Unseal all openings sealed during storage.
3. Remove any accumulated trash or debris, especially around engine and inside engine compartment.

IMPORTANT: If air conditioning compressor is locked up, engine operation with compressor clutch engaged may damage drive belt or compressor.

4. Rotate air conditioner compressor pulley several turns. If pulley does not turn freely, compressor components may be seized, see your John Deere dealer.
5. Check auxiliary drive belt for cracking and, if serviceable, install auxiliary drive belt on air conditioning compressor pulley.
6. Check under and around tractor for any evidence of fluid leaks.

[1] *Disconnect battery ground cable for short-term storage periods (20 to 90 days).*

IMPORTANT: If transmission-hydraulic oil level was correct at time of storage, and there is no evidence of hydraulic oil leaks, there should be no concern starting tractor even if transmission-hydraulic oil sight glass level is low. Over a period of storage, hydraulic oil may drain into transmission, causing sight glass to read low even when adequate amount of oil is available. If there are indications of oil leaks, do not start tractor until the source has been determined and repairs made. If there are no leakage indications, but there is any doubt about oil level at time of storage, check hydraulic oil level as soon as possible after starting tractor.

7. Check transmission-hydraulic oil level. Add oil as required.
8. Check all other fluid levels. Fill as required.
9. Fill fuel tank.

IMPORTANT: To confirm which engine your tractor is equipped with, see Engine Serial Number in Identification Numbers section of this Operator's Manual.

10. (Final Tier 4 and Stage V engines) If Diesel Exhaust Fluid (DEF) tank has not been drained, test urea concentration, see Testing Diesel Exhaust Fluid (DEF) in Diesel Exhaust Fluid (DEF) section of this Operator's Manual. If concentration is not within specifications, drain and replace with new or good DEF. If DEF tank has been drained, fill tank, see Refilling Diesel Exhaust Fluid (DEF) Tank in Diesel Exhaust Fluid (DEF) section of this Operator's Manual for appropriate procedures.
11. Inspect tires or tacks. To check:
    - Tires: Inspect tires and check inflation pressures. See Front or Rear Wheels and Tires sections of this Operator's Manual.
    - Tracks: Inspect tracks for wear or damage. See Track Wear in the Service—Check section of this Operator's Manual.
12. Perform all Daily or 10 Hour services and any other scheduled services as required, see 10 Hour or Daily Service in Service—Record Charts section of this Operator's Manual.
13. Install batteries and connect cables.
14. Turn battery disconnect switch on.
15. Turn key switch to RUN position for one minute to allow fuel system to prime.

NOTE: While operating engine at low idle, visually check all instruments and indicators to ensure they function properly.

16. Start and operate engine at low idle for several minutes.
17. Check tractor functions and systems, including air conditioning.
18. Warm up tractor before putting tractor under load.

RX32825,00000FE-19-06JAN22

Specifications

Engine

	7R							
	210	**230**	**250**	**270**	**290**	**310**	**330**	**350**
POWER								
Rated Engine Power PS[a](hp ISO) at 2100 Engine rpm (ECE-R120)[b]	210 hp (154 kW)	230 hp (169 kW)	250 hp (184 kW)	270 hp (199 kW)	290 hp (213 kW)	310 hp (228 kW)	330 hp (243 kW)	350 hp (257 kW)
Rated Engine Power PS[a](hp ISO) at 2100 Engine rpm (ECE-R24)	202 hp (148 kW)	221 hp (162 kW)	240 hp (177 kW)	259 hp (191 kW)	278 hp (205 kW)	298 hp (219 kW)	317 hp (233 kW)	336 hp (247 kW)
Rated PTO Power (hp SAE) at Rated Engine Speed (2100 erpm)[c]	170 hp (126 kW)	189 hp (140 kW)	205 hp (152 kW)	224 hp (167 kW)	242 hp (180 kW)	260 hp (193 kW)	260 hp (193 kW)	260 hp (193 kW)
Constant Power Range (rpm)	1500—2100							1600—2100
ENGINE								
Manufacturer	John Deere PowerTech 6.8 L Diesel Engine				John Deere PowerTech 9.0 L Diesel Engine			
Aspiration	Single Turbo-charger, Variable Geometry Turbo	Dual Turbochargers, Variable Geometry Turbo with Fixed Geometry Turbo in Series			Single Turbocharger, Variable Geometry Turbo			
Intelligent Power Management (IPM)	30 PS (hp ISO)							25 PS (hp ISO)
Rated Speed (rpm)	2100							
Type	Diesel, In-Line, 6-Cylinder, Wet-Sleeve Cylinder Liners with 4 Valves-In-Head							
Filter, Engine Air	Dual Stage							
Displacement	6.8 L (415 in^3)				9.0 L (549 in^3)			
Bore and Stroke	106 x 127 mm (4.19 x 5.0 in)				118.4 x 136 mm (4.66 x 5.35 in)			
Compression Ratio	17.2:1	16.7:1			16.0:1			
Lubrication	Full-Pressure, Full-Flow Filtration with Bypass							
Filter, Oil	Replaceable Cartridge-Style Oil Filter							
FUEL SYSTEM								
Type	Electronically Controlled, High-Pressure Common Rail with Electric Fuel Transfer Pump (self-priming)							
Filter System	Two-Stage with Water Separator and Service Indicator Light							
Filter, Primary	10 Micron Replaceable Cartridge with Water Indication Sensor and Drain							
Filter, Secondary	2 Micron Spin-On Element							
Required Fuel Type	Ultra Low Sulfur Diesel (B20 diesel compatible)							

[a]German term for horse power in which one PS is equivalent to .9863 horse power.
[b]Equivalent to the internal John Deere standard RES10080 and SAE standard J1995.
[c]PTO power for IVT/AutoPowr models. Does not include optional equipment losses.

KT81203,0000576-19-14FEB23

Capacities

	7R							
	210	**230**	**250**	**270**	**290**	**310**	**330**	**350**
Fuel Tank:								
e23 Transmission	463 L (122 gal)							—
IVT/AutoPowr Transmission	513 L (135 gal)							
DEF Tank	26.2 L (6.9 gal)							
Cooling System	39.5 L (41.75 qt)				44.5 L (47 qt)			
Crankcase (including filter)	26 L (27.4 qt)				23 L (24.3 qt)			
Transmission-Hydraulic System[a]:								
PST	160 L (42.3 gal)							—
IVT/AutoPowr	160 L (42.3 gal)							

	7R							
	210	**230**	**250**	**270**	**290**	**310**	**330**	**350**
Front PTO Oil	4.0 L (4.25 qt)							
TLS Plus Axle:								
With Differential Lock	10.8 L (2.8 gal)							
With Limited Slip:	14.4 L (3.8 gal)							—
1300 MFWD Axle	—	14.4 L (3.8 gal)						—
Wheel Hub (each):								
Without Brakes	3.8 L (4.0 qt)							—
With Brakes	4.4 L (4.6 qt)							

[a]*Volume may vary depending on additional SCVs and tractor options.*

KT81203,0000577-19-24MAY23

Hydraulic System

	7R							
	210	**230**	**250**	**270**	**290**	**310**	**330**	**350**
Type	Closed-Center, Pressure/Flow Compensated							
Selective Control Valves	Standard—4; Optional—5, 6							
Main Pump Displacement	Standard—63 cc; Optional—85 cc							
Maximum Pressure	20400 ± 300 kPa (2958 ± 43.5 psi)							
Rated Flow:								
63 cc Pump	Standard—162 L/min (43 gal/min)							
85 cc Pump	Optional—223 L/min (59 gal/min)							
Available Flow:								
At Single Rear SCV	132 L/min (35 gal/min)							
At Single Front SCV	126 L/min (33 gal/min)							
Take Out Oil Capacity	Standard—65 L (17.2 gal); Optional—85 L (22.5 gal)[a]							

[a]*With auxiliary reservoir.*

KT81203,0000578-19-14FEB23

Transmission and Drivetrain

	7R							
	210	**230**	**250**	**270**	**290**	**310**	**330**	**350**
TRANSMISSION								
e23 (23F/12R):								
40 km/h (24.8 mph)[a]	Standard							—
50 km/h (31.0 mph)[a]	Optional							—
IVT/AutoPowr:								
0.050—40 km/h (0.030—26 mph)[b]	Optional					Standard		
0.050—50 km/h (0.030—31 mph)[b]	Optional							
REAR AXLES								
Final Drives	Inboard Planetary Three-Pinion							
Rack and Pinion—110 mm (4.33 in) Diameter:								
Length: 2550 mm (100.4 in)	Optional							—
Length: 2808 mm (110.5 in)	Optional							—
Length: 3010 mm (118.5 in)	Optional							—
Rack and Pinion—120 mm (4.72 in) Diameter:								
Length: 2550 mm (100.4 in)	Optional							
Length: 3010 mm (118.5 in)	Optional							
Differential Lock	Full-Locking Electrohydraulic							

	7R							
	210	230	250	270	290	310	330	350
Rear Wheel Equipment	Group 47/48/49[c]					Group 48/49[c]		
FRONT AXLES								
1300 MFWD with 1524—2235 mm (60—88 in) Tread Range	Optional							—
1300 TLS:								
With 1524—2235 mm (60—88 in) Tread Range	Standard							—
With Front Brakes (40 km/h)	Optional							—
With Front Brakes (50 km/h)	Standard							
Differential Lock:								
1300 MFWD	Limited Slip							—
1300 TLS	Limited Slip							—
1300 TLS with Front Brakes	Full-Locking Electrohydraulic (actuated at the same time as rear differential lock)							
STEERING								
Tilt-Telescope Steering with Memory Function:								
Hydraulic Power Steering with Electronic Backup Pump	Standard—Load-Sensing, Hydraulic with Flow-Metering							
ActiveCommand Steering 2 (ACS 2) with Electronic Backup Pump	Optional—Variable Ratio Steering							
BRAKES	Hydraulically Operated Wet-Disk							

[a]*For ground speed data, see Ground Speeds—e23 Transmission in this Operator's Manual section.*
[b]*For ground speed data, see Ground Speeds—IVT/AutoPowr Transmission in this Operator's Manual section.*
[c]*Tires available as singles/duals.*

KT81203,000057A-19-29JUN23

Hitch, Drawbar, and PTO

	7R							
	210	230	250	270	290	310	330	350
HITCH								
Front 3-Point Hitch—Category 3N with Hook Ends:								
3150 kg (6994 lb) Lift Capacity[ab]	Optional							
3488 kg (7690 lb) Lift Capacity[cb]	Optional							
Rear 3-Point Hitch—Category 3/3N with Quick Coupler (electrohydraulic sensing):								
6894 kg (15200 lb) Lift Capacity	Standard							
7847 kg (17300 lb) Lift Capacity[d]	Optional							
Rear 3-Point Hitch—Category 3/3N with Hook Ends (electrohydraulic sensing):								
6894 kg (15200 lb) Lift Capacity	Optional							
7847 kg (17300 lb) Lift Capacity[d]	Optional							
DRAWBAR								
For Drawbar Load Limitations, see Drawbar Load Limitations in the Drawbar section of this Operator's Manual.								
3-in-1 Hitch Rails	Optional—Category 3 Standard or Category 4 Standard Drawbar, Trailer Hitch Coupling (manual or automatic), K80 Ball Coupling, Piton Coupling[e]							
PTO								
Front:								
1 3/8-Inch, 21-Spline, 1000 rpm[f]	Optional							
1 3/4-Inch, 20-Spline, 1000 rpm[f]	Optional (through parts)							
PTO Speed @ Engine rpm (1:2 ratio)	1000 PTO rpm @ 1940 erpm							
PTO Power (SAE hp)	130 kW (175 hp) Maximum Output							

	7R							
	210	230	250	270	290	310	330	350
Rear—Independent:								
1 3/4-Inch, 20-Spline, 1000 rpm	Standard							
1 3/4-Inch, 20-Spline, 1000 rpm; Capable of 1 3/8-Inch, 540/1000 rpm	Optional							
1 3/4-Inch, 20-Spline, 1000 rpm; Capable of 1 3/8-Inch, 540E/1000/1000E rpm	Optional							
1 3/4-Inch, 20-Spline, 1000 rpm; Capable of 1 3/8-Inch, 540/540E/1000 rpm	Optional							
PTO Speed @ Engine rpm	540/1000 PTO rpm @ 1950 erpm; 540E/1000E PTO rpm @ 1750 erpm							

[a]Lift capacity per OECD measured 24 inch (610 mm) behind the hook point.
[b]Ground-engaging requires premium front hitch.
[c]Lift capacity per OECD measured 0 inch (0 mm) behind the hook point.
[d]Requires 120 mm diameter axle.
[e]Canada only.
[f]Counterclockwise rotation when facing front PTO.

KT81203,000057B-19-14FEB23

Electrical System

Type	Two Batteries in Parallel
Alternator/Battery	Standard—210A/12V; Optional—250A/12V
Total Cold Cranking Amps	1850 (2-925 CCA group 31 batteries)

KD34109,0001A87-19-14FEB23

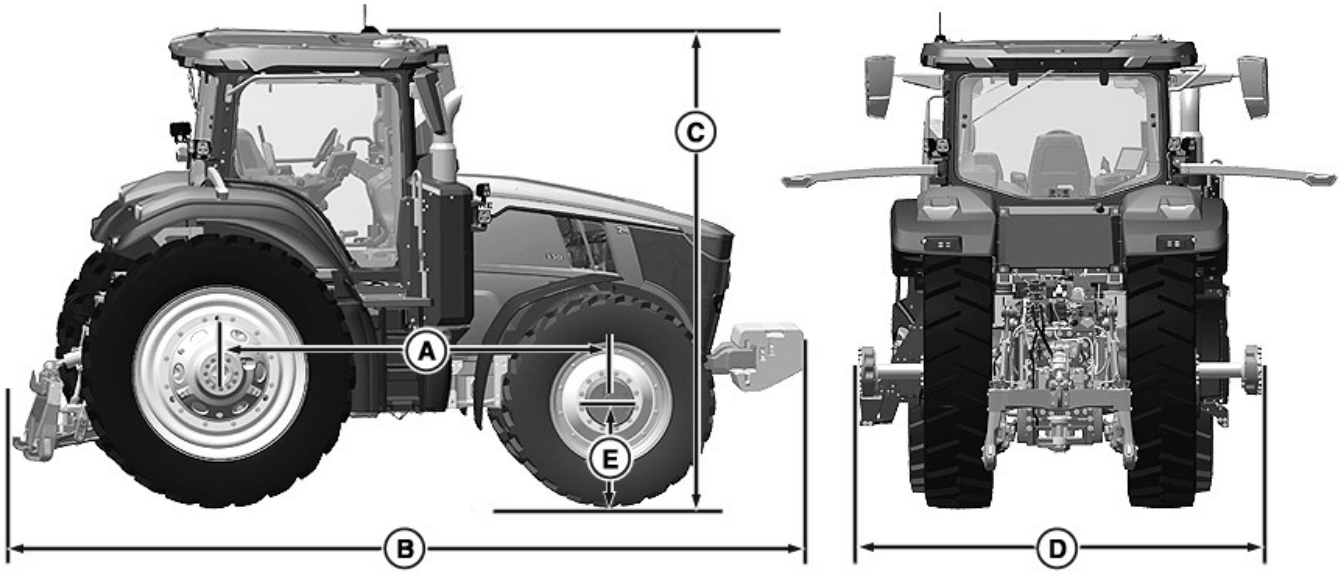
Integrated Technology

Integrated AutoTrac	Standard
AutoTrac Low Speed Performance[a]	0.25 km/h (0.16 mph)
Connectivity Hardware	Includes Integrated Cab Wiring Harness, Antenna, JDLink Modem (MTG), and Ethernet Harnesses[b]
Connectivity[c]	JDLink Connectivity can be Enabled in John Deere Operations Center
G5 CommandCenter:	
G5 CommandCenter 257 mm (10.1 in) display with G5 processor	Availability Dependent Upon Destination
G5[Plus] CommandCenter 325 mm (12.8 in) display with G5 processor	Availability Dependent Upon Destination

[a]IVT/AutoPowr transmission only.
[b]Ethernet harnesses may vary per configuration.
[c]Connectivity service is subject to country availability.

KD34109,0001A8B-19-26JUN23

Overall Dimensions



RXA0184404—UN—01JUL21

	7R							
	210	230	250	270	290	310	330	350
WHEELBASE (A)								
MFWD/TLS Axles	2925 mm (115.2 in)							
LENGTH (B)								
Including Rear Hitch and Front Weight Support without Front Weights	5540 mm (218 in)							
Including Hitch, Drawbar, and Front Weight Support without Front Weights	5540 mm (218 in)							
Including Hitch, Drawbar, and Front Weight Support with Front Weights	5905 mm (232.5 in)							
HEIGHT[a] (C)								
Group 47 Rear Tires	3255 mm (128 in)					—		
Group 48 Rear Tires	3367 mm (132.5 in)							
Group 49 Rear Tires	3456 mm (136 in)							
WIDTH (D)								
2550 mm (100.4 in) Axle Length	2550 mm (100.4 in)							
2808 mm (110.5 in) Axle Length	2808 mm (110.5 in)							
3012 mm (118.5 in) Axle Length	3012 mm (118.5 in)							
AXLE CLEARANCE (E)								
1300 MFWD/TLS with Group 43 420/85R34 Tires	495 mm (19.5 in)							
TURNING RADIUS								
1300 MFWD with Group 43 420/85R34 Tires at 1524 mm (60 in) Spacing	8.3 m (27.2 ft)							
1300 MFWD with Group 43 420/85R34 Tires at 1727 mm (68 in) Spacing	6.6 m (21.6 ft)							
1300 MFWD with Group 43 420/85R34 Tires at 1930 mm (76 in) Spacing	6.3 m (20.6 ft)							

	7R							
	210	230	250	270	290	310	330	350
1300 MFWD with Group 43 420/85R34 Tires at 2134 mm (84 in) Spacing	6.0 m (19.7 ft)							

[a]*Ground to top of the cab.*

KT81203,000057E-19-14FEB23

Tractor Loads/Weights

	7R							
	210	230	250	270	290	310	330	350
AVERAGE BASE WEIGHT								
Tractor Equipped with IVT/AutoPowr, 85 cc Pump, 4 SCVs, PTO, Category 4 Drawbar, 600/70R30 Front Tires, 710/70R42 Rear Tires, TLS, and Front Hitch	11700 kg (25700 lb)							
Tractor Equipped with IVT/AutoPowr, 85 cc Pump, 6 SCVs, PTO, Category 4 Drawbar, 480/70R34 Front Tires, 480/80R50 Rear Tires, and TLS	11000 kg (24300 lb)							
Tractor Equipped with e23, 63 cc Pump, 4 SCVs, PTO, Category 3 Drawbar, 18.4R46 Rear Tires, 420/90R30 Front Tires, and TLS	10000 kg (22200 lb)							—
MAXIMUM BALLAST LEVEL[a]	145 lb/SAE PTO hp					135 lb/SAE PTO hp		

[a]*For specific ballast instructions, see Performance Ballasting Section of this Operator's Manual.*

EC82310,0000DD6-19-14FEB23

Ground Speeds—e23 Transmission

Forward Speeds

Gear	Tire Group					
	47[a]		48		49	
	Maximum Ground Speed km/h (mph)					
	40 (25)	50 (31)	40 (25)	50 (31)	40 (25)	50 (31)
	Ground Speeds[b] km/h (mph)					
1	2.3 (1.4)		2.4 (1.5)		2.6 (1.6)	
2	2.7 (1.7)		2.8 (1.7)		2.9 (1.8)	
3	3.1 (1.9)		3.2 (2.0)		3.4 (2.1)	
4	3.5 (2.2)		3.7 (2.3)		3.9 (2.4)	
5	4.1 (2.5)		4.3 (2.7)		4.5 (2.8)	
6	4.7 (2.9)		5.0 (3.1)		5.2 (3.2)	
7	5.4 (3.3)		5.7 (3.5)		6.0 (3.7)	
8	6.2 (3.8)		6.5 (4.0)		6.8 (4.3)	
9	7.1 (4.4)		7.5 (4.7)		7.9 (4.9)	
10	8.2 (5.1)		8.7 (5.4)		9.1 (5.7)	
11	9.5 (5.9)		10.0 (6.2)		10.5 (6.6)	
12	10.9 (6.8)		11.5 (7.2)		12.1 (7.5)	
13	12.6 (7.8)		13.3 (8.3)		14.0 (8.7)	
14	14.4 (9.0)		15.2 (9.5)		16.0 (10.0)	
15	16.7 (10.4)		17.6 (10.9)		18.5 (11.5)	
16	19.4 (12.0)		20.4 (12.7)		21.5 (13.4)	
17	22.4 (13.9)		23.6 (14.6)		24.8 (15.4)	
18	25.8 (16.1)		27.2 (16.9)		28.7 (17.8)	
19	29.8 (18.5)		31.4 (19.5)		33.1 (20.6)	
20	34.3 (21.3)		36.2 (22.5)		38.1 (23.7)	
21	39.7 (24.6)		40.0 (25.0)[c]	41.8 (26.0)	40.0 (25.0)[c]	44.0 (27.4)
22	40.0 (25.0)[c]	45.4 (28.2)	40.0 (25.0)[c]	47.8 (29.7)	40.0 (25.0)[c]	50.0 (31.0)[c]
23	40.0 (25.0) @ 1605 erpm[c]	50.0 (31.0) @ 2005 erpm[c]	40.0 (25.0) @ 1520 erpm[c]	50.0 (31.0) @ 1900 erpm[c]	40.0 (25.0) @ 1445 erpm[c]	50.0 (31.0) @ 1805 erpm[c]

[a]*Group 47 tires not available on 7R: 310, 330, and 350*
[b]*Ground speeds are at a rated engine speed of 2100 erpm (unless otherwise noted).*
[c]*Engine speed is electronically limited.*

Reverse Speeds

Gear	Tire Group		
	47[a]	48	49
	Ground Speeds[b] km/h (mph)		
R1	2.2 (1.3)	2.3 (1.4)	2.4 (1.5)
R2	2.9 (1.8)	3.0 (1.9)	3.2 (2.0)
R3	3.8 (2.4)	4.0 (2.5)	4.2 (2.6)
R4	5.0 (3.1)	5.3 (3.3)	5.6 (3.5)
R5	5.8 (3.6)	6.1 (3.8)	6.4 (4.0)
R6	7.7 (4.8)	8.1 (5.0)	8.5 (5.3)
R7	10.2 (6.3)	10.8 (6.7)	11.3 (7.0)
R8	13.5 (8.4)	14.2 (8.8)	15.0 (9.3)
R9	18.1 (11.3)	19.1 (11.9)	20.1 (12.5)
R10	24.2 (15.0)	25.5 (15.8)	26.8 (16.7)
R11	30.0 (18.6)[c]	30.0 (18.6)[c]	30.0 (18.6)[c]
R12	30.0 (18.6)[c]	30.0 (18.6)[c]	30.0 (18.6)[c]

[a]Group 47 tires not available on 7R: 310, 330, and 350
[b]Ground speeds are at a rated engine speed of 2100 erpm (unless otherwise noted).
[c]Engine speed is electronically limited.

KD34109,0000938-19-14FEB23

Ground Speeds—IVT/AutoPowr Transmission

Ground speed is infinitely variable from 20 km/h (12 mph) in reverse to 50 km/h (31 mph) in forward. Minimum ground speed is 0.05 km/h (0.03 mph).

NOTE: Actual erpm can vary from the listed erpm.

Tire sizes used are group nominal. Actual tires sizes can vary up to 2%.

Maximum Ground Speed km/h (mph)	Tire Group		
	47[a]	48	49
	Minimum Engine Speed (erpm)		
40 (25)[b]	1436	1363	1293
50 (31)[b]	1795	1664	1616

[a]Group 47 tires not available on 7R: 310, 330, and 350.
[b]If equipped.

The chart lists the minimum engine rpm required to maintain the maximum ground speed. The transmission ratios up to give the maximum ground speed until the engine speed drops below the erpm listed.

Example

Given these conditions:

- Group 48 tires installed.
- Throttle set to full.
- Tractor traveling at a ground speed of 40 km/h (25 mph).

If a load pulls the engine to 1363 erpm or greater, and if the transmission is set to:

- Auto mode, the ground speed remains 40 km/h (25 mph). If the load pulls the engine to less than 1363 erpm, the ground speed decreases.
- Manual mode, the ground speed would also be 50 km/h (31 mph). The transmission will ratio back to give a top speed of 50 km/h (31 mph).

KD34109,0000939-19-14FEB23

Limited Battery Warranty

NOTE: Applicable in North America only. For complete machine warranty, reference a copy of the John Deere warranty statement. Contact your John Deere dealer to obtain a copy.

To Secure Warranty Service

The purchaser must request warranty service from a John Deere dealer authorized to sell John Deere batteries, and present the battery to the dealer with the top cover plate codes intact.

Replacement

Any new battery which becomes unserviceable (not merely discharged) due to defects in material or workmanship will be eligible for warranty consideration.

This Warranty Does Not Cover

Breakage of the container, cover, or terminals.

Depreciation or damage caused by lack of reasonable and necessary maintenance or by improper maintenance.

Transportation, mailing, or service call charges for warranty service.

Limitation of Implied Warranties and Purchaser's Remedies

To the extent permitted by law, neither John Deere nor any company affiliated with it makes any warranties, representations or promises as to the quality, performance or freedom from defect of the products covered by this warranty. IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, TO THE EXTENT APPLICABLE, SHALL BE LIMITED IN DURATION TO THE APPLICABLE ADJUSTMENT PERIOD SET FORTH HERE. THE PURCHASER'S ONLY REMEDIES IN CONNECTION WITH THE BREACH OR PERFORMANCE OF ANY WARRANTY ON JOHN DEERE BATTERIES ARE THOSE SET FORTH HERE. IN NO EVENT WILL THE DEALER, JOHN DEERE OR

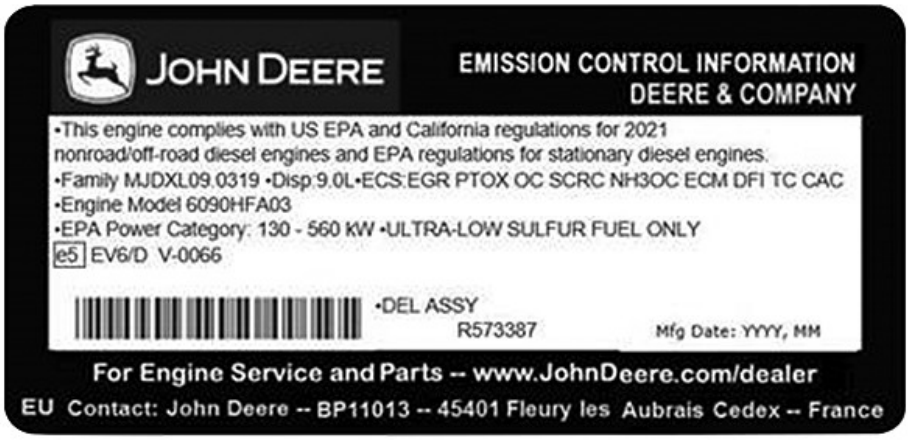
ANY COMPANY AFFILIATED WITH JOHN DEERE BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. (Note: Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages. So these limitations and exclusions may not apply to you.) This warranty gives you specific legal rights, and you may also have some rights which vary from state to state.

No Dealer Warranty

The selling dealer makes no warranty of it's own and the dealer has no authority to make any representation or promise on behalf of John Deere, or to modify the terms or limitations of this warranty in any way.

DX,BATWAR,NA-19-06AUG21

Emissions Control System Certification Label



RG33429—UN—04FEB21

Engine Emissions Label

⚠ CAUTION: Statutes providing severe penalties for tampering with emissions controls may apply to the user or dealer.

The emissions warranty applies to those engines marketed by John Deere that have been certified by the United States Environmental Protection Agency (EPA) and/or California Air Resources Board (CARB); and used in the United States and Canada in Non-road equipment. The presence of an emissions label like the one shown signifies that the engine has been certified with the EPA and/or CARB. The EPA and CARB warranties only apply to new engines having the certification label affixed to the engine and sold as stated above in the geographic areas. The presence of an EU number signifies that the engine has been certified with the European Union countries per Regulation (EU) 2016/1628 and supplementing legislation. The EPA and/or CARB emissions warranties do not apply to the EU countries.

The emissions label has applicable US EPA and/or CARB regulatory year. The regulatory year determines which warranty statement is applicable to engine. See "EPA Non-road Emissions Control Warranty Statement—Compression Ignition" and "CARB Non-road Emissions Control Warranty Statement—Compression Ignition". For additional regulatory year warranty statements, see www.JohnDeere.com or contact the nearest John Deere service dealer for assistance.

Emission Control System(s) Laws

The U.S. EPA and California ARB prohibit the removal or rendering inoperative of any device or element of design installed on or in engines/equipment in compliance with applicable emission regulations prior to or after the sale and delivery of the engines/equipment to the ultimate purchaser.

DX,EMISSIONS,LABEL-19-05FEB21

EPA Non-road Emissions Control Warranty Statement—Compression Ignition

DXLOGOV1—UN—28APR09

U.S. AND CANADA EMISSION CONTROL WARRANTY STATEMENT
YOUR WARRANTY RIGHTS AND OBLIGATIONS

To determine if the John Deere engine qualifies for the additional warranties set forth below, look for the "Emissions Control Information" label located on the engine. If the engine is operated in the United States or Canada and the Emissions Control information label states: "This engine complies with US EPA regulations for nonroad and stationary diesel engines", or "This engine conforms to US EPA nonroad compression-ignition regulations", refer to the "U.S. and Canada Emission Control Warranty Statement." If the engine is operated in California, and the label states: "This engine complies with US EPA and CARB regulations for nonroad diesel engines", or "This engine conforms to US EPA and California nonroad compression-ignition emission regulations", also refer to the "California Emission Control Warranty Statement."

Warranties stated on this certificate refer only to emissions-related parts and components of your engine. The complete engine warranty, less emissions-related parts and components, is provided separately. If you have any questions about your warranty rights and responsibilities, you should contact John Deere at 1-319-292-5400.

JOHN DEERE'S WARRANTY RESPONSIBILITY

John Deere warrants to the ultimate purchaser and each subsequent purchaser that this off-road diesel engine including all parts of its emission-control system was designed, built and equipped so as to conform at the time of the sale with Section 213 of the Clean Air Act and is free from defects in materials and workmanship which would cause the engine to fail to conform with applicable US EPA regulations for a period of five years from the date the engine is placed into service or 3,000 hours of operation, whichever first occurs.

Where a warrantable condition exists, John Deere will repair or replace, as it elects, any part or component with a defect in materials or workmanship that would increase the engine's emissions of any regulated pollutant within the stated warranty period at no cost to you, including expenses related to diagnosing and repairing or replacing emission-related parts. Warranty coverage is subject to the limitations and exclusions set forth herein. Emission- related components include engine parts developed to control emissions related to the following:

Air-Induction System
Fuel System
Ignition System
Exhaust Gas Recirculation Systems
Aftertreatment Devices
Crankcase Ventilation Valves
Sensors
Engine Electronic Control Units

EMISSION WARRANTY EXCLUSIONS

John Deere may deny warranty claims for malfunctions or failures caused by:

- Non-performance of maintenance requirements listed in the Operator's Manual
- The use of the engine/equipment in a manner for which it was not designed
- Abuse, neglect, improper maintenance or unapproved modifications or alterations
- Accidents for which it does not have responsibility or by acts of God

The off-road diesel engine is designed to operate on diesel fuel as specified in the Fuels, Lubricants and Coolants section in the Operators Manual. Use of any other fuel can harm the emissions control system of the engine/equipment and is not approved for use.

To the extent permitted by law John Deere is not liable for damage to other engine components caused by a failure of an emission-related part, unless otherwise covered by standard warranty.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. REMEDIES UNDER THIS WARRANTY ARE LIMITED TO THE PROVISIONS OF MATERIAL AND SERVICES AS SPECIFIED HEREIN. WHERE PERMITTED BY LAW, NEITHER JOHN DEERE NOR ANY AUTHORIZED JOHN DEERE ENGINE DISTRIBUTOR, DEALER, OR REPAIR FACILITY OR ANY COMPANY AFFILIATED WITH JOHN DEERE WILL BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Emission_CI_EPA (18Dec09)

JOHN DEERE

U.S. AND CANADA EMISSION CONTROL WARRANTY STATEMENT
YOUR WARRANTY RIGHTS AND OBLIGATIONS

To determine if the John Deere engine qualifies for the additional warranties set forth below, look for the "Emissions Control Information" label located on the engine. If the engine is operated in the United States or Canada and the Emissions Control information label states: "This engine complies with US EPA regulations for nonroad and stationary diesel engines", or "This engine conforms to US EPA nonroad compression-ignition regulations", refer to the "U.S. and Canada Emission Control Warranty Statement." If the engine is operated in California, and the label states: "This engine complies with US EPA and CARB regulations for nonroad diesel engines", or "This engine conforms to US EPA and California nonroad compression-ignition emission regulations", also refer to the "California Emission Control Warranty Statement."

Warranties stated on this certificate refer only to emissions-related parts and components of your engine. The complete engine warranty, less emissions-related parts and components, is provided separately. If you have any questions about your warranty rights and responsibilities, you should contact John Deere at 1-319-292-5400.

JOHN DEERE'S WARRANTY RESPONSIBILITY

John Deere warrants to the ultimate purchaser and each subsequent purchaser that this off-road diesel engine including all parts of its emission-control system was designed, built and equipped so as to conform at the time of the sale with Section 213 of the Clean Air Act and is free from defects in materials and workmanship which would cause the engine to fail to conform with applicable US EPA regulations for a period of five years from the date the engine is placed into service or 3,000 hours of operation, whichever first occurs.

Where a warrantable condition exists, John Deere will repair or replace, as it elects, any part or component with a defect in materials or workmanship that would increase the engine's emissions of any regulated pollutant within the stated warranty period at no cost to you, including expenses related to diagnosing and repairing or replacing emission-related parts. Warranty coverage is subject to the limitations and exclusions set forth herein. Emission- related components include engine parts developed to control emissions related to the following:

Air-Induction System
Fuel System
Ignition System
Exhaust Gas Recirculation Systems
Aftertreatment Devices
Crankcase Ventilation Valves
Sensors
Engine Electronic Control Units

EMISSION WARRANTY EXCLUSIONS

John Deere may deny warranty claims for malfunctions or failures caused by:

- Non-performance of maintenance requirements listed in the Operator's Manual
- The use of the engine/equipment in a manner for which it was not designed
- Abuse, neglect, improper maintenance or unapproved modifications or alterations
- Accidents for which it does not have responsibility or by acts of God

The off-road diesel engine is designed to operate on diesel fuel as specified in the Fuels, Lubricants and Coolants section in the Operators Manual. Use of any other fuel can harm the emissions control system of the engine/equipment and is not approved for use.

To the extent permitted by law John Deere is not liable for damage to other engine components caused by a failure of an emission-related part, unless otherwise covered by standard warranty.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. REMEDIES UNDER THIS WARRANTY ARE LIMITED TO THE PROVISIONS OF MATERIAL AND SERVICES AS SPECIFIED HEREIN. WHERE PERMITTED BY LAW, NEITHER JOHN DEERE NOR ANY AUTHORIZED JOHN DEERE ENGINE DISTRIBUTOR, DEALER, OR REPAIR FACILITY OR ANY COMPANY AFFILIATED WITH JOHN DEERE WILL BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Emission_CI_EPA (18Dec09)

TS1721—UN—15JUL13
DX,EMISSIONS,EPA-19-12DEC12

CARB Non-road Emissions Control Warranty Statement—Compression Ignition

Emissions Control Warranty Statement 2019 through 2021

JOHN DEERE

DXLOGOV1—UN—28APR09

CALIFORNIA EMISSIONS CONTROL WARRANTY STATEMENT

YOUR WARRANTY RIGHTS AND OBLIGATIONS

To determine if the John Deere engine qualifies for the additional warranties set forth below, look for the “Emission Control Information” label located on the engine. If the engine is operated in the United States or Canada and the engine label states: “This engine complies with US EPA regulations for nonroad and stationary diesel engines”, or “This engine complies with US EPA regulations for stationary emergency diesel engines”, refer to the “U.S. and Canada Emission Control Warranty Statement.” If the engine is operated in California, and the engine label states: “This engine complies with US EPA and CARB regulations for nonroad diesel engines” also refer to the “California Emissions Control Warranty Statement.”

Warranties stated on this certificate refer only to emissions-related parts and components of your engine. The complete engine warranty, less emission-related parts and components, is provided separately. If you have any questions about your warranty rights and responsibilities, you should contact John Deere at 1-319-292-5400.

CALIFORNIA EMISSIONS CONTROL WARRANTY STATEMENT:

The California Air Resources Board (CARB) is pleased to explain the emission-control system warranty on 2019 through 2021 off-road diesel engines. In California, new off-road engines must be designed, built and equipped to meet the State’s stringent anti-smog standards. John Deere must warrant the emission control system on your engine for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your engine.

Your emission control system may include parts such as the fuel injection system and the air induction system. Also included may be hoses, belts, connectors and other emission-related assemblies.

John Deere warrants to the ultimate purchaser and each subsequent purchaser that this off-road diesel engine was designed, built, and equipped so as to conform at the time of sale with all applicable regulations adopted by CARB and is free from defects in materials and workmanship which would cause the failure of a warranted part to be identical in all material respects to the part as described in John Deere's application for certification for a period of five years from the date the engine is delivered to an ultimate purchaser or 3,000 hours of operation, whichever occurs first for all engines rated at 19 kW and greater. In the absence of a device to measure hours of use, the engine shall be warranted for a period of five years.

EMISSIONS WARRANTY EXCLUSIONS:

John Deere may deny warranty claims for failures caused by the use of an add-on or modified part which has not been exempted by the CARB. A modified part is an aftermarket part intended to replace an original emission-related part which is not functionally identical in all respects and which in any way affects emissions. An add-on part is any aftermarket part which is not a modified part or a replacement part.

In no event will John Deere, any authorized engine distributor, dealer, or repair facility, or any company affiliated with John Deere be liable for incidental or consequential damage.

JOHN DEERE'S WARRANTY RESPONSIBILITY:

Where a warrantable condition exists, John Deere will repair or replace, as it elects, your off-road diesel engine at no cost to you, including diagnosis, parts or labor. Warranty coverage is subject to the limitations and exclusions set forth herein. The off-road diesel engine is warranted for a period of five years from the date the engine is delivered to an ultimate purchaser or 3,000 hours of operation, whichever occurs first. The following are emissions-related parts:

Air Induction System
- Intake manifold
- Turbocharger
- Charge air cooler

Fuel Metering system
- Fuel injection system

Exhaust Gas Recirculation
- EGR valve

Catalyst or Thermal Reactor Systems
- Catalytic converter
- Exhaust manifold

Emission control labels

Particulate Controls
- Any device used to capture particulate emissions
- Any device used in the regeneration of the capturing system
- Enclosures and manifolding
- Smoke Puff Limiters

Positive Crankcase Ventilation (PCV) System
- PCV valve
- Oil filler cap

Advanced Oxides of Nitrogen (NOx) Controls
- NOx absorbers and catalysts

SCR systems and urea containers/dispensing systems

Miscellaneous Items used in Above Systems
- Electronic control units, sensors, actuators, wiring harnesses, hoses, connectors, clamps, fittings, gasket, mounting hardware

Any warranted emissions-related part scheduled for replacement as required maintenance is warranted by John Deere for the period of time prior to the first scheduled replacement point for the part. Any warranted emissions-related part not scheduled for replacement as required maintenance or scheduled only for regular inspection is warranted by John Deere for the stated warranty period.

OWNER'S WARRANTY RESPONSIBILITIES:

As the off-road diesel engine owner you are responsible for the performance of the required maintenance listed in your Operator’s Manual. John Deere recommends that the owner retain all receipts covering maintenance on the off-road diesel engine, but John Deere cannot deny warranty solely for the lack of receipts or for the owner’s failure to ensure the performance of all scheduled maintenance. However, as the off-road diesel engine owner, you should be aware that John Deere may deny you warranty coverage if your off-road diesel engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

The off-road diesel engine is designed to operate on diesel fuel as specified in the Fuels, Lubricants and Coolants section in the Operators Manual. Use of any other fuel may result in the engine no longer operating in compliance with applicable emissions requirements.

The owner is responsible for initiating the warranty process, and should present the machine to the nearest authorized John Deere dealer as soon as a problem is suspected. The warranty repairs should be completed by the authorized John Deere dealer as quickly as possible.

Emissions regulations require the customer to bring the unit to an authorized servicing dealer when warranty service is required. As a result, John Deere is NOT liable for travel or mileage on emissions warranty service calls.

Emission_CI_CARB (01Feb17)

Emissions Control Warranty Statement 2019 through 2021

DXLOGOV1 —UN—28APR09

JOHN DEERE

CALIFORNIA EMISSIONS CONTROL WARRANTY STATEMENT
YOUR WARRANTY RIGHTS AND OBLIGATIONS

To determine if the John Deere engine qualifies for the additional warranties set forth below, look for the “Emission Control Information” label located on the engine. If the engine is operated in the United States or Canada and the engine label states: “This engine complies with US EPA regulations for nonroad and stationary diesel engines”, or “This engine complies with US EPA regulations for stationary emergency diesel engines”, refer to the “U.S. and Canada Emission Control Warranty Statement.” If the engine is operated in California, and the engine label states: “This engine complies with US EPA and CARB regulations for nonroad diesel engines” also refer to the “California Emissions Control Warranty Statement.”

Warranties stated on this certificate refer only to emissions-related parts and components of your engine. The complete engine warranty, less emission-related parts and components, is provided separately. If you have any questions about your warranty rights and responsibilities, you should contact John Deere at 1-319-292-5400.

CALIFORNIA EMISSIONS CONTROL WARRANTY STATEMENT:

The California Air Resources Board (CARB) is pleased to explain the emission-control system warranty on 2019 through 2021 off-road diesel engines. In California, new off-road engines must be designed, built and equipped to meet the State’s stringent anti-smog standards. John Deere must warrant the emission control system on your engine for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your engine.

Your emission control system may include parts such as the fuel injection system and the air induction system. Also included may be hoses, belts, connectors and other emission-related assemblies.

John Deere warrants to the ultimate purchaser and each subsequent purchaser that this off-road diesel engine was designed, built, and equipped so as to conform at the time of sale with all applicable regulations adopted by CARB and is free from defects in materials and workmanship which would cause the failure of a warranted part to be identical in all material respects to the part as described in John Deere's application for certification for a period of five years from the date the engine is delivered to an ultimate purchaser or 3,000 hours of operation, whichever occurs first for all engines rated at 19 kW and greater. In the absence of a device to measure hours of use, the engine shall be warranted for a period of five years.

EMISSIONS WARRANTY EXCLUSIONS:

John Deere may deny warranty claims for failures caused by the use of an add-on or modified part which has not been exempted by the CARB. A modified part is an aftermarket part intended to replace an original emission-related part which is not functionally identical in all respects and which in any way affects emissions. An add-on part is any aftermarket part which is not a modified part or a replacement part.

In no event will John Deere, any authorized engine distributor, dealer, or repair facility, or any company affiliated with John Deere be liable for incidental or consequential damage.

RG29280—UN—02FEB17

JOHN DEERE'S WARRANTY RESPONSIBILITY:

Where a warrantable condition exists, John Deere will repair or replace, as it elects, your off-road diesel engine at no cost to you, including diagnosis, parts or labor. Warranty coverage is subject to the limitations and exclusions set forth herein. The off-road diesel engine is warranted for a period of five years from the date the engine is delivered to an ultimate purchaser or 3,000 hours of operation, whichever occurs first. The following are emissions-related parts:

Air Induction System

- Intake manifold
- Turbocharger
- Charge air cooler

Fuel Metering system

- Fuel injection system

Exhaust Gas Recirculation

- EGR valve

Catalyst or Thermal Reactor Systems

- Catalytic converter
- Exhaust manifold

Emission control labels

Particulate Controls

- Any device used to capture particulate emissions
- Any device used in the regeneration of the capturing system
- Enclosures and manifolding
- Smoke Puff Limiters

Positive Crankcase Ventilation (PCV) System

- PCV valve
- Oil filler cap

Advanced Oxides of Nitrogen (NOx) Controls

- NOx absorbers and catalysts

SCR systems and urea containers/dispensing systems

Miscellaneous Items used in Above Systems

- Electronic control units, sensors, actuators, wiring harnesses, hoses, connectors, clamps, fittings, gasket, mounting hardware

Any warranted emissions-related part scheduled for replacement as required maintenance is warranted by John Deere for the period of time prior to the first scheduled replacement point for the part. Any warranted emissions-related part not scheduled for replacement as required maintenance or scheduled only for regular inspection is warranted by John Deere for the stated warranty period.

OWNER'S WARRANTY RESPONSIBILITIES:

As the off-road diesel engine owner you are responsible for the performance of the required maintenance listed in your Operator's Manual. John Deere recommends that the owner retain all receipts covering maintenance on the off-road diesel engine, but John Deere cannot deny warranty solely for the lack of receipts or for the owner's failure to ensure the performance of all scheduled maintenance. However, as the off-road diesel engine owner, you should be aware that John Deere may deny you warranty coverage if your off-road diesel engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

The off-road diesel engine is designed to operate on diesel fuel as specified in the Fuels, Lubricants and Coolants section in the Operators Manual. Use of any other fuel may result in the engine no longer operating in compliance with applicable emissions requirements.

The owner is responsible for initiating the warranty process, and should present the machine to the nearest authorized John Deere dealer as soon as a problem is suspected. The warranty repairs should be completed by the authorized John Deere dealer as quickly as possible.

Emissions regulations require the customer to bring the unit to an authorized servicing dealer when warranty service is required. As a result, John Deere is NOT liable for travel or mileage on emissions warranty service calls.

Emission_CI_CARB (01Feb17)

RG29281—UN—27FEB17

Emissions Control Warranty Statement 2022 through 2024

JOHN DEERE

DXLOGOV1—UN—28APR09

CALIFORNIA EMISSIONS CONTROL WARRANTY STATEMENT
YOUR WARRANTY RIGHTS AND OBLIGATIONS

To determine if the John Deere engine qualifies for the additional warranties set forth below, look for the "Emission Control Information" label located on the engine. If the engine is operated in the United States or Canada and the engine label states: "This engine complies with US EPA regulations for nonroad and stationary diesel engines", or "This engine complies with US EPA regulations for stationary emergency diesel engines", refer to the "U.S. and Canada Emission Control Warranty Statement." If the engine is operated in California, and the engine label states: "This engine complies with US EPA and California regulations for nonroad/off-road diesel engines" also refer to the "California Emissions Control Warranty Statement."

Warranties stated on this certificate refer only to emissions-related parts and components of your engine. The complete engine warranty, less emission-related parts and components, is provided separately. If you have any questions about your warranty rights and responsibilities, you

should contact John Deere at 1-319-292-5400.

CALIFORNIA EMISSIONS CONTROL WARRANTY STATEMENT:

The California Air Resources Board (CARB) is pleased to explain the emission-control system warranty on 2022 through 2024 off-road diesel engines. In California, new off-road engines must be designed, built and equipped to meet the State's stringent anti-smog standards. John Deere must warrant the emission control system on your engine for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your engine.

Your emission control system may include parts such as the fuel injection system and the air induction system. Also included may be hoses, belts, connectors and other emission-related assemblies.

John Deere warrants to the ultimate purchaser and each subsequent purchaser that this off-road diesel engine was designed, built, and equipped so as to conform at the time of sale with all applicable regulations adopted by CARB. John Deere warrants that this engine is free from defects in materials and workmanship which would cause the failure of emissions warrantied parts to be identical in all material respects to the part as described in John Deere's application for certification for a period of five years from the date the engine is delivered to an ultimate purchaser or 3,000 hours of operation, whichever occurs first. This applies to all engines rated at 19 kW and greater. In the absence of a device to measure hours of use, the engine shall be warranted for a period of five years.

EMISSIONS WARRANTY EXCLUSIONS:

John Deere may deny warranty claims for failures caused by the use of an add-on or modified part which has not been exempted by the CARB. A modified part is an aftermarket part intended to replace an original emission-related part which is not functionally identical in all respects and which in any way affects emissions. An add-on part is any aftermarket part which is not a modified part or a replacement part.

In no event will John Deere, any authorized engine distributor, dealer, or repair facility, or any company affiliated with John Deere be liable for incidental or consequential damage.

JOHN DEERE'S WARRANTY RESPONSIBILITY:

Where a warrantable condition exists, John Deere will repair or replace, as it elects, your off-road diesel engine at no cost to you, including diagnosis, parts or labor. Warranty coverage is subject to the limitations and exclusions set forth herein. The off-road diesel engine is warranted for a period of five years from the date the engine is delivered to an ultimate purchaser or 3,000 hours of operation, whichever occurs first. The following are emissions-related parts:

Air Induction System
- Intake manifold
- Turbocharger
- Charge air cooler

Fuel Metering system
- Fuel injection system

Exhaust Gas Recirculation
- EGR valve

Catalyst or Thermal Reactor Systems
- Catalytic converter
- Exhaust manifold

Emission control labels

Particulate Controls
- Any device used to capture particulate emissions
- Any device used in the regeneration of the capturing system
- Enclosures and manifolding
- Smoke Puff Limiters

Positive Crankcase Ventilation (PCV) System
- PCV valve
- Oil filler cap

Advanced Oxides of Nitrogen (NOx) Controls
- NOx absorbers and catalysts

SCR systems and urea containers/dispensing systems

Miscellaneous Items used in Above Systems
- Electronic control units, sensors, actuators, wiring harnesses, hoses, connectors, clamps, fittings, gasket, mounting hardware

Any warranted emissions-related part scheduled for replacement as required maintenance is warranted by John Deere for the period of time prior to the first scheduled replacement point for the part. Any warranted emissions-related part not scheduled for replacement as required maintenance or scheduled only for regular inspection is warranted by John Deere for the stated warranty period.

OWNER'S WARRANTY RESPONSIBILITIES:

As the off-road diesel engine owner you are responsible for the performance of the required maintenance listed in your Operator's Manual. John Deere recommends that the owner retain all receipts covering maintenance on the off-road diesel engine, but John Deere cannot deny warranty solely for the lack of receipts or for the owner's failure to ensure the performance of all scheduled maintenance. However, as the off-road diesel engine owner, you should be aware that John Deere may deny you warranty coverage if your off-road diesel engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

The off-road diesel engine is designed to operate on diesel fuel as specified in the Fuels, Lubricants and Coolants section in the Operators Manual. Use of any other fuel may result in the engine no longer operating in compliance with applicable emissions requirements.

The owner is responsible for initiating the warranty process, and should present the machine to the nearest authorized John Deere dealer as soon as a problem is suspected. The warranty repairs should be completed by the authorized John Deere dealer as quickly as possible.

Emissions regulations require the customer to bring the unit to an authorized servicing dealer when warranty service is required. As a result, John Deere is NOT liable for travel or mileage on emissions warranty service calls.

Emission_CI_CARB (14Apr20)

Emissions Control Warranty Statement 2022 through 2024

DXLOGOV1 —UN—28APR09

JOHN DEERE

CALIFORNIA EMISSIONS CONTROL WARRANTY STATEMENT
YOUR WARRANTY RIGHTS AND OBLIGATIONS

To determine if the John Deere engine qualifies for the additional warranties set forth below, look for the "Emission Control Information" label located on the engine. If the engine is operated in the United States or Canada and the engine label states: "This engine complies with US EPA regulations for nonroad and stationary diesel engines", or "This engine complies with US EPA regulations for stationary emergency diesel engines", refer to the "U.S. and Canada Emission Control Warranty Statement." If the engine is operated in California, and the engine label states: "This engine complies with US EPA and California regulations for nonroad/off-road diesel engines" also refer to the "California Emissions Control Warranty Statement."

Warranties stated on this certificate refer only to emissions-related parts and components of your engine. The complete engine warranty, less emission-related parts and components, is provided separately. If you have any questions about your warranty rights and responsibilities, you should contact John Deere at 1-319-292-5400.

CALIFORNIA EMISSIONS CONTROL WARRANTY STATEMENT:

The California Air Resources Board (CARB) is pleased to explain the emission-control system warranty on 2022 through 2024 off-road diesel engines. In California, new off-road engines must be designed, built and equipped to meet the State's stringent anti-smog standards. John Deere must warrant the emission control system on your engine for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your engine.

Your emission control system may include parts such as the fuel injection system and the air induction system. Also included may be hoses, belts, connectors and other emission-related assemblies.

John Deere warrants to the ultimate purchaser and each subsequent purchaser that this off-road diesel engine was designed, built, and equipped so as to conform at the time of sale with all applicable regulations adopted by CARB. John Deere warrants that this engine is free from defects in materials and workmanship which would cause the failure of emissions warrantied parts to be identical in all material respects to the part as described in John Deere's application for certification for a period of five years from the date the engine is delivered to an ultimate purchaser or 3,000 hours of operation, whichever occurs first. This applies to all engines rated at 19 kW and greater. In the absence of a device to measure hours of use, the engine shall be warranted for a period of five years.

EMISSIONS WARRANTY EXCLUSIONS:

John Deere may deny warranty claims for failures caused by the use of an add-on or modified part which has not been exempted by the CARB. A modified part is an aftermarket part intended to replace an original emission-related part which is not functionally identical in all respects and which in any way affects emissions. An add-on part is any aftermarket part which is not a modified part or a replacement part.

In no event will John Deere, any authorized engine distributor, dealer, or repair facility, or any company affiliated with John Deere be liable for incidental or consequential damage.

RG32758—UN—19AUG20

JOHN DEERE'S WARRANTY RESPONSIBILITY:

Where a warrantable condition exists, John Deere will repair or replace, as it elects, your off-road diesel engine at no cost to you, including diagnosis, parts or labor. Warranty coverage is subject to the limitations and exclusions set forth herein. The off-road diesel engine is warranted for a period of five years from the date the engine is delivered to an ultimate purchaser or 3,000 hours of operation, whichever occurs first. The following are emissions-related parts:

Air Induction System

- Intake manifold
- Turbocharger
- Charge air cooler

Fuel Metering system

- Fuel injection system

Exhaust Gas Recirculation

- EGR valve

Catalyst or Thermal Reactor Systems

- Catalytic converter
- Exhaust manifold

Emission control labels

Particulate Controls

- Any device used to capture particulate emissions
- Any device used in the regeneration of the capturing system
- Enclosures and manifolding
- Smoke Puff Limiters

Positive Crankcase Ventilation (PCV) System

- PCV valve
- Oil filler cap

Advanced Oxides of Nitrogen (NOx) Controls

- NOx absorbers and catalysts

SCR systems and urea containers/dispensing systems

Miscellaneous Items used in Above Systems

- Electronic control units, sensors, actuators, wiring harnesses, hoses, connectors, clamps, fittings, gasket, mounting hardware

Any warranted emissions-related part scheduled for replacement as required maintenance is warranted by John Deere for the period of time prior to the first scheduled replacement point for the part. Any warranted emissions-related part not scheduled for replacement as required maintenance or scheduled only for regular inspection is warranted by John Deere for the stated warranty period.

OWNER'S WARRANTY RESPONSIBILITIES:

As the off-road diesel engine owner you are responsible for the performance of the required maintenance listed in your Operator's Manual. John Deere recommends that the owner retain all receipts covering maintenance on the off-road diesel engine, but John Deere cannot deny warranty solely for the lack of receipts or for the owner's failure to ensure the performance of all scheduled maintenance. However, as the off-road diesel engine owner, you should be aware that John Deere may deny you warranty coverage if your off-road diesel engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

The off-road diesel engine is designed to operate on diesel fuel as specified in the Fuels, Lubricants and Coolants section in the Operators Manual. Use of any other fuel may result in the engine no longer operating in compliance with applicable emissions requirements.

The owner is responsible for initiating the warranty process, and should present the machine to the nearest authorized John Deere dealer as soon as a problem is suspected. The warranty repairs should be completed by the authorized John Deere dealer as quickly as possible.

Emissions regulations require the customer to bring the unit to an authorized servicing dealer when warranty service is required. As a result, John Deere is NOT liable for travel or mileage on emissions warranty service calls.

Emission_CI_CARB (14Apr20)

RG32759—UN—19AUG20
DX,EMISSIONS,CARB-19-04AUG23

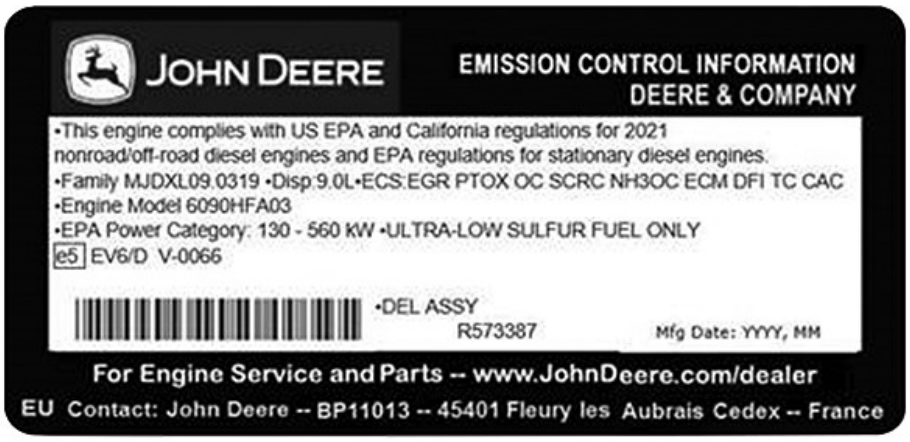
Required Emission-Related Information

Service Provider

A qualified repair shop or person of the owner's choosing may maintain, replace, or repair emission control devices and systems with original or equivalent replacement parts. However, warranty, recall, and all other services paid for by John Deere must be performed at an authorized John Deere service center.

DX,EMISSIONS,REQINFO-19-12JUN15

Carbon Dioxide Emissions (CO_2)



RG33429—UN—04FEB21

SAMPLE - Engine Emissions Label

To identify the carbon dioxide (CO_2) output, locate the engine emissions label. Find the appropriate family on the emissions label and reference the chart.

NOTE: The first letter of the family number is not utilized for family identification on the chart.

Emissions Label Family	CO_2 Result
_JDXL02.9323	952 g/kW-hr
_JDXL02.9327	784 g/kW-hr
_JDXL04.5337	819 g/kW-hr
_JDXL04.5338	682 g/kW-hr
_JDXL04.5304	1004 g/kW-hr
_JDXN04.5174	792 g/kW-hr
_JDXL06.8324	720 g/kW-hr
_JDXL06.8328	683 g/kW-hr
_JDXL06.8336	701 g/kW-hr
_JDXN06.8175	771 g/kW-hr
_JDXL09.0319	646 g/kW-hr
_JDXL09.0325	695 g/kW-hr
_JDXL09.0329	657 g/kW-hr
_JDXL09.0333	650 g/kW-hr
_JDXL13.5326	684 g/kW-hr
_JDXL13.6320	651 g/kW-hr
_JDXL13.5340	632 g/kW-hr
_JDXL18.0341	683 g/kW-hr
_JDXL18.0342	687 g/kW-hr
F28	870 g/kW-hr
F32	710 g/kW-hr
F33	677 g/kW-hr

This CO_2 measurement results from testing over a fixed test cycle under laboratory conditions a(n) (parent) engine representative of the engine type (engine family) and shall not imply or express any guarantee of the performance of a particular engine.

DX,EMISSIONS,CO2-19-23JUN23

Third-Party Software Notifications and Licenses

The copyrights for certain portions of the Software on this machine may be owned or licensed by other third parties (“Third Party Software”) and is used and distributed under those licenses. The License Agreement link in the System Information section of the CommandCenter Software Manager includes the acknowledgements, notices and licenses for such Third Party Software. The Third Party Software notices are included with the distribution of this License Agreement. If you are unable to locate these Third Party Software notices, please write to the address included below. The Third Party Software is licensed according to the applicable Third Party Software license notwithstanding anything to the contrary in this Agreement. If the Third Party Software contains copyrighted software that is licensed under the GPL/LGPL or other copyleft licenses, copies of those licenses are included in the Third Party Notices. You may obtain the complete corresponding source code for such Third Party Software from Deere for a period of three years after our last shipment of the Software by sending a request to:

Deere Open Source Compliance Team
P.O. Box 1202
Moline, IL 61266-1202
USA

Please include name of the product and the version number of the software in the request letter. This offer is valid to anyone in receipt of this information.

EC82310,0000F7B-19-14FEB23

Identification Numbers

Identification Plates

Each tractor is equipped with the identification plates shown in this section. The complete series of letters and numbers stamped on the plates:

- Identify a component or assembly.
- Are required when ordering parts or identifying a tractor or component for any John Deere product support program.

For each identification plate, accurately record the identification numbers in the space provided.

RW29387,00003B7-19-04MAR20

Product Identification Number (PIN)

*_ _ _ _

RXA0184050—UN—10JUN21

Engine Serial Number Plate Example

Positions 5 and 6—Engine displacement code (C)
Position 7—Engine emission configuration (D)

Positions 5 and 6	
Code	**Engine Displacement**
68	6.8 L
90	9.0 L

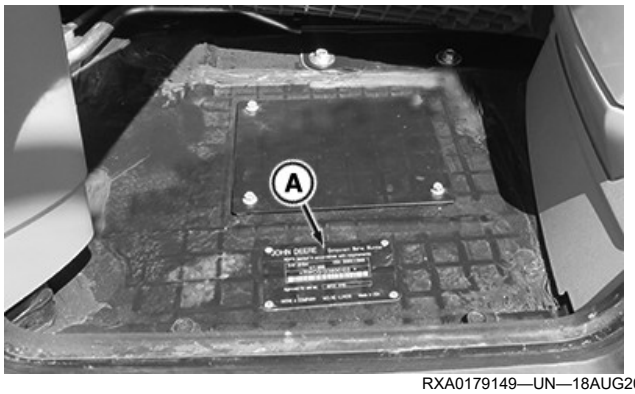
Position 7	
Code	**Engine Emission Configuration**
U	Final Tier 4/Stage V

TS36762,0000295-19-09JUN21

Cab Serial Number

_____

Record the Serial Number in the Space Provided



RXA0179149—UN—18AUG20

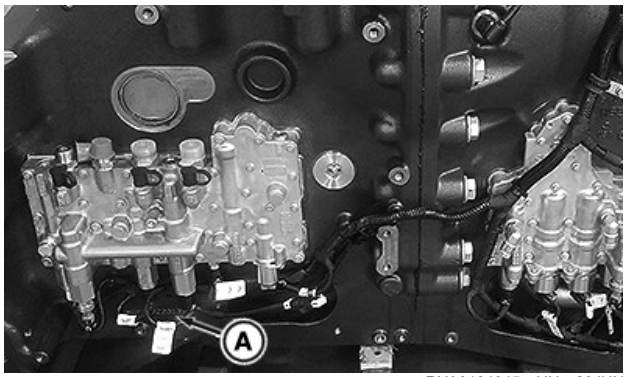
Cab Serial Number Plate (A) is Underneath the Cab Floor Mat at the Cab Door

EC82310,000006F-19-22OCT20

Transmission Serial Number

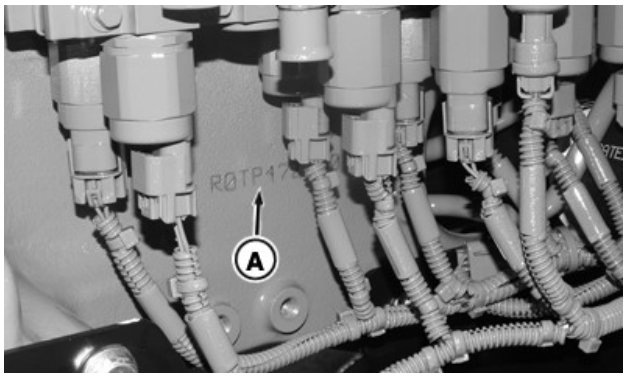
_____

Record the Serial Number (A) in the Space Provided



RXA0184345—UN—29JUN21

IVT/AutoPowr Transmission (Left-Hand Side of the Transmission Under the Manifold)



RXA0144021—UN—05AUG14

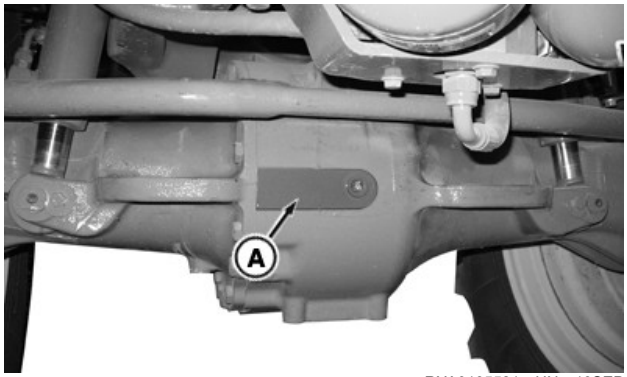
e23 Transmission (Left-Hand Side Lower Rear Side of Transmission Housing) (Green Paint Covers the Serial Number)

KD34109,00006F9-19-23JUN22

Axle Serial Number

_____

Record the Serial Number (A) in the Space Provided



RXA0135521—UN—13SEP13

MFWD/TLS Plus Axle (Stamped into the Front Side of the Housing)

TS36762,000029A-19-23JUN22

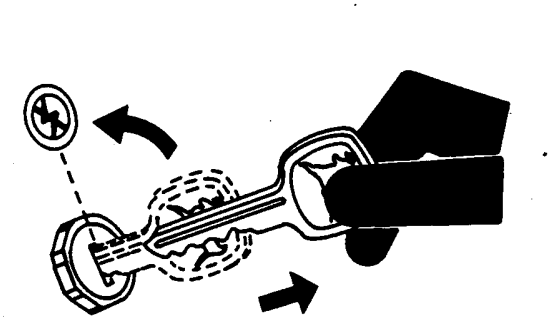
Keep Proof of Ownership

TS1680—UN—09DEC03

1. Maintain in a secure location an up-to-date inventory of all product and component serial numbers.
2. Regularly verify that identification plates have not been removed. Report any evidence of tampering to law enforcement agencies and order duplicate plates.
3. Other steps you can take:
   - Mark your machine with your own numbering system
   - Take color photographs from several angles of each machine

DX,SECURE1-19-18NOV03

Keep Machines Secure



TS230—UN—24MAY89

1. Install vandal-proof devices.
2. When machine is in storage:
   - Lower equipment to the ground
   - Set wheels to widest position to make loading more difficult
   - Remove any keys and batteries
3. When parking indoors, put large equipment in front of exits and lock your storage buildings.
4. When parking outdoors, store in a well-lighted and fenced area.
5. Make note of suspicious activity and report any thefts immediately to law enforcement agencies.
6. Notify your John Deere dealer of any losses.

DX,SECURE2-19-18NOV03

Change of Ownership

Subsequent Ownership

Second Owner

Serial Number:	Tractor Model:
Engine Number:	Registration Number:
Previous Owner:	New Owner:
Address:	Address: . . . .
Purchase Date: Hours at Purchase:	Dealer's Stamp *(only if sold through a dealer)*

Third Owner

Serial Number:	Tractor Model:
Engine Number:	Registration Number:
Previous Owner:	New Owner:
Address:	Address: . . . .
Purchase Date: Hours at Purchase:	Dealer's Stamp *(only if sold through a dealer)*

TS36762,000029B-19-23NOV16

Predelivery

Predelivery Checklist

NOTE: Make a copy of this checklist and complete while performing.

Some listed options are not available on specific tractors.

The following inspection, adjustment, and service work were performed before delivery of this machine.

Complete the Air Conditioning Pre-Run Procedure

IMPORTANT: Reduce chance of air conditioner compressor damage. Complete pre-run procedure when the tractor:

- **Arrives at the dealership.**
- **Has not been run for over 29 days.**

☐ 1. Complete the pre-start checks.
☐ 2. Start tractor and run the engine at a low idle.
☐ 3. Switch the air conditioning system to high.
☐ 4. Run the tractor for at least three minutes.
☐ 5. Shut off the tractor.

Complete the Following Pre-Start Checks Before Operating the Tractor

☐ 1. Engine oil level is between Low and Full marks.
☐ 2. Coolant level is correct.
☐ 3. Air cleaner elements are installed correctly.
☐ 4. Air intake system clamps are tight.
☐ 5. Transmission-hydraulic and axle oil levels are correct.
☐ 6. Lubrication fittings are greased.
☐ 7. Shields, guards, handrails, and steps are installed correctly.
☐ 8. Power assisted implement is connected correctly (if tractor is equipped with VC-B offboarding). See Connecting Power Assisted Implement instructions DZ128740.
☐ 9. Paint is free of defects.
☐ 10. Exterior and interior labels are smooth and neat.
☐ 11. Protective plastic film removed from seats and panels.

Start the tractor before continuing the checks.

☐ 12. Start and run tractor at a low idle for at least three minutes.

IMPORTANT: Determine if the air conditioning pre-run procedure is needed. Run if necessary.

☐ 13. Complete the air conditioning pre-run procedure.
☐ 14. Shut off the tractor.

Inspect the tractor for:

☐ 15. Coolant leaks.
☐ 16. Engine oil leaks.
☐ 17. Fuel leaks.
☐ 18. Transmission, hydraulic, and axle oil leaks.

Complete the Following Checks Inside the Cab

☐ 1. Check for diagnostic trouble codes. If diagnostic trouble codes are present, record the codes and see Service ADVISOR to resolve and repair as needed. Clear all the codes.
☐ 2. All brake systems operate correctly:
- Service brakes.
- Hydraulic and air trailer brakes.
- Parking brake.
- Secondary brake.

☐ 3. Transmission operates correctly (including PARK position).
☐ 4. Neutral start switch operates correctly.
☐ 5. SCVs operate correctly.
☐ 6. Hitch operates correctly.
☐ 7. PTO operates correctly.
☐ 8. Warning system lights and instrument displays and gauges operate correctly.
☐ 9. All lights operate correctly in all switch positions.
☐ 10. Engine high and low idle are set correctly.
☐ 11. Seat can be adjusted properly.
☐ 12. Check seat belt integrity. Seat belt latches function correctly.
☐ 13. Doors operate correctly.
☐ 14. Cab is clean and upholstery appearance neat.
☐ 15. Premium radio region code set for location.
☐ 16. Radio operates correctly.
☐ 17. Washers and wipers operate correctly.
☐ 18. Heater, ventilation, and air conditioning system operate correctly. For details, see separate information leaflet in tractor cab.
☐ 19. Back up alarm operates correctly (if equipped).
☐ 20. All optional equipment is installed and operates correctly.

Complete These Dealer Services Before Delivery to the Customer

IMPORTANT: Avoid drivetrain damage. Operate tractor at low speeds (below 10 mph (16km/h)) for first 6 hours.

☐ 1. Thoroughly wash the tractor.
☐ 2. Charge the battery and set the battery date code.

IMPORTANT: Muffler extension and radio antenna increase tractor height. Be aware of clearance restrictions when transporting tractor.

☐ 3. Replace the transport rain cap with the muffler extension.

☐ 4. Install the AM/FM radio antenna if necessary.[1]

☐ 5. Check and adjust the tire pressure.

☐ 6. Adjust the wheel spacings for the customer needs:

- ☐ If equipped with dual tires with John Deere CTIS, see R572695 installation instructions.
- ☐ If equipped with front dual tires without John Deere CTIS, see R572069 installation instructions for the front extension.

☐ 7. Check track tread settings and track alignment.

☐ 8. Check and adjust the steering stops.[2]

IMPORTANT: Failure to follow track tractor road transport recommendations can void the tractor warranty. See Transport section and General Track Use Guidelines in Tracks—General Information section of this Operator's Manual.

☐ 9. Perform the track system break-in procedure. See Perform Track Systems Break-In in Service—Break-In (100 Hours or Less) section of this Operator's Manual.

CAUTION: Avoid the possibility of personal injury. Never operate the tractor with loose wheel or wheel weight bolts. Failure to follow torquing procedure can result in personal injury. Wheel and wheel weight bolts are critical and require repeated torquing to assure secure tightness.

IMPORTANT: Failure to follow correct tightening procedure could result in equipment damage. Retighten bolts after working 3 hours, 10 hours, and daily during the first week of operation.

☐ 10. Tighten wheels and weights to specifications (even if no adjustments are made).

☐ 11. Tighten the track drive (sprocket) wheel, drive (sprocket) wheel sleeve, idler wheel, and mid-roller fasteners to specifications (even if no adjustments are made).

☐ 12. Reposition all components from shipping to operating positions (i.e. mirrors).

☐ 13. Adjust all lights, including extremity warning lights and beacon light. Check all lights for compliance with local regulations.

☐ 14. Adjust the hitch components and lock in position.

☐ 15. Install the Slow Moving Vehicle emblem (if necessary).

☐ 16. Set up the display to customer preference.

☐ 17. Activate the Automatic Exhaust Cleaning Mode in CommandCenter.

☐ 18. Install the StarFire receiver.

☐ 19. Perform the Connected Machine Setup Process together with customer. See CCMS Solution 206001 for details.

☐ 20. Perform a test drive. Verify correct function of all systems, including transmission, brakes, and steering.

☐ 21. Calibrate the radar.

☐ 22. Check for diagnostic trouble codes. If codes are present, record codes and see Service ADVISOR to resolve and repair as needed. Clear all codes.

☐ 23. Install RTK antenna (if equipped). See Mount RTK (Real-Time Kinematic) Radio in Accessories section of this Operator's Manual.

☐ 24. Check the ExactRate tractor tanks for leaks (if equipped):

a. Fill the ExactRate tanks with 38 L (10 gal) of water. See Fill the Tanks in the ExactRate Tractor Tanks section of this Operator's Manual.

b. Drive the tractor for 5 to 10 minutes with the ExactRate pump on and circulating water.

c. Check the system for leaks.

d. Drain the ExactRate tanks. See Drain the System in the ExactRate Tractor Tanks section of this Operator's Manual.

e. Tighten the ExactRate tank straps. See Tank Straps in the Service—Tighten section of this Operator's Manual.

Date and Signature of Dealer/Service Technician

KD34109,00005B8-19-12APR23

[1] *Located in the cab.*

[2] *To avoid equipment damage on tractors equipped with ILS and group 43 or larger tires remove both transport steering stops and adjust tread settings.*

Delivery Checklist and Certificate

Make two copies of this form. Complete one copy for customer and retain a second copy for dealer records.

☐ Customer Copy ☐ Dealer Copy

Delivery Checklist

At the Dealer:
□ Predelivery inspection completed
□ All necessary forms and literature available
□ Labels installed
□ Customer specified attachments and options are installed or available

CAUTION: Avoid the possibility of personal injury. Never operate tractor with loose wheel or wheel weight bolts. Failure to follow torquing procedure may result in personal injury. Wheel and wheel weight bolts are critical and require repeated torquing to assure secure tightness.

IMPORTANT: Failure to follow correct tightening procedure could result in equipment damage. Retighten wheel bolts after working 3 hours, 10 hours, and daily during first week of operation.

□ Check hardware is tight on frame, drawbar support, wheels, and wheel weights or track system component

At Delivery Area with Customer:
(shown and explained)
□ All warning labels on machine
□ Location of all serial numbers on machine
□ Operator's Manual
□ Help Text access and function
□ Lubrication and service points on machine and attachments
□ Tire or track maintenance and care
□ Use of lubrication and maintenance schedules
□ Break-in service procedures
□ Warranty coverage and procedure

Demonstrated operating procedures:
□ Engine—throttle, starting and stopping
□ Transmission
□ Steering
□ Brakes
□ Hitch and SCVs
□ Differential lock
□ PTO
□ Three-point hitch adjustment
□ iTEC system
□ Lights
□ Wipers
□ Heater
□ Air conditioning
□ CommandCenter display and controls
□ Operator's seat

Delivery Certificate

Serial number: _____

Vehicle Model: _____

OM Number: _____ Issue: _____

Registration No.: _____

Engine No.: _____

Delivery Date: _____

Owner's Name: _____

Delivery Hours: _____

Street Address: _____

Dealership: _____

City/State: _____

Dealer's Stamp: _____

ZIP/Postal Code/Country: _____

I hereby confirm receiving the tractor in complete and good condition. I have received the Operator's Manual. All necessary work upon delivery has been carried out and I have been informed of the safe method of operation and the mandatory daily maintenance work as per the Delivery Checklist.

Customer's Signature: _____ Dealership Instructor's Signature: _____

Date: _____ Date: _____

BH38674,0000D3E-19-23JUN22

A

Activating Independent Mode
SCV 70A-6
Aftertreatment indicators overview..... 20B-1
Aiming Headlights 220F-7
Air Conditioning
Checking..... 220B-6
Air Conditioning
Condenser
Clean..... 220A-2
Air Conditioning (A/C)..... 90E-3
Air Flow Mode..... 90E-3
Annual
Checking seat belts 220B-15
Applications
Control Setup 30C-9
Assignment
SCV 70A-6
Automation
SCV 70A-6
AUX Input
Radio..... 90D-1
Auxiliary heaters 20A-2
Avoid static electricity risk when fueling 05-4
Axle
MFWD
Lubricating 220E-3

B

Backup Alarm 50B-4
Ball-type tow hitch
Wear, checking for signs of 220B-12
Ballast
Controlling Power Hop..... 100-10
Determining ballasted
Required tire inflation pressures..... 100-11
Tractor axle loads 100-11
Tractor weight..... 100-11
Tractor weight split..... 100-11
General weight split guidelines 100-3
Guidelines
Weight based on Engine horsepower..... 100-2
Hitch Mounted Implements..... 100-13
Information and guidelines 100-1
Integral implements 100-5
Loader
Rear Ballast For Front Loader..... 100-13
Rear Wheel Weights 220C-2
Semi-integral implements..... 100-5
Towed draft implements 100-5
Towed trailers, slurry tanks, and fertilizer tanks ....
100-5
Tractor weight charts..... 100-13
Types..... 100-4
Battery
Charging..... 20-12
Connections
Servicing..... 220F-2
Servicing..... 220F-2
Warranty 500A-7
Battery disconnect switch..... 20-10
Battery Handling, Safety
Safety, Battery Handling 05-12
Biodiesel fuel 200A-2
Bolt and screw torque values
Metric 210-6
Unified inch..... 210-7
Bracket Mounts
Monitor..... 90D-4
Brake warning indicators..... 30A-1
Brakes
Air Trailer Brakes..... 50A-6
Hydraulic Trailer Brakes 50A-5
Using..... 50A-4
Break-in checks..... 210A-1
Break-in engine oil
Interim tier 4, final tier 4, stage IIIB, stage IV, and
stage V 200C-1
Business band and antenna
Installing 90D-6

C

Cab Air Filters
Inspecting or replacing..... 220D-7
Carbon Dioxide Emissions 500A-19
Carging Ports
USB 90D-3
Center Link
Corrct Position 60E-13
Changing
MFWD wheel hub oil
ILS wheel hub oil.....220D-11
Changing to a different size tire
Tire 80-1
Check
Wheel and wheel weight bolt torque 220C-1
Checking
Seat Belts 220B-15
Checking
MFWD wheel hub oil level 220B-8
Clean seat 220A-2
Cleaning
Engine Exhaust Filter 20-6
Cleaning Fuel Tank Vent Filter..... 220D-13
Climate controls..... 30B-2
Cold weather starting
Auxiliary heaters..... 20A-2
Engine
With starting aid 20A-2
Come Home Mode 110-5

CommandARM
Right-Hand Reverser
e23 Transmission 50D-1
IVT and EVT Transmissions 50E-1
Climate controls..... 30B-2
CommandPRO Joystick 50F-2
CommandPRO Transmission 50F-1
Example 30B-1
Hitch controls 30B-1
Joystick 30B-6
Left side controls 30B-4
Lighting controls 30B-2
Navigation bar 30B-6
Position, adjusting 30B-7
PTO control levers 30B-2
Radio controls..... 30B-2
Right-Hand Drive Lever
e23 Transmission 50D-1
IVT and EVT Transmissions 50E-1
SCV control levers 30B-2
Speed Adjustment Wheel
e23 Transmission 50D-1
IVT and EVT Transmissions 50E-1
CommandCenter..... 30C-5
Access Lights 90C-2
Advanced Lighting Settings 90C-5
AutoClutch..... 50A-5
Calibration
Slip 30C-6
Calibrations
Radar 30C-5
Camera 30C-10
Compatible Displays 30C-4
Hood/belt line lights 90C-4
Input Fields..... 30C-4
iTEC
Abort conditions 40-3
Cancel conditions 40-3
CommandCenter functions..... 40-1, 40-2
Control functions 40-1
Inhibit conditions..... 40-3
Interrupt conditions..... 40-3
Perform sequence..... 40-5
Set Assignments 40-4
Lights settings main page 90C-3
Machine settings menu 30C-1
Power on/off..... 30C-4
Shortcut buttons 30B-6
Video display capability..... 30C-10
Worklights presets..... 90C-4
CommandPRO Joystick..... 50F-2
Acceleration Response 50F-4
Adjust Travel Direction..... 50F-5
Enable Set Speeds..... 50F-4
Guide..... 50F-4
Operating on Hillsides 50F-6
Stopping 50F-5
Tutorial QR Code..... 50F-4
CommandPRO Transmission Settings..... 50F-6
Access 50F-6
Custom 50F-8
Droop 50F-9
Minimum Engine Speed 50F-9
Mode 50F-8
Set Speeds..... 50F-10
Shuttle Shift Speeds 50F-10
Speed Limits 50F-11
Connector
Diagnostic 90D-1
Display..... 90D-2
Ethernet..... 90D-2
GreenStar Display..... 90D-2
Implement
Ethernet 90D-8
ISO 11783..... 90D-8
ISO 11783..... 90D-1
ISO 11786..... 90D-2
Control Setup 30C-9
Coolant
Diesel engine
Engine with wet sleeve cylinder liners..... 200D-1
Disposing..... 200D-3
John deere COOL-GARD II coolant extender 200D-1
Mixing with concentrate, water quality..... 200D-2
Test freeze point..... 220B-1
Testing freeze point 200D-2
Warm temperature climates..... 200D-2
Coolers
Clean..... 220A-2
Cooling system
Check level..... 220B-1
Weep hole..... 220B-6
Corner Post Display..... 30A-1

D

DEF
Disposal 200B-3
Dosing unit filter, change 220D-18
In-line filter, change 220D-15
Storing 200B-1
Tank, cleaning..... 220A-1
Tank, refilling 200B-2
Testing 200B-3
Use in SCR equipped engines..... 200B-1
DEF dosing unit filter
Change 220D-18
DEF Filter Replacement 220D-14
DEF in-line filter
Change 220D-15
DEF tank
Cleaning 220A-1

Deluxe
Stabilizers
Lubricate..... 220E-1
Deluxe Stabilizers 60E-11
Depth set point
Rear hitch 60E-8
Diagnostic Trouble Codes
Accessing..... 300B-1
Diesel engine oil
Interim tier 4, final tier 4, stage IIIB, stage IV, and stage V 200C-1
Service interval for operation at high altitude 200C-1
Diesel engines, cold weather effect 200-1
Diesel Exhaust Fluid (DEF) Dosing Unit 220D-17
Diesel fuel 200A-1
Supplemental additives 200A-1
Diesel fuel, testing..... 200A-4
Differential lock..... 50-3
Disconnect Battery
Purgw DEF Lines
DEF, Purgie Lines
Battery, Disconnect 220F-2
Draft control
Rear hitch 60E-7
Draft response
Rear hitch 60E-4
Drawbar
3 in 1 Hitch
Check for Wear..... 220E-1
Lubricate..... 220E-1
Clevis Assembly
Category 3 Drawbar 60F-2
Category 4 Drawbar 60F-3
High Vertical Load Drawbar Support..... 60F-4
Load limitations 60F-1
Drop rate
Front hitch..... 60D-3
Rear hitch 60E-3
Dual Beam Radar
Checking..... 220A-3

E

e23 Transmission
Operate..... 50D-1
Set Speeds and Efficiency Manager..... 50D-4
Shift 50D-2
e23 Transmission Settings 50D-5
Access..... 50D-5
Custom 50D-7
Droop 50D-7
ECO..... 50D-8
Max Speeds..... 50D-8
Mode..... 50D-7
Effect of cold weather on diesel engines 200-1
Electrical system
Introduction..... 220F-1
Electronic display, use properly..... 30C-1
Emergency Exit 90D-5
Emission system
Certification label 500A-8
Emissions
Required language
EPA 500A-18
Emissions Equipment
DPF Service..... 20B-4
Emissions Performance
Tampering 2
Engine
Air Filter Precleaner..... 220B-3
Air Intake
Inspect
6.8 L engine 220B-13
Inspecting
9.0 L engine 220B-14
Auxiliary heater 20A-2
Change starting fluid canister..... 20A-2
Check engine and exhaust compartments
Check for debris..... 220B-6
Cold weather starting
6.8 L engines 20A-1
9.0 L engines 20A-1
Change starting fluid canister..... 20A-2
With starting aid 20A-2
Emissions certification 20-10
Oil
Changing
6.8 L 220D-3
9.0 L 220D-4
Check..... 220B-8
Operating..... 20-10
Restarting when Out of Fuel 20-12
Engine coolant
Disposing of..... 200D-3
Engine oil 200-1
Break-In
Interim tier 4, final tier 4, stage IIIB, stage IV, and stage V 200C-1
Diesel
Interim tier 4, final tier 4, stage IIIB, stage IV, and stage V 200C-1
Service interval for operation at high altitude 200C-1
Engine oil and filter service intervals
Interim tier 4, final tier 4, stage IIIB, stage IV, and stage V
0.12 L/kW or greater oil pan 200C-2
Operation at high altitude..... 200C-1
Engine Operation
Start the Engine 20-10
Stop the Engine 20-12
Engine Settings
Access 20-1

AUTO Exhaust Filter Cleaning 20-6
Disable AUTO Exhaust Filter Cleaning 20-7
Exhaust Filter Cleaning Overview 20-6
Main Page 20-1
Max Speeds 20-5
Parked Filter Cleaning 20-8
Power 20-3
Set Speeds 20-4
Engine Speed
PTO 60A-6
Engine Valve Clearance
2000 hour service 220B-15
Exhaust Filter, Safety
Safety, Exhaust Filter 05-14
External Switches
Hitch 60E-9
PTO 60A-5
SCV 70A-8

F

Fan belt tensioner, check
Check
Fan belt, check
Fan belt tensioner, change 220B-15
Fan Speed 90E-3
Feature Mode
SCV 70A-4
Fender
Front
Deluxe Pivoting Fenders 80B-16
Filling DEF Tank
Draining DEF Tank
DEF Tank
Tank, DEF 200B-2
Filters
Cab air
Inspecting or replacing 220D-7
Cab recirculation
Replacing 220D-7
Engine
6.8 L 220D-3
9.0 L 220D-4
Air
Checking 220B-4
Replace 220D-1
Front PTO 220D-11
Fuel
Replacing 220D-5
Filters
Crankcase Ventilation Filter-6.8 L Engine 220D-12
Filters, Oil
Oil Filters 200-2
Flow Adjustment
SCV 70A-4
Flow Adjustment Sensitivity
SCV 70A-7
Freeing a Mired Tractor
Transport 110-7
Front console
Example 30-1
Front Console
Left-Hand Reverser
CommandPRO Transmission 50F-1
e23 Transmission 50D-1
IVT and EVT Transmissions 50E-1
Speed Control Pedal
CommandPRO Transmission 50F-1
Front grille lights
Adjusting 220F-8
Front Hitch
Lift Capacities 60D-1
Front hitch settings
Access 60D-1
Drop Rate 60D-3
Main Page 60D-1
Position 60D-3
Raise Rate 60D-3
Set points 60D-3
Upper limit 60D-2
Fuel
Biodiesel 200A-2
Diesel 200A-1
Filters
Replacing 220D-5
Handling and storing 200A-3
Lubricity 200A-3
System 20-10
Tank sump
Draining 220A-1, 220B-7
Fuel Filters
Filters, Fuel 200A-4
Fuel system
Bleeding 210-5
Do not modify 210-5
Fuel Tank
Fill 200A-3
Fuses
Location 220F-3, 220F-4

G

Gauges 30A-1
Gear lubricant 200E-2
Glossary 00-1
GPS
Configure Tractor 50B-1
GPS Data
RS232 Serial Communication Connection 90D-9
Grease
Multipurpose Extreme Pressure (EP) 200E-2
Ground Speed 30A-1
Ground Speeds
e23 Transmission 500A-6

IVT/AutoPowr 500A-7

H

Halogen light bulbs
Handling 220F-7
Handling
Halogen light bulbs 220F-7
Hardware torque values
Metric 210-6
Unified inch 210-7
Headlights
Aiming 220F-7
High-pressure washers 210-5
Hitch
Draft link support shaft bushing
Lubricating 220E-4
External Switches 60E-9
Front
Using 60D-4
Rear
Lubricating 220E-1
Wagon 60E-15
Hitch (Rear)
3 in 1 System 60E-16
Adjust Implement Level 60E-13
Adjust Lateral Float 60E-14
Adjust Sway Blocks 60E-10
Components 60E-9
Convertible Quick-Hitch Lower Hooks
Category 3/3N 60E-15
Deluxe Stabilizers 60E-11
Draft Link
Storage Position 60E-9
Float Operation 60E-8
Manual Lowering 60E-10
Quick-Hitch 60E-12
Detach Implement 60E-14
Hitch control lever
Adjustments 60E-7
Hitch controls 30B-1
Hitch Conversion 60E-15
Hitch Lift Capacities
Front 60D-1
Rear 60E-1
Hitch, Trailer
Manually Operated
Wear, checking for signs of 220B-10
Remote controlled
Wear, checking for signs of 220B-11
Tow Hitch (ball-type)
Wear, checking for signs of 220B-12
Tow Hitch (piton fixed)
Wear, checking for signs of 220B-12
Horn
Operate 30-1
HVAC
Settings
Access 90E-1
Air Conditioning 90E-3
Air Flow Mode 90E-3
Climate Control Automation 90E-2
Fan Speed 90E-3
Main page 90E-1
Set Temperature 90E-2
Hydraulic
Connections
Hitch auxiliary raise kit 70B-11
Load-Sensing Hydraulic System 70B-3
Motor Case Drain 70B-10
Motor Return 70B-10
Examples
Auxiliary Motor Return 70B-7
Hitch Cylinders Controlled by SCV in Parallel with Hitch Auxiliary Raise 70B-10
Integral Planter with Hitch Auxiliary Raise Operated in Parallel with Hitch Valve 70B-9
Intergral Planter with Hitch Auxiliary Raise 70B-10
Motor Application Using Power Beyond 70B-6
Motor Application Using SCV Retract 70B-7
Motor Case Drain 70B-6
Planter with Vacuum Motor 70B-8
Pressure Control Valve Applications 70B-5
Return Line to SCV Using Motor Return Tip 70B-8
Implements Requiring Large Volumes of Oil 70B-11
Oil
Changing 220D-8
Level, Checking 220B-9
SCV Controls
Joystick 70A-10
Total Flow Demand 70A-9
Warm-up 50B-3
Hydraulic Center Link (If Equipped)
Adjust 60E-13
Hydraulic Connections
Component Identification and Location-Mid-Mound or Front SCVs 70B-3
Component Identification and Location-Rear SCVs 70B-2
Connect/Disconnect Hydraulic Hoses 70B-1
Hydraulic oil 200E-1
Hydraulic System
Load Sense
Power Beyond Examples 70B-4

I

Identification Number
Cab Serial Number 500B-2
Identification Plates 500B-1
Identification Numbers
Axle Serial Number 500B-2

Engine Serial Number 500B-1
Product Identification Number 500B-1
Transmission Serial Number 500B-2
ILS and MFWD
Front tire settings, Fender and Steering Stop Settings Explanation 80B-1
Implement and Tractor Codes 100-19
Implement Connector
Clean Implement Connector 220A-4
Clean Implement Etherenet Connector 220A-4
Ethernet 90D-8
ISO 11783 ..... 90D-8
Implement Level
Adjust 60E-13
Inching Mode
IVT Transmission 50E-5
Independent Mode
SCV 70A-3
Indicators
Alert 30A-1
Digital 30A-1
Information 300B-1
Service alert 300B-1
STOP 300B-1
Warning 30A-1
Indicators overview 20B-1
Inspecting
Or replacing cab air filters 220D-7
Or replacing recirculation filter 220D-7
Instructional seat 90-6
Intelligent Total Equipment Control (iTEC)
Abort conditions 40-3
Cancel conditions 40-3
CommandARM control functions 40-1
CommandCenter description 40-1, 40-2
Inhibit conditions 40-3
Interrupt conditions 40-3
iTEC functions for IVT/AutoPowr 40-6
Perform sequence 40-5
Recommendations (AutoLearn) 40-5
Set Assignments 40-4
Set up a sequence 40-2
Introduction to
Electrical system 220F-1
iTEC
Functions
Efficiency manager transmission 40-6
iTEC station description 40-1
IVT Transmission
Inching Mode 50E-5
Operate 50E-1
Set Speeds 50E-5
Shift 50E-2
IVT Transmission Settings 50E-6
Access 50E-6
Custom 50E-8
Droop 50E-9
ECO 50E-9
Max Speeds 50E-10
Mode 50E-8
Pedal Mode 50E-8
IVT with CommandPRO Joystick Transmission
Operate 50F-1
Shift 50F-1

J

Jacking up the tractor 210-3
Joystick 70A-10
Operation 70A-10

K

Key switch 30-2

L

Large Square Baler
Ride Control 50-4
Lateral Float 60E-14
Lift Links
Adjust 60E-13
Lifting points for jacking up 210-3
Lighting controls 30B-2
Lights
Access Settings 90C-2
Adjusting front grille lights 220F-8
Aiming headlights 220F-7
Daytime running lights setting 90C-5
Engine off delayed lighting setting 90C-5
Entrance/exit lights setting 90C-5
Extremity warning lights 90C-5
Front grille flood light bulbs
Replacing 220F-8, 220F-9
Hazard lights 90C-5
Hood/belt line settings 90C-4
Light identification 220F-9, 220F-12
Light Identification 90C-2
Main page 90C-3
Operate 30-3
Rotary beacon light 90C-5
Worklights presets settings 90C-4
Lights
7 pin outlet 90C-5
Liquid ballast 100-20
Load center fuses 220F-3
Front load center fuses 220F-4
Load depth
Rear hitch 60E-4
Lock damping
Rear hitch 60E-6
Lubricant
Mixing 200E-1

Lubricant Storage
Storage, Lubricant 200E-1
Lubricants, safety 200E-1
Lubricate
Deluxe stabilizers 220E-1
Lubricating
Axle Pivot 220E-3
Draft link support shaft bushing 220E-4
Front Hitch 220E-1
MFWD Kingpins 220E-3
Panhard Rod 220E-3
Rear hitch 220E-1
Steering Cylinder 220E-3
Tie Rod Ends 220E-3
U-Joints 220E-3
Lubrication and maintenance
As required
Cleaning DEF tank 220A-1
Lubricity of diesel fuel 200A-3

M

Machine stop warning, required 20-9
Master fuses 220F-5
Mechanical Center Link
Adjust 60E-13
Mechanical front-wheel drive
MFWD 50-3
Metric bolt and screw torque values 210-6
MFWD
Axle housing
Changing oil 220D-11
Axle Housing
Oil Level 220B-7
MFWD and ILS
Front tire settings, Fender and Steering Stop Settings
Explanation 80B-1
Mirrors
Adjust 90A-1
Mixing lubricants 200E-1
Multipurpose Extreme Pressure (EP) grease . 200E-2

N

Navigating G5 CommandCenter 30C-3
Navigation bar 30B-6

O

Oil
Engine 200-1
Changing
6.8 L 220D-3
9.0 L 220D-4
Interim tier 4, final tier 4, stage IIIB, stage IV, and stage V 200C-1
Front PTO
Changing oil 220D-11
Checking Level 220B-10
Hydraulic 200E-1
Changing oil 220D-8
Checking Level 220B-9
MFWD
Axle housing
Changing oil 220D-11
Axle Housing
Checking Level 220B-7
Transmission 200E-1
Changing oil 220D-8
Checking Level 220B-9
Weep hole 220B-6
Operator Station
Business Band or CB, Install 90D-6
Optional Fuel Water Separator
Service—Check 220B-2
Optional Fuel Water Separator Filter Element
Service—Change 220D-6
Outlet
12V Accessory 90D-1, 90D-3
AC (Alternating Current) 90D-2

P

Paint care 220A-1
Park brake
Releasing 110-5
Pedals 30-2
Performance Ballasting
Implement and Tractor Codes 100-19
Rear Wheel Weight Use 100-7
Rear Wheel Weights-Flanged Axles 100-7
Position
Front hitch 60D-3
Predelivery
Predelivery Checklist 700-1
Product identification 500B-1
Psotion
Rear hitch 60E-5
Psotion control
Rear hitch 60E-6
PTO
Changing Stub Shaft 60C-2
Cold Weather Operation 60B-1
Correct Engine Speed 60A-6
External Switches 60A-5
Front
Changing oil 220D-11
Checking Oil Level 220B-10
Front PTO Disconnect 60B-1
Operate 60A-5
PTO-Driven Implement, Front 60B-1
PTO-Driven Implement, Rear 60C-3
Settings
Access 60A-1
Advanced 60A-2

Engagement Rate 60A-3
Main Page 60A-1
PTO Out-of-Seat 60A-3
Rear PTO Speed Limit 60A-3
Shield
Type 3 PTO 60C-1
Shiftable PTO 60C-1
PTO control levers 30B-2

Q

Quick-Hitch 60E-14

R

Radar
Configure Tractor 50B-1
Radar Calibration 30C-5
Radiator
Clean 220A-2
Radio controls 30B-2
Raise rate
Front hitch 60D-3
Rear hitch 60E-4
Rear hitch
Depth set point 60E-8
Rear Hitch
Lift Capacities 60E-1
Rear hitch settings
Access 60E-1
Advanced 60E-6
Draft control 60E-7
Drop rate 60E-3
Load depth 60E-4
Main Page 60E-1
Position 60E-5
Position control 60E-6
Raise rate 60E-4
Slip sensitivity 60E-4
Upper limit 60E-3
Rear Wheel Weight Use
Performance Ballasting 100-7
Recirculation Air Filter
Inspecting or replacing 220D-7
Reduce fuel consumption 20-12
Refrigerator 90D-3
Refueling, avoid static electricity risk 05-4
Remove tractor from storage
Remove tractor storage 400-1
Replace engine crankshaft damper 220D-19
Replace fan belt
Fan
Fan belt 220D-2
Required machine stop warning 20-9
Restarting when Out of Fuel 20-12
Ride Control
Large Square Baler 50-4
Rim type
8- or 16-Position 80B-13
RS232 Serial Communication Connection 90D-9
RTK Receiver
Installation 90D-7
Running engine 20-11

S

Safety
Handling Halogen light bulbs 220F-7
Protect against noise 05-2
Rotating drivelines, stay clear 05-5
Safe maintenance, practice 05-14
Tires, service safely 05-17
Towed equipment, transport at safe speeds .. 05-9
Tractor, operating safely 05-6
Use caution on slopes, uneven terrain, and rough ground 05-10
Safety chain 110-3
Safety Lights and Devices
Rotary Beacon Light 90C-5
Safety, Avoid High-Pressure Fluids
Avoid High-Pressure Fluids 05-18
Safety, Fire Prevention
Fire Prevention 05-3
Safety, Forestry Operations
Limited Use in Forestry Operation 05-7
Safety, Handle Fuel Safely, Avoid Fires
Avoid Fires, Handle Fuel Safely 05-2
Safety, lubricants 200E-1
Safety, ROPS
ROPS, Keep Installed Properly 05-4
Safety, Steps and Handholds
Use Steps and Handholds Correctly 05-5
Safety, Tightening Wheel Retaining Bolts/Nuts
Tightening Wheel Retaining Bolts/Nuts 05-17
SCR
System overview 20B-3
SCV
External Switches 70A-8
SCV Control Lever
Adjustments 70A-7
SCV control levers 30B-2
SCV Controls
Joystick 70A-10
SCV Settings 70A-1
Access 70A-1
Activating Independent Mode 70A-6
Advanced 70A-5
Assignment 70A-6
Automation 70A-6
Feature Mode 70A-4
Flow Adjustment 70A-4
Flow Adjustment Sensitivity 70A-7
Independent Mode 70A-3
Standard Mode 70A-3

Time Adjustment 70A-5
TouchSet Depth Control 70A-4
Seat
ActiveSeat II 90-3
Air Seat 90-1
Clean 220A-2
Operator Presence Sensor 90-5
Seat Belts
Checking 220B-15
Serial numbers 500B-1
Service
250 hours
Checking MFWD wheel hub oil 220B-8
Checking wear ball type tow hitch 220B-12
Checking wear manually operated hitch .. 220B-10
Checking wear piton fix type tow hitch ... 220B-12
Checking wear remote controlled tow hitch 220B-11
500 hours
Check wheel and weight bolt torque 220C-1
1000 hours
Inspecting recirculation filter 220D-7
1000 hours
Inspecting cab air filters 220D-7
1500 hours
Changing MFWD or ILS hub oil 220D-11
2000 hours
Check engine valve clearance 220B-15
5000 hours
Replacing engine crankshaft damper 220D-19
Annual
Checking seat belts 220B-15
As required
Cleaning DEF tank 220A-1
Implement power relay module 220F-6
Service
1500 hours
Cleaning fuel tank vent filter 220D-13
SCV Pilot Filter 220D-13
Service—Change
Optional Fuel Water Separator Filter Element 220D-6
Transmission Torsional Damper 220D-19
Service—Check
Hitch and Drawbar Wear 220B-13
Optional Fuel Water Separator 220B-2
Service—Clean
Tractor Exterior 220A-1
Service—Electrical
Change Belt Line Work Light-Front/Rear 220F-9
Change Extremity Arm Light 220F-12
Change Rear Fender Light-Rear Indicator .. 220F-11
Change Wrap-Around Cab Light 220F-10
ServiceADVISOR 30C-5
Servicing and Connecting Snap to Connect Fittings .. 210-4
Set points
Front hitch 60D-3
Set Speed 30A-1
Signal words, understand 05-1
Slip Calibration 30C-6
Slip sensitivity
Rear hitch 60E-4
Snap to Connect Fitting (STC)
STC 210-4
Specifications
Capacities 500A-1
Engine 500A-1
Ground Speeds: e23 Transmission 500A-6
Ground Speeds: IVT/AutoPowr 500A-7
Hitch, Drawbar, and PTO 500A-3
Hydraulic System 500A-2
Integrated Technology 500A-4
Overall Dimensions 500A-5
Tractor Weights 500A-6
Transmission and Drivetrain 500A-2
Standard Mode
SCV 70A-3
StarFire Reciever
Installation 90D-7
Steering fault indicator 30A-1
Steering Settings
Access 30C-7
ACS 2 Sensitivity 30C-8
ACS 2 Variable Ratio Steering 30C-8
Main Page 30C-7
Reactive Steering 30C-9
Steering Wheel Resistance 30C-9
Steering wheel and column
Adjust 30-1
Steps
Left-Hand 90B-1
Right-Hand 90B-2
Storage
Cool Box 90D-3
Fender 90D-4
Operator's Manual 90D-4
Overhead 90D-4
Removal From 400-1
Storing fuel 200A-3
Sunshade 90D-4
Suspension
Operate
HydraCushion 50-2
ILS 50-2
TLS Plus 50-2
Suspension Settings 50-1
Access 50-1
Manual 50-2
Sway Blocks 60E-10
Switches
Remote Front Hitch 60D-4

T

Tachometer 30A-1
Temperature 90E-2
Testing diesel fuel 200A-4
Time Adjustment
  SCV 70A-5
Tire Pressure
  Front
    Group 42 Tires 80A-1
    Group 43 Tires 80A-2
    Group 44 Tires 80A-6
  Rear
    Group 47 Tires 80C-1
    Group 48 Tires 80C-5, 80C-9
    Group 49 Tires 80C-15
Tires, service safely 05-17
TLS Plus
  Accumulator Charge Pressure
    Checking 220B-14
Top speed, note 50B-3
Torque charts
  Metric 210-6
  Unified inch 210-7
TouchSet Depth Control
  Connect/Disconnect the Implement Position Connector 70C-1
  Settings 70A-4
  Settings and Adjustments 70C-1
Tow hitch (piton fix)
  Wear, checking for signs of 220B-12
Tow Mode 110-5
Towed equipment, transport at safe speeds 05-9
Towing
  Loads 110-3
Towing tractor
  Releasing park brake 110-5
Towing Tractor 110-4
Tractor
  AutoClutch 50A-5
  Storage
    Preparation For 400-1
Tractor Loads/Weights 500A-6
Tractor storage 400-1
Tractor-Implement Automation (TIA)
  Activate 40A-1
  Introduction 40A-1
  Operate 40A-1
  PowerShift Transmission Requirements 40A-4
  Requirements for AutoTrac 40A-4
  Requirements for E-SCVs 40A-2
  Requirements for IVT/AutoPowr 40A-2
  Requirements for IVT/AutoPowr with CommandPRO Joystick 40A-3
  Requirements for PTO 40A-2
  Requirements for rear hitch 40A-5
Tractor, operating safely 05-6
Trailer air brake filter
  Air brake dryer filter 220D-14
Trailer Brake
  Air 50A-6
  Hydraulic 50A-5
Trailer Brake System Settings
  Access 50A-1
  Advanced 50A-3
  Brake Gain 50A-2
  Main Page 50A-1
  Pre-Brake Offset 50A-2
  Trailer Brake Test 50A-3
Trailer hitch
  Manually Operated
    Wear, checking for signs of 220B-10
  Remote Controlled
    Wear, checking for signs of 220B-11
  Tow Hitch (ball-type)
    Wear, checking for signs of 220B-12
  Tow Hitch (piton fixed)
    Wear, checking for signs of 220B-12
  Wear, checking for signs of 220B-11
Transmission
  Access Advanced Settings 50B-1
  Advanced Settings 50B-1
  CommandPRO Joystick 50F-2
  e23
    AutoClutch 50A-5
  IVT/AutoPowr
    AutoClutch 50A-5
  Oil
    Changing 220D-8
    Level, Checking 220B-9
  Operate
    e23 ..... 50D-1
    IVT 50E-1
    IVT with CommandPRO Joystick 50F-1
  Park position 220B-16
  Set Speeds
    IVT 50E-5
  Set Speeds and Efficiency Manager
    e23 ..... 50D-4
  Shift
    e23 ..... 50D-2
    IVT 50E-2
    IVT with CommandPRO Joystick 50F-1
  Warm-up 50B-3
Transmission oil 200E-1
Transmission Settings
  Access
    CommandPRO 50F-6
    e23 ..... 50D-5
    IVT 50E-6
  Custom
    CommandPRO 50F-8
    e23 ..... 50D-7

IVT 50E-8
Droop
CommandPRO 50F-9
e23 ..... 50D-7
IVT 50E-9
ECO
e23 ..... 50D-8
IVT 50E-9
Main Page
CommandPRO 50F-6
e23 ..... 50D-5
IVT 50E-6
Max Speeds
e23 ..... 50D-8
IVT 50E-10
Minimum Engine Speed
CommandPRO 50F-9
Mode
CommandPRO 50F-8
e23 ..... 50D-7
IVT 50E-8
Pedal Mode
IVT 50E-8
Set Speeds
CommandPRO 50F-10
Shuttle Shift Speeds
CommandPRO 50F-10
Speed Limits
CommandPRO 50F-11
Transport
Carrier Transport 110-6
Freeing a Mired Tractor 110-7
Transporting
Driving on Roads 110-2
Tow Mode 110-5
Towing Tractor 110-4
With ballast 110-2, 110-3
Transposrting
Come Home Mode 110-5
Turn signals
Operate 30-2

U

Unified inch bolt and screw torque values 210-7
Upper limit
Front hitch 60D-2
Rear hitch 60E-3
USB Input
CommandCenter 90D-1
Radio 90D-1

W

Warranty
Non-road emissions control warranty statement--compression ignition
CARB 500A-10
EPA 500A-9
Water separator
Draining 220B-2
Weights 100-7
Wheel
Weight 100-20
Wrench adapter 220C-1
Wheels
Checking 220B-14
Clamp-On Dual 80-4
Determine rim type 80B-13
Eight position wheel settings 80B-13
Front
Inflation Pressure
Group 44 Tires 80A-6
Inflation Pressures
Group 42 Tires 80A-1
Group 43 Tires 80A-2
MFWD
Tightening Wheel Bolts 80A-8, 220C-2
Tire Load Index 80-2
Toe-in 80A-8
Tire Combinations 80-1
Tire, fender, steering stop settings
1300 Axle 80B-1, 80B-5, 80B-8
TLS Plus axle 80B-4, 80B-7, 80B-11
TLS Plus
Toe-in 80A-8
Minimum tread setting
With air brakes 80C-21
Rear
Adjusting and Tightening
12-Bolt Hubs 80C-23, 220C-5
Cast 10-Bolt Hubs 80C-23, 220C-4
Cast Hubs 80C-22, 220C-4
Dual Hub Extensions 80C-28
Dual Row Crop Settings 80C-28
Guidelines
Wheel, Tire, and Tread 80C-21
Inflation Pressures
Group 47 Tires 80C-1
Group 48 Tires 80C-5, 80C-9
Group 49 Tires 80C-15
Installing Drive Wheel to Hub 80C-22, 220C-3
Installing Steel Wheel to Hub 80C-22, 220C-3
Tread settings
Dual wheel - cast 80C-26
Single wheel - cast 80C-24
Weights 220C-2
Settings
Sixteen position 80B-15

Tightening stand 220C-1
Wheels and Tires—General Information
Tire Inflation Pressure Guidelines 80-3
Wheels-Rear
Flanged Axles 100-7
Windshield washer fluid
Check level 220B-1
Wipers and Washers
Operate 30-1

Z

Zinc-Flake
Coated Fasteners 210-6

John Deere Service Literature Available

Technical Information

Technical information can be purchased from John Deere. Publications are available in print or CD-ROM format.

Orders can be made using one of the following:

- John Deere Technical Information Store: **www.JohnDeere.com/TechInfoStore**
- Call 1-800-522-7448
- Contact your John Deere dealer

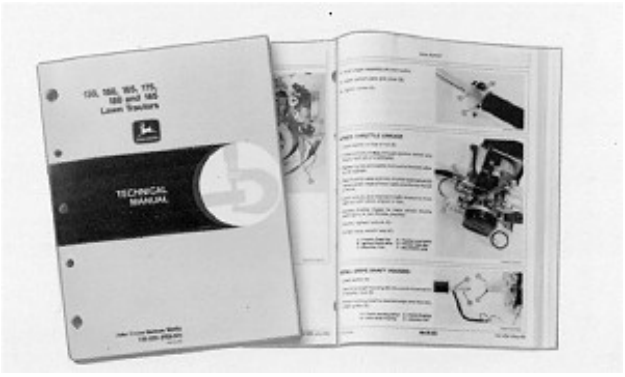
Available information includes:

TS189—UN—17JAN89

PARTS CATALOGS list service parts available for your machine with exploded view illustrations to help you identify the correct parts. It is also useful in assembling and disassembling.

TS191—UN—02DEC88

OPERATOR'S MANUALS providing safety, operating, maintenance, and service information.



TS224—UN—17JAN89

TECHNICAL MANUALS outlining service information for your machine. Included are specifications, illustrated assembly and disassembly procedures, hydraulic oil flow diagrams, and wiring diagrams. Some products have separate manuals for repair and diagnostic information. Some components, such as engines, are available in a separate component technical manual.

TS1663—UN—10OCT97

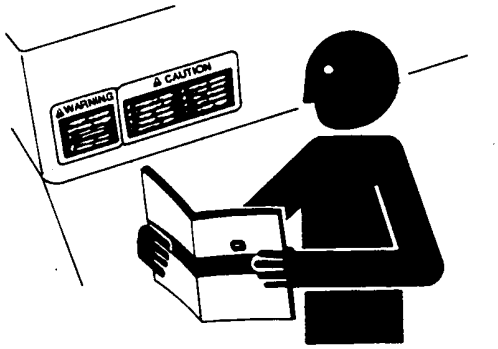
EDUCATIONAL CURRICULUM including five comprehensive series of books detailing basic information regardless of manufacturer:

- Agricultural Primer series covers technology in farming and ranching.
- Farm Business Management series examines "real-world" problems and offers practical solutions in the areas of marketing, financing, equipment selection, and compliance.
- Fundamentals of Services manuals show you how to repair and maintain off-road equipment.
- Fundamentals of Machine Operation manuals explain machine capacities and adjustments, how to improve machine performance, and how to eliminate unnecessary field operations.
- Fundamentals of Compact Equipment manuals provide instruction in servicing and maintaining equipment up to 40 PTO horsepower.

DX,SERVLIT-19-07DEC16

John Deere Service Keeps You On The Job

John Deere Is At Your Service



TS201—UN—15APR13

CUSTOMER SATISFACTION is important to John Deere.

Our dealers strive to provide you with prompt, efficient parts and service:

–Maintenance and service parts to support your equipment.

–Trained service technicians and the necessary diagnostic and repair tools to service your equipment.

CUSTOMER SATISFACTION PROBLEM RESOLUTION PROCESS

Your John Deere dealer is dedicated to supporting your equipment and resolving any problem you may experience.

1. When contacting your dealer, be prepared with the following information:

–Machine model and product identification number

–Date of purchase

–Nature of problem

2. Discuss problem with dealer service manager.

3. If unable to resolve, explain problem to dealership manager and request assistance.

4. If you have a persistent problem your dealership is unable to resolve, ask your dealer to contact John Deere for assistance. Or contact the Ag Customer Assistance Center at 1-866-99DEERE (866-993-3373) or e-mail us at www.deere.com/en_US/ag/contactus/.

DX,IBC,2-19-02APR02