Premium Tractors 6230, 6330 and 6430

OPERATOR'S MANUAL

Premium Tractors 6230, 6330 and 6430

OMAL171426 ISSUE A2 (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.

Additional Proposition 65 Warnings can be found in this manual.

John Deere Werke Mannheim
(This manual replaces OMAL171426 J0)
North American Edition
LITHO IN U.S.A.

DCY

OMAL171426

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 the 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 ”Serial 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 the first 100 hours, schedule an after-sale inspection with your 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.

OU12401,00013C4 -19-25MAR06-1/1

Contents

Page

Identification Views
Identification Views....00-1

Safety
Recognize Safety Information....05-1
Understand Signal Words....05-1
Follow Safety Instructions....05-1
Prepare for Emergencies....05-2
Wear Protective Clothing....05-2
Protect Against Noise....05-2
Handle Fuel Safely—Avoid Fires....05-3
Handle Starting Fluid Safely....05-3
Fire Prevention....05-3
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 Manuals for ISOBUS Implements....05-5
Use Seat Belt Properly....05-6
Operating the Tractor Safely....05-7
Avoid Backover Accidents....05-8
Limited Use in Forestry Operation....05-8
Operating the Loader Tractor Safely....05-8
Keep Riders Off Machine....05-9
Instructional Seat....05-9
Use Safety Lights and Devices....05-9
Use a Safety Chain....05-10
Transport Towed Equipment at Safe Speeds....05-10
Use Caution On Slopes and Uneven Terrain....05-11
Freeing a Mired Machine....05-11
Avoid Contact with Agricultural Chemicals....05-12
Handle Agricultural Chemicals Safely....05-13
Handling Batteries Safely....05-14
Avoid Heating Near Pressurized Fluid Lines....05-14
Remove Paint Before Welding or Heating....05-15
Welding Near Electronic Control Units....05-15
Handle Electronic Components and Brackets Safely....05-15
Practice Safe Maintenance....05-16
Avoid Hot Exhaust....05-16
Work In Ventilated Area....05-17
Support Machine Properly....05-17
Prevent Machine Runaway....05-17
Park Machine Safely....05-18
Transport Tractor Safely....05-18
Service Cooling System Safely....05-18

Page

Service Accumulator Systems Safely....05-19
Service Tires Safely....05-19
Service Front-Wheel Drive Tractor Safely....05-19
Tightening Wheel Retaining Bolts/Nuts....05-20
Avoid High-Pressure Fluids....05-20
Do Not Open High-Pressure Fuel System....05-20
Store Attachments Safely....05-21
Dispose of Waste Properly....05-21

Safety Decals
Prevent Machine Runaway....10-1
Use Seat Belt....10-1
Operate the Tractor Safely....10-2
Do Not Modify ROPS....10-3
Tow Loads Safely....10-3
Use of Instructional Seat....10-4
Stay Clear of PTO....10-4
Suspension System (e.g. TLS Front Axle and/or Cab)....10-5

Controls and Instruments
Vehicle Controls (Tractors with PowrQuad Plus and AutoQuad Plus Transmission)....15-1
Vehicle Controls (Tractors with AutoPowr/IVT)....15-2
PTO Controls....15-3
Creeper Control....15-3
Attachment Controls....15-4
Heater and Air-Conditioning Controls (Tractors without ClimaTrak System)....15-4
Heater and Air-Conditioning Controls (Tractors with ClimaTrak System)....15-5
Indicator Lights and Displays....15-6
Controls and Displays....15-8
GreenStar Display (Optional)....15-16
AutoTrac (Optional)....15-16
Software Update....15-17

Lights
Light Switches....20-1
Worklights....20-2
Xenon (HID) Worklights....20-2
Additional Headlights....20-3
Beacon Light (Optional Equipment)....20-3
Lights....20-4
Use Safety Lights and Devices....20-4
Turn on the Hazard Warning Light....20-5

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.

Page

Turn Signal Lights and Horn 20-5
Seven-Terminal Trailer Socket 20-5

Operator's Cab
Roll-Over Protective Structure (ROPS) 25-1
Seat Belt 25-1
Avoid Contact with Agricultural Chemicals 25-2
Clean Vehicle of Hazardous Pesticides 25-2
Super Comfort Seat 25-3
Air Comfort Seat 25-4
Instructional Seat 25-4
Opening Windows 25-6
Windshield Wiper and Washer System 25-7
Fan and Air Louvers (Tractors without ClimaTrak System) 25-8
Heater (Tractors without ClimaTrak) 25-8
Air-Conditioning (Tractors without ClimaTrak) 25-9
Tips on Using Air-Conditioning 25-9
Using ClimaTrak (Automatic Temperature Control) 25-10
Changing the ClimaTrak Display (ATC) 25-11
Storage Box 25-12
Refrigerator (If Equipped) 25-12
Dome Light 25-13
Control Switches for Rear-View Mirror and Rear-Window Heater (If Equipped) 25-13
Adjusting the Steering Wheel 25-13
Back-Up Alarm (Optional Equipment) 25-14
Adjusting the Height of Access Step 25-14
Installing the Monitor 25-15
Electrical Sockets (If Equipped) 25-16
Multiple Power-Outlet Socket Strip (If Equipped) 25-17
Service ADVISOR™ Socket 25-17
ISOBUS Socket (If Equipped) 25-18
Roof Hatch (If Equipped) 25-19
Emergency Exits 25-20

Break-in Period
After the First 4 and 8 Hours of Operation 30-1
Within the First 100 Hours of Operation 30-2
After the First 100 Hours of Operation 30-2

Prestarting Checks
Prestarting Checks 35-1
Comply with Operator's Manuals of Implement Manufacturers 35-2

Operating the Engine
Important Information Regarding the Engine 40-1
Positions of Main (Key) Switch 40-1
Starting the Engine 40-2
Cold-Weather Starting Aid 40-3
Starting with a Booster Battery 40-3
Fuel Preheater 40-3
Using Auxiliary Heaters — If Equipped 40-4
Engines with Turbocharger 40-4

Page

Intelligent Power Management (Power Boost) — Optional Equipment 40-5
Engine Protection 40-6
Towing the Tractor 40-6
Park the Tractor (Tractors without IVT) 40-7
Parking the Tractor (Tractors with IVT) 40-7
Stopping the Engine 40-7

Operating the Tractor — General
Reduce Fuel Consumption 45-1
Select Correct Ground Travel Speed 45-3
Travel Speed Tables 45-3
Changing Tires 45-3
Travel Speeds, PowrQuad Plus Transmission (16/16) 45-4
Travel Speeds, PowrQuad Plus Transmission (24/24) 45-6
Engage the Front-Wheel Drive 45-7
Tractors with TLS Front Axle 45-8
Engaging and Operating Creeper Transmission 45-9
Engage the Differential Lock 45-9
Hydraulic Foot Brakes 45-10

Operating the Tractor — PowrQuad Plus
Shift the PowrQuad Plus Transmission 46-1
PowrQuad Plus Transmission — Settings 46-2

Operating the Tractor — AutoQuad Plus
Shift the AutoQuad Plus Transmission 47-1
AutoQuad Plus Transmission — Settings 47-4

Operating the Tractor — IVT
Special Features on Tractors with IVT 48-1
IVT — Operating on Hillsides in Slippery Conditions 48-1
IVT — Starting in Cold Weather 48-2
Operating the IVT 48-2
IVT - Settings 48-5
IVT ”Come Home” Mode 48-10
Towing an IVT-Equipped Tractor 48-10

Hitch
Hitch Control 50-1
Hitch Control on Fender 50-2
Lift Limit 50-3
Transport Mounted Implements 50-3
Hitch Dampening 50-4
Adjusting Rate of Implement Drop 50-4
Rate of Lift Adjustment 50-4
Depth Adjustment 50-5
Load/Depth Adjustment 50-5
Float Position 50-7
Direct Actuation 50-7
Three-Point Hitch 50-7
Telescopic Draft Links 50-8
Quick-Coupling (Hook-Type) Draft Links 50-8

Continued on next page

Page

Attach Three-Point Hitch Mounted and Drawn Implements 50-11
Leveling the Implement 50-11
Center Link 50-11
Quick-Coupling (Hook-Type) Center Link 50-12
Hydraulic Center Link 50-13
Center Link Positions 50-13
Lift Links 50-14
Adjust for Vertical Float 50-15
Sway Blocks (If Equipped) 50-15
Stabilizing System (If Equipped) 50-16
Adjusting Spreading Dimension 50-16
Hydraulic Stabilizer Bars (If Equipped) 50-17
Adjusting the Spreading Dimension on Hydraulic Stabilizer Bars 50-18

HMS — Headland Management System

HMS — Headland Management System (If Equipped) 51-1
HMS, Possible Functions 51-2
HMS, Controls 51-4
HMS, Programming with Tractor Stationary (Edit Mode) 51-5
HMS, Programming with Tractor Stationary, Example 51-6
HMS, Programming with Moving Tractor (Learn Mode) 51-7
HMS, Programming with Tractor Moving, Example 51-8
HMS, Performing the Stored Programs 51-9

Power Take-Off

PTO Guard 55-1
Operating Instructions 55-1
PTO Options 55-2
Overspeed Protection 55-2
PTO Operation 55-3
Select Standard Speed of Rear PTO (Shiftable PTO) 55-4
Fine Adjustment of Rear PTO Speed (Shiftable PTO; PTO Cruise) 55-5
Reversing Rear PTO Shafts 55-6
Attaching PTO-Driven Equipment 55-7

Ballast

Selecting Ballast 60-1
Ballasting Rear Wheels 60-1
Measuring Rear Wheel Slip 60-1
Installing Weights on Flanged Axle 60-2
Installing Weights on Rack-and-Pinion Axle 60-2
Filling Tires with Liquid Ballast 60-3
Draining the Tires 60-3
Installing Front Weights 60-3

Wheel Tread, Tires

Use of Dual Wheels (easy-to-attach) 65-1
Tires on Front Wheels 65-1

Page

Adjustable Front Axle (Tractors without Front-Wheel Drive) 65-1
Front-Wheel Tread Adjustment 65-2
Change Wheels Safely 65-2
Check Toe-In 65-3
Adjust Toe-In (Tractors without Front-Wheel Drive Axle) 65-4
Adjusting Toe-In on Front-Wheel Drive Axle 65-4
Front Wheel Tread Adjustment (Tractors With Front Wheel Drive) 65-4
Adjusting Front Wheel Tread with Reversible Wheel Rims 65-5
Tread Adjustment, Adjustable Rims 65-6
Tighten Wheel Nuts 65-7
Adjusting the Fixed Fenders 65-7
Adjusting the Pivoting Fenders 65-9
Rear Wheel Tread Adjustment with Flanged Axle 65-10
Positions of Rims and Wheel Disks with Flanged Axle 65-11
Tread Widths, Flanged Axle 65-11
Rear Wheel Tread Adjustment with Rack-and-Pinion Axle 65-12
Positions of Rims and Wheel Disks with Rack-and-Pinion Axle 65-13
Tread Widths, Rack-and-Pinion Axle 65-14
Service Tires Safely 65-15
Tire Pressures, General 65-15
Ascertain the Correct Tire Pressure 65-16
Tire Pressure (for 30 km/h; 18.5 mph) — Front Tires on Tractors without Front-Wheel Drive 65-16
Tire Pressure (for 40 km/h; 25 mph) — Front Tires on Tractors with Front-Wheel Drive 65-17
Tire Pressure (for 40 km/h; 25 mph) — Rear Wheels 65-18
Tire Combinations (Tractors with Front-Wheel Drive) 65-19
Check Oil Sight-Glass (when the Tire Combination has been Changed) 65-20

Additional Equipment — Hydraulic System

Selective Control Valves 70-1
Adjustment of Pressure Limit at Series 300 and 350 Selective Control Valves 70-1
Levers for Mechanical Selective Control Valves 70-2
Levers for Electronic Selective Control Valves 70-3
Additional Functions for Electronic Control Valves (E-SCVs and E-ICVs) 70-4
Multi-Function Lever (Mechanical) 70-9
Mechanical Multi-Function Lever with Front-Loader Dampening 70-10
Multi-Function Lever (Electrical) 70-11
Positions of E-ICVs 70-12
Rate of Cylinder Operation 70-12
Couplers 70-12

Continued on next page

Page

Hose Unions 70-13
Maximum Permissible Oil Withdrawal 70-13
Oil Withdrawal with Hydraulic Motor 70-14
Instructions on Operating a Hydraulic Motor 70-14
Pressure-Free Return Circuit 70-14

Additional Equipment — Other
Drawbar 71-1
Proper Use of Drawbar 71-1
Lengthwise Adjustment of Drawbar 71-1
Front Loader Installation - Front Loader Brackets 71-2

Transport
Transporting the Tractor 75-1
Towing the Tractor 75-1
Manual Park Lock Release (Tractors with IVT) 75-1
Driving on Public Roads 75-4

Fuel, Lubricants, Hydraulic Oil and Coolant
Diesel Fuel 80-1
Handling and Storing Diesel Fuel 80-1
Lubricity of Diesel Fuel 80-2
Biodiesel Fuel 80-3
Diesel Engine Break-In Oil 80-4
Diesel Engine Oil and Filter Service Intervals 80-5
Transmission and Hydraulic Oil 80-6
Front-Wheel Drive Axle Oil 80-7
Grease 80-8
Mixing of Lubricants 80-8
Alternative and Synthetic Lubricants 80-8
Lubricant Storage 80-9
Oil Filters 80-9
Heavy Duty Diesel Engine Coolant 80-9
John Deere COOL-GARD™ II Coolant Extender 80-10
Operating in Warm Temperature Climates 80-10
Drain Intervals for Diesel Engine Coolant 80-10
Additional Information About Diesel Engine Coolants and John Deere LIQUID COOLANT CONDITIONER 80-11
Testing Diesel Engine Coolant 80-12
Oilscan™ and CoolScan™ 80-13

Lubrication and Periodic Service
Using High-Pressure Washers 85-1
Lubrication and Periodic Service 85-1
Safe Maintenance and Cleaning 85-2
General Instructions Regarding the Condition of the Tractor 85-2
Open the Hood 85-2
Access to Battery 85-3
Access to Fuses 85-3
Jack Up the Tractor - Lifting Points 85-4
Important Instructions Regarding Alternator 85-6

Page

Note Regarding the Service Interval for Engine Coolant 85-6
After the First 100 Hours 85-6
Service As Required 85-7
Check/Replace Hydraulic Hoses 85-7
Periodic Service 85-7
Other Service Jobs 85-7
Service (Daily / Every 10, Every 250, Every 500, Every 750 Hours) 85-8
Service (Annually, Every 1000, Every 1500 Hours) 85-9
Service (Every 2000, Every 6000 Hours, Every 10 Years) 85-9

Service / Daily or Every 10 Hours
Checking the Engine Oil Level 90-1
Checking the Fuel Filter 90-1
Checking on Lights 90-2
Other Service Jobs 90-2

Service / Every 250 Hours
Servicing the Fuel Tank 95-1
Check Transmission/Hydraulic System Oil Level 95-1
Prevent Battery Explosions 95-1
Checking Electrolyte Level of Battery 95-2
Lubricating the Front Axle (Tractors without Front-Wheel Drive) 95-2
Lubricating Front Axle and U.J. Shafts (Tractors with Front-Wheel Drive) 95-3
Check Oil Level in MFWD Axle Housing 95-4
Check Oil Level in MFWD Final Drives 95-4
Checking Brake Operation 95-4
Lubricating the Front PTO Drive Shaft 95-5
Lubricating the Three-Point Hitch 95-5
Lubricate the Pivoting Fenders 95-5
Lubricate the Cab Suspension System 95-6
Check the Neutral Start Circuit 95-6
Tighten Wheel Retaining Bolts/Nuts 95-7
Tighten Screws on Front Loader Bracket 95-8
Check the Swinging Drawbar for Wear 95-8

Service / Every 500 Hours
Changing Engine Oil 100-1
Changing Engine Oil Filter Element 100-1
Changing the Fuel Filters 100-2
Lubricating Rear Axle Bearings 100-2
Air Intake Hoses 100-2
Checking the Engine Ground Connection 100-3
Check the Cab Ground Connection 100-3
Check Engine Drive Belt for Wear 100-3

Service / Every 750 Hours
Replacing Transmission/Hydraulic System Filter Elements 105-1
Changing the Filter on the Front PTO (If Equipped) 105-1

Continued on next page

Page

Service / Once a Year
Checking Seat Belt 110-1
Check Engine Coolant 110-1

Service / Every 1500 Hours or 2 Years
Changing Oil in Front-Wheel Drive Axle and Final Drives 115-1
Change Oil In Front-Wheel Drive Axle Housing 115-1
Change Oil in Front-Wheel Drive Final Drives .. 115-1
Changing Transmission/Hydraulic Oil (Tractors with IVT) 115-2
Changing Transmission/Hydraulic Oil (Tractors NOT Equipped with IVT) 115-3
Changing the Oil at the Front PTO (If Equipped) 115-3

Service / Every 6000 Hours
Note Regarding the Service Interval for Engine Coolant 120-1
Change the Coolant 120-2

Service / As Required
Engine Air Cleaner 125-1
Cleaning the Primary Filter Element 125-1
Cleaning a Dusty Element 125-1
Secondary (Safety) Element 125-2
Installation 125-2
Clean the Cab Air Filters 125-2
Clean Radiator and Condenser (if equipped) ... 125-3
Check Coolant Level 125-5
Checking the Fuel Filter 125-5
Bleeding Air from the Fuel System 125-5
Lubricate All Lubricating Points 125-6
Operator's Seat 125-6
Prevent Battery Explosions 125-6
Battery - Checking Specific Gravity 125-6
Starter Motor 125-6
Fuses and Relays in the Engine Compartment 125-7
Fuses and Relays (Engine Compartment) 125-7
Fuses F01PLB (Engine Compartment) 125-8
Fuses F02PLB (Engine Compartment) 125-8
Relays K01PLB to K03PLB (Engine Compartment) 125-9
Fuse on Tractors with a Battery Cut-Off Switch 125-9
Fuses and Relays in the Cab (Tractors with PowrQuad Transmission) 125-10
Fuses and Relays (PowrQuad Transmission) 125-10
Relays K01 (PowrQuad Transmission) 125-10
Relays / Diodes K02 (PowrQuad Transmission) 125-11
Relays K03 (PowrQuad Transmission) 125-11
Fuses F04 (PowrQuad Transmission) 125-12
Fuses F05 (PowrQuad Transmission) 125-12

Page

Fuses F06 (PowrQuad Transmission) 125-13
Fuses F07 (PowrQuad Transmission) 125-13
Fuses F08 (PowrQuad Transmission) 125-14
Relays / Diodes K08 (PowrQuad Transmission) 125-14
Fuses and Relays in the Cab (Tractors with AutoPowr/IVT) 125-15
Fuses and Relays (AutoPowr/IVT) 125-15
Relays K01 (AutoPowr/IVT) 125-15
Relays / Diodes K02 (AutoPowr/IVT) 125-16
Relays K03 (AutoPowr/IVT) 125-16
Fuses F04 (AutoPowr/IVT) 125-17
Fuses F05 (AutoPowr/IVT) 125-17
Fuses F06 (AutoPowr/IVT) 125-18
Fuses F07 (AutoPowr/IVT) 125-18
Fuses F08 (AutoPowr/IVT) 125-19
Relays / Diodes K08 (AutoPowr/IVT) 125-19
Replacing the Drive Belt 125-20

Troubleshooting
Hydraulic System 130-1
Engine 130-2
Electrical System 130-3

Diagnostic Trouble Codes and Customization
What the Diagnostic Trouble Codes Mean 135-1
Customization 135-2
How to Access Information 135-3
ATC Control Unit 135-4
BCU Control Unit 135-5
BIF Control Unit 135-5
DSM Control Unit 135-6
ECU Control Unit 135-6
EPC Control Unit 135-7
ETC Control Unit 135-7
HTC Control Unit 135-7
JDL Control Unit 135-7
PLC Control Unit 135-8
SIC Control Unit 135-8
SSU Control Unit 135-8
TCU Control Unit 135-9
TEC Control Unit 135-9
TEI Control Unit 135-9
TSC Control Unit 135-9
UIC Control Unit 135-10
UIM Control Unit 135-10

Storage
Storage for a Long Period 140-1
Removing Tractor from Storage 140-2

Specifications
Engine (up to Model Year 2009) 145-1
Engine (from Model Year 2010) 145-2
Transmission 145-2
Hydraulic System 145-3
Loads and Weights 145-3

Continued on next page

Page

Towed Mass....145-4
Electrical System....145-4
Capacities....145-4
Permissible Front Axle Load in Relation to Tires (Normal Operation)....145-5
Permissible Front Axle Load in Relation to Tires (Operation with Front Loader)....145-6
Permissible Rear Axle Load in Relation to Tires....145-7
Unified Inch Bolt and Screw Torque Values....145-8
Metric Bolt and Screw Torque Values....145-9
Limited Battery Warranty....145-10

Serial Numbers

Type Plates....150-1
Product Identification Number....150-1
Engine Serial Number....150-1
Transmission Serial Number....150-1
Front-Wheel Drive Axle Serial Number....150-2
Serial Number of Operator's Cab....150-2
Keep Proof of Ownership....150-2
Keep Machines Secure....150-3

Lubrication and Maintenance Records

Every 250 Hours....155-1
Every 500 Hours....155-1
Every 750 Hours....155-2
Every 1000 Hours....155-2
Every 1500 Hours....155-3
Every 2000 Hours....155-3
Every 6000 Hours....155-4

Identification Views

LX1036602

LX1036602 —UN—09JUN06

LX1044940

LX1044940 —UN—21DEC07

OU12401,0001958 -19-17DEC07-1/1

Recognize Safety Information

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.

T81389 —UN—07DEC88

DX,ALERT -19-29SEP98-1/1

Understand Signal Words

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.

TS187 —19—30SEP88

DX,SIGNAL -19-03MAR93-1/1

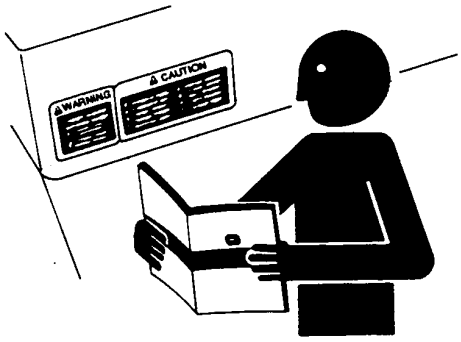
Follow Safety Instructions

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.



TS201 —UN—23AUG88

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

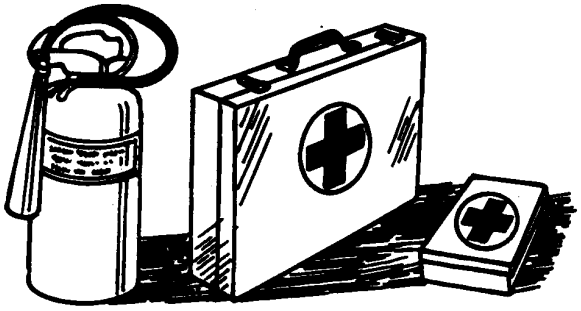
DX,READ -19-16JUN09-1/1

Prepare for Emergencies

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.



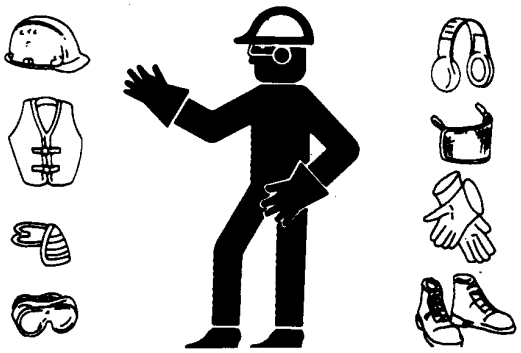
TS291 —UN—23AUG88

DX,FIRE2 -19-03MAR93-1/1

Wear Protective Clothing

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.



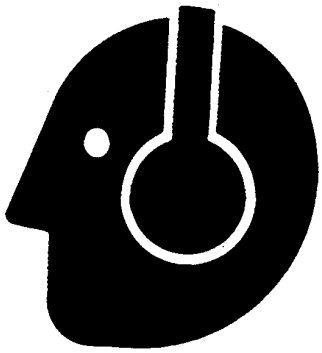
TS206 —UN—23AUG88

DX,WEAR2 -19-03MAR93-1/1

Protect Against Noise

Prolonged exposure to loud noise can cause impairment or loss of hearing.

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



TS207 —UN—23AUG88

DX,NOISE -19-03MAR93-1/1

Handle Fuel Safely—Avoid Fires

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.

TS202 —UN—23AUG88

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 -19-12OCT11-1/1

Handle Starting Fluid Safely

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.

TS1356 —UN—18MAR92

DX,FIRE3 -19-16APR92-1/1

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 -19-12OCT11-1/1

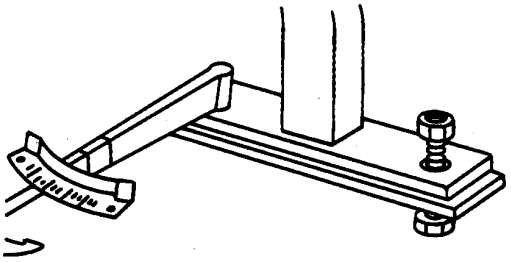
Keep ROPS Installed Properly

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.



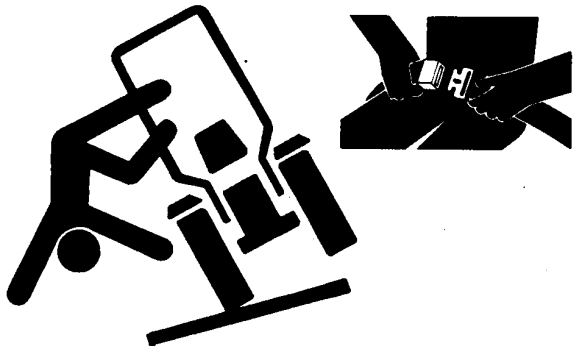
TS212 —UN—23AUG88

DX,ROPS3 -19-12OCT11-1/1

Use Foldable ROPS and Seat Belt Properly

If this tractor is equipped with a foldable ROPS, keep the ROPS in the fully extended and locked position. If the tractor is ever operated with ROPS folded (e.g., to enter a low building), drive with extreme caution. Do NOT use seat belt with the ROPS folded.

Return the ROPS to the raised, fully extended and locked position as soon as the tractor is operated under normal conditions. Always fasten your seat belt when the ROPS is fully extended and locked.



TS205 —UN—23AUG88

DX,FOLDROPS -19-31AUG99-1/1

Stay Clear of Rotating Drivelines

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.

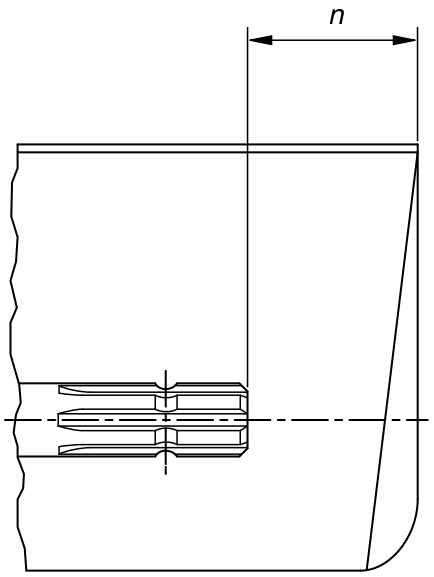
Wear close fitting clothing. Stop the engine and be sure that PTO driveline is stopped before making adjustments, connections, or cleaning out PTO driven equipment.

Do not install any adapter device between the tractor and the primary implement PTO drive shaft 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.

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.)

TS1644 —UN—22AUG95



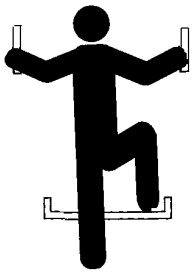
H96219 —UN—29APR10

DX,PTO -19-30JUN10-1/1

Use Steps and Handholds Correctly

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.



T133468 —UN—30AUG00

DX,WW,MOUNT -19-12OCT11-1/1

Read Operator Manuals for ISOBUS Implements

In addition to GreenStar Applications, this display can be used as a display device for any implement that meets ISO 11783 standard. This includes capability to control ISOBUS implements. When used in this manner, information and implement control functions placed on the display are provided by the implement and are the responsibility of the implement manufacturer. Some of these implement functions could provide a hazard either to the Operator or a bystander. Read the operator manual provided by the implement manufacturer and observe all safety messages in manual and on implement prior to use.

NOTE: ISOBUS refers to the ISO Standard 11783

DX,WW,ISOBUS -19-19AUG09-1/1

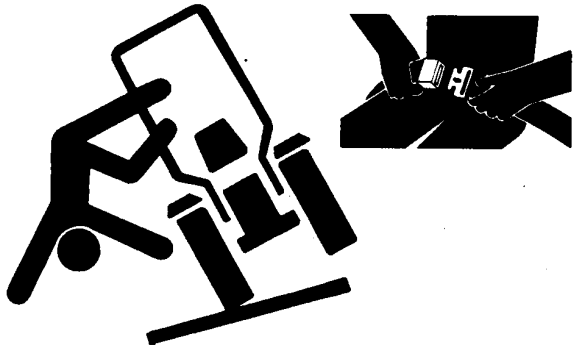
Use Seat Belt Properly

Use a seat belt when you operate with a roll-over protective structure (ROPS) or cab to minimize chance of injury from an accident such as an overturn.

Do not use a seat belt if operating without a ROPS or cab.

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.



TS205 —UN—23AUG88

DX,ROPS1 -19-29OCT07-1/1

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.
- 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
- Make sure that everyone is clear of machine, attached equipment, and work area before starting engine or operation.
- Keep hands, feet, and clothing away from power-driven parts

Driving Concerns

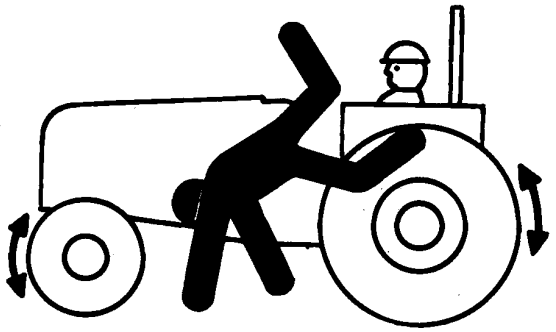
- Never get on or off a moving tractor.
- Keep all children and nonessential personnel off tractors and all equipment.
- Never ride on a tractor unless seated on a John Deere approved seat with seat belt.
- Keep all shields/guards in place.
- Use appropriate visual and audible signals when operating 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.
- Couple brake pedals together for road travel.
- Pump brakes when stopping on slippery surfaces.

Towing Loads

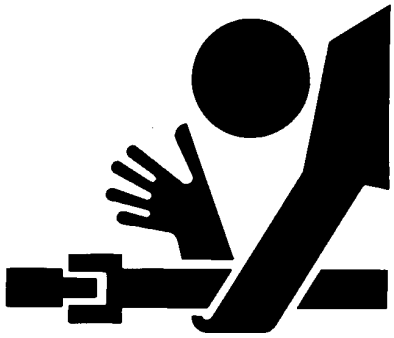
- Be careful when towing and stopping heavy loads. Stopping distance increases with speed and weight of towed loads, and on slopes. Towed loads with or without brakes that are too heavy for the tractor or are towed too fast can cause loss of control.
- Consider the total weight of the equipment and its 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 and securely engage park mechanism, including the park pawl and park brake. In addition, if 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.



TS290 —UN—23AUG88



TS276 —UN—23AUG88

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:

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

DX,WW,TRACTOR -19-21AUG09-1/1

Avoid Backover Accidents

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.

PC10857XW —UN—24JUN10

DX,AVOID,BACKOVER,ACCIDENTS -19-30AUG10-1/1

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 -19-12OCT11-1/1

Operating the Loader Tractor Safely

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.

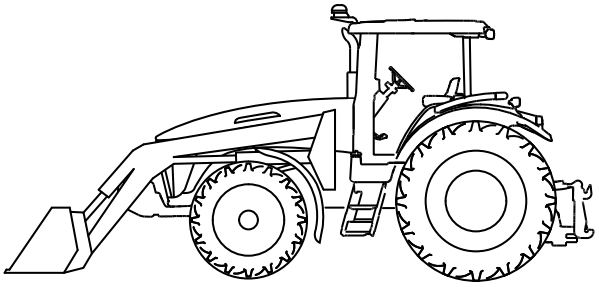
Never allow anyone to walk or work under a raised loader.

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).



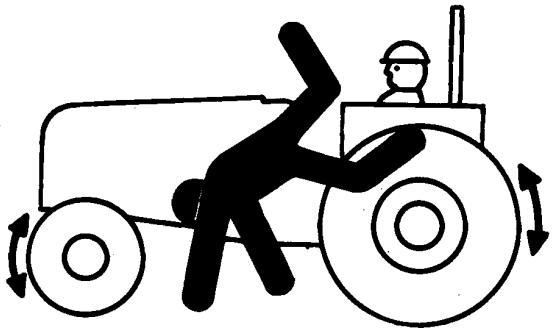
TS1692 —UN—09NOV09

DX,WW,LOADER -19-11NOV09-1/1

Keep Riders Off Machine

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.

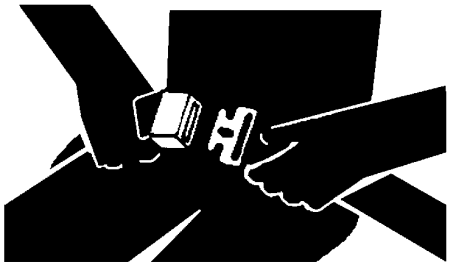


TS290 —UN—23AUG88

DX,RIDER -19-03MAR93-1/1

Instructional Seat

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



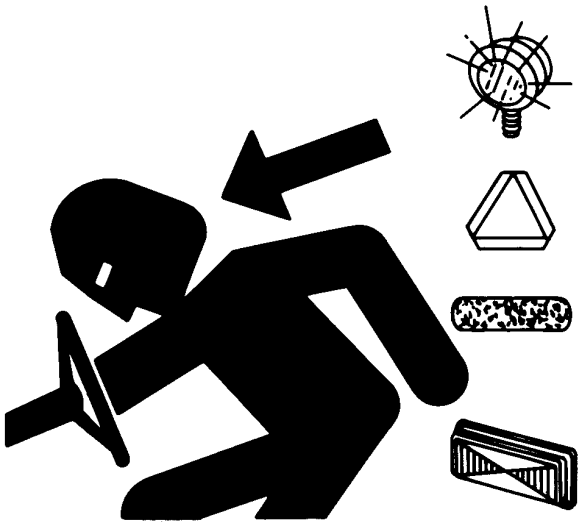
RXA0103436 —UN—15JUN09

DX,SEAT,NA -19-19AUG09-1/1

Use Safety Lights and Devices

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.



TS951 —UN—12APR90

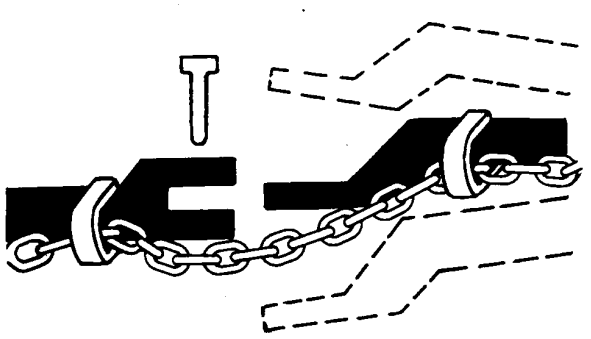
DX,FLASH -19-07JUL99-1/1

Use a Safety Chain

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.



TS217 —UN—23AUG88

DX,CHAIN -19-03MAR93-1/1

Transport Towed Equipment at Safe Speeds

Do not exceed the maximum transport speed. This tractor is capable of operating at transport speeds that exceed the maximum allowable transport speed for most 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:

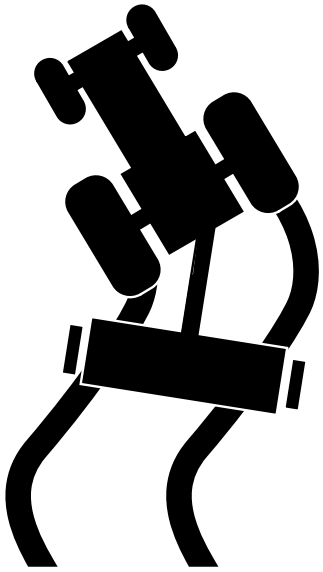
- Loss of control of the tractor/implement combination
- Reduced or no ability to stop during braking
- Implement tire failure
- Damage to the implement structure or its components

Implements without brakes:

- Do not transport at speeds greater than 32 km/h (20 mph).
- Must weigh less than 1.5 times the tractor weight and less than 1.5 t (3300 lb) when fully loaded.

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 tractor weight.



TS1686 —UN—27SEP06

- When transporting at speeds between 40—50 km/h (25—31 mph) the fully loaded implement must weigh less than 3.0 times the tractor weight.

DX,TOW1 -19-12OCT11-1/1

Use Caution On Slopes and Uneven Terrain

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 tractor to tip over rearward. Back out of these situations if possible.

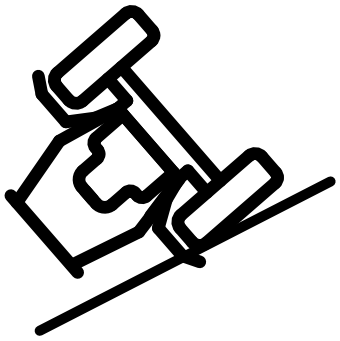
Danger of overturn increases greatly with narrow tread setting, at high speed.

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

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.



RXA0103437 —UN—01JUL09

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 -19-12OCT11-1/1

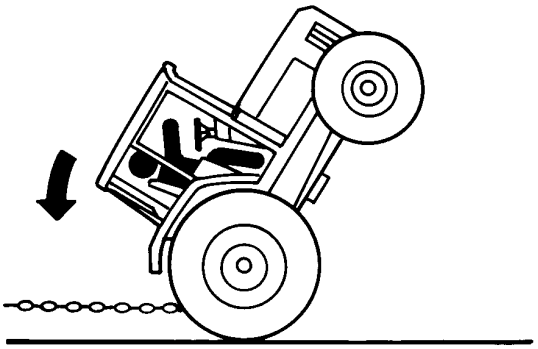
Freeing a Mired Machine

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.



TS1645 —UN—15SEP95

TS263 —UN—23AUG88

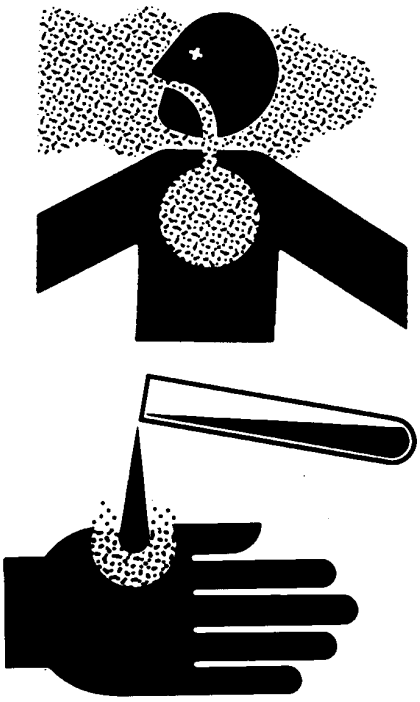
DX,MIRED -19-07JUL99-1/1

Avoid Contact with Agricultural Chemicals

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.



TS220 —UN—23AUG88

TS272 —UN—23AUG88

DX,CABS -19-25MAR09-1/1

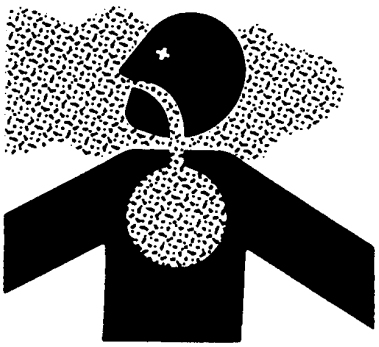
Handle Agricultural Chemicals Safely

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.



TS220 —UN—23AUG88

A34471 —UN—11OCT88

- 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 -19-24AUG10-1/1

Handling Batteries Safely

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:

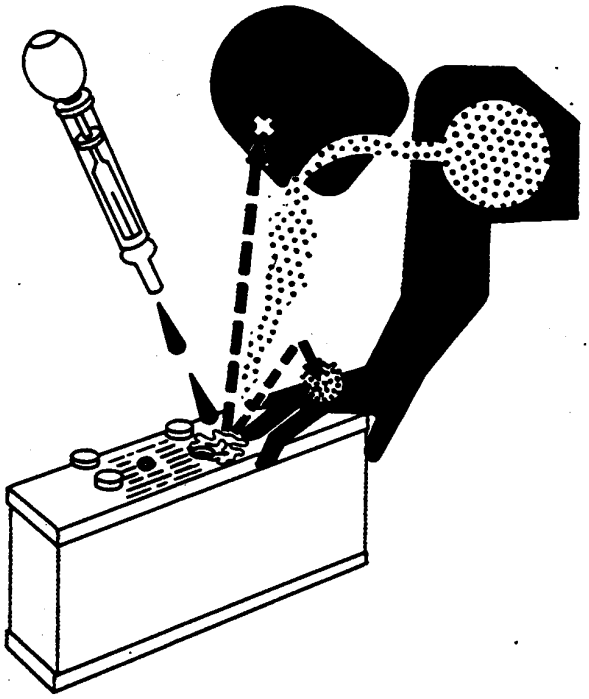
1. Flush skin with water.
2. Apply baking soda or lime to help neutralize the acid.
3. Flush eyes with water for 15—30 minutes. Get medical attention immediately.

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.**

TS204 —UN—23AUG88



TS203 —UN—23AUG88

DX,WW,BATTERIES -19-02DEC10-1/1

Avoid Heating Near Pressurized Fluid Lines

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.

TS953 —UN—15MAY90

DX,TORCH -19-10DEC04-1/1

Remove Paint Before Welding or Heating

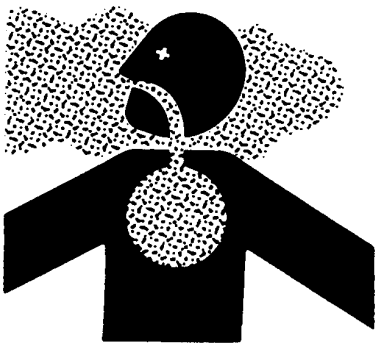
Avoid potentially toxic fumes and dust.

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.



TS220 —UN—23AUG88

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 -19-24JUL02-1/1

Welding Near Electronic Control Units

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.

TS953 —UN—15MAY90

6. After welding, reverse Steps 1—5.

DX,WW,ECU02 -19-14AUG09-1/1

Handle Electronic Components and Brackets Safely

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.

TS249 —UN—23AUG88

DX,WW,RECEIVER -19-24AUG10-1/1

Practice Safe Maintenance

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 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.

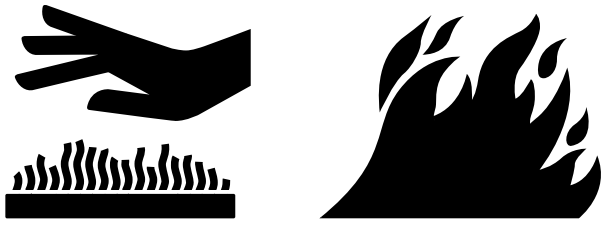
TS218 —UN—23AUG88

DX,SERV -19-17FEB99-1/1

Avoid Hot Exhaust

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.



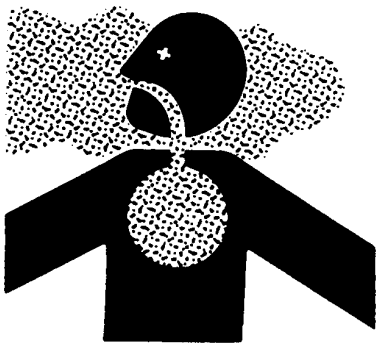
RG17488 —UN—21AUG09

DX,EXHAUST -19-20AUG09-1/1

Work In Ventilated Area

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.



TS220 —UN—23AUG88

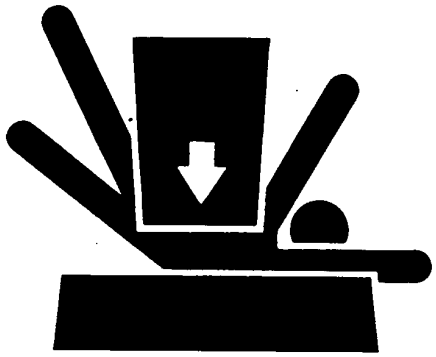
DX,AIR -19-17FEB99-1/1

Support Machine Properly

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.



TS229 —UN—23AUG88

DX,LOWER -19-24FEB00-1/1

Prevent Machine Runaway

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.

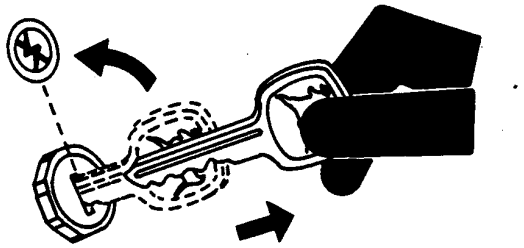
TS177 —UN—11JAN89

DX,BYPAS1 -19-29SEP98-1/1

Park Machine Safely

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.



TS230 —UN—24MAY89

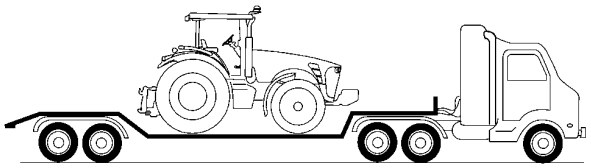
DX,PARK -19-04JUN90-1/1

Transport Tractor Safely

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.



RXA0103709 —UN—01JUL09

DX,WW,TRANSPORT -19-19AUG09-1/1

Service Cooling System Safely

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.

TS281 —UN—23AUG88

DX,WW,COOLING -19-19AUG09-1/1

Service Accumulator Systems Safely

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.

TS281 —UN—23AUG88

DX,WW,ACCLA2 -19-22AUG03-1/1

Service Tires Safely

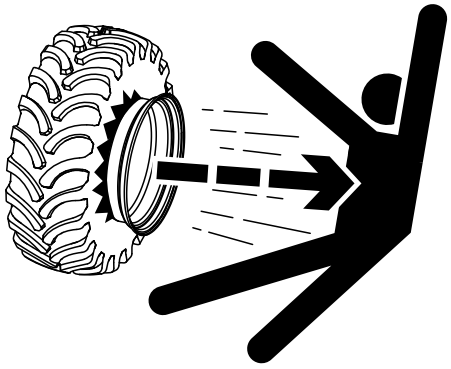
Explosive separation of a tire and rim parts can cause serious injury or death.

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.

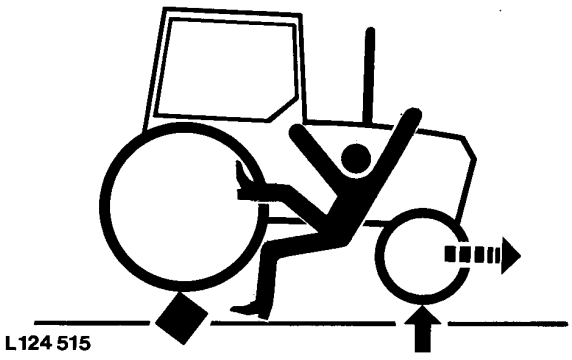


RXA0103438 —UN—11JUN09

DX,WW,RIMS -19-19AUG09-1/1

Service Front-Wheel Drive Tractor Safely

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.

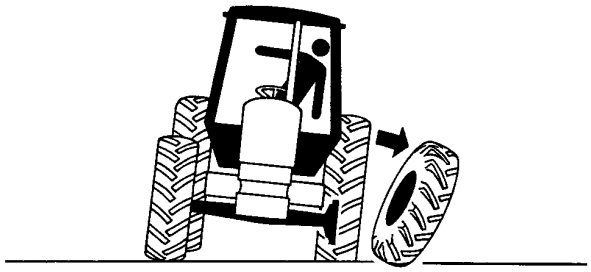


L124515 —UN—06AUG94

DX,WW,MFWD -19-19AUG09-1/1

Tightening Wheel Retaining Bolts/Nuts

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



L124516 —UN—03JAN95

DX,WW,WHEEL -19-12OCT11-1/1

Avoid High-Pressure Fluids

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.

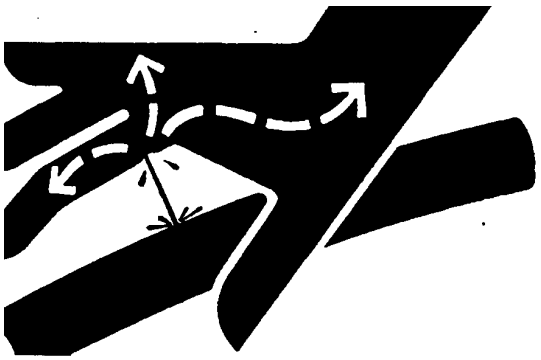
Replace worn or damaged hose assemblies immediately with John Deere approved replacement parts.

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.



X9811 —UN—23AUG88

DX,FLUID -19-12OCT11-1/1

Do Not Open High-Pressure Fuel System

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.)

TS1343 —UN—18MAR92

DX,WW,HPCR1 -19-07JAN03-1/1

Store Attachments Safely

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.

TS219 —UN—23AUG88

DX,STORE -19-03MAR93-1/1

Dispose of Waste Properly

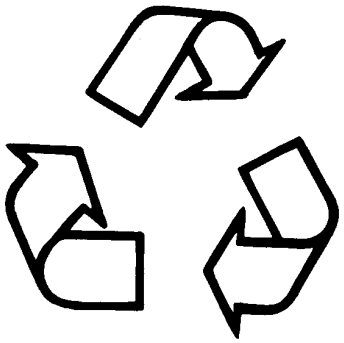
Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste used with John Deere equipment include such items as oil, fuel, coolant, brake fluid, filters, and batteries.

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.

Air conditioning refrigerants escaping into the air can damage the Earth's atmosphere. Government regulations may require a certified air conditioning service center to recover and recycle used air conditioning refrigerants.

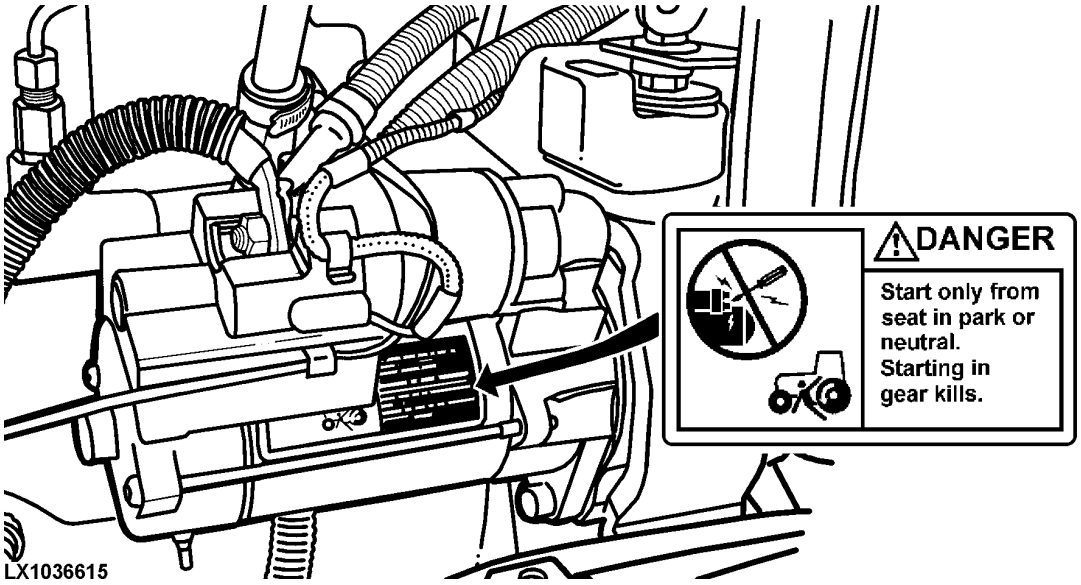
Inquire on the proper way to recycle or dispose of waste from your local environmental or recycling center, or from your John Deere dealer.



TS1133 —UN—26NOV90

DX,DRAIN -19-03MAR93-1/1

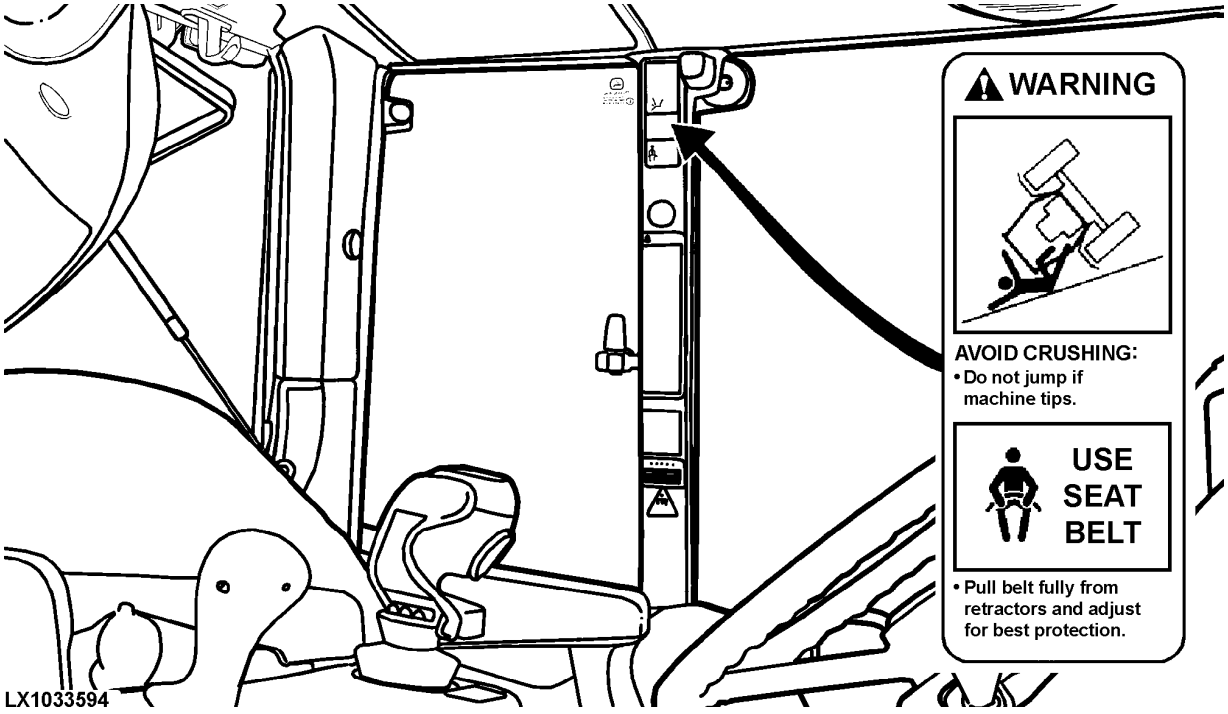
Prevent Machine Runaway



LX1036615 —19—07MAY08

OU12401,0001298 -19-18AUG05-1/1

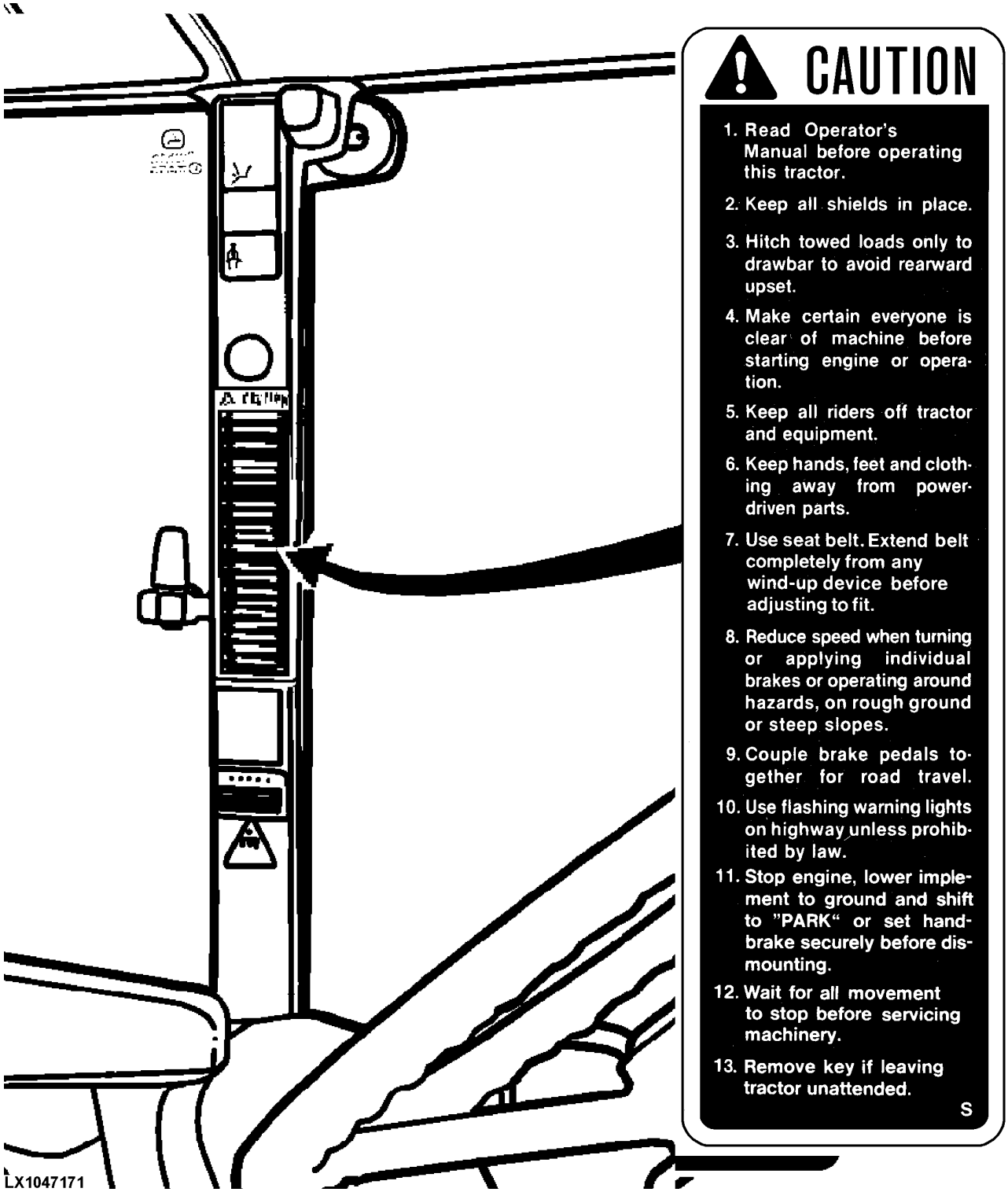
Use Seat Belt



LX1033594 —19—07MAY08

OU12401,0001299 -19-18AUG05-1/1

Operate the Tractor Safely



CAUTION

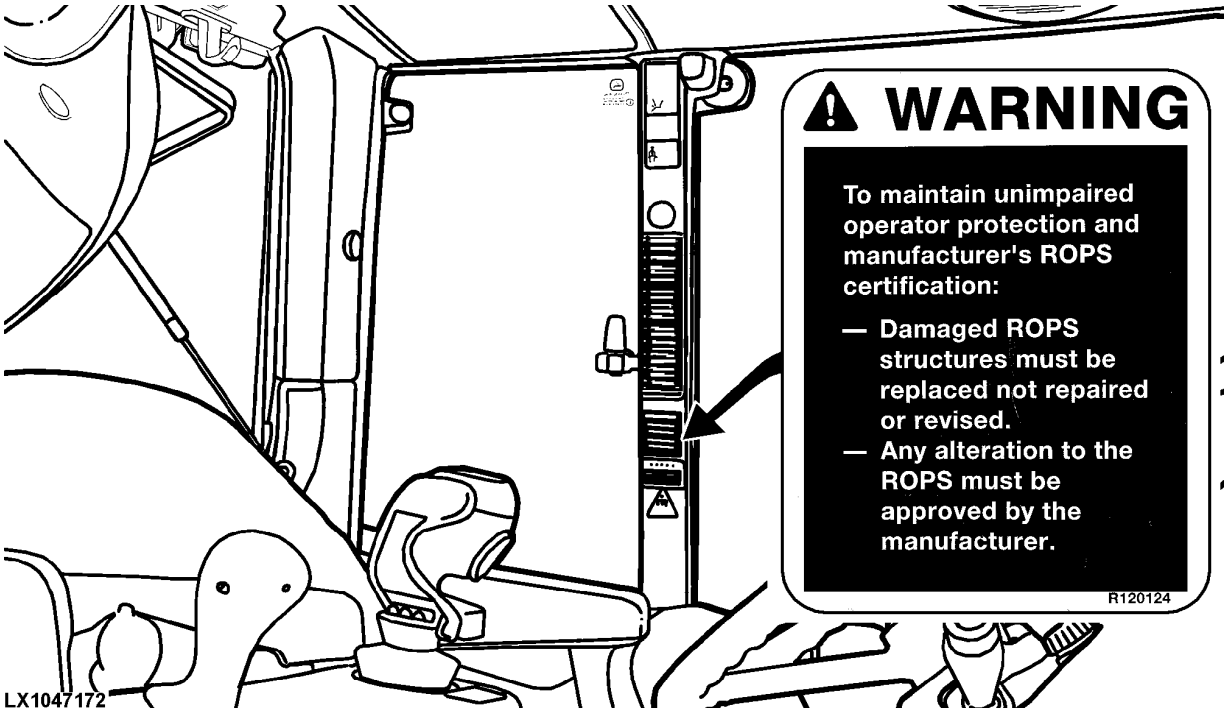
1. Read Operator's Manual before operating this tractor.
2. Keep all shields in place.
3. Hitch towed loads only to drawbar to avoid rearward upset.
4. Make certain everyone is clear of machine before starting engine or operation.
5. Keep all riders off tractor and equipment.
6. Keep hands, feet and clothing away from power-driven parts.
7. Use seat belt. Extend belt completely from any wind-up device before adjusting to fit.
8. Reduce speed when turning or applying individual brakes or operating around hazards, on rough ground or steep slopes.
9. Couple brake pedals together for road travel.
10. Use flashing warning lights on highway unless prohibited by law.
11. Stop engine, lower implement to ground and shift to "PARK" or set handbrake securely before dismounting.
12. Wait for all movement to stop before servicing machinery.
13. Remove key if leaving tractor unattended.

S

LX1047171 —19—15DEC08

OU12401,0001B09 -19-14JAN09-1/1

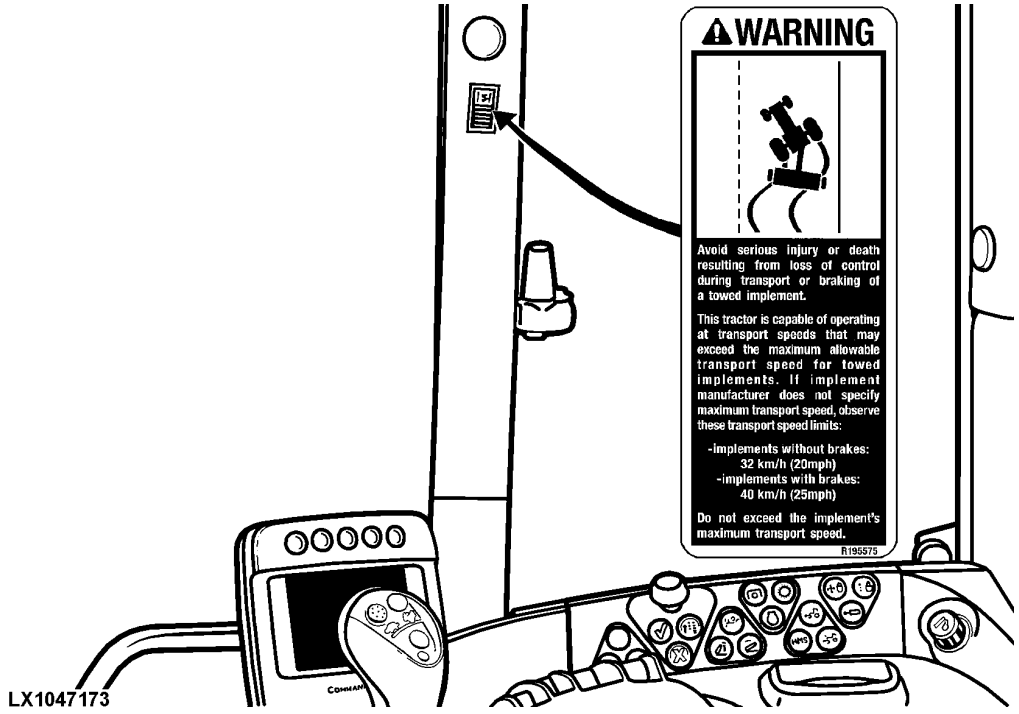
Do Not Modify ROPS



LX1047172 —19—15DEC08

OU12401,0001B0A -19-14JAN09-1/1

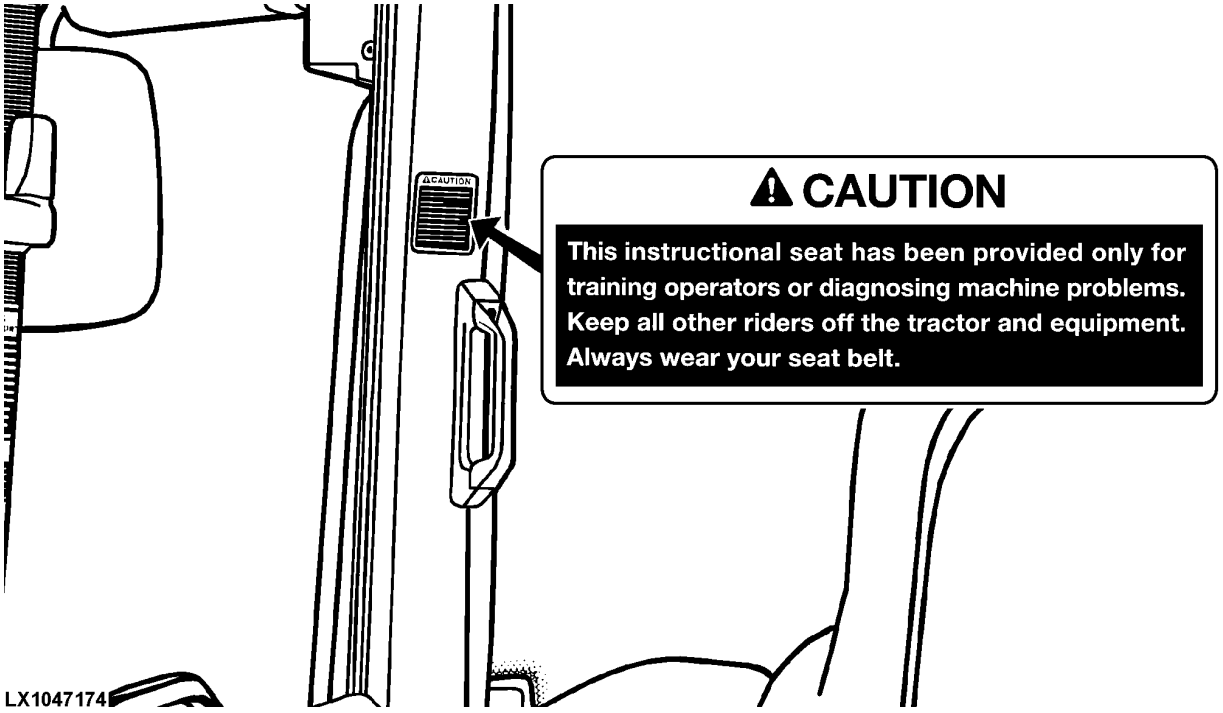
Tow Loads Safely



LX1047173 —19—15DEC08

OU12401,0001B0B -19-14JAN09-1/1

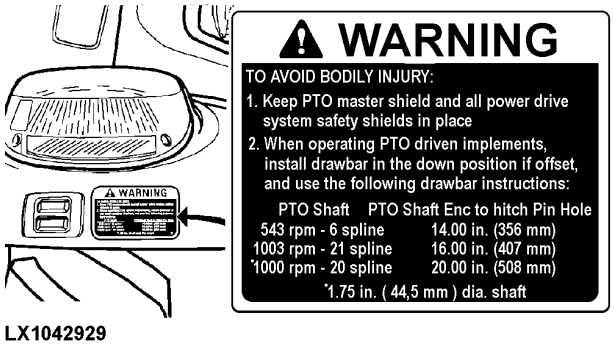
Use of Instructional Seat



LX1047174 —19—15DEC08

OU12401,0001B0C -19-14JAN09-1/1

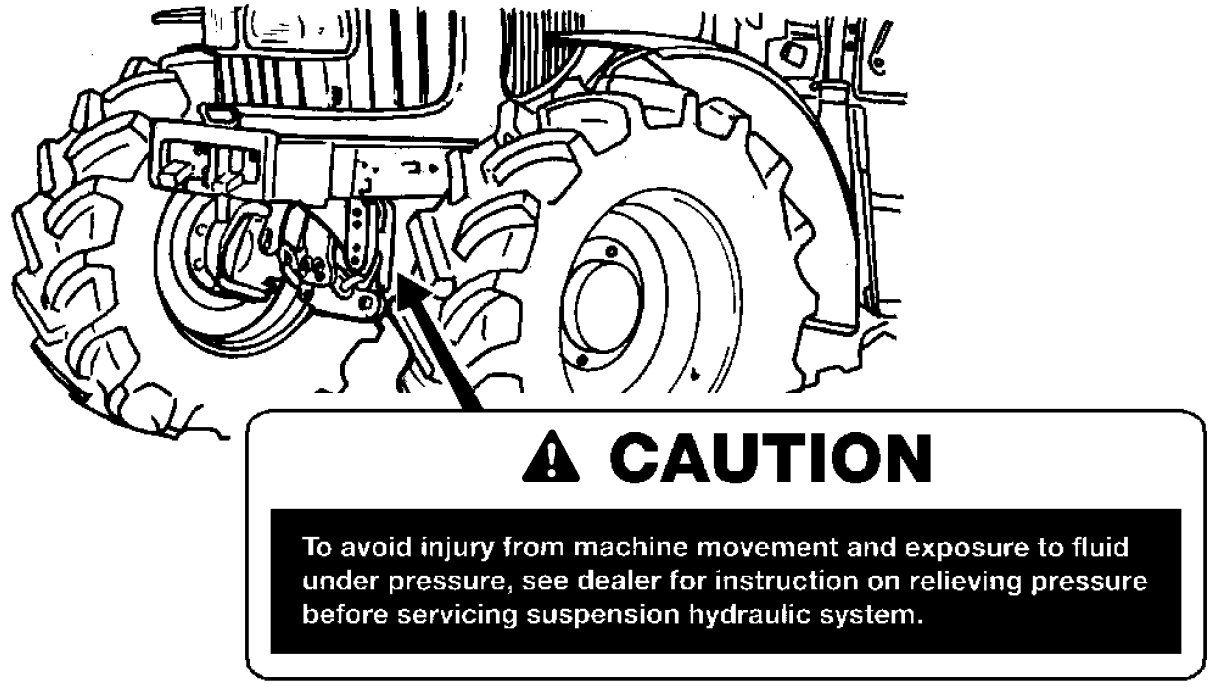
Stay Clear of PTO



LX1042929 —19—06NOV07

OU12401,000173A -19-23APR07-1/1

Suspension System (e.g. TLS Front Axle and/or Cab)

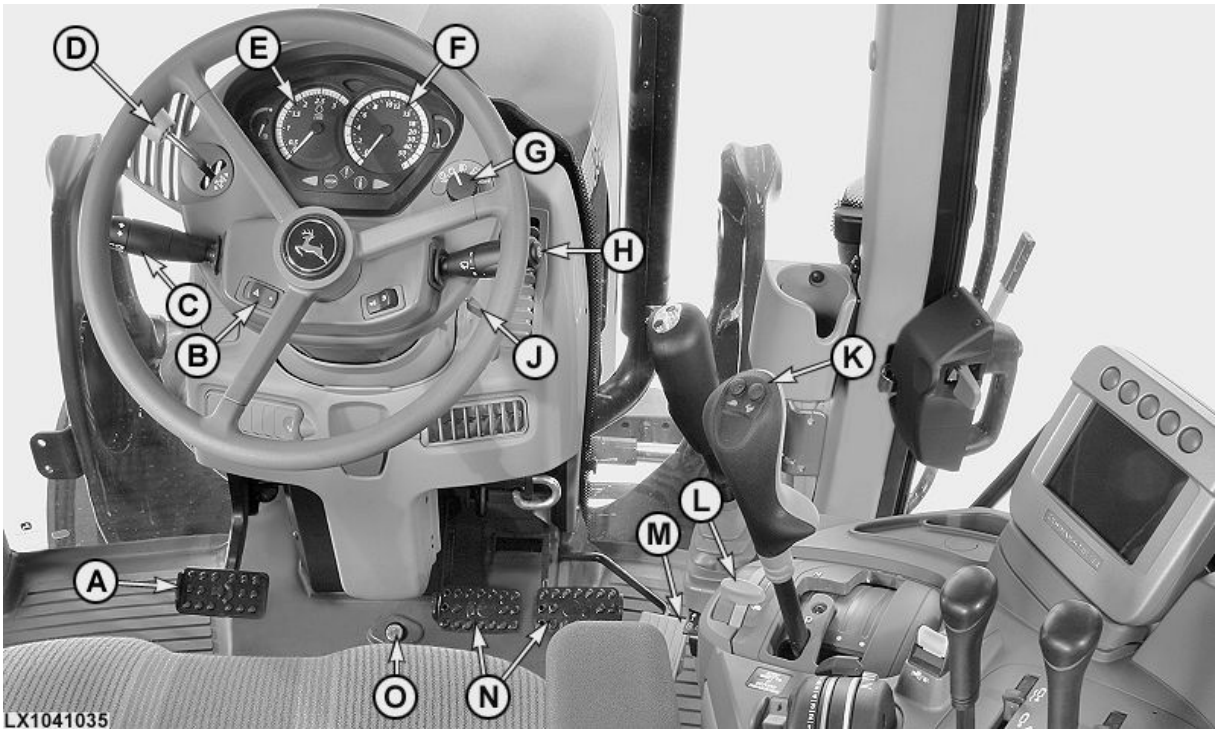


LX1047176

LX1047176 —19—16DEC08

OU12401,0001B0E -19-14JAN09-1/1

Vehicle Controls (Tractors with PowrQuad Plus and AutoQuad Plus Transmission)

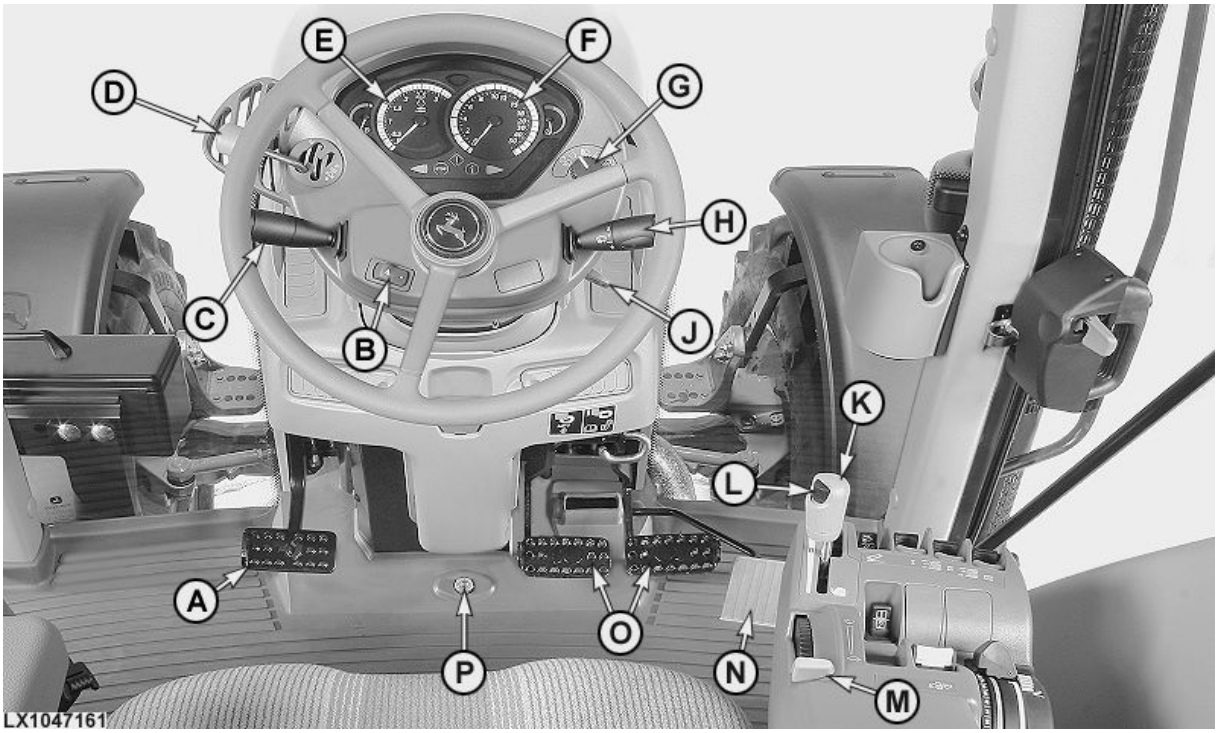


LX1041035 —UN—14JUN06

A—Clutch pedal
B—Hazard warning light switch
C—Multi-function lever for turn signal lights, high beam and horn
D—Reverser lever
E—Tachometer (engine rpm)
F—Speedometer, km/h or mph
G—Light switch
H—Windshield wiper switch
J—Main (key) switch
K—Range shift lever with gearshift switches
L—Hand throttle
M—Accelerator pedal
N—Left and right brake pedals
O—Differential lock switch

OU12401,0001A8C -19-09OCT08-1/1

Vehicle Controls (Tractors with AutoPowr/IVT)



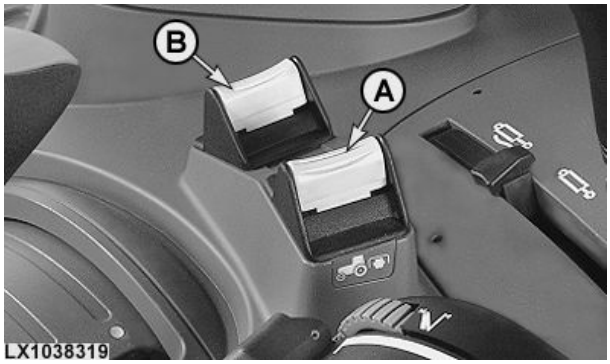
LX1047161 —UN—09OCT08

A—Clutch pedal
B—Hazard warning light switch
C—Multi-function lever for turn signal lights, high beam and horn
D—Reverser lever
E—Tachometer (engine rpm)
F—Speedometer, km/h or mph
G—Light switch
H—Windshield wiper switch
J—Main (key) switch
K—Speed control lever
L—Speed wheel (for setting maximum speed)
M—Hand throttle
N—Accelerator pedal
O—Left and right brake pedals
P—Differential lock switch

OU12401,0001A8D -19-09OCT08-1/1

PTO Controls

A—Rear PTO switch
B—Front PTO switch
C—Rear PTO speed button



LX1038319 —UN—27APR06

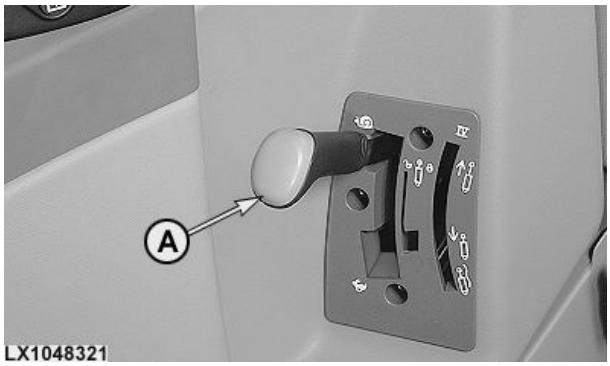
LX1036611 —UN—05OCT05

LX1038320 —UN—06NOV06

OULXE59,0010888 -19-19APR06-1/1

Creeper Control

A—Creeper lever



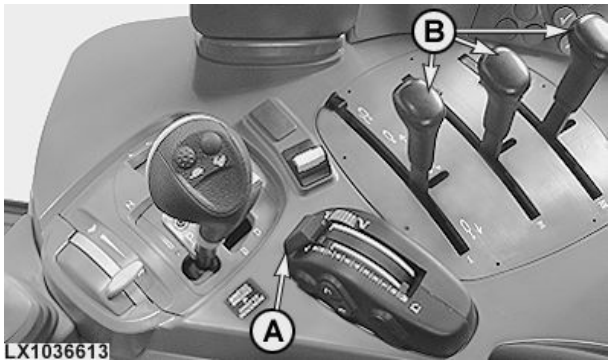
LX1038321 —UN—24NOV06

OULXE59,0010889 -19-19APR06-1/1

Attachment Controls

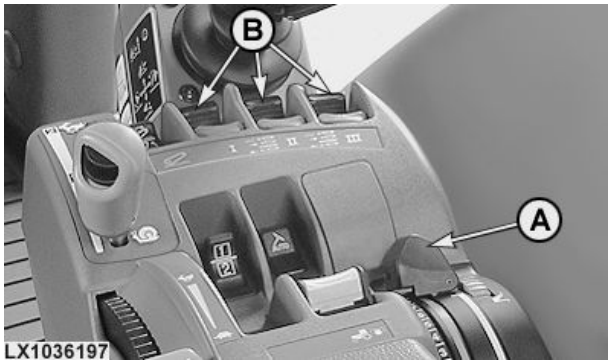
A—Three-point hitch control unit

B—Levers for selective control valves



LX1036613 —UN—19SEP05

LX1044941 —UN—21DEC07



LX1036197 —UN—04OCT05

OU12401,0001959 -19-14DEC07-1/1

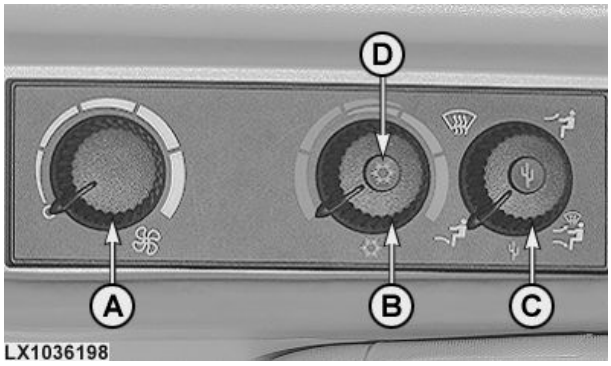
Heater and Air-Conditioning Controls (Tractors without ClimaTrak System)

A—Fan switch

B—Heater and air-conditioning regulator

C—Airflow regulator

D—Air-conditioning switch

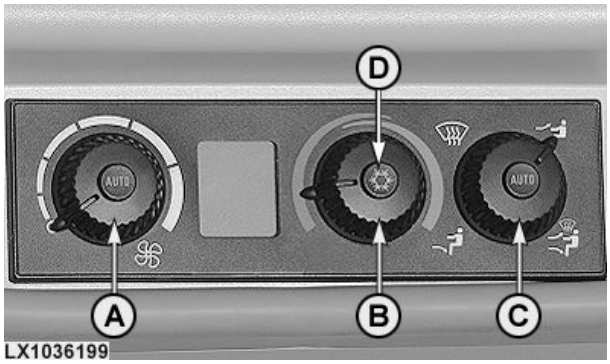


LX1036198 —UN—19SEP05

OU12401,0001401 -19-13MAY06-1/1

Heater and Air-Conditioning Controls (Tractors with ClimaTrak System)

A—Fan switch
B—Heater and air-conditioning regulator
C—Airflow regulator
D—Air-conditioning switch



LX1036199 —UN—16AUG05

OU12401,000120E -19-19MAY05-1/1

Indicator Lights and Displays

Indicator lights

LX1041037 —UN—08JAN10

1-The red STOP light flashes when a serious malfunction occurs. Switch off the engine IMMEDIATELY and determine the cause (review the error message in the CommandCenter).

2-The yellow CAUTION light flashes when a malfunction occurs (review the error message in the CommandCenter). This light also flashes if the park brake is applied with the engine running and the reverser lever set to any position other than neutral.

3-The blue INFO light comes on when there is a fault in an electrical component associated with the hydraulic system or transmission. See your John Deere dealer.

4-This light comes on when the main (key) switch is turned one position to the right. Wait till the light goes out before starting the engine.

5-This light comes on when the rear PTO is engaged.

6-These lights indicate which rear PTO speed is selected.

7-This light comes on when HMS Plus is selected.

8-This light comes on when front-wheel drive is engaged. When front-wheel drive is in its automatic mode, the letter A also lights up.

9-This light comes on when the differential lock is engaged.

10-The high beam indicator light comes on when the headlights are switched on at high beam.

11-With PowrQuad Plus or AutoQuad Plus transmission, this light comes on together with a number that indicates which gear is selected.

12-These illuminated sectors indicate the setting for highest possible gear (with AutoQuad Plus transmission).

13-This light comes on whenever the automatic mode of an AutoQuad Plus or AutoPowr / IVT transmission is activated.

14-This light comes on when the reverser lever is in forward position.

15-This light comes on when the reverser lever is in neutral position.

16-This light comes on when the reverser lever is in reverse position.

17-This light comes on when the transmission is in Park position.

18-With PowrQuad Plus or AutoQuad Plus transmission, figures 1-4 indicate which gear is selected.

19-This light comes on when the AutoPowr / IVT transmission is in creeper mode.

20-This light comes on whenever the transport lock of the electrical multi-function lever is activated.

Continued on next page

OU12401,0001D82 -19-28JUL10-1/4

21-This light comes on whenever the transport lock of the E-SCV/E-ICV is activated.

22-This light comes on when front PTO is engaged.

Light test: As the engine is started, all the lights should come on for approx. 1 second. If not, a defective bulb or blown fuse may be the cause. Check and replace parts as necessary.

The indicator lights should go out as soon as the engine is running.

NOTE: Travel speed can be displayed in km/h or MPH. This setting can be made at the CommandCenter. In this section, see the Units of measurement screen in CommandCenter settings.

OU12401,0001D82 -19-28JUL10-2/4

Fuel gauge

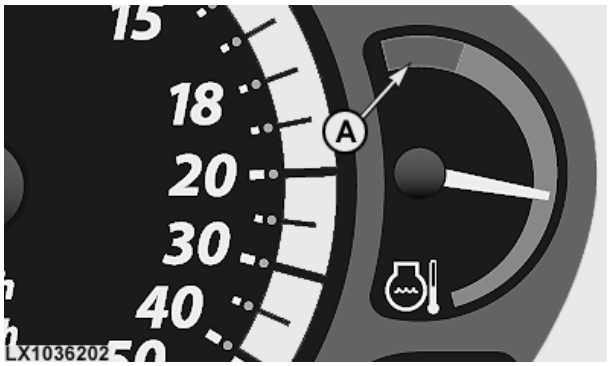
The fuel gauge shows the amount of fuel in the tank, from full to empty (end of red). When the indicator needle enters the red, there are still approx. 35 liters (9.2 U.S. gal.) remaining.

LX1036201 —UN—31MAY06

OU12401,0001D82 -19-28JUL10-3/4

Coolant temperature gauge

If the coolant gauge needle moves into the red (A), the engine is overheating. Immediately reduce load or shift to a lower gear. If the needle remains in the red, shut off engine and determine cause of overheating (coolant level low, dirty radiator or dirty radiator screen).



LX1036202 —UN—31MAY06

OU12401,0001D82 -19-28JUL10-4/4

Controls and Displays

CommandCenter

The CommandCenter is used to display various tractor functions; it allows the user to change the settings for these functions. In addition, it can display certain calculations (average fuel consumption, area worked, etc).

NOTE: The screens on the CommandCenter shown in this Operator's Manual are all in English. The language and units of measurement that actually appear on the tractor can be selected by the operator.

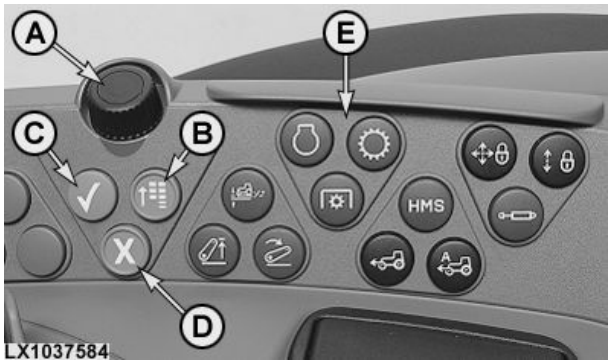
Operating the CommandCenter

The CommandCenter can be operated as follows:

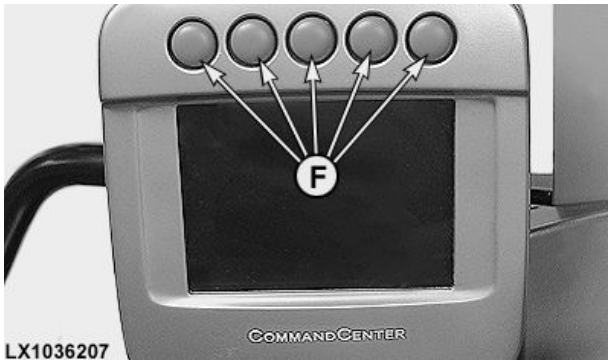
- With selection wheel (A), the main menu key (B), confirm key (C) and cancel key (D).
- With the 8 brown quick-access keys (E) (the ones that are assigned predefined functions).
- With the 5 hot keys (F), the functions of which are set by the user.

Selection wheel (A) allows you to scroll through the different screen cells. Key (B) gives access to the main menu of the CommandCenter. Key (C) is used to select or confirm an input. Key (D) is used to cancel an input.

The functions of keys (E) are explained in the relevant Sections (e.g. Hitch, Power Take-Off, Additional Equipment).



LX1037584 —UN—06NOV06



LX1036207 —UN—16AUG05

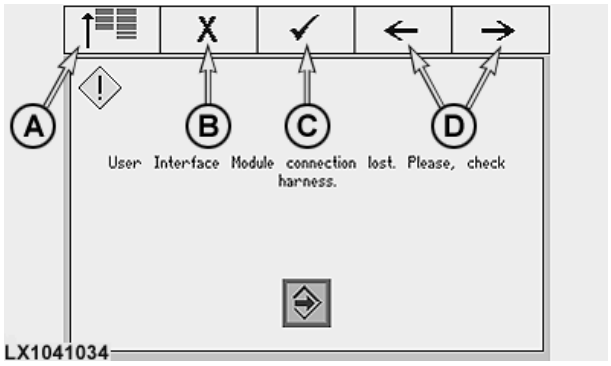
A—Selection wheel
B—Main menu key
C—Confirm key
D—Cancel key
E—Quick-access keys
F—Hot keys

OU12401,0001D85 -19-29NOV09-1/16

Emergency operation

If the connection between the CommandCenter and the regular keys is interrupted, the screen shown opposite appears. The CommandCenter can still be used via the 5 hot keys above the cells shown in the illustration.

A—Cell for main menu
B—Cell for cancel
C—Cell for confirm
D—Cells for selection



LX1041034 —UN—09JUN06

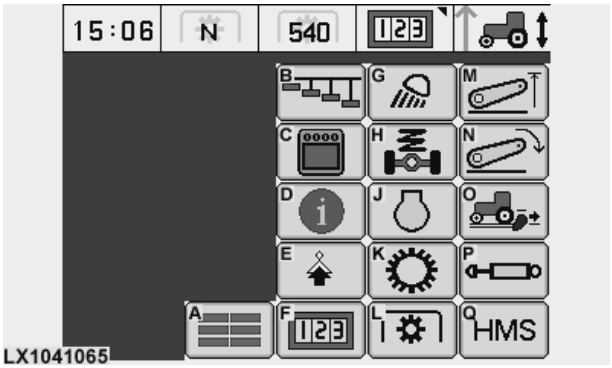
Continued on next page

OU12401,0001D85 -19-29NOV09-2/16

Main menu

The content of this screen varies depending on how the tractor is equipped.

A—Main screen. Described on the following pages.
B—Hotkey screen. Described under Assignment of hot keys on the following pages.
C—Display screen. Described under CommandCenter settings on the following pages.
D—Information screen. Described in Section 135, Diagnostic Trouble Codes and Customization.
E—Option screen. Described in Section 20, Lights and Section 25, Operator's Cab.
F—Performance monitor screen. Described under Performance monitor on the following pages.
G—Lights screen. Described in Section 20, Lights.
H—TLS Plus screen. Described in Section 45, Operating the Tractor.
J—Engine screen. Described in Section 40, Operating the Engine.
K—Transmission screen. Described in Section 45, Operating the Tractor.
L—PTO screen. Described in Section 55, Power Take-Off.
M—Lift limit screen. Described in Section 50, Hitch.
N—Rate-of-drop screen. Described in Section 50, Hitch.
O—Load/depth control screen. Described in Section 50, Hitch.
P—SCV screen. Described in Section 70, Additional Equipment.
Q—HMS screen. Described in Section 51, HMS.

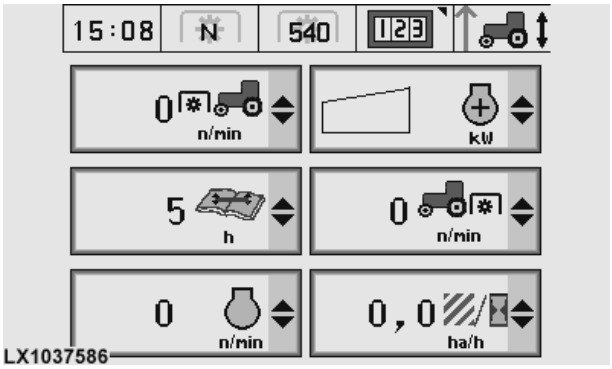


LX1041065 —UN—11OCT06

OU12401,0001D85 -19-29NOV09-3/16

Main screen

On this screen, six cells are available; they can be assigned any of the symbols in the selection lists. Selection depends on how the tractor is equipped.



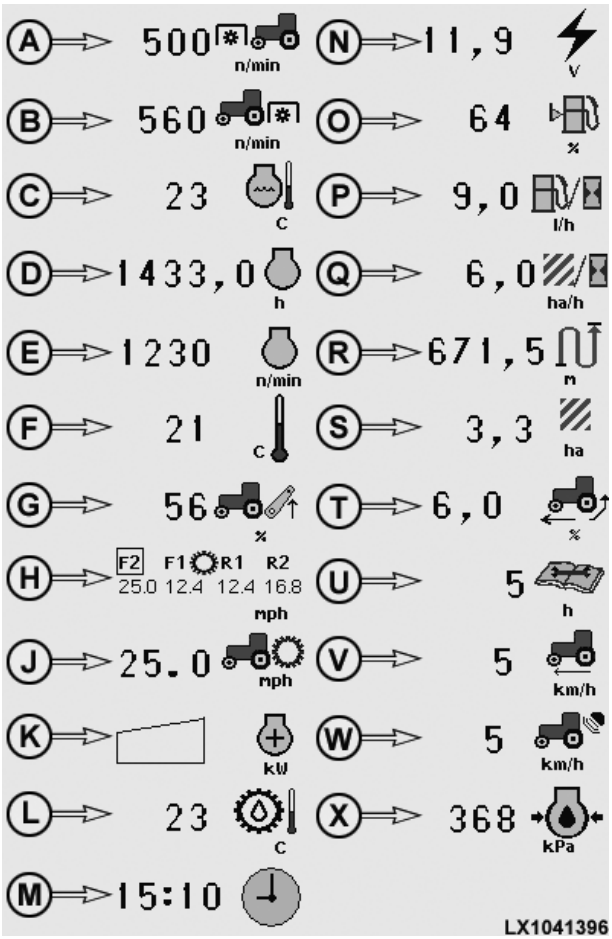
LX1037586 —UN—11OCT06

Continued on next page

OU12401,0001D85 -19-29NOV09-4/16

Main screen - selections

A—Front PTO speed
B—Rear PTO speed
C—Coolant temperature
D—Engine hours
E—Engine speed
F—Ambient temperature
G—Lift height of three-point hitch
H—Set speeds (AutoPowr/IVT)
J—Selected speed (AutoPowr/IVT)
K—Engine power
L—Temperature of transmission/hydraulic oil
M—Time of day
N—Voltage (electrical system)
O—Fuel reserve in percent
P—Fuel consumption per hour
Q—Area covered per hour
R—Distance covered
S—Area covered
T—Rear wheel slip
U—Service interval
V—Ground speed
W—Ground speed (radar)
X—Engine oil pressure



LX1041396 —UN—16NOV06

Continued on next page

OU12401,0001D85 -19-29NOV09-5/16

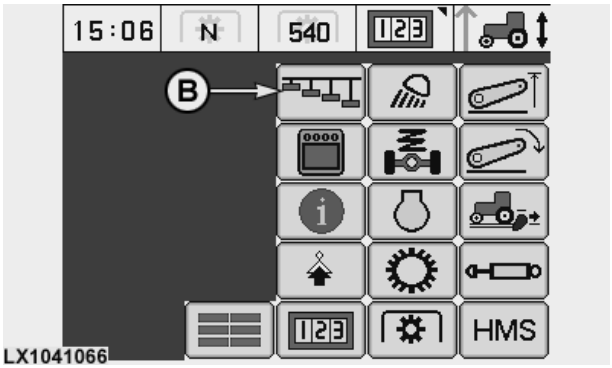
Hot keys - assignment

Press the main menu key (A) and select hot keys (B) on the screen.

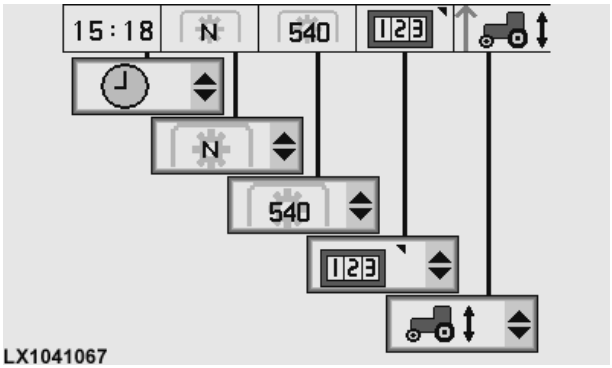
On the following screen, a function may be selected from the selection list for each of the 5 hot keys. The functions depend on how the tractor is equipped.

A—Main menu key **B—Hot keys**

LX1037587 —UN—06NOV06



LX1041066 —UN—11OCT06



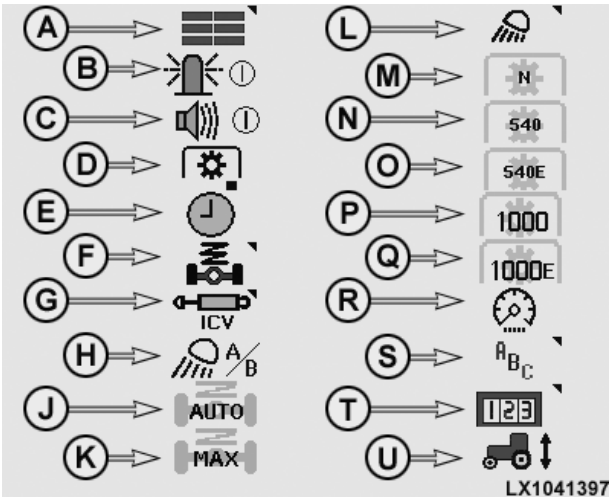
LX1041067 —UN—11OCT06

Continued on next page

OU12401,0001D85 -19-29NOV09-6/16

Hot keys - selection of functions

A—Main screen
B—Beacon light
C—Back-up alarm
D—PTO remote (external) control
E—Clock
F—TLS Plus screen
G—Selective control valves for functions at front of tractor
H—Worklights A/B
J—TLS Plus automatic
K—TLS Plus (maximum hardness)
L—Worklights
M—PTO (neutral)
N—PTO (540)
O—PTO (540E)
P—PTO (1000)
Q—PTO (1000E)
R—Dimming the screen
S—Language selection
T—Performance monitor
U—Manual area recording



LX1041397 —UN—11OCT06

Continued on next page

OU12401,0001D85 -19-29NOV09-7/16

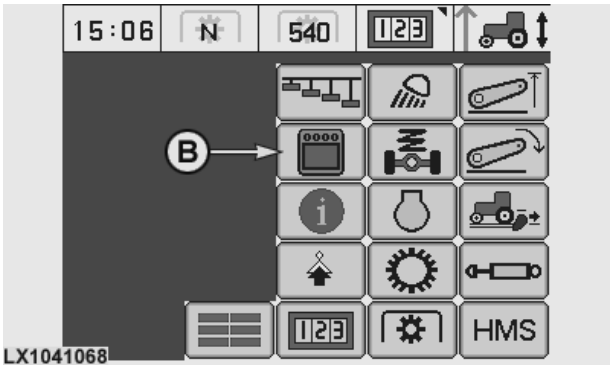
CommandCenter settings

Press the main menu key (A) and select Display (B) on the screen.

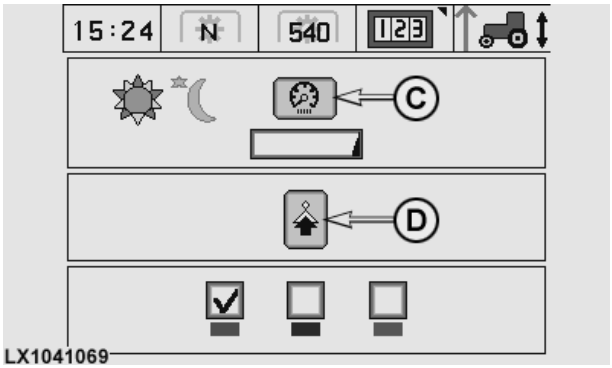
On the following screen, brightness and the highlight color can be selected. **Dimming cell (C)** considerably reduces the brightness of the display (for night time operation). To reset the brightness to normal, press any key. Symbol (D) gives access to the next screen.

A—Main menu key
B—Display
C—Dimming cell
D—Next screen

LX1037587 —UN—06NOV06



LX1041068 —UN—11OCT06

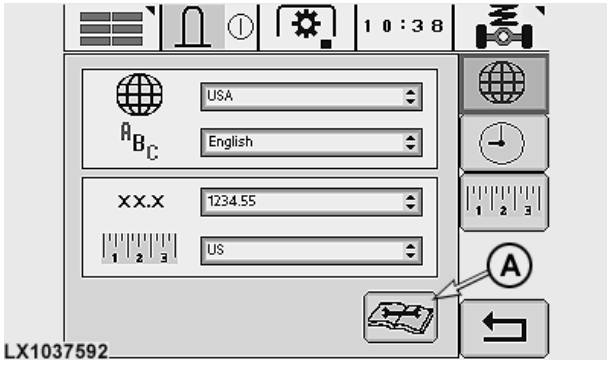


LX1041069 —UN—11OCT06

OU12401,0001D85 -19-29NOV09-8/16

On this screen, the selection lists can be used to select country, language, numeric format and units.

Symbol (A) provides access to other screens on which a graphic test, equipment information and copyright details are shown.



LX1037592 —UN—31MAY06

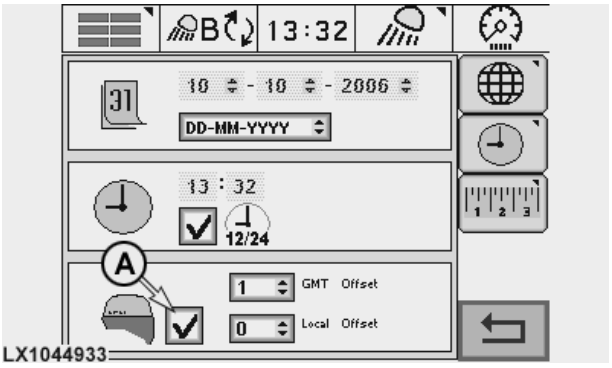
Continued on next page

OU12401,0001D85 -19-29NOV09-9/16

Date and time of day can be set on this screen.

If the tractor is equipped with a GPS receiver, cell (A) can be used to determine whether date and time of day are to be synchronized with the GPS signal.

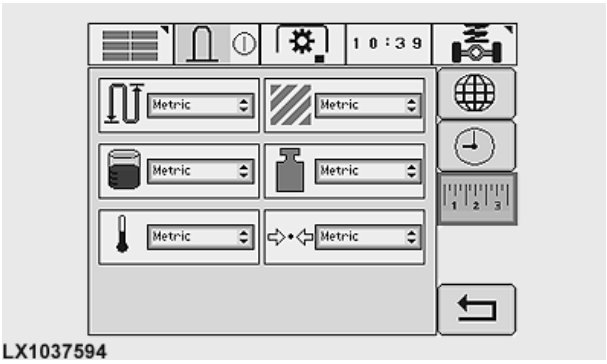
A—Date and time synchronization



LX1044933 —UN—12DEC07

OU12401,0001D85 -19-29NOV09-10/16

Various units of measurement can be selected on this screen.



LX1037594 —UN—31MAY06

OU12401,0001D85 -19-29NOV09-11/16

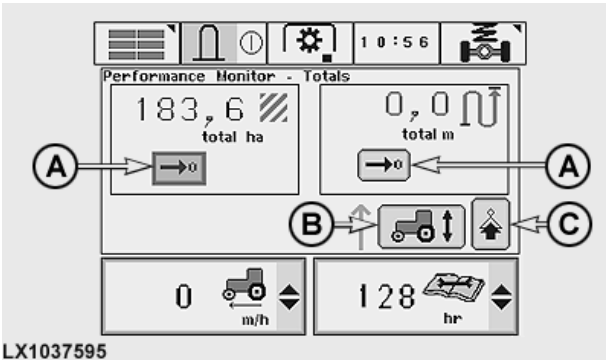
Performance monitor - totals

This screen shows area worked and distance covered. Cells (A) allow the stored values to be set back to zero (the user is first asked if he is sure he wants to make the change).

Cell (B) allows manual recording to be started and ended (provided this type of recording is selected under Performance monitor - implement selection).

Cell (C) gives access to the next screen.

A—Zeroing the values
B—Manual recording
C—Next screen



LX1037595 —UN—31MAY06

Continued on next page

OU12401,0001D85 -19-29NOV09-12/16

Performance monitor - settings

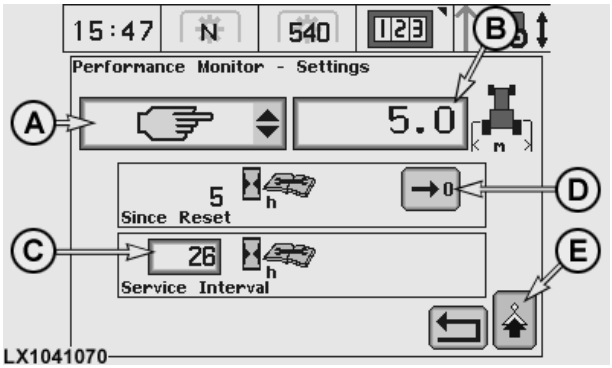
Selection list (A) allows the implement/device to be selected that is used for calculating area.

Implement width can be keyed in at cell (B).

The service interval can be keyed in at cell (C). During the last 20 hours before reaching this interval a corresponding message will be displayed each time the tractor is started. After a service, the Since Reset hour-meter can be set back to zero at cell (D).

Cell (E) gives access to the Performance monitor - calibration screen.

A—Implement/device selection
B—Implement width
C—Service interval
D—Zeroing the value
E—Next screen



LX1041070 —UN—11OCT06

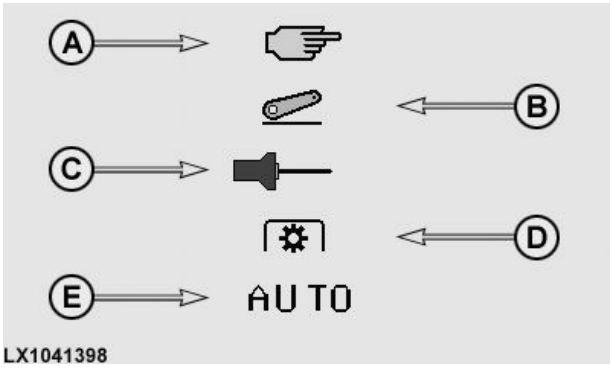
OU12401,0001D85 -19-29NOV09-13/16

Performance monitor - implement selection

Manual recording can be started and stopped via a cell on the Performance monitor - totals screen. A hot key may also be used to perform this function (see Hot keys - selection of functions).

For automatic recording, the first implement that is activated starts the recording process. Recording is interrupted as soon as this implement is deactivated.

A—Manual recording
B—Hitch
C—Implement switch
D—PTO
E—Automatic recording



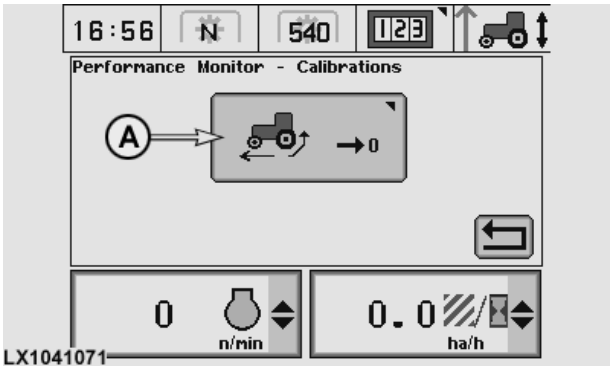
LX1041398 —UN—11OCT06

OU12401,0001D85 -19-29NOV09-14/16

Performance monitor - calibration

Cell (A) gives access to the page shown below.

A—Setting slip to 0



LX1041071 —UN—11OCT06

Continued on next page

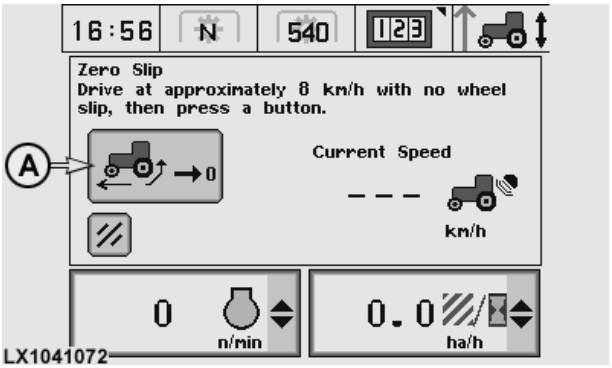
OU12401,0001D85 -19-29NOV09-15/16

Performance monitor - zero rear wheel slip

This setting is required after changing the tires or when the tires are bald.

Drive tractor at approx. 8 km/h (5 mph) and select cell (A).

A message appears saying whether the setting was successful or unsuccessful.



LX1041072 —UN—11OCT06

OU12401,0001D85 -19-29NOV09-16/16

GreenStar Display (Optional)

This display is used to operate additional components (e.g. ISO implements, GreenStar™ or AutoTrac).

Operation of display and components is described in separate operator's manuals.

LX1036209 —UN—19AUG05

GreenStar is a trademark of Deere & Company

OU12401,00014E9 -19-08AUG06-1/1

AutoTrac (Optional)

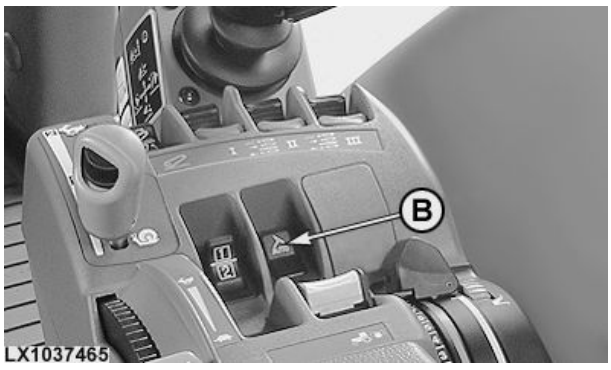
The AutoTrac switch is located in side console (A) or in CommandArm (B). This switch activates the AutoTrac system.

Operation of the AutoTrac system is described in a separate operator's manual.

A—AutoTrac switch (side console)

B—AutoTrac switch (CommandArm)

LX1037463 —UN—08AUG06



LX1037465 —UN—21APR06

OU12401,00014EA -19-08AUG06-1/1

Software Update

After a software or hardware update, there may be new or additional functions available on the tractor that are not described in this Operator's Manual. Ask your John Deere dealer.

OU12401,0001AE1 -19-11NOV08-1/1

Light Switches

CAUTION: Comply with local lighting regulations.

Positions of switch (A):

- 1 = Egress light on
- 2 = Light switch in off position
- 3 = Headlights, tail lights and warning lights on
- 4 = Headlights on
- 5 = Headlights on and worklights can be switched on

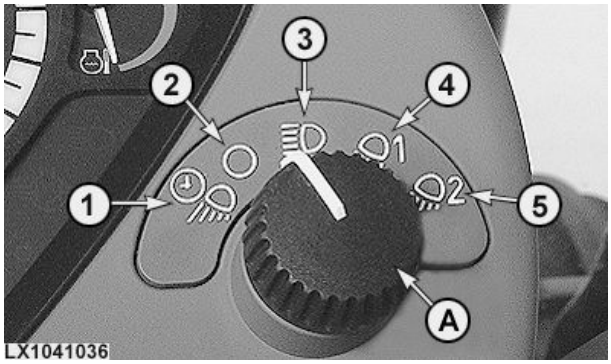
Switch headlights to low beam or high beam position by means of lever (B).

- Pull lever toward steering wheel = Headlight flasher (flash-to-pass)
- Lever in center = Low beam
- Push lever away from steering wheel = High beam

Indicator light (C) will glow when headlight switch is in high beam position.

NOTE: If the egress light is activated at the CommandCenter (see Worklights in this Section), the headlights and any worklights that are activated come on for several seconds if switch (A) is turned briefly to position 1 once or several times.

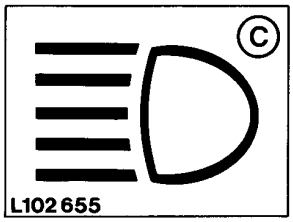
Frequency of switch actuation	Egress light on time
Once	90 seconds
Twice	120 seconds
Three times	150 seconds
Four times	180 seconds



LX1041036 —UN—14JUN06

LX1041415 —UN—11OCT06

L102655 —UN—15AUG94



A—Light switch
B—Multi-function lever for low / high beam
C—High beam indicator

OU12401,0001AC6 -19-09OCT08-1/1

Worklights

CAUTION: Switch off worklights when driving on public roads. Worklights might blind or confuse other drivers.

Press the main menu key (A) and select the Lights screen (B).

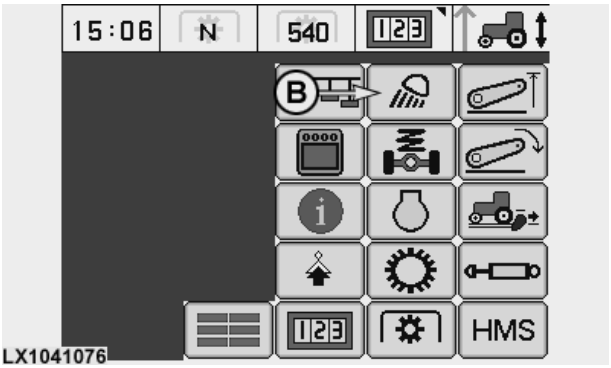
The content of the following screen varies depending on how the tractor is equipped.

Two combinations of worklights may be specified (option A and option B). The option marked with the clock symbol determines whether the egress light is activated.

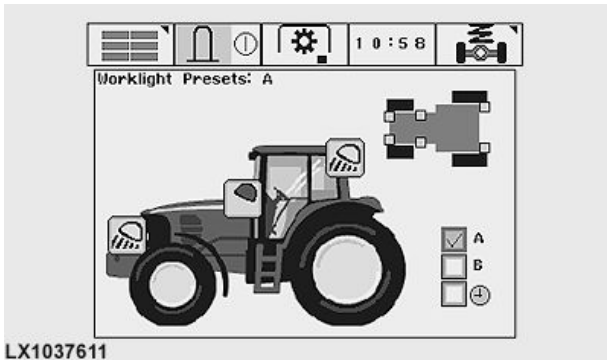
The selected worklights come on when the light switch is set to position 5.

A—Main menu key **B—Lights screen**

LX1037587 —UN—06NOV06



LX1041076 —UN—11OCT06



LX1037611 —UN—31MAY06

OU12401,0001AC7 -19-09OCT08-1/1

Xenon (HID) Worklights

The tractor may be equipped with high-intensity discharge (HID) xenon worklights.

Adjust the Xenon (HID) worklights in such a way that the roof signal lights are not concealed during road travel. For optimum adjustment of the field of vision, adjust the lights crosswise.

CAUTION: High voltage. Risk of personal injury. Changing bulbs on Xenon (HID) lights and work on the ballast unit must be performed ONLY by your John Deere dealer or in a professional workshop.

OU12401,0001533 -19-13OCT06-1/1

Additional Headlights

Additional headlights may be attached to the cab frame. Switch (A) allows the operator to choose between normal headlights and these additional lights (e.g. when front attachments are installed).

LX1036212 —UN—17MAY06

OU12401,0001402 -19-13MAY06-1/1

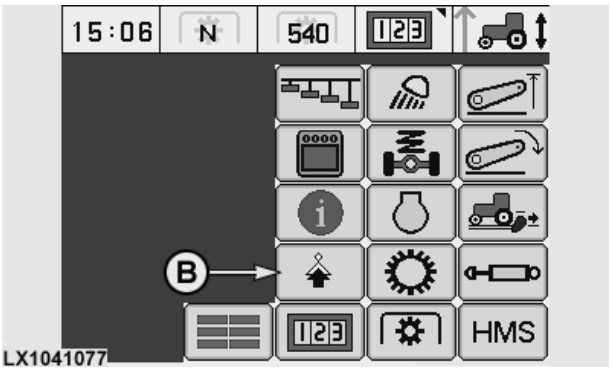
Beacon Light (Optional Equipment)

The beacon light should be used as recommended by local laws (e.g. when driving extremely slowly and when tractor width is excessive).

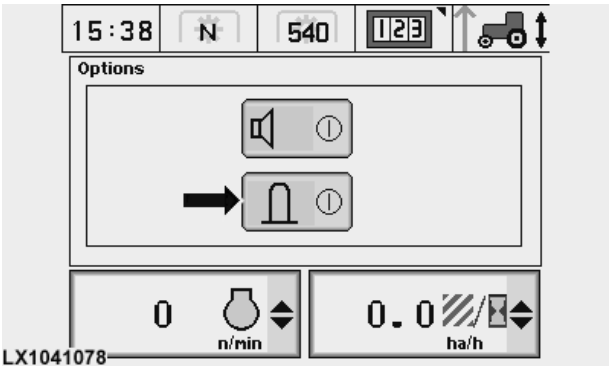
Press the main menu key (A) and then select the “Option” screen (B).

A—Main menu key **B—Option screen**

LX1037587 —UN—06NOV06



LX1041077 —UN—11OCT06



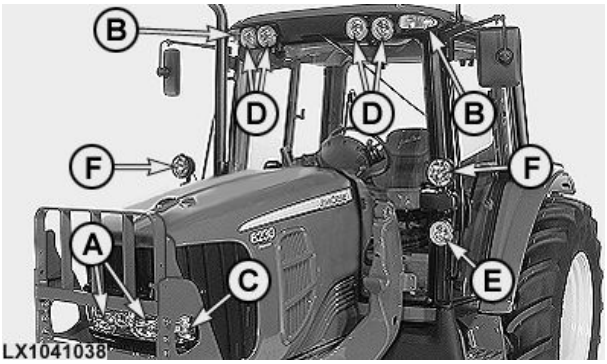
LX1041078 —UN—11OCT06

OU12401,00014B2 -19-04JUL06-1/1

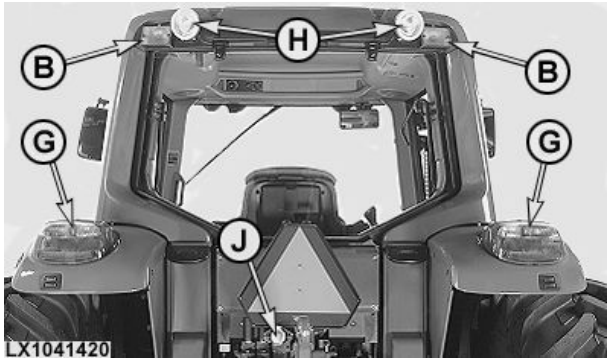
Lights

NOTE: H9 bulbs must NOT be used in front corner worklights (C).

A—Headlights
B—Turn signal and warning lights
C—Front corner worklights[1]
D—Front roof worklights
E—Cab frame worklights[1]
F—Additional headlights [1]
G—Tail, brake and turn signal lights
H—Rear roof worklights
J— Socket for trailer lighting



LX1041038 —UN—14JUN06



LX1041420 —UN—06NOV06

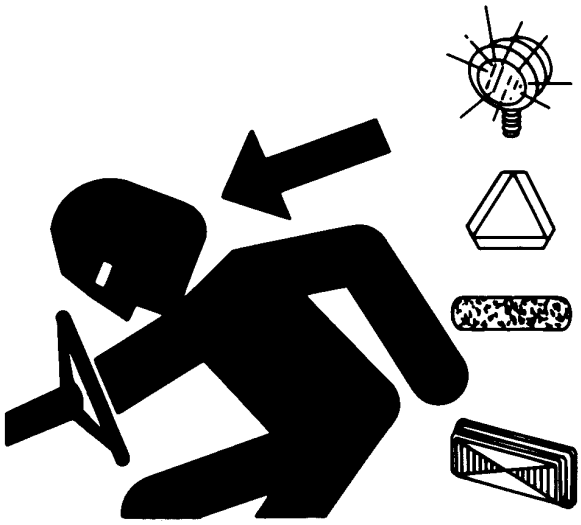
[1]*If equipped*

OULXE59,00108B8 -19-14OCT06-1/1

Use Safety Lights and Devices

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.



TS951 —UN—12APR90

DX,FLASH -19-07JUL99-1/1

Turn on the Hazard Warning Light

Operate hazard warning lights when driving on roadways; do this at switch (A).

LX1036215 —UN—04NOV05

OU12401,0001AC8 -19-09OCT08-1/1

Turn Signal Lights and Horn

A—Multi-function lever for turn signal lights and horn
1— Left-turn signal
2— Right-turn signal
3— Horn (push towards steering column)

LX1041416 —UN—11OCT06

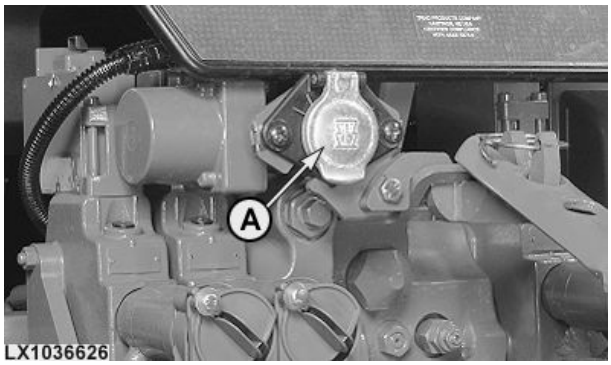
OU12401,0001AC9 -19-09OCT08-1/1

Seven-Terminal Trailer Socket

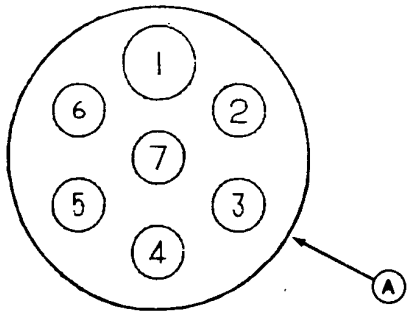
Socket (A) allows lights, turn signals and other electrical equipment on a trailer or implement to be connected. Always use additional lighting on a mounted implement if this conceals the turn signals and other lights at the rear of the tractor.

NOTE: Suitable plugs can be obtained from your John Deere dealer.

Connection	Function	Color of wire
1	Ground	White
2	—	—
3	L.h. turn signal	Yellow
4	Brake light	Light blue
5	R.h. turn signal	Dark green
6	Tail lights	Brown
7	Accessories	Light blue



LX1036626 —UN—22AUG05



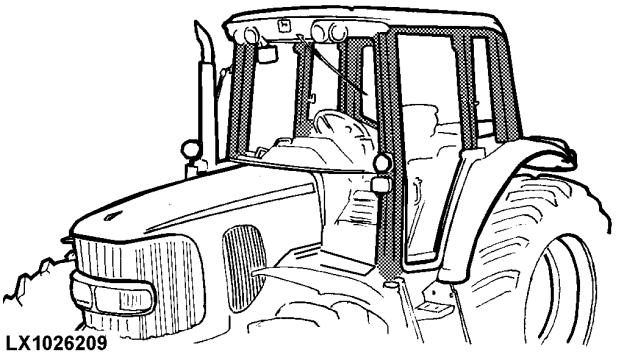
RW21249 —UN—17JUN92

OU12401,0001532 -19-13OCT06-1/1

Roll-Over Protective Structure (ROPS)

CAUTION: A roll-over protective structure (ROPS) is incorporated into each operator's cab. On this construction do not under any circumstances modify structural members by welding on additional parts, drilling holes, cutting or grinding etc. Disregarding this instruction will affect the rigidity of the ROPS.

A tractor roll-over places a severe strain on the ROPS. Therefore, replace the ROPS immediately if structural members have been bent, buckled or otherwise damaged.

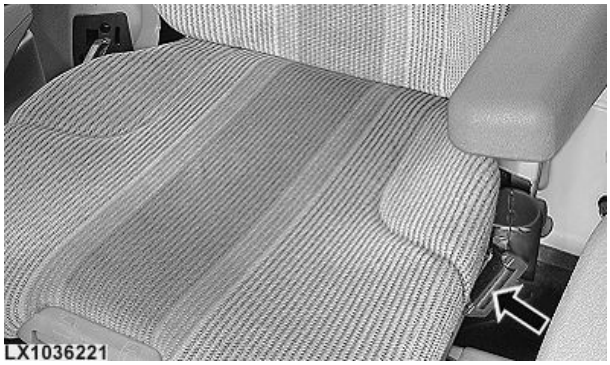


LX1026209 —UN—16MAY01

OU12401,00012AE -19-22AUG05-1/1

Seat Belt

CAUTION: When driving tractors, always wear the seat belt.



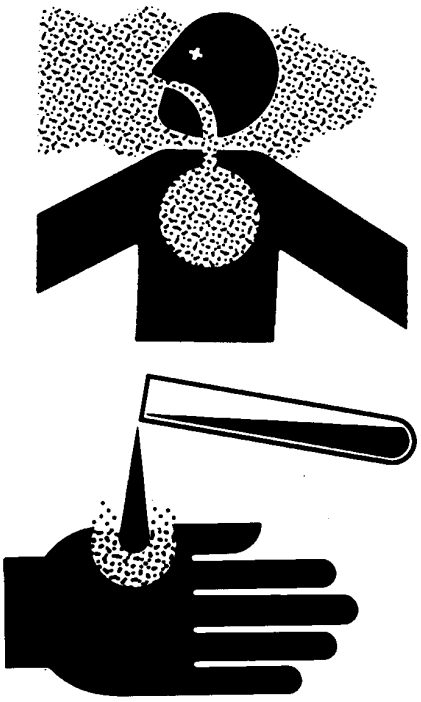
LX1036221 —UN—02JUN05

OU12401,000121B -19-11AUG11-1/1

Avoid Contact with Agricultural Chemicals

CAUTION: This enclosed cab does not protect against inhaling vapor, aerosol or dust.

1. When operating in an environment where pesticides are present, wear a long-sleeved shirt, long-legged pants, shoes, and socks.
2. If pesticide use instructions require respiratory protection, wear an appropriate respirator inside the cab.
3. Wear personal protective equipment as required by the pesticide use instructions when leaving the enclosed cab:
   - into a treated area
   - to work with contaminated application equipment such as nozzles which must be cleaned, changed or redirected
   - to become involved with mixing and loading activities
4. Before 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.
5. Clean your shoes or boots to remove soil or other contaminated particles prior to entering the cab.



TS220 —UN—23AUG88

TS272 —UN—23AUG88

DX,CABS1 -19-25MAR09-1/1

Clean Vehicle of Hazardous Pesticides

CAUTION: During application of hazardous pesticides, pesticide residue can build up on the inside or outside of the vehicle. Clean vehicle according to use instructions of hazardous pesticides.

When exposed to hazardous pesticides, clean exterior and interior of vehicle daily to keep free of the accumulation of visible dirt and contamination.

1. Sweep or vacuum the floor of cab.
2. Clean headliners and inside cowlings of cab.
3. Wash entire exterior of vehicle.
4. Dispose of any wash water with hazardous concentrations of active or non-active ingredients according to published regulations or directives.

DX,CABS2 -19-24JUL01-1/1

Super Comfort Seat

To adjust the seat upward, raise it until it clicks into place (3 detent positions). To adjust downward, raise the seat to the stop position then lower it.

IMPORTANT: Shut off engine before swivelling the seat. Accidental contact with the controls could cause the tractor or implement to operate.

When driving on public roads, lock the seat in straight-ahead position.

If the seat is equipped with a swivel (optional equipment), this is operated by means of lever (G) as follows:

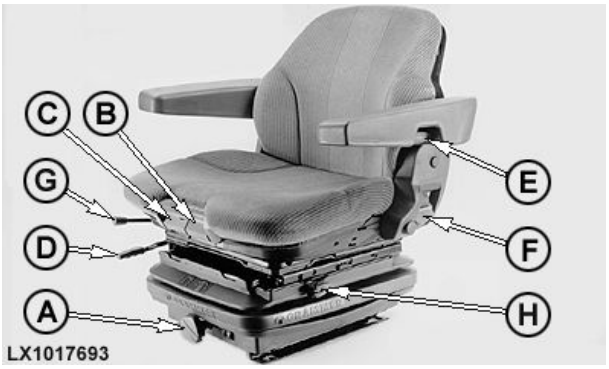
Lift the lever up. The seat turns 200° to the left and 20° to the right. The seat locks at 10° intervals.

As a further option, the seat may be equipped with the same type of swivel described at "Air Comfort Seat".

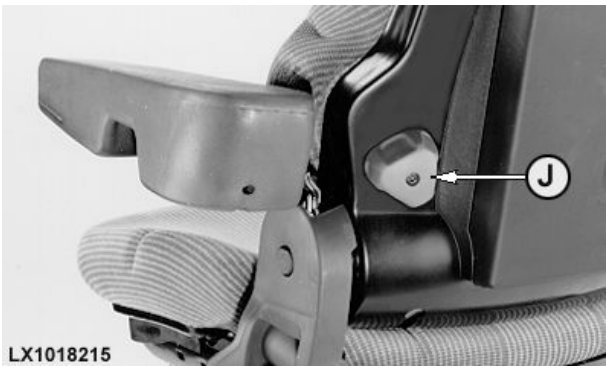
To lower the armrest through 30°, press the armrest tilt adjuster (E) into the armrest.

A—Crank for adjusting operator's weight
B—Lever for seat tilt[1]
C—Lever for adjusting the cushion position[1]
D—Fore-and-aft
E—Armrest tilt
F—Backrest tilt
G—Lever for swivel[1]
H—Lever for fore/aft spring[1]
J—Lumbar support

[1] *If equipped*



LX1017693 —UN—24OCT97



LX1018215 —UN—24OCT97

OU12401,000152C -19-08OCT06-1/1

Air Comfort Seat

1. **Adjust weight**

   There must be weight on the seat for it to be adjusted to suit the weight of the operator. Start the engine, allow the seat to settle, then pull lever (E) up briefly. The seat adjusts itself automatically to the weight of the operator.

2. **Adjust height**

   After the weight adjustment has been made, the seat can be adjusted to any height. To adjust the height, pull lever (E) upward as high as it will go or push it down. If the top or bottom limit is reached during height adjustment, automatic height adjustment takes place to ensure a minimum amount of travel up and down (suspension).

3. **Adjust fore/aft spring**

   - Lever (D) forward - no fore/aft suspension
   - Lever (D) backward - fore/aft suspension

4. **Adjust lateral spring**

   - Lever (G) forward - lateral suspension
   - Lever (G) backward - no lateral suspension

Adjust swivel

The seat swivel is operated by means of lever (F) as follows:

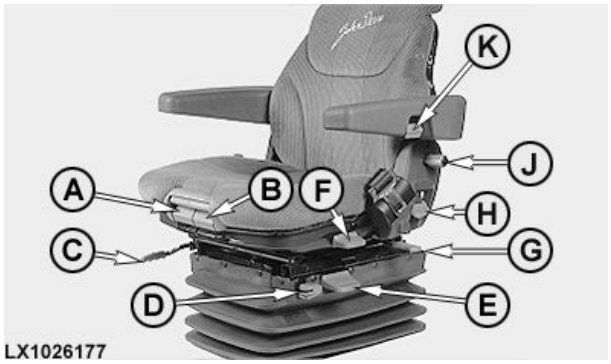
Lifting the lever up allows the seat to turn 15° to the left and right. The seat can be locked at 7.5° intervals.

If equipped with a Premium Plus cab and armrest control console:

When driving the tractor, never swivel the seat beyond its **7.5° lock**. Do not let the control console collide against the steering wheel.

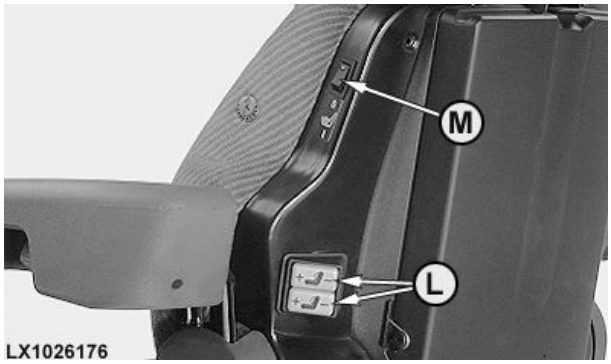
IMPORTANT: Shut off engine before swivelling the seat. Accidental contact with the controls could cause the tractor or implement to operate.

[1]*If equipped*



LX1026177

LX1026177 —UN—05FEB02



LX1026176

LX1026176 —UN—29JAN02

A—Lever for adjusting the cushion position[1]
B—Lever for seat tilt adjustment[1]
C—Fore-and-aft adjustment
D—Lever for fore/aft suspension
E—Height adjustment
F—Lever for swivel movement
G—Lever for lateral suspension
H—Backrest tilt
J—Armrest height adjustment
K—Armrest tilt adjustment
L—Pneumatic lumbar support adjustment
M—Seat heater switch[1]

Adjust the armrests

To lower the armrest through 30°, press the armrest tilt adjuster (K) into the armrest. Knob (J) allows the height of the armrests to be adjusted to any of 5 positions.

OU12401,00019A4 -19-03JUN08-1/1

Instructional Seat

CAUTION: This instructional seat must be used for training or diagnostic purposes only.

Keep all other riders off the tractor and equipment.

Always use the seat belt.

Press lock (A).

LX1036627

LX1036627 —UN—25AUG05

Continued on next page

OU12401,00013C1 -19-12JUN06-1/4

Tip instructional seat forward.

LX1036628 —UN—25AUG05

OU12401,00013C1 -19-12JUN06-2/4

Rotate seat 90°.

LX1036629 —UN—25AUG05

OU12401,00013C1 -19-12JUN06-3/4

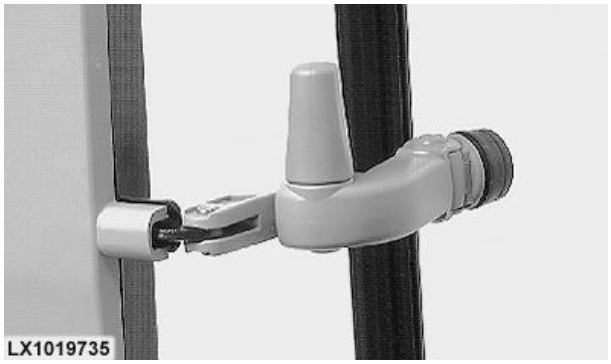
Tip seat backward. Make sure that pin (B) engages in the appropriate bore.

LX1036630 —UN—25AUG05

OU12401,00013C1 -19-12JUN06-4/4

Opening Windows

The side and rear windows can all be opened for better ventilation.



LX1019735 —UN—08FEB00

LX1019360 —UN—15MAY98

OU12401,00012B1 -19-22AUG05-1/1

Windshield Wiper and Washer System

Windshield wiper rotary switch (A) has four positions:

- 0 = off
- --- = Intermittent wipe
- 1 = Slow wipe
- 2 = Fast wipe

The windshield washer is operated using switch (B).

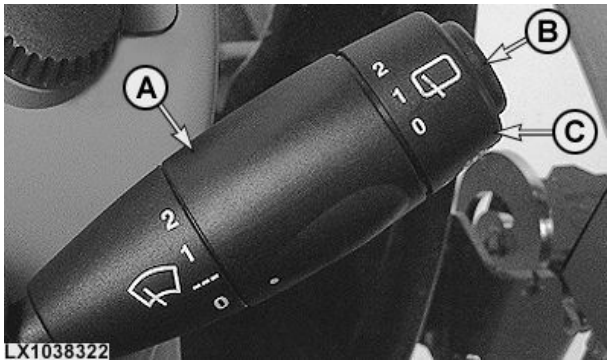
Rear window wiper lever (C) has three positions:

- 0 = off (lever to rear)
- 1 = Intermittent wipe (lever centered)
- 2 = Constant wipe (lever to front)

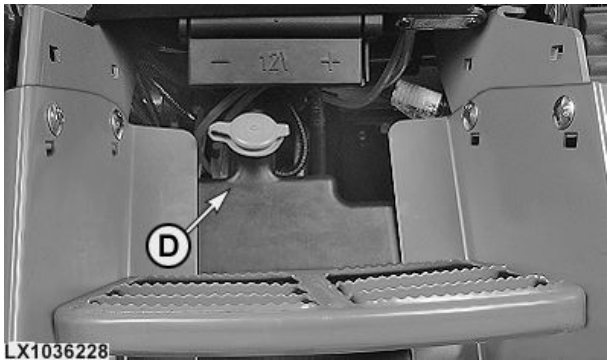
The rear window washer system is operated by pulling the lever toward the steering wheel.

Add anti-freeze solution to water in reservoir (D) if temperature is liable to drop below freezing point.

The windshield and rear window washer systems both have an automatic wipe/wash function: if the washer is actuated for longer than 0.5 seconds, the wiper operates in conjunction with the washer pump and then wipes for 8 seconds after the pump has switched off. After a 5-second delay, the wiper comes on once more.



LX1038322 —UN—27APR06



LX1036228 —UN—02JUN05

A—Rotary switch for windshield wiper
B—Switch for windshield washer
C—Lever for rear window wiper
D—Reservoir for washer

OU12401,0001450 -19-13JUN06-1/1

Fan and Air Louvers (Tractors without ClimaTrak System)

Fan switch (A) controls the fan speed. The direction of airflow can be altered by means of switch (B).

De-icing or defogging the windshield

Set the heater to maximum heat. Set switch (B) to defog symbol (D) and turn switch (A) (fan) to its maximum.

If the airflow is to be directed **at the operator**, set switch (B) to symbol (E). Turn on the fan at switch (A). The direction and force of the airflow can be further adjusted at louvers (C).

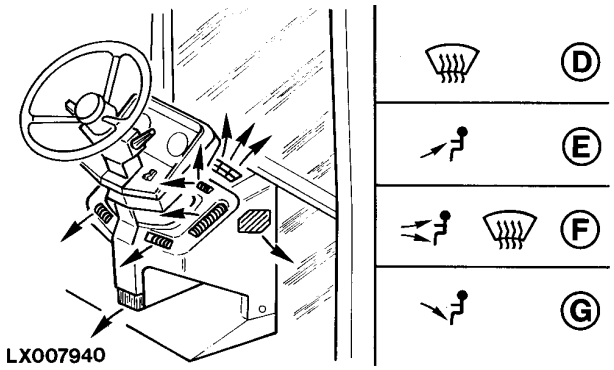
If the airflow is to be directed **evenly around the cab**, set switch (B) to symbol (F). Turn on the fan at switch (A).

If the airflow is to be directed **into the footwell**, set switch (B) to symbol (G). Turn on the fan at switch (A).

A—Fan switch
B—Switch for selecting direction of airflow
C—Louvers
D—Airflow to windshield
E—Airflow to operator
F—Airflow to windows, operator and footwell
G—Airflow to footwell

LX1036229 —UN—04OCT05

LX1036230 —UN—03JUN05

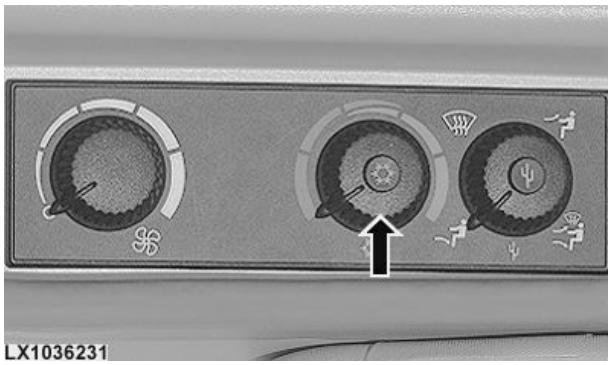


LX007940 —UN—15AUG94

OU12401,00012C9 -19-19SEP05-1/1

Heater (Tractors without ClimaTrak)

Heating is infinitely variable by means of the heater control. To increase heating, turn switch clockwise. Set the fan and louvers as desired.



LX1036231 —UN—19SEP05

OU12401,0001220 -19-24MAY05-1/1

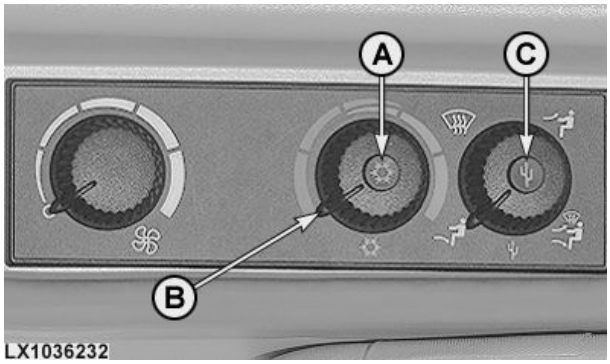
Air-Conditioning (Tractors without ClimaTrak)

Turn on air-conditioning at switch (A). Regulate the cooling at control (B). The cooling is increased by turning the knob counterclockwise. Set the fan and louvers as desired.

IMPORTANT: To maintain consistently high performance, turn on the air-conditioning for two or three minutes every month, regardless of weather conditions or season (with engine at low idle). Control (B) should be set for maximum cooling.

At ambient temperatures below 4°C (39°F), the cab should first be heated (using the heating system) so that the temperature inside the cab is as high as possible.

NOTE: When switch (C) is activated, the air-conditioning operates without regard to ambient temperature. This is necessary in winter, when the air-conditioning has to be operated once a month, and when the system has to be operated in conjunction with the heater to dehumidify the cab.



LX1036232 —UN—19SEP05

A—Air-conditioning switch
B—Cooling regulator
C—Switch for special operation

OU12401,00012CA -19-19SEP05-1/1

Tips on Using Air-Conditioning

Preventing the windows from fogging up

NOTE: First check that the condensation drain is not blocked.

1.) During the day:

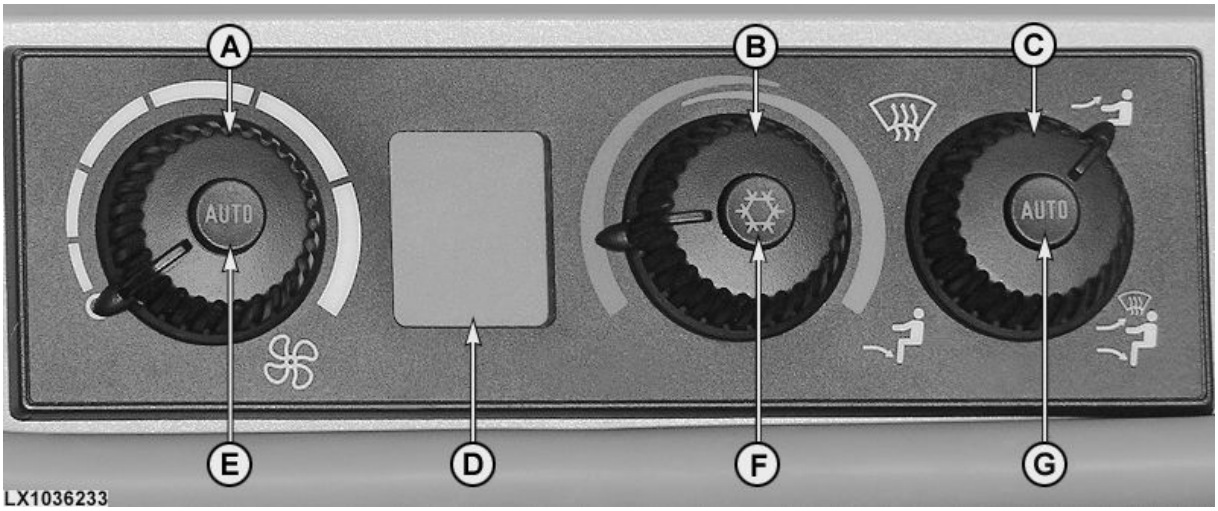
- Do not blow cold air at the windshield! (do not use ”window” mode while running the air-conditioning at ”max. cool”).
- If you feel too cool with air-conditioning at ”max. cool”:
  - Keep the fan running
  - Turn the temperature control to a warmer position
  - Leave the air-conditioning on
- If you still feel too cold:
  - Keep the fan running
  - Turn the temp. control to a warmer setting (in the red zone)
  - Leave the air-conditioning on
  - If windows fog, slowly turn the temperature control to a ”cooler” position until the windows start to clear
- Before you stop the tractor:
  - Keep the fan running
  - Switch off the air-conditioning
  - Turn the temp. control to a warmer setting or leave it if it already is at ”warm”
  - Keep the fan running for a couple of minutes to dry the evaporator core

2.) In the morning (if air-conditioning was in use the day before)

- During the first start-up
  - Set air-flow to ”footwell” - NOT to ”window”!
  - Run the fan
  - Turn the temp. control to ”max. heating” (in the red)
  - If you are not driving the tractor, it may help to open the cab door or window
- As soon as hot, dry air comes out the louvers:
  - Set air-flow to ”window” - this will defog the windows
- When the windows are clear:
  - Set air-flow and temperature to a comfortable setting
- If ambient humidity is high or there is moisture inside the cab
  - With the temperature regulator set to ”warm”, switch the air-conditioning on at the dehumidify switch for special operation (cactus symbol).

OU12401,00012CB -19-19SEP05-1/1

Using ClimaTrak (Automatic Temperature Control)



LX1036233 —UN—08AUG06

A—Fan speed control
B—Temperature selection knob
C—Air-flow control
D—LCD temperature display
E—AUTO fan control mode
F—Economy mode ON/OFF switch
G—AUTO air-flow mode

System controls and display

There are three controls and an LCD window on the ClimaTrak (ATC) console.

1. Fan speed control (A) with AUTO switch (E)
2. Temperature control (B) with economy mode switch (F)
3. Four-position air-flow control (C) with AUTO switch (G)
   - Defog/windshield
   - Defog/dashboard/footwell
   - Dashboard
   - Footwell

Outside temperature is displayed on the LCD display (D). Desired temperature is displayed for 10 seconds every time the engine is started and every time the setting is changed at the temperature control switch.

NOTE: If you want desired temperature to be displayed all the time, change the setting at address ATC033. See "Customization" in the "Diagnostic Trouble Codes and Customization" section.

When in automatic fan mode, a fan symbol and the word AUTO are displayed. When the air-conditioning clutch is engaged (not in economy mode), the snowflake symbol is displayed. Direction of air-flow is displayed by an arrow pointing towards the feet or head, and the defog symbol appears. The word "AUTO" appears below the man when the system is in automatic air-flow mode.

In AUTO air-flow mode, selection is infinitely variable between defog, footwell and footwell/dashboard.

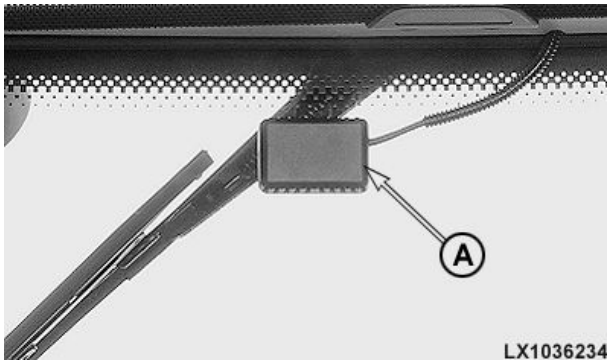
- Dashboard — Air is directed to the louvers in the dashboard.
- Footwell — Air is directed to the footwell, unless defogging is required.
- Defog — Air is directed to the windshield.
- Defog/dashboard/footwell — Variable settings to direct air-flow as needed.

NOTE: To ensure that ClimaTrak gives its best performance, clean the recirculated-air filters in the cab regularly (see "Service - As Required").

Continued on next page

Defog sensor

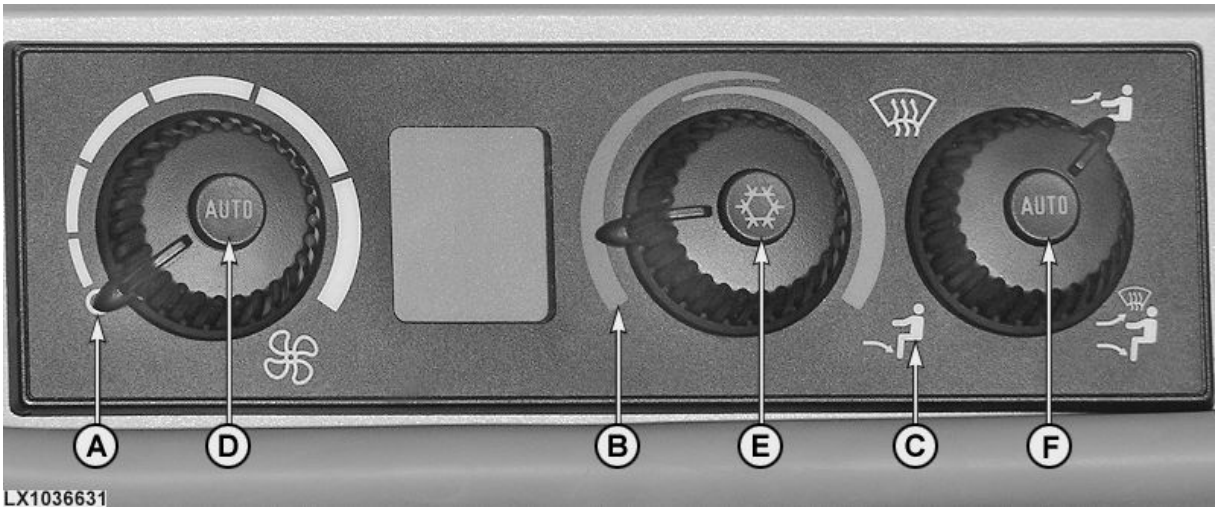
IMPORTANT: Do not expose defog sensor (A) to large quantities of water.



LX1036234 —UN—03JUN05

OU12401,000144D -19-12JUN06-2/2

Changing the ClimaTrak Display (ATC)



LX1036631 —UN—07MAY08

A—Off
B—Max. cool position
C—Air outlet in footwell
D—Auto fan button
E—Economy button
F—Auto air-flow button

How to change the temperature display from °C to °F and back

NOTE: To change the temperature units as described on this page, the CommandCenter has to be set to customary units. See "CommandCenter settings" in the "Controls and Instruments" section.

1. Turn fan speed control to off (A).
2. Turn temperature control to max. cool position (B).
3. Turn mode control to foot (heat) position (C).
4. Then press button (D) and button (E) at the same time.

The letters **DIA** appear on the LCD after the "change" mode has been accessed.

The units of measurement in which temperature is displayed (°C or °F) are changed by pressing switches (D) and (F) at the same time.

Then leave the "change" mode by pressing button (D) and button (E) at the same time.

OU12401,00012B3 -19-25AUG05-1/1

Storage Box

The tractor is equipped with a storage box. A refrigerator may be integrated into this storage box.

LX1036636 —UN—25AUG05

OU12401,0001ACA -19-09OCT08-1/1

Refrigerator (If Equipped)

NOTE: The refrigerator is supplied with current by the socket on the left-hand side. If a refrigerator is installed, this socket cannot be used for any other purpose.

To gain access to the refrigerator, open lid (A).

A—Lid

RXA0090985 —UN—04OCT06

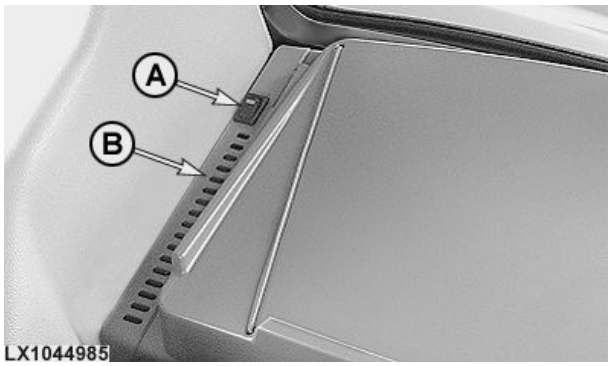
OU12401,00019C6 -19-28APR08-1/2

Operating the refrigerator

The refrigerator is switched on and off at switch (A).

IMPORTANT: Air slots (B) must not be obstructed when the refrigerator is in use.

A—Switch **B—Air slots**



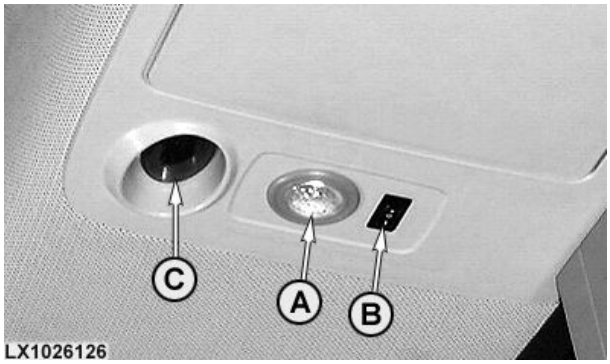
LX1044985 —UN—29APR08

OU12401,00019C6 -19-28APR08-2/2

Dome Light

Dome light (A) remains on all the time switch (B) is set to position 1. With the switch at position 2, it comes on whenever the door is opened. It is switched off in position 0.

Light (C) illuminates the transmission control levers when the headlights are switched on.



LX1026126 —UN—16MAY01

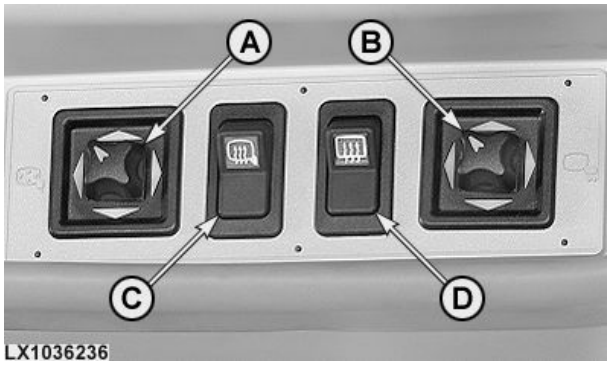
OU12401,00012B4 -19-23AUG05-1/1

Control Switches for Rear-View Mirror and Rear-Window Heater (If Equipped)

Turn the arrow on knobs (A) and/or (B) towards the mirror that is to be adjusted. Press knob (A) up/down or left/right to adjust the mirror surface. Press knob (B) left/right to extend or retract the mirror's arm.

Switch (C) is for switching the mirror heater on and off. Switch (D) is for switching the rear-window heater on and off.

A—Mirror adjuster
B—Mirror arm adjuster
C—Mirror heater switch
D—Rear window heater switch



LX1036236 —UN—03JUN05

OU12401,0001224 -19-02AUG05-1/1

Adjusting the Steering Wheel

To adjust the angle of the steering wheel, pull lever (A), move steering wheel to desired angle and release the lever.

If only the lever is pulled, the steering wheel will rise to its highest position.

To adjust height, pull lever (B) to the rear. Push the lever forward when the adjustment is completed.

A—Lever for tilting the steering wheel
B—Lever for adjusting the height of the steering wheel

LX1036237 —UN—24AUG05

OU12401,0001225 -19-23AUG05-1/1

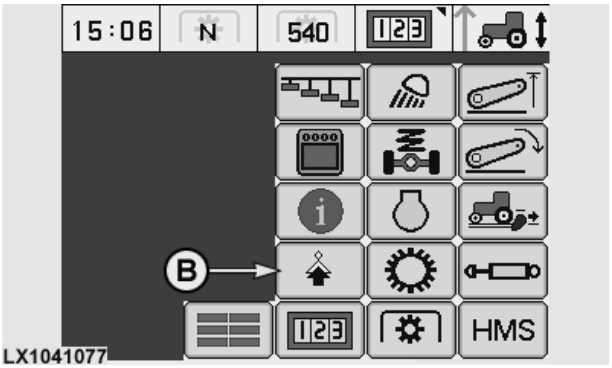
Back-Up Alarm (Optional Equipment)

If the tractor is equipped with this option and it is activated at the CommandCenter, an alarm signal is triggered whenever the reverser lever is set to reverse travel position.

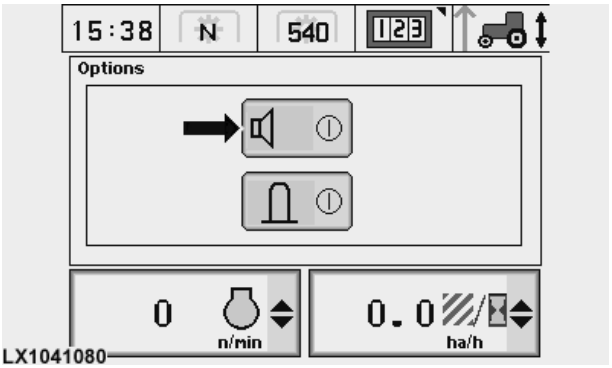
Press the main menu key (A) and then select the “Option” screen (B).

A—Main menu key **B—Option screen**

LX1037587 —UN—06NOV06



LX1041077 —UN—11OCT06



LX1041080 —UN—11OCT06

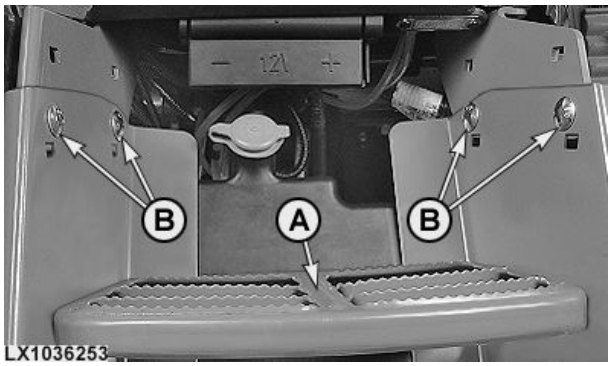
OU12401,00014B3 -19-08OCT06-1/1

Adjusting the Height of Access Step

The height of access step (A) can be adjusted.

Take out screws (B). Move access step to desired position. Put screws (B) back in.

A—Access step **B—Screws**



LX1036253 —UN—03JUN05

OU12401,00012B8 -19-23AUG05-1/1

Installing the Monitor

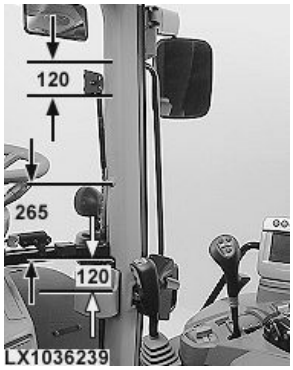
Attaching the performance monitor and controls

There are several possible locations for attaching monitors and controls in the cab:

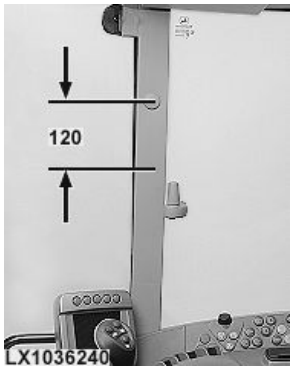
- On the front right post.
- On the center posts.
- On the rear posts.

NOTE: Gap between holes at attaching points is 120 mm (4.72 in.) - M10 thread

Take off the relevant trim and turn it over. The positions where holes may be drilled are already marked on the inside.

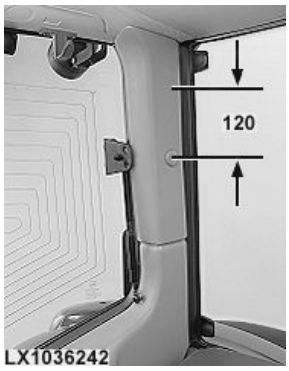


LX1036239 —UN—03JUN05



LX1036240 —UN—03JUN05

LX1041432 —UN—20NOV06



LX1036242 —UN—03JUN05

OU12401,0001531 -19-18NOV06-1/1

Electrical Sockets (If Equipped)

Signal socket

Terminal	Wire color	Description
1	Red	Speed determined by radar
2	Brown	Wheel speed
3	Orange	Rear PTO speed
4	—	—
5	—	—
6	Blue	Power supply
7	Black	Ground

The 7-terminal signal socket (A) is protected by a 30-amp fuse.

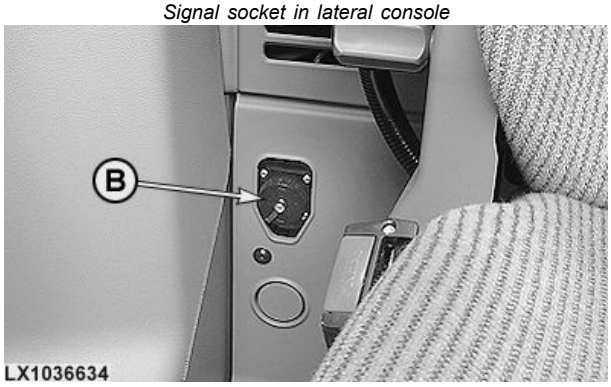
LX1036245 —UN—03JUN05

Signal socket in lateral console

ISOBUS socket in cab

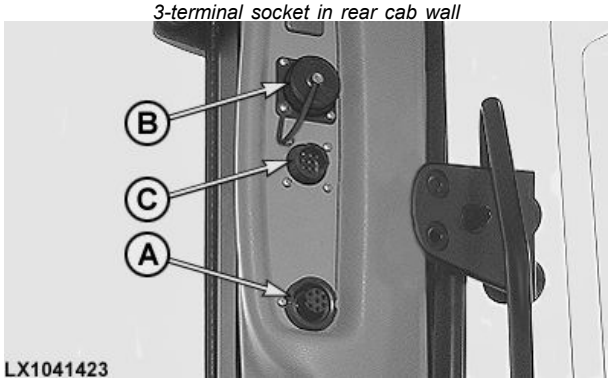
An implement monitor meeting ISO Standard 11783 may be connected to socket (C).

A—Signal Socket
B—3-Terminal Power Outlet Socket
C—ISOBUS Socket



LX1036634 —UN—24AUG05

3-terminal socket in rear cab wall



LX1041423 —UN—06NOV06

Sockets in cab frame

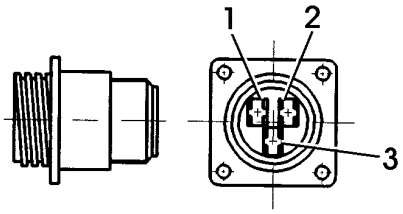
Continued on next page

3-terminal power outlet socket

Terminals 1 and 2 of 3-terminal power outlet socket (B) are protected by a 30-amp fuse. Terminal 3 is ground.

Turn key in main (key) switch to the right to supply power to terminal 1. Terminal 2 is supplied with power even when the ignition is switched off.

IMPORTANT: Electrical equipment requiring high current inputs may be operated, and the use of multiple power outlets is permitted, but the supply circuit must never be overloaded. Remember, total load comprises the sum of all the current consumers connected to the on-board circuit at any one time. This also applies if the consumers are connected to the on-board circuit at different sockets.



LX1017966

LX1017966 —UN—12JAN98

OU12401,0001B90 -19-24AUG10-2/2

Multiple Power-Outlet Socket Strip (If Equipped)

A strip of extra sockets may be installed on the front of the switch console. Terminal A on the socket strip is protected by a 30-amp fuse. Terminal C is protected by a 30-amp fuse, and terminal B is ground.

Turn key in main (key) switch to the right to supply power to terminal C. Terminal A is supplied with power even when the ignition is switched off.

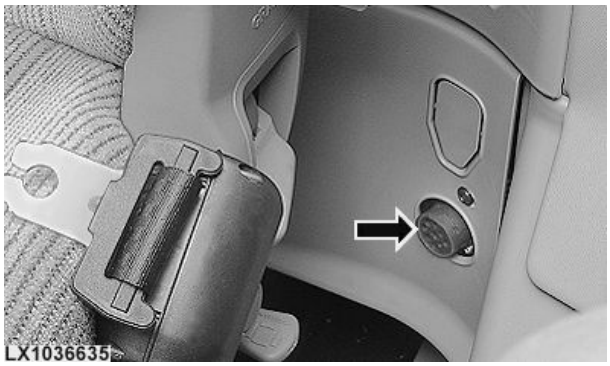
IMPORTANT: Electrical equipment requiring high current inputs may be operated, and the use of multiple power outlets is permitted, but the supply circuit must never be overloaded. Remember, total load comprises the sum of all the current consumers connected to the on-board circuit at any one time. This also applies if the consumers are connected to the on-board circuit at different sockets.

LX1036247 —UN—24APR06

OU12401,0001B91 -19-24AUG10-1/1

Service ADVISOR™ Socket

This socket is suitable **only** for service and diagnostic purposes. Do not connect any other equipment.



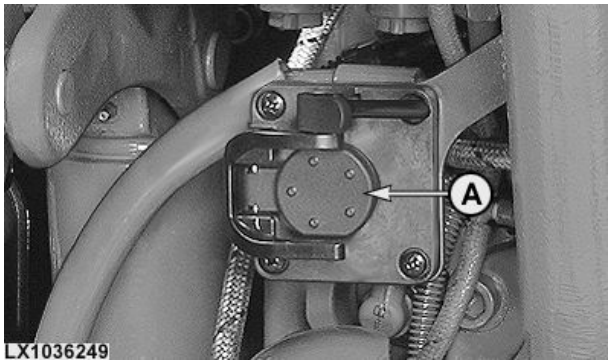
LX1036635 —UN—24AUG05

SERVICE ADVISOR is a trademark of Deere & Company

OU12401,00012BA -19-23AUG05-1/1

ISOBUS Socket (If Equipped)

Implements meeting ISO Standard 11783 may be connected to this socket (A). Read the operator's manual provided by the implement manufacturer and observe all safety messages in the manual and on the implement prior to use.



LX1036249 —UN—24APR06

OU12401,0001530 -19-08OCT06-1/1

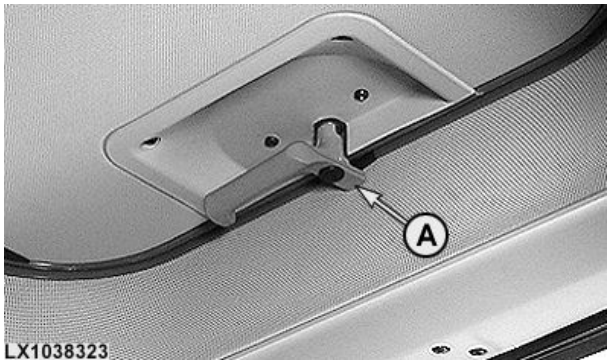
Roof Hatch (If Equipped)

The roof hatch can be opened and closed using handle (A).

If the roof hatch is equipped with a glass panel, direct sunlight can be prevented from entering by using cover (B).

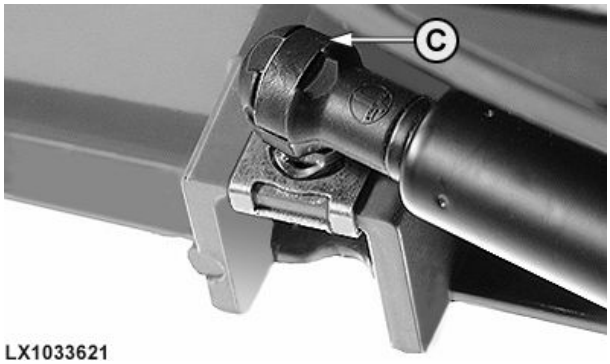
The roof hatch can be adjusted to a narrower or wider angle. To adjust the angle, remove retaining clip (C), pull gas spring from its retainer and remove retainer. Install retainer in the desired position (D) or (E), re-install gas spring and secure with the clip.

A—Handle
B—Cover
C—Retaining clip
D—Narrow angle
E—Wide angle

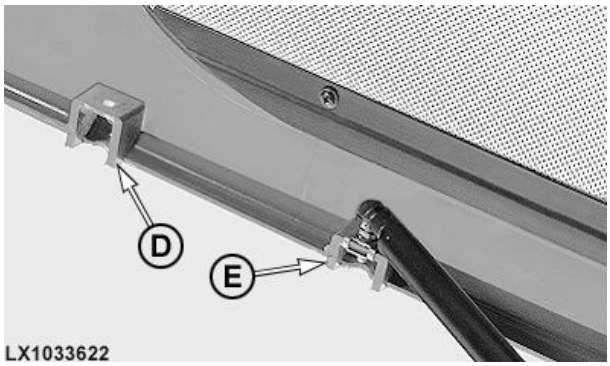


LX1038323 —UN—27APR06

LX1038324 —UN—27APR06



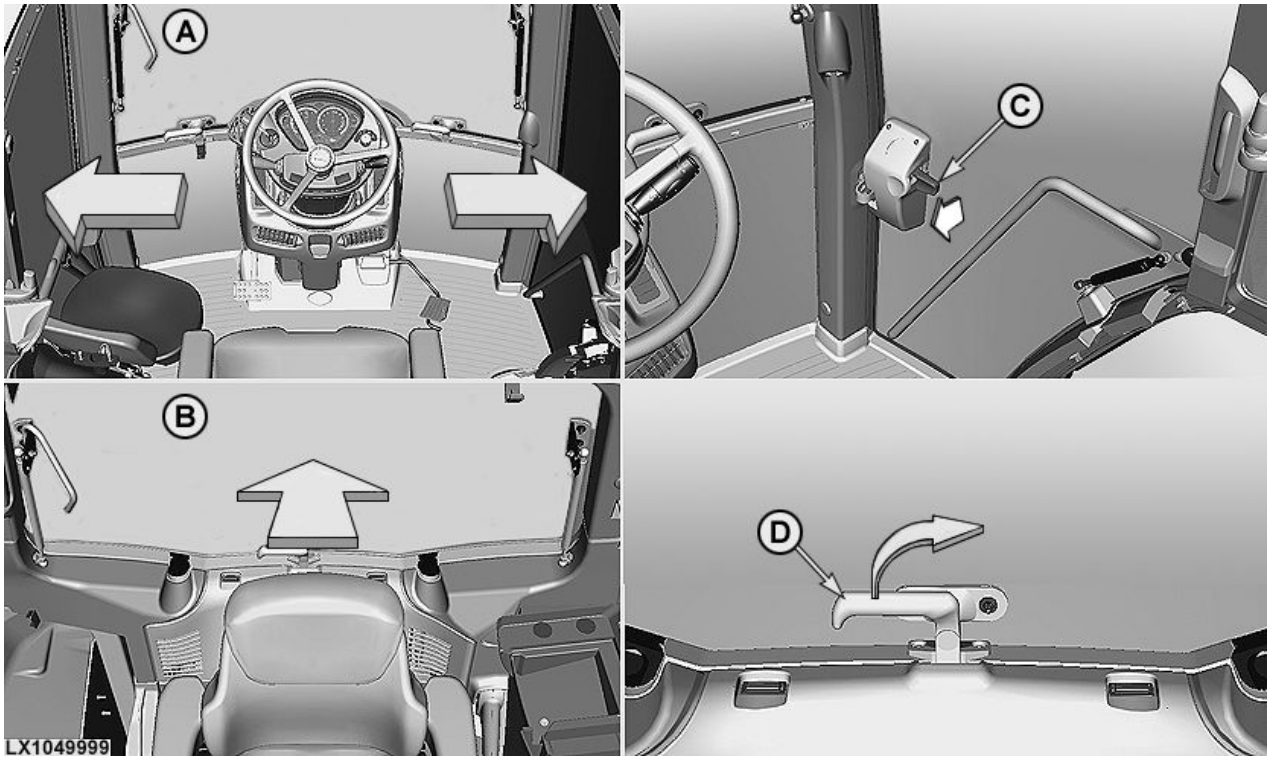
LX1033621 —UN—14APR04



LX1033622 —UN—14APR04

OULXE59,001088B -19-19APR06-1/1

Emergency Exits



LX1049999 —UN—09AUG11

In an emergency, it is possible to exit the cab through the two doors (A). To do this, pull lever (C) to release the door and then push it open.

In an emergency it is also possible to exit the cab through the opening of the rear window (B). Turn lever (D) to the right to release the window and then push it open.

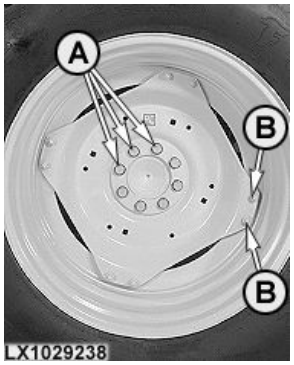
If not equipped with a right door, either break the glass by using an emergency hammer (if equipped) or open it by pulling out the cotter pin.

OU12401,0001CD5 -19-18OCT11-1/1

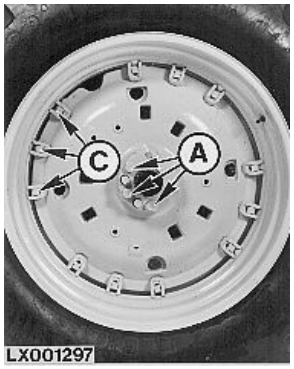
After the First 4 and 8 Hours of Operation

Tighten rear wheel retaining bolts/nuts

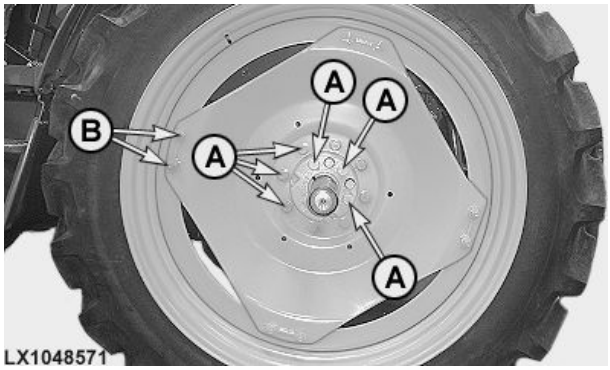
A—500 Nm (370 lb-ft)
B—250 Nm (185 lb-ft)
C—230 Nm (170 lb-ft)



LX1029238 —UN—05MAY03



LX001297 —UN—12AUG94

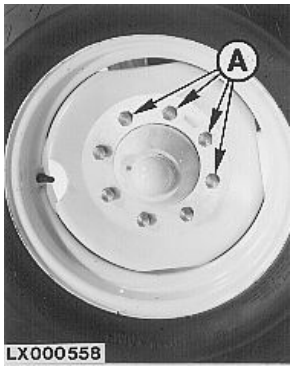


LX1048571 —UN—08DEC09

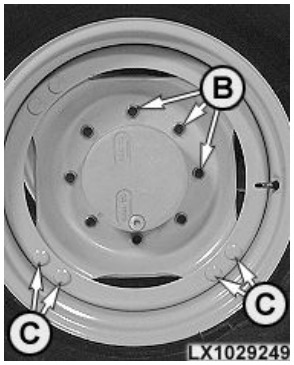
OU12401,0001D8C -19-08DEC09-1/3

Tighten front wheel retaining bolts/nuts

A—250 Nm (185 lb-ft)
B—300 Nm (220 lb-ft)
C—250 Nm (185 lb-ft)



LX000558 —UN—12AUG94



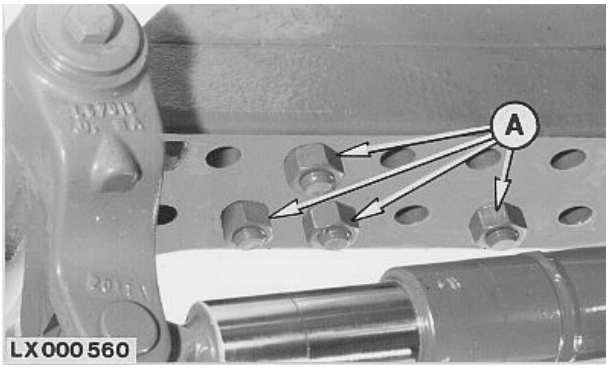
LX1029249 —UN—24APR03

Continued on next page

OU12401,0001D8C -19-08DEC09-2/3

Adjustable front axle

Tighten mounting screws (A) to 400 Nm (300 lb-ft).



LX000560 —UN—09AUG94

OU12401,0001D8C -19-08DEC09-3/3

Within the First 100 Hours of Operation

Wheel bolts

Check torque at wheel retaining bolts frequently.

Engine oil

For the correct use of engine oil, see Section 80, FUEL, LUBRICANTS, HYDRAULIC OIL AND COOLANT.

The first oil and filter change must take place after the first 100 operating hours at the earliest but within the first 500 operating hours at the latest.

OU12401,00019C8 -19-11AUG11-1/1

After the First 100 Hours of Operation

The service jobs listed under “After the First 100 Hours” in Section 85, “Lubrication and Periodic Service” must be carried out.

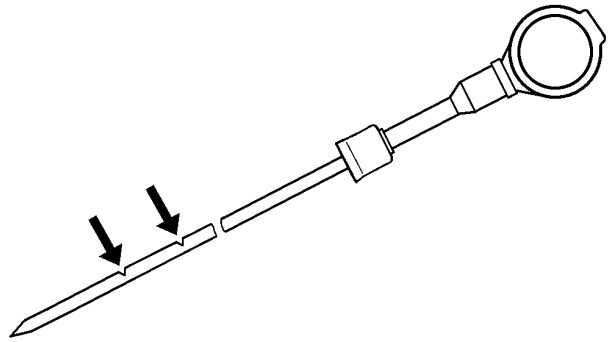
OU12401,00019C9 -19-06MAY08-1/1

Prestarting Checks

Engine oil level

Engine oil level should always be between the marks on the dipstick. Do not start the engine if oil level is below lower mark on dipstick.

LX1042910 —UN—10APR07



LX1041430 —UN—17NOV06

After long storage period

Check whether dirt or other foreign bodies have collected under the hood or cab. If so, remove them.

Continued on next page

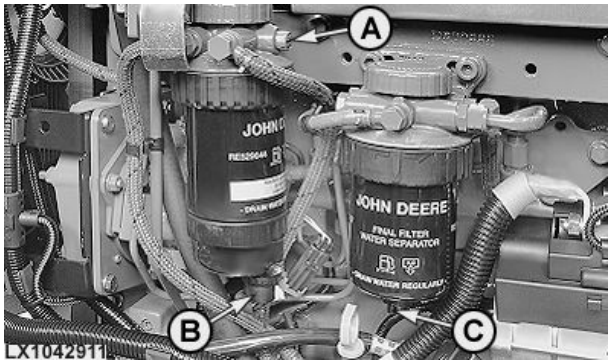
OU12401,0001801 -19-21AUG07-1/2

Fuel filter

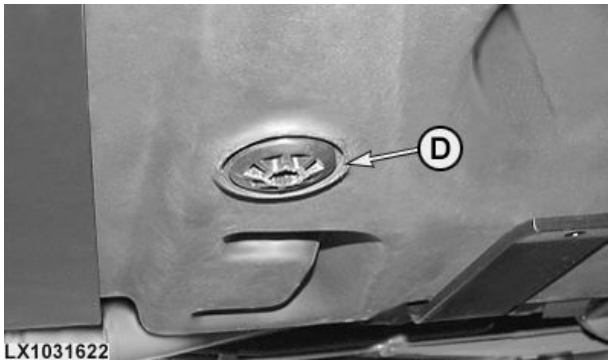
If water or sediment deposits have settled in filter, proceed as follows:

1. Open bleed screw (A).
2. Open drain plug (B) by 3/4 of a turn. Retighten the plug as soon as water and sediment deposits have drained out.
3. Open drain plug (C) by 3/4 of a turn. Retighten the plug as soon as water and sediment deposits have drained out.
4. Tighten bleed screw (A).
5. Turn key in main switch to the right to the first switch position so that the fuel transfer pump is operating. Keep the pump running for approx. 40 seconds.

If water was present in fuel filter, use a 1/2-inch square-section key to loosen drain plug (D) under the fuel tank by one turn. After draining off any water and sediment deposits, retighten drain plug until hand-tight.



LX1042911 —UN—10APR07



LX1031622 —UN—23JAN06

A—Bleed screw
B—Drain plug
C—Drain plug
D—Drain plug (fuel tank)

Other checks

If the tractor is used to power external hydraulic equipment, check the level of the transmission/hydraulic oil every day.

This check is described in “Service - Every 250 Hours”.

If the tractor is used in particularly wet and muddy terrain, apply extra lubrication as follows:

- Lubricate front axle and front-wheel drive shaft.
- Lubricate rear axle.
- Lubricate three-point hitch.

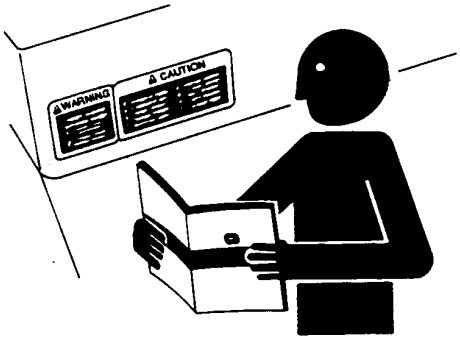
These jobs are described in “Service - Every 250 Hours” and “Service - Every 500 Hours”.

OU12401,0001801 -19-21AUG07-2/2

Comply with Operator's Manuals of Implement Manufacturers

CAUTION: Before operating the tractor in conjunction with a mounted implement or trailer, it is the responsibility of the operator to make himself familiar with the relevant Operator's Manuals. Operator errors may have serious consequences.

Operator's Manuals and the safety decals on mounted implements and trailers provide important information on how to operate them safely. For this reason, it is important to make yourself familiar with them before starting work. Operator's Manuals must be provided for all operators of the tractor.



TS201 —UN—23AUG88

OULXBER,0001A5A -19-21FEB11-1/1

Operating the Engine

Important Information Regarding the Engine

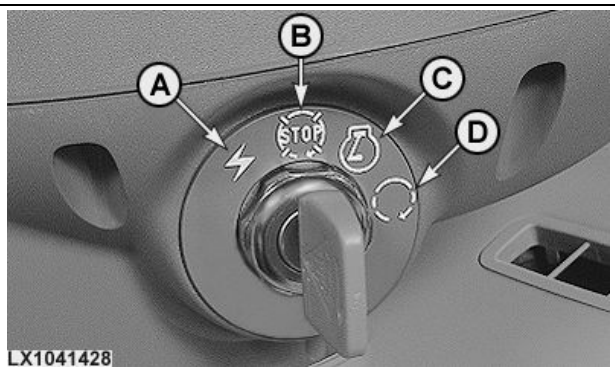
The warranty does not cover damage to the engine and driveline elements caused by unauthorized engine settings.

Unauthorized settings contravene the emissions regulations that apply to this engine and may result in criminal prosecution.

OU12401,000198A -19-25JAN08-1/1

Positions of Main (Key) Switch

A—Power supply with engine off
B—"Off"
C—"On" (engine running)
D—Start position



LX1041428 —UN—20NOV06

OU12401,000154B -19-14NOV06-1/1

Starting the Engine

⚠ CAUTION: Never operate the engine in a closed building. Make sure there is plenty of ventilation. Danger of asphyxiation!

1. Set selective control valve levers (A) to neutral position.
2. Set reverser lever (C) to neutral position (or to positions N or P on tractors with IVT transmission).
3. Turn key in main switch (D) one position to the right. Wait until light (E) goes out.
4. Turn key in main switch (D) clockwise to end position. As soon as engine starts, release key.

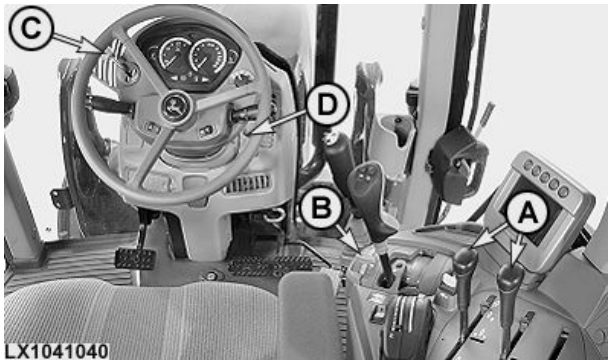
Do not operate starting motor for more than 30 seconds at a time. Turn key in main switch to zero. Wait at least one minute before attempting to start again.

After starting the engine, wait 2 seconds before operating switches or controls since the electronic system of the tractor is checked.

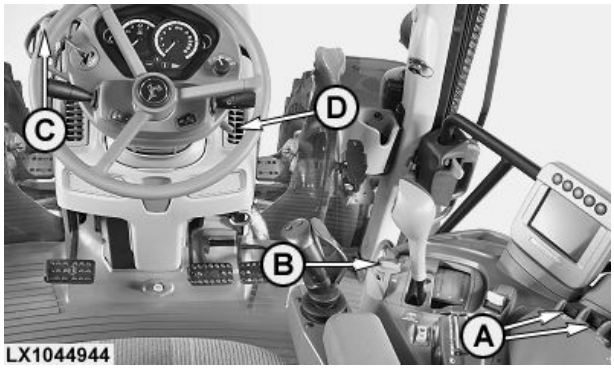
IMPORTANT: During the warm-up phase, operate the tractor at moderate load only. Once operating temperature has been reached (see temperature gauge), full power becomes available.

NOTE: The engine control unit (ECU) allows the engine to run at a higher slow idle speed (1050 rpm) until coolant temperature reaches 20°C (68°F).

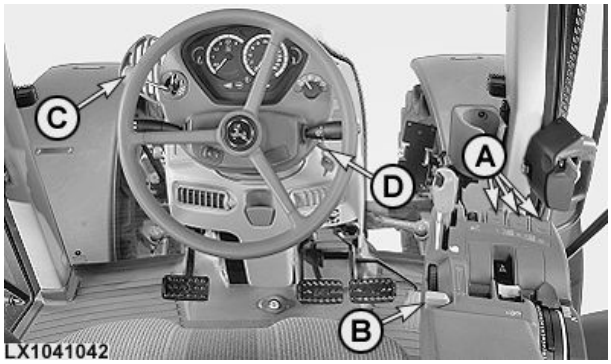
A—SCV Levers
B—Hand Throttle
C—Reverser Lever
D—Main (Key) Switch
E—Glow-Plug Indicator Light



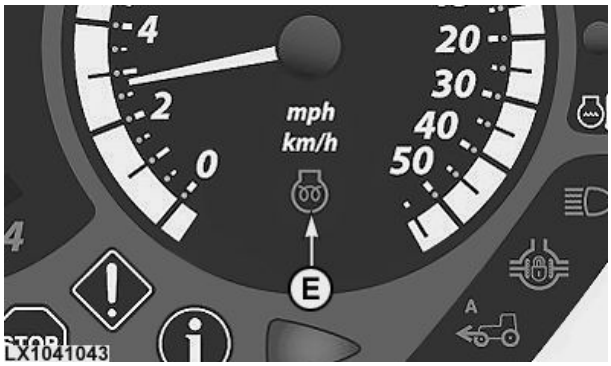
LX1041040 —UN—14JUN06



LX1044944 —UN—21DEC07



LX1041042 —UN—14JUN06

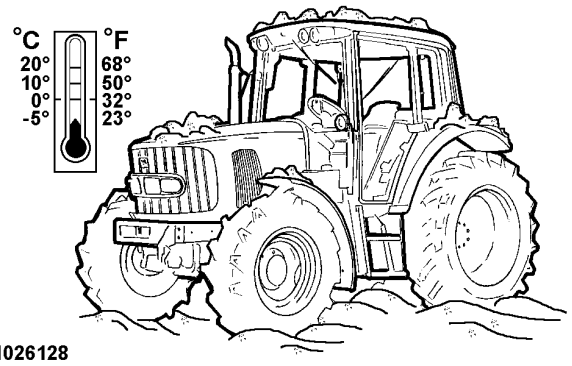


LX1041043 —UN—14JUN06

OULXE59,0010993 -19-17JUN10-1/1

Cold-Weather Starting Aid

Depending on tractor equipment, various cold-weather starting aids are available to assist in starting the engine at temperatures below 0°C (32°F).



LX1026128

LX1026128 —UN—16MAY01

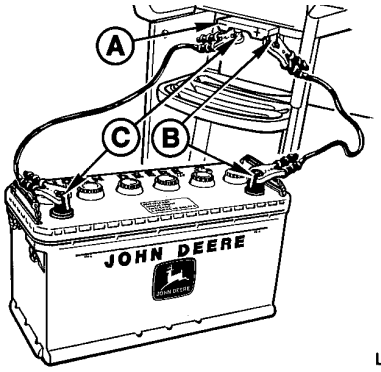
OU12401,00012C1 -19-28AUG05-1/1

Starting with a Booster Battery

CAUTION: Gas given off by batteries is highly explosive. Keep sparks and flames away from batteries. Be sure polarity is correct before making connections: ground cable to negative pole and starter cable to positive pole of battery.

Reversed polarity will damage the electrical system. Always connect ground cable to negative pole last.

The tractor is equipped with connections to allow an additional 12-volt battery to be brought into the circuit. Lift up cover (A), and connect positive poles (B) before connecting negative poles (C).



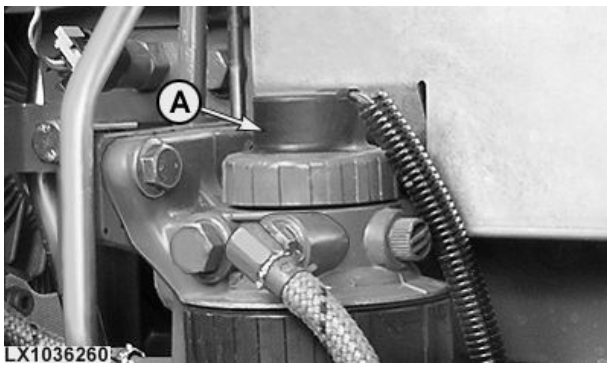
LX 000399

LX000399 —UN—26JUL94

OULXE59,001071C -19-18FEB05-1/1

Fuel Preheater

Fuel preheater (A) switches on and off automatically (ambient temperature).



LX1036260

LX1036260 —UN—16AUG05

OU12401,0001404 -19-13MAY06-1/1

Using Auxiliary Heaters — If Equipped

CAUTION: Avoid electrical shock or fire. Use 3-wire, heavy duty electrical cord with 15-amp rating (14 gauge) minimum, suitable for outdoor use. Always plug electrical cord into 110-volt outlet protected with ground fault interrupter.

Two Cold Weather Packages are available from your John Deere Dealer.

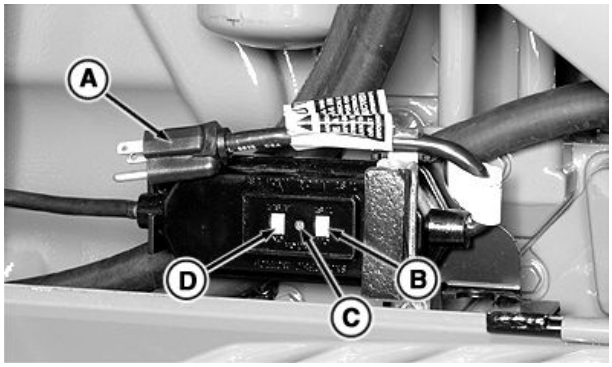
Auxiliary Heater Package, including:

- Engine Coolant Heater
- Hydraulic Charge Pump Heater
- Transmission Heater

Premium Cold Weather Package, including:

- Engine Coolant Heater
- Hydraulic Charge Pump Heater
- Transmission Heater
- Fuel Heater
- Rear Window Defroster

IMPORTANT: Ground fault interrupter protects tractor only, and does not protect electrical wiring supplying power to tractor. Test all ground fault interrupters before use.



RXA0062414 —UN—10SEP02

A—Plug
B—Test Button
C—Indicator Light
D—Reset Button

Auxiliary heaters are used to aid starting in cold weather. At ambient temperature of -15°C (5°F), coolant heating process requires about 2 hours. Extend heating period if ambient temperature is lower.

OU12401,0001374 -19-03NOV05-1/1

Engines with Turbocharger

Most damage to the turbocharger is caused by not following the correct procedure when starting and shutting off the engine. After starting and before shutting off, idle the engine without load for at least 30 seconds.

IMPORTANT: If the engine stalls when in operation, restart it IMMEDIATELY. This will prevent the turbocharger from overheating.

See also *Stopping the Engine* in this Section.

LX,OMMOT 013413 -19-22JUN10-1/1

Intelligent Power Management (Power Boost) — Optional Equipment

NOTE: Power boost is activated automatically when starting the engine.

To de-activate or re-activate power boost, press engine button (A) and make a choice on the screen.

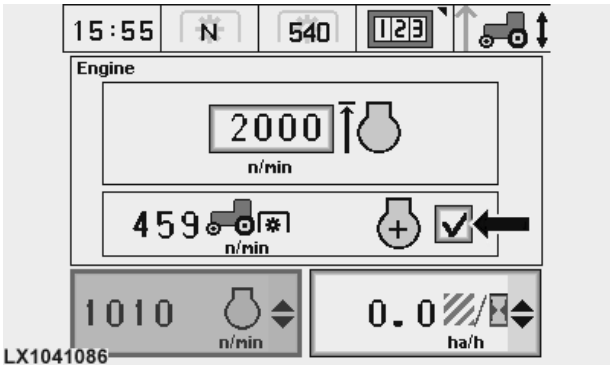
If power boost is activated at the CommandCenter, then the following applies:

a) Transport work
Engine power is increased automatically when ground speed exceeds 15 km/h (9.3 mph). This power boost persists until the ground speed drops below 10 km/h (6.2 mph).

b) PTO operation
When using PTO-driven implements, engine power is increased gradually when ground speed exceeds 1 km/h (0.6 mph), if the tractor electronic system detects a correspondingly high PTO power requirement. Full power becomes available from a speed of 2.5 km/h (1.5 mph).

A—Engine button

LX1037624 —UN—06NOV06



LX1041086 —UN—20NOV06

OU12401,00019B0 -19-23APR08-1/2

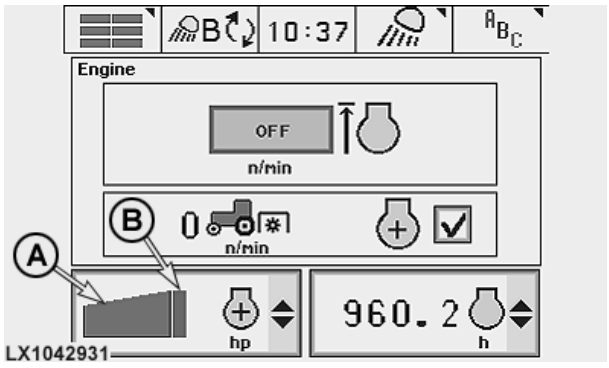
Engine power display

Fields (A) and (B) display the current engine power (light green color).

- Field (A) represents the power range up to rated engine power.
- Field (B) represents the John Deere power bulge (above rated power).
- The power boost achieved by the “Intelligent Power Management” system for PTO operation and transport work is displayed in field (B) (dark green color).

A—Engine power below rated power

B—Engine power above rated power



LX1042931 —UN—02MAY07

OU12401,00019B0 -19-23APR08-2/2

Engine Protection

Malfunctions in the fuel system and engine are indicated by the red STOP light, yellow CAUTION light and blue INFO light coming on. In addition, a message appears on the CommandCenter.

To protect the engine and prevent damage, there is an engine protection program that functions as follows when a serious malfunction occurs:

Malfunction	Light	Diagnostic trouble code	Effect
Incorrect signal from the crankshaft speed sensor	blue yellow yellow	000637.10 000637.02 000637.08	Engine power is reduced by 50%
Coolant too hot	yellow red	000110.16 000110.00	Engine power is reduced by 20% Engine power is reduced by 60%
Engine control unit too hot	red	001136.00	Engine speed is reduced to 1200 rpm
Exhaust Gas Recirculation (EGR) exhaust temperature too high	blue yellow red	000412.15 000412.16 000412.00	Engine power is reduced by 5 to 50%
Exhaust gas recirculation valve in wrong position	blue yellow yellow	002791.02 002791.13 002659.17	Engine power is reduced by 20%
Intake air temperature (VGT) too high	yellow red	001180.16 001180.00	Engine power is reduced by 5 to 50%
Fuel temperature too high	red	000174.00	Engine power is reduced by 20%
Fresh air temperature of Exhaust Gas Recirculation (EGR) too high	yellow red	002630.16 002630.00	Engine power is reduced by 20% Engine power is reduced by 60%
Mixed air temperature of Exhaust Gas Recirculation (EGR) too high	yellow red	000105.16 000105.00	Engine power is reduced by 20% Engine power is reduced by 60%
Engine oil pressure too low	yellow red	000100.18 000100.01	Engine power is reduced by 20% Engine power is reduced by 60%
Incorrect signal from sensor for fuel rail pressure	red red	000157.03 000157.04	Engine power is reduced by 50%
Problem with transmission on the CAN BUS	yellow yellow yellow	000237.02 000237.13 000237.31	Engine power is reduced in increments of 10% to an engine speed of 1200 rpm
Turbocharger speed too high	yellow	000103.00	Engine power is reduced by 50%
Turbocharger compressor outlet temperature too high	yellow	002790.16	Engine power is reduced by 50%
Turbocharger actuator error	yellow	002795.07	Engine power is reduced by 50%
Water detected in fuel	yellow	000097.16	Engine power is reduced by 50%

OU12401,0001AF5 -19-22NOV08-1/1

Towing the Tractor

IMPORTANT: Never tow the tractor to start the engine!

A disabled tractor is best transported on a flatbed carrier. Comply with the instructions in the “Transport” section.

LX,OMOT 004928 -19-01SEP99-1/1

Park the Tractor (Tractors without IVT)

IMPORTANT: Engage park only when the tractor is stationary.

Engage park when parked or operating the tractor from a stationary position.

LX1044943 —UN—21DEC07

OU12401,0001954 -19-16DEC07-1/1

Parking the Tractor (Tractors with IVT)

IMPORTANT: Engage park lock only when the tractor is stationary.

Engage park lock when parked or operating the tractor from a stationary position.

NOTE: In extremely cold temperatures, it may take up to 20 seconds for the park lock to engage.

When engaging park lock on bumpy terrain, remember to actuate the brake pedals as well.

An acoustic alarm warns the operator if he vacates his seat with the park lock not engaged.

LX1037175 —UN—06JUN06

OU12401,00012E7 -19-04OCT05-1/1

Stopping the Engine

CAUTION: Do NOT shut off the engine while the tractor is moving (not even when it is rolling to a stop). To do so could damage the electronics as well as the transmission.

CAUTION: After heavy-duty work or driving at high engine speeds, do not shut off the engine immediately; wait for a few minutes with the engine running at slow idle speed. This prevents the engine compartment from becoming too hot.

CAUTION: Lower mounted implement(s) or equipment to the ground before leaving the tractor. Pull the key out of the main switch.

LX1036262 —UN—05SEP05

Stop the tractor, engage the park lock and then turn main (key) switch (A) to the left to shut off the engine.

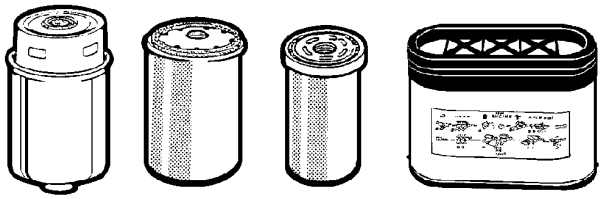
OU12401,00012C6 -19-22JUN10-1/1

Reduce Fuel Consumption

Service correctly

Replace air cleaner element and fuel, engine oil and transmission/hydraulic filter elements at specified service intervals (see “Service” section).

Use only John Deere filters!

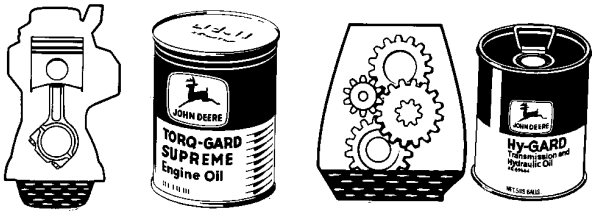


LX1031683

LX1031683 —UN—27MAR03

OU12401,0001943 -19-11DEC07-1/7

Use recommended oils and lubricants only (see “Fuel, Lubricants, Hydraulic Oil and Coolant” section).

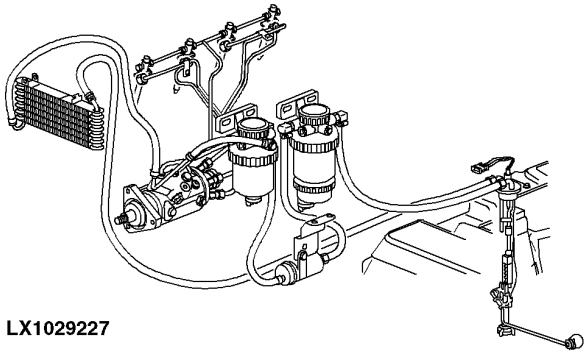


L103 642

L103642 —UN—15AUG94

OU12401,0001943 -19-11DEC07-2/7

Have the fuel system checked regularly by your John Deere dealer.



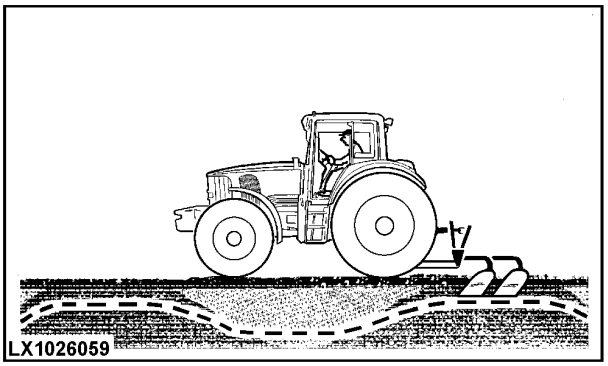
LX1029227

LX1029227 —UN—07MAY03

Continued on next page

OU12401,0001943 -19-11DEC07-3/7

Have draft link control functions of the hitch checked regularly by your John Deere dealer.

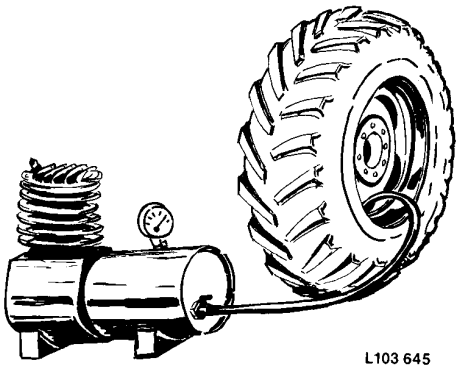


LX1026059 —UN—18MAY01

OU12401,0001943 -19-11DEC07-4/7

Drive with correct tire pressures

Adapt tire pressures to type of work and ground conditions (consult your John Deere dealer or local tire agent).



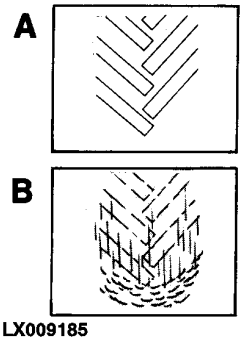
L103645 —UN—15AUG94

OU12401,0001943 -19-11DEC07-5/7

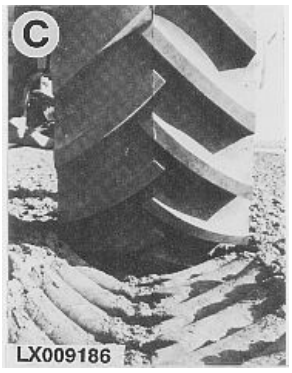
Choose correct ballast

Choose ballast to obtain 10 to 15% wheel slip. Use no more ballast than necessary, reduce ballast for light work.

A—Too much ballast
B—Too little ballast
C—Correct ballast



LX009185 —UN—01SEP94



LX009186 —UN—01SEP94

Continued on next page

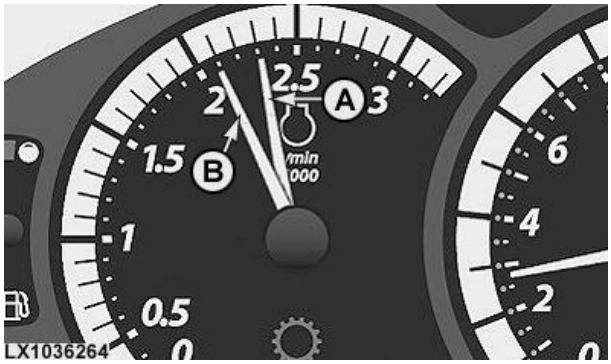
OU12401,0001943 -19-11DEC07-6/7

Select correct gear

Always drive in the highest possible gear with reduced engine speed.

Choose a gear so that engine speed (A) with engine under no load drops 150 to 250 rpm when the tractor is operating with the engine under load (B).

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



LX1036264 —UN—31MAY06

OU12401,0001943 -19-11DEC07-7/7

Select Correct Ground Travel Speed

Number of gears on tractors with:

PowrQuad Plus transmission (30 km/h; 18.5 mph):
- 16 forward gears, 16 reverse gears

PowrQuad Plus transmission (40 km/h; 25 mph):
- 24 forward gears, 24 reverse gears

AutoQuad Plus transmissions have the same number of gears and the same travel speeds as the corresponding PowrQuad Plus transmission.

The tractor may be equipped with an additional creeper transmission, offering a further 12 gears.

Gears should be selected so as to avoid prolonged overloading of the engine. Ground travel speeds with engine running at rated speed are shown on the following pages.

OU12401,000195B -19-16DEC07-1/1

Travel Speed Tables

NOTE: The ground travel speeds shown in the following tables are theoretical. The actual speeds vary with rolling circumference, load, tire pressure, make of tire, wheel slip etc. If the precise speed is required for specific applications, then it must be obtained by measurement.

OULXE59,001089F -19-08MAY06-1/1

Changing Tires

When changing tires, always refer to the tables below and select tires that have the same differential gear pair (e.g. 51/9) listed next to them. Also comply with the information provided under “Tire Combinations” and “Check the Oil Sight-Glass” in Section 65, “Wheel Tread, Tires”.

OU12401,0001708 -19-01APR07-1/1

Travel Speeds, PowrQuad Plus Transmission (16/16)

30 km/h (18.5 mph); rated engine speed 2300 rpm; 18.4R38 tires; differential 51/9

				Additional gears with creeper transmission			
Range	**Gear**	**km/h**	**mph**	**Range**	**Gear**	**km/h**	**mph**
A	1	2,6	1.6	A	1	0,26	0.16
	2	3,1	1.9		2	0,31	0.19
	3	3,7	2.3		3	0,37	0.23
	4	4,5	2.8		4	0,46	0.29
B	1	5,1	3.2	B	1	0,52	0.32
	2	6,2	3.9		2	0,62	0.39
	3	7,4	4.6		3	0,75	0.47
	4	9,1	5.7		4	0,91	0.57
C	1	8,5	5.3	C	1	0,85	0.53
	2	10,2	6.3		2	1,02	0.63
	3	12,2	7.6		3	1,23	0.76
	4	14,9	9.3		4	1,50	0.93
D	1	17,4	10.8				
	2	21,0	13.1				
	3	25,1	15.6				
	4	30,8	19.1				
A	R1	2,7	1.7	A	R1	0,27	0.17
	R2	3,2	2.0		R2	0,32	0.20
	R3	3,9	2.4		R3	0,39	0.24
	R4	4,7	2.9		R4	0,48	0.30
B	R1	5,4	3.4	B	R1	0,54	0.34
	R2	6,5	4.0		R2	0,65	0.40
	R3	7,7	4.8		R3	0,78	0.48
	R4	9,5	5.9		R4	0,95	0.59
C	R1	8,8	5.5	C	R1	0,89	0.55
	R2	10,6	6.6		R2	1,07	0.67
	R3	12,7	7.9		R3	1,28	0.80
	R4	15,6	9.7		R4	1,57	0.98
D	R1	18,2	11.3				
	R2	21,9	13.6				
	R3	26,2	16.3				
	R4	32,1	20.0				

Other tires (supplied by factory):

Tires	**Speed**	**Differential**	**Tires**	**Speed**	**Differential**
320/90R42	3.2% slower	51/9	420/85R34	2.9% slower	53/10
600/65R38	same	51/9	18.4R34	0.3% faster	53/10
520/70R38	same	51/9	16.9R34	2.9% slower	53/10
480/70R38	3.2% slower	51/9	16.9-34	5.5% slower	53/10
460/85R38	same	51/9	460/85R30	6.2% slower	53/10
420/85R38	3.2% slower	51/9	420/85R30	9.4% slower	53/10
340/85R38	2.9% slower	53/10	18.4R30	6.2% slower	53/10
16.9R38	3.2% slower	51/9	16.9R30	9.4% slower	53/10
14.9R38	0.3% faster	53/10	18.4-26	1.3% slower	47/10
520/70R34	0.3% faster	53/10	460/85R26	1.3% slower	47/10
480/70R34	2.9% slower	53/10	16.9-24	8.8% slower	47/10

Continued on next page

Other tires (supplied by factory):

Tires	Speed	Differential	Tires	Speed	Differential
480/75R34	2.9% slower	53/10	520/75R38	same	51/9
460/85R34	0.3% faster	53/10	420/85R24	8.8% slower	47/10

OU12401,0001D8E -19-08DEC09-2/2

Travel Speeds, PowrQuad Plus Transmission (24/24)

40 km/h (25 mph); rated engine speed 2300 rpm; 18.4R38 tires; differential 51/9

				Additional gears with creeper transmission			
Range	**Gear**	**km/h**	**mph**	**Range**	**Gear**	**km/h**	**mph**
A	1	1,6	1.0	A	1	0,16	0.10
	2	1,9	1.2		2	0,19	0.12
	3	2,3	1.4		3	0,23	0.14
	4	2,8	1.7		4	0,28	0.17
B	1	3,9	2.4	B	1	0,39	0.24
	2	4,7	2.9		2	0,47	0.29
	3	5,6	3.5		3	0,56	0.35
	4	6,8	4.2		4	0,69	0.43
C	1	6,3	3.9	C	1	0,63	0.39
	2	7,6	4.7		2	0,76	0.47
	3	9,1	5.7		3	0,91	0.57
	4	11,2	7.0		4	1,12	0.70
D	1	10,4	6.5				
	2	12,5	7.8				
	3	14,9	9.3				
	4	18,3	11.4				
E	1	16,8	10.4				
	2	20,3	12.6				
	3	24,3	15.1				
	4	29,8	18.5				
F	1	22,7	14.1				
	2	27,4	17.0				
	3	32,8	20.4				
	4	40,2	25.0				
A	R1	1,7	1.1	A	R1	0,17	0.11
	R2	2,0	1.2		R2	0,20	0.12
	R3	2,4	1.5		R3	0,24	0.15
	R4	2,9	1.8		R4	0,29	0.18
B	R1	4,0	2.5	B	R1	0,41	0.25
	R2	4,9	3.0		R2	0,49	0.30
	R3	5,8	3.6		R3	0,59	0.37
	R4	7,1	4.4		R4	0,72	0.45
C	R1	6,6	4.1	C	R1	0,66	0.41
	R2	7,9	4.9		R2	0,80	0.50
	R3	9,5	5.9		R3	0,95	0.59
	R4	11,6	7.2		R4	1,17	0.73
D	R1	10,8	6.7				
	R2	13,0	8.1				
	R3	15,6	9.7				
	R4	19,1	11.9				
E	R1	17,6	10.9				
	R2	21,2	13.2				
	R3	25,3	15.7				
	R4	31,0	19.3				
F	R1	23,7	14.7				
	R2	28,6	17.8				

Continued on next page

OU12401,0001D8F -19-08DEC09-1/2

40 km/h (25 mph); rated engine speed 2300 rpm; 18.4R38 tires; differential 51/9

Range	Gear	km/h	mph	Additional gears with creeper transmission Range	Gear	km/h	mph
	R3	34,2	21.3				
	R4	41,9	26.0				

Other tires (supplied by factory):

Tires	Speed	Differential	Tires	Speed	Differential
320/90R42	3.2% slower	51/9	420/85R34	2.9% slower	53/10
600/65R38	same	51/9	18.4R34	0.2% faster	53/10
520/70R38	same	51/9	16.9R34	3.0% slower	53/10
480/70R38	3.2% slower	51/9	16.9-34	5.5% slower	53/10
460/85R38	same	51/9	460/85R30	6.2% slower	53/10
420/85R38	3.2% slower	51/9	420/85R30	9.5% slower	53/10
340/85R38	2.9% slower	53/10	18.4R30	6.2% slower	53/10
16.9R38	3.2% slower	51/9	16.9R30	9.5% slower	53/10
14.9R38	0.2% faster	53/10	18.4-26	1.5% slower	47/10
520/70R34	0.2% faster	53/10	460/85R26	1.5% slower	47/10
480/70R34	3.0% slower	53/10	16.9-24	8.7% slower	47/10
480/75R34	3.0% slower	53/10	520/75R38	same	51/9
460/85R34	0.2% faster	53/10	420/85R24	8.7% slower	47/10

OU12401,0001D8F -19-08DEC09-2/2

Engage the Front-Wheel Drive

The front wheel drive can be engaged and disengaged in all gears (forward and reverse), on-the-go and under load without using the clutch.

NOTE: Disengage front-wheel drive before driving at high speed on public roads.

NOTE: When braking with both brake pedals, front-wheel drive engages automatically regardless of the position selected at the front-wheel drive switch. The front-wheel drive indicator light comes on.

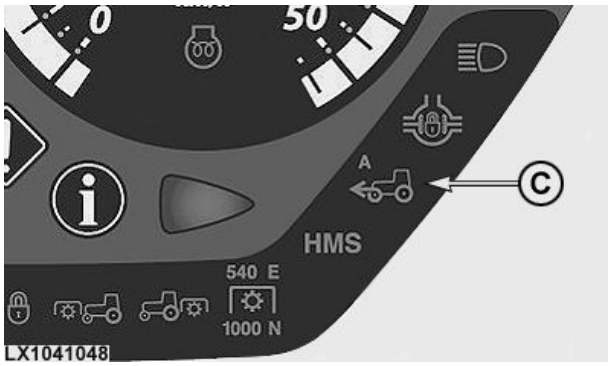
Automatic mode

When the automatic mode is selected, front-wheel drive disengages automatically whenever tractor speed exceeds 23.3 km/h (14.5 mph).

When tractor speed drops below 21 km/h (13 mph), front-wheel drive re-engages automatically.

A—Engage / disengage front-wheel drive
B—On/off switch for automatic mode
C—Indicator light comes on when front-wheel drive is engaged

LX1038296 —UN—06NOV06



LX1041048 —UN—29JUN06

OULXE59,0010956 -19-12DEC07-1/1

Tractors with TLS Front Axle

CAUTION: When the engine is started and when a different suspension setting is selected, the front axle may move briefly, even if the tractor is stationary. Make sure everyone is clear of the area of potential danger.

IMPORTANT: If faults occur in the regulating system, a message appears at the CommandCenter. The suspension system is out of action. Drive slowly so as not to inhibit safety or damage components. See your John Deere Dealer immediately.

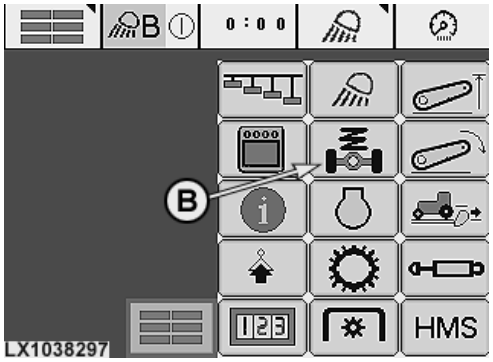
Press the main menu key (A) and select ”TLS Plus” on the screen. Axle settings can be selected on the screen that follows.

If ”AUTO” is selected, suspension reacts automatically in response to conditions. Travel speed, surface characteristics, tractor load and heavy implements at the rear are all taken into account. The best possible comfort is achieved. The suspended front axle engages whenever the tractor's speed exceeds 1.5 km/h (0.9 mph).

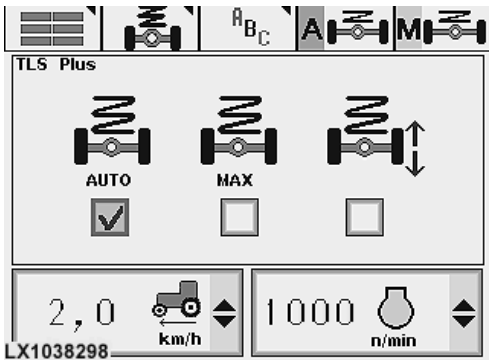
If ”MAX” is selected, suspension is set to maximum hardness (e.g. for operation with a front loader). The suspended front axle engages whenever the tractor's speed exceeds 1.5 km/h (0.9 mph), and there is a delay in control when pulling away from stationary: control does not become active until the tractor has moved 5 m (16 ft.). When speed exceeds 35 km/h (22 mph), the ”MAX” setting is de-activated. When speed drops below 25 km/h (15 mph) again, the ”MAX” setting is re-activated.

A—Main menu key **B—TLS Plus**

LX1037587 —UN—06NOV06



LX1038297 —UN—26APR06

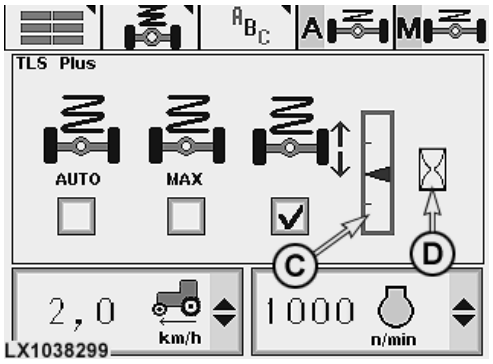


LX1038298 —UN—26APR06

OU12401,00013F7 -19-14APR06-1/2

If the symbol with the arrows is selected (manual setting), the axle settles in its mid-position. Thereafter, the front of the tractor can be raised and lowered manually (e.g. to facilitate the attachment of mounted implements). Do this by selecting bar graph (C) and turning the selection wheel when hourglass symbol (D) disappears. Turn it clockwise to raise the front of the tractor, and counterclockwise to lower the front of the tractor. To leave this screen, press the ”confirm” or ”abort” buttons. As speed rises above 1.5 km/h (0.9 mph), the axle settles in its mid-position.

The manual setting is overridden as soon as travel speed exceeds 5 km/h (3 mph). The system returns to its previous setting (”AUTO” or ”MAX”).



LX1038299 —UN—26APR06

C—Bar graph **D—Hourglass symbol**

OU12401,00013F7 -19-14APR06-2/2

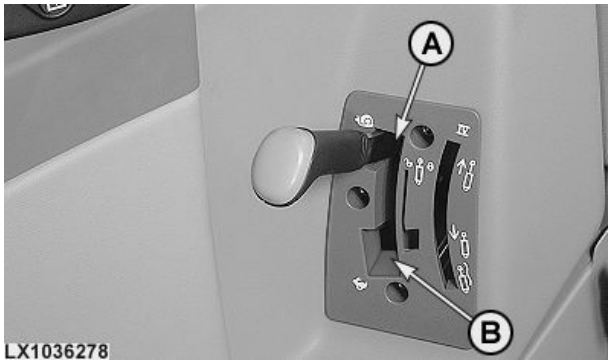
Engaging and Operating Creeper Transmission

IMPORTANT: To maximize transmission reliability:

- **Never engage or disengage creeper transmission with engine speed higher than 1000 rpm.**
- **Operate creeper transmission in ranges A, B or C only.**
- **Do not operate creeper transmission with ground engaging equipment requiring high horsepower.**

NOTE: Shifting force required to engage creeper can be high compared to force required on other mechanical shift levers. Shifter is not synchronized or spring assisted so tractor must be stopped. Shifting range shift lever to neutral or feathering the clutch can provide easier creeper engagement or disengagement.

To Operate Creeper Transmission:



LX1036278 —UN—24NOV06

A—Creeper speed **B—High speed**

1. Stop tractor by depressing clutch pedal.
2. Reduce engine speed below 1000 RPM.
3. Move Left-Hand Reverser Lever to Neutral.
4. Select range A, B or C.
5. Move creeper lever to engage or disengage creeper transmission.

OU1092A,0000033 -19-17NOV08-1/1

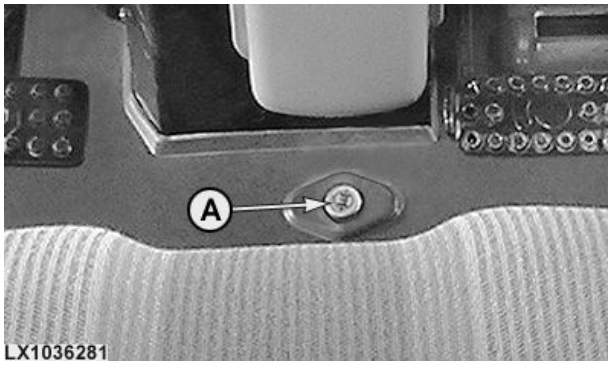
Engage the Differential Lock

⚠ CAUTION: Do not attempt to steer the tractor with the differential lock engaged.

If wheel slip varies greatly between rear wheels, engage differential lock using switch (A). To disengage the differential lock, depress brake pedal or actuate switch (A) again.

If tractor speed exceeds 23.3 km/h (14.5 mph) with the differential lock engaged, the differential lock switches off automatically.

When tractor speed drops below 23.3 km/h (14.5 mph) again, the differential lock must be engaged manually by the driver.



LX1036281 —UN—17AUG05

OU12401,0001ADB -19-18OCT08-1/1

Hydraulic Foot Brakes

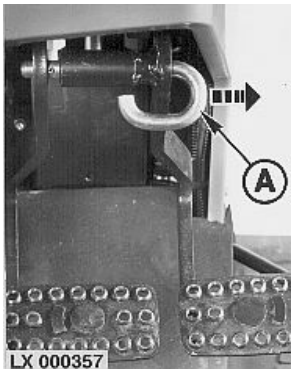
CAUTION: When the engine is not running, pedal travel is longer (no hydraulic assistance).

IMPORTANT: Brake pedals must be coupled together by means of pedal coupler (A) when driving on public roads.

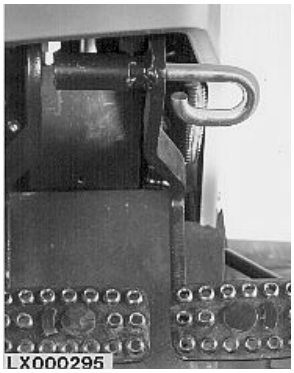
For field operation, pull pedal coupler (A) outward. The brake pedals can now be operated individually. In this case, only the l.h. or r.h. rear wheel is braked. Use individual brakes to assist in making sharp turns. Use brake to assist steering at low tractor speeds only.

When stopping the tractor, press down on both brake pedals at the same time.

When braking with both brake pedals together, front-wheel drive engages automatically. The front-wheel drive indicator light comes on.



LX000357 —UN—12AUG94



LX000295 —UN—12AUG94

OULXE59,001066E -19-05AUG04-1/1

Shift the PowrQuad Plus Transmission

Gears are shifted by means of range shift lever (A), swiches (B) - or switch (E) - and reverser lever (C). The hand clutch is operated via switch (D).

Before starting the engine, move reverser lever (C) to neutral position. To drive, **first** move range-shift lever (A) to the desired range and then move the reverser lever to the desired direction.

⚠ CAUTION: If the reverser lever is actuated when the engine is running and a range is selected, the tractor will start to move.

To change the ranges, the clutch pedal must be depressed or the declutch switch must be actuated. There is no need to actuate the clutch to shift gears or to change the direction of travel.

To park the tractor, move reverser lever (C) to neutral and engage park at range-shift lever (A).

IMPORTANT: Engage park only when the tractor is stationary.

NOTE: If shift lever (A) is moved to park when reverser lever (C) is not in neutral, an audible alarm is triggered and the blue INFO light comes on. When the engine is shut off, the reverser lever remains in its selected position but the transmission shifts into neutral.

If the reverser lever is not in neutral when the engine is started, an audible alarm is triggered and the relevant message appears on the CommandCenter to alert the operator.

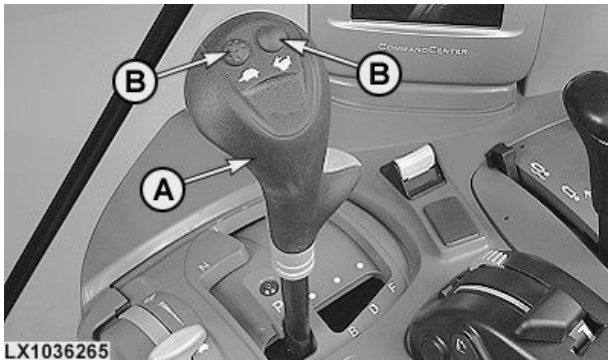
If the reverser lever is moved out of neutral while park is engaged, an audible alarm is triggered and the blue INFO light comes on. To make the tractor move, first put the reverser lever in neutral and then move it to the desired position.

Hand clutch (if equipped)

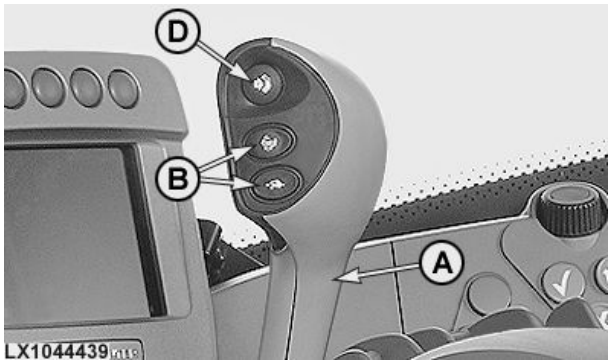
Press switch (D), the clutch separates. Ranges may be selected or the tractor can be halted.

Release switch (D), the clutch engages with modulation. On tractors equipped with a seat switch (operator presence switch), the following applies: If, within the last 3 seconds before the switch is released, there was no weight on the seat and no actuation of the clutch pedal or brake pedal, the tractor does not move, even although the reverser lever is in the forward or reverse position. A message appears on the CommandCenter. To make the tractor move, move the reverser lever to neutral and then back into the desired direction.

NOTE: The hand clutch is not suitable for creeping up to an implement.



LX1036265 —UN—16AUG05



LX1044439 —UN—11DEC07

Range-shift lever and switches (with hand clutch)

LX1036266 —UN—06JUN06

LX1044945 —UN—21DEC07

A—Range-shift lever
B—Gear selector switches
C—Reverser lever
D—Declutch switch
E—Switch for shifting up a gear (additional)

Continued on next page

OU12401,0001ACB -19-09OCT08-1/2

The hand clutch can be activated and de-activated at address EPC167. See Customization in the Diagnostic Trouble Codes and Customization section.

Optimum gear-shifting for driving under load (transport):

1. Select a range suitable for driving under load.
2. Engage the first gear.
3. Drive and shift up through the ranges until the top range is reached.
4. Shift up through the gears.

Cold-weather operation

If the oil is cold (0°C, 32°F), it may affect how the reverser lever operates. At temperatures below -10°C (14°F), it may take longer to change the direction of travel. Below +5°C (41°F), the automatic engine-speed matching is de-activated.

In certain circumstances, the reverser lever may have to be actuated several times before the tractor starts to move. When the oil has had time to warm up, operation becomes normal again.

Come-home mode

Under certain circumstances, the tractor can still be driven in come-home mode even if there is an electrical fault in the transmission.

To do this, stop the engine, remove plug K07/4 (relay box K07) and re-install it at a position 90° from its original position. The wording Come Home must be at top.

NOTE: In the come-home mode, engine speed is limited to 1500 rpm and only the first gear in each range is available. The hand clutch is NOT available.

Restriction in the event of a missing speed signal

If the control unit notices that the speed signal is missing, only the first three gears in each range are available.

OU12401,0001ACB -19-09OCT08-2/2

PowrQuad Plus Transmission — Settings

Speed-matching when changing ranges

If this option is activated, when changing ranges at travel speeds at or above approx. 7 km/h (4.4 mph), the transmission is automatically shifted into a gear that matches the travel speed. This automatic function can be overridden by holding down one of the gear-shift switches.

Press transmission button (A) and select speed-matching (B).

Engine-speed matching when shifting gears

If this option is activated, engine speed is altered temporarily by the electronics to achieve a smoother shift.

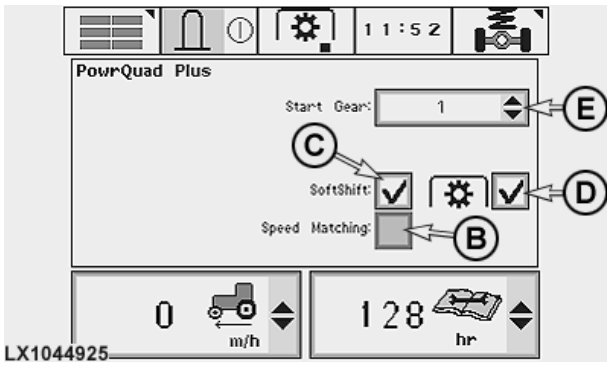
Press transmission button (A) and select engine-speed matching (C) and - if desired - PTO operation (D). Engine speed can then be matched in the following ways:

- Switched off all the time, if (C) is **not** activated
- Switched on, but off for PTO operation if **only** (C) is activated
- Switched on all the time, if (C) **and** (D) are activated

Initial gear (at start-up)

The figure in cell (E) determines which gear will be automatically selected at the transmission immediately after the engine is started.

LX1037622 —UN—06NOV06



LX1044925 —UN—11DEC07

A—Transmission button
B—Speed-matching
C—Engine-speed matching
D—PTO operation
E—Initial gear (at start-up)

Continued on next page

OU12401,0001ACC -19-09OCT08-1/2

Setting an upper limit for engine speed (Field Cruise)

This option allows you to set an upper limit for engine speed when performing certain work such as operating an hydraulic motor.

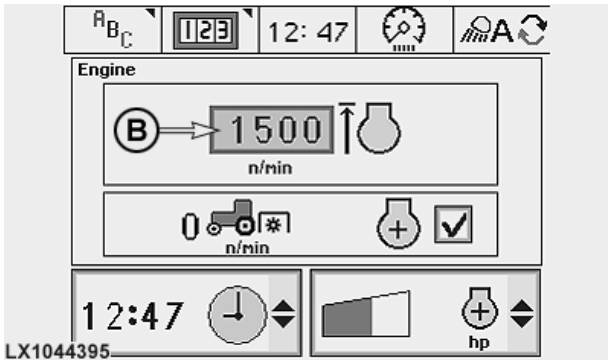
Run the engine, set the hand throttle to maximum speed, then press engine button (A) and set the desired engine speed in cell (B).

In the lowest setting, engine speed is limited to 1050 rpm. In the highest setting, the engine can run at maximum speed. Individual engine speed limits can be set between these two positions.

A—Engine button

B—Upper limit for engine speed

LX1037624 —UN—06NOV06



LX1044395 —UN—06MAR08

OU12401,0001ACC -19-09OCT08-2/2

Shift the AutoQuad Plus Transmission

Gears are shifted by means of range shift lever (A), switches (B) - or switch (F) - and reverser lever (C). Auto mode is activated and de-activated with switch (D). The hand clutch is operated via switch (E).

Before starting the engine, move reverser lever (C) to neutral position. To drive, **first** move range-shift lever (A) to the desired range and then move the reverser lever to the desired direction.

CAUTION: If the reverser lever is actuated when the engine is running and a range is selected, the tractor will start to move.

To change the ranges, the clutch pedal must be depressed or the declutch switch must be actuated. There is no need to actuate the clutch to shift gears or to change the direction of travel.

To park the tractor, move reverser lever (C) to neutral and engage park at range-shift lever (A).

IMPORTANT: Engage park only when the tractor is stationary.

NOTE: If shift lever (A) is moved to park when reverser lever (C) is not in neutral, an audible alarm is triggered and the blue INFO light comes on. When the engine is shut off, the reverser lever remains in its selected position but the transmission shifts into neutral.

If the reverser lever is not in neutral when the engine is started, an audible alarm is triggered and the relevant message appears on the CommandCenter to alert the operator.

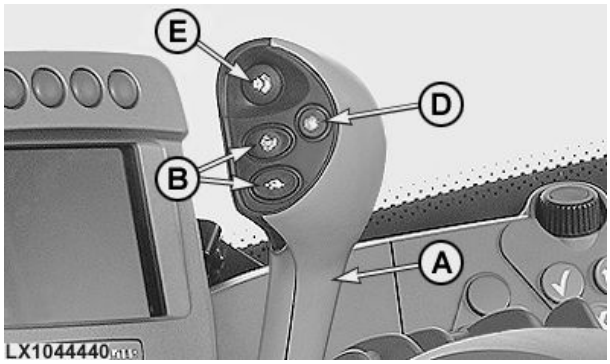
If the reverser lever is moved out of neutral while park is engaged, an audible alarm is triggered and the blue INFO light comes on. To make the tractor move, first put the reverser lever in neutral and then move it to the desired position.

Hand clutch

Press switch (E), the clutch separates. Ranges may be selected or the tractor can be halted.

Release switch (E), the clutch engages with modulation. On tractors equipped with a seat switch (operator presence switch), the following applies: If, within the last 3 seconds before the switch is released, there was no weight on the seat and no actuation of the clutch pedal or brake pedal, the tractor does not move, even although the reverser lever is in the forward or reverse position. A message appears on the CommandCenter. To make the tractor move, move the reverser lever to neutral and then back into the desired direction.

NOTE: The hand clutch is not suitable for creeping up to an implement.



LX1044440 —UN—11DEC07

LX1036266 —UN—06JUN06

LX1044946 —UN—21DEC07

A—Range-shift lever
B—Gear selector switches
C—Reverser lever
D—Auto mode switch
E—Declutch switch
F—Switch for shifting up a gear (additional)

The hand clutch can be activated and de-activated at address EPC167. See Customization in the Diagnostic Trouble Codes and Customization section.

Optimum gear-shifting for driving under load (transport):

1. Select a range suitable for driving under load.
2. Engage the first gear.
3. Drive and shift up through the ranges until the top range is reached.
4. Shift up through the gears.

Continued on next page

OU12401,0001ACD -19-09OCT08-1/4

Cold-weather operation

If the oil is cold (0°C, 32°F), it may affect how the reverser lever operates. At temperatures below -10°C (14°F), it may take longer to change the direction of travel. Below +5°C (41°F), the automatic engine-speed matching is de-activated.

In certain circumstances, the reverser lever may have to be actuated several times before the tractor starts to move. When the oil has had time to warm up, operation becomes normal again.

Come-home mode

Under certain circumstances, the tractor can still be driven in come-home mode even if there is an electrical fault in the transmission.

To do this, stop the engine, remove plug K07/4 (relay box K07) and re-install it at a position 90° from its original position. The wording Come Home must be at top.

NOTE: In the come-home mode, engine speed is limited to 1500 rpm and only the first gear in each range is available. The hand clutch is NOT available.

Restriction in the event of a missing speed signal

If the control unit notices that the speed signal is missing, only the first three gears in each range are available.

OU12401,0001ACD -19-09OCT08-2/4

Auto mode

Auto mode is activated by pressing switch (A) once.

The gears in each range are shifted in relation to the position of the hand throttle or accelerator pedal as soon as engine speed reaches a maximum or minimum value. These values can be set at the CommandCenter (see AutoQuad Plus Transmission — Settings on the following pages).

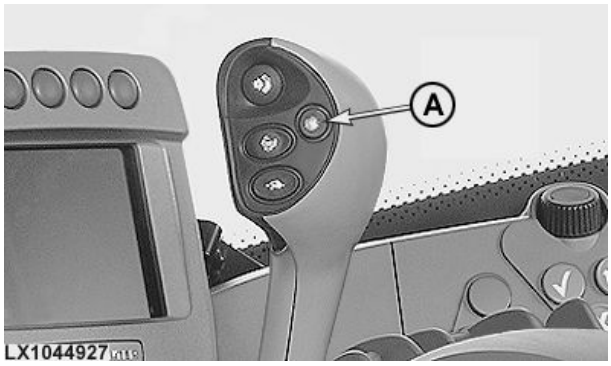
The automatic function is de-activated by pressing switch (A) once again or by selecting a gear manually.

IMPORTANT: Eco mode is suitable ONLY for light work in the field and for driving on roads when the load being pulled is not heavy.

Eco mode: Hand throttle / accelerator pedal more than 85% towards top speed and engine revs over 1872 rpm: transmission shifts up.
Hand throttle / accelerator pedal more than 55% towards top speed and engine revs under 1300 rpm: transmission shifts down.
Hand throttle / accelerator pedal less than 55% towards top speed and engine revs under 1100 rpm: transmission shifts down.

Power mode: Hand throttle / accelerator pedal more than 85% towards top speed and engine revs over 2280 rpm: transmission shifts up.
Hand throttle / accelerator pedal more than 55% towards top speed and engine revs under 1720 rpm: transmission shifts down.
Hand throttle / accelerator pedal less than 55% towards top speed and engine revs under 1100 rpm: transmission shifts down.

Intermediate settings: The engine speeds at which the transmission shifts can be customized at the CommandCenter to change the shift point to an intermediate level between Eco mode and Power mode.



LX1044927 —UN—11DEC07

A—Auto mode switch

Continued on next page

OU12401,0001ACD -19-09OCT08-3/4

Programmable highest gear in Auto mode

NOTE: For programming, auto mode must be switched off.

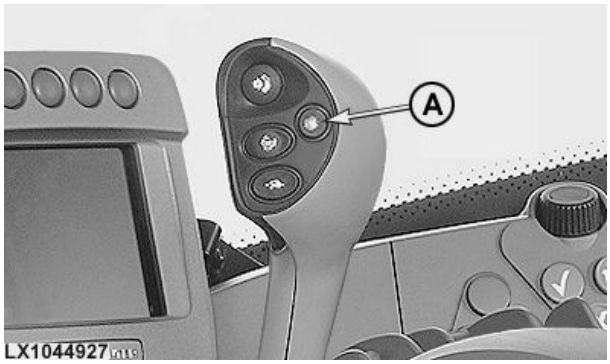
In addition to activating Auto mode, switch (A) may be used to determine the highest possible gear. The following applies:

- Press once = the highest gear is 4th.
- Press twice (briefly) in succession = the highest gear is 3rd.
- Press three times (briefly) in succession = the highest gear is 2nd.

This setting is lost as soon as Auto mode is switched off.

In the example opposite, the highest gear (B) is 3rd (third sector).

A—Auto mode switch **B—Highest gear**



LX1044927 —UN—11DEC07

LX1038381 —UN—06JUN06

OU12401,0001ACD -19-09OCT08-4/4

AutoQuad Plus Transmission — Settings

Select Auto mode

Press transmission button (A) and select Auto mode (B).

Select the forward/reverse ratio

The relationship between forward and reverse gears can be selected on the CommandCenter screen from a maximum of 3 gears higher in reverse to 3 gears lower (+3 to -3).

Press transmission button (A) and select the desired relationship in cell (C).

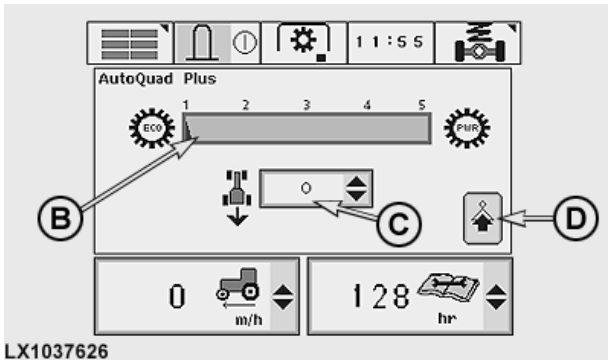
The relationship remains in effect when Auto mode is switched off, and is stored after ignition is switched off.

If smart is selected, the electronic system will learn the forward and reverse gear manually selected by the operator and will shift into the relevant gear when changing the direction of travel.

NOTE: When Auto mode is activated, a set maximum gear takes priority over the selected relationship.

A—Transmission button
B—Cell for setting Auto mode
C—Forward/reverse ratio
D—Next page

LX1037622 —UN—06NOV06



LX1037626 —UN—31MAY06

Continued on next page

OU12401,0001ACE -19-09OCT08-1/3

Speed-matching when changing ranges

If this option is activated, when changing ranges at travel speeds at or above approx. 7 km/h (4.4 mph), the transmission is automatically shifted into a gear that matches the travel speed. This automatic function can be overridden by holding down one of the gear-shift switches.

Press transmission button (A) and select speed-matching (B).

Engine-speed matching when shifting gears

If this option is activated, engine speed is altered temporarily by the electronics to achieve a smoother shift.

Press transmission button (A) and select engine-speed matching (C) and - if desired - PTO operation (D). Engine speed can then be matched in the following ways:

- Switched off all the time, if (C) is **not** activated
- Switched on, but off for PTO operation if **only** (C) is activated
- Switched on all the time, if (C) **and** (D) are activated

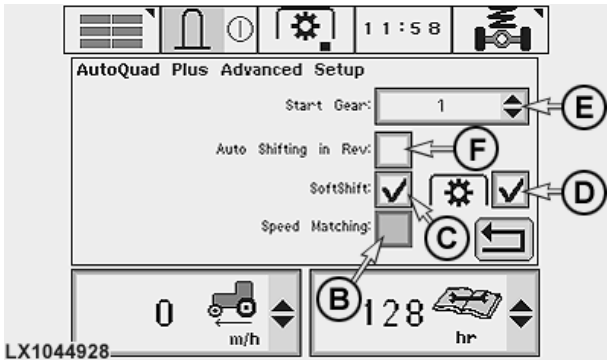
Initial gear (at start-up)

The figure in cell (E) determines which gear will be automatically selected at the transmission immediately after the engine is started.

Auto mode in reverse

In cell (F), you can select whether or not Auto mode is active in reverse as well.

LX1037622 —UN—06NOV06



LX1044928 —UN—11DEC07

A—Transmission button
B—Speed-matching
C—Engine-speed matching
D—PTO operation
E—Initial gear (at start-up)
F—Auto mode in reverse

Continued on next page

Setting an upper limit for engine speed (Field Cruise)

This option allows you to set an upper limit for engine speed when performing certain work such as operating an hydraulic motor.

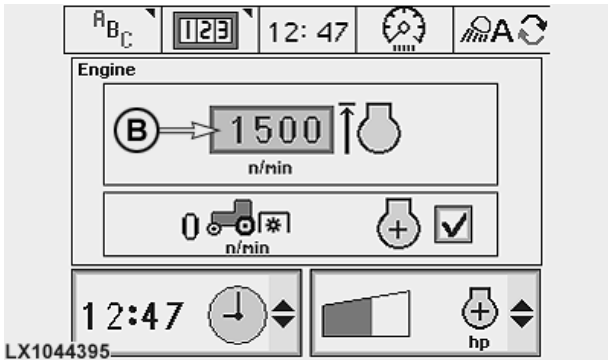
Run the engine, set the hand throttle to maximum speed, then press engine button (A) and set the desired engine speed in cell (B).

In the lowest setting, engine speed is limited to 1050 rpm. In the highest setting, the engine can run at maximum speed. Individual engine speed limits can be set between these two positions.

A—Engine button

B—Upper limit for engine speed

LX1037624 —UN—06NOV06



LX1044395 —UN—06MAR08

OU12401,0001ACE -19-09OCT08-3/3

Special Features on Tractors with IVT

The brake pedals also control the automatic clutch. Partially depressing **both** of the brake pedals allows the tractor to "creep" - this makes it easier to back up to an implement, for example. Fully depressing the two brake pedals stops the tractor with power still at the transmission. There is no need to press the clutch pedal. However, be aware that:

- Full torque remains available even at very slow speeds. In certain conditions, even obstacles will not bring the tractor to a standstill.
- After the brakes are released, the tractor automatically accelerates up to the speed currently commanded by the hand throttle or accelerator pedal.
- If only **one** of the brake pedals is depressed (to assist with steering), the tractor will **not** come to a standstill (unless it is idling).
- If you go back to a tractor with a conventional transmission again, remember that the transmission is **not** disconnected when the brake pedals are depressed. Also, park **cannot** be selected on such tractors while the tractor is still in motion.

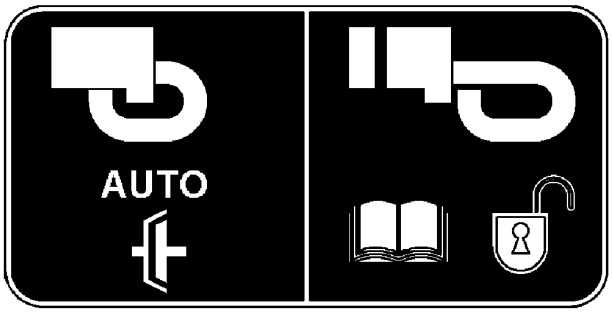
NOTE: When engaging park on bumpy terrain, remember to actuate the brake pedals as well.

Also use the brake pedals when turning on a downhill slope, as this will make the tractor change direction faster.

IMPORTANT: The speed control lever makes it possible to command a large reduction in speed in a short time. For safety reasons (e.g. preventing trailers from jack-knifing), the IVT transmission reduces its speed at a more moderate rate. Always use the brake pedals to decelerate quickly.

LX1037181

LX1037181 —UN—10OCT05



LX1033488

LX1033488 —UN—22OCT03

OU12401,000145B -19-14JUN06-1/1

IVT — Operating on Hillsides in Slippery Conditions

⚠ CAUTION: Personal injury may result if control of the tractor is lost while operating on hillsides. The tractor's wheels may lock on slippery slopes, causing skidding. Observe the following precautions:

- **Select a travel speed that ensures safe operation on hillsides.**
- **Do not use the speed lever to decelerate excessively quickly.**

OU12401,00012F2 -19-08OCT05-1/1

IVT — Starting in Cold Weather

To avoid damage at temperatures below freezing, an automatic function prevents the drive system from engaging too soon. After the engine has started, diagnostic trouble code UIC 305057.01 (INFORMATION FOR OPERATOR: Transmission warm-up routine is active) appears on the display.

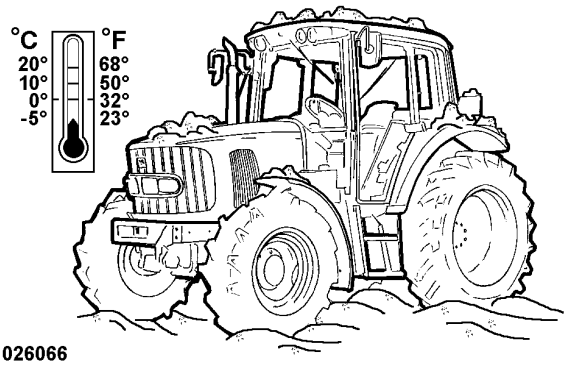
The warm-up routine can only be started if the reverser lever is in the "corner park" position. If the reverser lever is in any position other than corner park, code UIC 305058.01 (INFORMATION FOR OPERATOR: Transmission warm-up routine cannot be activated, park lock should be engaged) appears on the display.

The time required for the transmission to warm up will vary depending on temperature:

Temperature range	Warm-up time
above -7° C (19.4° F)	none
between -8° C (17.6° F) and -15° C (5° F)	96 seconds
between -16° C (3.2° F) and -20° C (-4° F)	156 seconds
between -21° C (-5.8° F) and -30° C (-22° F)	246 seconds

At temperatures below -30° C (-22° F) only the transmission input shaft is turned. The warm-up routine starts as soon as the transmission oil temperature has reached -30° C (-22° F).

NOTE: The engine speed may rise up to 1500 rpm during the warm-up routine.



LX1026066

LX1026066 —UN—10MAY01

LX1037175

LX1037175 —UN—06JUN06

OU12401,000145C -19-14JUN06-1/1

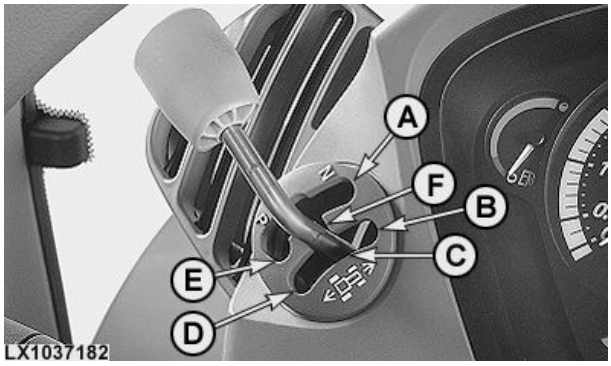
Operating the IVT

Reverser lever

To drive the tractor, move the lever to forward (B) or reverse (D). If the lever is moved from forward or reverse back to center park (F), the tractor will continue to roll and the transmission goes to ”Power Zero”. Ten seconds after the tractor stops rolling, park will automatically engage. If the lever is moved from forward or reverse directly to the corner park position (E), the tractor will brake to a stop using the transmission. Park will then engage. Remember to actuate the brake pedals as well when driving downhill.

If the lever is moved from forward or reverse to "Power Zero" (C), the tractor will continue to roll but it will **not** be braked by the transmission. When the tractor is stationary, power remains at the transmission. For ”Power Zero”, the lever must be held firmly in this position. If the lever is released from the ”Power Zero” position, it will automatically go to the center park position (F).

When the tractor is stopped, move the lever back to the corner park position. If the lever is moved to neutral (A), the direction clutches are opened and there will be no power in the transmission. The tractor may roll away.



LX1037182

LX1037182 —UN—06JUN06

A—Neutral
B—Forward
C—”Power Zero”
D—Reverse
E—Corner park
F—Center park

Continued on next page

OU12401,000145D -19-14JUN06-1/4

Speed control lever

Travel speed is regulated using the speed control lever. Two speed ranges are available.

Speed range 1 allows a maximum forward speed of 20 km/h (12.4 mph). Speed range 2 allows a maximum forward speed of 40 km/h (25 mph). The maximum speed in range 1 is always the minimum speed in range 2. This implies that speed does not change when the range is changed.

The maximum speed in a speed range is adjusted using speed wheel (B). See ”IVT Settings” on the following pages for details.

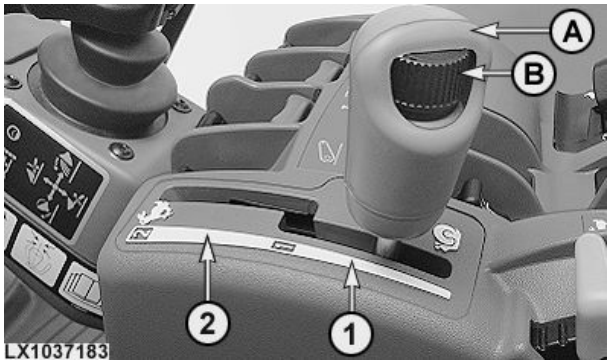
The maximum speed of a range is reached with the engine at full throttle and the speed control lever at the end of its travel in the speed range (provided tire dimension match the set values precisely). If the accelerator pedal is not at the end of its travel, the tractor will move at a corresponding speed (not proportional). If the speed control lever is not at the end of its travel in a speed range, the tractor will similarly operate at a corresponding speed.

Speed wheel (B) does not have a stop and can be ”infinitely” adjusted. It makes a change in relation to the previous setting. If the maximum speed setting is changed with wheel (B) while the tractor is moving, the change is always based on the last setting. Turning the wheel will directly increase or decrease the last maximum speed setting. Any changes are stored by the tractor's electronics.

Creeper

If a forward travel speed below 2 km/h (1.24 mph) is used in speed range 1, the tractor will automatically shift to creeper mode. The possible minimum travel speed is 0.05 km/h (0.03 mph).

The highest speed in range 2 is 2.5 times that in range 1. In both speed ranges, the highest speed in creeper mode is never more than 2.5 times greater than the lowest



LX1037183 —UN—10OCT05

A—Speed control lever
B—Speed wheel (for setting maximum speed)
1— Speed range 1
2— Speed range 2

speed. For example, if a maximum speed of 0.50 km/h (0.33 mph) is set in range 1, the minimum speed is 0.20 km/h (0.12 mph).

At speeds below 0.6 km/h (0.37 mph), changing engine speed does not have any effect on travel speed.

The following occurs if the speed-adjusting wheel is used to increase travel speed while the tractor is in motion in range 2 with creeper mode selected:

- If the speed selected is below 10 km/h (6.2 mph), the transmission remains in creeper mode. This means the originally set values will apply on changing back to range 1. Speed range 1 will flash on the digital display.
- Creeper mode also remains in effect if the 10 km/h (6.2 mph) speed is temporarily exceeded and then reduced to under 10 km/h (6.2 mph) before returning to range 1.
- Creeper mode will be exited if the 10 km/h (6.2 mph) speed is exceeded and range 1 is re-engaged. Forward speed range 1 will be automatically adjusted (to 2 km/h; 1.24 mph).

Continued on next page

OU12401,000145D -19-14JUN06-2/4

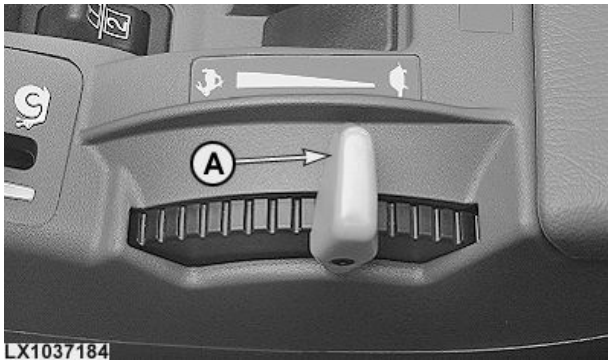
Accelerator pedal and hand throttle

The stronger signal is always used for transmission control.

If the accelerator pedal or hand throttle are moved to command a higher engine speed, engine speed increases. In Eco mode, once the set travel speed is reached, engine speed is reduced (load controlled).

If the reverser lever is in forward or reverse, the tractor can be accelerated to the set speed using the accelerator pedal or hand throttle. The immediate travel speed is directly dependent on the setting of the accelerator pedal or hand throttle. Engine speed is indirectly determined by the position of the accelerator pedal.

When the accelerator pedal or hand throttle are actuated, the values set in the CommandCenter for automatic control and engine-speed limitation are always taken into account. For example, the value set for engine-speed limitation is not exceeded, even at full throttle. In Eco mode, the engine turns only as fast as needed, even if the operator applies full throttle.



LX1037184 —UN—10OCT05

A—Hand throttle

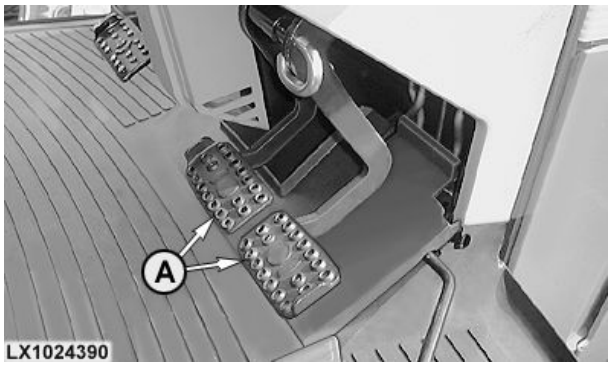
OU12401,000145D -19-14JUN06-3/4

Brake pedals

If when driving the tractor **both** brake pedals are depressed, the tractor's speed will be reduced until it stops. Thanks to the automatic clutch function, there is no need to depress the clutch pedal when braking.

When the brakes are released again, the tractor automatically accelerates up to the speed currently commanded by the hand throttle or accelerator pedal.

The higher the engine speed, the greater is the force required at the brake pedals to stop the tractor.



LX1024390 —UN—03JUL00

A—Brake pedals

Clutch pedal

The clutch pedal normally does not need to be depressed to stop the tractor. If the clutch pedal is depressed, the corresponding clutch signal has priority over other commands.

OU12401,000145D -19-14JUN06-4/4

IVT - Settings

Ground speed

The maximum speed in a speed range is adjusted using speed wheel (A) and speed control lever (B).

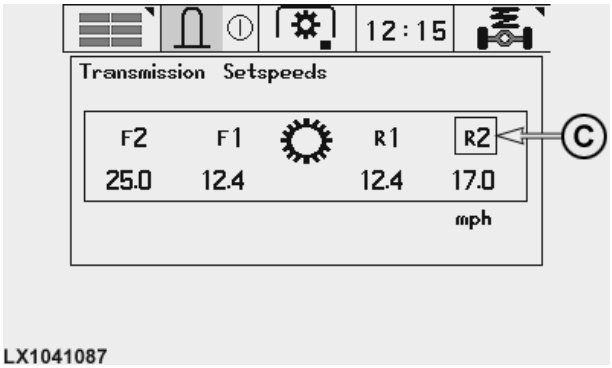
To set a forward speed range only, switch on the ignition and move the reverser lever to forward. Use speed control lever (B) to select the desired range and set the desired travel speed with wheel (A).

To set a reverse speed range only, switch on the ignition and move the reverser lever to reverse. Use speed control lever (B) to select the desired range and set the desired travel speed with wheel (A).

To set both a forward and reverse speed range, switch on the ignition and move the reverser lever to neutral. Range (C) alternates every 2 seconds between the forward and reverse speed ranges. Use speed control lever (B) to select the desired range and set the desired travel speed with wheel (A).

A—Speed Wheel (for setting maximum speed)
B—Speed Control Lever
C—Range Mark

LX1038339 —UN—18MAY06



LX1041087 —UN—20NOV06

Continued on next page

OU12401,00019B2 -19-25MAY10-1/7

Setting the transmission's automatic control

Press transmission button (A). The screen shown controls the extent to which the transmission is controlled automatically.

When cell (B) is activated, fully automatic comes into force. The electronic system reacts automatically to the demands made on the engine by the PTO, hitch, electronic SCVs and steering brake. For more details, see Setting for fully automatic on the following pages.

When cell (B) is de-activated, the following applies per the setting in cell (C):

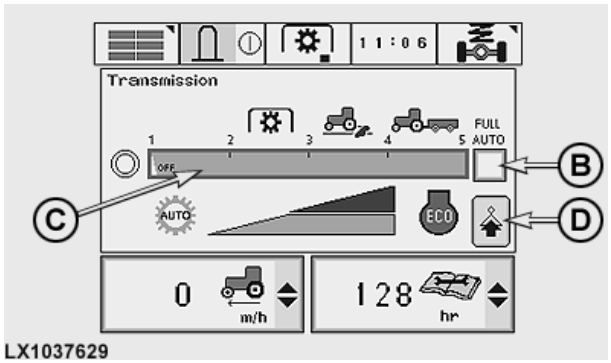
In setting 0 (manual), the only automatic intervention is to prevent the engine from stalling.

In setting 1, transmission control is minimally influenced by the electronic system. In setting 5, transmission control is most influenced by the electronic system. The extent of transmission automation progressively increases in settings 1 to 3, between 3 and 5 there is additional automation of engine control.

Engine load control is set in settings 1 to 3. In settings from greater than 3 to 5 (Eco mode), the engine turns only as fast as needed. This results in fuel savings and noise reduction. If the operator sets a specific engine speed in Eco mode and the electronic control system recognizes that this speed is not necessary, engine speed will be automatically reduced to a level adequate for tractor operation. Travel speed remains constant, however. Eco mode is not suited for lifting operations (where engine speed determines hydraulic pump output) and PTO operation (where engine speed directly determines PTO speed).

In Eco mode, you can override the set engine speed by operating the accelerator pedal and hand throttle at the same time.

LX1037622 —UN—06NOV06



LX1037629 —UN—31MAY06

A—Transmission Button
B—Fully Automatic on/off
C—Degree of Automation
D—Next Page

Setting 0 — Manual control of transmission

Setting 1 — Approx. 30% engine load control before transmission intervenes, i.e. the transmission ratio changes.

Setting 2 — Approx. 18% engine load control before transmission intervenes.

Setting 3 — Approx. 4% engine load control before transmission intervenes.

Setting 4 — Approx. 16% engine load control* before transmission intervenes. Engine speed can be reduced electronically to a speed not lower than 1500 rpm in the partial load range.

Setting 5 — Approx. 16% engine load control before transmission intervenes. Engine speed can be reduced electronically to a speed not lower than 1200 rpm in the partial load range.

* If Intelligent Power Management (power boost) is activated (see Operating the Engine section), engine load control lies between 13% and 16%, depending on travel speed.

Continued on next page

The following list shows which automation settings are suitable for various types of tasks.

Range A — PTO operation

Range B — Towing operations with hydraulic power requirements

Range C — Any towing operation (field or road) without any hydraulic power requirement (since hydraulic power is not sufficient at an engine speed of 1200 rpm)

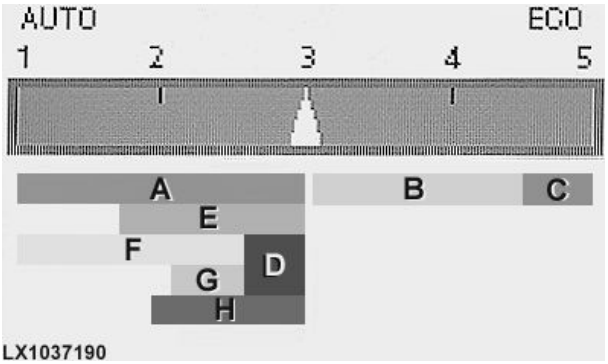
Range D — PTO operation, with precise PTO speeds (for example, when using a manure spreader)

Range E — Operation of balers

Range F — Tillage

Range G — Operation of mowers

Range H — Other operations requiring hydraulic power (e.g. use of front loaders)



LX1037190 —UN—11OCT05

The following may be regarded as basic settings:

Setting 1-2 — Work in which the engine's flywheel mass (PTO operation) and vehicle inertia (earth-moving) are adequate to meet transient peaks in the power requirements (caused by the implement or task in hand).

Setting 2.5 — Operations where engine speed is important.

Setting 5 — Operations where engine speed is not important.

Summary of different types of work

Procedure	Setting for automatic	Comment
Crop protection, liquid fertilizer	1	The transmission behaves like a conventional one with stepped gears. As engine speed drops due to increased load, travel speed also drops. The simultaneous reduction in PTO speed causes the output of pesticide to drop in step with travel speed. Adjust and operate pesticide equipment in accordance with the manufacturer's guidelines and the instructions provided by the pesticide/fertilizer producer. The less the engine is subjected to load control (e.g. 5 %), the greater the danger of excessive pesticide being metered as a result of the stepless change in the transmission ratio as load increases while engine and PTO speeds remain constant. Select other settings between 1 and 3, but take into account the technical aspects of the pesticide machine (metering, electronic regulation). The user must ensure that the pesticide is metered correctly.
Fertilizing (spreader for mineral-based fertilizers; manure spreader, liquid fertilizer)	3	A constant width of spray can be achieved only if PTO speed remains constant. If metering is not achieved on the basis of distance travelled, preselect a travel speed that can be sustained over the entire field. If the spreader functions independently of engine speed (e.g. a hydraulically-driven spreader), a different engine load control setting may be selected, provided the user makes sure that the material being sprayed is metered and distributed correctly.
Balers (large, round and high-pressure)	2-3	Select travel speed and engine load control so that the engine can cope with differences in terrain and windrow, to overcome load peaks with rising engine torque and the inertia of the driveline. PTO speed must be kept high enough for the machine to work properly. The operator may vary travel speed infinitely at any time as he pleases, without changing the engine speed, and thus adapt his speed to the requirements.
Mowers, mowers with conditioners, self-loading wagons	2-3	Same as for balers.
Turning, making and spreading windrows	1-3	Select a setting appropriate to your requirements.
PTO-driven tillage equipment (rotary harrow, rotary cultivator, tined rotor, also in combination with seed drills and spacing seeders)	2-3	Drive in a manner appropriate to the terrain, soil conditions and desired results. To achieve the desired crumb structure, there should not be too great an imbalance between PTO speed and travel speed.
Mechanical drills (metered via a wheel on the ground, with no PTO-assisted tillage)	greater than 3-5	Select a setting greater than 3 for economical driving.
Pneumatic drills and spacing seeders (without tillage)	2-3	PTO speed must be sufficiently high for pneumatic distribution of the seeds.

Continued on next page

Summary of different types of work

Procedure	Setting for automatic	Comment
Transport, driving on roads, towed tillage implements (plow, seedbed combination implements etc.)	greater than 3-5	Select a setting greater than 3 for economical driving.
Front loaders and hydraulically driven machines (silage cutters, feed mixers etc.)	2-4	Select any setting suitable for the work load (light or heavy loads on front loader). To achieve the desired machine speed, the hydraulic system must be able to provide sufficient oil.

IMPORTANT: When applying pesticides and fertilizers, always comply with the guidelines provided by the machine manufacturer and the pesticide/fertilizer producers, and with the relevant legal requirements.

OU12401,00019B2 -19-25MAY10-4/7

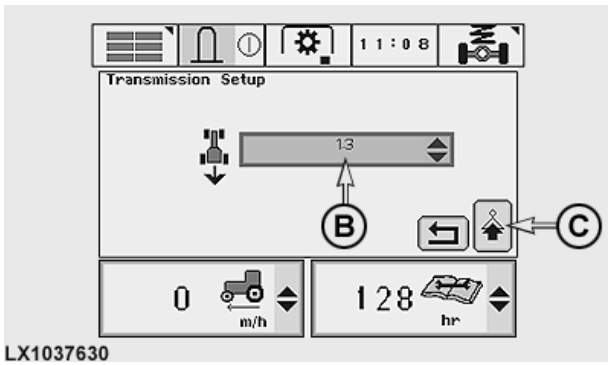
Setting the relationship of forward to reverse speed

Press transmission button (A). At the first screen, confirm the next page cell. Then, on the following screen, the desired relationship can be set at cell (B). There are 2 variants:

- In range 1, reverse speeds can be set to a maximum of 30% higher (selection 1.3) and 70% lower (selection 0.3) than forward speeds. A setting such as this only takes effect if the maximum speed in a speed range is adjusted using the speed wheel.
  In range 2 the forward-to-reverse speed ratio is 1:1 up to 22 km/h (14 mph). Above that, it changes automatically to 40:30.
- If **independent** is selected, any speed can be set in speed ranges 1 and 2 for each direction of travel. This does not apply to creeper mode.

A—Transmission Button
B—Forward/Reverse Relationship
C—Next Page

LX1037622 —UN—06NOV06



LX1037630 —UN—31MAY06

Continued on next page

OU12401,00019B2 -19-25MAY10-5/7

Setting for fully automatic

Press transmission button (A) and confirm next page at each of the following two screens. Then, at the next screen, the electronic engine/transmission control can be altered to suit the operating conditions.

In cell (B), the following selections can be made:

- Auto
  16% engine load control, or 13% to 16% if Intelligent Power Management (power boost) has been activated (see Operating the Engine section).
- low
  4% engine load control
- med
  9% engine load control
- high
  14% engine load control

In cell (C), the following selections can be made:

- low
  Engine speed may fall to 1200 rpm
- med
  Engine speed may fall to 1400 rpm
- high
  Engine speed may fall to 1600 rpm

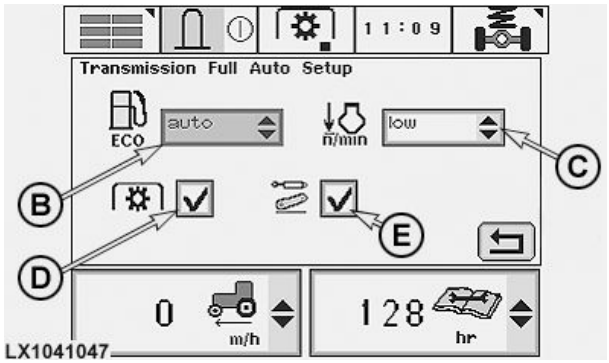
If cell (D) is activated, the automatic control changes to the 2.5 setting whenever the PTO is selected.

If cell (E) is activated, the following applies:

- If the three-point hitch is raised or lowered, the automatic control moves to setting 4 until the hitch has completed its movement.
- If an electronic SCV is operated, the automatic control moves to setting 4 for the duration of this condition.
- The automatic control does NOT move to setting 4 if an electronic SCV is moved to float position.
- If engine speed is increased at the accelerator pedal or hand throttle while an electronic SCV is operating, the automatic control moves to a setting of 2.5. If the speed is reduced using the accelerator pedal or hand throttle, the automatic control switches to a setting of 4.

If the tractor's electronics register that the steering brake is in use, the automatic control moves down one unit (from setting 5 to setting 4 or from setting 4 to setting 3).

LX1037622 —UN—06NOV06



LX1041047 —UN—29JUN06

A—Transmission Button
B—ECO
C—Engine Speed (n/min)
D—PTO
E—Hitch/Selective Control Valves

Continued on next page

Setting an upper limit for engine speed (Field Cruise)

This option allows you to set an upper limit for engine speed when performing certain work such as operating an hydraulic motor.

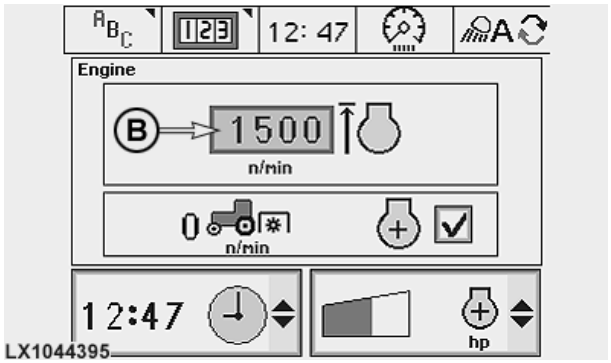
Run the engine, set the hand throttle to maximum speed, then press engine button (A) and set the desired engine speed in cell (B).

In the lowest setting, engine speed is limited to 1050 rpm. In the highest setting, the engine can run at maximum speed. Individual engine speed limits can be set between these two positions.

A—Engine Button

B—Upper Limit for Engine Speed

LX1037624 —UN—06NOV06



LX1044395 —UN—06MAR08

OU12401,00019B2 -19-25MAY10-7/7

IVT ”Come Home” Mode

In the event of a transmission malfunction, the tractor can still be operated at a maximum speed of 9 km/h (5.6 mph).

To do this, stop the engine, remove plug K07/4 (relay box K07) and re-install it at a position 90° from its original position. The wording ”Come Home” must be at top.

The clutch pedal must then be used to start, stop and operate the reverser lever. Comply with instructions on CommandCenter screen.

OU12401,000145F -19-14JUN06-1/1

Towing an IVT-Equipped Tractor

If the tractor must be towed and the park lock cannot be released, follow the instructions in the ”Manual Park Lock Release” procedure in the ”Transport” section.

OU12401,0001376 -19-10NOV05-1/1

Hitch Control

The hitch is controlled by means of hitch control lever (A) and raise/lower switch (B). Button (C) is used to select the lift-limit screen.

To prepare the hitch for operation, start the engine and either:

- move control (A) to the position that corresponds to the position of draft links,
- move control (A) to one of the end positions, or
- actuate switch (B).

Pull control (A) towards “0” to raise implement
Push control (A) towards “9” to lower implement

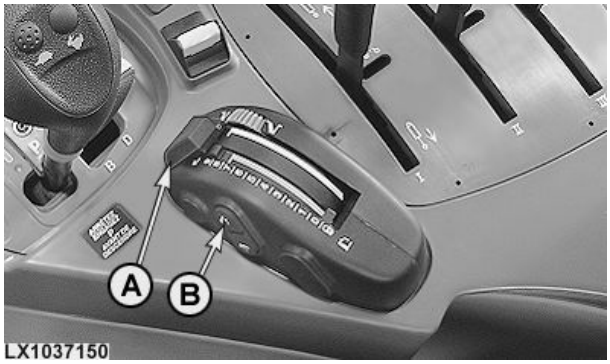
The implement can be raised and lowered independently of control lever (A) by means of raise/lower switch (B). This is of assistance when **turning at the end of a field**, for example. If the upper part of raise/lower switch (B) is pressed, the implement is raised as high as the raise-limit setting. If the lower part of raise/lower switch (B) is pressed, the implement is lowered as far as the setting at control lever (A).

To obtain working depth quickly in compact soil at the headland (quick lower), keep switch (B) pressed. As long as switch (B) is pressed, the adjusted draft force is not active (override function). If switch (B) is released, the implement returns to the previous settings.

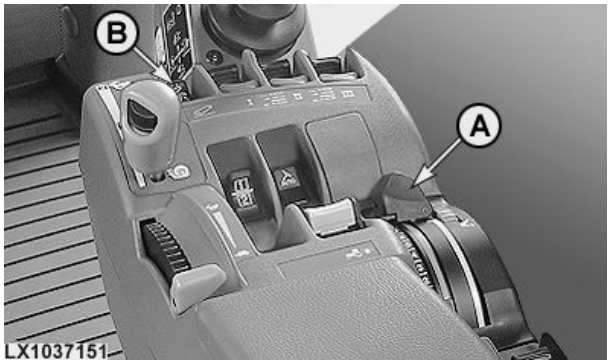
This "quick lower" function will only work if:

- the implement has been raised using switch (B)
- the implement is lowered continuously from raised position using switch (B)

A—Hitch control lever
B—Raise/lower switch
C—Lift-limit button

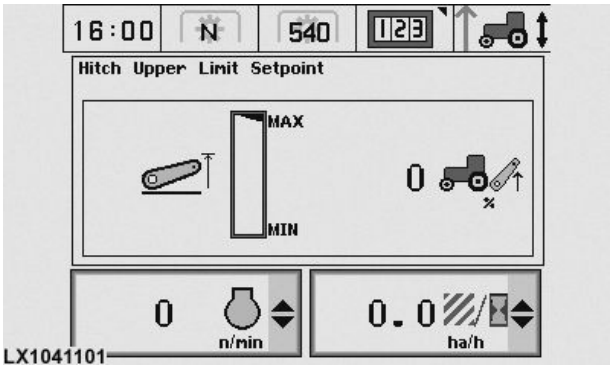


LX1037150 —UN—28SEP05



LX1037151 —UN—28SEP05

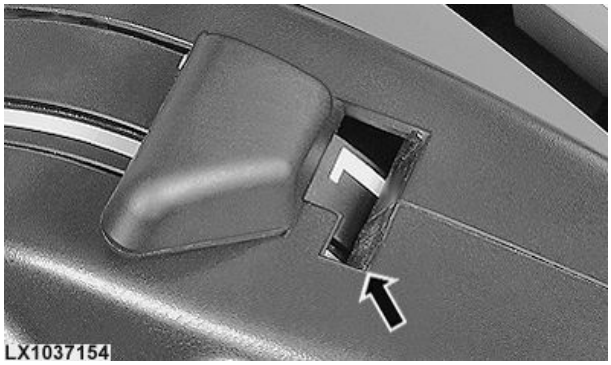
LX1038300 —UN—06NOV06



LX1041101 —UN—06NOV06

Continued on next page

Pull control lever as far as it will go (beyond "0") - hitch is locked.



LX1037154 —UN—28SEP05

OU12401,000193E -19-11DEC07-2/2

Hitch Control on Fender

These switches allow the hitch to be operated from the fender. For safety reasons, the hitch rises and drops at a slower rate. The height and depth values are ignored.

Push upper switch - Raise implement

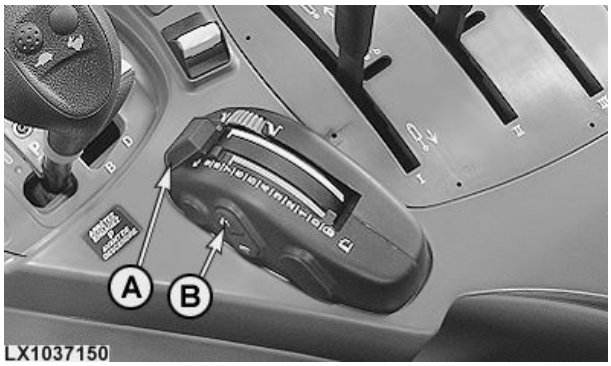
Push lower switch - Lower implement

NOTE: Once the fender control has been activated, the hitch is prevented from moving accidentally. To prepare the hitch for operation again, either:

- *move hitch control (A) to the position that corresponds to the position of the draft links,*
- *move control (A) to one of the end positions, or*
- *actuate raise/lower switch (B).*

A—Hitch control **B—Raise/lower switch**

LX1042923 —UN—02MAY07



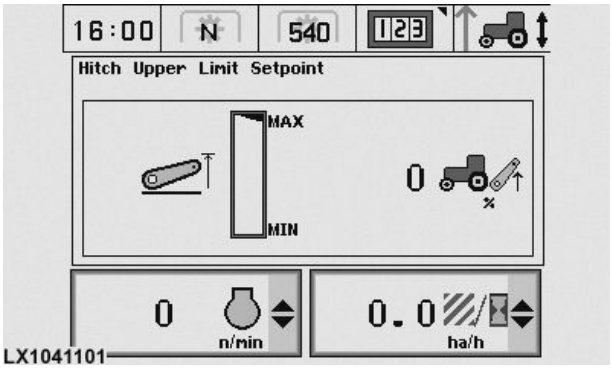
LX1037150 —UN—28SEP05

OU12401,00019B8 -19-19APR08-1/1

Lift Limit

Button (A) is used to select the lift-limit screen. There, you can set the raise height of the three-point hitch to any desired value.

LX1038302 —UN—06NOV06



LX1041101 —UN—06NOV06

OU12401,0001940 -19-11DEC07-1/1

Transport Mounted Implements

Raise mounted implement fully by pulling hitch control lever as far as it will go to the rear (beyond ”0”) (A).

For a towed implement, push the hitch control lever as far as it will go to the front (B).

A—Implement without wheels **B—Implement with wheels**

LX1037157 —UN—28SEP05

OU12401,00012D5 -19-25SEP05-1/1

Hitch Dampening

The tractor is equipped with a hitch dampening function that prevents the tractor from "pitching" when travelling with a raised implement.

To activate the dampening function, first move the hitch control lever (with the engine running) to the position that corresponds to the position of the draft links. Then pull it as far as it will go to the rear (beyond ”0”) to the transport position (see arrow). Rate of drop must not be set at the minimum value.

To switch off the dampening function, push the hitch control lever forward from the transport position to a position beyond ”0” (in the "lower" direction).

NOTE: Using the remote control and switching off the engine both have the effect of switching off the hitch dampening function.

LX1037154 —UN—28SEP05

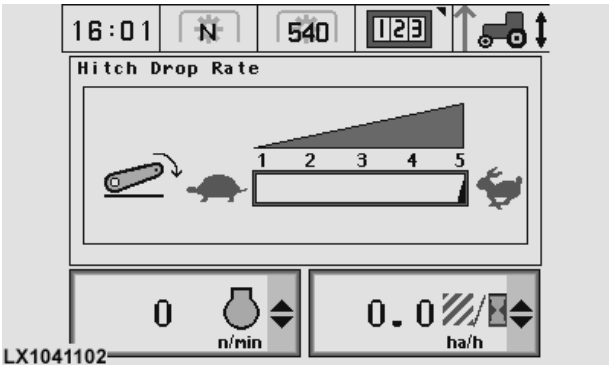
OU12401,00012D6 -19-25SEP05-1/1

Adjusting Rate of Implement Drop

Button (A) is used to select this screen. There, you can set the rate at which mounted implements will drop.

The rate-of-drop varies with this setting and the weight of the mounted implement. The heavier the implement, the faster the rate-of-drop and the lighter the implement, the slower the rate-of-drop.

LX1038303 —UN—06NOV06



LX1041102 —UN—06NOV06

OU12401,00014C3 -19-07JUL06-1/1

Rate of Lift Adjustment

It is possible to adjust the rate of lift individually at address BCU165 (see ”Customization” in the ”Diagnostic Trouble Codes and Customization” section).

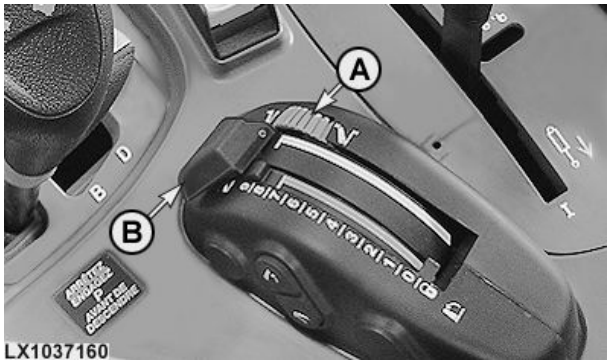
OU12401,00013F0 -19-06APR06-1/1

Depth Adjustment

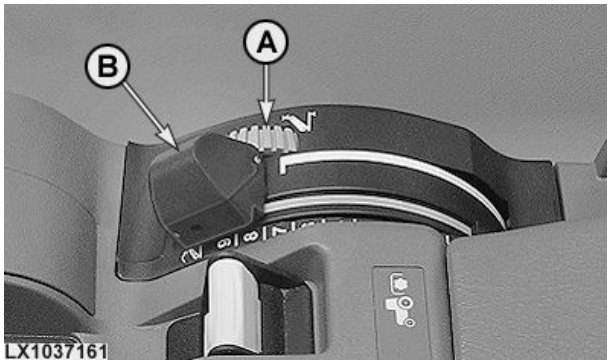
Push down hitch control stop (A) and set the desired working depth.

After lifting the implement, the same working depth will be selected the next time the implement is lowered. This depth is indicated by resistance at hitch control lever (B).

A—Hitch control stop **B—Hitch control lever**



LX1037160 —UN—28SEP05



LX1037161 —UN—28SEP05

OU12401,00012D8 -19-26SEP05-1/1

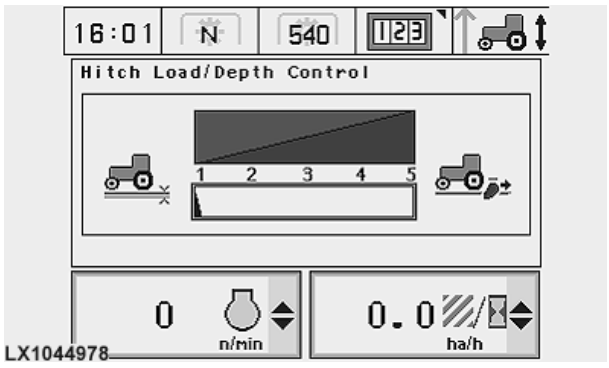
Load/Depth Adjustment

Button (A) is used to select this screen. There, you can set the hitch between load control and depth control. The positions have the following meanings:

- 1 = Depth control
- over 1 but less than 5 = Mixed control
- 5 = Load control

CAUTION: Before connecting implements to the three-point hitch, position 1 (depth control) must be selected to prevent unintentional raising or lowering of the hitch.

LX1038305 —UN—06NOV06



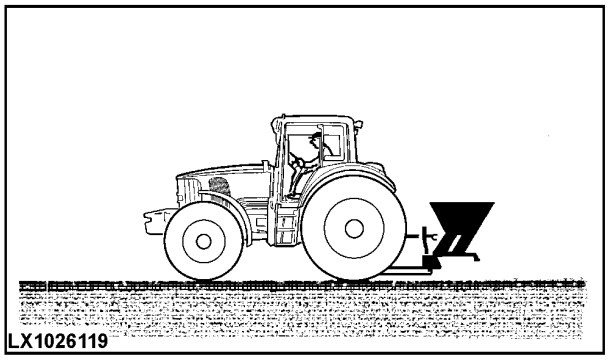
LX1044978 —UN—17MAR08

Continued on next page

OU12401,00019F8 -19-23JUN08-1/4

1 Depth Control

With load/depth control in this position, the implement is held at the selected position.

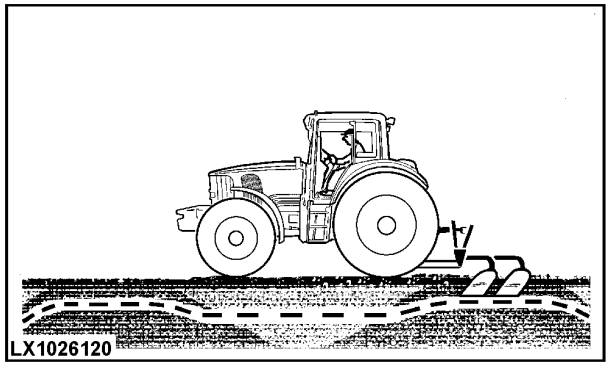


LX1026119 —UN—10MAY01

OU12401,00019F8 -19-23JUN08-2/4

Over 1 but less than 5 Mixed Control

The intermediate positions of the load/depth control allow the effects of depth control and/or load control to be infinitely varied as the ground conditions require.

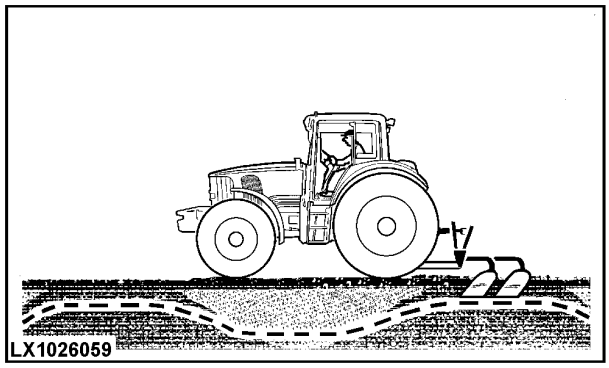


LX1026120 —UN—10MAY01

OU12401,00019F8 -19-23JUN08-3/4

5 Load Control

With load/depth control in this position, the implement is raised as resistance (soil density) increases and lowered as resistance decreases, thus maintaining the preselected load.



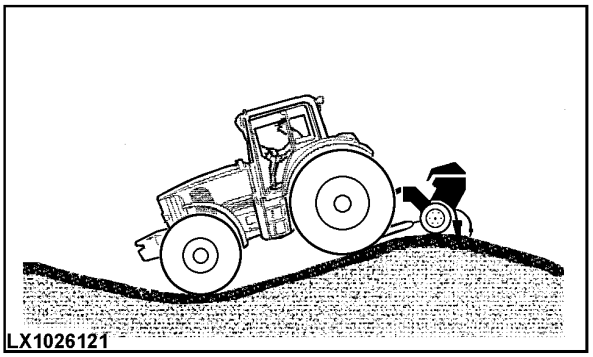
LX1026059 —UN—18MAY01

OU12401,00019F8 -19-23JUN08-4/4

Float Position

In float position (for implements with gauge wheel), implement can move freely up and down to follow ground contours independently of the tractor. To obtain a "floating" action, set load/depth to ”0” and move hitch control lever (A) as far as it will go to the front.

LX1037164 —UN—28SEP05



LX1026121 —UN—10MAY01

OU12401,0001465 -19-17JUN06-1/1

Direct Actuation

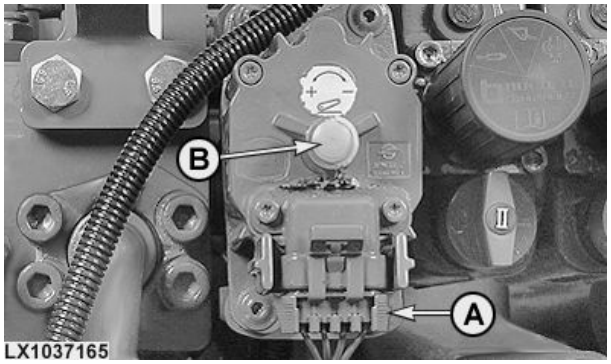
In the event of an electrical failure, the hitch can be actuated as follows:

Pull out plug (A).

Run the engine. Take off protective cap (B).

From the operator's seat, turn the screw with a 3 mm (0.12 in.) hex. socket wrench until the three-point hitch is in the desired position.

See your John Deere dealer.



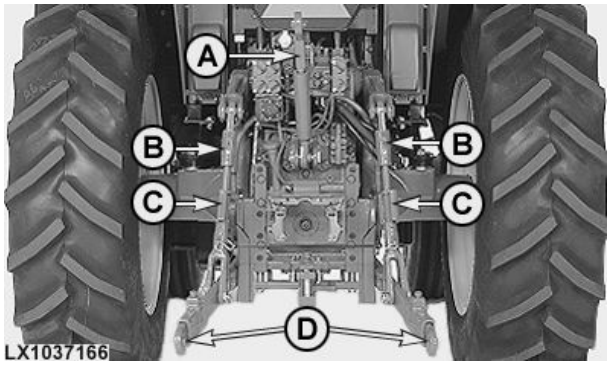
LX1037165 —UN—28SEP05

OU12401,0001942 -19-11DEC07-1/1

Three-Point Hitch

Tractors may be equipped with telescopic draft links or quick-coupling (hook-type) draft links.

A—Center link
B—Lift links
C—Crank for adjusting lift links
D—Draft links



LX1037166 —UN—28SEP05

OU12401,00012DC -19-26SEP05-1/1

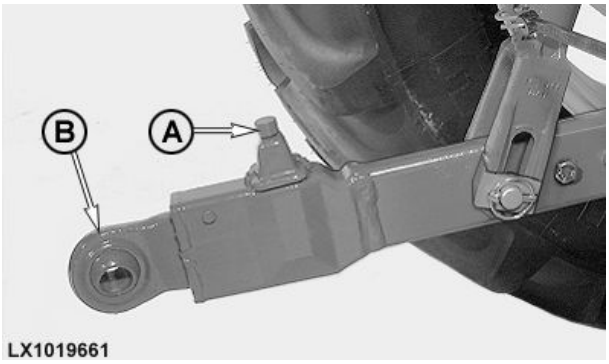
Telescopic Draft Links

These draft links are intended for Category II and Category IIIN implements.

To facilitate hitching of implements, extend the draft links to the rear.

1. Lift lock pin (A).
2. Pull telescopic draft links (B) to the rear.

After attaching and securing implements to draft links, reverse the tractor until the lock pins snap into place. Make sure that the draft links are locked by driving a short distance in forward direction.



LX1019661 —UN—17SEP99

Telescopic Draft Links

OU12401,000153E -19-08NOV06-1/1

Quick-Coupling (Hook-Type) Draft Links

These draft links are intended for Category II and Category III implement balls.

IMPORTANT: The balls must be the correct size.

Hitch Category	Ball diameter (a)
II	56 mm 2.2 in.)
III	64 mm 2.5 in.)

LX1033644 —UN—17MAY04

Continued on next page

OU12401,0001405 -19-13MAY06-1/6

How to use the coupler hooks

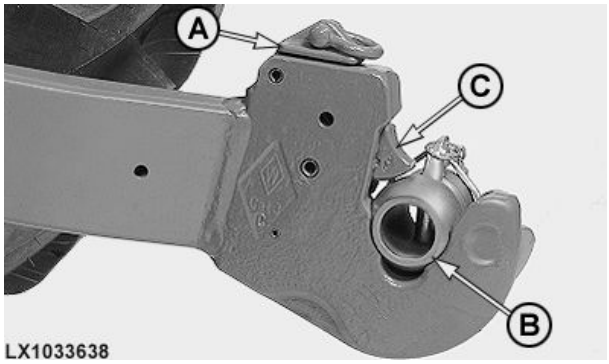
The couplers are operated by means of lever (A), which can be actuated either by hand or by a control cable.

IMPORTANT: Make certain that the coupler hooks are locked:

Lever (A) must be in contact with the coupler hook, there must be no play noticeable at ball (B), and pin (C) must enclose the ball.

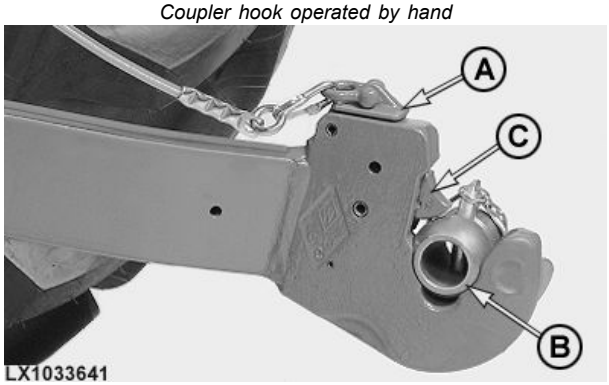
If coupler hooks have a control cable, note how the cable runs after the implement has been attached. If the cable droops excessively or gets tangled in undergrowth or branches, the hooks may be opened by accident.

A—Lever
B—Ball
C—Pin



LX1033638 —UN—17MAY04

Coupler hook operated by hand



LX1033641 —UN—17MAY04

Coupler hook operated by means of a control cable

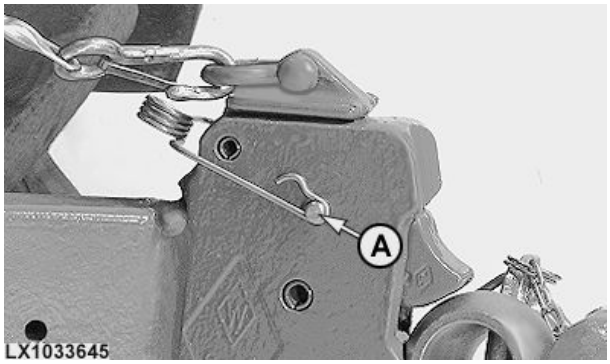
OU12401,0001405 -19-13MAY06-2/6

Lock for draft link hooks

CAUTION: When implements with asymmetrical load (e.g. side-mounted mowing unit) are attached, or when driving through high-growing bushes and trees (e.g. when working in the forest), the draft links must be prevented from opening accidentally.

Use John Deere AL165485 lock parts kit at both of the coupler hooks.

A—Lock parts kit

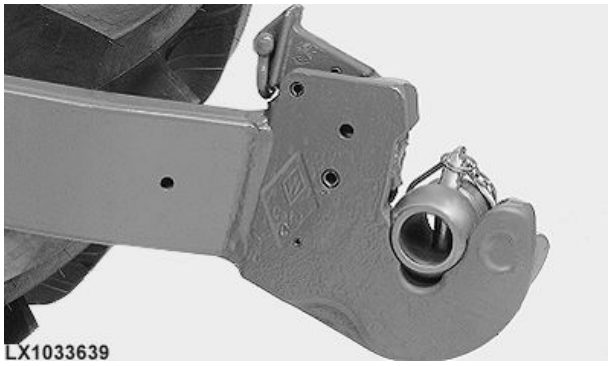


LX1033645 —UN—17MAY04

Continued on next page

OU12401,0001405 -19-13MAY06-3/6

The coupler hooks can be locked in their "open" position.



LX1033639 —UN—17MAY04

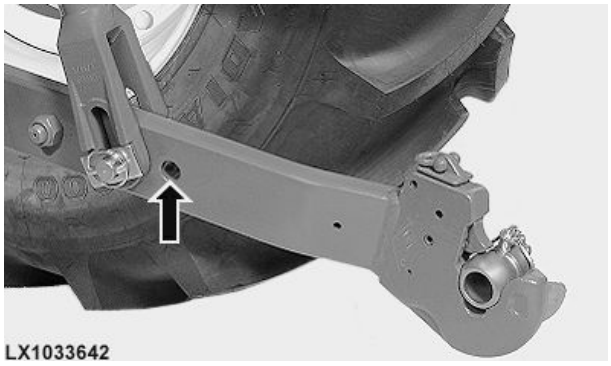
OU12401,0001405 -19-13MAY06-4/6

To close the coupler hook again, first pull the lever up at an oblique angle.

LX1033640 —UN—17MAY04

OU12401,0001405 -19-13MAY06-5/6

NOTE: On very heavy, compact implements, the lift links can be attached at the rear hole in the draft links. This reduces the lifting height, but maximizes the lifting force.



LX1033642 —UN—17MAY04

OU12401,0001405 -19-13MAY06-6/6

Attach Three-Point Hitch Mounted and Drawn Implements

Be sure not to damage exposed parts of cab (see arrows) or other tractor components when attaching three-point hitch mounted or drawn implements.

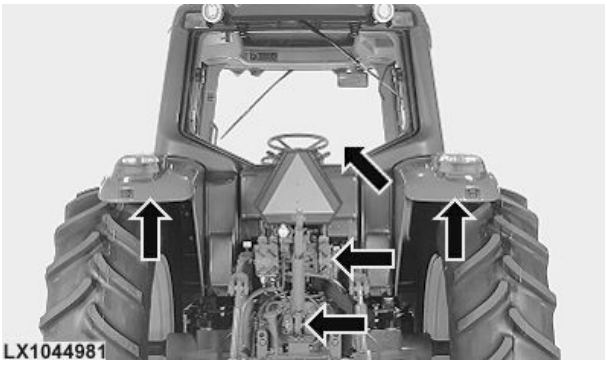
CAUTION: Do not stand between tractor and implement unless park lock and park brake are both applied firmly.

IMPORTANT: When attaching three-point hitch mounted or drawn implements for the first time, conduct a trial to ensure that implement will not damage cab or other tractor components in any position. With hitch-mounted implements, pay attention to the highest lift position; with drawn implements, be careful when turning sharply.

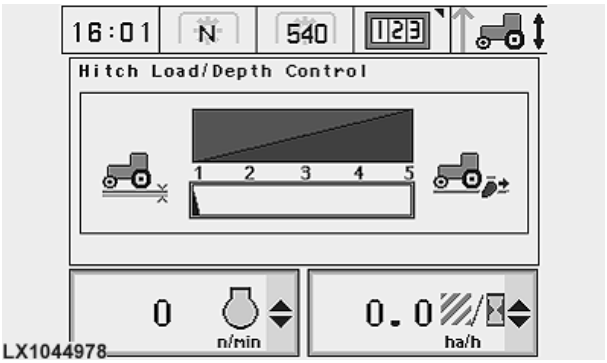
Also comply with instructions under Hydraulic Center Link, where applicable.

If a swinging drawbar is installed, set it in the front, short position. The swinging drawbar can also be swung to the right or left and secured there.

When attaching an implement, first make sure that load/depth control is set to 1.



LX1044981 —UN—24APR08



LX1044978 —UN—17MAR08

OU12401,0001D83 -19-28NOV09-1/1

Leveling the Implement

To level implement from side-to-side, adjust the right-hand lift link. Adjust center link to level fore-and-aft.

AG,OU12401,209 -19-07APR00-1/1

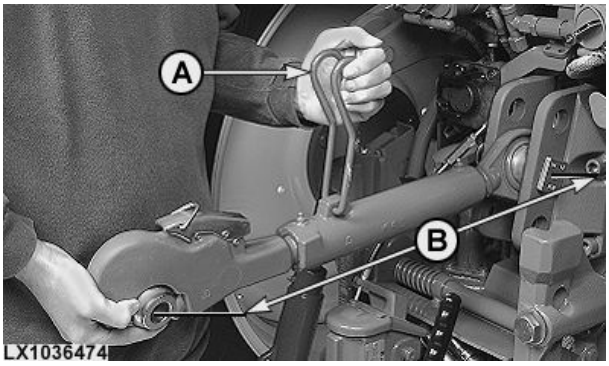
Center Link

Length of center link can be adjusted using adjusting handle (A).

Length (B) must be between 530 mm (20.9 in.) and 725 mm (28.5 in.).

Do not deviate from the specified dimensions. Grooves in the thread indicate the maximum permitted setting. The threads must not be unscrewed any further out of the receiver. After adjusting, push handle down again over center link. Insert attaching pin through implement mast and center link, and secure.

A—Adjusting handle **B—Length**



LX1036474 —UN—24APR06

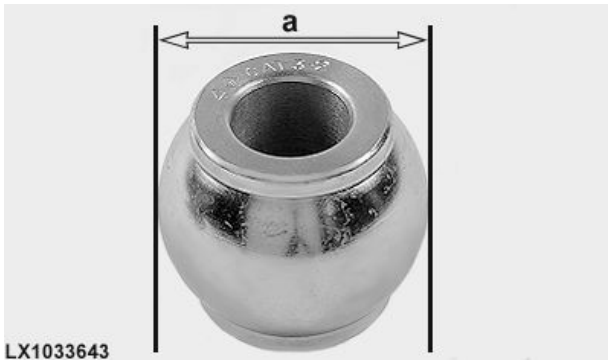
OU12401,0001426 -19-05JUN06-1/1

Quick-Coupling (Hook-Type) Center Link

This center link is intended for Category II and Category III implement balls.

IMPORTANT: The ball must be the correct size.

Hitch Category	Ball diameter (a)
II	50 mm 2.0 in.)
III	60 mm 2.4 in.)



LX1033643 —UN—17MAY04

OU12401,0001406 -19-13MAY06-1/2

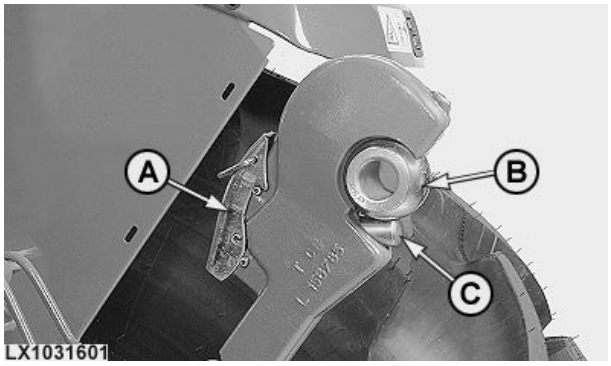
How to use the coupler hook

The coupler is operated by means of lever (A), which can be actuated either by hand or by a control cable.

IMPORTANT: Make certain that the coupler hook is locked:

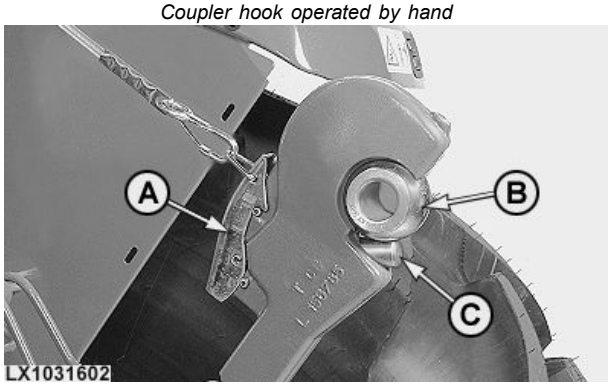
Lever (A) must be in contact with the coupler hook, there must be no play noticeable at ball (B), and pin (C) must enclose the ball.

A—Lever
B—Ball
C—Pin



LX1031601 —UN—16SEP04

Coupler hook operated by hand



LX1031602 —UN—16SEP04

Coupler hook operated by means of a control cable

OU12401,0001406 -19-13MAY06-2/2

Hydraulic Center Link

The length of the hydraulic center link can be adjusted from the driver's seat using one of the selective control valves.

Attached to the hydraulic center link is a measuring rod which is intended to facilitate adjustment of the center link when in operation. For this purpose, the rod has marks on it to assist in positioning. The rod is not suitable for use as a handhold when in transport or during installation and removal.

Route the hydraulic hoses so that the loops face upwards away from coupling area of the center link. Connect supply line (A) to the top port on the SCV; connect supply line (B) to the bottom port on the SCV.

With the hydraulic center link, before starting any journey or operating in the field the operator must be certain that the three-point hitch has sufficient clearance for all possible movements. The center link must not come into contact with other parts of the tractor at any point within its vertical and horizontal ranges.

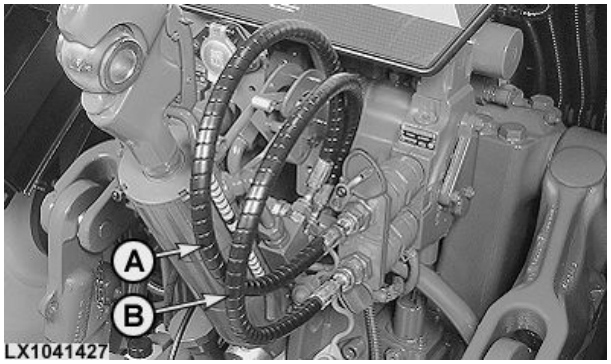
With mounted implement, retract the center link fully. On the CommandCenter screen, set the mark to MIN. Use the hitch control to raise the implement fully. **Carefully** move the mark in the CommandCenter towards MAX until the implement reaches its highest possible position.

IMPORTANT: To avoid damaging the center link and its bracket on the tractor, the hydraulic center link may be operated only in the top and center holes of the center link bracket.

If severe wear occurs at guide rails (C) on the PTO housing, the rails must be replaced with new ones in order to prevent the center link from coming into contact with the hydraulic block.

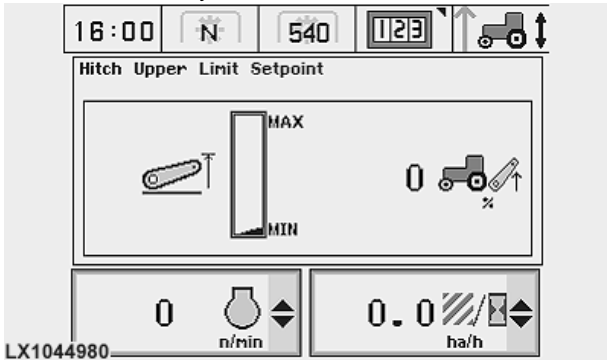
When attaching the center link to or removing it from the tractor, remember that the center link is very heavy.

A—Supply line, top
B—Supply line, bottom
C—Guide rails



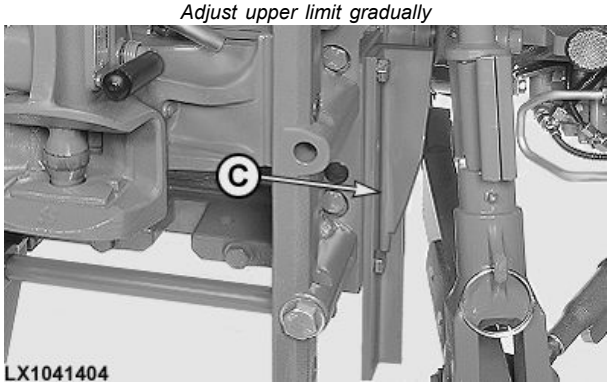
LX1041427 —UN—10NOV06

Hydraulic line connections



LX1044980 —UN—17MAR08

Adjust upper limit gradually



LX1041404 —UN—18OCT06

Guide rails

OU12401,00019F9 -19-23JUN08-1/1

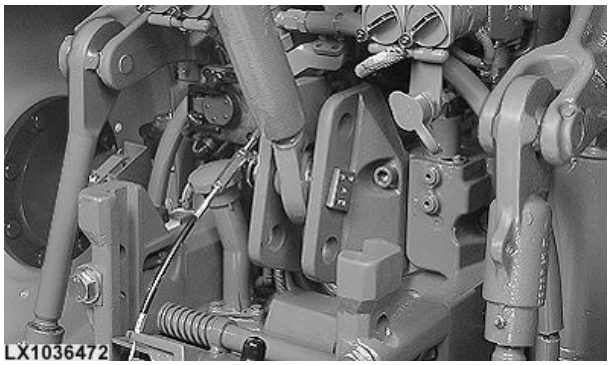
Center Link Positions

The center link can be attached to the tractor in any one of three different positions.

The lowest position provides maximum tilt angle but less lifting force and should be used when working with a plow.

The highest position provides greater lifting force and minimum tilt angle, and can be used when working with machines such as direct drills.

IMPORTANT: The lowest position must NOT be used with the hydraulic center link.



LX1036472 —UN—24APR06

OU12401,0001984 -19-21JAN08-1/1

Lift Links

A greater transport clearance is obtained by shortening the links. Extra working depth is obtained by lengthening the links.

To level implement from side-to-side, adjust one link. Use handle (A) to adjust the link. Do this by lifting handle (A) out of lock (B) and setting the lift link to the length desired. After adjustment is completed, push handle (A) down and secure it with lock (B).

To adjust left lift link:

- If equipped with an adjusting handle, proceed in the same way as for the right link.
- If not equipped with an adjusting handle, remove the lift link from the draft link and screw yoke end (C) of lift link in or out.

Length (D) of links must be kept within the limits stated. A groove in the thread of each lift link indicates the maximum permitted setting. The threads must not be unscrewed any further out of the receiver.

- Minimum length 705 mm (27.8 in.)
- Maximum length 865 mm (34.1 in.)

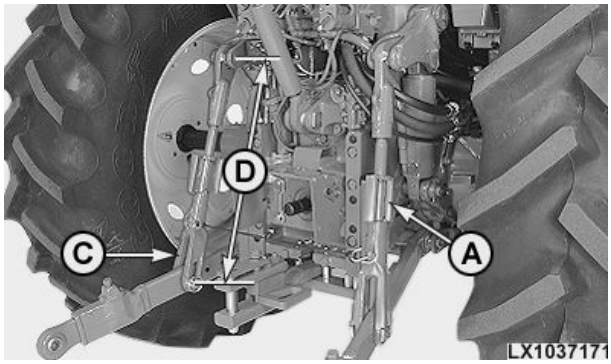
NOTE: The lift link dimensions quoted above are with lift links locked in draft links (no vertical float).

NOTE: A short lift link provides a short lifting height and maximum lifting force.

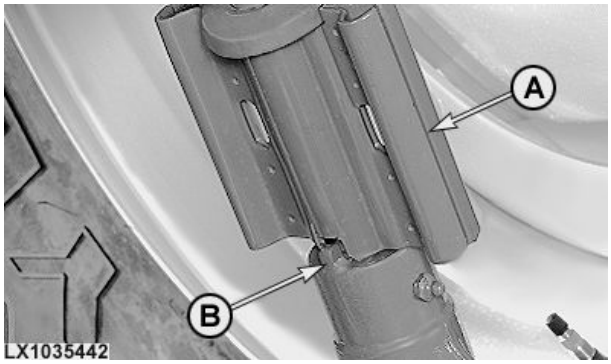
A long lift link provides a long lifting height and less lifting force.

IMPORTANT: When engaging the lift links in the lift arms, make sure that stops (E) are always at the rear as shown.

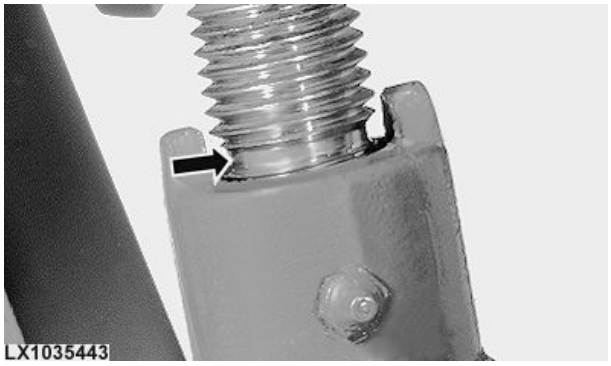
A—Adjusting Handle
B—Lock
C—Yoke End
D—Length of Links
E—Stops (2 on Each Lift Link)



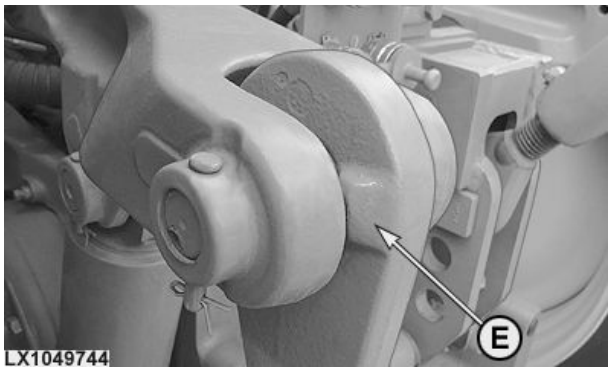
LX1037171 —UN—29SEP05



LX1035442 —UN—13JAN05



LX1035443 —UN—13JAN05



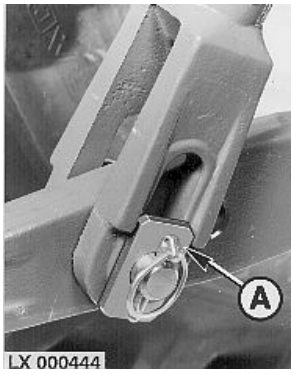
LX1049744 —UN—03MAY10

OU12401,0001469 -19-30APR10-1/1

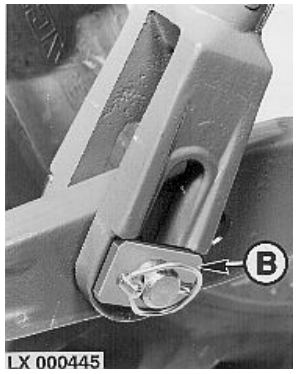
Adjust for Vertical Float

Depending on the position of the steel plates, draft links can be adjusted to allow for vertical float or to lock out float.

A—Vertical float **B—No float**

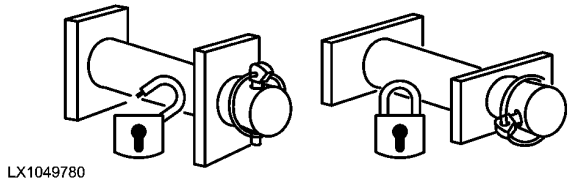


LX000444 —UN—12AUG94



LX000445 —UN—12AUG94

LX1049780 —UN—23JUL10



LX1049780

LX,OREG 000329 -19-23JUL10-1/1

Sway Blocks (If Equipped)

Sway blocks (A) are used to limit sideways motion of draft links during operation and transport.

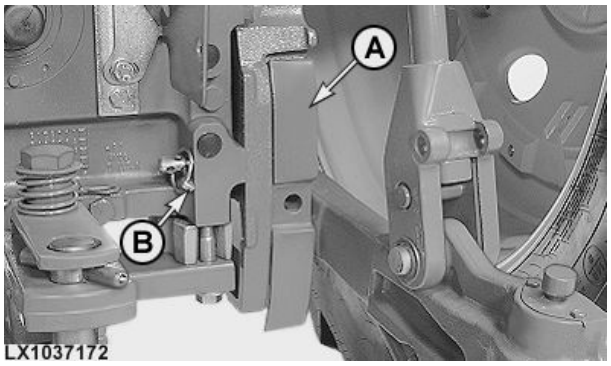
Sway blocks must be fitted when working with attachments which follow exactly the line of the tractor.

NOTE: If sideways motion is excessive even with sway blocks installed, additional spacers can be used between the PTO housing and the sway-block mountings. See your John Deere dealer for suitable spacer rings.

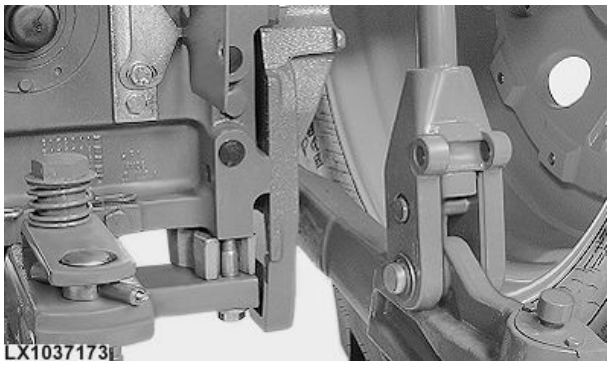
If the attachments (plow, disk harrow etc.) require sideways motion in the operating position, remove quick-lock pins (B) and take off the sway blocks.

With sway blocks in this position, draft links will sway in operating position. However, sway is locked out in transport position.

A—Sway block **B—Quick-lock pin**



LX1037172 —UN—29SEP05



LX1037173 —UN—29SEP05

OU12401,00012E4 -19-26SEP05-1/1

Stabilizing System (If Equipped)

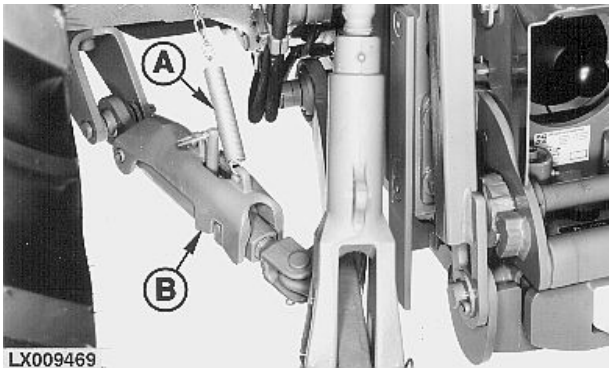
The stabilizing system is operated by means of chain (A) and flap cover (B). If flap cover (B) is raised, the draft links have lateral play, otherwise they are locked.

Chain (A) short:

Draft links are locked in raised position (rigid setting), in lowered position they have lateral play.

Chain (A) long:

Draft links are locked in all positions.



LX009469 —UN—02JAN95

LX,OREGEL000331 -19-01SEP95-1/1

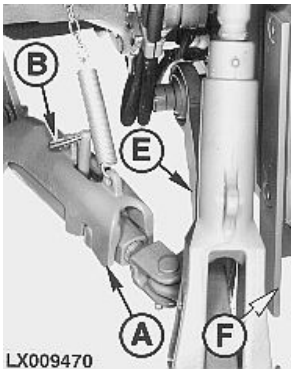
Adjusting Spreading Dimension

Drive tractor to the center of the implement. Remove ring (B) and lift up flap cover (A). Use lever (H) to adjust the spreading dimension.

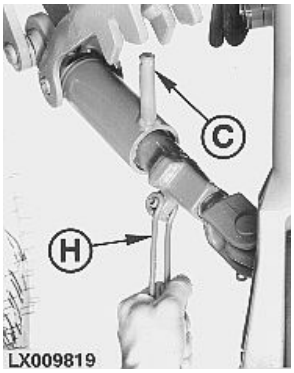
Groove (G) indicates the spreading dimension for Category II and must be aligned with the edge (see arrow). Then locate lever (H) on pin (C), put down flap cover (A) and secure with ring (B). Finally, adjust spacer (D).

IMPORTANT: The spreading dimension must be large enough to prevent draft links (E) from interfering with sway blocks (F), as this may result in mechanical damage.

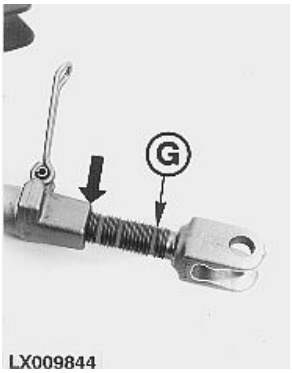
A—Flap cover
B—Ring
C—Pin
D—Spacer
E—Draft link
F—Sway block
G—Groove for Category II
H—Lever



LX009470 —UN—03JAN95



LX009819 —UN—03JAN95



LX009844 —UN—03JAN95

LX001750 —UN—05APR00

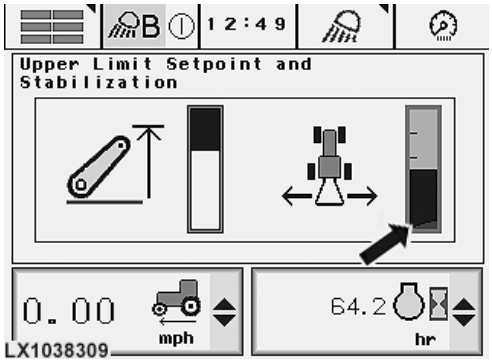
AG,OU12401,213 -19-07APR00-1/1

Hydraulic Stabilizer Bars (If Equipped)

These bars operate automatically. Press button (A) and set the desired ratio of draft-link lock to draft-link lateral sway on the screen. In the upper sector, draft links are locked; in the lower sector, they can sway from side to side.

LX1036475 —UN—23JAN06

LX1038302 —UN—06NOV06



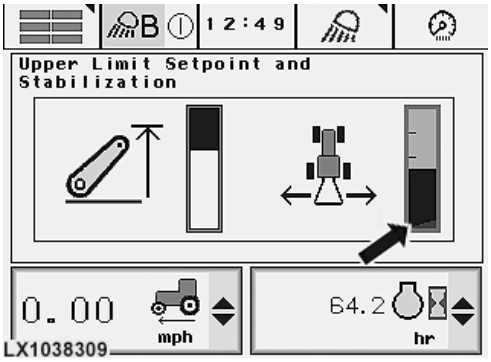
LX1038309 —UN—26APR06

OULXE59,0010884 -19-16MAY06-1/1

Adjusting the Spreading Dimension on Hydraulic Stabilizer Bars

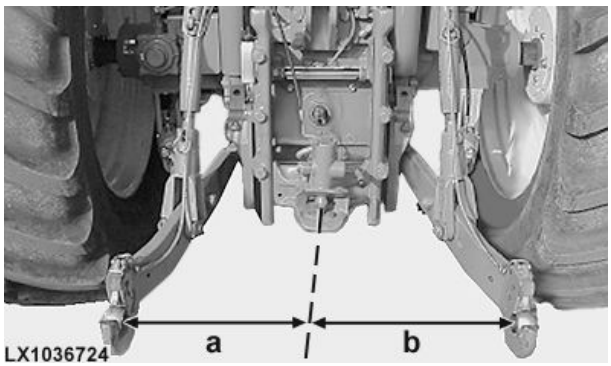
CAUTION: Adjustment and Test must be performed on a level road! If performed at an incline there is a danger of accidents! Depending on the incline, the implement could swing to the left or to the right, when changing from the float position to the no-float position and vice versa. For this reason, do NOT permit bystanders to come into range of the attachment.

1. Start the engine.
2. On the screen, move the mark all the way down (this locks the draft links over the entire lift range).
3. Measure the distance between the two attaching points on the implement.
4. Remove locking pin (A).
5. Adjust the distance of the draft links to the measured value using adjusting lever (B) of the stabilizer bars. Make sure that the distances (a) and (b) are identical.
6. Attach the implement to the three-point hitch.
7. Check the setting and re-adjust, if necessary.
   - There must be neither lateral sway nor preload.
   - Distances (a) and (b) must be equal.
   - The spindles must not be unscrewed beyond the third and last groove (C).
8. Move adjusting lever (B) back to its storing position and install locking pin (A).
9. Set the lock to the desired value on the screen.
10. Check the setting by raising and lowering the hitch several times.



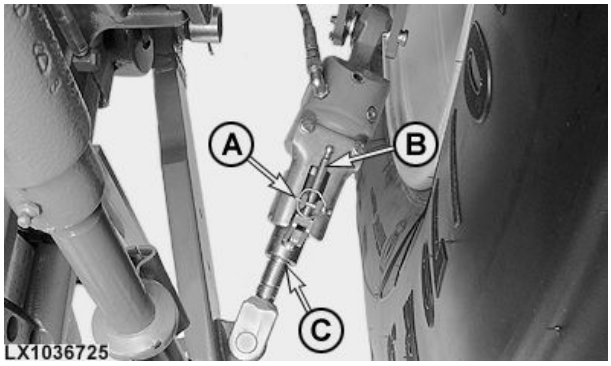
LX1038309

LX1038309 —UN—26APR06



LX1036724

LX1036724 —UN—12DEC05



LX1036725

LX1036725 —UN—12DEC05

A—Lock pin
B—Adjusting lever
C—Groove

OULXE59,0010885 -19-18APR06-1/1

HMS — Headland Management System (If Equipped)

CAUTION: Avoid injury due to losing control of tractor.

If a high gear is stored in a program, activating the program may result in rapid gear shifts.

IMPORTANT: A front loader must NOT be operated using HMS. Make sure that front loader is de-activated on the page for selective control valves at the CommandCenter. See "Additional Equipment" section.

HMS makes it possible to record and save sequences of functions that occur repeatedly and to call them up as programs when they are required. Five memories **(memories A-E)** are provided for five different implements each of them providing 2 programs. Example: one program for the sequence of functions used at start of field, another program for the sequence of functions used at end of 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.

The functions of the following tractor sub-assemblies may be stored: Differential lock, hitch, rear PTO, front PTO, front-wheel drive, electronic selective control valves, PowrQuad Plus/AutoQuad Plus transmission (gear shifts), AutoQuad Plus transmission (automatic gear shifting), IVT (maximum speed) and upper limit for engine speed.

The distance the tractor moves between functions is also stored.

There are two ways to program sequences of functions:

- With tractor stationary = **Edit Mode**
- With moving tractor = **Learn Mode**

OU12401,00019B6 -19-19APR08-1/1

HMS, Possible Functions

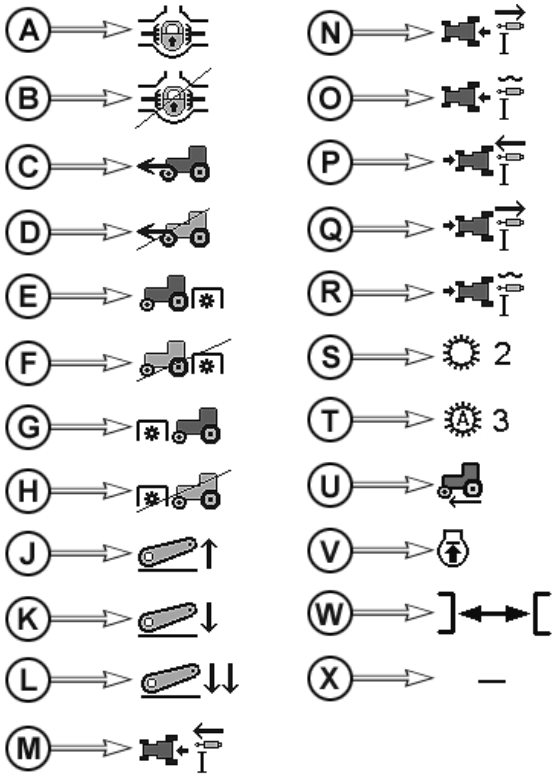
The functions shown here can

- be selected from the drop-down lists when the tractor is stationary (edit mode)
- be “learned” via the tractor's controls when the tractor is moving (learn mode)

On functions that can be selected via the controls (e.g. front-wheel drive on/off and differential lock on/off), the opposite condition can be selected by actuating the control again within 2 seconds.

NOTE: For functions (M) to (R), the electronic selective control valves must be unlocked, and learning requires the time setting to be other than 0.

Function (S) determines which gear the transmission shifts to (gears 1-4). Function (T) determines the highest gear to which the AutoQuad Plus transmission's automatic gear-shift function can shift (gears 2-4).



LX1044436

LX1044436 —UN—29NOV07

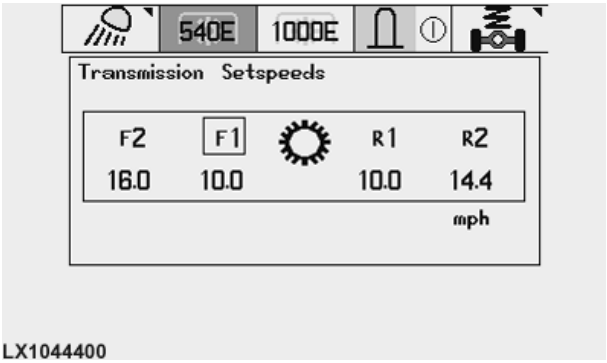
A—Differential lock on
B—Differential lock off
C—Front-wheel drive on
D—Front-wheel drive off
E—Rear PTO on
F—Rear PTO off
G—Front PTO on
H—Front PTO off
J—Three-point hitch, raise
K—Three-point hitch, lower
L—Three-point hitch (quick withdrawal)
M—Selective control valves (rear), extend
N—Selective control valves (rear), retract
O—Selective control valves (rear), float position
P—Selective control valves (front), extend
Q—Selective control valves (front), retract
R—Selective control valves (front), float position
S—Transmission - specified gear
T—Transmission - automatic gear-shifting
U—Maximum speed (IVT)
V—Upper limit for engine speed
W—Add function (edit mode)
X—Delete function (edit mode)

OU12401,00019B7 -19-19APR08-1/4

Maximum speed (IVT)

This screen appears if the speed wheel on the speed control lever is turned during “learning”. Maximum speed in the speed range (dependent on whether the control lever is in forward range F1 or F2) can now be changed. In HMS, the permitted speed range is from 1.5 to 16 km/h (0.9 to 9.4 mph). Faster or slower speeds are not accepted by the HMS. Press the HMS button to return to the HMS screen.

NOTE: Set speed is not attained until the speed control lever reaches its relevant end position.



LX1044400

LX1044400 —UN—29NOV07

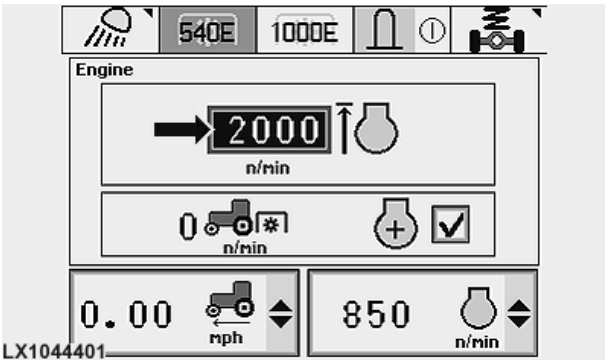
Continued on next page

OU12401,00019B7 -19-19APR08-2/4

Upper limit for engine speed

This screen appears if the engine button is pressed during “learning”. The upper limit for engine speed can be set here. Press the HMS button to return to the HMS screen.

NOTE: The speed set here is not attained unless top speed is commanded and there is no intervention by any automatic transmission function.

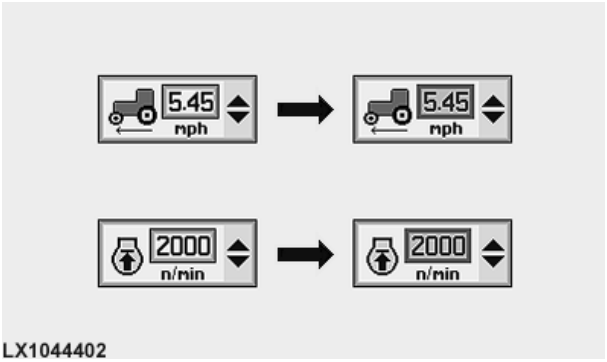


LX1044401 —UN—30NOV07

OU12401,00019B7 -19-19APR08-3/4

Editing of maximum speed (IVT) and upper limit for engine speed

Maximum speed and upper limit for engine speed can be changed in the edit mode. To do so, go to the relevant box and select the small window with figures in it.



LX1044402 —UN—29NOV07

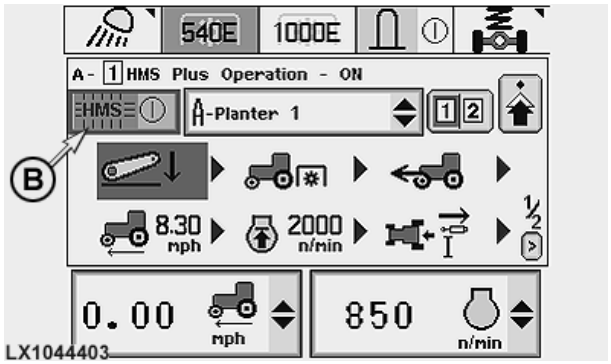
OU12401,00019B7 -19-19APR08-4/4

HMS, Controls

NOTE: On all HMS pages, use the program switch (C) to toggle between the two programs.

A—Button, HMS main page
B—HMS on/off
C—Program switch
D—HMS indicator light on dashboard

LX1037561 —UN—06NOV06



LX1044403 —UN—29NOV07

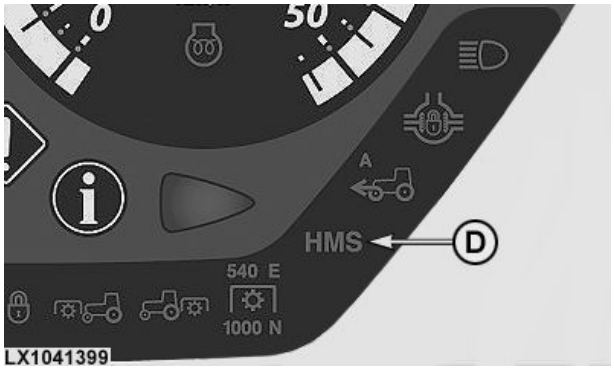
HMS main page

LX1041113 —UN—21SEP06

Switch, without CommandArm

LX1041387 —UN—21SEP06

Switch, with CommandArm



LX1041399 —UN—21SEP06

HMS indicator light on dashboard

OU12401,0001755 -19-28NOV07-1/1

HMS, Programming with Tractor Stationary (Edit Mode)

On the screen, switch on HMS by actuating cell (A) (the HMS indicator light lights up on the dashboard). In cell (B), select the desired implement memory **(A-E)**. A suitable implement name can be selected later via cell (E). The HMS select page (edit/learn mode) is displayed after pressing symbol (C). On this page the edit mode can be accessed via symbol (D). From list (E), choose the desired implement and then the desired program (1 or 2) using the program switch or cell (F). Select the desired functions from the selection lists and use the selection wheel to determine the distances between the functions. Use cell (G) to save the program and to display the HMS main page. For details regarding the programming process, see next page.

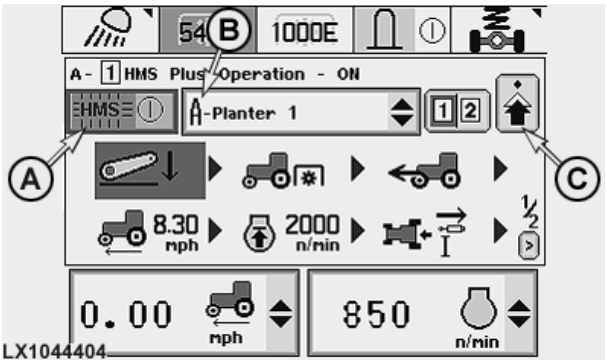
NOTE: To delete a single function from a program, select the empty cell from the selection list.

To overwrite a single function, choose the new function from the selection list.

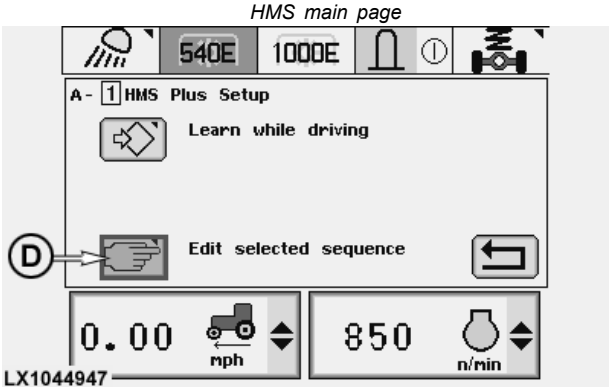
To add a function, go to the desired position and select the add cell from the drop-down list. The other functions (including the one already selected) move down one position.

The following applies to the rear PTO function:
PTO is switched off once the three-point hitch has reached 25% of the lift height. PTO is switched on **AFTER** the tractor has moved the set distance. If the PTO is switched on too early or too late, change the set distance to achieve optimum function timing.

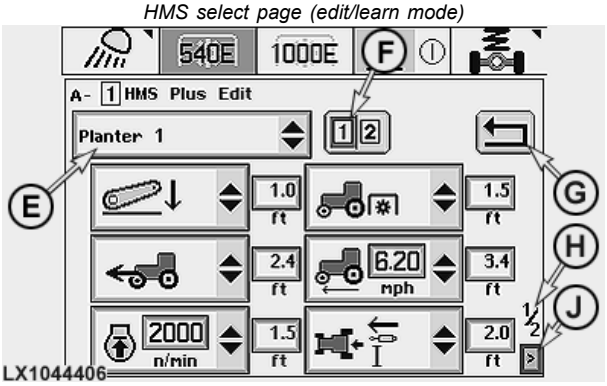
A—HMS on/off
B—Memory (A-E)
C—"Next page" symbol
D—Edit mode
E—Implement application
F—Program select cell
G—"Back to HMS main page" symbol
H—Page indicator
J—"Next function page" symbol
K—"Previous function page" symbol



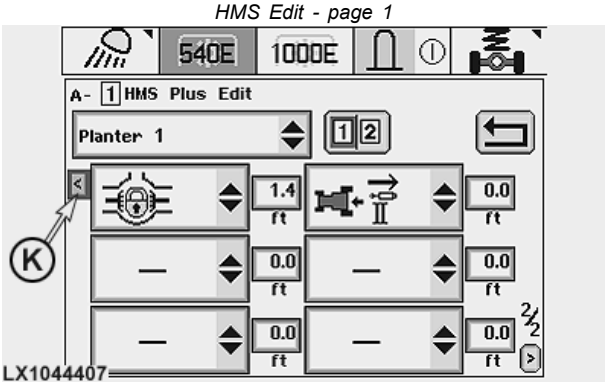
HMS main page



HMS select page (edit/learn mode)



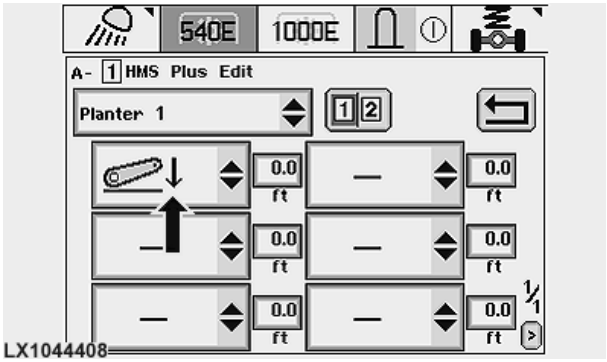
HMS Edit - page 1



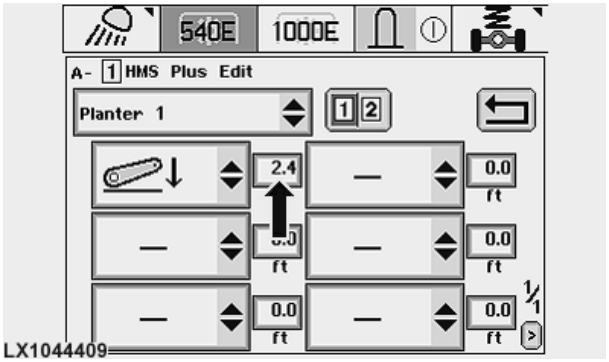
HMS Edit - page 2

OU12401,000196C -19-19DEC07-1/1

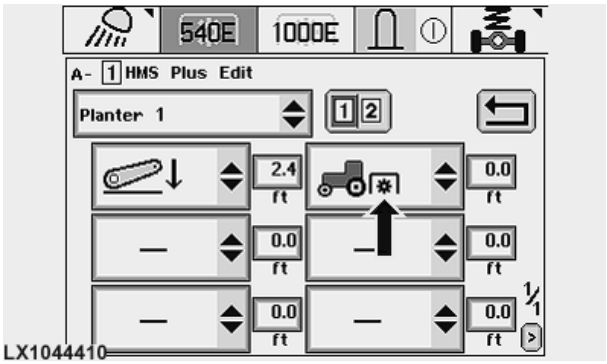
HMS, Programming with Tractor Stationary, Example



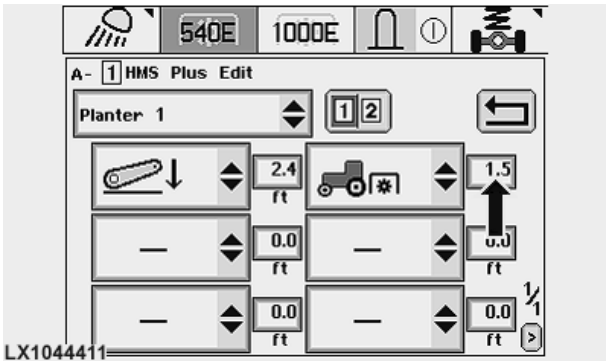
Step 1: Select 1st function



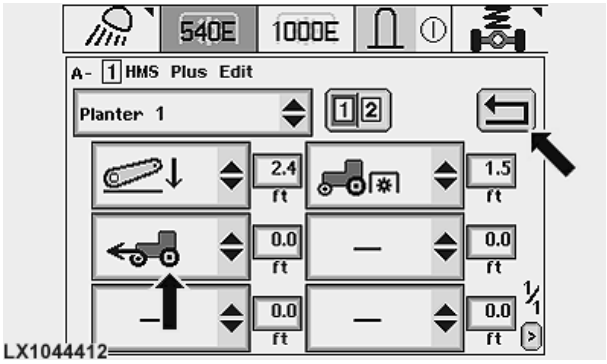
Step 2: Enter distance the tractor moves until the next function is activated



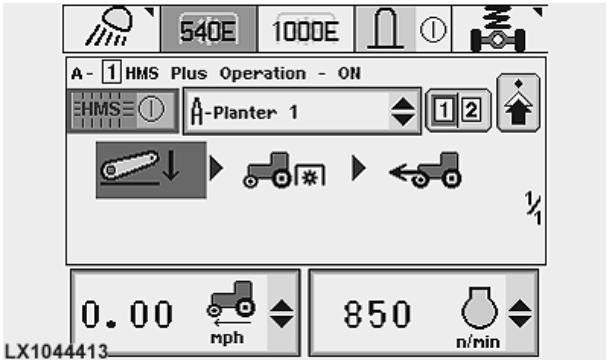
Step 3: Select 2nd function



Step 4: Enter distance the tractor moves until the next function is activated



Step 5: Select 3rd function, then save settings



HMS main page

OU12401,0001757 -19-28NOV07-1/1

HMS, Programming with Moving Tractor (Learn Mode)

On the screen, switch on HMS by actuating cell (A) (the HMS indicator light lights up on the dashboard). In cell (B), select the desired implement memory **(A-E)**. A suitable implement name can be selected later via cell (E). The HMS select page (edit/learn mode) is displayed after pressing symbol (C). On this page the learn mode can be accessed via symbol (D). From list (E), choose the desired implement and then the desired program (1 or 2) using the program switch or cell (F). To start the recording, select cell (G). If there is a program already saved under this name, it will be **lost**. With tractor moving in forward direction (travel speed at least 0.5 km/h; 0.31 mph), perform the desired functions. To end the recording, select cell (J). The sequence of functions is now stored as a program. For details regarding the programming process, see next page.

"Learned" programs can be altered in the edit mode (with tractor stationary).

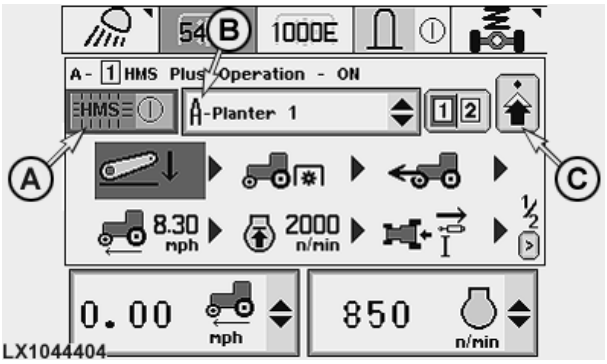
NOTE: If no tractor function is performed within 60 seconds after recording has started, the learn mode is aborted.

Learn mode is also aborted if cell (K) is selected.

A program can be deleted completely by choosing cell (G) and immediately afterwards cell (J).

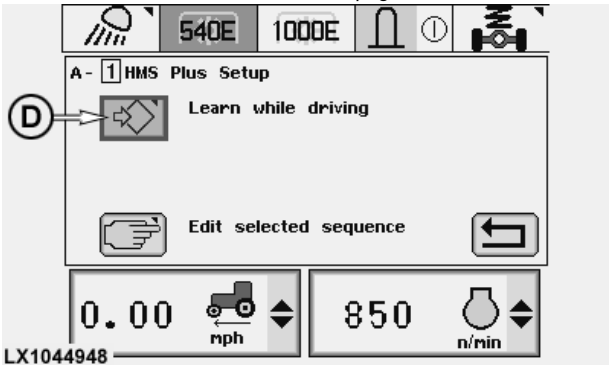
The following applies to the rear PTO function:
PTO is switched on once the three-point hitch has dropped below the learned lift height **AND** the learned distance has been travelled. The PTO **ALWAYS** switches off as soon as the learned lift height is exceeded.

A—HMS on/off
B—Memory (A-E)
C—"Next page" symbol
D—Learning mode
E—Implement application
F—Program select cell
G—Start of recording
H—"Back to HMS main page" symbol
J—End of recording
K—Abortion of recording



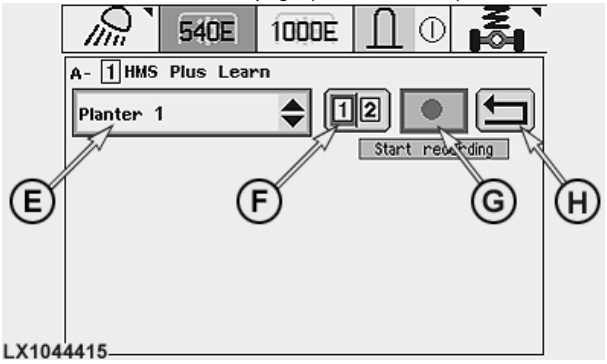
LX1044404 —UN—29NOV07

HMS main page



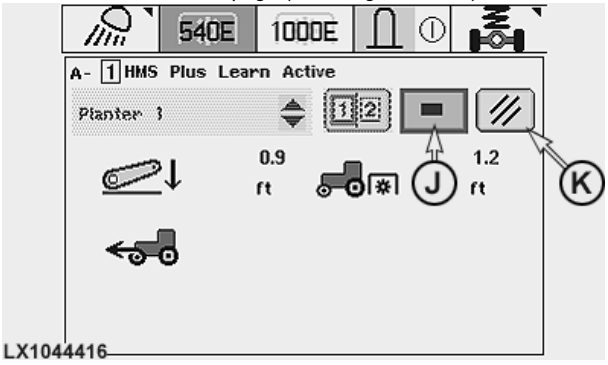
LX1044948 —UN—19DEC07

HMS select page (edit/learn mode)



LX1044415 —UN—29NOV07

HMS learn page (recording not active)

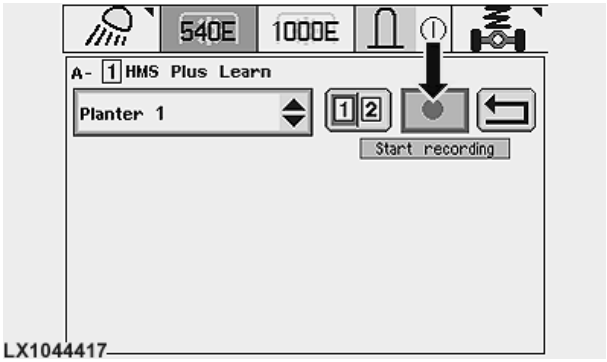


LX1044416 —UN—29NOV07

HMS learn page (recording active)

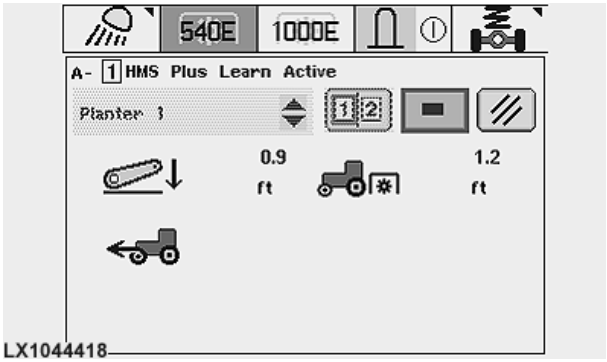
OU12401,000196D -19-19DEC07-1/1

HMS, Programming with Tractor Moving, Example



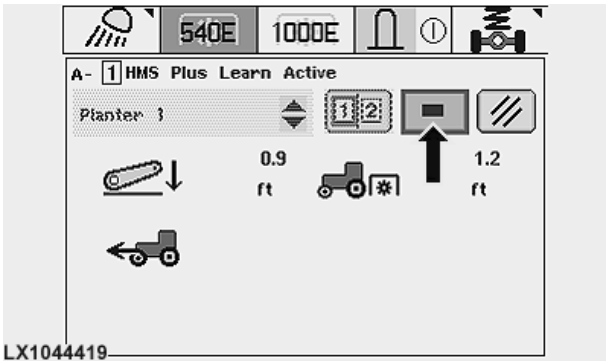
LX1044417 —UN—29NOV07

Step 1: Start of recording



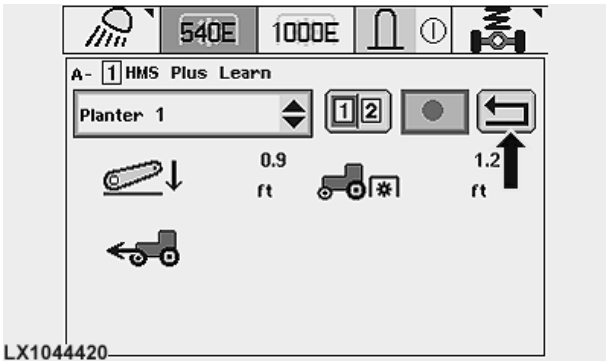
LX1044418 —UN—29NOV07

Step 2: Perform desired functions



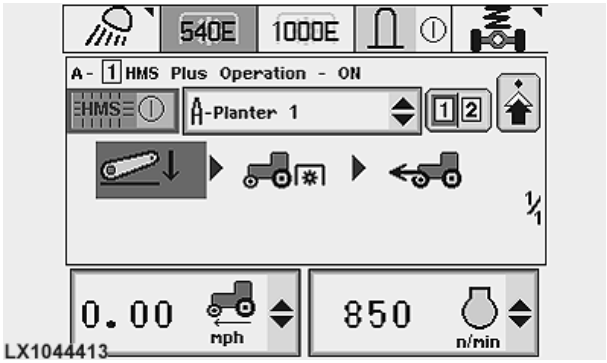
LX1044419 —UN—29NOV07

Step 3: End of recording and saving settings



LX1044420 —UN—29NOV07

Step 4: Back to main page



LX1044413 —UN—29NOV07

HMS main page

OU12401,0001759 -19-28NOV07-1/1

HMS, Performing the Stored Programs

NOTE: To enable the recorded programs to be performed, the tractor must be driven at a speed of at least 0.5 km/h (0.31 mph).

When performing programs which include PTO functions, a message is displayed telling the operator to switch on the PTO. HMS cannot physically "turn on" the relevant switches.

Before programs are performed that include selective control valve functions, the relevant levers/switches must be in neutral position.

1. Switch on HMS via cell (A); indicator light (B) comes on.
2. To start the desired program, select "1" or "2" using program switch (C). An alarm signal sounds and the HMS light flashes until the program has been completed.

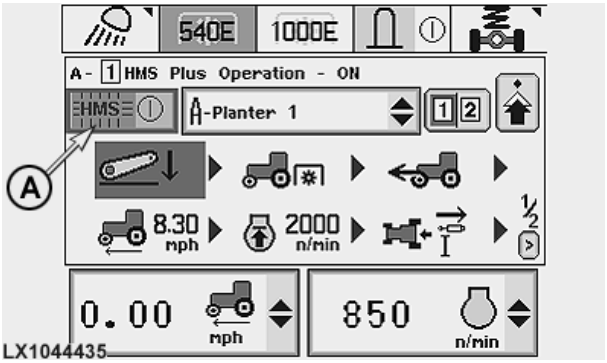
A program sequence is displayed by highlighting the currently activated function in green.

After a program has ended, the "opposing" program is displayed and its first function is highlighted in green.

A manual intervention can be made in a running program at any time. Such an intervention takes priority. The affected function will be ignored by the HMS for the rest of the program.

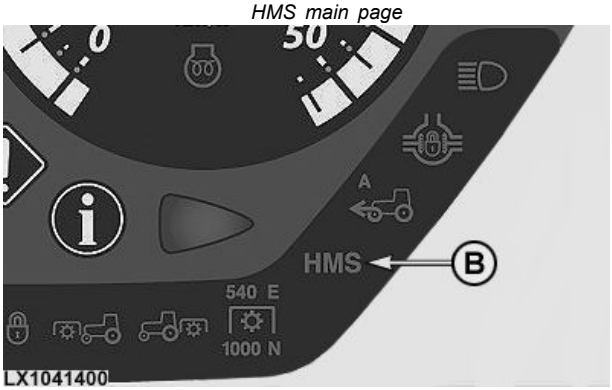
IMPORTANT: To abort a program immediately, use program switch (C) to select the "opposing" program ("2" instead of "1" or "1" instead of "2").

A—HMS on/off
B—HMS display light
C—Program switch



LX1044435 —UN—29NOV07

HMS main page



LX1041400 —UN—21SEP06

LX1041113 —UN—21SEP06

Switch, without CommandArm

LX1041387 —UN—21SEP06

Switch, with CommandArm

OU12401,000175A -19-30NOV07-1/1

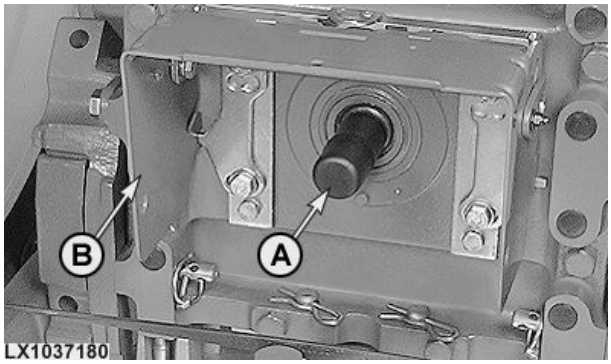
PTO Guard

CAUTION: Remove PTO cap (A) only when the PTO is to be used.

As soon as PTO-driven implement is removed, re-install cap over PTO stub shaft.

Master shield (B) may be folded up when attaching certain implements to the PTO, but it must be reinstalled as soon as the implement is installed.

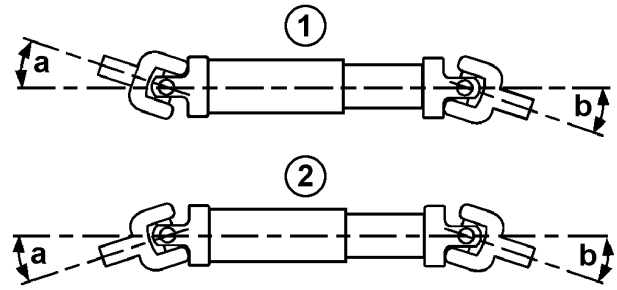
CAUTION: Never operate PTO unless the master shield is in the position shown.



LX1037180 —UN—20APR07

OU12401,00012EC -19-07OCT05-1/1

Operating Instructions

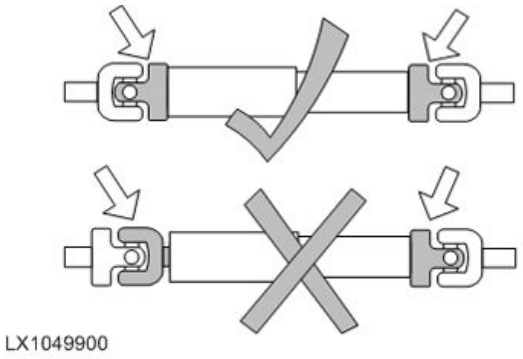


LX1049749

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 the universal joints should be the same at both ends of the 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.

NOTE: The two schematic drawings do not show any guards on the drive shaft. A guard is mandatory when using drive shafts.

IMPORTANT: Only operating conditions described in the Operator's Manuals of the various implements 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.

IMPORTANT: 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.

IMPORTANT: 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).

OULXBER,00018EA -19-15FEB11-1/1

PTO Options

IMPORTANT: Implements may be driven at 540 rpm only if their power input never exceeds 70 kW (95 hp).

The tractor may be equipped with one of the following PTO versions:

- Reversible PTO for 540/1000 rpm
- Shiftable PTO for 540/540E/1000 rpm

In addition, a 1000 rpm front PTO can be installed.

OU12401,000195C -19-16DEC07-1/1

Overspeed Protection

The following applies to the shiftable PTO for 540/540E/1000 rpm:

Upper limit for engine speed

If the PTO speed exceeds the rated PTO speed by more than 14.4%, the engine speed is reduced automatically to avoid overspeeding of the implement.

Warning message

If the PTO speed is 17% higher than the rated PTO speed (e.g. weight pushing from behind when driving downhill), a message will appear at the CommandCenter and the blue INFO lamp on the dashboard will flash.

PTO shutoff

If the PTO speed is 17% higher than the rated PTO speed for more than 2 seconds, the PTO will be shut off. If the PTO speed is 30% higher than the rated PTO speed, the PTO will be shut off immediately.

OU12401,00014F4 -19-14AUG06-1/1

PTO Operation

CAUTION: Always disengage the PTO when not in use.

CAUTION: High-inertia implements do not stop the moment the PTO control lever is shifted to the disengaged position. Do NOT approach the implement while it is coasting down. Do not work on the implement until it has stopped.

NOTE: On tractors with PowrQuad Plus or AutoQuad Plus transmission, the electronic engine-speed matching should be turned off during PTO operation. See **Settings** *for the relevant transmission in the* **Operating the Tractor** *section.*

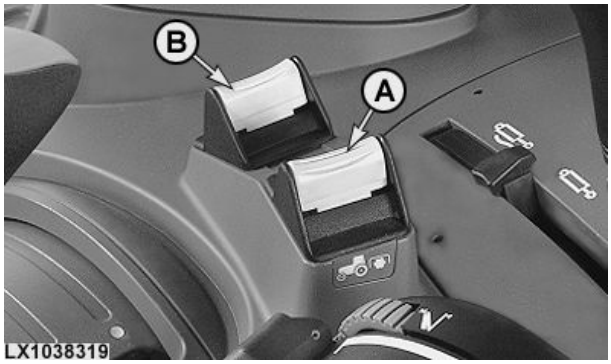
To switch on the PTO, press switch (A) or (B) down and then forward. To switch off the PTO, pull the switch back.

NOTE: An acoustic alarm warns the operator and the yellow CAUTION on the dashboard flashes if the operator leaves his seat while the PTO is engaged. The PTO does not disengage when operator leaves seat.

NOTE: If the engine is shut off and then restarted while the PTO is running, the PTO will not operate. Even so, indicator lights (C) remain on. Switch off PTO and then restart.

On tractors with IVT, an acoustic alarm warns the operator if he leaves his seat while the PTO is still running.

A—Switch for Rear PTO
B—Switch for Front PTO
C—Indicator Lights



LX10388319 —UN—27APR06

LX10366611 —UN—05OCT05

LX10410052 —UN—29JUN06

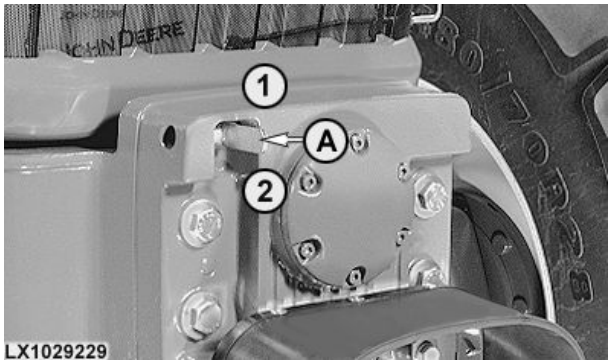
OU12401,000146A -19-22NOV11-1/2

If the front PTO is not required for a lengthy period, the PTO gear can be disengaged by means of lever (A). This prevents the gear train components from turning unnecessarily.

To disengage the gear train, pull lever (A) up; to engage, push the lever down.

IMPORTANT: Engage PTO gear only when the engine is shut off.

A—Lever
1— Disengaged
2— Engaged



LX10292229 —UN—02APR03

OU12401,000146A -19-22NOV11-2/2

Select Standard Speed of Rear PTO (Shiftable PTO)

CAUTION: Before engaging the PTO, make sure that selected PTO speed is correct for the implement attached. Incorrect speed can result in serious damage to the implement.

Danger of accidents!

The PTO is engaged and disengaged as described under Operating Power Take-Offs. The PTO must be disengaged to select standard PTO speed.

Press button (A) and select the desired speed on the screen (e.g. 1000).

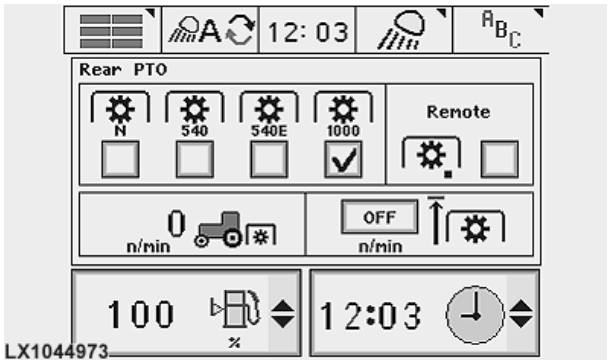
The selected PTO speed is indicated by lights (B).

CAUTION: The engine must be shut off when an implement is being connected.

A—PTO button

B—Indicator lights for PTO speeds

LX1038310 —UN—06NOV06



LX1044973 —UN—03MAR08

LX1041054 —UN—29JUN06

OULXE59,001098A -19-29JAN09-1/1

Fine Adjustment of Rear PTO Speed (Shiftable PTO; PTO Cruise)

Press button (A) and select the desired standard speed of rear PTO (B) on the screen (e.g. 1000). If desired, select the exact speed in cell (C).

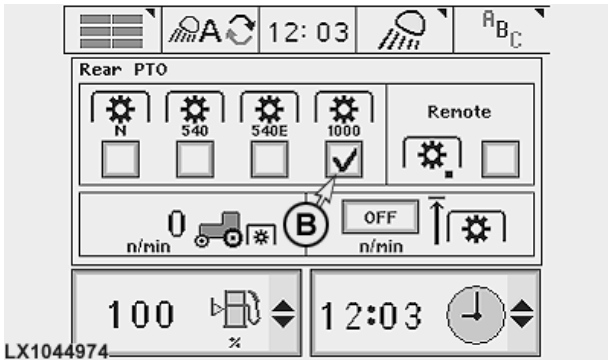
When the PTO is switched on, engine speed is limited so that set PTO speed is not exceeded even at full throttle. When the PTO is switched off, the engine can be operated over its full speed range again.

NOTE: When standard speed is changed, cell (C) must read OFF.

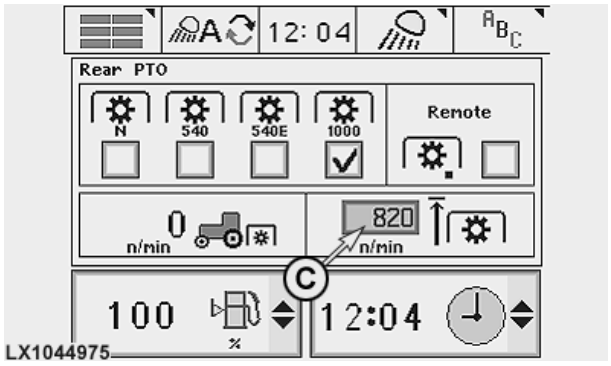
If an engine speed limit is set on the transmission settings page (see Transmission Settings in the Operating the Tractor section), the lower limit applies.

A—PTO button
B—Standard speed of rear PTO
C—Cell for speed

LX10388310 —UN—06NOV06



LX1044974 —UN—03MAR08



LX1044975 —UN—03MAR08

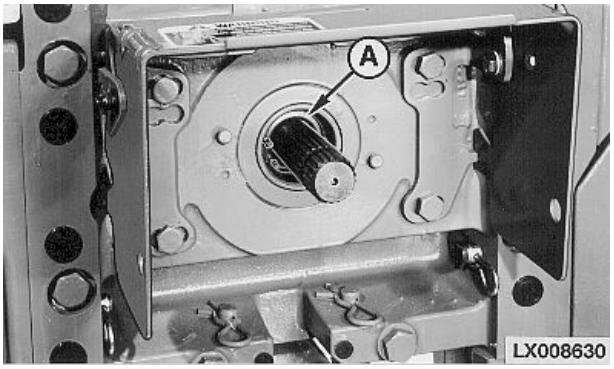
OULXE59,001098B -19-29JAN09-1/1

Reversing Rear PTO Shafts

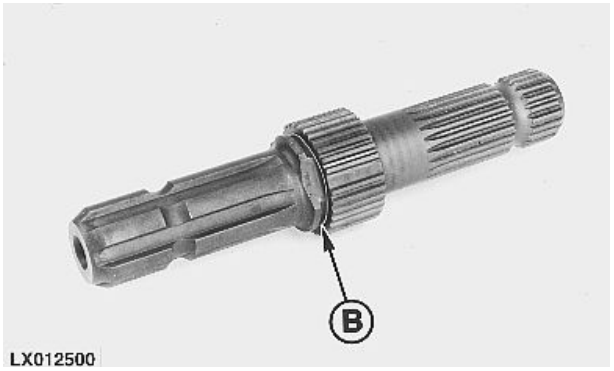
One end of the PTO stub shaft has 6 splines for operating at 540 rpm, and the other end has 21 splines for operating at 1000 rpm. Clean stub shaft thoroughly before installing.

1. Remove snap ring (A) and pull out stub shaft.
2. Clean stub shaft thoroughly and coat it with grease. Groove (B) facilitates installation of snap ring.
3. Insert stub shaft in PTO housing until snap ring (A) fits into the groove.
4. Install snap ring.

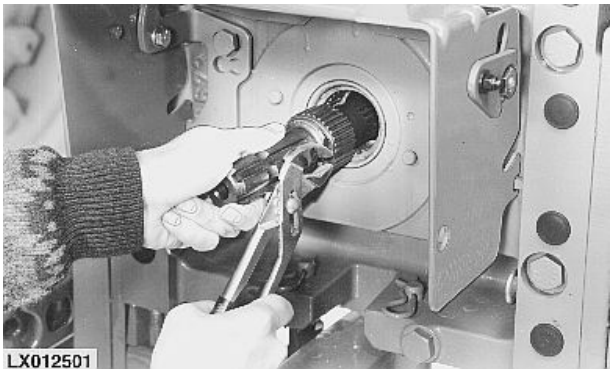
NOTE: A flattened area on the stub shaft facilitates removal and installation of snap ring.



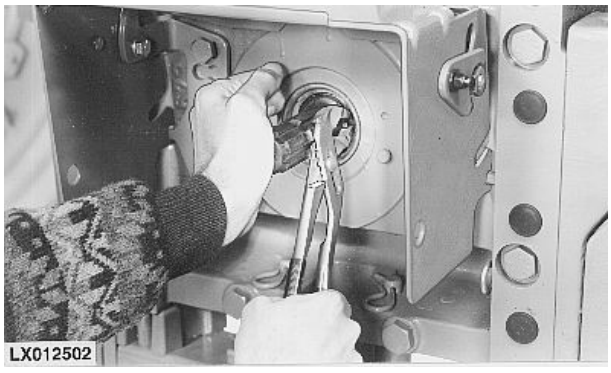
LX008630 —UN—15AUG94



LX012500 —UN—29JAN96



LX012501 —UN—29JAN96



LX012502 —UN—29JAN96

LX,OZAPF 008927 -19-01DEC95-1/1

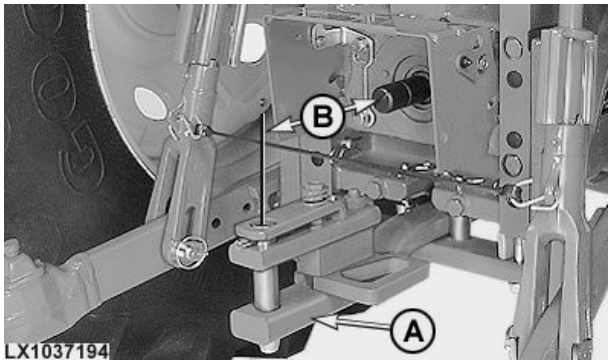
Attaching PTO-Driven Equipment

CAUTION: Shut off engine and disengage PTO before attaching PTO-driven equipment.

CAUTION: High-inertia implements do not brake to a standstill the moment the PTO control lever is shifted to the disengaged position. Do NOT approach the implement while it is "coasting down". Do not work on the implement until it has stopped.

CAUTION: Before attempting to clean, adjust or lubricate a PTO-driven machine, the three-point hitch or u.j. shaft, always make sure the PTO is switched off and stopped, the tractor engine is shut off and the ignition key is removed.

1. Align swinging drawbar (A) parallel to PTO shaft and lock it in position.
2. Distance (B) from end of PTO shaft to hole in drawbar end should be 350 mm (13.8 in.) for the 540 rpm PTO and 400 mm (15.7 in.) for the 1000 rpm PTO.



LX1037194 —UN—11OCT05

A—Swinging drawbar

B—Distance between end of PTO shaft and hole in drawbar end

If PTO splines are not aligned with the grooves in the u.j. shaft, keep the engine shut off and select "N" cell at the CommandCenter. Then turn the PTO shaft manually to the correct position.

OU12401,000146C -19-19JUN06-1/1

Ballast

Selecting Ballast

CAUTION: When determining front and rear axle ballast, ensure that permissible axle loads and the maximum permissible machine weight (including mounted implements) are not exceeded (see Specifications).

Comply with local regulations regarding installation and maximum permissible number of weights. In order to maintain steerability, at least 20% of unladen mass must be on the front axle. Unladen mass is the mass of the tractor without special equipment, attachments, trailer or ballast, but with hydraulic oil and lubricants, a full fuel tank and an operator weighing 75 kg.

CAUTION: Use suitable lifting tackle/hoists when handling weights.

Safety and performance of your tractor depend on correct ballasting of front axle (front weights) and rear axle (wheel weights, filling tires with liquid ballast).

OU12401,0001AD1 -19-10OCT08-1/1

Ballasting Rear Wheels

Rear wheel ballast should be chosen so as to give 10 to 15% wheel slippage when operating. Field tests have shown that maximum horsepower available at the drawbar occurs in this range.

Rear wheel ballast should never be such that the engine cannot be fully loaded at rated engine speed while the tractor is moving at 7 km/h (4.3 mph). If the engine labors or stalls below 7 km/h (4.3 mph), there is too much ballast on the rear wheels.

Too little ballast leads to:

- Excessive wheel spin and thereby loss of power
- Increased tire wear
- High fuel consumption

Too much ballast leads to:

- Increased load and thereby loss of power
- Overloading of tires and gearbox
- Soil compaction
- High fuel consumption

NOTE: Do not use more than 3 weights on each rear wheel. Comply with the legal limits on tractor width.

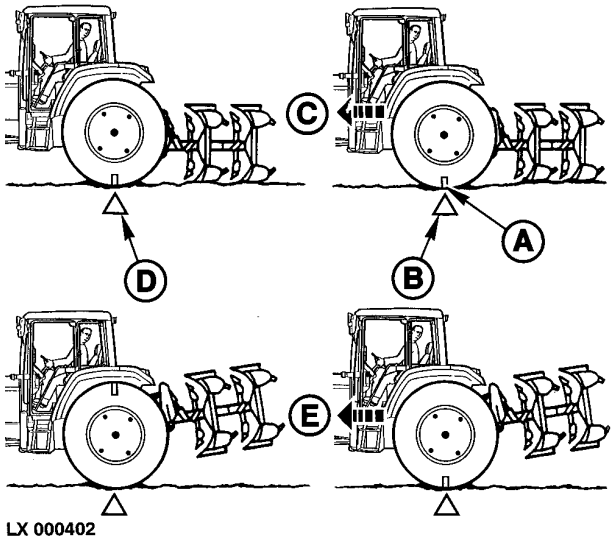
OU12401,0000CBE -19-02JAN03-1/1

Measuring Rear Wheel Slip

1. Mark tire (A).
2. Mark starting point on the ground (B).
3. Drive tractor forward with implement lowered until ten revolutions of the rear wheel have been made (C).
4. Again place a marker on the ground (D).
5. Now raise implement and again drive between the two markers on the ground. Note number of revolutions made between the two markers (E).

The number of revolutions gives the following percentage of wheel slip:

- 10.0 revolutions = 0% wheel spin
- 9.5 revolutions = 5% wheel spin
- 9.0 revolutions = 10% wheel spin
- 8.5 revolutions = 15% wheel spin
- 8.0 revolutions = 20% wheel spin
- 7.5 revolutions = 25% wheel spin
- 7.0 revolutions = 30% wheel spin



LX 000402

LX000402 —UN—15AUG94

LX,OSPU 000247 -19-01APR92-1/1

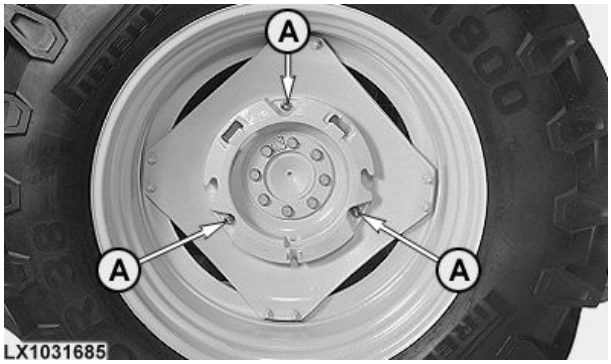
Installing Weights on Flanged Axle

CAUTION: When installing and removing quick-catch weights, always position wheels so that retainer jaws are at the top. This prevents weights from falling when cap screw is removed.

Attach first weight to wheel disk using three cap screws (A).

When installing further weights, position wheel so that retainer jaws (B) are at the top. Hang weight in retainer jaws and secure with a cap screw (C) at the bottom.

A—Screws of first weight
B—Retainer jaws
C—Screws of further weights



LX1031685 —UN—03APR03

LX1031686 —UN—03APR03

OU12401,00012FC -19-10OCT05-1/1

Installing Weights on Rack-and-Pinion Axle

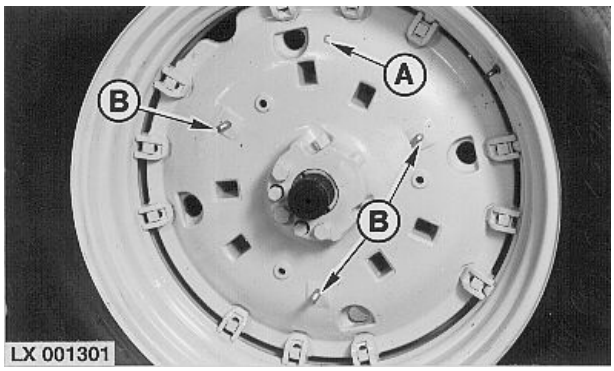
Position the wheel so that rim mark (A) is at the top. Insert special screws (B) from inside of rim and drive them outward.

NOTE: If you want to install more than one weight, drive the three special screws through the square countersunk bores in the first weight (from the inside, and before you install it). Install the second weight with its notch separated from the notch on the first weight by 180°. Install the third weight turned the same way as the first weight.

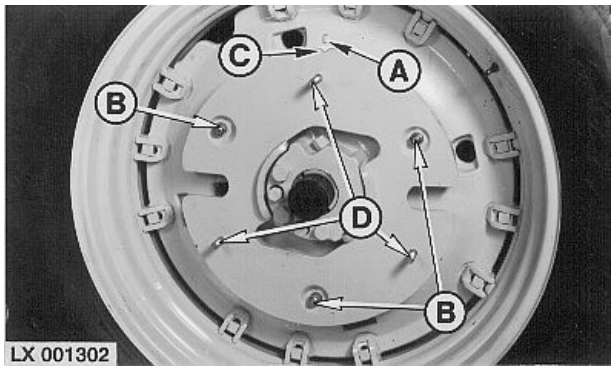
Install weight so that notch (C) on weight is aligned with mark (A). Tighten special screws (B) securely.

NOTE: Screws (D) shown in illustration are for the second weight.

A—Rim mark
B—Special screws
C—Notch
D—Screws for next weight



LX001301 —UN—09AUG94



LX001302 —UN—09AUG94

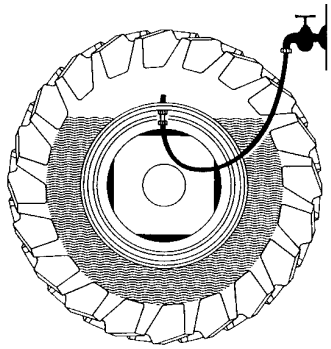
AG,OU12401,217 -19-07APR00-1/1

Filling Tires with Liquid Ballast

To fill a tire, jack up the wheel and turn it so that the tire valve is at the top. Remove the valve insert and screw water valve onto valve stem. While the water is entering, air escapes through lateral bore in water valve. Stop filling tire when water drains from vent hole of valve. Filling a tire takes 15 to 30 minutes, depending on tire size. Then screw in air valve and pump up tire to the normal inflation pressure. The quantity of liquid ballast required varies depending on tire size and type. If in doubt, consult your John Deere dealer or tire manufacturer.

If low temperatures are expected, an anti-freeze solution should be used. Tire manufacturers recommend a mixture of water and calcium chloride.

The anti-freeze solution may be sucked from an elevated tank. To speed up the filling operation, a pump may be used (flush pump with clear water afterwards). To provide protection down to -25° C (-13° F), dissolve 34 kg (75 lb) of calcium chloride in 86 liters (22.7 U.S. gal.) of water to obtain 100 liters (26.4 U.S. gal.) of anti-freeze solution. This solution produces an increase in weight of 120 kg (269 lb). Add calcium chloride to the water - not vice versa. Do not fill radiator with this anti-freeze solution.



LX009450

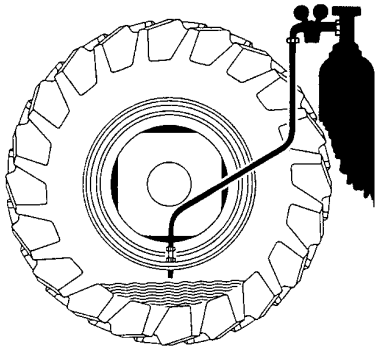
LX009450 —UN—03JAN95

OU12401,00012FE -19-10OCT05-1/1

Draining the Tires

Jack up wheel. Remove air valve and allow water to drain out.

To clear the remainder of the water from the tire, insert the drain tube with the hose extension and pump air into the tire. The air pressure will push the remaining water out of the tire.



LX009451

LX009451 —UN—03JAN95

LX,OSPU 000251 -19-01OCT94-1/1

Installing Front Weights

One basic weight (A) and up to 14 front weights may be installed. The basic weight weighs 110 kg (243 lb). Each additional weight weighs 47 kg (104 lb).

The additional weights must be installed in pairs, one on either side of the central pin.

A—Basic weight

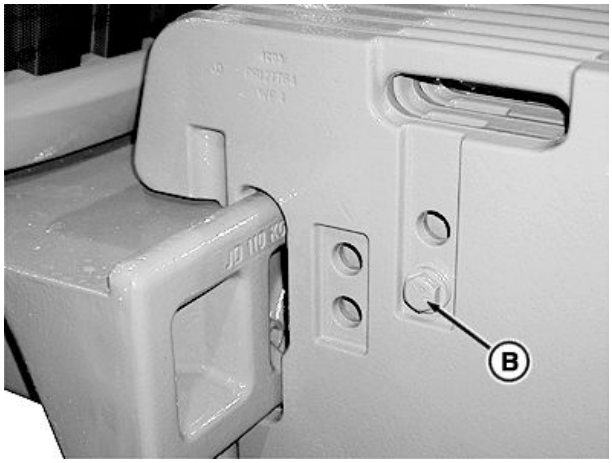
RXA0074569 —UN—22APR04

Continued on next page

OU12401,000146E -19-20JUN06-1/3

To install up to 6 additional weights, install one attaching screw of suitable length on either side, and secure it with a nut. Tighten the nuts to 230 Nm (170 lb-ft).

B—Attaching screw



RXA0074571 —UN—22APR04

OU12401,000146E -19-20JUN06-2/3

To install more than 6 weights, install retainers (C) between the weights. Install one retainer with the threaded bore uppermost and one retainer with the threaded bore at the bottom. Tighten the screws to 230 Nm (170 lb-ft).

C—Retainer

RXA0074573 —UN—22APR04

OU12401,000146E -19-20JUN06-3/3

Wheel Tread, Tires

Use of Dual Wheels (easy-to-attach)

IMPORTANT: Do not install dual wheels on the front axle.

Dual wheels may be used on the rear axles of tractors for the purpose of flotation or soil compaction reduction only.

They are only recommended for use in the field and should be removed prior to driving on public roads.

IMPORTANT: If dual wheels are used, wheel disk reinforcements must be installed. If no wheel disk reinforcements are available, reinforced rear wheels may be ordered for some tractors. Information can be obtained from your John Deere dealer.

NOTE: Retighten the wheel nuts regularly to the specified torque. See Break-in Period or Service / Every 250 Hours.

OU12401,0001D73 -19-30NOV11-1/1

Tires on Front Wheels

On tractors with front-wheel drive, the steering system may have to be adjusted if tires wider than the ones supplied by the factory are put on the front wheels. Always consult your John Deere dealer before putting on such tires.

OU12401,0001536 -19-14OCT06-1/1

Adjustable Front Axle (Tractors without Front-Wheel Drive)

The front axle can be adjusted at each end in increments of 51 mm (2 in.). Maximum wheel tread is obtained by reversing the front wheels.

If front wheels are removed to adjust tread, tighten front wheel bolts to 250 Nm (185 lb-ft) once the wheels are replaced.

IMPORTANT: After the first 4 and 8 hours of operation, retighten all front wheel bolts. Check tightness of these bolts frequently during the next 100 hours of operation.

NOTE: Wheel tread on tractors equipped with a front loader must not exceed 1.80 m (71 in.).

IMPORTANT: To avoid excessive stress on axle bolts, do not separate axle halves beyond the specified limits.

NOTE: On tractors with axle extension, tread width increases by up to 542 mm (21.3 in.).

Tires	Wheels disk inward	Wheel disk outward
7.50-18	1491 - 2001 mm 58.7 - 78.8 in.	1531 - 2041 mm 60.3 - 80.4 in.
7.50-20	1470 - 1980 mm 57.9 - 78.0 in.	1546 - 2056 mm 60.9 - 80.9 in.
9.5L-15	1493 - 2003 mm 58.8 - 78.9 in.	1533 - 2043 mm 60.4 - 80.4 in.
10.00-16	— —	1533 - 2043 mm 60.4 - 80.4 in.
11L-15	1493 - 2003 mm 58.8 - 78.9 in.	1533 - 2043 mm 60.4 - 80.4 in.
11L-16	— —	1538 - 2048 mm 60.4 - 80.6 in.
27/9.5-15	1493 - 2003 mm 58.8 - 78.9 in.	1533 - 2043 mm 60.4 - 80.4 in.

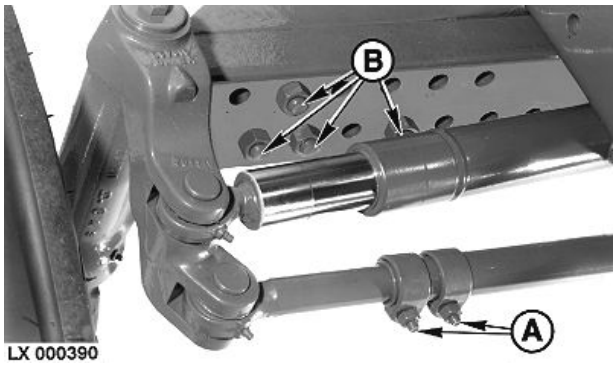
OU12401,0001471 -19-20JUN06-1/1

Front-Wheel Tread Adjustment

Block up front end of tractor. Do not place jack under engine oil pan!

Remove tie-rod clamp bolts (A) and axle bolts (B). Reposition axle ends to the desired front wheel tread. Re-insert axle bolts and tighten to 400 Nm (295 lb-ft).

Adjust tie-rods to front-wheel tread, re-insert clamp bolts and tighten to 50 Nm (35 lb-ft).



LX000390 —UN—05APR00

OU12401,0001472 -19-20JUN06-1/1

Change Wheels Safely

Due to the big size and the heavy weight of tractor wheels, pay attention to the following points when changing wheels:

- Before changing wheels, place tractor on firm, level ground.
- Engage park lock and prevent the tractor from rolling away by putting down chock blocks.
- Remove the ignition key to prevent unauthorized operation.
- When removing rear wheels, prevent front axle oscillation by using wedges.
- When jacking up the tractor, only use the recommended lifting points, see Jack Up the Tractor - Lifting Points in Section 85 of this Operator's Manual.
- Use a stable lifting jack with sufficient lifting force. See Specifications, Loads and Weights in Section 145.
- Stop jacking up the tractor when the wheel is completely off the ground.
- Use a suitable wheel dolly, especially when removing a rear wheel. This is available from your John Deere dealer as special tool KJD10581.
- Support the tractor when a wheel is removed. Jack stands are available from your John Deere dealer as special tools JT02043 and JT02044.
- When installing wheels, make sure that the correct torques are applied, see Tighten Wheel Bolts and Wheel Weights in Section 95 of this Operator's Manual.

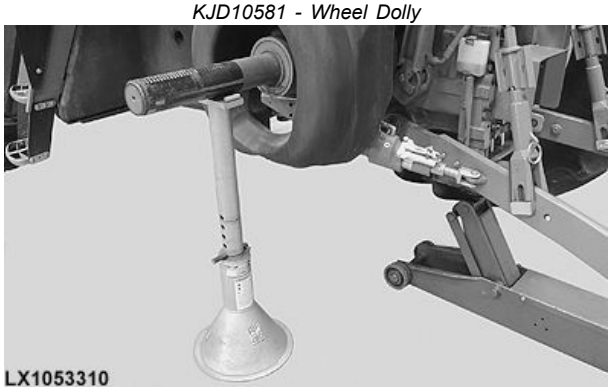
CAUTION: Do not operate the tractor until the wheel change has been completed.

When changing wheels, make sure that no-one is standing in the danger zone.

When removing a wheel, make sure that the tractor is supported safely.

KJD10581 - Wheel Dolly

LX1049987 —UN—15JUL11



Jack Stand JT02043 or JT02044

LX1053310 —UN—23SEP11

JT02043—Jack Stand, 482 to 736 mm (19 to 29 in.)

JT02044—Jack Stand, 863 to 1117 mm (34 to 44 in.)

When storing removed wheels, make sure that they cannot fall.

OULXBER,0001AA7 -19-22SEP11-1/1

Check Toe-In

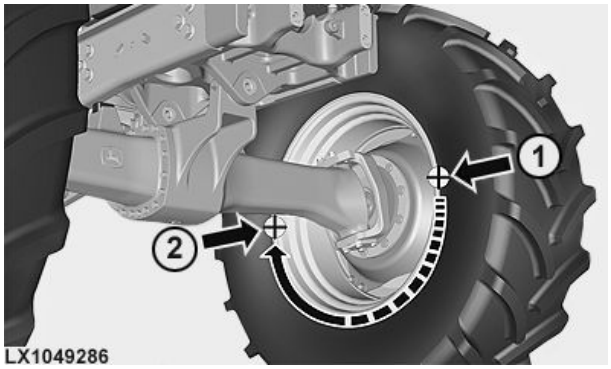
1. Make sure wheels are in the straight forward position by driving tractor in a straight line for approx. 15 m (50 ft).

CAUTION: Keep the engine switched off while making the measurements, and secure the tractor so that it cannot roll away.

2. First, put marks (+) at axle height on the front (1) of each of the two front wheels.
3. At the front, measure distance (1) from the edge of the right rim to the edge of the left rim, and make a note of this measurement.
4. Roll the tractor forward by half the circumference of the front wheel, bringing the (+) mark to the rear (2).
5. At the rear, measure distance (2) from the edge of the right rim to the edge of the left rim, and make a note of this measurement.

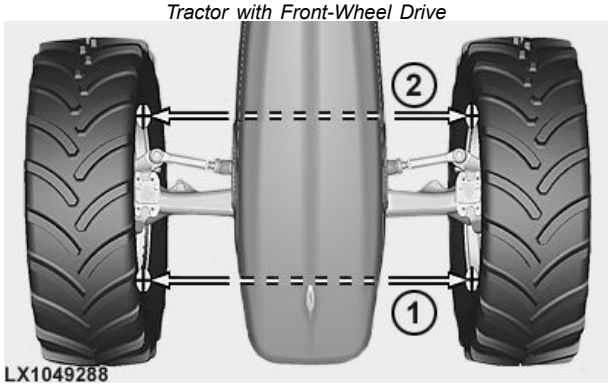
Tractor with front-wheel drive: Dimension (1) at the front must correspond to dimension (2) at the rear. A deviation of ± 1.5 mm (0.06 in.) is permissible.

Tractor without front-wheel drive: Dimension (1) at the front must be 3 to 9 mm (0.12 to 0.35 in.) less than dimension (2) at the rear.



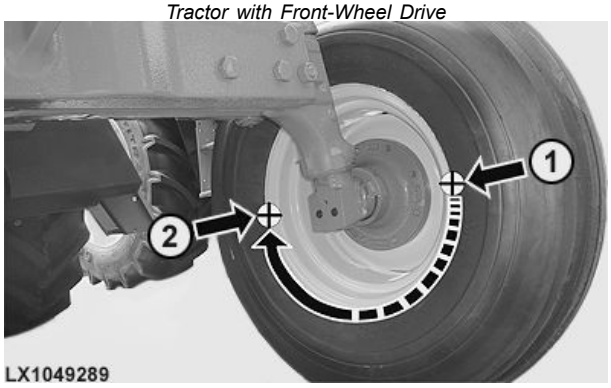
LX1049286 —UN—08JUN10

Tractor with Front-Wheel Drive



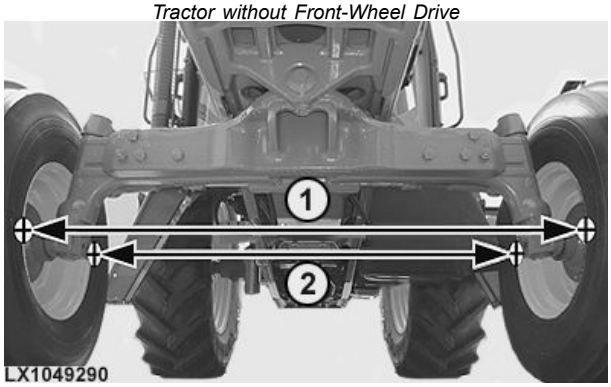
LX1049288 —UN—08JUN10

Tractor with Front-Wheel Drive



LX1049289 —UN—09JUN10

Tractor without Front-Wheel Drive



LX1049290 —UN—09JUN10

Tractor without Front-Wheel Drive

OULXBER,00018EE -19-17SEP10-1/1

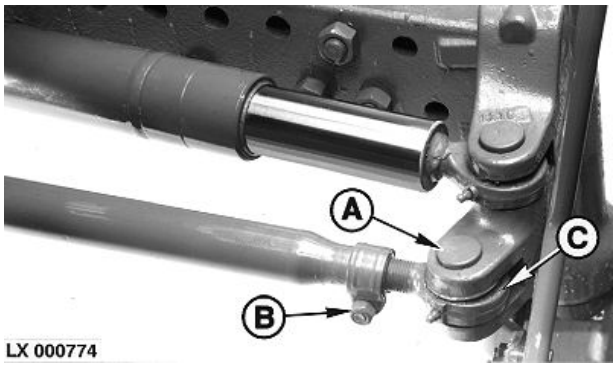
Adjust Toe-In (Tractors without Front-Wheel Drive Axle)

Take out collar pin (A) and remove tie rod. Slacken off clamping screw (B) and adjust the position of tie-rod end (C). Screwing the tie-rod end in reduces toe-in; screwing the tie-rod end out increases toe-in.

After adjustment is completed, tighten clamping screw (B) to between 45 and 55 Nm (33 and 40 lb.-ft.). Secure the tie rod to the knuckle and spindle assembly.

IMPORTANT: The grease fitting must be in the position shown in the picture.

On tractors without front-wheel drive axle, toe-in must be between 3 and 9 mm (0.12 and 0.35 in.).



LX000774 —UN—05APR00

OULXBER,0001994 -19-07OCT10-1/1

Adjusting Toe-In on Front-Wheel Drive Axle

1. Actuate the steering so that the front wheels are set for driving straight ahead.
2. Shut off the engine and remove the ignition key.
3. Shift transmission to park.
4. Loosen retaining nut (A).

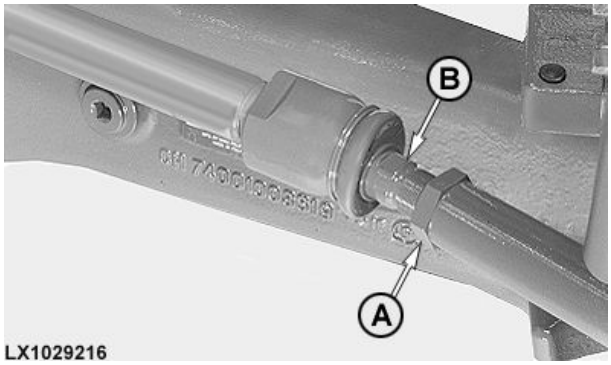
NOTE: Toe-in or toe-out must not exceed ± 1.5 mm (0.06 in.).

5. Turn rod (B) to obtain desired toe-in or toe-out. See also ***Check Toe-In*** in this section.

Specification	
Toe-in or toe-out—Clearance	± 1.5 mm ± 0.06 in.

6. Tighten retaining nut (A) to specified torque.

Specification	
Retaining nut on 6530L—Torque	220 to 240 Nm 162 to 177 lb.-ft.



LX1029216 —UN—02APR03

A—Retaining Nut **B—Rod**

Retaining nut on 6230 to 6430—Torque	328 to 363 Nm 242 to 267 lb.-ft.

OULXBER,0001919 -19-05OCT10-1/1

Front Wheel Tread Adjustment (Tractors With Front Wheel Drive)

The tractor can be equipped with reversible or adjustable wheel rims.

AG,OU12401,292 -19-10APR00-1/1

Adjusting Front Wheel Tread with Reversible Wheel Rims

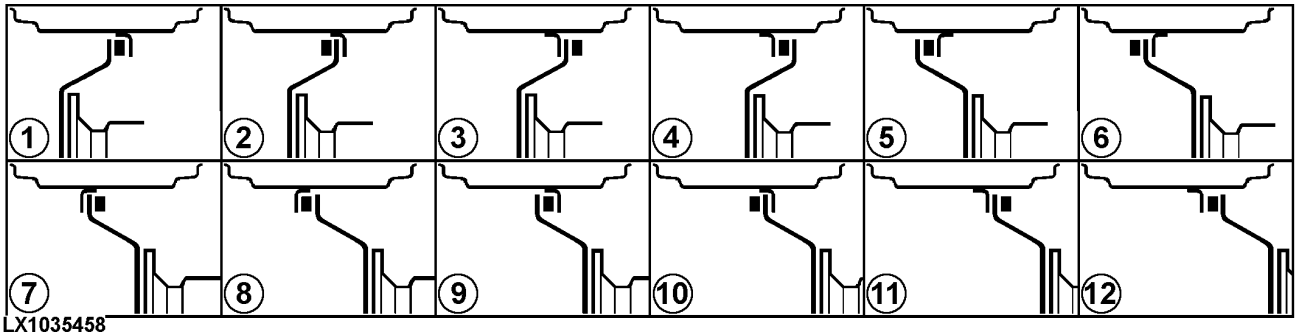
Wheel tread can be adjusted by installing the complete wheel on the other side of the tractor. In doing so, maintain the direction of tire rotation.

NOTE: Wheel tread on tractors equipped with a front loader must not exceed 1.80 m (71 in.).

Tires	Wheels disk inward	Wheel disk outward
10.5/80-18 280/70-16	1582 mm (62.3 in.)	1749 mm (68.9 in.)

OU12401,0001473 -19-20JUN06-1/1

Tread Adjustment, Adjustable Rims



Wheel tread can be adjusted by replacing or reversing the wheel rims. Additional tread widths can be achieved by using spacers.

In addition the complete wheel can be installed on the other side of the tractor. In doing so, maintain the direction of tire rotation.

NOTE: Wheel tread on tractors equipped with a front loader must not exceed 1.80 m (71 in.).

	Positions of rims, wheel disks and spacers											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
mm	1524	1552	1584	1616	1720	1748	1782	1812	1924	1952	1984	2016
(in.)	(60)	(61.1)	(62.4)	(63.6)	(67.7)	(68.8)	(70.2)	(71.3)	(75.7)	(76.9)	(78.1)	(79.4)
Tires:												
320/85R24	x	x	x	x	x	x	x	x	x	x	x	x
340/85R24	x	x	x	x	x	x	x	x	x	x	x	x
380/70R24	x*	x*	x*	x	x	x	x	x	x	x	x	x
380/75R24	x*	x*	x*	x	x	x	x	x	x	x	x	x
380/85R24	x*	x*	x*	x	x	x	x	x	x	x	x	x
420/70R24	—	—	—	x	x	x	x	x	x	x	x	x
420/85R24	—	—	—	—	x	x	x	x	x	x	x	x
480/70R24	—	—	—	—	x	x	x	x	x	x	x	x
480/75R24	—	—	—	—	x	x	x	x	x	x	x	x
540/65R24	—	—	—	—	x*	x*	x*	x	x	x	x	x
320/85R28	x	x	x	x	x	x	x	x	x	x	x	x
340/85R28	—	—	—	x	x	x	x	x	x	x	x	x
12.4R24	x	x	x	x	x	x	x	x	x	x	x	x
13.6R24	x	x	x	x	x	x	x	x	x	x	x	x
14.9R24	x*	x*	x*	x	x	x	x	x	x	x	x	x
16.9R24	—	—	—	—	x	x	x	x	x	x	x	x
12.4R28	x	x	x	x	x	x	x	x	x	x	x	x
13.6R28	—	—	—	x	x	x	x	x	x	x	x	x
13.6-38	—	—	—	x	x	x	x	x	x	x	x	x

* With pivoting fenders only

OU12401,0001D90 -19-08DEC09-1/1

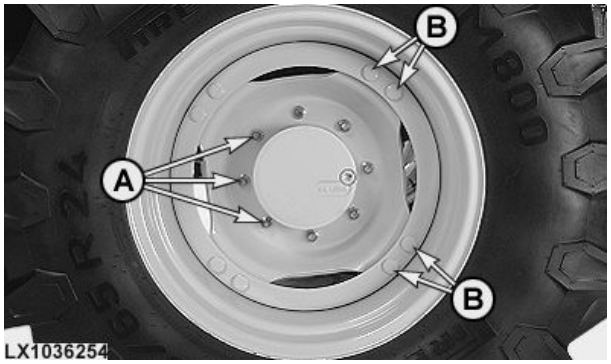
Tighten Wheel Nuts

After adjusting front wheel tread, tighten nuts (A) and (B).

IMPORTANT: After the first 4 and 8 hours of operation, retighten all front wheel attaching nuts. Check tightness of these nuts frequently during the next 100 hours of operation.

A—300 Nm (220 lb-ft)

B—250 Nm (185 lb-ft)



LX1036254 —UN—16AUG05

OU12401,0001711 -19-02APR07-1/1

Adjusting the Fixed Fenders

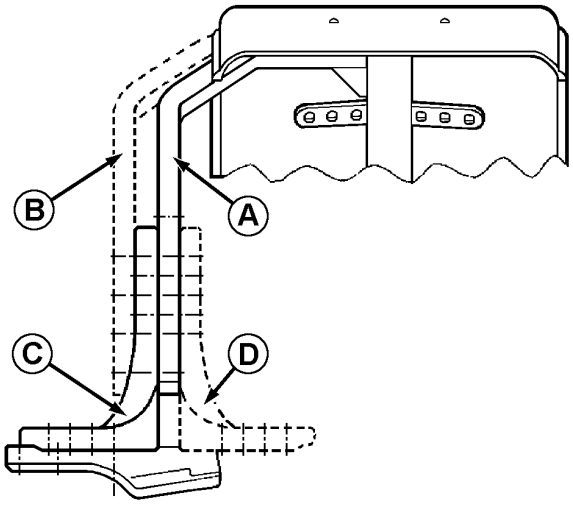
The fenders may be adjusted individually. Several adjusting positions are possible. Tilt, width and height of the fenders can be adjusted depending on tire size, tread width and steering angle. To do so, proceed as follows:

A—Support to base plate (wheel side)

B—Support to base plate (tractor side)

C—Base plate (tractor side)

D—Base plate (wheel side)



LX1033634

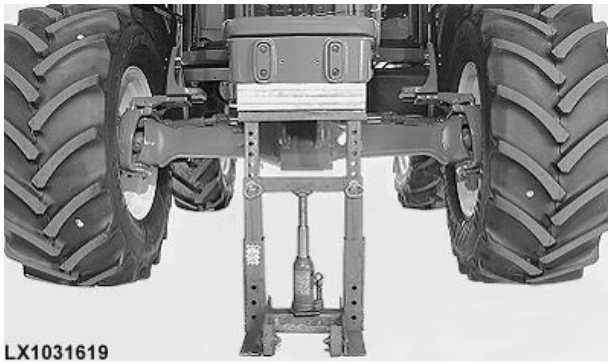
LX1033634 —UN—08AUG06

Continued on next page

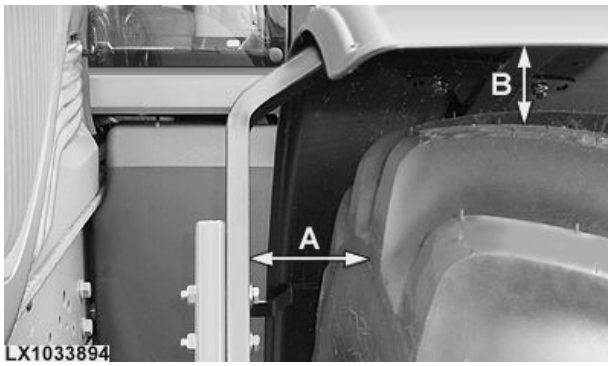
OULXE59,0010849 -19-21DEC05-1/4

1. Raise front of tractor so that the front wheel drive axle can pivot freely.
2. Turn steering wheel in both directions and pivot the axle to determine the most suitable fender mounting position.
3. Adjust fender position so that the minimum clearances (see illustration) are met. There must not be any contact with the tractor frame.

   A = 40 mm (1.57 in.), B = 60 mm (2.36 in.)



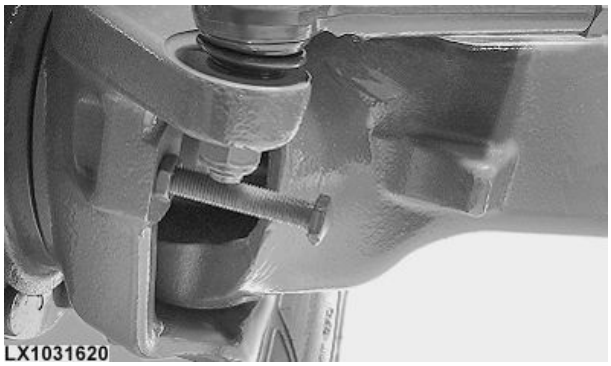
LX1031619 —UN—31MAY06



LX1033894 —UN—11MAR04

OULXE59,0010849 -19-21DEC05-2/4

4. Also adjust the steering stops to make sure that neither the wheel nor the fender come into contact with the tractor frame.



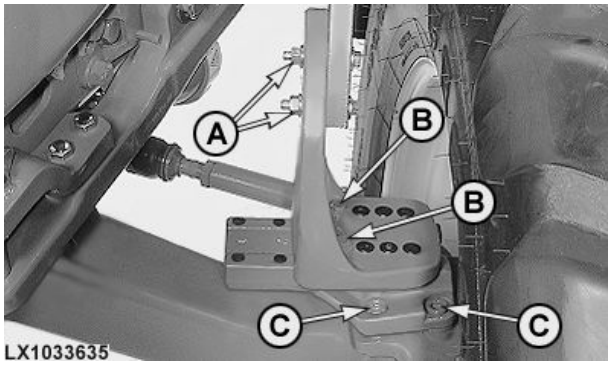
LX1031620 —UN—24APR06

OULXE59,0010849 -19-21DEC05-3/4

Tighten the screws to the following torque values:

Screws (A)	140 Nm (105 lb-ft)
Screws (B)	140 Nm (105 lb-ft)
Screws (C)	190 Nm (140 lb-ft)

A—Cap screws, support to base plate
B—Cap screws, base plate to base
C—Hex. socket screws, base to knuckle housing



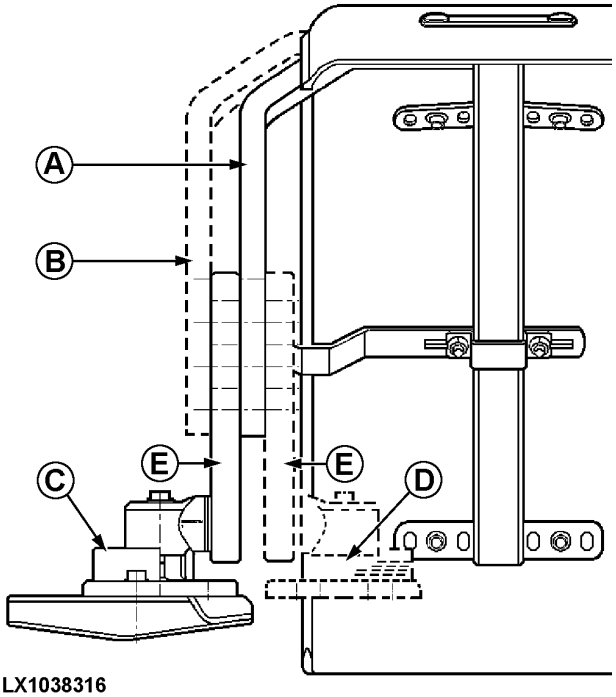
LX1033635 —UN—10MAY04

OULXE59,0010849 -19-21DEC05-4/4

Adjusting the Pivoting Fenders

The fenders may be adjusted individually. Several adjusting positions are possible. Tilt, width and height of the fenders can be adjusted depending on tire size, tread width and steering angle. If the intention is to change between positions C and D, turn the part around (do NOT install it on the other side of the tractor). Then adjust the front-to-rear angle of adjusting arm (E). To make the adjustment, follow this procedure:

A—Support to adjusting arm (wheel side)
B—Support to adjusting arm (tractor side)
C—Pivot plate (tractor side)
D—Pivot plate (wheel side)
E—Adjusting arm



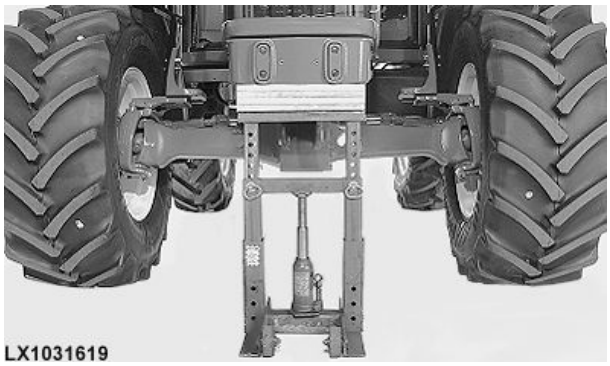
LX1038316

LX1038316 —UN—08AUG06

OULXE59,0010883 -19-16APR06-1/4

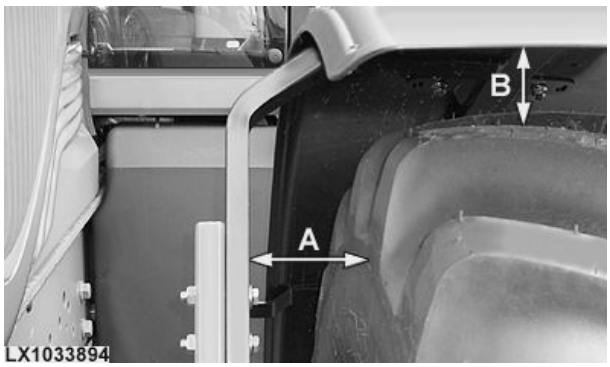
1. Raise front of tractor so that the front wheel drive axle can pivot freely.
2. Turn steering wheel in both directions and pivot the axle to determine the most suitable fender mounting position.
3. Adjust fender position so that the minimum clearances (see illustration) are met. There must not be any contact with the tractor frame.

   A = 40 mm (1.57 in.), B = 60 mm (2.36 in.)
4. Adjust fender stop to prevent it from being seized at the edges with steering wheel fully turned and axle pivoting. Make sure that the stop contacts the tractor frame before the fender can hit the frame.



LX1031619

LX1031619 —UN—31MAY06



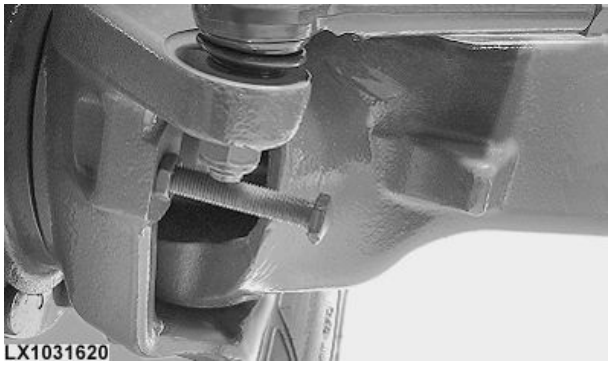
LX1033894

LX1033894 —UN—11MAR04

Continued on next page

OULXE59,0010883 -19-16APR06-2/4

5. Also adjust the steering stops to make sure that the wheel does not come into contact with the tractor frame.



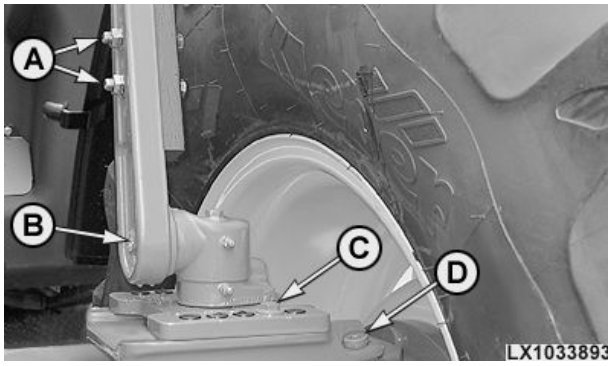
LX1031620 —UN—24APR06

OULXE59,0010883 -19-16APR06-3/4

Tighten the screws to the following torque values:

Screws (A)	140 Nm (105 lb-ft)
Screw (B).....	300 Nm (220 lb-ft)
Screws (C)	140 Nm (105 lb-ft)
Screws (D)	190 Nm (140 lb-ft)

A—Cap screws, support to adjusting arm
B—Cap screw, adjusting arm to joint
C—Cap screws, pivot plate to base
D—Hex. socket screws, base to knuckle housing



LX1033893 —UN—11MAR04

OULXE59,0010883 -19-16APR06-4/4

Rear Wheel Tread Adjustment with Flanged Axle

IMPORTANT: The distance between the side wall of the tire and the fender must not be less than 50 mm (1.97 in.).

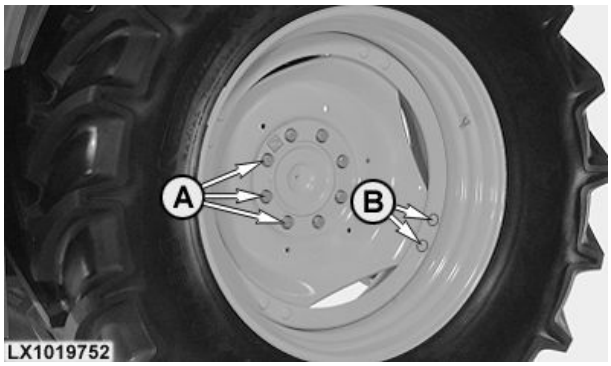
The distance between the running surface (edge) of the tire and the fender must not be less than 60 mm (2.36 in.).

Rear-wheel tread can be adjusted by replacing or reversing the wheel rims. Additional tread widths can be achieved by using spacers.

When reversing wheels, they must be changed from one side to the other so that the arrow on the side wall still points in the direction of forward rotation.

After adjustment has been completed, tighten wheel retaining bolts to specified torque (see Section ”Break-In Period”).

The relationship of the rear wheel disk and rim in obtaining the different tread settings is shown in the following drawings. A study of these drawings before attempting to change tread setting will save time and unnecessary labor.



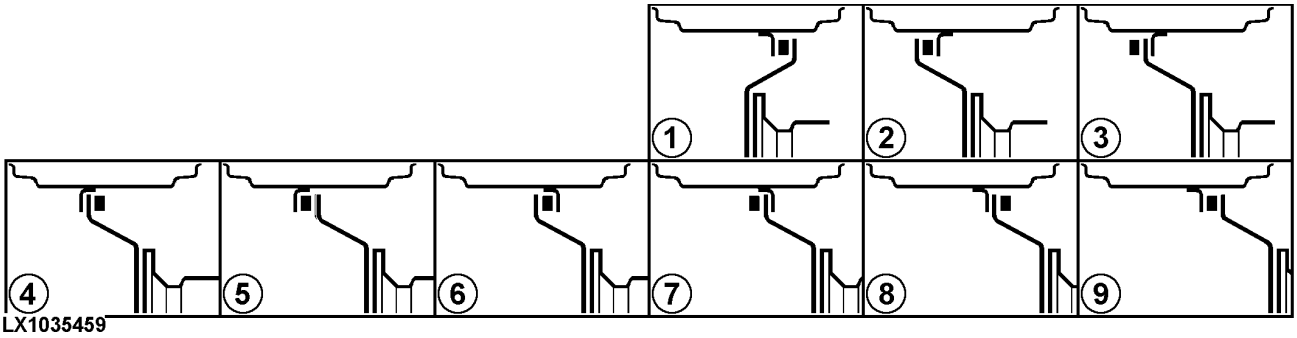
LX1019752 —UN—05APR00

A—500 Nm (370 lb-ft) **B—250 Nm (185 lb-ft)**

IMPORTANT: After adjusting wheel tread, retighten all wheel attaching nuts after 4 and 8 hours of operation. Check tightness of these nuts frequently during the next 100 hours of operation.

OU12401,0001478 -19-21JUN06-1/1

Positions of Rims and Wheel Disks with Flanged Axle



For tread widths, see the following table.

OU12401,0001479 -19-21JUN06-1/1

Tread Widths, Flanged Axle

Positions of rims, wheel disks and spacers (see previous drawing)

	1	2	3	4	5	6	7	8	9
mm (in.)	1510 (59.4)	1612 (63.5)	1642 (64.6)	1676 (66.0)	1706 (67.2)	1816 (71.5)	1846 (72.7)	1880 (74.0)	1910 (75.2)
Tires									
420/85R30	—	x	x	x	x	x	x	x	x
460/85R30	—	x	x	x	x	x	x	x	x
420/85R34	—	x	x	x	x	x	x	x	x
460/85R34	—	x	x	x	x	x	x	x	x
480/70R34	—	x	x	x	x	x	x	x	x
480/75R34	—	x	x	x	x	x	x	x	x
520/70R34	—	—	—	—	x	x	x	x	x
420/85R38	—	x	x	x	x	x	x	x	x
460/85R38	—	x	x	x	x	x	x	x	x
480/70R38	—	x	x	x	x	x	x	x	x
520/70R38	—	—	—	x	x	x	x	x	x
520/75R38	—	—	—	x	x	x	x	x	x
600/65R38	—	—	—	—	—	x	x	x	x
16.9-24	—	x	x	x	x	x	x	x	x
18.4-26	—	x	x	x	x	x	x	x	x
16.9R30	—	x	x	x	x	x	x	x	x
18.4R30	—	x	x	x	x	x	x	x	x
24.5-32	—	—	—	—	—	x	x	x	x
16.9R34	—	x	x	x	x	x	x	x	x
18.4R34	—	x	x	x	x	x	x	x	x
14.9R38	x	x	x	x	x	x	x	x	x
16.9R38	—	x	x	x	x	x	x	x	x
18.4R38	—	x	x	x	x	x	x	x	x
13.6-46	x	x	x	x	x	x	x	x	x

OU12401,0001D91 -19-08DEC09-1/1

Rear Wheel Tread Adjustment with Rack-and-Pinion Axle

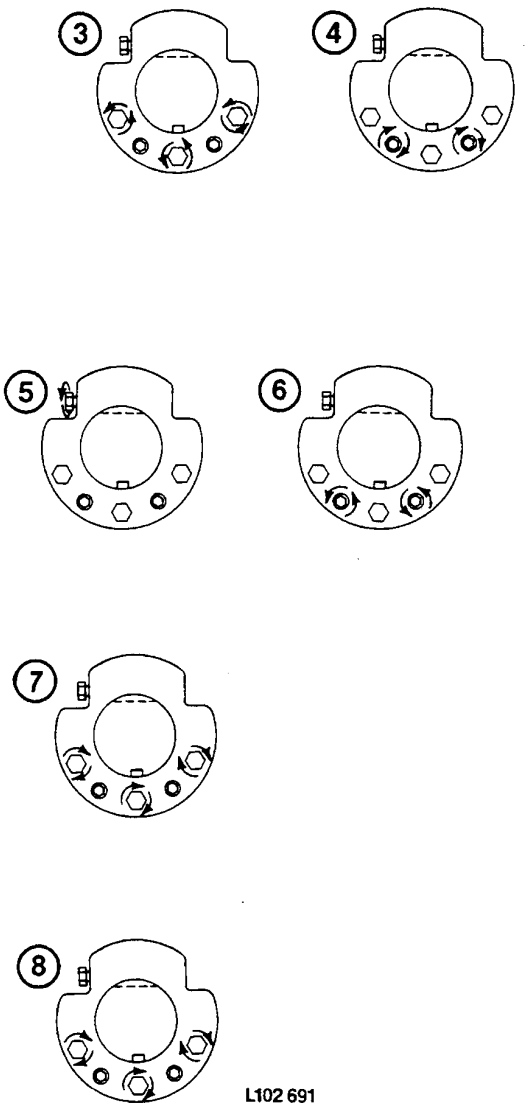
NOTE: Adjustment of wheels is only possible when not more than two weights are attached to each wheel.

1. Clean the axle with a wire brush.
2. Jack up tractor and turn rear wheel so that rack on axle faces upward.
3. Loosen the attaching bolts completely.
4. Tighten the jack screws until the screw heads are flush against the face of the wheel hub.

NOTE: If the sleeve does not break loose at once, also loosen the three special screws on inboard side of wheel. If sleeve still does not break loose, strike end of axle several times with a heavy hammer. Evenly retighten jack screws. It helps to soak the sleeves in penetrating oil.

5. Turn adjusting screw in or out until desired position is reached.
6. Back jack screws all the way out against stop, but do not use force.
7. Lubricate threads and retighten attaching bolts alternately to 400 Nm (300 lb-ft). Retighten bolts several times until all three stay tightened to specified torque. When the attaching bolts are tightened to specified torque, the jack screws should be free to turn. If this is not the case, loosen jack screws and retighten attaching bolts to specified torque.
8. After completing wheel tread adjustment, make sure that tires and wheel ballast weights do not rub against the tractor. Then drive tractor approx. 50 m (160 ft.), stop the tractor and retighten attaching bolts to 400 Nm (300 lb-ft). The bolts must be retightened to torque after 4 hours, after 8 hours and several times within the next 100 hours. See "Break-In Period".

IMPORTANT: The distance between the side wall of the tire and the fender must not be less than 50 mm (1.97 in.). The distance between the running surface (edge) of the tire and the fender must not be less than 60 mm (2.36 in.).



L102 691

L102691 —UN—13APR00

Continued on next page

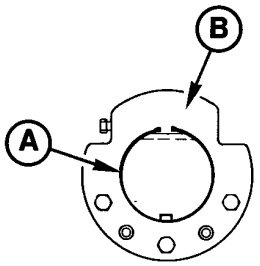
OU12401,000147B -19-21JUN06-1/2

Turn wheel hub (pinion inside)

For loosening, adjusting and tightening wheel hub, see previous page.

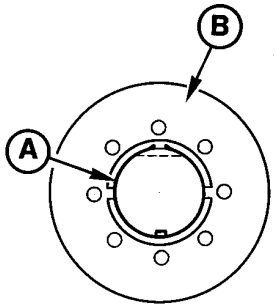
1. To facilitate assembly, remove rear wheel.
2. Remove snap ring (A). Turn adjusting screw so that wheel hub (B) is at maximum width. Remove wheel hub (B).
3. Put wheel on axle at desired position. Turn wheel hub (B) around and install it.
4. Install wheel and snap ring (A). For further assembly, see previous page.

IMPORTANT: The distance between the side wall of the tire and the fender must not be less than 50 mm (1.97 in.). The distance between the running surface (edge) of the tire and the fender must not be less than 60 mm (2.36 in.).



LX008633

LX008633 —UN—16AUG94

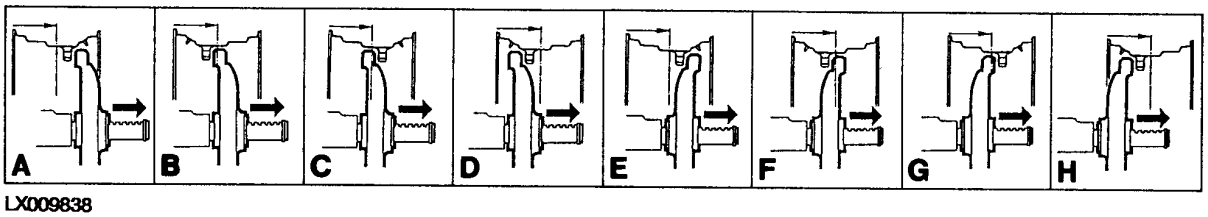


LX008634

LX008634 —UN—16AUG94

OU12401,000147B -19-21JUN06-2/2

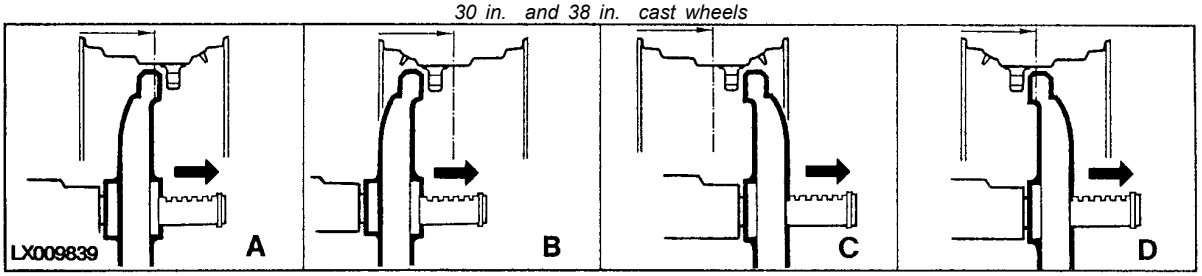
Positions of Rims and Wheel Disks with Rack-and-Pinion Axle



LX009838

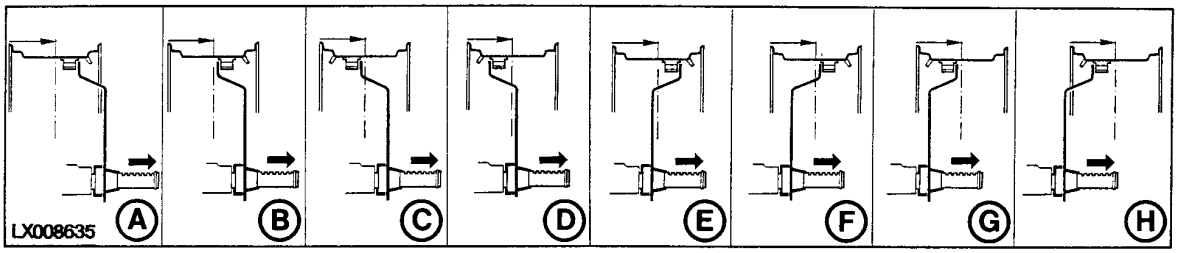
LX009838 —UN—03JAN95

30 in. and 38 in. cast wheels



LX009839 —UN—03JAN95

34 in. cast wheels



LX008635 —UN—16AUG94

Steel wheels

NOTE: Use the drawings to determine the appropriate position of rims and wheel disks. Positions vary depending on type used.

Only positions A, B, G and H are possible with 30 in. wheels.

OU12401,000147C -19-21JUN06-1/1

Tread Widths, Rack-and-Pinion Axle

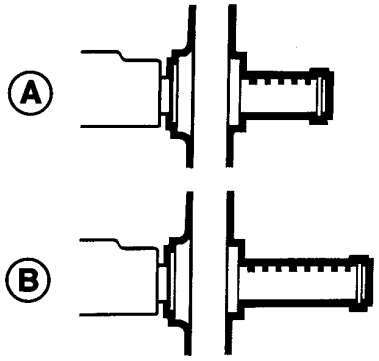
Wheels	Tires	Position	Tread widths	Position	Tread widths
Cast wheels (8-position)	16.9-38	A	1563-1736 mm (61.5-68.3 in.)	E	1624-2010 mm (63.9-79.1 in.)
		B	1563-1940 mm (61.5-76.4 in.)	F	1828-2214 mm (72.0-87.2 in.)
		C	1563-1936 mm (61.5-76.2 in.)	G	1824-2210 mm (71.8-87.0 in.)
		D	1710-2140 mm (67.3-84.3 in.)	H	2028-2414 mm (79.8-95.0 in.)
	18.4-38	A	1563-1736 mm (61.5-68.3 in.)	E	1624-2010 mm (63.9-79.1 in.)
		B	1563-1940 mm (61.5-76.4 in.)	F	1828-2214 mm (72.0-87.2 in.)
		C	1563-1936 mm (61.5-76.2 in.)	G	1824-2210 mm (71.8-87.0 in.)
		D	1710-2140 mm (67.3-84.3 in.)	H	2028-2414 mm (79.8-95.0 in.)
Cast wheels (4-position)	16.9-30	A	1563-1734 mm (61.5-68.3 in.)	G	1826-2212 mm (71.9-87.1 in.)
		B	1563-1938 mm (61.5-76.3 in.)	H	2030-2416 mm (79.9-95.1 in.)
	18.4-30	A	1604-1734 mm (63.1-68.3 in.)	G	1826-2212 mm (71.9-87.1 in.)
		B	1604-1938 mm (63.1-76.3 in.)	H	2030-2416 mm (79.9-95.1 in.)
	16.9-34	A	1668-2098 mm (65.7-82.6 in.)	C	1563-1848 mm (61.5-72.8 in.)
		B	1872-2302 mm (73.7-90.6 in.)	D	1666-2052 mm (65.6-80.8 in.)
	18.4-34	A	1668-2098 mm (65.7-82.6 in.)	C	1604-1848 mm (63.1-82.3 in.)
		B	1872-2302 mm (73.7-90.6 in.)	D	1666-2052 mm (65.6-80.8 in.)
Steel wheels	12.4-42[a]	A	1440-1732 mm (56.7-68.2 in.)	E	1692-2132 mm (66.6-83.9 in.)
		B	1440-1836 mm (56.7-72.3 in.)	F	1796-2236 mm (70.7-88.0 in.)
		C	1472-1912 mm (58.0-75.3 in.)	G	1872-2312 mm (73.7-91.0 in.)
		D	1576-2016 mm (62.0-79.4 in.)	H	1976-2416 mm (77.8-95.1 in.)
	13.6-46[a]	A	1473-1752 mm (58.0-69.0 in.)	E	1712-2152 mm (67.4-84.7 in.)
		B	1473-1856 mm (58.0-73.1 in.)	F	1816-2256 mm (71.5-88.8 in.)
		C	1492-1932 mm (58.7-76.1 in.)	G	1852-2292 mm (72.9-90.2 in.)
		D	1556-1996 mm (61.3-78.6 in.)	H	1956-2396 mm (77.0-94.3 in.)

[a] *Wheel hub with pinion outside. By turning wheel hub around to put the pinion inside, it is possible to increase tread width by 50 mm (2 in.).*

On the long rack-and-pinion axle, the maximum tread widths quoted above increase by 286 mm (11.3 in.).

A—Short rack-and-pinion axle (29 teeth)

B—Long rack-and-pinion axle (42 teeth)



LX007820

LX007820 —UN—15AUG94

OU12401,000147D -19-22JUN06-1/1

Service Tires Safely

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

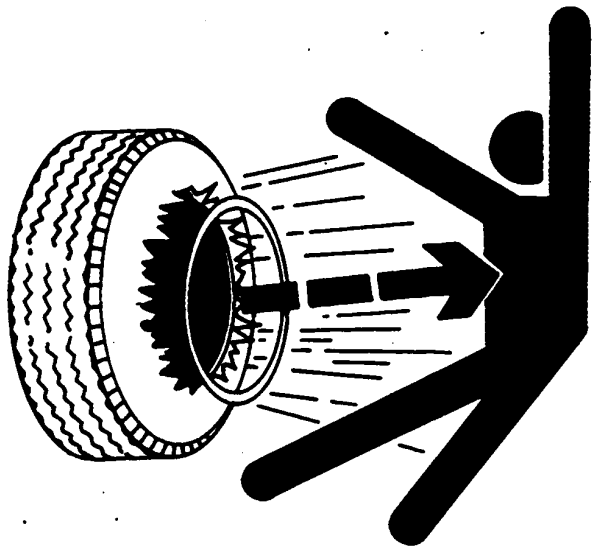
Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job.

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.



TS211 —UN—23AUG88

DX,RIM1 -19-27OCT08-1/1

Tire Pressures, General

Long life and satisfactory performance of the tires depend on proper tire inflation. Under-inflation of tires leads to rapid wear. Over-inflated tires reduce traction and increase wheel slippage and soil compaction.

The following charts show how one **single** tire has different load-bearing capacities under various air pressures. Tires from different manufacturers may have different load-bearing capacities. If in doubt, consult your John Deere dealer or tire manufacturer.

Comply with the maximum permissible axle loads in the Specifications section.

OU12401,0001AD2 -19-15OCT08-1/1

Ascertain the Correct Tire Pressure

IMPORTANT: Implements mounted on the three-point hitch exert considerable weight on the rear axle. Include this added weight when determining correct inflation pressures.

Weigh the tractor as described below in order to determine the correct tire pressure:

- Determine front axle weight with the implement on the three-point hitch lowered.
- Determine rear axle weight with the implement on the three-point hitch raised.

NOTE: If tractor is equipped with a front-mounted implement, raise implement when determining front axle weight and lower implement when determining rear axle weight. If tractor is equipped with both a front- and rear-mounted implement, raise both implements.

Check tire pressure when the tire is cold, using an accurate pressure gauge scaled to 10 kPa (0.1 bar; 1 psi).

Set tire inflation pressures according to weight measured. Set tire pressure as recommended by the tire manufacturer for the tires selected. Maximum tire pressure is specified on tire sidewall.

On tractors with loaders, front tire pressure must be 30 kPa (0.3 bar; 4 psi) above the calculated value to compensate for the changed weight distribution.

OU12401,0001ABB -19-16OCT08-1/1

Tire Pressure (for 30 km/h; 18.5 mph) — Front Tires on Tractors without Front-Wheel Drive

Tire size		150 kPa (1.5 bar) (22 psi)	200 kPa (2.0 bar) (29 psi)	220 kPa (2.2 bar) (32 psi)	250 kPa (2.5 bar) (36 psi)	280 kPa (2.8 bar) (41 psi)	310 kPa (3.1 bar) (45 psi)	340 kPa (3.4 bar) (49 psi)	370 kPa (3.7 bar) (54 psi)
9.5L-15	8PR	—	—	—	—	—	1120 kg (2470 lb)	—	—
11L-15	8PR	730 kg (1609 lb)	875 kg (1929 lb)	930 kg (2050 lb)	1010 kg (2227 lb)	1090 kg (2403 lb)	—	—	—
27/9.50-15	6PR	—	—	580 kg (1279 lb)	—	630 kg (1389 lb)	725 kg (1598 lb)	—	—
10.00-16	10PR	—	—	—	1110 kg (2447 lb)	1190 kg (2624 lb)	1260 kg (2778 lb)	1325 kg (2921 lb)	—
11L-16	12PR	700 kg (1543 lb)	845 kg (1863 lb)	900 kg (1984 lb)	985 kg (2172 lb)	1065 kg (2348 lb)	—	—	—
7.50-18	8PR	540 kg (1191 lb)	670 kg (1477 lb)	—	760 kg (1676 lb)	810 kg (1786 lb)	855 kg (1885 lb)	895 kg (1973 lb)	945 kg (2083 lb)
7.50-20	8PR	605 kg (1334 lb)	710 kg (1565 lb)	—	815 kg (1797 lb)	875 kg (1929 lb)	925 kg (2093 lb)	980 kg (2161 lb)	1030 kg (2271 lb)

OULXE59,001096D -19-15OCT08-1/1

Tire Pressure (for 40 km/h; 25 mph) — Front Tires on Tractors with Front-Wheel Drive

Tire size		80 kPa (0.8 bar) (12 psi)	100 kPa (1.0 bar) (15 psi)	120 kPa (1.2 bar) (17 psi)	140 kPa (1.4 bar) (20 psi)	160 kPa (1.6 bar) (23 psi)
11.2R24	114A8	900 kg (1984 lb)	975 kg (2150 lb)	1060 kg (2337 lb)	1090 kg (2403 lb)	1180 kg (2602 lb)
12.4R24	119A8	970 kg (2139 lb)	1060 kg (2337 lb)	1150 kg (2535 lb)	1250 kg (2756 lb)	1360 kg (2998 lb)
13.6R24	121A8	1040 kg (2293 lb)	1140 kg (2513 lb)	1240 kg (2734 lb)	1350 kg (2976 lb)	1450 kg (3197 lb)
14.9R24	126A8	1215 kg (2679 lb)	1320 kg (2910 lb)	1450 kg (3197 lb)	1550 kg (3417 lb)	1700 kg (3748 lb)
16.9-24	6PR	1215 kg (2679 lb)	1450 kg (3197 lb)	1550 kg (3417 lb)		
16.9R24	134A8	1530 kg (3373 lb)	1670 kg (3682 lb)	1800 kg (3968 lb)	1950 kg (4299 lb)	2120 kg (4674 lb)
12.4R28	121A8	1030 kg (2271 lb)	1120 kg (2469 lb)	1215 kg (2679 lb)	1320 kg (2910 lb)	1450 kg (3197 lb)
13.6R28	123A8	1120 kg (2469 lb)	1220 kg (2690 lb)	1330 kg (2932 lb)	1440 kg (3175 lb)	1550 kg (3417 lb)
280/85R24	115A8	860 kg (1896 lb)	965 kg (2128 lb)	1050 kg (2315 lb)	1130 kg (2491 lb)	1215 kg (2679 lb)
320/85R24	122A8	1065 kg (2348 lb)	1185 kg (2613 lb)	1290 kg (2844 lb)	1395 kg (3076 lb)	1500 kg (3307 lb)
380/70R24	125A8	1180 kg (2602 lb)	1295 kg (2855 lb)	1410 kg (3109 lb)	1520 kg (3351 lb)	1650 kg (3638 lb)
380/75R24	127A8	1265 kg (2789 lb)	1375 kg (3031 lb)	1465 kg (3230 lb)	1610 kg (3549 lb)	1750 kg (3858 lb)
380/85R24	131A8	1380 kg (3042 lb)	1545 kg (3406 lb)	1685 kg (3715 lb)	1815 kg (4001 lb)	1950 kg (4299 lb)
420/70R24	130A8	1375 kg (3031 lb)	1505 kg (3318 lb)	1640 kg (3616 lb)	1770 kg (3902 lb)	1900 kg (4189 lb)
420/85R24	137A8	1630 kg (3594 lb)	1820 kg (4012 lb)	1980 kg (4365 lb)	2140 kg (4718 lb)	2300 kg (5071 lb)
480/70R24	138A8	1700 kg (3748 lb)	1860 kg (4101 lb)	2030 kg (4475 lb)	2190 kg (4828 lb)	2360 kg (5203 lb)
480/75R24	140A8	1825 kg (4023 lb)	1980 kg (4365 lb)	2110 kg (4652 lb)	2310 kg (5093 lb)	2500 kg (5517 lb)
540/65R24	140A8	1740 kg (3836 lb)	1930 kg (4255 lb)	2120 kg (4674 lb)	2310 kg (5093 lb)	2500 kg (5517 lb)
320/85R28	124A8	1135 kg (2502 lb)	1265 kg (2789 lb)	1390 kg (3064 lb)	1500 kg (3307 lb)	1600 kg (3527 lb)
340/85R28	127A8	1240 kg (2734 lb)	1385 kg (3053 lb)	1520 kg (3351 lb)	1640 kg (3616 lb)	1750 kg (3858 lb)

Tire size		160 kPa (1.6 bar) (23 psi)	180 kPa (1.8 bar) (26 psi)	200 kPa (2.0 bar) (29 psi)	220 kPa (2.2 bar) (32 psi)	240 kPa (2.4 bar) (35 psi)
13.6R24	128A8	1450 kg (3197 lb)	1550 kg (3417 lb)	1650 kg (3638 lb)	1700 kg (3748 lb)	1800 kg (3968 lb)
340/85R24	130A8	1650 kg (3638 lb)	1715 kg (3781 lb)	1775 kg (3913 lb)	1840 kg (4057 lb)	1900 kg (4189 lb)

OU12401,0001D92 -19-08DEC09-1/1

Tire Pressure (for 40 km/h; 25 mph) — Rear Wheels

Tire size		60 kPa (0.6 bar) (9 psi)	80 kPa (0.8 bar) (12 psi)	100 kPa (1.0 bar) (15 psi)	120 kPa (1.2 bar) (17 psi)	140 kPa (1.4 bar) (20 psi)	160 kPa (1.6 bar) (23 psi)
16.9-24	6PR	—	1215 kg (2679 lb)	1450 kg (3197 lb)	1550 kg (3417 lb)	—	—
16.9R24	134A8	—	1550 kg (3417 lb)	1700 kg (3748 lb)	1800 kg (3968 lb)	1950 kg (4299 lb)	2120 kg (4674 lb)
18.4-26	6PR	—	1500 kg (3307 lb)	1800 kg (3968 lb)	—	—	—
18.4R26	140A8	—	1800 kg (3968 lb)	2000 kg (4409 lb)	2180 kg (4806 lb)	2300 kg (5071 lb)	2500 kg (5512 lb)
16.9R30	137A8	1500 kg (3307 lb)	1660 kg (3660 lb)	1820 kg (4012 lb)	1980 kg (4365 lb)	2140 kg (4718 lb)	2300 kg (5071 lb)
18.4R30	142A8	1720 kg (3792 lb)	1900 kg (4189 lb)	2090 kg (4608 lb)	2280 kg (5027 lb)	2460 kg (5423 lb)	2650 kg (5842 lb)
16.9R34	139A8	1580 kg (3483 lb)	1750 kg (3858 lb)	1920 kg (4233 lb)	2090 kg (4608 lb)	2260 kg (4983 lb)	2430 kg (5357 lb)
18.4R34	144A8	1820 kg (4012 lb)	2010 kg (4431 lb)	2210 kg (4872 lb)	2410 kg (5313 lb)	2600 kg (5732 lb)	2800 kg (6173 lb)
13.6R38	128A8	1300 kg (2866 lb)	1285 kg (2833 lb)	1400 kg (3087 lb)	1600 kg (3527 lb)	1750 kg (3858 lb)	1800 kg (3968 lb)
14.9R38	133A8	1340 kg (2954 lb)	1480 kg (3263 lb)	1630 kg (3594 lb)	1770 kg (3902 lb)	1910 kg (4211 lb)	2060 kg (4542 lb)
16.9R38	141A8	1670 kg (3682 lb)	1850 kg (4079 lb)	2030 kg (4475 lb)	2210 kg (4872 lb)	2400 kg (5291 lb)	2575 kg (5677 lb)
18.4R38	146A8	1950 kg (4299 lb)	2160 kg (4762 lb)	2370 kg (5225 lb)	2575 kg (5677 lb)	2790 kg (6151 lb)	3000 kg (6614 lb)
13.6-46	6PR	—	—	—	1510 kg (3329 lb)	1725 kg (3803 lb)	1835 kg (4046 lb)
420/85R24	137A8	—	1630 kg (3594 lb)	1820 kg (4012 lb)	1980 kg (4365 lb)	2140 kg (4718 lb)	2300 kg (5071 lb)
420/85R30	140A8	1530 kg (3373 lb)	1770 kg (3902 lb)	1980 kg (4365 lb)	2165 kg (4773 lb)	2340 kg (5159 lb)	2500 kg (5517 lb)
460/85R30	145A8	1870 kg (4123 lb)	2100 kg (4630 lb)	2295 kg (5060 lb)	2515 kg (5545 lb)	2715 kg (5986 lb)	2900 kg (6393 lb)
420/85R34	142A8	1625 kg (3583 lb)	1875 kg (4134 lb)	2095 kg (4619 lb)	2295 kg (5060 lb)	2480 kg (5468 lb)	2650 kg (5842 lb)
460/85R34	147A8	1885 kg (4156 lb)	2175 kg (4795 lb)	2430 kg (5357 lb)	2645 kg (5831 lb)	2860 kg (6305 lb)	3075 kg (6779 lb)
480/70R34	143A8	1760 kg (3880 lb)	1970 kg (4343 lb)	2155 kg (4751 lb)	2360 kg (5203 lb)	2550 kg (5622 lb)	2725 kg (6008 lb)
480/75R34	145A8	—	—	2315 kg (5104 lb)	2465 kg (5434 lb)	2690 kg (5930 lb)	2900 kg (6393 lb)
520/70R34	148A8	2030 kg (4475 lb)	2260 kg (4983 lb)	2470 kg (5445 lb)	2680 kg (5908 lb)	2900 kg (6393 lb)	3150 kg (6945 lb)
340/85R38	133A8	—	1470 kg (3241 lb)	1615 kg (3561 lb)	1765 kg (3891 lb)	1910 kg (4211 lb)	2060 kg (4542 lb)
420/85R38	144A8	1715 kg (3781 lb)	1980 kg (4365 lb)	2215 kg (4883 lb)	2420 kg (5335 lb)	2610 kg (5754 lb)	2800 kg (6173 lb)
460/85R38	149A8	1990 kg (4387 lb)	2300 kg (5071 lb)	2570 kg (5666 lb)	2800 kg (6173 lb)	3025 kg (6669 lb)	3250 kg (7165 lb)
480/70R38	145A8	1870 kg (4123 lb)	2100 kg (4630 lb)	2295 kg (5060 lb)	2500 kg (5512 lb)	2700 kg (5953 lb)	2900 kg (6393 lb)
520/70R38	150A8	2160 kg (4762 lb)	2380 kg (5247 lb)	2600 kg (5732 lb)	2820 kg (6217 lb)	3035 kg (6691 lb)	3350 kg (7386 lb)
520/75R38	151A8	—	2350 kg (5181 lb)	2610 kg (5754 lb)	2855 kg (6294 lb)	3155 kg (6956 lb)	3450 kg (7605 lb)
600/65R38	153A8	2260 kg (4983 lb)	2520 kg (5556 lb)	2805 kg (6184 lb)	3085 kg (6801 lb)	3370 kg (7430 lb)	3650 kg (8047 lb)

Tire size		120 kPa (1.2 bar) (17 psi)	160 kPa (1.6 bar) (23 psi)	200 kPa (2.0 bar) (29 psi)	240 kPa (2.4 bar) (35 psi)
320/90R42	139A8	1700 kg (3748 lb)	2060 kg (4542 lb)	2240 kg (4938 lb)	2430 kg (5357 lb)

OU12401,0001D93 -19-08DEC09-1/1

Tire Combinations (Tractors with Front-Wheel Drive)

The size ratio of the front wheels to the rear ones is precisely determined in order to produce a positive front wheel lead of between 1.5 and 4%. Otherwise the tires will become deformed or suffer undue wear. To ascertain the correct ratio when changing tires, proceed as follows:

Ascertain tractor data:

1. Transmission ratio of the differential gear pair. This information is displayed on the transmission serial number plate. The following pairs are possible:

Gear pair	Transmission ratio
47/10	4,700
53/10	5,300
51/9	5,667
47/8	5,875

2. Transmission ratio of front axle. This figure is displayed on the front axle serial number plate. The following ratios are possible:

   - 13,125
   - 15,692

3. Transmission ratio of gear pair for front-wheel drive axle output. This information is displayed on the transmission serial number plate. The following ratios are possible:

   - 1,446 IVT
   - 1,465 IVT
   - 1,497 IVT
   - 1,532 IVT
   - 1,564 IVT
   - 1,597 IVT
   - 1,625 IVT
   - 1,658
   - 1,692
   - 1,725
   - 1,760
   - 1,795
   - 1,833
   - 1,870
   - 1,907
   - 1,943
   - 1,990
   - 2,028

For tractors with IVT, only the ratios marked with the letters IVT are applicable.

Ascertain tire data:

1. Select tires with suitable load-bearing capability.
2. Select tires appropriate to the tractor's top speed.
3. From the manual, ascertain the rolling circumference of the tire desired for the rear wheel.
4. From the manual, ascertain the rolling circumference of the tire desired for the front wheel.

Ascertain the following data:

IMPORTANT: If a new pair of tires is selected, the Basic Control Unit (BCU) must be recalibrated; if the tractor has IVT, the User Interface Controller (UIC) and ground speed sensor (radar) must be recalibrated as well. See your John Deere dealer.

If the new rear tires have a higher SRI (speed/radius index) than the previous ones, the tractor's electronics must be recalibrated by your John Deere dealer.

Calculate the overall transmission ratio using the following formula:

$$I = \frac{A1 * I1 * I3 * 100}{A2 * I2 * 102.75}$$

- A1 = Rolling circumference of front tires
- A2 = Rolling circumference of rear tires
- I1 = Rear axle ratio (7.0714)
- I2 = Transmission ratio of front axle
- I3 = Transmission ratio of the differential gear pair

Calculated transmission ratio (corresponds to a pos. front wheel lead of 1.5 - 4.0%)	Transmission ratio of the required gear pair (corresponds to desired average value of pos. front wheel lead)
1,428 — 1,451	1,446
1,452 — 1,479	1,465
1,480 — 1,514	1,497
1,515 — 1,548	1,532
1,549 — 1,580	1,564
1,581 — 1,614	1,597
1,615 — 1,645	1,625
1,646 — 1,672	1,658
1,673 — 1,711	1,692
1,712 — 1,739	1,725
1,740 — 1,779	1,760
1,780 — 1,812	1,795
1,813 — 1,853	1,833
1,854 — 1,886	1,870
1,887 — 1,926	1,907
1,927 — 1,964	1,943
1,965 — 2,011	1,990
2,012 — 2,062	2,028

Ascertain the gear pair that is appropriate for the overall transmission ratio.

Sample calculation

The intention is to fit a 6430 tractor with 600/65R38 and 540/65R24 tires, made by a certain manufacturer.

Continued on next page

1. The transmission ratio of the differential gear pair is 5.667.
2. The transmission ratio of the front axle is 15.692.
3. The transmission ratio of the gear pair for the front wheel drive axle output is 1.870.
4. The rolling circumference of the tire on the rear wheel is 5263 mm (207.2 in.).
5. The rolling circumference of the tire on the front wheel is 3923 mm (154.4 in.).
6. Calculate the overall transmission ratio.

$$\frac{3923 * 7{,}0714 * 5{,}667 * 100}{5263 * 15{,}692 * 102{,}75} = 1{,}852$$

The gear pair that is required must have a ratio of 1.833.

OULXE59,00108FC -19-05APR07-2/2

Check Oil Sight-Glass (when the Tire Combination has been Changed)

IMPORTANT: If a different tire combination is selected, or new rear tires are selected with an SRI (speed/radius index) higher than the previous one, the tractor's electronics must be recalibrated by your John Deere dealer.

Refer to “Specifications” section for the SRI (speed/radius index) of the tires supplied with the tractor when it left the factory. Ascertain the indicator letter (A-G) of the existing oil sight-glass by referring to Table 1.

Ascertain the indicator letter of the required sight-glass by finding the SRI of the desired tire combination in Table 1. If a new glass is required, refer to Table 2 for the part number.

SRI of front tires	SRI (speed/radius index) of rear tires									
	625	675	700	725	730	750	775	800	825	875
425	B	F	G	G	G	—	—	—	—	—
525	D	C	C	B	B	A	F	G	G	—
550	E	D	C	C	C	B	A	F	G	—
575	—	D	D	C	C	C	B	A	F	G
600	—	E	D	D	D	C	C	B	A	G
625	—	—	E	D	D	D	C	C	B	F
775	—	—	—	—	—	—	—	—	—	D

Non-IVT		IVT	
Indicator letter	**Part number**	**Indicator letter**	**Part number**
A	AL175219	A	AL176116
B	AL176110	B	AL176117
C	AL176111	C	AL176118
D	AL176112	D	AL176119
E	AL176113	E	AL176120
F	AL176114	F	AL176121
G	AL176115	G	AL176122

OU12401,000195D -19-16DEC07-1/1

Selective Control Valves

The tractor may be equipped with three different types of selective control valves: 200 series, 300 series or 350 series.

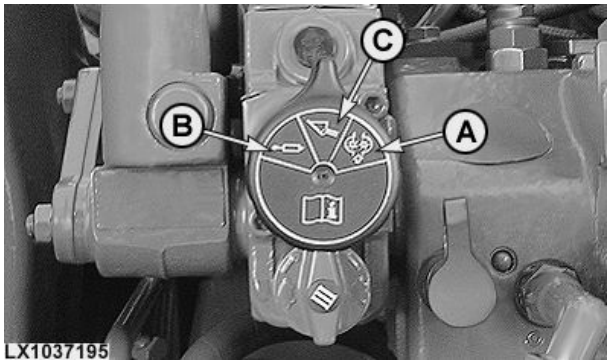
The selective control valves provide the functions Raise and Lower plus Float Position.

Besides these functions, 200 Series control valves provide a lock function (A) which holds the control lever in the Raise or Lower position until it is moved manually.

300 and 350 Series control valves also have an additional lock function (B), which holds the control lever in the Raise or Lower position until the pressure in the oil circuit has reached a predetermined value (e.g. when the remote control cylinder has reached its end position).

Neither locking function is activated in position (C). The control lever returns to neutral as soon as it is released.

If an implement (e.g. hydraulic cylinder) is connected, pressure connection (e.g. extending cylinder) has to be connected to the lower coupler. With 200 and 300 Series selective control valves, a valve prevents sudden loss of pressure caused by leakage (e.g. retracting cylinder) when the engine is shut off. On 350 Series selective control valves, the likelihood of leakage is further diminished.



LX1037195 —UN—17MAY06

A—Lock function 1
B—Lock function 2
C—No lock function

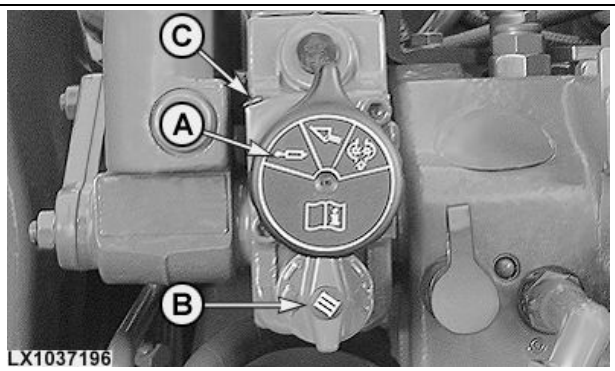
OU12401,0001B89 -19-04MAR09-1/1

Adjustment of Pressure Limit at Series 300 and 350 Selective Control Valves

NOTE: All selective control valves are factory adjusted to 18000 kPa (180 bar; 2610 psi).

If the selective control valve in lock function switches off too early (control lever goes to neutral too early), or if it switches off too late or not at all (lever goes to neutral too late or not at all), proceed as follows:

1. If equipped, disconnect hydraulic hoses at the connectors.
2. Engage the locking function (A) (as far as it will go to the right) and move flow control valve (B) to the mid-position.
3. Take out plug (C) and insert a 1.5 mm (0.06 in.) hex. socket key.
4. Start the engine and turn the screw clockwise as far as it will go.
5. Move SCV control lever to the raise or lower position (the control lever remains in the raise or lower position).
6. Turn the screw counter-clockwise until the control lever returns to neutral.



LX1037196 —UN—17MAY06

A—Lock function
B—Flow control valve
C—Plug

NOTE: One full turn changes the pressure by approx. 2000 kPa (20 bar; 290 psi).

7. Re-install the plug.

OU12401,0001B60 -19-11FEB09-1/1

Levers for Mechanical Selective Control Valves

Control lever positions

The control lever has four positions.

(A) - Retract

The remote cylinder retracts when the lever is moved to the *Retract* position.

(B) - Extend

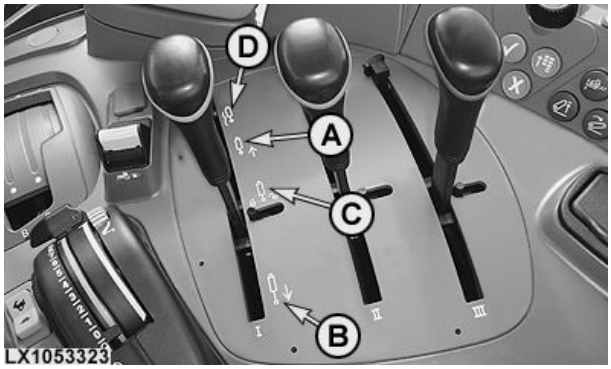
The remote cylinder extends when the lever is moved to the *Extend* position.

(C) - Neutral

The remote cylinder is held in place when the lever is in *Neutral*.

(D) - Float

The mounted implement follows the ground contours when the lever is in *Float* position (piston moves freely inside remote cylinder).



LX1053323 —UN—27OCT11

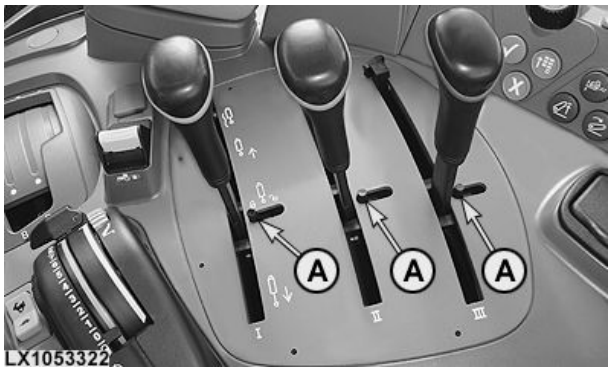
NOTE: If additional external valves are used, move the control lever to neutral when shutting off each hydraulic function.

OU12401,0001301 -19-03NOV11-1/2

Transport lock

With locks (A) each lever for selective control valves can be locked in neutral position (transport lock) or released for all functions.

CAUTION: Use locks (A) to lock the control levers when driving on roads and whenever the control levers are in neutral because they are not required. If this is not done, the control levers may be inadvertently actuated while the tractor is in motion, which could lead to serious accidents.



LX1053322 —UN—27OCT11

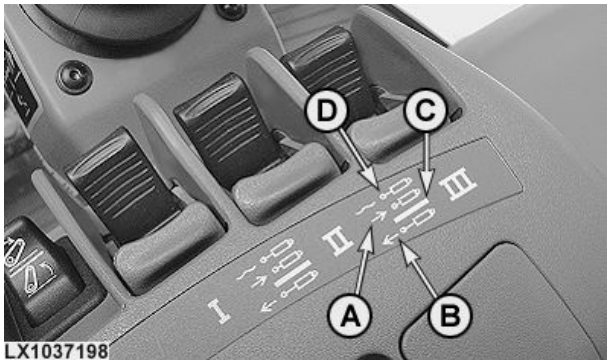
OU12401,0001301 -19-03NOV11-2/2

Levers for Electronic Selective Control Valves

The control lever has four settings.

The remote cylinder retracts when the lever is moved to the ”Retract” position.
The remote cylinder extends when the lever is moved to the ”Extend” position.
The remote cylinder is held in place when the lever is in ”Neutral”.
When the lever is in the ”Float” position (i.e. piston moves freely inside remote cylinder), the mounted implement follows the ground contours. To obtain this position, move the lever as far as it will go in ”retract”, press it downward and then press it further to the front.

NOTE: If additional external valves are used, move the control lever to neutral when shutting off each hydraulic function.



LX1037198 —UN—13OCT05

A—Retract
B—Extend
C—Neutral position (between "retract" and "extend")
D—Float position

OU12401,0001302 -19-12OCT05-1/1

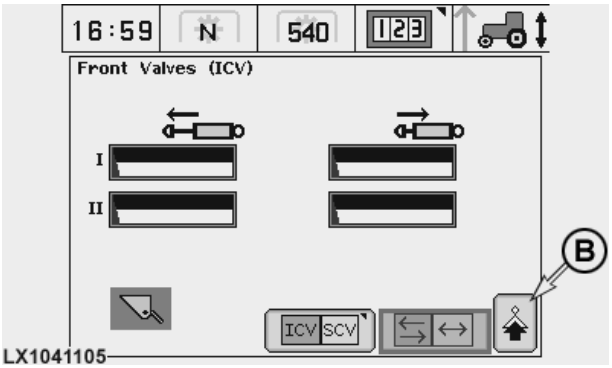
Additional Functions for Electronic Control Valves (E-SCVs and E-ICVs)

IMPORTANT: For E-ICVs, make sure that the correct machine (front loader or front-mounted implement) is set.

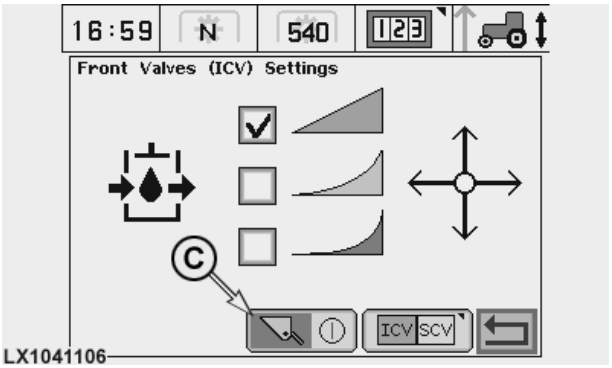
Press button (A) for selective control valves and select ICV, then select next page (B) and finally, select or deselect the front loader symbol (C).

A—Button for Selective Control Valves
B—Next Page
C—Front Loader

LX1037199 —UN—06NOV06



LX1041105 —UN—20NOV06



LX1041106 —UN—20NOV06

Continued on next page

OU12401,0001663 -19-28OCT11-1/5

Transport lock

All selective control valves (E-SCVs) can be locked at once (transport lock) using button (A). This is indicated by light (C). The selective control valves go to neutral.

All independent control valves (E-ICVs) of the multi-function lever can be locked at once (transport lock) using button (B). This is indicated by light (D). The selective control valves go to neutral.

CAUTION: Transport lock buttons (A) and (B) must be activated when driving on roads and whenever the selective control valves or the front loader are not required. If this is not done, the selective control valves or the front loader may be inadvertently actuated while the tractor is in motion, which could lead to serious accidents.

A—Transport Lock Button, Selective Control Valves (E-SCVs)
B—Transport Lock Button, Multi-Function Lever (E-ICVs)
C—Transport Lock Indicator Light, Selective Control Valves (E-SCVs)
D—Transport Lock Indicator Light, Multi-Function Lever (E-ICVs)

LX1037202 —UN—06NOV06

LX1041056 —UN—29JUN06

Continued on next page

OU12401,0001663 -19-28OCT11-2/5

Adjusting the SCV values

The following values may be adjusted for the E-SCVs and E-ICVs:

- Maximum flow
- Automatic shut-off time

Press button (A) for selective control valves and set the desired values at the following screens using the selector wheel.

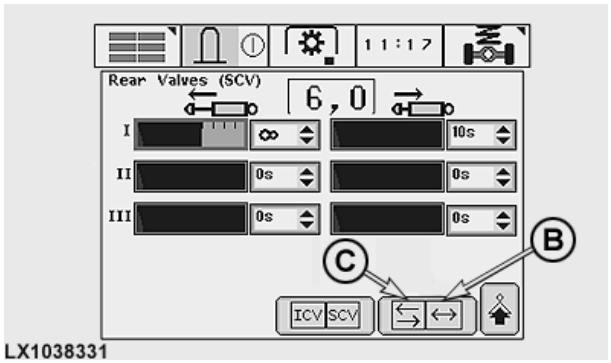
The values for maximum flow can be set in increments of 0.1. The minimum is 0.2, and the maximum 10.

The values for the shut-off time can be set in variable increments between 0 and infinity. Infinity means **no** automatic shut-off.

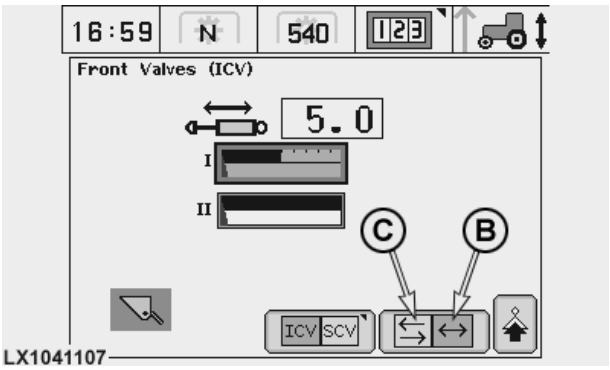
NOTE: If cell (B) is activated, the set values for maximum flow and automatic shut-off time at each of the SCVs are identical in both directions (extend/retract). If cell (C) is activated, the values for the two directions of movement can be set separately (see illustrations).

A—Button for Selective Control Valves
B—Joint Adjustment
C—Separate Adjustment

LX1037199 —UN—06NOV06



LX1038331 —UN—31MAY06



LX1041107 —UN—20NOV06

Continued on next page

Further adjustments

Press button (A) for selective control valves, then select next page (B).

On this screen, the response characteristics of the SCVs can be adjusted:

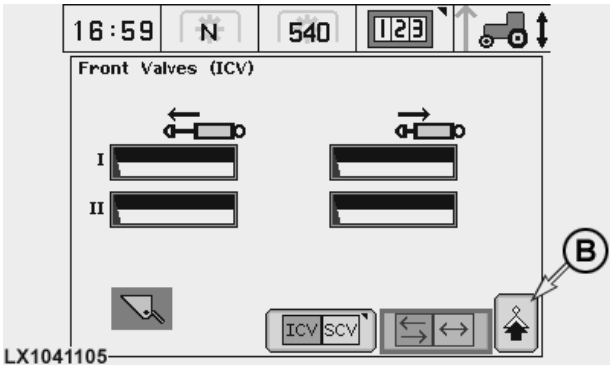
- **Linear** (C) means that the distance travelled by the SCV corresponds to the distance travelled by the control lever / multi-function lever
- **Progressive** (E) means that initially the distance travelled by the SCV is less than that travelled by the control lever / multi-function lever (giving a more sensitive start to the movement)
- **Combination** (D) is an intermediate stage between the two settings described above

In addition, you can select whether or not a front loader or front-mounted implement can be operated via the electrical multi-function lever.

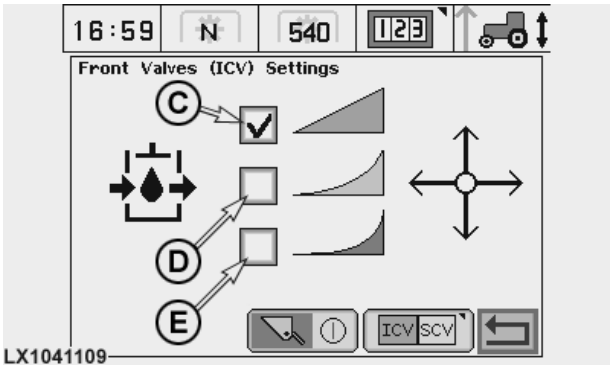
IMPORTANT: For E-ICVs, make sure that the correct machine (front loader or front-mounted implement) is set.

A—Button for Selective Control Valves
B—Next Page
C—Linear
D—Combination
E—Progressive

LX1037199 —UN—06NOV06



LX1041105 —UN—20NOV06



LX1041109 —UN—20NOV06

Continued on next page

Automatic shut-off

Provided the transport lock is not active and a shut-off time greater than zero is set for the SCV, the following applies:

If the SCV control lever (see arrow) is in the maximum extend or retract position and then moved past the point of resistance (a definite click can be perceived), the relevant SCV will be brought to its maximum flow position and held there until the set shut-off time elapses. Then the control valve is moved to its neutral position.

This procedure is aborted if:

- the SCV control lever is not returned to its neutral position within one second
- the SCV control lever is moved out of its neutral position before the shut-off period has elapsed
- the SCV control lever is moved in the opposite direction

In all above-mentioned cases, the SCV will react according to the movements of the SCV control lever.

LX1037207 —UN—13OCT05

To re-activate the automatic shut-off, cycle the SCV control lever back from beyond the point of resistance and then past the point of resistance again.

OU12401,0001663 -19-28OCT11-5/5

Multi-Function Lever (Mechanical)

Multi-function lever (A) permits two SCVs to be operated at the same time. Button (B) enables other functions to be carried out.

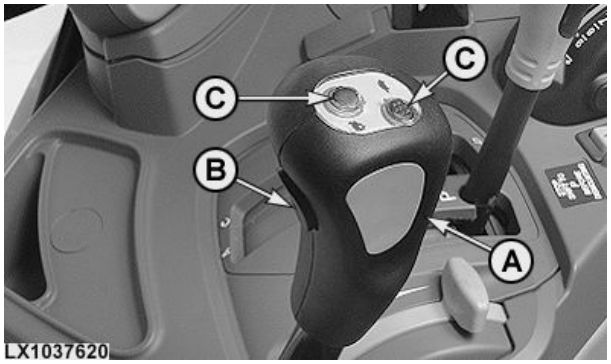
Gear shift buttons (C) allow the gears at the transmission to be shifted. Slide control (D) locks the lever.

Pulling lever (A) back raises the front loader. Pushing the lever forward until resistance is reached lowers the front loader. If the lever is pushed forward beyond the resistance, it engages in a detent and the front loader is in its float position.

Moving the lever to the left makes the loader bucket tip up. Moving the lever to the right makes the loader bucket dump.

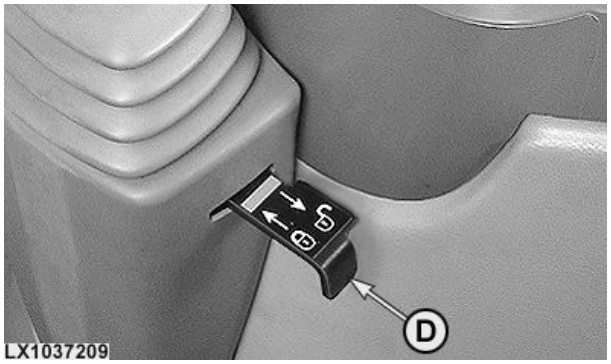
CAUTION: The multi-function lever must be locked when driving on roads and whenever the front loader is not required. Move the multi-function lever to neutral position and lock it using slide control (D). Make sure that the multi-function lever can no longer move. Otherwise, the front loader may be inadvertently actuated while the tractor is in motion, which could lead to serious accidents.

A — Multi-Function Lever
B—Button for 3rd Function
C—Gear Shift Buttons
D—Transport Lock Slide Control



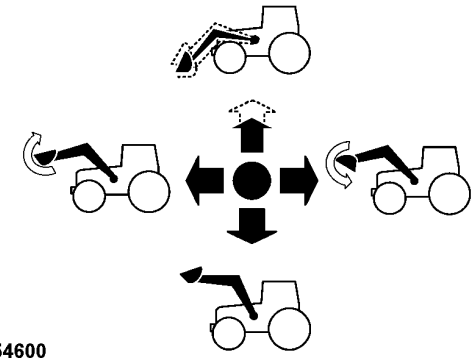
LX1037620

LX1037620 —UN—29JUN06



LX1037209

LX1037209 —UN—20OCT05


LX1054600

LX1054600 —UN—10OCT11

OU12401,00013D1 -19-28OCT11-1/1

Mechanical Multi-Function Lever with Front-Loader Dampening

Basic functions:

- Lever to rear = Raise front loader
- Lever to front as far as perceptible resistance = Lower front loader
- Lever to front beyond perceptible resistance (detent) = Front loader in float position
- Lever to left = Bucket tips up
- Lever to right = Bucket tips down

Advanced functions and programming:

Multi-function lever (A) permits two control valves (M-ICVs) to be operated at the same time. A third control valve is actuated via rocker switch (H), permitting an additional function to be controlled.

If Memo™ button (B) is pressed during raising or lowering, the front loader will only move as far as the preset position.

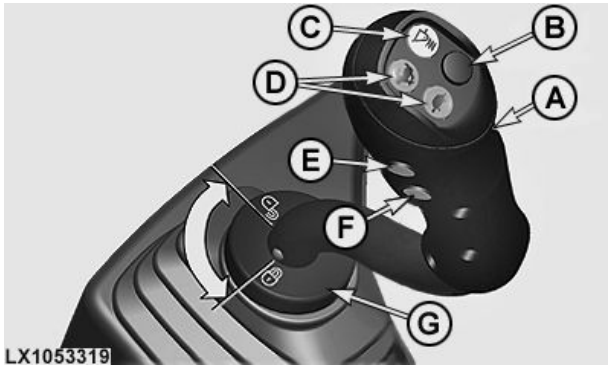
Pressing buttons (E) and (F) actuates the diverter valves of the implement, permitting additional functions to be controlled.

NOTE: For more information, see implement operator's manual. Front-loader dampening must be activated before it can be used.

Front-loader dampening is switched on and off at button (C). When front-loader dampening is switched on, the LED in button (C) lights up.

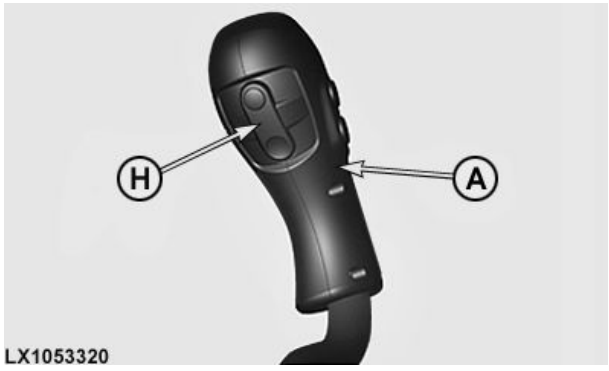
Gear-shift switches (D) allow the gears at the transmission to be shifted.

CAUTION: When the front loader is not in use, the multi-function lever must be locked. To do this, turn locking ring (G) and check that the multi-function lever cannot be moved. If this is not done, the front loader may be inadvertently actuated while the tractor is in motion, which could lead to serious accidents.



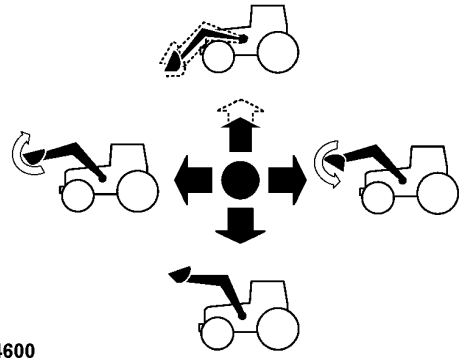
LX1053319

LX1053319 —UN—10OCT11



LX1053320

LX1053320 —UN—10OCT11


LX1054600

LX1054600 —UN—10OCT11

A—Multi-Function Lever
B—Memo™ Button (not for North America)
C—Button for Activating Front-Loader Dampening
D—Gear Shift Switches
E—Button, Diverter Valve 1 on Front Implement (not for North America)
F—Button, Diverter Valve 2 on Front Implement (not for North America)
G—Locking Ring (Transport Lock)
H—Raise/Lower Rocker Switch

Activate and de-activate front-loader dampening

1. Hold button (C) and then switch on the ignition.
2. Hold button (C) for another 5 seconds at least until the LED in the button starts to flash.
3. Release the button and press it again within 5 seconds to gain access to the programming mode.
4. The current programming of front-loader dampening is shown as follows:
   LED off all the time ==> Front-loader dampening de-activated
   LED on all the time ==> Front-loader dampening activated
5. Press button (C) to activate or de-activate front-loader dampening.
6. To leave the programming mode and save the setting, press any button on the multi-function lever or switch off the ignition.

OULXA64,0002874 -19-04OCT11-1/1

Multi-Function Lever (Electrical)

CAUTION: Before operating a front loader, make sure that none of the detent positions have programmed time limits. For this, *front-loader operation* must be selected. See *Additional Functions of the Electronic Selective Control Valves* in this Section.

CAUTION: Transport lock button (F) must be activated when driving on roads and whenever the front loader is not required. If this is not done, the front loader may be inadvertently actuated while the tractor is in motion, which could lead to serious accidents.

Multi-function lever (A) permits two SCVs to be operated at the same time. By means of rocker switch (B) an additional SCV can be operated (3rd function).

Switches (D) and (E) allow other functions.

Interlock switch actuator (C) prevents accidental actuation of the multi-function lever. The lever can operate only when the actuator is open (the operator's hand must hold it open). If the loader does not respond after the hand has been placed in the interlock switch actuator, it is possible that the lever was not in the center detent position when the actuator was opened. Move the lever back to the center detent position to activate the system.

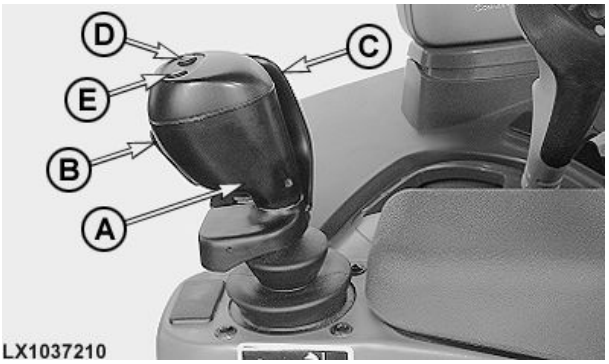
If the lever is held in neutral position for longer than 10 minutes, the hydraulic functions are locked out. To overcome this lock-out, take your hand out of the actuator and re-insert hand. In case of malfunctions (e.g. part of system not working or operating error) the system can also be reactivated completely or partly by the procedure above.

Pulling lever (A) back raises the front loader. Pushing the lever forward until resistance is reached lowers the front loader. If the lever is pushed forward beyond the resistance, it engages in a detent and the front loader is in its float position.

Moving the lever to the left makes the loader bucket tip up. Moving the lever to the right until resistance is reached makes the loader bucket dump.

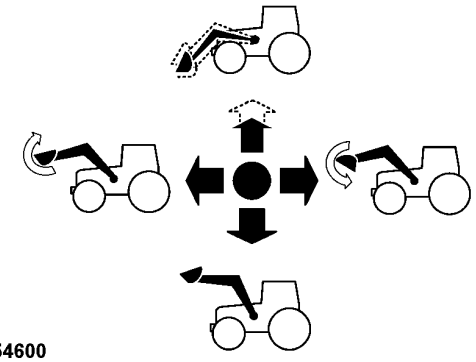
If the lever is moved to the right beyond the resistance and held there, the loader bucket dumps quickly (“quick dump”).

NOTE: In cold weather, there may be brief periods when the loader does not operate. When the temperature drops below -15°C (5°F), the stepper motors for the valves that operate the boom, bucket and grapple become slower and may stop functioning altogether. They automatically go into an internal warm-up mode, which will warm up the stepper motor until they start to function again. These valves are mounted externally and may also be affected by the wind. If the E-ICV control valves have not been in use for a protracted period, or if the tractor has been transported, the stepper motors may need to be warmed up before the loader will function. The warm-up period will vary depending on the weather conditions, but it should not take more than a few minutes.



LX1037210 —UN—21OCT05

LX1053321 —UN—28OCT11



LX1054600

LX1054600 —UN—10OCT11

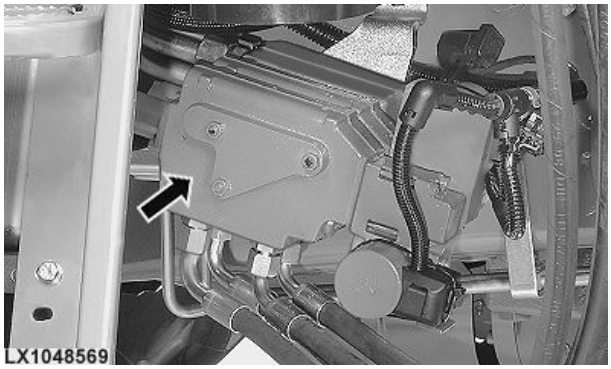
A — Multi-Function Lever
B—Rocker Switch, 3rd Function
C—Interlock Switch Actuator
D—Switch, 4th Function
E—Switch, 5th Function
F — Transport Lock Button, Multi-Function Lever

OU12401,0001308 -19-28OCT11-1/1

Positions of E-ICVs

The E-ICVs are located under the right access step.

The inner E-ICV (on frame) is actuated when the multi-function lever is moved forward/back. The second E-ICV is actuated when the lever is moved left/right. The third E-ICV (if equipped) is actuated when the third function is triggered.



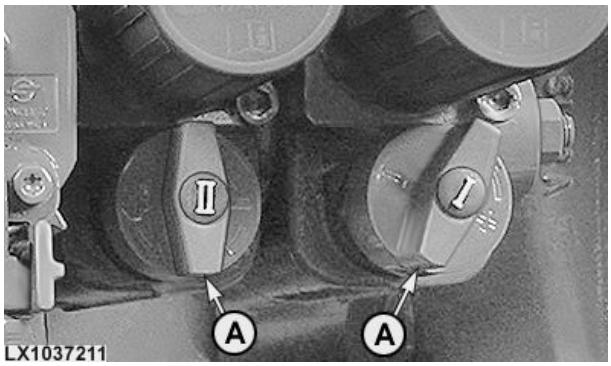
LX1048569 —UN—08DEC09

OU12401,0001D87 -19-08DEC09-1/1

Rate of Cylinder Operation

Flow control valves (A) can be used to regulate the rate at which remote cylinders extend and retract (raise and lower). When lowering, make sure that the SCV control lever is NOT moved to float position.

IMPORTANT: Full extension and retraction of a remote cylinder must require more than 1.5 seconds. Faster speeds may cause damage.



LX1037211 —UN—21OCT05

OU12401,0001CD9 -19-27MAY10-1/1

Couplers

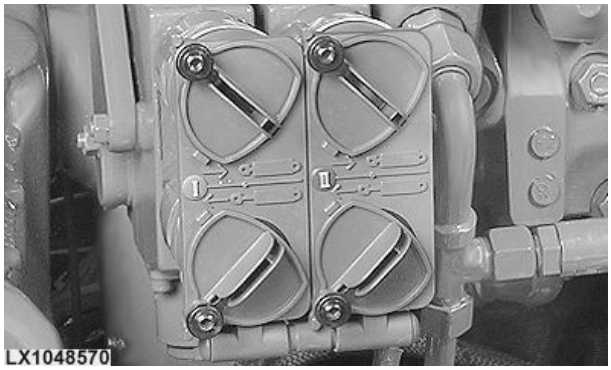
CAUTION: The hydraulic system has a maximum system pressure of 20000 kPa (200 bar; 2900 psi). For your own protection and to assure proper functioning of the system, use only genuine John Deere parts.

Couplers allow hydraulic hoses to be coupled or uncoupled without loss of oil, even if the tractor engine is running.

If a malfunction or accident causes the hose to break loose from the coupler, the oil flow through the coupler is stopped immediately.

To connect the hose union, press it firmly into the coupler.

NOTE: When connecting, comply with the symbols on the couplers.



LX1048570 —UN—10DEC09

To disconnect the hose, give it a firm pull.

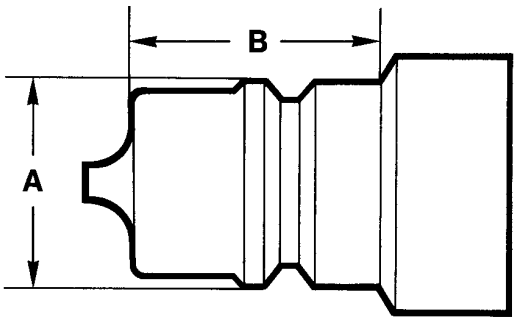
OU12401,0001D88 -19-08DEC09-1/1

Hose Unions

The hose unions used must comply with ISO standards.

Dimension (A) must be between 23.66 and 23.74 mm (0.931 and 0.934 in.).

Dimension (B) must be at least 24 mm (0.945 in.).



LX006613 —UN—15AUG94

LX 006613

LX,OZUSAT004842 -19-02AUG93-1/1

Maximum Permissible Oil Withdrawal

To operate large hydraulic cylinders such as those used on tipping trailers, 10 liters (2.6 U.S. gal.) of oil may be drawn from the transmission case through the connecting lines.

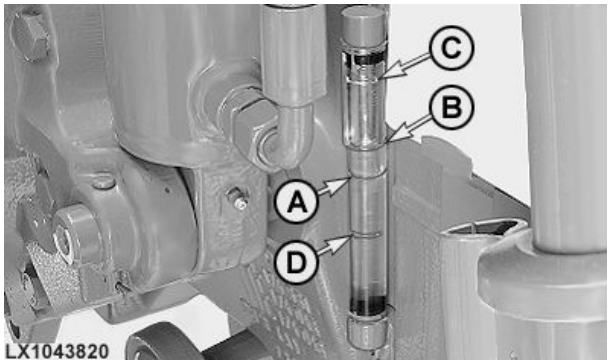
This figure applies when the oil in the transmission case is at the minimum mark on the sight-glass. If the oil is up to the maximum mark, a further 5 liters (1.3 U.S. gal.) may be withdrawn.

Never perform heavy jobs such as towing, operating a PTO or driving fast when withdrawal results in the oil level dropping below the minimum mark.

If required, a further 10 liters (2.6 U.S. gal.) may be added to the transmission case; this increases the amount that may be withdrawn accordingly. If oil level is above the maximum mark on the sight-glass, do NOT perform any transport tasks at speeds above 40 km/h (25 mph).

During oil withdrawal, the tractor should not be inclined in any direction by more than 18°. If the tractor is inclined by more than 18°, only a correspondingly lower quantity of oil may be withdrawn.

Hy-Gard is a trademark of Deere & Company.



LX1043820 —UN—11JUL07

A—Minimum mark
B—Maximum mark
C—Mark, 10 liters (2.6 U.S. gal.) above max.
D—Mark, 10 liters (2.6 U.S. gal.) below min.

For refilling, use only John Deere Hy-Gard™ Transmission and Hydraulic Oil or its equivalent.

OU12401,0001D86 -19-04DEC09-1/1

Oil Withdrawal with Hydraulic Motor

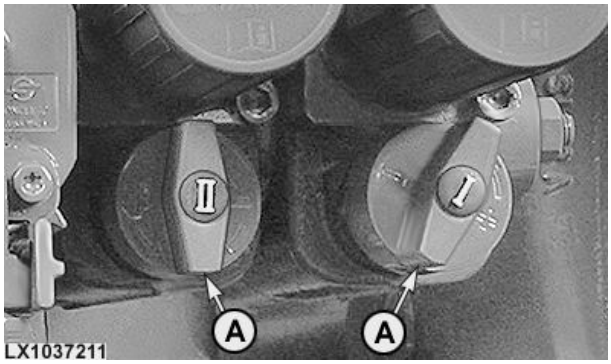
IMPORTANT: Never regulate the flow rate by means of an external valve. Always use flow control valves (A).

Maximum obtainable oil flow of transmission/hydraulic oil is dependent on the tractor model and the size of the hydraulic pump installed on the tractor.

Pump size	Flow rate
28 cm^3 (1.7 cu.in.)	71 l/min (18.8 gpm)
41 cm^3 (2.5 cu.in.)	104 l/min (27.5 gpm)
45 cm^3 (2.7 cu.in.)	114 l/min (30.1 gpm)

Shut off engine. Connect the hydraulic hose from the hydraulic motor. Comply with the symbols on the couplers.

Start the engine. Move the control lever to lower. To switch off the hydraulic motor, move the control lever to the float position. Shut off the engine and take out the hydraulic hose.



LX1037211 —UN—21OCT05

IMPORTANT: Do not move the control lever to the neutral position, as this may result in back-pressure causing damage to the hydraulic motor and hoses.

OU12401,0001AD3 -19-11OCT08-1/1

Instructions on Operating a Hydraulic Motor

A hydraulic motor must be operated only with a Series 300 or Series 350 selective control valve.

Never operate implements at constant maximum system pressure (20000 kPa, 200 bar, 2900 psi), as this may cause the hydraulic system to overheat.

The rate of lift value selected on the CommandCenter (BCU 165, factory setting 255) should be reduced in stages until the drop in speed at the hydraulic motor is zero or close to zero, but an acceptable lever of power is still being provided. When the hydraulic motor is no longer in use, change the value back to its maximum.

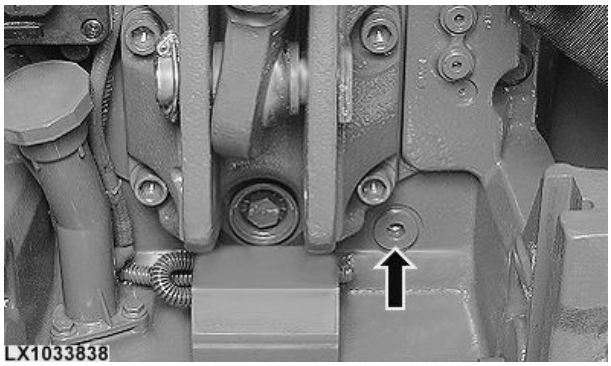
It is also possible to reduce the rates of flow at the SCVs. When the hydraulic motor is no longer in use, change the rate of flow back to its maximum. If necessary, engine speed can be increased to give a higher rate of flow.

OU12401,0001D7E -19-24NOV09-1/1

Pressure-Free Return Circuit

This connection ensures pressure-free oil return.

Ask your John Deere dealer for the relevant accessories.



LX1038384 —UN—06JUN06

OU12401,0001429 -19-05JUN06-1/1

Drawbar

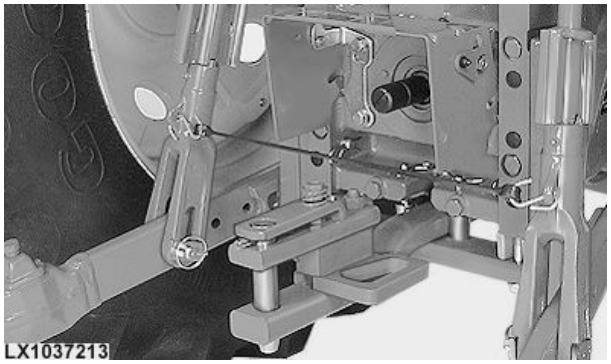
The drawbar is used to pull drawn equipment of all types, particularly PTO-driven implements.

The drawbar hitch point is located so as to increase the rear axle load and at the same time slightly reduce load on the front axle.

Besides having a variable swinging range, the drawbar can also be adjusted lengthwise.

Maximum permissible static vertical loads and towable loads are stated in the “Specifications” section.

NOTE: Drawbar components that are subject to wear have to be checked every 250 hours (see “Service / Every 250 Hours”). Replace if necessary.

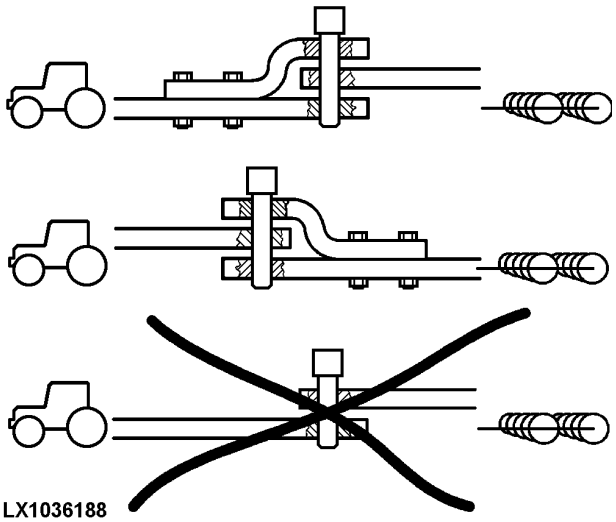


LX1037213 —UN—21OCT05

OU12401,0001819 -19-25AUG07-1/1

Proper Use of Drawbar

IMPORTANT: Comply with local traffic regulations when using the drawbar. Use suitable, approved hitch pins only. Combine drawbars as shown only.



LX1036188 —UN—02MAY05

OU12401,0001205 -19-02MAY05-1/1

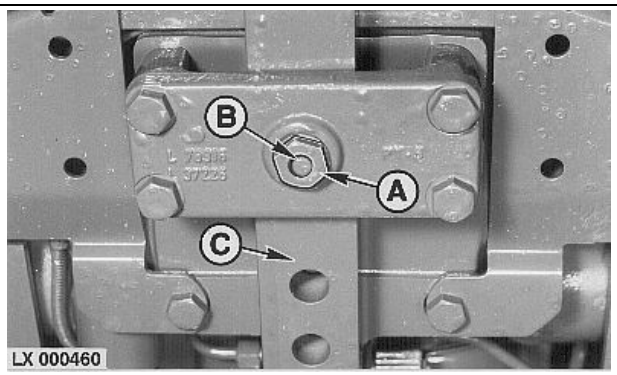
Lengthwise Adjustment of Drawbar

The swinging drawbar can be adjusted to four different positions:

250 mm (9.8 in.), 350 mm (13.8 in.), 400 mm (15.7 in.) and 550 mm (21.7 in.).

These lengths determine the distance from the end of the PTO shaft to the attachment point of the swinging drawbar.

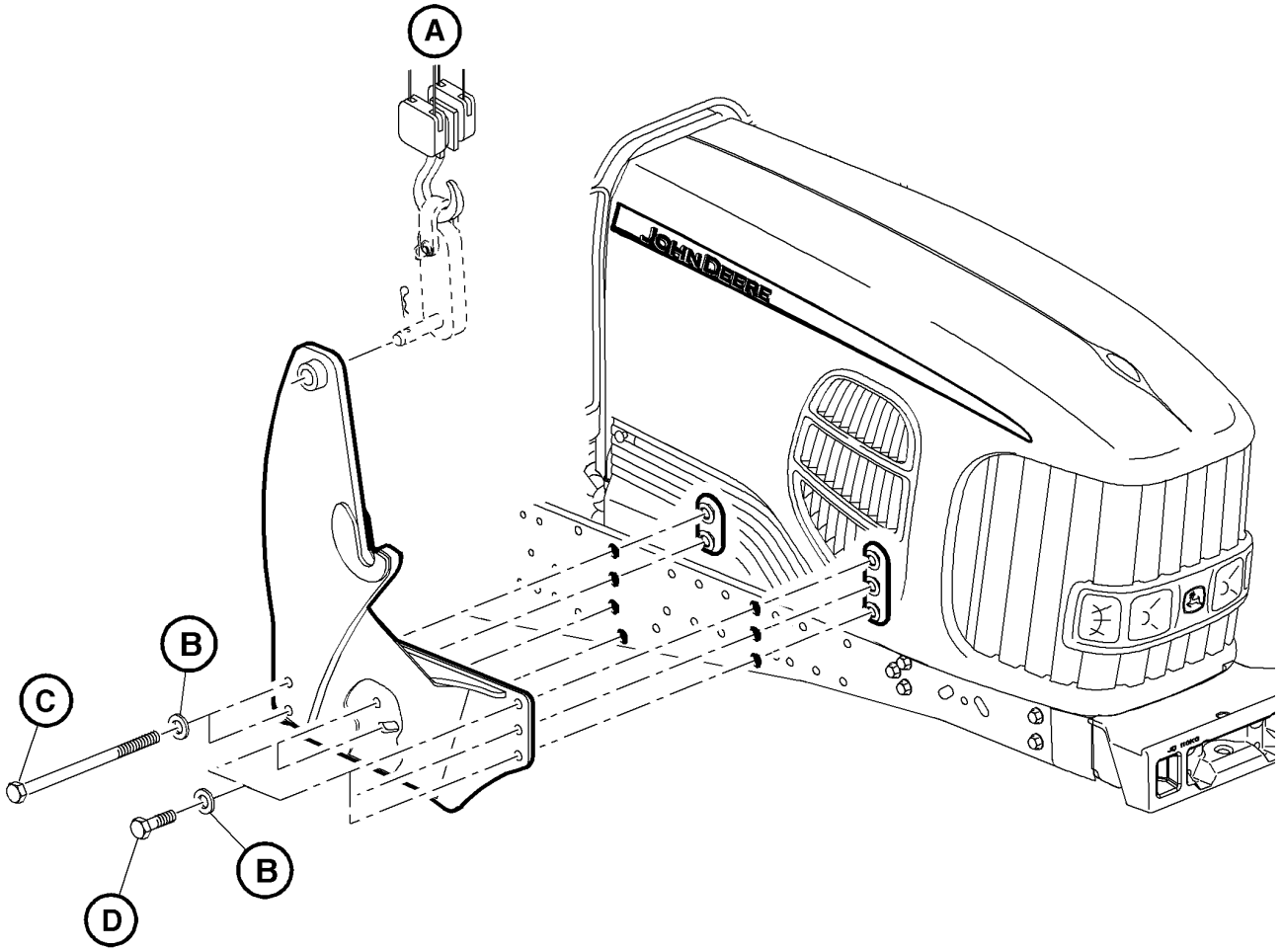
1. Remove hex. stopper (A).
2. Remove locking pin (B).
3. Shift drawbar (C) to desired position and reinstall locking pin.
4. Tighten hex. stopper (A) to 250 Nm (185 lb-ft).



LX000460 —UN—09AUG94

AG,OU12401,224 -19-07APR00-1/1

Front Loader Installation - Front Loader Brackets



CC1028344

CC1028344 —UN—10AUG06

Hardware for John Deere front loader brackets							
Item	Description	Width across flats	Torque	Standard	Thread	Length	Identification / Grade
A	Weight of front loader bracket, 100 kg (220 lb)	-	-	-	-	-	-
B	Washers (7 used)	-	-	-	-	21.4 x 22 x 5 mm	-
C	Cap screws (2 used)	30 mm	550 N•m (406 lb.-ft.)	ISO4014	M20 x 2.5	320 mm (12.6 in.)	10.9
D	Cap screws (5 used)	30 mm	550 N•m (406 lb.-ft.)	ISO4017	M20 x 2.5	45 mm (1.77 in.)	10.9
	Nuts (7 used)	30 mm	-	ISO4161	M20 x 2.5	-	10

Using a suitable hoist, position the front loader brackets on the main frame of the tractor and tighten the screws to the specified torque. Check the torque regularly; see Section 85, Lubrication and Periodic Service.

Continued on next page

OULXBER,0001B55 -19-15NOV11-1/2

A front loader checked and approved by John Deere is available for purchase. When installing John Deere front-loader brackets, use appropriate hardware only, as shown in the illustration above. Comply also with Operator's Manual and Installation Instructions of the front loader.

OULXBER,0001B55 -19-15NOV11-2/2

Transporting the Tractor

A disabled tractor is best transported on a flatbed carrier.

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

OU12401,00009BF -19-01JUL02-1/1

Towing the Tractor

CAUTION: Never tow the tractor at a speed greater than 10 km/h (6 mph).

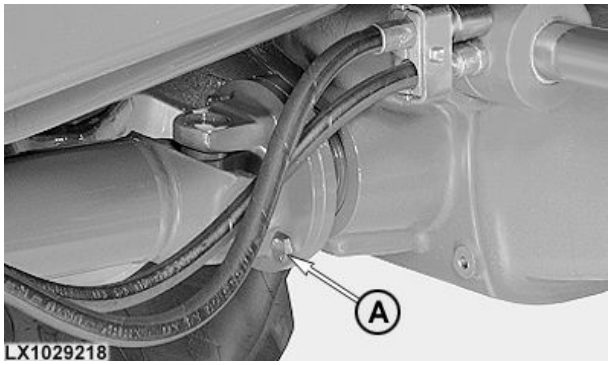
When the engine is not running, more force is required to turn the steering wheel and pedal travel is longer (no hydraulic assistance).

Shift both range and reverser levers to neutral position.

Make sure that the transmission oil level is between the marks on the sight-glass. If the tractor is to be towed with the front wheels raised, observe the following points:

- Never raise the wheels more than 30 cm (12 in.).
- For every 15 cm (6 in.) that the front wheels are raised, add 4 liters (1 U.S. gal.) of transmission/hydraulic oil to the transmission.
- When towing is completed, drain the excess oil.

IMPORTANT: If the engine is capable of running, switch off front-wheel drive. If the engine is not capable of running, disconnect universal-jointed drive shaft by taking out screws (A). This prevents excessive wear on the tires.



LX1029218 —UN—11APR03

OU12401,00013CF -19-25MAR06-1/1

Manual Park Lock Release (Tractors with IVT)

CAUTION: Perform the manual park lock release procedure only when the tractor needs to be towed and the park lock cannot be released normally.

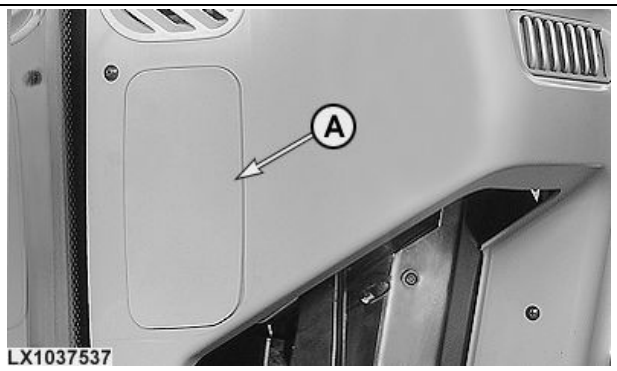
CAUTION: The reverse drive lever must be in the corner Park position "P" in order to manually release the park lock.

CAUTION: The tractor must never be operated (even for short test drives) when the park lock is manually released.

CAUTION: The tractor can roll away when the park lock is disengaged. Secure the tractor so that it cannot roll either forwards or backwards.

CAUTION: After towing, the manual park lock release cable must be reconnected.

1. Remove cover (A).

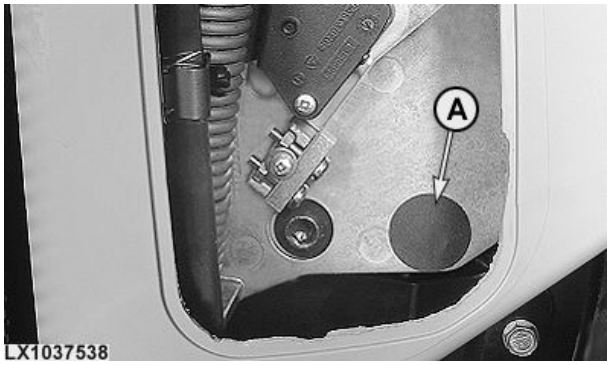


LX1037537 —UN—02NOV05

Continued on next page

OU12401,0001350 -19-21OCT05-1/7

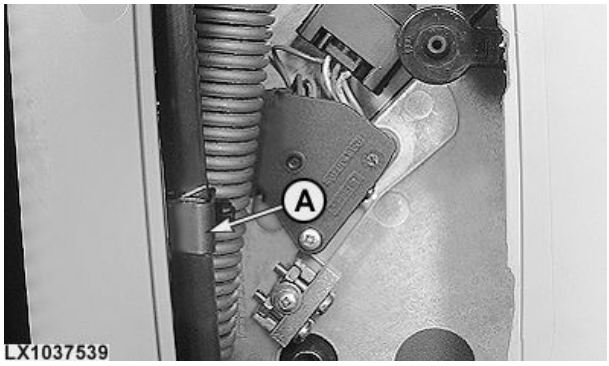
2. Take plug (A) out of the threaded bore.



LX1037538 —UN—02NOV05

OU12401,0001350 -19-21OCT05-2/7

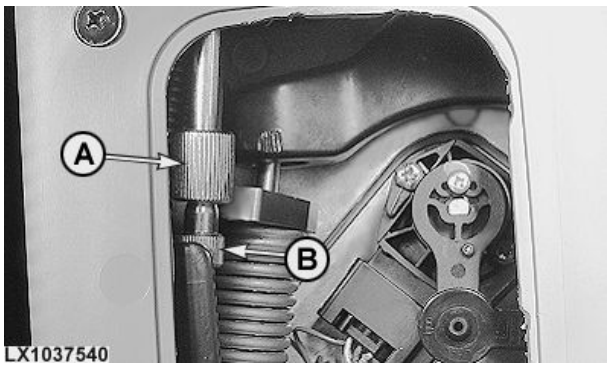
3. Disconnect the bowden cable from clamp (A).



LX1037539 —UN—02NOV05

OU12401,0001350 -19-21OCT05-3/7

4. Unscrew threaded stud (A) and knurled nut (B).

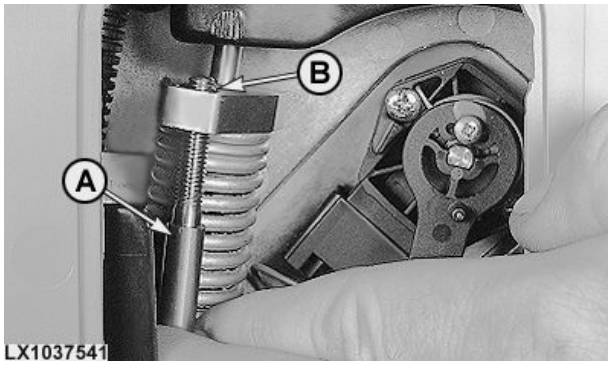


LX1037540 —UN—02NOV05

Continued on next page

OU12401,0001350 -19-21OCT05-4/7

5. Slightly depress the clutch pedal.
6. Thread the bowden cable (A) through the eye (B) on the clutch pedal or adapter.



LX1037541 —UN—02NOV05

OU12401,0001350 -19-21OCT05-5/7

7. Adjust cable with knurled nut (A) until all slack is removed. Knurled section must be uppermost.

IMPORTANT: The cable must be tight in order to assure complete release of the park lock.

LX1037542 —UN—02NOV05

OU12401,0001350 -19-21OCT05-6/7

8. Fully depress clutch pedal.

IMPORTANT: If the clutch pedal cannot be depressed to the stop and the threaded stud cannot be adjusted further, unscrew the knurled nut until the clutch pedal can be depressed against its stop.

9. Screw threaded stud (A) into the opening in order to secure the clutch in this position and maintain the park lock in the released position.

LX1037543 —UN—02NOV05

OU12401,0001350 -19-21OCT05-7/7

Driving on Public Roads

Check that the lights are working properly before driving on public roads.

Use the coupler to lock the brake pedals together.

LX1037216 —UN—21OCT05

OU12401,0001311 -19-13OCT05-1/1

Fuel, Lubricants, Hydraulic Oil and Coolant

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.

Required fuel properties

In all cases, the fuel shall meet the following properties:

Cetane number of 45 minimum. Cetane number greater than 50 is preferred, especially for temperatures below -20°C (-4°F) or elevations above 1500 m (5000 ft).

Cold Filter Plugging Point (CFPP) below the expected low temperature OR **Cloud Point** at least 5°C (9°F) below the expected low temperature.

Fuel lubricity should pass a minimum level of 3100 grams as measured by ASTM D6078 or maximum scar diameter of 0.45 mm as measured by ASTM D6079 or ISO 12156-1.

Sulfur content

- Diesel fuel quality and sulfur content must comply with existing emissions regulations for the area in which the engine operates.
- Use of diesel fuel with sulfur content less than 0.1% (1000 ppm) is STRONGLY recommended.
- Use of diesel fuel with sulfur content 0.2% (2000 ppm) to 0.5% (5000 ppm) results in REDUCED oil and filter service intervals.
- BEFORE using diesel fuel with sulfur content greater than 0.5% (5000 ppm), contact your John Deere dealer.
- DO NOT use diesel fuel with sulfur content greater than 1.0%

IMPORTANT: Do not mix used engine oil or any other type of lubricating oil with diesel fuel.

IMPORTANT: Improper fuel additive usage may cause damage on fuel injection equipment of diesel motors.

OU12401,00013D9 -19-03APR06-1/1

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 practicable 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 and prevent water condensation. Contact your fuel supplier for recommendations.

DX,FUEL4 -19-14APR11-1/1

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 0.45 mm as measured by ASTM D6079 or ISO 12156-1.

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 -19-14APR11-1/1

Biodiesel Fuel

Biodiesel is a fuel comprised of mono-alkyl 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.

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.bq-9000.org.

While 5% blends are preferred (B5), biodiesel concentrations up to a 20% blend (B20) in petroleum diesel fuel can be used in all John Deere engines. Biodiesel blends up to B20 can be used ONLY if the biodiesel (100% biodiesel or B100) meets ASTM D6751 (US), EN 14214 (EU), or equivalent specification. Expect a 2% reduction in power and a 3% reduction in fuel economy when using B20.

John Deere approved fuel conditioners containing detergent/dispersant additives are recommended when using lower biodiesel blends, but are required when using blends of B20 or greater.

John Deere engines can also operate on biodiesel blends above B20 (up to 100% biodiesel) ONLY if the biodiesel meets the EN 14214 specification (primarily available in Europe). Engines operating on biodiesel blends above B20 may not fully comply with 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 approved fuel conditioners containing detergent/dispersant additives are required.

The petroleum diesel portion of biodiesel blends must meet the requirements of ASTM D975 (US) or EN 590 (EU) commercial standards.

Biodiesel blends up to B20 must be used within 90 days of the date of biodiesel manufacture. Biodiesel blends from B21 to B100 must be used within 45 days of the date of biodiesel manufacture.

Request a certificate of analysis from your fuel distributor to ensure that the fuel is compliant with the above specifications.

When using biodiesel fuel, the engine oil level must be checked daily. If oil becomes diluted with fuel, shorten oil change intervals. Refer to Diesel Engine Oil and Filter Service Intervals for more details regarding biodiesel and engine oil change intervals.

The following must be considered when using biodiesel blends up to B20:

- Cold weather flow degradation
- Stability and storage issues (moisture absorption, oxidation, 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
- Possible reduction of service life of engine components

The following must also be considered when using biodiesel blends above B20.

- Possible coking and/or blocked injector nozzles, resulting in power loss and engine misfire if John Deere approved fuel conditioners containing detergent/dispersant additives are not used
- Possible crankcase oil dilution, requiring more frequent oil changes
- Possible corrosion of fuel injection equipment
- Possible lacquering and/or seizure of internal components
- Possible formation of sludge and sediments
- Possible thermal oxidation of fuel at elevated temperatures
- Possible elastomer seal and gasket material degradation (primarily an issue with older engines)
- Possible compatibility issues with other materials (including copper, lead, zinc, tin, brass, and bronze) used in fuel systems and fuel handling equipment
- Possible reduction in water separator efficiency
- Potential high acid levels within fuel system
- Possible damage to paint if exposed to biodiesel

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 -19-20APR11-1/1

Diesel Engine Break-In Oil

New engines are filled at the factory with either John Deere Break-In™ or John Deere Break-In Plus™ Engine Oil. During the break-in period, add John Deere Break-In™ or Break-In Plus ™ Engine Oil, respectively, 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.

If John Deere Break-In Engine Oil is used during the initial operation of a new or rebuilt engine, change the oil and filter at a maximum of 250 hours.

If John Deere Break-In Plus Engine Oil is used, change the oil and filter at a minimum of 100 hours and a maximum equal to the interval specified for John Deere Plus-50™ II or Plus-50 oil.

After engine overhaul, fill the engine with either John Deere Break-In™ or Break-In Plus™ Engine Oil.

If John Deere Break-In or Break-In Plus Engine Oil is not available, use an SAE 10W-30 viscosity grade diesel engine oil meeting one of the following and change the oil and filter at a maximum of 100 hours of operation:

- API Service Classification CE
- API Service Classification CD
- API Service Classification CC
- ACEA Oil Sequence E2
- ACEA Oil Sequence E1

Break-In is a trademark of Deere & Company.
Break-In Plus is a trademark of Deere & Company
Plus-50 is a trademark of Deere & Company.

IMPORTANT: Do not use Plus-50™ II, Plus-50 or engine oils meeting any of the following for the initial break-in of a new or rebuilt engine:

API CJ-4	**ACEA E9**
API CI-4 PLUS	**ACEA E7**
API CI-4	**ACEA E6**
API CH-4	**ACEA E5**
API CG-4	**ACEA E4**
API CF-4	**ACEA E3**
API CF-2	
API CF	

These oils will not allow the engine to break in properly.

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, John Deere Plus-50, or other diesel engine oil as recommended in this manual.

DX,ENOIL4 -19-20APR11-1/1

Diesel Engine Oil and Filter Service Intervals

The oil and filter service intervals in the table below should be used as guidelines. Actual service intervals also depend on operation and maintenance practices. It is suggested to use oil analysis to determine the actual useful life of the oil to aid in selection of the proper oil and filter service interval. 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.

Diesel fuel sulfur level will affect engine oil and filter service intervals. Higher fuel sulfur levels reduce oil and filter service intervals as shown in the table:

- Use of diesel fuel with sulfur content less than 0.1% (1000 ppm) is strongly recommended.
- Use of diesel fuel with sulfur content 0.2% (2000 ppm) to 0.5% (5000 ppm) may result in REDUCED oil and filter service intervals as shown in the table.
- BEFORE using diesel fuel with sulfur content greater than 0.5% (5000 ppm), contact your John Deere dealer.
- DO NOT use diesel fuel with sulfur content greater than 1.0% (10000 ppm).

Oil types (premium or standard) in the table include:

- Premium oils include John Deere PLUS-50™, ACEA E7 or ACEA E6 oils.
- Standard oils include John Deere TORQ-GARD SUPREME™, API CI-4 PLUS, API CI-4, ACEA E5 or ACEA E4 oils.

Use of lower specification oils in Stage III A engines may result in premature engine failure. The 500 hour extended oil and filter change interval is allowed if the following conditions are met:

- Use of diesel fuel with sulfur content less than 0.2% (2000 ppm).
- Use of premium oil John Deere PLUS-50, ACEA E7 or ACEA E6 and approved John Deere oil filter

	Service interval
Sulfur content of fuel	Less than 0.2% (2000 ppm)
Standard oil	250 hours
Premium oil	500 hours
Sulfur content of fuel	0.2% to 0.5% (2000 to 5000 ppm)
Standard oil	200 hours
Premium oil	300 hours
Sulfur content of fuel	0.5% to 1.0% (5000 to 10000 ppm)
Standard oil	Contact your John Deere dealer
Premium oil	Contact your John Deere dealer

PLUS-50 is a trademark of Deere & Company
TORQ-GARD SUPREME is a trademark of Deere & Company

OU12401,00013D8 -19-03APR06-1/1

Transmission and Hydraulic Oil

Use oil with a 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 HY-GARD LOW VISCOSITY

Other oils may be used if they meet one or more of the following:

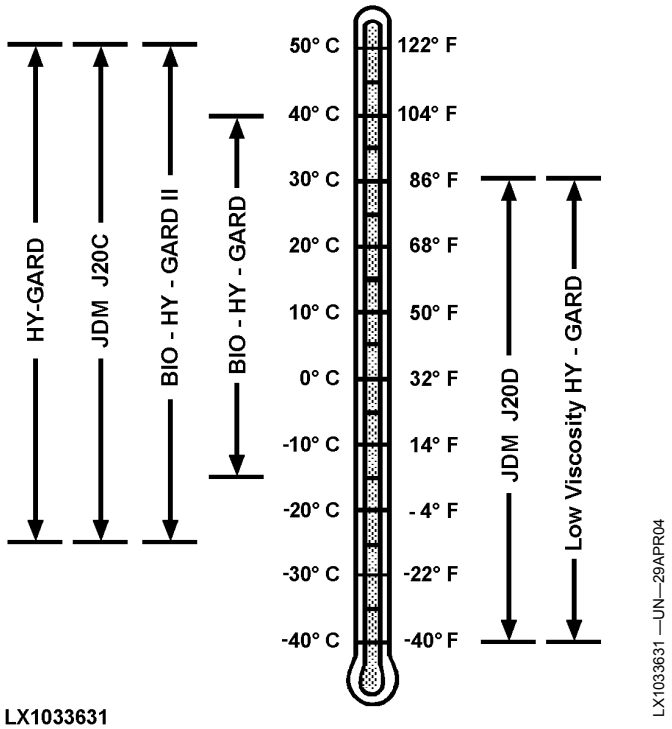
- John Deere Standard JDM J20C
- John Deere Standard JDM J20D

Use John Deere BIO-HY-GARD II™[1] or BIO-HY-GARD™[1] when a biodegradable fluid is required.

IMPORTANT: On tractors with IVT:

Only John Deere HY-GARD or John Deere BIO-HY-GARD II may be used.

Do NOT use HY-GARD LOW VISCOSITY.
Do NOT use BIO-HY-GARD.



LX1033631

HY-GARD is a trademark of Deere & Company.
BIO-HY-GARD II is a trademark of Deere & Company.
BIO-HY-GARD is a trademark of Deere & Company.

[1]BIO-HY-GARD II meets or exceeds the minimum biodegradability of 80 % within 21 days according to CEC L-33-A-93 test method. BIO-HY-GARD meets or exceeds the minimum biodegradability of 80 % within 21 days according to CEC L-33-T-82 test method. These oils should not be mixed with mineral oils because this reduces the biodegradability and makes proper oil recycling impossible.

OU12401,00019BD -19-19APR08-1/1

Front-Wheel Drive Axle Oil

Use oil with a viscosity based on the expected air temperature range during the period between oil changes.

The following oil is recommended:

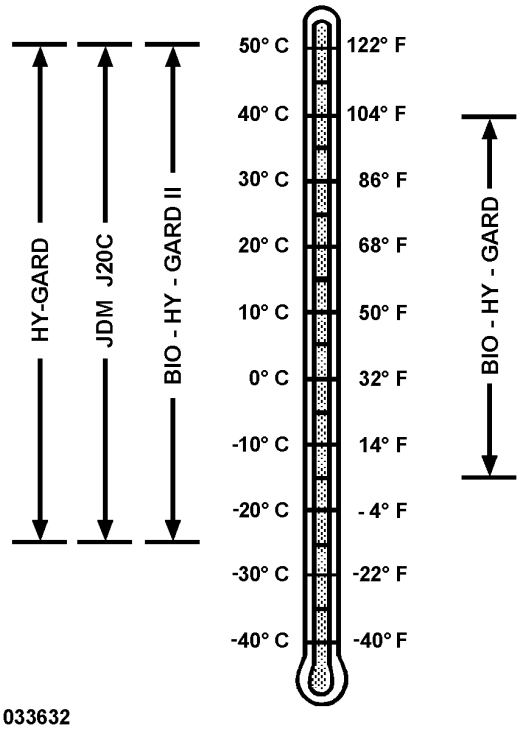
John Deere HY-GARD™

Other oils may be used if they meet the following:

John Deere Standard JDM J20C

Use one of the following oils when a biodegradable fluid is required:

John Deere BIO-HY-GARD II™[1] or BIO-HY-GARD™[1]



HY-GARD is a trademark of Deere & Company.
BIO-HY-GARD II is a trademark of Deere & Company.
BIO-HY-GARD is a trademark of Deere & Company.

[1]BIO-HY-GARD II meets or exceeds the minimum biodegradability of 80 % within 21 days according to CEC L-33-A-93 test method. BIO-HY-GARD meets or exceeds the minimum biodegradability of 80 % within 21 days according to CEC L-33-T-82 test method. These oils should not be mixed with mineral oils because this reduces the biodegradability and makes proper oil recycling impossible.

OU12401,0001313 -19-13OCT05-1/1

Grease

Use grease based on NLGI consistency numbers and the expected air temperature range during the service interval.

John Deere SD Polyurea Grease is preferred.

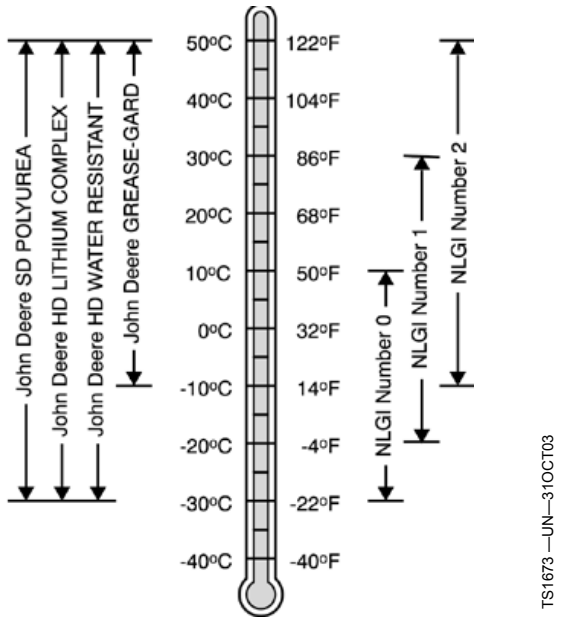
The following greases are also recommended:

- John Deere HD Lithium Complex Grease
- John Deere HD Water Resistant Grease
- John DeereGREASE-GARD™

Other greases may be used if they meet the following:

- NLGI Performance Classification GC-LB

IMPORTANT: Some types of grease thickeners are not compatible with others. Consult your grease supplier before mixing different types of grease.



Greases for Air Temperature Ranges

GREASE-GARD is a trademark of Deere & Company

DX,GREA1 -19-14APR11-1/1

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 -19-18MAR96-1/1

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 both conventional and synthetic lubricants.

Re-refined base stock products may be used if the finished lubricant meets the performance requirements.

DX,ALTER -19-11APR11-1/1

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 -19-11APR11-1/1

Oil Filters

Filtration of oils is critical to proper operation and lubrication.

Always change filters regularly as specified in this manual.

Use filters meeting John Deere performance specifications.

DX,FILT -19-18MAR96-1/1

Heavy Duty Diesel Engine Coolant

The engine cooling system is filled to provide year-round protection against corrosion and cylinder liner pitting, and winter freeze protection to -37°C (-34°F). If protection at lower temperatures is required, consult your John Deere dealer for recommendations.

The following engine coolants are preferred:

- John Deere COOL-GARD™ II Premix
- John Deere COOL-GARD II PG Premix

Use John Deere COOL-GARD II PG Premix 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.

John Deere COOL-GARD II Premix, COOL-GARD II PG Premix, and COOL-GARD II Concentrate coolants do not require use of supplemental coolant additives.

Other Coolants

John Deere COOL-GARD II and COOL-GARD II PG coolants might not be available in the geographical area where service is performed.

If these coolants are unavailable, use a coolant concentrate or prediluted coolant intended for use with heavy duty diesel engines and with a minimum of the following chemical and physical properties:

- Is formulated with a quality nitrite-free additive package.
- 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
- Protects the cooling system metals (cast iron, aluminum alloys, and copper alloys such as brass) from corrosion

The additive package must be part of one of the following coolant mixtures:

- ethylene glycol or propylene glycol base prediluted (40—60%) heavy duty coolant
- ethylene glycol or propylene glycol base heavy duty coolant concentrate in a 40—60% mixture of concentrate with quality water

Water Quality

Water quality is important to the performance of the cooling system. Distilled, deionized, or demineralized water is recommended for mixing with ethylene glycol and propylene glycol base engine coolant concentrate.

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.

COOL-GARD is a trademark of Deere & Company

DX,COOL3 -19-14APR11-1/1

John Deere COOL-GARD™ II Coolant Extender

Some coolant additives will gradually deplete during engine operation. For John Deere COOL-GARD™ II Premix, COOL-GARD II PG Premix, and COOL-GARD II Concentrate, replenish coolant additives between drain intervals by adding John Deere COOL-GARD II Coolant Extender.

John Deere COOL-GARD II Coolant Extender should not be added unless indicated by coolant testing.

John Deere COOL-GARD II Coolant Extender is a chemically matched additive system for use with all John Deere COOL-GARD II coolants. John Deere COOL-GARD II Coolant Extender is not intended for use with nitrite-containing coolants.

COOL-GARD is a trademark of Deere & Company

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 may result in additive drop-out, gelation of the coolant, or corrosion of cooling system components.

Add the recommended concentration of John Deere COOL-GARD II Coolant Extender. DO NOT add more than the recommended amount.

DX,COOL16 -19-20APR11-1/1

Operating in Warm Temperature Climates

John Deere engines are designed to operate using glycol base engine coolants.

Always use a recommended glycol base engine coolant, even when operating in geographical areas where freeze protection is not required.

John Deere COOL-GARD™ II Premix is available in a concentration of 50% ethylene glycol. However, there are situations in warm temperature climates where a coolant with lower glycol concentration (approximately 20% ethylene glycol) has been approved. In these cases, the low glycol formulation has been modified to provide the same level of corrosion inhibitor as John Deere COOL-GARD II Premix (50/50).

COOL-GARD is a trademark of Deere & Company

IMPORTANT: Water may be used as coolant *in emergency situations only.*

Foaming, hot surface aluminum and iron corrosion, scaling, and cavitation will occur when water is used as the coolant, even when coolant conditioners are added.

Drain cooling system and refill with recommended glycol base engine coolant as soon as possible.

DX,COOL6 -19-03NOV08-1/1

Drain Intervals for Diesel Engine Coolant

Drain and flush the cooling system and refill with fresh coolant at the indicated interval, which varies with the coolant used.

John Deere COOL-GARD™ II Premix, COOL-GARD II PG Premix and COOL-GARD II Concentrate are maintenance free coolants for up to six years or 6000 hours of operation, provided that the cooling system is topped off using only John Deere COOL-GARD II Premix or COOL-GARD II PG Premix.

Test the coolant condition annually with Coolant Test Strips designed for use with John Deere COOL-GARD II coolants. If the test strip chart indicates that additive is required, add John Deere COOL-GARD II Coolant Extender as directed.

COOL-GARD is a trademark of Deere & Company

If John Deere COOL-GARD™ II Premix, COOL-GARD II PG Premix, or COOL-GARD II Concentrate is used, but the coolant is not tested OR additives are not replenished by adding John Deere COOL-GARD II Coolant Extender, the drain interval is four years or 4000 hours of operation. This drain interval only applies to COOL-GARD II coolants that have been maintained within a 40—60% mixture of concentrate with quality water.

If a coolant other than COOL-GARD II, or COOL-GARD II PG is used, reduce the drain interval to two years or 2000 hours of operation.

DX,COOL11 -19-14APR11-1/1

Additional Information About Diesel Engine Coolants and John Deere LIQUID COOLANT CONDITIONER

Engine coolants are a combination of three chemical components: ethylene glycol or propylene glycol antifreeze, inhibiting coolant additives, and quality water.

Coolant Specifications

Some products, including John Deere COOL-GARD™ Premix coolant, are fully formulated coolants that contain all three components in their correct concentrations. Do not add an initial charge of supplemental coolant additives or water to John Deere COOL-GARD Premix.

John Deere COOL-GARD Concentrate contains both ethylene glycol and inhibiting coolant additives. Mix COOL-GARD Concentrate with quality water, but do not add an initial charge of supplemental coolant additives.

Replenish Coolant Additives

Some coolant additives will gradually deplete during engine operation. Periodic replenishment of inhibitors is required, even when John Deere COOL-GARD Premix, COOL-GARD Concentrate, or COOL-GARD PG Premix is used. Follow the recommendations in this manual for the use of supplemental coolant additives.

Why use John Deere LIQUID COOLANT CONDITIONER?

Operating without proper coolant additives will result in increased corrosion, cylinder liner erosion and pitting, and other damage to the engine and cooling system. A simple mixture of ethylene glycol or propylene glycol and water will not give adequate protection.

John Deere LIQUID COOLANT CONDITIONER is an additive system designed to reduce corrosion, erosion, and pitting when used with nitrite-containing diesel engine coolants such as John Deere COOL-GARD Premix, COOL-GARD Concentrate, and COOL-GARD PG Premix. Maintaining John Deere COOL-GARD coolants with John Deere LIQUID COOLANT CONDITIONER provides optimum protection for up to 5 years or 5000 hours of operation.

COOL-GARD is a trademark of Deere & Company

Avoid Automotive-type Coolants

Never use automotive-type coolants (such as those meeting ASTM D3306). These coolants do not contain the correct additives to protect heavy-duty diesel engines. They often contain a high concentration of silicates and may damage the engine or cooling system. Do not treat an automotive engine coolant with a supplemental coolant additive because the high concentration of additives can result in additive fallout.

Water Quality

Water quality is important to the performance of the cooling system. Distilled, 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 dissolved solids	<340 mg/L
Total hardness	<170 mg/L
pH	5.5 to 9.0

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,COOL7 -19-03NOV08-1/1

Testing Diesel Engine Coolant

Maintaining adequate concentrations of glycol and inhibiting additives in the coolant is critical to protect the engine and cooling system against freezing, corrosion, and cylinder liner erosion and pitting.

Test the coolant solution at intervals of 12 months or less and whenever excessive coolant is lost through leaks or overheating.

Coolant Test Strips

Coolant test strips are available from your John Deere dealer. These test strips provide a simple, effective method to check the freeze point and additive levels of your engine coolant.

When Using John Deere COOL-GARD II

John Deere COOL-GARD II Premix™ , COOL-GARD II PG Premix and COOL-GARD II Concentrate are maintenance free coolants for up to six years or 6000 hours of operation, provided that the cooling system is topped off using only John Deere COOL-GARD II Premix or COOL-GARD II PG premix. Test the coolant condition annually with coolant test strips designed for use with John Deere COOL-GARD II coolants. If the test strip chart indicates that additive is required, add John Deere COOL-GARD II Coolant Extender as directed.

COOL-GARD is a trademark of Deere & Company

Add only the recommended concentration of John Deere COOL-GARD II Coolant Extender. DO NOT add more than the recommended amount.

When Using Nitrite-Containing Coolants

Compare the test strip results to the supplemental coolant additive (SCA) chart to determine the amount of inhibiting additives in your coolant and whether more John Deere Liquid Coolant Conditioner should be added.

Add only the recommended concentration of John Deere Liquid Coolant Conditioner. DO NOT add more than the recommended amount.

Coolant Analysis

For a more thorough evaluation of your coolant, perform a coolant analysis. The coolant analysis can provide critical data such as freezing point, antifreeze level, pH, alkalinity, nitrite content (cavitation control additive), molybdate content (rust inhibitor additive), silicate content, corrosion metals, and visual assessment.

Contact your John Deere dealer for more information on coolant analysis.

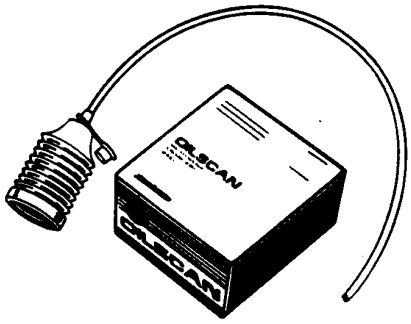
DX,COOL9 -19-11APR11-1/1

Oilscan™ and CoolScan™

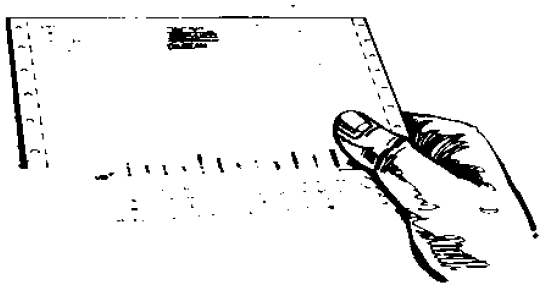
Oilscan™ and CoolScan™ are John Deere sampling programs to help you monitor machine performance and identify potential problems before they cause serious damage.

Oil and coolant samples should be taken from each system before its recommended change interval.

Check with your John Deere dealer for the availability of Oilscan™ and CoolScan™ kits.



T6828AB —UN—15JUN89



T6829AB —UN—26AUG11

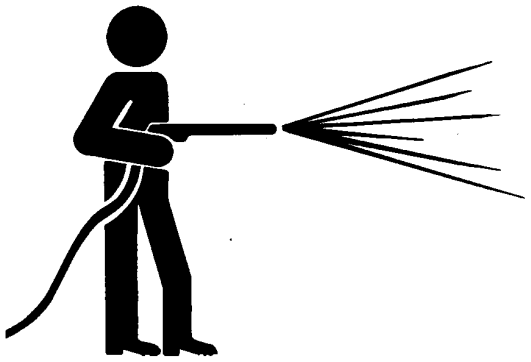
Oilscan is a trademark of Deere & Company
CoolScan is a trademark of Deere & Company

DX,OILSCAN -19-13SEP11-1/1

Using High-Pressure Washers

IMPORTANT: High-pressure washers are a very effective means of cleaning the tractor. To avoid damage to the tractor, do not go closer than 1 m (39 in.) and spray at an angle between 45 and 90° when cleaning sealing surfaces, seals and decals. Maximum pressure must not exceed 12000 kPa (120 bar; 1740 psi).

Do not, under any circumstances, spray or wash components (e.g. the engine) with cold water when hot. Do not use rotary nozzles or water at temperatures over 50°C (122°F), and do not aim at seals. Keep the water jet moving at all times. Cooling units, the hitch jaw, bearings and electronic/electrical equipment must not be cleaned with high-pressure washers. Follow the instructions in the high-pressure washer operator's manual and manuals of attached equipment.



T6642EJ —UN—18OCT88

After cleaning, run the engine until it is warm.

OU12401,0001D7F -19-28NOV09-1/1

Lubrication and Periodic Service

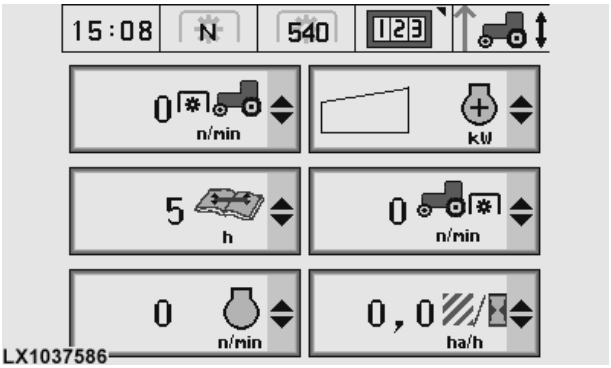
CAUTION: Do not lubricate or adjust the tractor while the engine is running unless recommended to do so.

The intervals at which the various parts should be checked, lubricated, serviced or adjusted are based on the actual hours of operation as shown on the hour meter. The meter operates whenever the engine is running and shows the accumulated hours of engine operation.

Every 250 hours, an acoustic warning signal goes off as the engine starts (for five consecutive engine starts). This reminds the operator that service work is due.

Always check to make sure that the hour meter is serviceable.

The lubrication and periodic service intervals are for normal working conditions. These intervals should be shortened when operating under adverse conditions.



LX1037586 —UN—11OCT06

IMPORTANT: After servicing, cleaning or repairing your tractor, reinstall any safety guards or shields before operating the tractor again.

OULXE59,0010890 -19-24APR06-1/1

Safe Maintenance and Cleaning

CAUTION: To perform service work at locations that are difficult to reach, it is essential to use suitable platforms or safety ladders.

Particular care is required to perform service work and cleaning jobs at locations that are difficult to reach, e.g. adjusting roof-mounted lights, servicing the cooling system, adjusting the right outside mirror on tractors without a door on the right side and many other similar tasks.

TS249 —UN—23AUG88

CAUTION: It is NOT permissible to stand on tractor components to perform such tasks unless the tractor components are intended for this purpose. There is an acute risk of falling, especially if the tractor components are wet, dirty, or coated with ice.

OULXBER,0001A59 -19-21FEB11-1/1

General Instructions Regarding the Condition of the Tractor

Perform a thorough visual inspection of the tractor on a regular basis or at every service interval at the latest. Ensure the following:

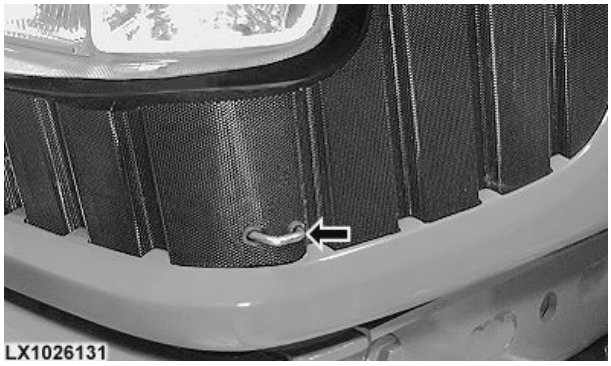
- Safety features and shields are in place and have been installed properly.
- All warning labels and decals are in place and are legible.
- Tires are in good condition.
- All lines and hoses are in good condition.
- Electrical wiring and ground connections are in good condition.
- There are no flammable materials in high heat emission areas.
- Tractor is free from leakage.

OU12401,00018FB -19-16NOV07-1/1

Open the Hood

Pull the catch and lift the hood up.

NOTE: If the tractor is equipped with a hood protector (front loader), the protector must be folded down before the hood can be opened.



LX1026131 —UN—21MAY01

OU12401,0001D80 -19-28NOV09-1/1

Access to Battery

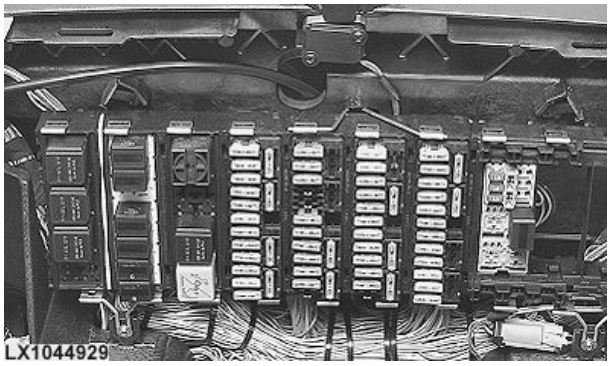
The battery is located in front of the radiator. To gain access, open the hood.

LX1036507 —UN—08JUN06

OULXE59,0010823 -19-14OCT05-1/1

Access to Fuses

Most of the fuses are located behind the operator's seat. Other fuses are located in the engine compartment.

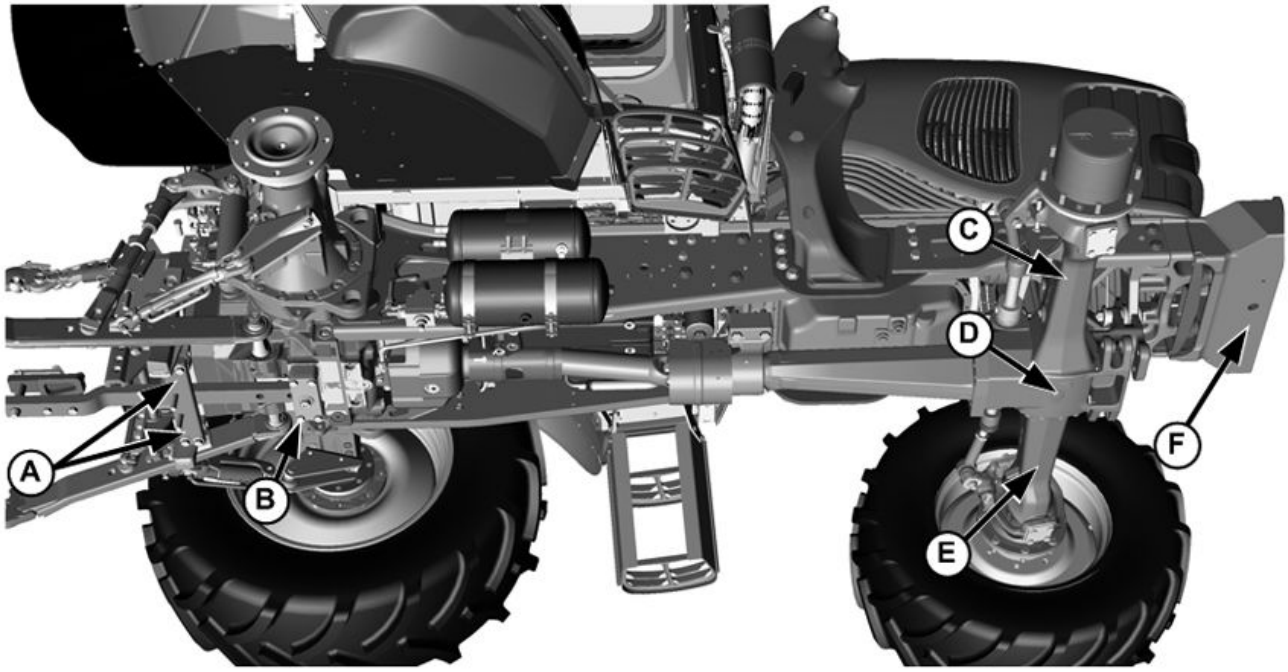


LX1044929 —UN—11DEC07

OU12401,0001915 -19-10DEC07-1/1

Jack Up the Tractor - Lifting Points

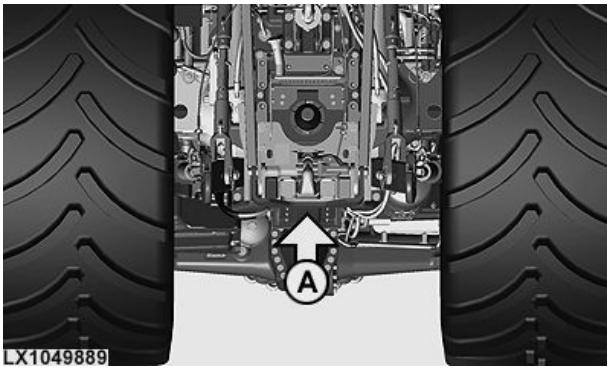
The illustrations show the recommended lifting points for jacking up the tractor. Use a stable jack with sufficient lifting force. See Specifications, Loads and Weights in Section 145.



LX1049994 —UN—03AUG11

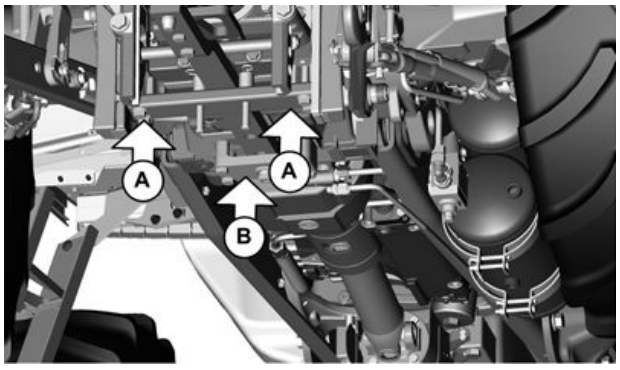
A—Raise Rear of Tractor, e.g. to Remove Rear Wheel
B—Raise Rear of Tractor, e.g. to Remove Rear Wheel
C—Raise Right End of Axle, e.g. to Remove Right Front Wheel
D—Raise Center of Axle (Use Wooden Wedges to Prevent Axle from Tilting)
E—Raise Left End of Axle, e.g. to Remove Left Front Wheel
F—Raise Front End of Tractor under the Basic Weight

OULXBER,0001AB2 -19-04AUG11-1/4



With Hydraulic Pick-Up Hitch

LX1049889 —UN—11FEB11



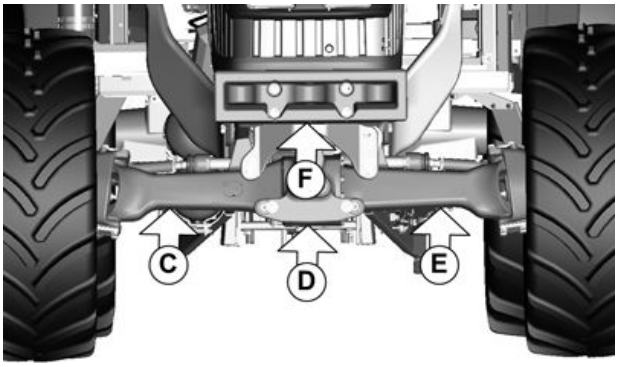
Without Hydraulic Pick-Up Hitch

LX1049995 —UN—03AUG11

Continued on next page

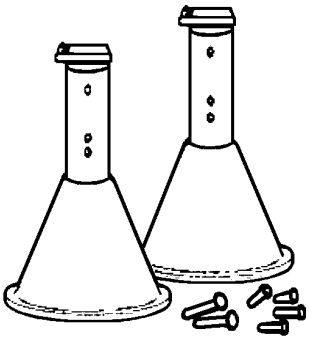
OULXBER,0001AB2 -19-04AUG11-2/4

C—Raise Right End of Axle, e.g. to Remove Right Front Wheel
D—Raise Center of Axle (Use Wooden Wedges to Prevent Axle from Tilting)
E—Raise Left End of Axle, e.g. to Remove Left Front Wheel
F—Raise Front End of Tractor under the Basic Weight



LX1049996 —UN—03AUG11

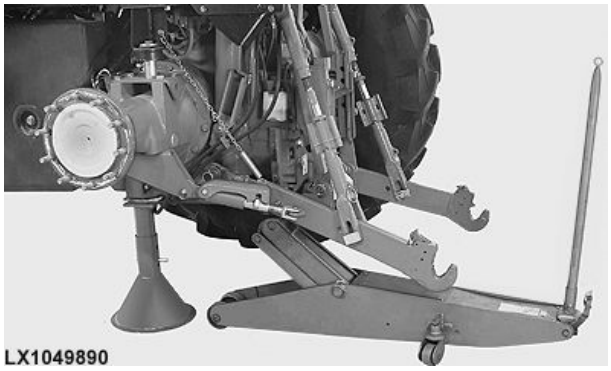
OULXBER,0001AB2 -19-04AUG11-3/4



JT07211

JT02043 and JT02044 Support Stands

JT02043—Support Stand, 482 to 736 mm (19 to 29 in.)
JT02044—Support Stand, 863 to 1117 mm (34 to 44 in.)



JT07211 —UN—14DEC06

LX1049890 —UN—11FEB11

Example

CAUTION: Use approved lifting equipment only.

Jack up tractor on firm, level ground only.

Before doing any further work on the tractor, first secure it using suitable support stands.

The special John Deere tools shown can be used for this purpose. These support stands are available from your John Deere dealer.

OULXBER,0001AB2 -19-04AUG11-4/4

Important Instructions Regarding Alternator

NOTE: The alternator is equipped with over-voltage protection.

If engine is to be run for a short time without battery (using a slave battery for starting), do not run engine at a speed above 1000 rpm. Furthermore, use additional current (lights) while engine is running.

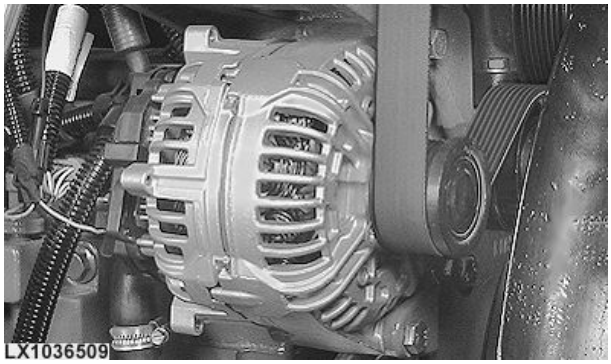
With the battery removed and when starting by means of a slave battery, insulate the battery end of the disconnected starter cable. This will avoid damage to the alternator and regulator.

Slave battery cables must be connected only to the poles provided for this purpose.

With the engine running, do not short-circuit or ground the alternator and regulator even momentarily.

Connect battery and charger with the correct polarity. If they are improperly connected (”+” and ”-”), the rectifier diodes will be destroyed immediately.

Before carrying out any electro-welding jobs on the tractor, **disconnect the two cables at the alternator and at the battery**.



LX1036509 —UN—19OCT05

Connect ground terminal of welding apparatus directly to the part being welded.

Before carrying out repairs on electrical system, disconnect battery ground strap. This will avoid the danger of a short circuit.

OULXE59,0010825 -19-13MAY06-1/1

Note Regarding the Service Interval for Engine Coolant

The interval may be shorter when a coolant other than COOL-GARD™ II is used. The most important service intervals are stated in the table.

NOTE: It is essential to comply with Drain Intervals for Diesel Engine Coolant in Section 80, Fuel, Lubricants, Hydraulic Oil and Coolant. There you will find details of service intervals and related circumstances.

Operating hours (after x years at the latest)	Coolant meets John Deere specification	COOL-GARD II
2000 (after 2 years)	X	—
4000 (after 4 years)	—	Valid if condition of COOL-GARD II is **not** checked once a year.
6000 (after 6 years)	—	Valid if condition of COOL-GARD II is checked once a year.

COOL-GARD is a trademark of Deere & Company

OULXBER,000194A -19-24NOV11-1/1

After the First 100 Hours

Drain engine crankcase and refill with fresh oil (see Service / Every 500 Hours).
Replace engine oil filter (see Service / Every 500 Hours).
Tighten screws on front loader bracket (see Service / Every 250 Hours).
Check air intake hoses (see Service / Every 500 Hours).
Replace transmission/hydraulic oil filter (see Service / Every 750 Hours).
Drain the axle housing and final drives, and refill with fresh oil (see Service / Every 1500 Hours).
Lubricate front PTO drive shaft (see Service / Every 250 Hours).
Retighten cab attaching screws. Torques: front screws 280 Nm (205 lb-ft), rear screws 200 Nm (150 lb-ft)

OU12401,0001B75 -19-19FEB09-1/1

Service As Required

Clean air cleaner and cab air filters.
Clean radiator.
Check coolant level.
Check fuel filter, bleed fuel system.
Check tire pressures.
Lubrication points - lubricate, if tractor has been washed with high pressure water.
Check specific gravity of battery.
Replace fuses.

OU12401,0001D1A -19-26JUL11-1/1

Check/Replace Hydraulic Hoses

Check hydraulic hoses regularly – at least once a year – for leaks, kinks, cuts, tears, rubbing, bulges, corrosion, exposed fabric and other signs of wear and damage.

Replace worn or damaged hoses immediately.

Replacement hoses are available from your John Deere dealer.

OULXBER,0001A4B -19-10FEB11-1/1

Periodic Service

In the following tables, service work is only listed once. Example: **In addition to** the 500 hour services, the 10 hour and 250 hour services have to be carried out.

NOTE: When performing service work, always check for any damage (e.g. on hydraulic lines, wiring harnesses, etc.) and repair as necessary.

OU12401,00019D6 -19-22MAY08-1/1

Other Service Jobs

The tables below provide a list of service jobs that must be carried out by your John Deere dealer. These service jobs (e.g. checking the accumulators of the cab suspension or TLS front axle) require specialist knowledge and equipment.

OU12401,0001AE2 -19-14NOV08-1/1

Service (Daily / Every 10, Every 250, Every 500, Every 750 Hours)

Service	Daily or every 10 hours	250 hours	500 hours	750 hours
Check engine oil level	•			
Check fuel filter	•			
Check lights	•			
Lubricate front axle and front-wheel drive shaft *	•			
Lubricate rear axle *	•			
Lubricate three-point hitch *	•			
Check oil level of transmission/hydraulic system **	•			
Drain residue from fuel tank		•		
Check oil level of transmission/hydraulic system		•		
Check the level of the electrolyte in the battery		•		
Lubricate front axle (tractors without front-wheel drive)		•		
Lubricate front axle, u.j. shafts and drive shaft (tractors with front-wheel drive)		•		
Check oil level in axle and final drives (tractors with front-wheel drive)		•		
Check the brakes		•		
Lubricate front PTO drive shaft		•		
Lubricate three-point hitch		•		
Lubricate pivoting fenders		•		
Lubricate the cab suspension system		•		
Check the neutral start circuit		•		
Tighten wheel retaining bolts/nuts		•		
Tighten the screws on the front loader bracket		•		
Check components of swinging drawbar for wear		•		
Change engine oil ***		•	•	
Change engine oil filter element ***		•	•	
Change fuel filter			•	
Lubricate rear axle			•	
Check air intake hoses			•	
Check ground connections (engine and cab)			•	
Check engine drive belt for wear			•	
Change cab air filters ****			•	
Change transmission/hydraulic oil filters				•
Change front PTO filter				•

* only necessary when operating in extremely wet and muddy conditions
** only necessary if the tractor is driving external hydraulic equipment
*** Engine oil must be changed at least once a year. Service intervals vary depending on the type of engine oil used and the sulfur content of the fuel. See Diesel Engine Oil and Filter Service Intervals in the Fuel, Lubricants, Hydraulic Oil and Coolant section.
**** Ultra-Gard activated carbon filters only. Replace the filters with new ones at least once every year.

OU12401,0001B95 -19-05MAY09-1/1

Service (Annually, Every 1000, Every 1500 Hours)

Service	annually	1000 hours	1500 hours
Inspect seat belt.	•		
Drain engine crankcase and refill with fresh oil (see Service / Every 500 Hours).	•		
Check engine drive belt for wear (see Service / Every 500 Hours).	•		
Lubricate front PTO drive shaft (see Service / Every 250 Hours).	•		
Tighten screws on front loader bracket (see Service / Every 250 Hours).	•		
Change cab air filters.*	•		
Use coolant test strip to test coolant (only if COOL-GARD II is used).	•		
Have accumulator of cab suspension checked by your John Deere dealer.		•	
Have viscous fan drive checked by your John Deere dealer.		•	
Drain the axle housing and final drives, and refill with fresh oil.			•
Change oil in transmission/hydraulic system.			•
Replace air cleaner element and cab air filters.			•
Change front PTO oil and filter.			•
Have accumulator of TLS front axle checked by your John Deere dealer.			•
* Ultra-Gard activated carbon filters only.			

OU12401,0001B96 -19-09DEC11-1/1

Service (Every 2000, Every 6000 Hours, Every 10 Years)

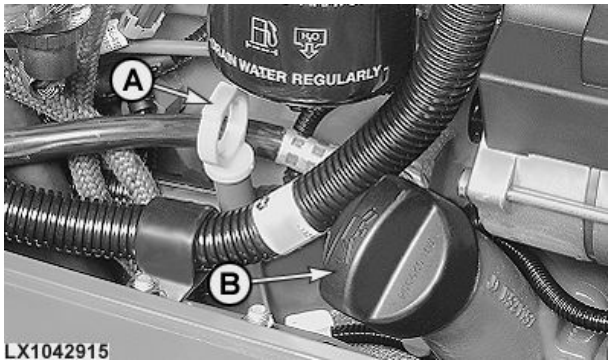
Service	2000 hours	6000 hours	10 years
Have valve clearance checked by your John Deere dealer.	•		
Have glow plugs checked by your John Deere dealer.	•		
Change the coolant* (if COOL-GARD II is used and it is checked regularly every year).		•	
Have accumulators of cab suspension and axle suspension replaced by your John Deere dealer.			•
* If John Deere COOL-GARD II is not used, the coolant change interval is reduced to 2 years or 2000 hours of operation.			

OU12401,0001D2C -19-09DEC11-1/1

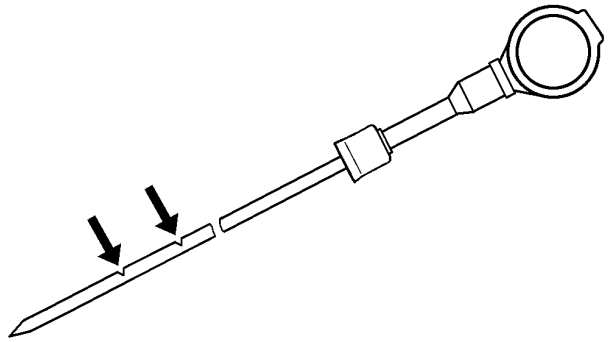
Checking the Engine Oil Level

Engine oil level should always be between the marks on the dipstick. Do not start the engine if oil level is below lower mark on dipstick.

A—Dipstick **B—Oil filler cap**



LX1042915 —UN—10APR07



LX1041430 —UN—17NOV06

OU12401,0001719 -19-02APR07-1/1

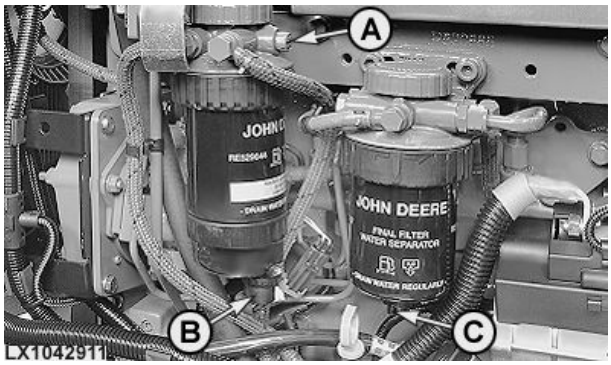
Checking the Fuel Filter

If water or sediment deposits have settled in filter, proceed as follows:

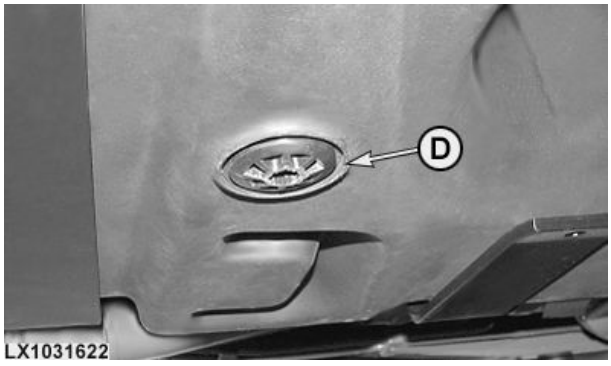
1. Open bleed screw (A).
2. Open drain plug (B) by 3/4 of a turn. Retighten the plug as soon as water and sediment deposits have drained out.
3. Open drain plug (C) by 3/4 of a turn. Retighten the plug as soon as water and sediment deposits have drained out.
4. Tighten bleed screw (A).
5. Turn key in main switch to the right to the first switch position so that the fuel transfer pump is operating. Keep the pump running for approx. 40 seconds.

If water was present in fuel filter, use a 1/2-inch square-section key to loosen drain plug (D) under the fuel tank by one turn. After draining off any water and sediment deposits, retighten drain plug until hand-tight.

A—Bleed screw **C—Drain plug**
B—Drain plug **D—Drain plug (fuel tank)**



LX1042911 —UN—10APR07



LX1031622 —UN—23JAN06

OU12401,000171A -19-09APR07-1/1

Checking on Lights

Check that the lights are operating correctly, especially before driving on public roads.

Comply with all legal regulations.

LX,LICHT 002082 -19-01FEB92-1/1

Other Service Jobs

If the tractor is used to power external hydraulic equipment, check the level of the transmission/hydraulic oil.

If the tractor is used in particularly wet and muddy terrain, apply extra lubrication as follows:

- Front axle and front-wheel drive shaft
- Rear axle
- Three-point hitch

These jobs are described in ”Service - Every 250 Hours” and ”Service - Every 500 Hours”.

OU12401,0001321 -19-14OCT05-1/1

Servicing the Fuel Tank

Use a 1/2-inch square-section key to slacken off the drain screw by one turn. Drain water and contaminants. Re-insert drain screw and tighten by hand.

LX1024725 —UN—06NOV00

OU12401,0000504 -19-03NOV00-1/1

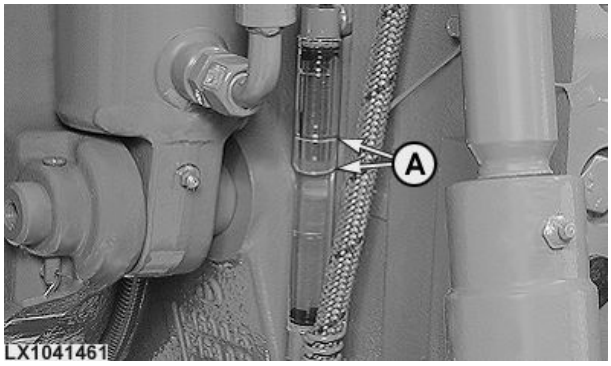
Check Transmission/Hydraulic System Oil Level

IMPORTANT: Check oil level when oil is cold. If possible, check the oil level in the morning after the tractor has been standing overnight.

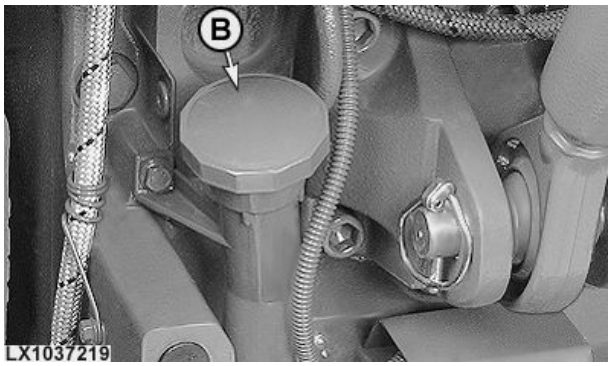
1. Park tractor so that it is level.
2. Engage park lock.
3. Lower draft links, front loader, front implements and other implements that draw oil from the transmission.
4. Oil level should be between marks (A) on the sight glass. If it is not, add more oil at filler neck (B).

A—Sight glass (l.h. side of transmission)

B—Filler neck



LX1041461 —UN—06DEC06



LX1037219 —UN—21OCT05

OU12401,00015AE -19-06DEC06-1/1

Prevent Battery Explosions

Keep sparks, lighted matches, and open flame away from the top of battery. Battery gas can explode.

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

Do not charge a frozen battery; it may explode. Warm battery to 16°C (60°F).

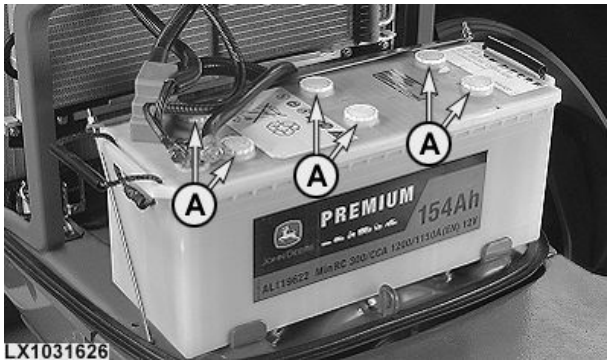
TS204 —UN—23AUG88

DX,SPARKS -19-03MAR93-1/1

Checking Electrolyte Level of Battery

Remove filler caps (A). Level of electrolyte should be above the mark. Fill with distilled water only.

Check that the vent holes in the battery caps are open at all times. If terminal connectors are corroded, remove corrosion with a stiff bristle brush and then coat the terminals with an acid-free grease.



LX1031626 —UN—08JUN06

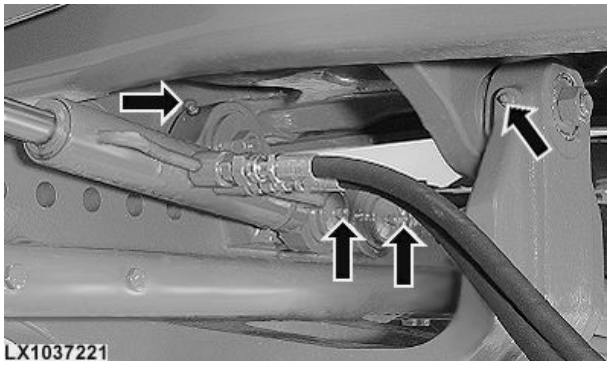
OULXE59,0010858 -19-16MAR06-1/1

Lubricating the Front Axle (Tractors without Front-Wheel Drive)

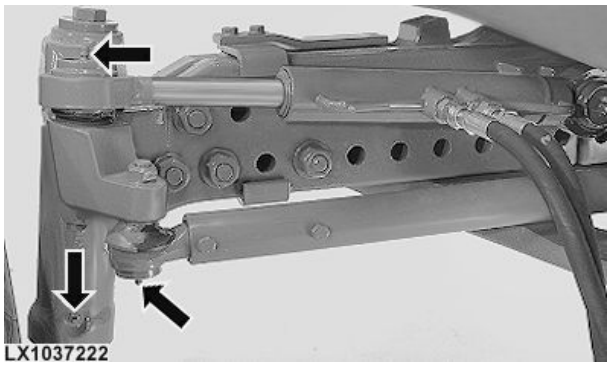
IMPORTANT: Carry out this service after every ten hours of operation when working under very wet and muddy conditions.

Lubricate the grease fittings on the front axle using John Deere multi-purpose grease.

IMPORTANT: Thoroughly clean all grease fittings prior to greasing. Replace damaged grease fittings immediately.



LX1037221 —UN—21OCT05



LX1037222 —UN—21OCT05

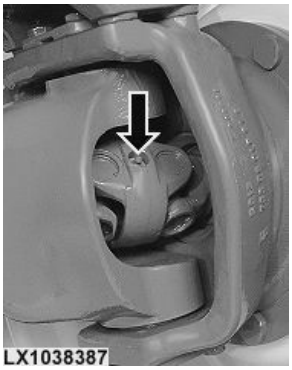
OU12401,0001324 -19-14OCT05-1/1

Lubricating Front Axle and U.J. Shafts (Tractors with Front-Wheel Drive)

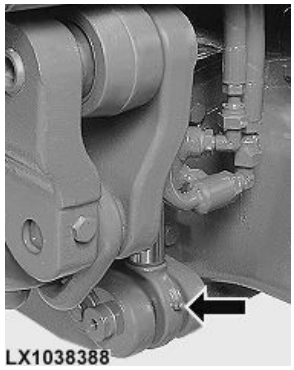
IMPORTANT: Carry out this service after every ten hours of operation when working under very wet and muddy conditions.

Apply John Deere multi-purpose grease to the grease fittings on the final drives (two on each drive), on the axle bridge (with suspended axle, one fitting on each side of tractor), on the rear drive shaft and the front drive shaft (suspended axle only).

IMPORTANT: Thoroughly clean all grease fittings prior to greasing. Replace damaged grease fittings immediately.

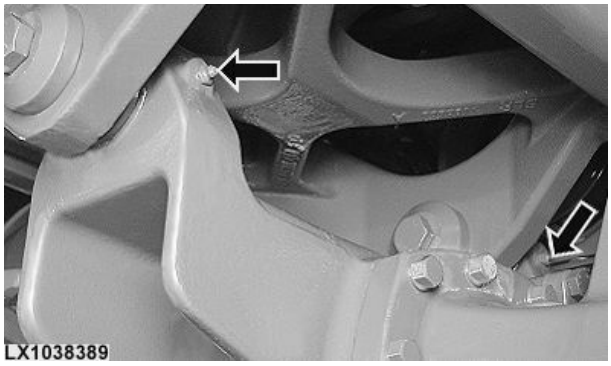


LX1038387 —UN—08JUN06

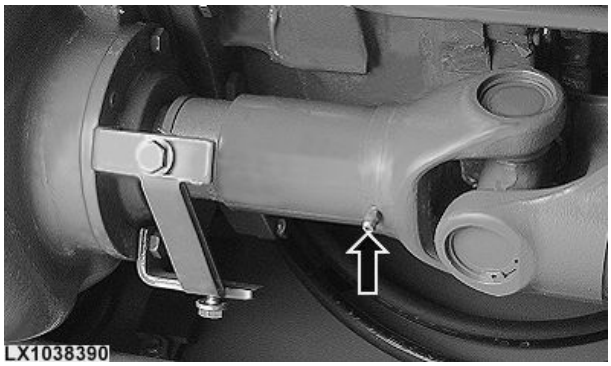


LX1038388 —UN—08JUN06

Final drive *Suspended axle*

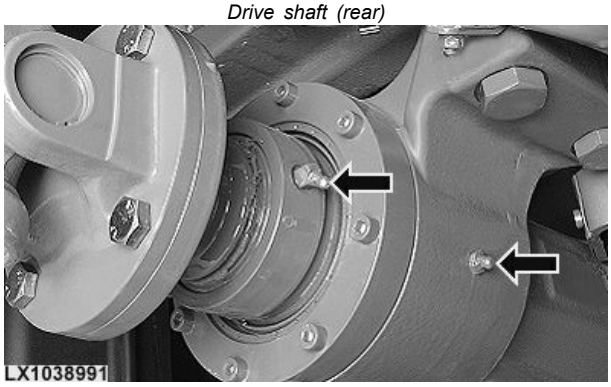


LX1038389 —UN—08JUN06



LX1038390 —UN—08JUN06

Drive shaft (rear)



LX1038391 —UN—08JUN06

Drive shaft (front)

OU12401,0001489 -19-24JUN06-1/1

Check Oil Level in MFWD Axle Housing

CAUTION: If the oil is hot, it may be under pressure. Unscrew the level plug slowly.

Remove level plug (A). Oil must be level with plug bore. Fill to proper level, if necessary. Tighten level plug to 90 Nm (66 lb.-ft.). Always use a transmission oil listed in the Fuel, Lubricants, Hydraulic Oil and Coolant section.

NOTE: The position of the level plugs varies depending on axle type.

LX1031712 —UN—09JUL03

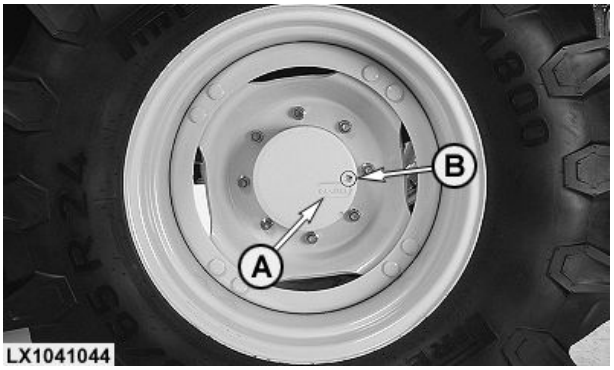
OU12401,0000E46 -19-17MAY10-1/1

Check Oil Level in MFWD Final Drives

CAUTION: If the oil is hot, it may be under pressure. Unscrew the level plug slowly.

1. Turn the wheel until OIL LEVEL mark (A) is horizontal.
2. Remove level plug (B). Oil must be level with plug bore.
3. If necessary, top up with oil at this point. Tighten level plug to 90 Nm (66 lb.-ft.). Always use a transmission oil listed in the Fuel, Lubricants, Hydraulic Oil and Coolant section.

NOTE: Change oil in axle housing and final drives after the first 100 hours of operation. Then change after every 1500 hours of operation or once every 2 years, whichever occurs first.



LX1041044 —UN—21JUN06

A—Mark **B—Level Plug**

OU12401,0001436 -19-17MAY10-1/1

Checking Brake Operation

Shut off the engine and check that the brakes are operating properly:

1. One at a time, press down on the left and right brake pedals. Do this several times to each pedal. Distinct resistance should be noticeable at each of the two pedals. If no resistance can be felt at the pedals, bleed the air from the brakes, or see your John Deere dealer.
2. Check to make sure the pedals do not settle to the end of stroke within 10 seconds after being applied. If leakage exceeds this rate or if one pedal settles faster than the other, see your John Deere dealer.
3. Press both pedals down at the same time. Distinct resistance should occur at both pedals at roughly the same height. If the height at which resistance can be felt differs by more than 51 mm (2 in.), bleed the air from the brakes, or see your John Deere dealer.

IMPORTANT: Any noticeable drift downward from the point of resistance indicates brake leakage. See your John Deere Dealer.

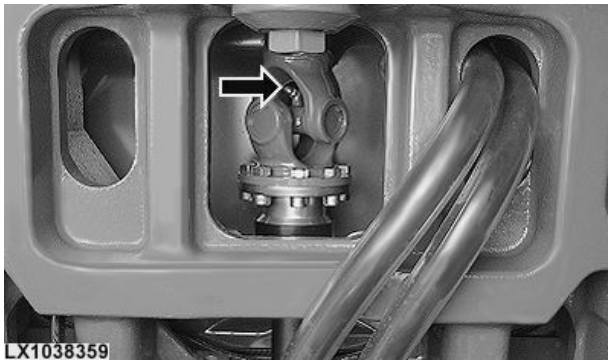
LX1037181 —UN—10OCT05

Distinct pedal resistance and balance between the left and right pedals are important for emergency braking with the two brakes coupled together.

OU12401,0001326 -19-14OCT05-1/1

Lubricating the Front PTO Drive Shaft

Lubricate grease fittings with several strokes of grease gun. Use John Deere multi-purpose grease.



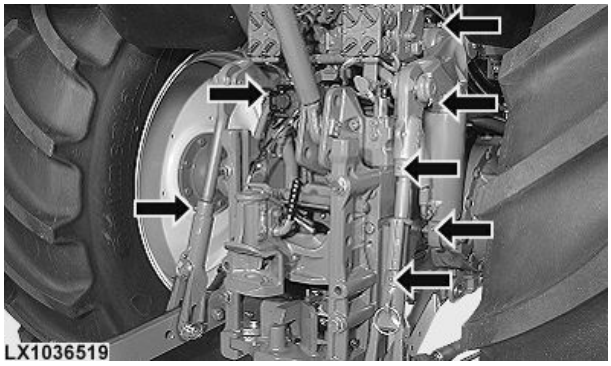
LX1038359 —UN—18MAY06

OULXE59,00108A2 -19-15MAY06-1/1

Lubricating the Three-Point Hitch

Lubricate grease fittings with several strokes of grease gun. Use John Deere multi-purpose grease.

NOTE: The grease fittings on the second lift cylinder and second lift link are not visible in this illustration.

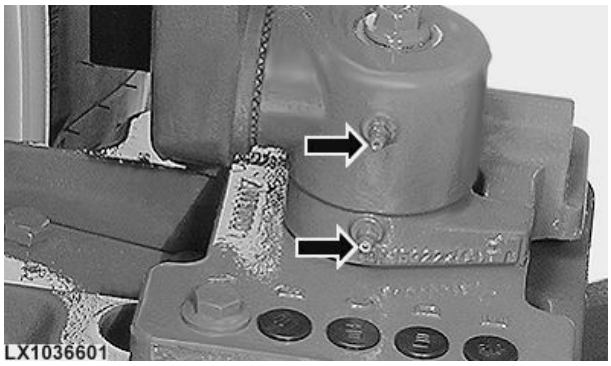


LX1036519 —UN—26APR06

OULXE59,0010847 -19-18DEC05-1/1

Lubricate the Pivoting Fenders

Lubricate grease fittings with several strokes of grease gun. Use John Deere multipurpose grease.

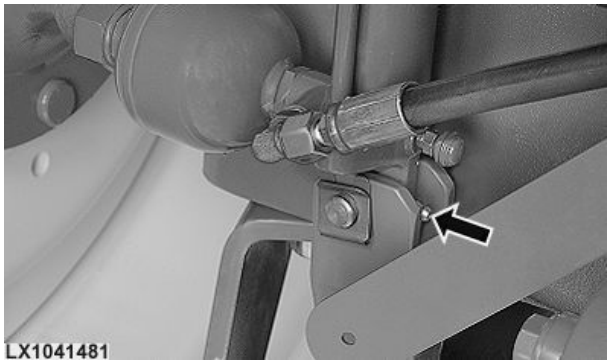


LX1036601 —UN—16AUG05

OU12401,0001286 -19-09AUG05-1/1

Lubricate the Cab Suspension System

Lubricate grease fittings with several strokes of grease gun. Use John Deere multi-purpose grease.



LX1041481 —UN—19DEC06

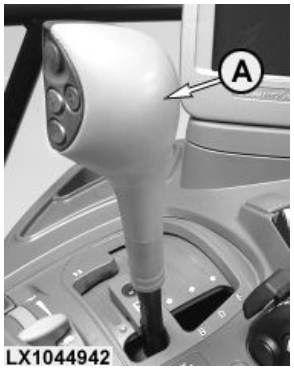
OU12401,00015DE -19-18DEC06-1/1

Check the Neutral Start Circuit

Tractors with PowrQuad Plus or AutoQuad Plus transmissions

1. Move range-shift lever (A) to neutral.
2. Move the reverser lever (B) to "forward" or "reverse".
3. Start the engine and wait 6-7 seconds. The “N” display must light up.
4. Depress the clutch and engage any range. Slowly release the clutch pedal. The tractor must NOT start to move. If it does, see your John Deere dealer immediately.

LX1038393 —UN—08JUN06



LX1044942 —UN—21DEC07

A—Range-shift lever

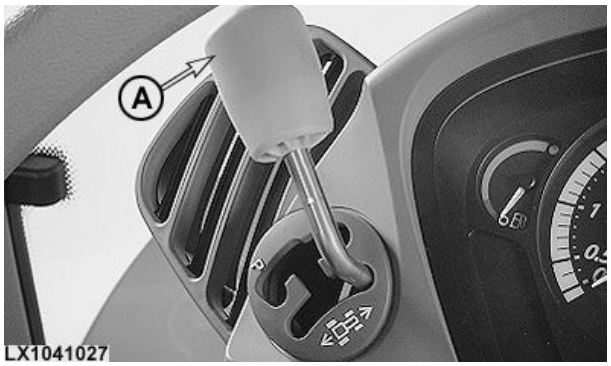
B—Reverser lever

OU12401,000195E -19-16DEC07-1/2

Tractors with IVT

1. Move reverser lever (A) to "forward" or "reverse".
2. Turn key in main switch as far as it will go to the right. The starting motor must NOT turn over. If it does, see your John Deere dealer immediately.
3. Repeat the test for the other direction of travel.

A—Reverser lever



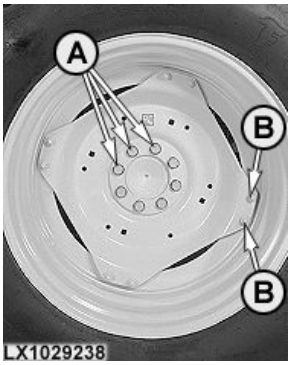
LX1041027 —UN—08JUN06

OU12401,000195E -19-16DEC07-2/2

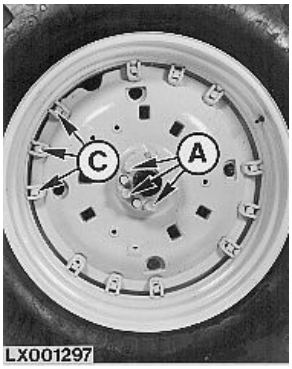
Tighten Wheel Retaining Bolts/Nuts

Tighten rear wheel retaining bolts/nuts

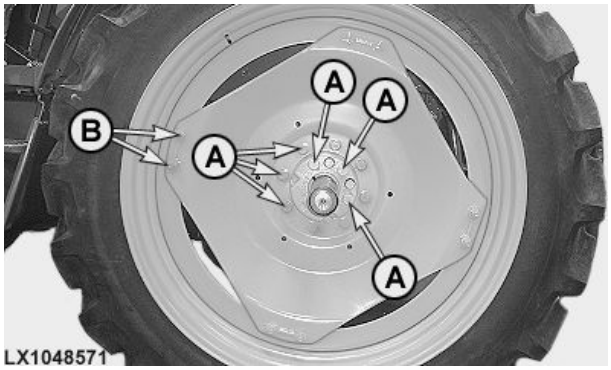
A—500 Nm (370 lb-ft)
B—250 Nm (185 lb-ft)
C—230 Nm (170 lb-ft)



LX1029238 —UN—05MAY03



LX001297 —UN—12AUG94

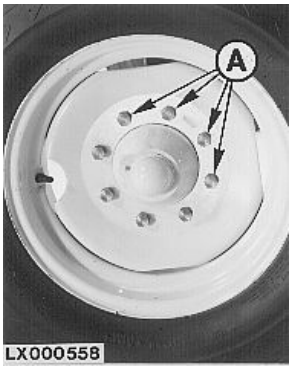


LX1048571 —UN—08DEC09

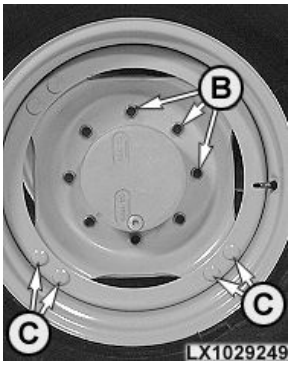
OU12401,0001D8D -19-08DEC09-1/2

Tighten front wheel retaining bolts/nuts

A—250 Nm (185 lb-ft)
B—300 Nm (220 lb-ft)
C—250 Nm (185 lb-ft)



LX000558 —UN—12AUG94



LX1029249 —UN—24APR03

OU12401,0001D8D -19-08DEC09-2/2

Tighten Screws on Front Loader Bracket

Tighten the screws on the front loader bracket to 550 Nm (405 lb-ft).

See also “Front Loader Installation - Front Loader Brackets” in Section 71.

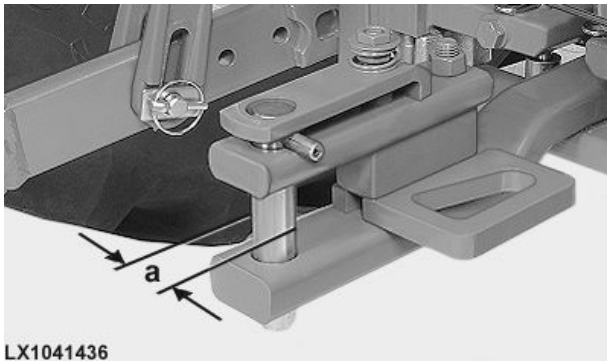
LX1041435 —UN—20NOV06

OU12401,000157A -19-11AUG11-1/1

Check the Swinging Drawbar for Wear

CAUTION: Parts that have reached or exceeded their wear limit must be replaced with new parts.

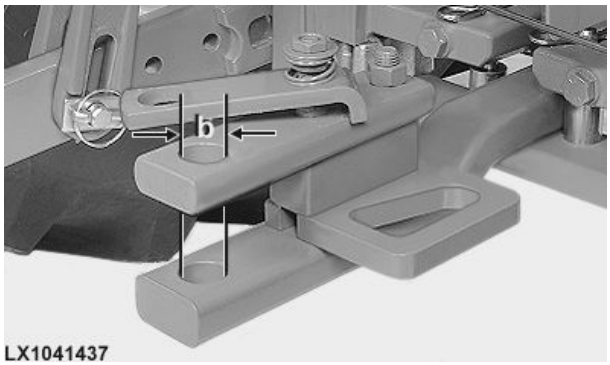
Pin diameter (a) must be at least 29.5 mm (1.16 in.).



LX1041436 —UN—20NOV06

OU12401,0001AD6 -19-11OCT08-1/2

Bore diameter (b) at the top and bottom (measured in direction of travel) must not exceed 35.0 mm (1.38 in.).



LX1041437 —UN—20NOV06

OU12401,0001AD6 -19-11OCT08-2/2

Changing Engine Oil

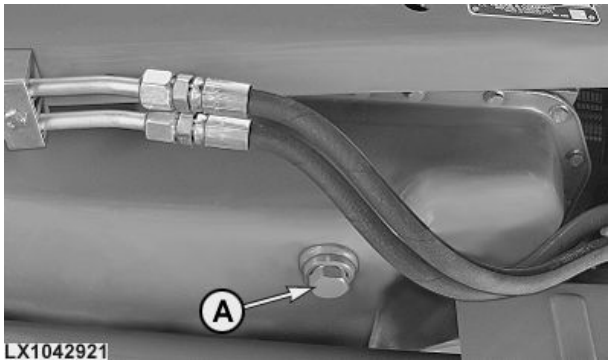
IMPORTANT: Change oil whenever a seasonal change in temperature makes oil of a different viscosity necessary.

NOTE: Carry out first oil change after first 100 hours of operation.

Drain oil with engine shut off, but with engine oil still warm.

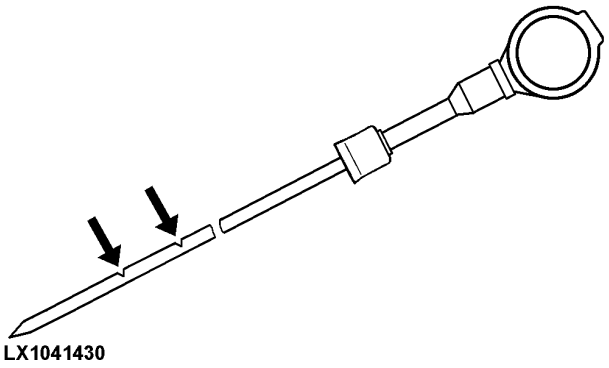
1. Unscrew drain plug (A).
2. While crankcase is draining, replace filter element.
3. Re-install drain plug and tighten to 50 Nm (37 lb-ft). Use a new seal ring.
4. Fill crankcase with fresh oil of proper viscosity at filler neck (B). See section "Fuel, Lubricants, Hydraulic Oil and Coolant". Capacity is approx. 15.5 liters (4.1 U.S.gal.).
5. Check oil level. Oil should be up to the top mark on the dipstick. Fill to proper level, if necessary.
6. Run engine for a short time and check for leaks at filter base and drain plug.
7. Shut off engine.
8. Check oil level once again. It must be up to the top mark on the dipstick.

A—Drain plug **B—Oil filler cap**



LX1042921 —UN—10APR07

LX1042917 —UN—10APR07



LX1041430 —UN—17NOV06

OU12401,000171C -19-09APR07-1/1

Changing Engine Oil Filter Element

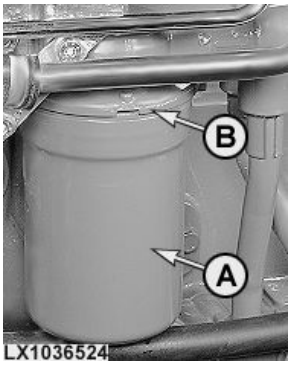
Remove filter element (A) and clean mounting surface (B). If necessary, replace the dust seal on the contact surface with a new one. Make sure that the lugs on the dust seal engage in the recesses in the contact surface of the filter element.

Apply a thin film of oil to sealing rings (C) of new filter. Install new filter and tighten by hand.

Start engine and check base of filter for leaks.

Shut off engine and check oil level.

NOTE: Carry out first oil filter change after first 100 hours of operation.



LX1036524 —UN—19OCT05

LX1029276 —UN—08JUL02

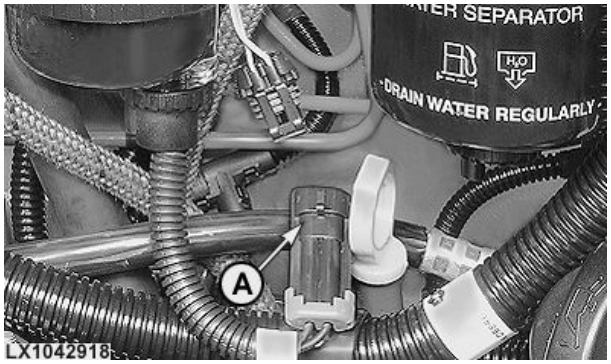
OU12401,000132C -19-16OCT05-1/1

Changing the Fuel Filters

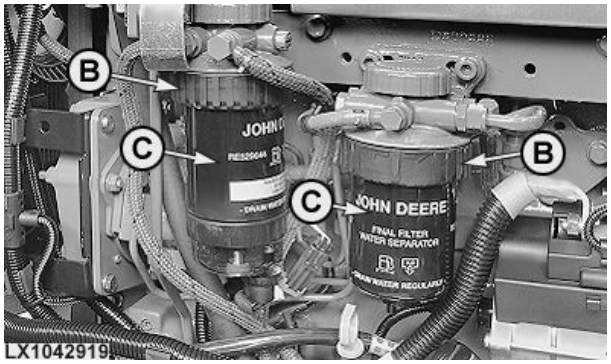
Always change the two filters at the same time.

1. Disconnect cable (A) from the water sensor.
2. Unfasten filter retaining ring (B) and remove filter (C). Seal old filter with cover of the new one.
3. Remove water trap and install it on new filter.
4. Attach new filter. The marks on the filter must be aligned with those on the housing.
5. Tighten retaining ring (B) until it clicks into place.
6. Reconnect cable (A).
7. Turn key in main switch to the right to the first switch position so that the fuel transfer pump is operating. Keep the pump running for approx. 40 seconds.

A—Cable
B—Retaining ring
C—Filter



LX1042918 —UN—10APR07



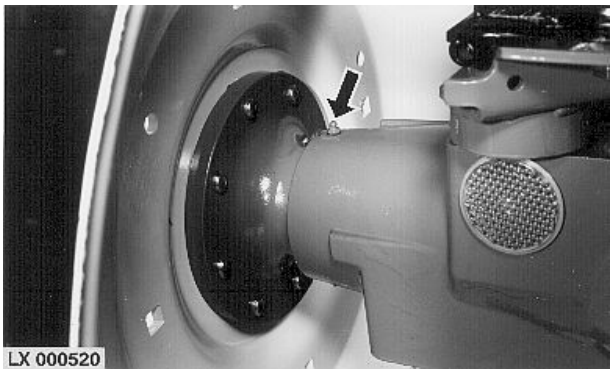
LX1042919 —UN—10APR07

OU12401,000171D -19-02APR07-1/1

Lubricating Rear Axle Bearings

IMPORTANT: Carry out this service after every ten hours of operation when working under very wet and muddy conditions.

Lubricate both bearings with six to eight strokes of John Deere multipurpose grease.



LX000520 —UN—03JAN95

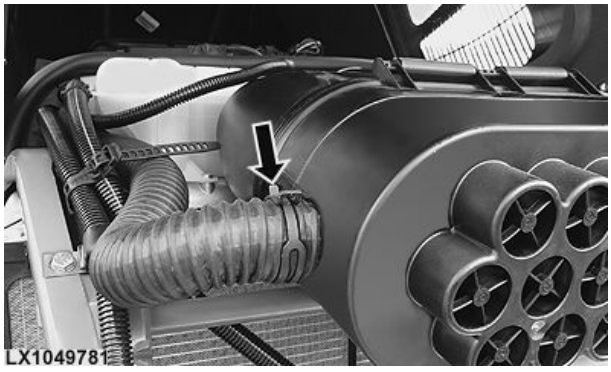
LX,OACH 000413 -19-01MAY92-1/1

Air Intake Hoses

The hoses vary depending on engine type.

Check hoses and tighten clamps.

Leaking or damaged hoses are the cause of dirt entering the engine.



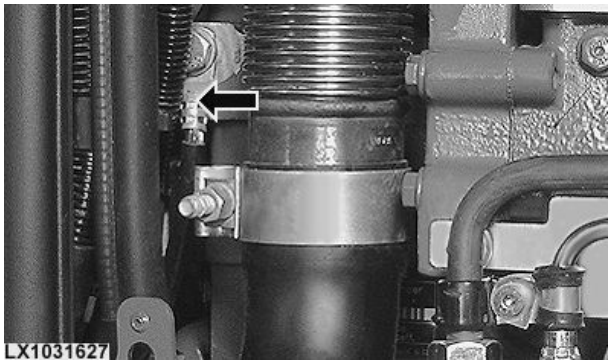
LX1049781 —UN—28JUL10

OU12401,000092B -19-28JUL10-1/1

Checking the Engine Ground Connection

Check the ground cable for signs of wear or damage. Check that the attaching screws are secure.

Replace the ground cable if it is damaged.



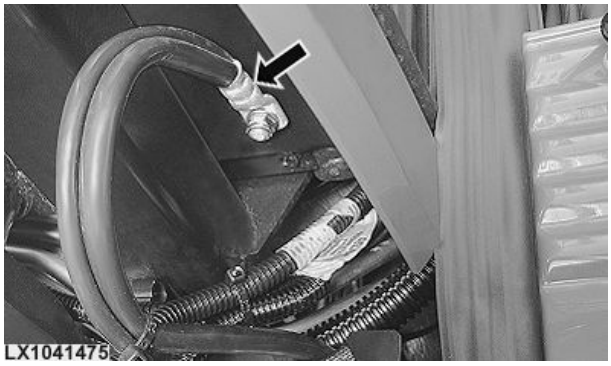
LX1031627 —UN—08JUN06

OULXE59,001085B -19-18MAR06-1/1

Check the Cab Ground Connection

Check the ground cable for signs of wear or damage. Check that the attaching screws are tight.

Replace the ground cable if it is damaged.

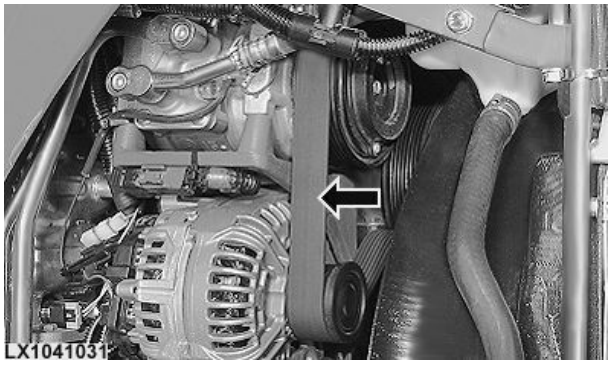


LX1041475 —UN—19DEC06

OU12401,00015D4 -19-17DEC06-1/1

Check Engine Drive Belt for Wear

If the drive belt shows any signs of wear, see your John Deere dealer.



LX1041031 —UN—08JUN06

OU12401,000143A -19-06JUN06-1/1

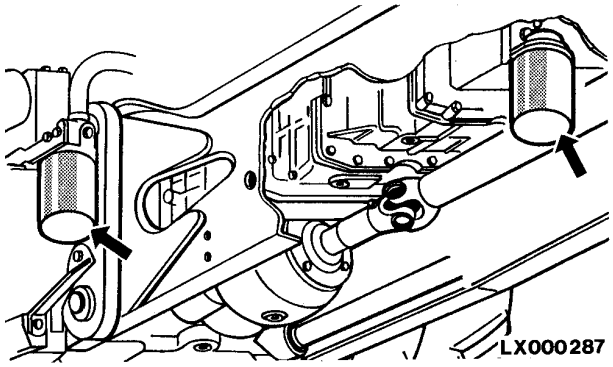
Replacing Transmission/Hydraulic System Filter Elements

NOTE: Replace transmission/hydraulic system filter elements after the first 100 hours of operation. Then replace after the first 750 hours of operation, and regularly every 750 hours thereafter.

1. Unscrew filter elements.
2. Coat sealing rings of new filter elements with grease and screw in filter elements.

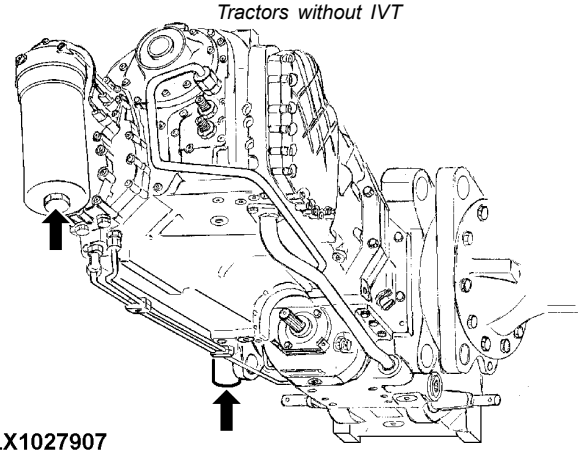
Use original John Deere filter elements only!

IMPORTANT: Always replace both filters at the same time. Never change one only.



LX000287 —UN—15AUG94

Tractors without IVT



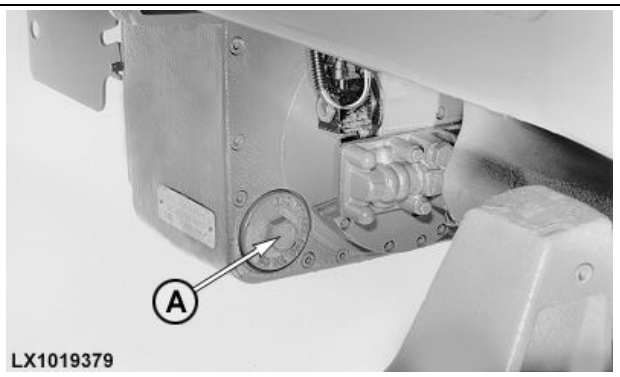
LX1027907 —UN—10DEC01

Tractors with IVT

OU12401,000148B -19-25JUN06-1/1

Changing the Filter on the Front PTO (If Equipped)

Unscrew plug (A). Remove filter and put in a new one. Screw in the plug again.



LX1019379 —UN—15MAY98

LX,OMWAR 017457 -19-01MAY98-1/1

Checking Seat Belt

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.

LX,OMWART020394 -19-01JUL99-1/1

Check Engine Coolant

John Deere COOL-GARD™ II Premix and COOL-GARD II Concentrate are maintenance-free coolants for up to 6 years or 6000 hours of operation, provided that the cooling system is topped off using only John Deere COOL-GARD II Premix coolant. Test the coolant condition annually with coolant test strips designed for use with John Deere COOL-GARD II coolants. If the test strip chart indicates that additive is required, add John Deere COOL-GARD II EXTENDER as directed.

COOL-GARD is a trademark of Deere & Company

OULXBER,000194B -19-03AUG10-1/1

Changing Oil in Front-Wheel Drive Axle and Final Drives

Replace oil in axle housing and final drives after the first 100 hours of operation. Then replace after every 1500 hours of operation or once every 2 years, whichever occurs first. Always use a transmission oil listed in the "Fuel, Lubricants, Hydraulic Oil and Coolant" section.

Always drain oil while it is still warm, i.e. immediately after a prolonged period of operation.

OU12401,0000CDB -19-01MAR03-1/1

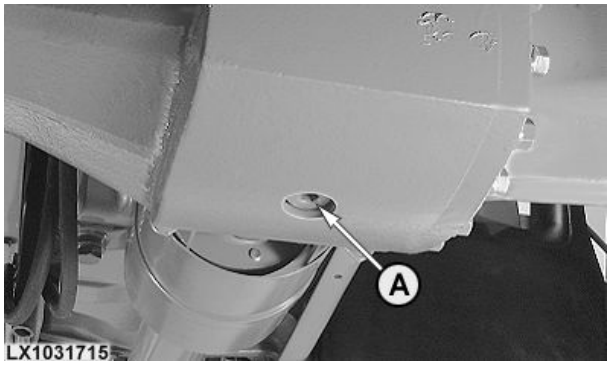
Change Oil In Front-Wheel Drive Axle Housing

CAUTION: If the oil is hot, it may be under pressure. Remove drain screw slowly.

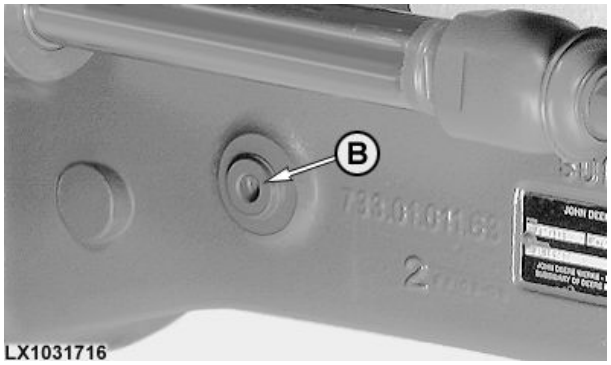
1. Remove drain screw (A) and drain oil into a suitable container.
2. Re-install drain screw and tighten to 90 Nm (66 lb.-ft.).
3. Remove oil level/filler plug (B). Fill with fresh oil. The oil level must be up to the filler hole. Re-install plug.

NOTE: Location of screws varies depending on axle type.

Recommended oil	Hy-Gard™ transmission/hydraulic oil. See also Section 80 (Fuel, Lubricants, Hydraulic Oil and Coolant).
Capacity	6.5 L (1.7 U.S.gal.)



LX1031715 —UN—09JUL03



LX1031716 —UN—09JUL03

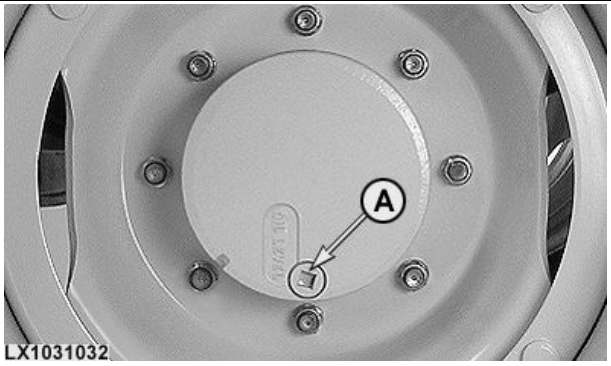
Hy-Gard is a trademark of Deere & Company

OU12401,0000E4A -19-17MAY10-1/1

Change Oil in Front-Wheel Drive Final Drives

CAUTION: If the oil is hot, it may be under pressure. Remove drain screw slowly.

1. Turn wheel until drain screw (A) is at the bottom. Remove drain screw and drain oil into a suitable container.
2. Turn the wheel through 90° so that the line marked OIL LEVEL is horizontal (see Service / Every 250 Hours), and fill with fresh oil at drain screw bore. Oil must be level with plug bore.
3. Install drain screw and tighten to 90 Nm (66 lb.-ft.).



LX1041032 —UN—08JUN06

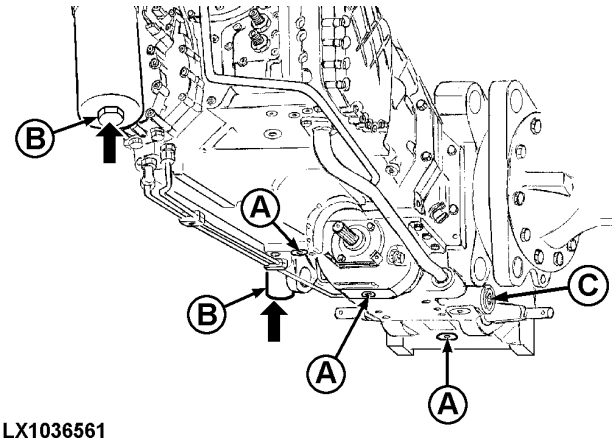
Recommended oil	Hy-Gard™ transmission/hydraulic oil. See also Section 80 (Fuel, Lubricants, Hydraulic Oil and Coolant).
Capacity	approx. 0.95 L (0.25 U.S.gal.)

Hy-Gard is a trademark of Deere & Company

OU12401,000143C -19-23SEP10-1/1

Changing Transmission/Hydraulic Oil (Tractors with IVT)

1. Start engine and operate several hydraulic functions to heat up oil.
2. Park tractor so that it is level. Lower draft links and front-mounted implements.
3. Shut off engine and remove the key.
4. Engage the park lock.
5. Remove drain screws (A).
6. Replace transmission/hydraulic oil filter elements (B).
7. Remove screw-plug (C), pull out intake screen and wash in fuel. Clean the area where the intake screen is installed. Re-install the intake screen.
8. Before refilling with fresh oil, replace seals and tighten drain screws to 50 Nm (35 lb-ft).
9. Add transmission/hydraulic oil to the transmission case.



LX1036561 —UN—30MAY05

LX1036561

A—Drain screws
B—Transmission/hydraulic oil filters
C—Screw-plug

Capacities

IVT	60 liters (15.9 U.S. gal.)
Extra for front-wheel drive	3 liters (0.8 U.S. gal.)
Extra for TLS axle	3 liters (0.8 U.S. gal.)

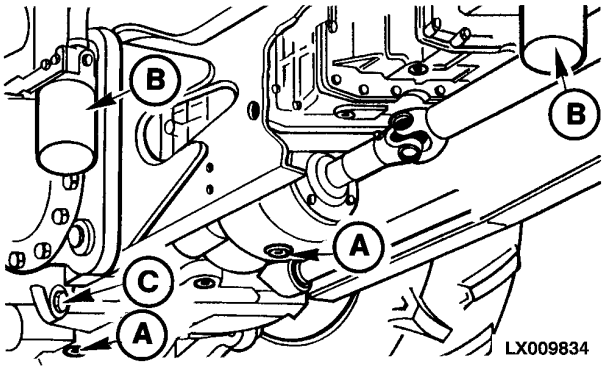
Run engine briefly and operate hydraulic functions. Shut off engine.

Wait for between 10 and 15 minutes before checking the oil level. It should be between the marks on the sight-glass. If not, correct oil level.

OU12401,000148C -19-25JUN06-1/1

Changing Transmission/Hydraulic Oil (Tractors NOT Equipped with IVT)

1. Start engine and operate several hydraulic functions to heat up oil.
2. Park tractor so that it is level. Lower draft links and front-mounted implements.
3. Shut off engine and remove the key.
4. Engage the park lock.
5. Remove drain screws (A).
6. Replace transmission/hydraulic oil filter elements (B).
7. Remove screw-plug (C), pull out intake screen and wash in fuel. Clean the area where the intake screen is installed. Re-install the intake screen.
8. Before refilling with fresh oil, replace seals and tighten drain screws to 50 Nm (35 lb-ft).
9. Add transmission/hydraulic oil to the transmission case.



LX009834 —UN—03JAN95

A—Drain screws
B—Transmission/hydraulic oil filters
C—Screw-plug

Capacities:

PowrQuad Plus transmission	50 liters (13.2 U.S.gal.)
AutoQuad Plus transmission	50 liters (13.2 U.S.gal.)
Extra for creeper transmission	1 liter (0.3 U.S.gal.)
Extra for front-wheel drive	3 liters (0.8 U.S.gal.)
Extra for TLS axle	3 liters (0.8 U.S.gal.)

Run engine briefly and operate hydraulic functions. Shut off engine.

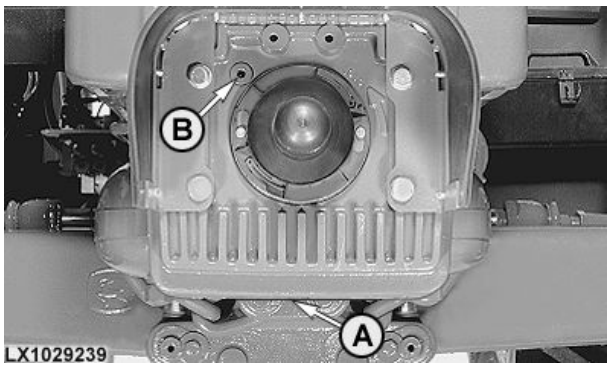
Wait for between 10 and 15 minutes before checking the oil level. It should be between the marks on the sight-glass. If not, correct oil level.

OU12401,000148D -19-25JUN06-1/1

Changing the Oil at the Front PTO (If Equipped)

Unscrew plugs (A) and (B) and drain the oil.

Screw in plug (A) again. Add 3.5 liters (0.9 U.S.gal.) of transmission/hydraulic oil to the PTO housing. Screw in plug (B) again.



LX1029239 —UN—15APR03

OU12401,00103ED -19-01JAN03-1/1

Note Regarding the Service Interval for Engine Coolant

The interval may be shorter when a coolant other than COOL-GARD™ II is used. The most important service intervals are stated in the table.

NOTE: It is essential to comply with Drain Intervals for Diesel Engine Coolant in Section 80, Fuel, Lubricants, Hydraulic Oil and Coolant. There you will find details of service intervals and related circumstances.

Operating hours (after x years at the latest)	Coolant meets John Deere specification	COOL-GARD II
2000 (after 2 years)	X	—
4000 (after 4 years)	—	Valid if condition of COOL-GARD II is **not** checked once a year.
6000 (after 6 years)	—	Valid if condition of COOL-GARD II is checked once a year.

COOL-GARD is a trademark of Deere & Company

OULXBER,000194A -19-24NOV11-1/1

Change the Coolant

CAUTION: Do not open cap (A) of expansion tank before coolant temperature is below boiling point. First loosen the cap to relieve pressure, then remove cap completely.

NOTE: If COOL-GARD is not used, the drain interval is reduced to 2 years or 2000 hours of operation.

1. On tractors with cab, turn the heater control as far as it will go to the right.
2. First loosen cap (A) and then take it off.
3. Turn connect/disconnect control (B) anti-clockwise as far as it will go.
4. Place a container under the drains to trap the coolant as it emerges. Open drain plug (C).

As soon as system is empty, close drain plug (C) and fill the system with clean water.

IMPORTANT: Never pour cold water or coolant into the hot engine. Always use warm water or wait until engine has cooled down.

CAUTION: Before starting the engine, always close the hood.

Run the engine until it reaches operating temperature. Shut off engine and drain cooling system.

Close drain plug again and fill the system with clean water.

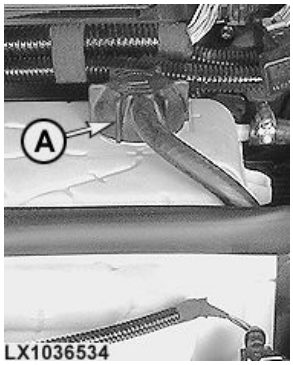
Again run engine until it has reached operating temperature. Shut off engine and drain system again.

Close the drain plug and disconnect line (D). Fill the system with the prescribed coolant (see Fuel, Lubricants, Hydraulic Oil and Coolant section) until coolant emerges from line (D). Retighten line (D).

Add coolant up to the max. mark on both tanks.

Start the engine and run it for 5 minutes.

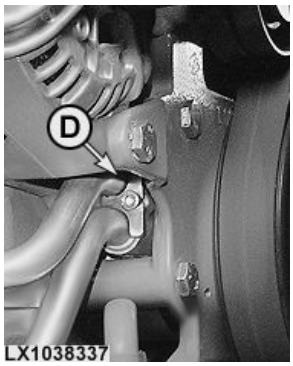
Shut down the engine and add coolant up to the max. mark on both tanks.



LX1036534 —UN—20OCT05

LX1036579 —UN—10JUN05

LX1036535 —UN—20OCT05



LX1038337 —UN—27APR06

A—Filler cap
B—Connect/disconnect control (front of radiator)
C—Drain plug (rear of radiator)
D—Lines

Start the engine and bring it up to operating temperature.

Shut down the engine and add coolant up to the max. mark on both tanks.

Turn connect/disconnect control (B) clockwise as far as it will go.

Re-install and close the filler cap (A).

For efficient cooling, the radiator screen must be kept clean. Remove any dust or oil and carefully straighten any bent fins.

OU12401,0001C84 -19-16OCT09-1/1

Engine Air Cleaner

If a message appears at the CommandCenter saying that the engine air cleaner is contaminated, the air cleaner's primary element must be taken out and cleaned.

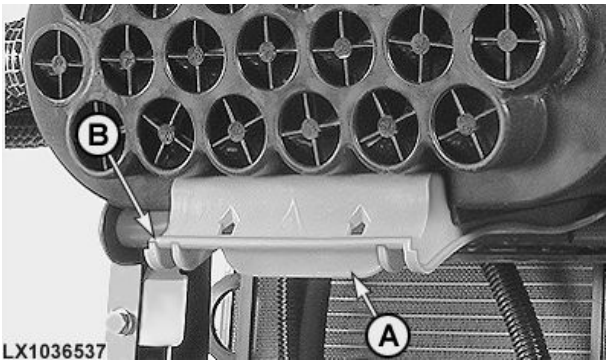
The service interval may be extended briefly, e.g. until the next suitable opportunity. Provided the cleaner is serviced properly, this will not adversely affect its performance.

The primary element can be cleaned up to five times. Thereafter, or at the latest after 1500 hours of operation (or 2 years), it must be replaced.

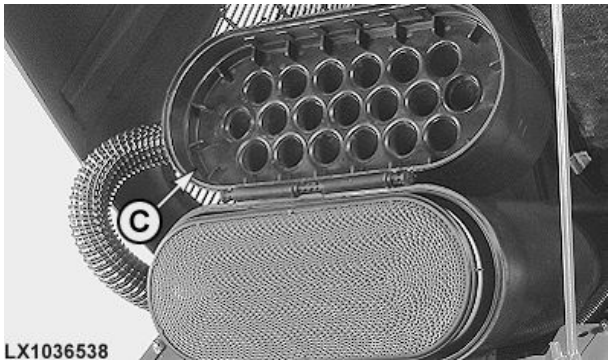
Open the hood, pull lug (A) forward and swing catch (B) down. Fold cover (C) up. Pull the primary filter element out of the cleaner housing.

IMPORTANT: Never run the engine without the primary filter element!

A—Lug
B—Catch
C—Cover



LX1036537 —UN—20OCT05



LX1036538 —UN—20OCT05

OU12401,0001338 -19-18OCT05-1/1

Cleaning the Primary Filter Element

When the element must be serviced in the field, tap it on the palm of your hand as a temporary measure.

IMPORTANT: The guide ring must not be damaged or deformed.

When you return to your service area, clean the filter element thoroughly, or replace it with a new one.

LX1026150 —UN—21MAY01

OU12401,0000933 -19-01MAY01-1/1

Cleaning a Dusty Element

If tapping element does not remove dust, blow out dust with compressed air (not exceeding 600 kPa; 6 bar; 90 psi) by inserting nozzle inside the element and blowing from the inside of the filter to the outside.

Replace element if air cleaner indicator light continues glowing after the element has been cleaned.

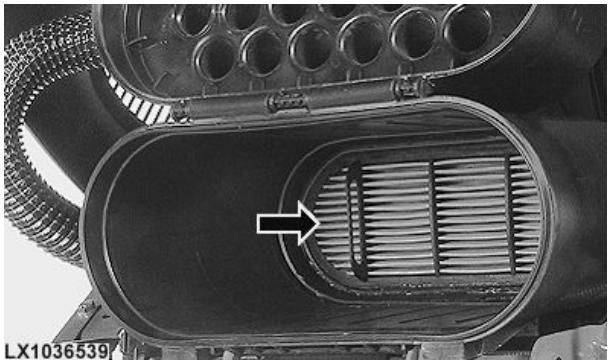
LX1026151 —UN—21MAY01

OU12401,00102DE -19-01SEP01-1/1

Secondary (Safety) Element

This filter must be changed if it becomes damaged. Change it at every fifth change of the air cleaner primary element, and at the latest after 1500 hours of operation.

IMPORTANT: Always replace secondary (safety) filter element, do not attempt to clean it.



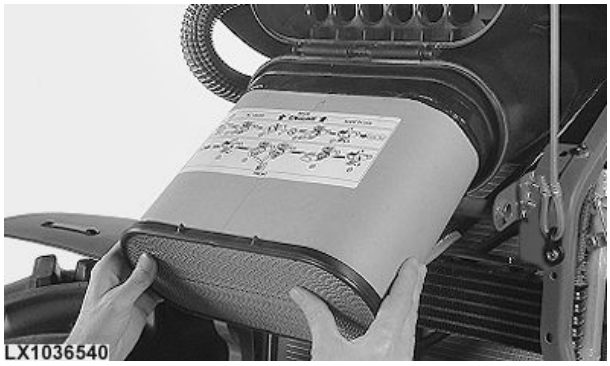
LX1036539 —UN—20OCT05

OU12401,0001339 -19-17OCT05-1/1

Installation

With the rubber seal first (arrows on decal pointing into the filter housing), slide a serviced or new primary filter element as far as it will go into the filter housing. Fold down the cover and let the catch click into place.

IMPORTANT: Never close the hood or start the engine unless the filter is locked securely.



LX1036540 —UN—20OCT05

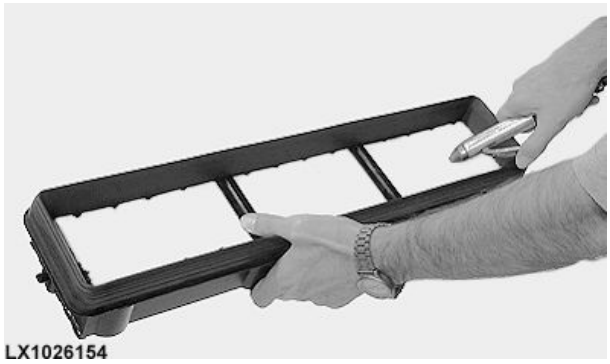
OU12401,000133A -19-17OCT05-1/1

Clean the Cab Air Filters

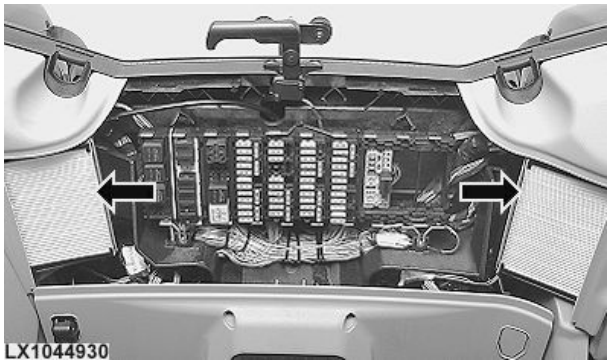
NOTE: On tractors equipped with Ultra-Gard activated carbon filters, the filters cannot be cleaned. These filters must be replaced with new ones every 500 hours or once a year at the latest.

Every time the primary filter is serviced, also remove the two cab air filters and the recirculated air filters, and clean them with compressed air directed from the clean side.

Replace cab air filters together with engine primary air filter element.



LX1026154 —UN—21MAY01



LX1044930 —UN—11DEC07

OU12401,0001916 -19-10DEC07-1/1

Clean Radiator and Condenser (if equipped)

For efficient cooling, the radiator screen must be kept clean.

Pull the screen (if equipped) out to the side. Remove any dirt from radiator and radiator screen.

Replace radiator screen.

NOTE: If the tractor is equipped with an air-conditioning system, pull the condenser of the air-conditioning system out to the side before cleaning the radiator (see description below).

LX1037231 —UN—02NOV05

Continued on next page

OU12401,000133C -19-17OCT05-1/2

Tractors with Air-Conditioning

For efficient cooling, the exterior of the condenser must be kept clean.

Pull the screen (if equipped) out to the side. Remove any contamination.

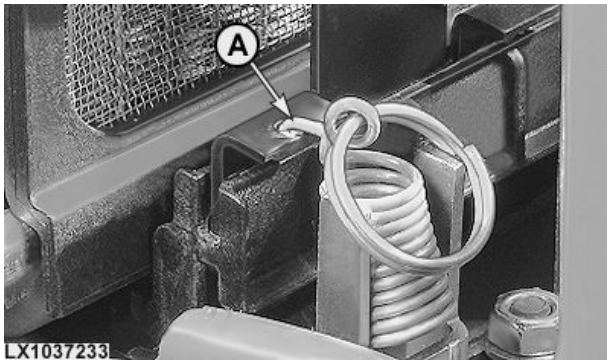
Disconnect spring (A) on both tractor sides and pull the condenser out to the side. Remove any contamination.

When re-installing condenser, make sure that it engages properly in the lower and upper guide rails (B and C respectively). Also make sure that the condenser is centered in relation to the radiator. Re-connect springs (A) on both sides.

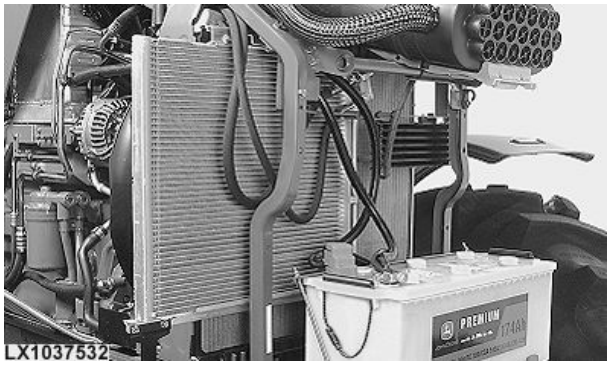
Replace condenser and radiator screens.

A—Spring
B—Lower guide rail
C—Upper guide rail

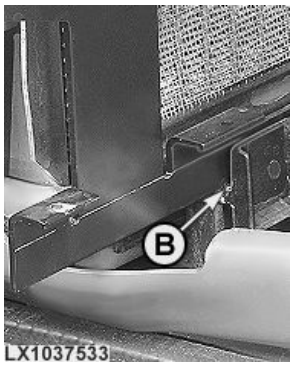
LX1037232 —UN—02NOV05



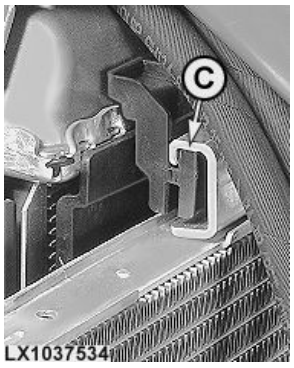
LX1037233 —UN—02NOV05



LX1037532 —UN—02NOV05



LX1037533 —UN—02NOV05



LX1037534 —UN—02NOV05

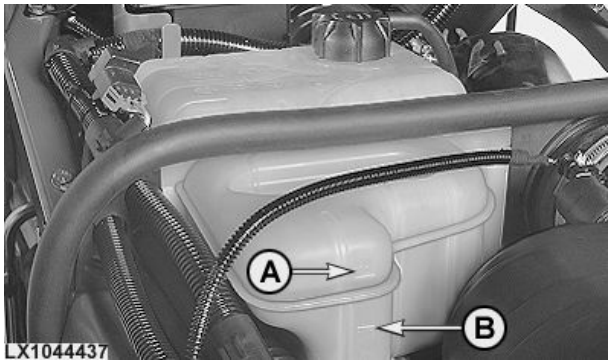
OU12401,000133C -19-17OCT05-2/2

Check Coolant Level

If coolant temperature is too high, rectify the cause (dirty radiator, clogged screen, coolant level too low).

Coolant level should be close to the max. mark (A). It must under no circumstances fall below the min. mark (B).

A—Max. mark **B—Min. mark**



LX1044437 —UN—11DEC07

OU12401,0001D1F -19-15OCT09-1/1

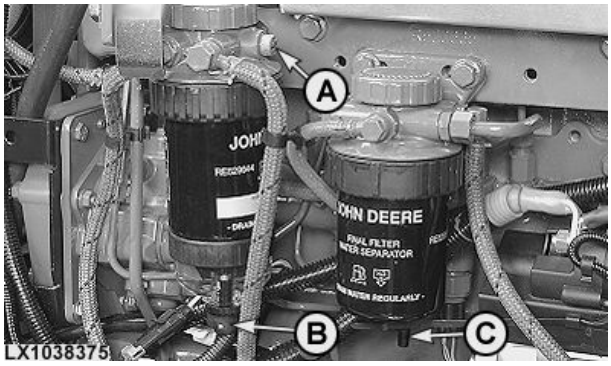
Checking the Fuel Filter

If water or sediment deposits have settled in filter, proceed as follows:

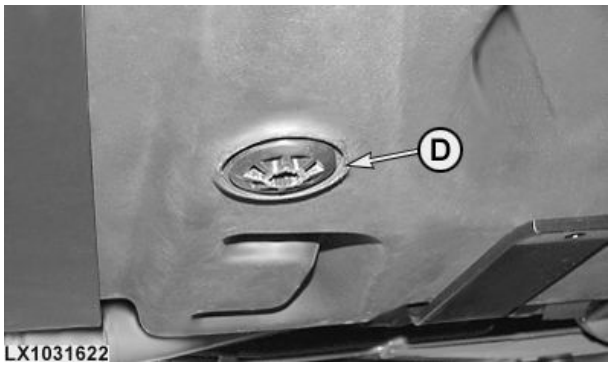
1. Open bleed screw (A).
2. Open drain plug (B) by 3/4 of a turn. Retighten the plug as soon as water and sediment deposits have drained out.
3. Open drain plug (C) by 3/4 of a turn. Retighten the plug as soon as water and sediment deposits have drained out.
4. Tighten bleed screw (A).
5. Turn key in main switch to the right to the first switch position so that the fuel transfer pump is operating. Keep the pump running for approx. 40 seconds.

If water was present in fuel filter, use a 1/2-inch square-section key to loosen drain plug (D) under the fuel tank by one turn. After draining off any water and sediment deposits, retighten drain plug until hand-tight.

A—Bleed screw
B—Drain plug
C—Drain plug
D—Drain plug (fuel tank)



LX1038375 —UN—31MAY06



LX1031622 —UN—23JAN06

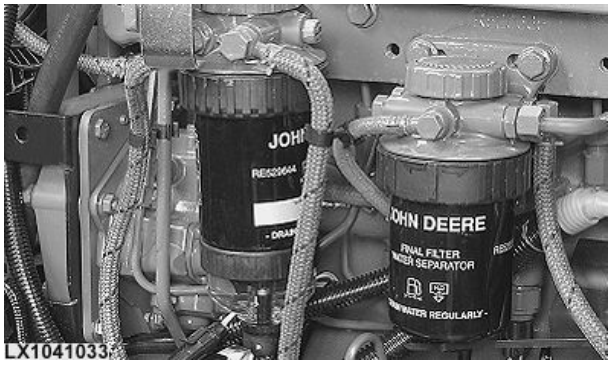
OU12401,0001433 -19-06JUN06-1/1

Bleeding Air from the Fuel System

CAUTION: High-pressure fluid remaining in fuel lines can cause serious injury. Do not disconnect or attempt to repair fuel lines, sensors or any other components between injection pump and nozzles.

The fuel system must be bled whenever the fuel tank has been run dry or the fuel filters have been replaced.

Turn key in main switch to the right to the first switch position so that the fuel transfer pump is operating. Keep the pump running for approx. 40 seconds.



LX1041033 —UN—09JUN06

OU12401,0001440 -19-07JUN06-1/1

Lubricate All Lubricating Points

If the tractor has been washed with high-pressure water, lubricate all lubricating points with John Deere multi-purpose grease.

OU12401,000133E -19-17OCT05-1/1

Operator's Seat

Lubricate the slide rails with John Deere multi-purpose grease.

OU12401,000133F -19-17OCT05-1/1

Prevent Battery Explosions

Keep sparks, lighted matches, and open flame away from the top of battery. Battery gas can explode.

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

Do not charge a frozen battery; it may explode. Warm battery to 16°C (60°F).

TS204 —UN—23AUG88

DX,SPARKS -19-03MAR93-1/1

Battery - Checking Specific Gravity

Use an hydrometer to check the specific gravity of the electrolyte in each battery cell.

A fully charged battery should have a specific gravity reading of 1.28. Recharge battery if reading drops below 1.20.

NOTE: In tropical regions, the battery is fully charged when the reading is 1.23.

LX1036507 —UN—08JUN06

OULXE59,0010860 -19-18MAR06-1/1

Starter Motor

If the starter motor fails to operate after the starter switch has been operated, the complete starter system must be thoroughly checked. Check specific gravity of battery with an hydrometer and make sure that none of the cables are broken or worn through and that none of the cable connections are loose or corroded.

If the above checks fail to improve the operation of the starter motor, see your John Deere dealer.

OU12401,000093E -19-01MAY01-1/1

Fuses and Relays in the Engine Compartment

IMPORTANT: To prevent damage to the electrical system, never use a fuse with a higher rating than the one already installed.

NOTE: Depending on how the tractor is equipped, it may not have all the fuses and relays shown below.

The fuse and relay box is located at the upper right-hand side of the engine compartment.

Open the hood.

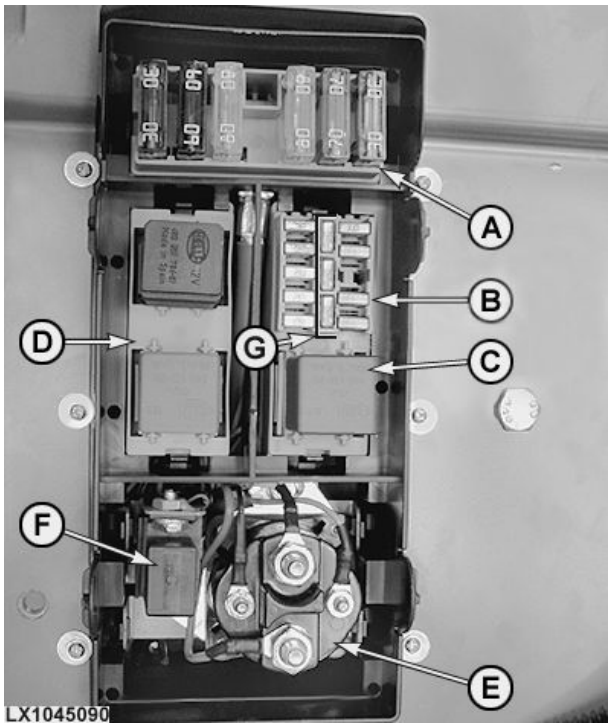
Take cover (A) off the fuse and relay box.

LX1037381 —UN—20FEB06

OU12401,0001561 -19-17NOV06-1/1

Fuses and Relays (Engine Compartment)

A—Fuses F01PLB
B—Fuses F02PLB
C—Relay K02PLB
D—Relays K03PLB
E—Relay K01PLB
F—Not used
G—Spare fuses

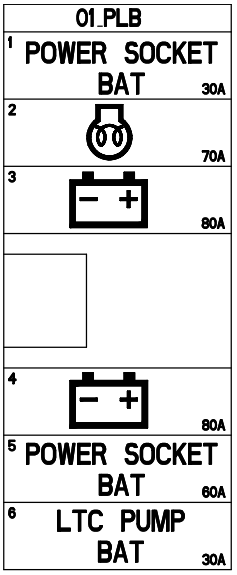


LX1045090 —UN—24APR08

OU12401,00019C3 -19-24APR08-1/1

Fuses F01PLB (Engine Compartment)

Number	Capacity (amps)	Consumer
F01PLB-/01	30 amps	ISOBUS socket at rear (power supply to implement control units)
F01PLB-/02	70 amps	Heating element of electrical starting aid
F01PLB-/03	80 amps	Main fuse
F01PLB-/04	80 amps	Main fuse
F01PLB-/05	60 amps	ISOBUS socket at rear (power supply to components)
F01PLB-/06	—	Not used



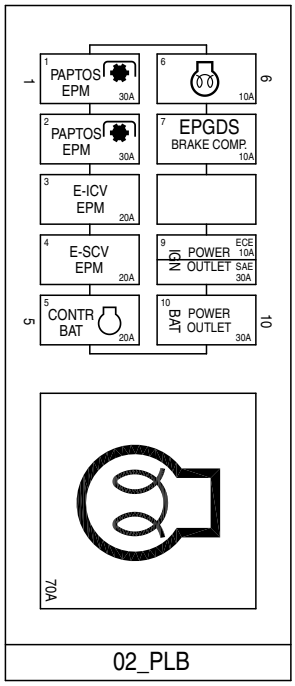
LX1037972

LX1037972 —UN—22AUG06

OU12401,0001563 -19-17NOV06-1/1

Fuses F02PLB (Engine Compartment)

Number	Capacity (amps)	Consumer
F02PLB-/01	30 amps	Magnetic coils for PTO speeds
F02PLB-/02	30 amps	Magnetic coils for PTO speeds
F02PLB-/03	20 amps	E-ICV stepper motors
F02PLB-/04	20 amps	E-SCV stepper motors
F02PLB-/05	20 amps	ECU (engine control unit)
F02PLB-/06	10 amps	Monitoring of electrical starting aid
F02PLB-/07	—	Not used
F02PLB-/08	—	Not used
F02PLB-/09	30 amps	3-terminal socket, power outlet strip, 7-terminal socket (SAE)
	10 amps	3-terminal socket, socket strip (ECE)
F02PLB-/10	30 amps	3-terminal socket, socket strip

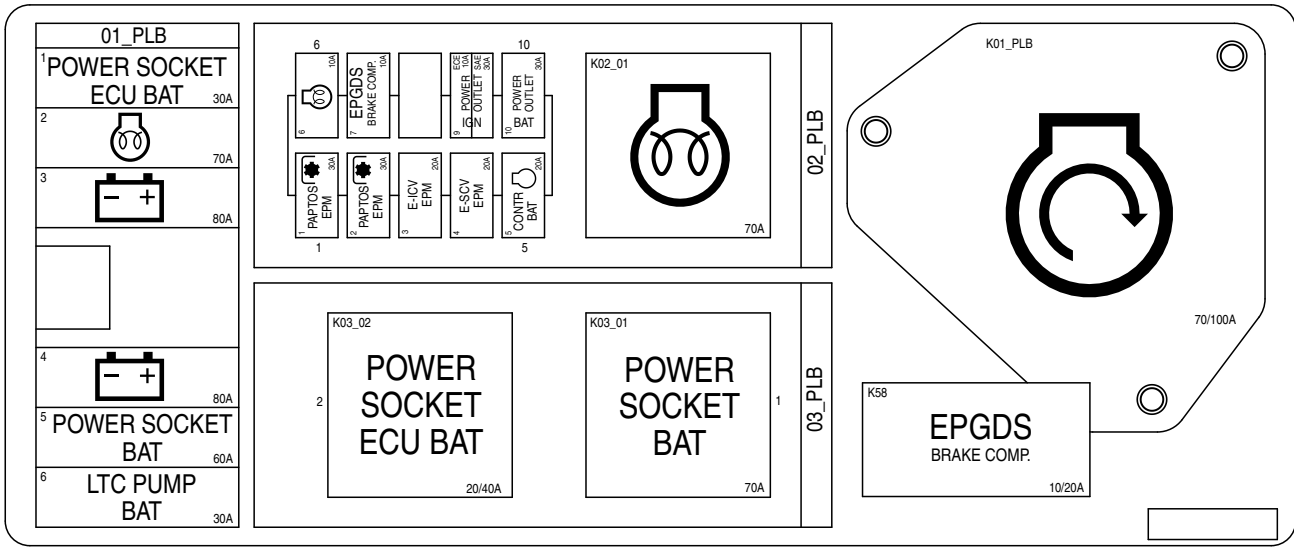


LX1044656

LX1044656 —UN—23NOV07

OU12401,0001918 -19-10DEC07-1/1

Relays K01PLB to K03PLB (Engine Compartment)



LX1044666

Number	Capacity (amps)	Designation
K01PLB	70/100 amps	Starting motor relay
K02PLB-/01	70 amps	Relay for electrical starting aid
K03PLB-/01	70 amps	Relay for power supply to ISOBUS socket at rear
K03PLB-/02	20/40 amps	Relay for power supply to implement control units (ISOBUS socket) at rear
K58	—	Not used

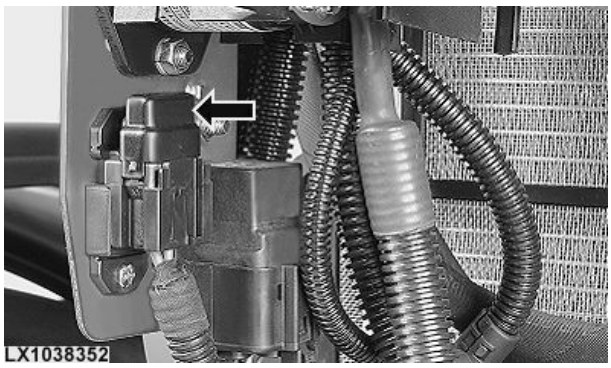
OU12401,0001919 -19-10DEC07-1/1

Fuse on Tractors with a Battery Cut-Off Switch

This fuse is located in front of the radiator.

Number	Consumer	Capacity (amps)
F27	Unswitched power for radio, CommandCenter and GreenStar Display	10 amps

NOTE: Replace blown fuse with a new 10-amp fuse.



LX1038352 —UN—18MAY06

OU12401,00015DB -19-27MAY10-1/1

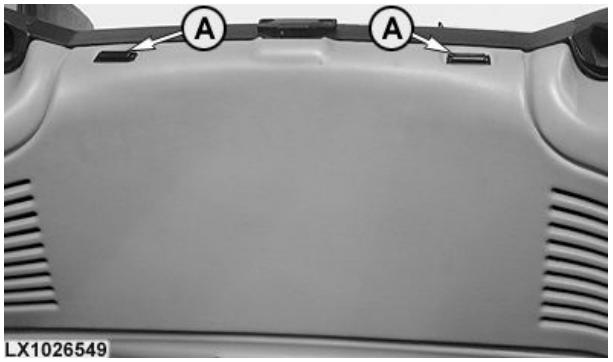
Fuses and Relays in the Cab (Tractors with PowrQuad Transmission)

IMPORTANT: To prevent damage to the electrical system, never use a fuse with a higher rating than the one already installed.

NOTE: Depending on how the tractor is equipped, it may not have all the fuses and relays shown below.

The fuse and relay box is located behind the operator's seat just below the rear window.

Press down latches (A) and lift off the trim panel.

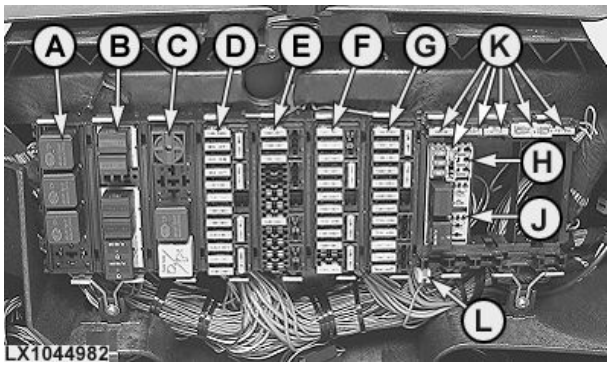


LX1026549 —UN—30JUL01

OU12401,0001566 -19-17NOV06-1/1

Fuses and Relays (PowrQuad Transmission)

A—Relays K01
B—Relays K02
C—Relays K03
D—Fuses F04
E—Fuses F05
F—Fuses F06
G—Fuses F07
H—Fuses F08
J—Relays K08
K—Spare fuses
L—Tool for changing fuses

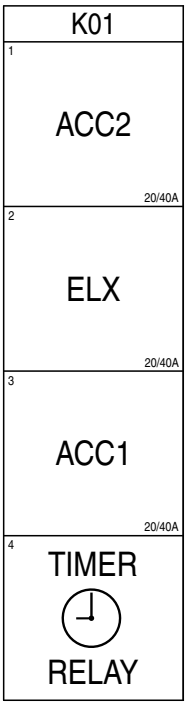


LX1044982 —UN—24APR08

OU12401,00019C1 -19-23APR08-1/1

Relays K01 (PowrQuad Transmission)

Number	Capacity (amps)	Designation
K01/01	20/40 amps	Relay for power supply to accessories
K01/02	20/40 amps	Relay for power supply to electronics
K01/03	20/40 amps	Relay for power supply to accessories
K01/04	—	Timer



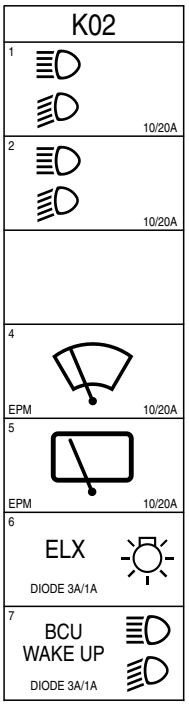
LX1044663

LX1044663 —UN—23NOV07

OU12401,000191B -19-10DEC07-1/1

Relays / Diodes K02 (PowrQuad Transmission)

Number	Capacity (amps)	Designation
K02/01	10/20 amps	Relay for low/high beam headlights
K02/02	10/20 amps	Relay for lights
K02/03	-	Not used
K02/04	10/20 amps	Relay for windshield wiper
K02/05	10/20 amps	Relay for rear window wiper
K02/06	1 amp	Diode for power supply to electronics
K02/06	3 amps	Diode for lights
K02/07	1 amp	Diode for low/high beam headlight relay
K02/07	3 amps	Diode for power supply to control units PC0 and PC6, BCU activation



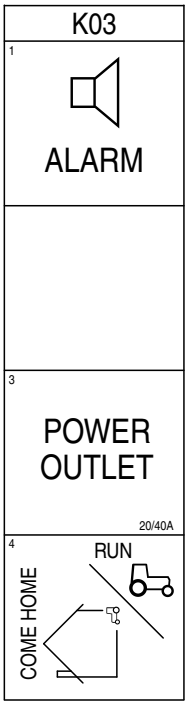
LX1044664

LX1044664 —UN—23NOV07

OU12401,000191C -19-10DEC07-1/1

Relays K03 (PowrQuad Transmission)

Number	Capacity (amps)	Designation
K03/01	-	Acoustic alarm
K03/02	-	Not used
K03/03	20/40 amps	Relay for 3-terminal socket, power outlet strip, 7-terminal socket (SAE)
K03/04	-	Plug for "come home" mode



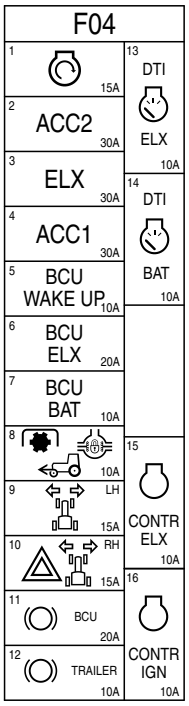
LX1044665

LX1044665 —UN—23NOV07

OU12401,000191D -19-10DEC07-1/1

Fuses F04 (PowrQuad Transmission)

Number	Rating (amps)	Consumer
F04/01	15 A	Main (key) switch
F04/02	30 A	Power supply for accessories
F04/03	30 A	Power supply for electronics
F04/04	30 A	Power supply for accessories
F04/05	10 A	PC0 control unit, PC6 control unit, CAN-BUS (vehicle), BCU activation
F04/06	20 A	BCU control unit
F04/07	10 A	BCU control unit
F04/08	10 A	BCU control unit (rear PTO, front PTO, front-wheel drive, differential lock, HMS Plus, park brake monitor, radar)
F04/09	15 A	Left turn signal
F04/10	15 A	Right turn signal, hazard warning lights
F04/11	20 A	Brake switch
F04/12	10 A	Brake lights
F04/13	10 A	BIF control unit, BIF control unit (wipers), DTI control unit
F04/14	10 A	BIF control unit, DTI control unit
F04/15	10 A	ECU control unit
F04/16	10 A	ECU control unit



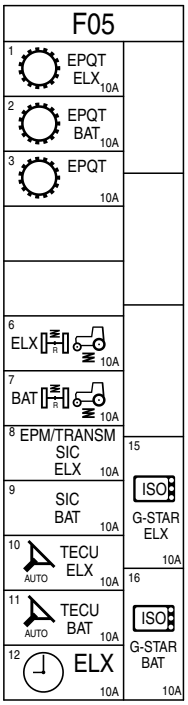
LX1044658

LX1044658 —UN—23NOV07

OU12401,0001CF6 -19-03OCT09-1/1

Fuses F05 (PowrQuad Transmission)

Number	Capacity (amps)	Consumer
F05/01	10 amps	EPC control unit
F05/02	10 amps	EPC control unit
F05/03	10 amps	EPC control unit (transmission speed sensor, hydraulic oil filter sensor)
F05/04	-	Not used
F05/05	-	Not used
F05/06	10 amps	TSC control unit
F05/07	10 amps	TSC control unit
F05/08	10 amps	SIC control unit, PC5 control unit, CAN-BUS (E-SCV/E-ICV)
F05/09	10 amps	SIC control unit
F05/10	10 amps	TEC control unit, SSU control unit
F05/11	10 amps	TEC control unit, SSU control unit
F05/12	10 amps	Timer
F05/13	-	Not used
F05/14	-	Not used
F05/15	10 amps	GreenStar
F05/16	10 amps	GreenStar



LX1044660

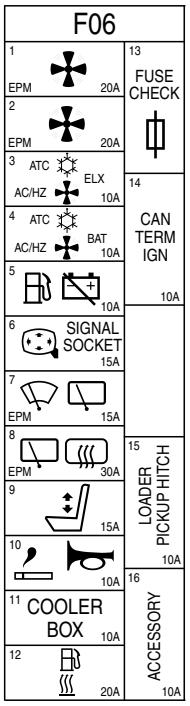
LX1044660 —UN—23NOV07

OU12401,0001920 -19-10DEC07-1/1

Fuses F06 (PowrQuad Transmission)

Number	Capacity (amps)	Consumer
F06/01	20 amps	Fan motor
F06/02	20 amps	Fan motor
F06/03	10 amps	ATC/ETC/HTC control unit
F06/04	10 amps	ATC/ETC/HTC control unit, radio
F06/05	10 amps	Fuel pump, battery cut-off switch
F06/06	15 amps	Electrical rear-view mirrors, signal socket
F06/07	15 amps	Windshield wiper motor, rear window wiper motor
F06/08	30 amps	Rear window wiper motor, rear window heater
F06/09	15 amps	Operator's seat
F06/10	10 amps	Cigarette lighter, horn
F06/11	10 amps	Electrical cooling compartment
F06/12	20 amps	Fuel preheater
F06/13	-	Fuse tester
F06/14	10 amps	CAN BUS (power train)
F06/15	10 amps	Plug for front loader, electro-hydraulic pick-up hitch
F06/16	10 amps	Plug for accessories

LX1044659



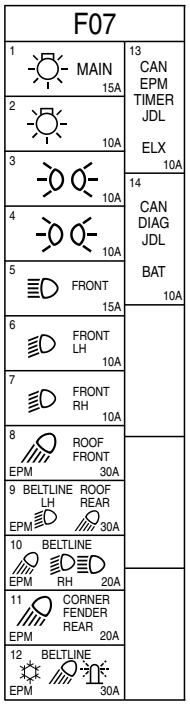
LX1044659 —UN—23NOV07

OU12401,0001921 -19-10DEC07-1/1

Fuses F07 (PowrQuad Transmission)

Number	Capacity (amps)	Consumer
F07/01	15 amps	Light switch
F07/02	10 amps	Lights
F07/03	10 amps	Left-hand tail light, right-hand clearance light (ECE), license plate light (ECE)
F07/04	10 amps	Right-hand tail light, left-hand clearance light (ECE)
F07/05	15 amps	High-beam headlights
F07/06	10 amps	Low-beam headlight (left)
F07/07	10 amps	Low-beam headlight (right)
F07/08	20 amps	Worklights on front of roof
F07/09	30 amps	Worklights on rear of roof, xenon (HID) worklights on rear of roof, lights on cab frame (left-hand low-beam)
F07/10	20 amps	Lights on cab frame (high beam), lights on cab frame (right-hand low-beam), worklights on cab frame
F07/11	20 amps	Front corner worklights, worklights on rear fender
F07/12	30 amps	Beacon light, air-conditioning system, worklights on cab frame, xenon (HID) worklights on cab frame
F07/13	10 amps	JDL control unit, CAN BUS (vehicle)
F07/14	10 amps	JDL control unit, service socket
F07/15	-	Not used
F07/16	-	Not used

LX1044661

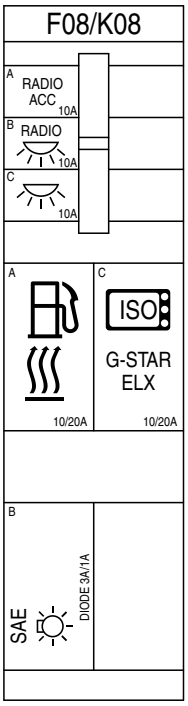


LX1044661 —UN—26NOV07

OU12401,0001922 -19-10DEC07-1/1

Fuses F08 (PowrQuad Transmission)

Number	Capacity (amps)	Consumer
F08/A	10 amps	Radio
F08/B	10 amps	Console light, radio light
F08/C	10 amps	Dome light, access-step light
F08/D	-	Not used
F08/E	-	Not used
F08//F	-	Not used



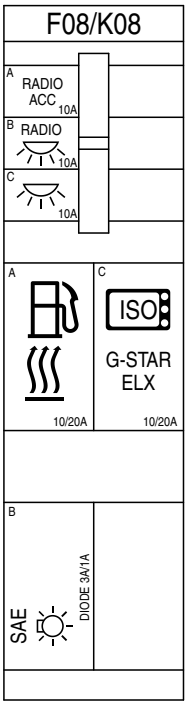
LX1044662

LX1044662 —UN—23NOV07

OU12401,0001923 -19-10DEC07-1/1

Relays / Diodes K08 (PowrQuad Transmission)

Number	Capacity (amps)	Designation
K08/A	10/20 amps	Fuel preheater relay
K08/B	1 amp	Not used
K08/B	3 amps	Diode for lights (SAE)
K08/C	10/20 amps	Relay for GreenStar display
K08/D	-	Not used



LX1044662

LX1044662 —UN—23NOV07

OU12401,000191E -19-10DEC07-1/1

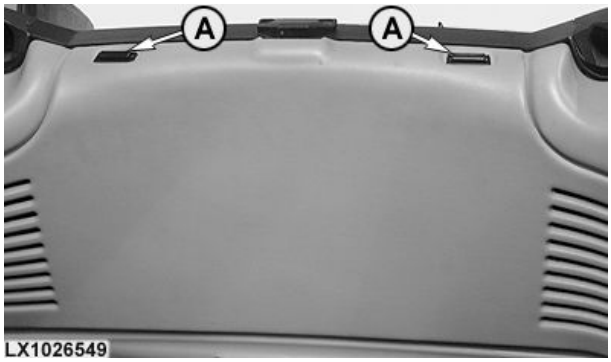
Fuses and Relays in the Cab (Tractors with AutoPowr/IVT)

IMPORTANT: To prevent damage to the electrical system, never use a fuse with a higher rating than the one already installed.

NOTE: Depending on how the tractor is equipped, it may not have all the fuses and relays shown below.

The fuse and relay box is located behind the operator's seat just below the rear window.

Press down latches (A) and lift off the trim panel.

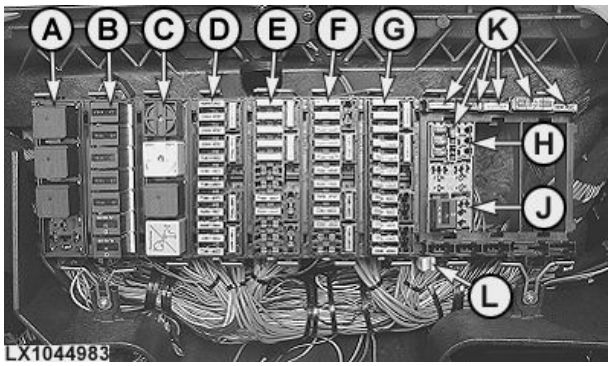


LX1026549 —UN—30JUL01

OU12401,000156F -19-17NOV06-1/1

Fuses and Relays (AutoPowr/IVT)

A—Relays K01
B—Relays K02
C—Relays K03
D—Fuses F04
E—Fuses F05
F—Fuses F06
G—Fuses F07
H—Fuses F08
J—Relays K08
K—Spare fuses
L—Tool for changing fuses

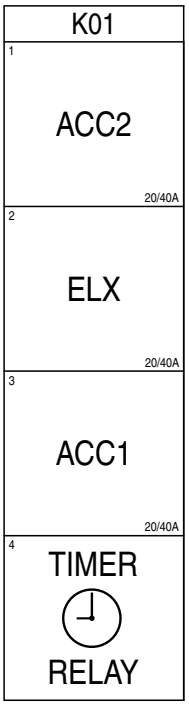


LX1044983 —UN—24APR08

OU12401,00019C2 -19-23APR08-1/1

Relays K01 (AutoPowr/IVT)

Number	Capacity (amps)	Designation
K01/01	20/40 amps	Relay for power supply to accessories
K02/02	20/40 amps	Relay for power supply to electronics
K01/03	20/40 amps	Relay for power supply to accessories
K01/04	-	Timer



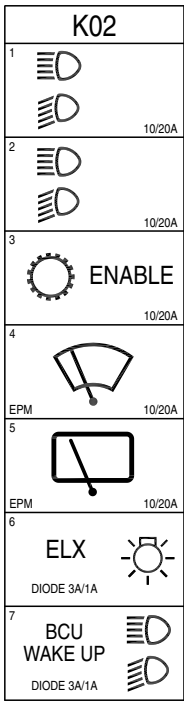
LX1044663

LX1044663 —UN—23NOV07

OU12401,000192A -19-10DEC07-1/1

Relays / Diodes K02 (AutoPowr/IVT)

Number	Capacity (amps)	Designation
K02/01	10/20 amps	Relay for low/high beam headlights
K02/02	10/20 amps	Relay for lights
K02/03	10/20 amps	Transmission enable relay
K02/04	10/20 amps	Relay for windshield wiper
K02/05	10/20 amps	Relay for rear window wiper
K02/06	1 amp	Diode for power supply to electronics
K02/06	3 amps	Diode for lights
K02/07	1 amp	Diode for low/high beam headlight relay
K02/07	3 amps	Diode for power supply to control units PC0 and PC6, BCU activation



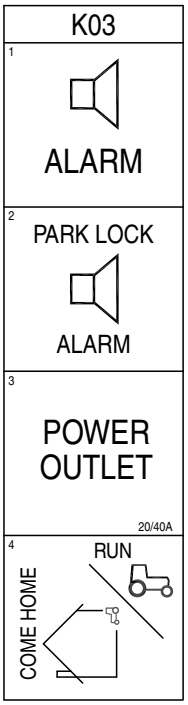
LX1044668

LX1044668 —UN—23NOV07

OU12401,000192B -19-10DEC07-1/1

Relays K03 (AutoPowr/IVT)

Number	Capacity (amps)	Designation
K03/01	-	Acoustic alarm
K03/02	-	Acoustic alarm for park lock
K03/03	20/40 amps	Relay for 3-terminal socket, power outlet strip, 7-terminal socket (SAE)
K03/04	-	Plug for "come home" mode



LX1044669

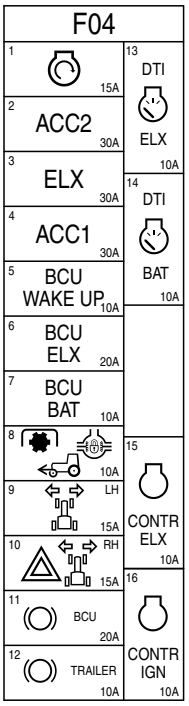
LX1044669 —UN—23NOV07

OU12401,000192C -19-10DEC07-1/1

Fuses F04 (AutoPowr/IVT)

Number	Rating (amps)	Consumer
F04/01	15 A	Main (key) switch
F04/02	30 A	Power supply for accessories
F04/03	30 A	Power supply for electronics
F04/04	30 A	Power supply for accessories
F04/05	10 A	PC0 control unit, PC6 control unit, CAN-BUS (vehicle), BCU activation
F04/06	20 A	BCU control unit
F04/07	10 A	BCU control unit
F04/08	10 A	BCU control unit (rear PTO, front PTO, front-wheel drive, differential lock, HMS Plus, park brake monitor, radar)
F04/09	15 A	Left turn signal
F04/10	15 A	Right turn signal, hazard warning lights
F04/11	20 A	Brake switch
F04/12	10 A	Brake lights
F04/13	10 A	BIF control unit, BIF control unit (wipers), DTI control unit
F04/14	10 A	BIF control unit, DTI control unit
F04/15	10 A	ECU control unit
F04/16	10 A	ECU control unit

LX1044658



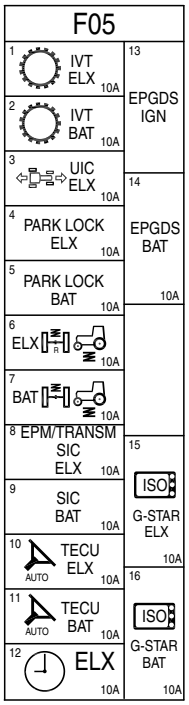
LX1044658 —UN—23NOV07

OU12401,0001CE5 -19-21SEP09-1/1

Fuses F05 (AutoPowr/IVT)

Number	Capacity (amps)	Consumer
F05/01	10 amps	TCU control unit
F05/02	10 amps	TCU control unit
F05/03	10 amps	UIC control unit
F05/04	10 amps	PLC control unit
F05/05	10 amps	PLC control unit
F05/06	10 amps	TSC control unit
F05/07	10 amps	TSC control unit
F05/08	10 amps	SIC control unit, PC5 control unit, CAN-BUS (E-SCV/E-ICV)
F05/09	10 amps	SIC control unit
F05/10	10 amps	TEC control unit, SSU control unit
F05/11	10 amps	TEC control unit, SSU control unit
F05/12	10 amps	Timer
F05/13	-	Not used
F05/14	-	Not used
F05/15	10 amps	GreenStar
F05/16	10 amps	GreenStar

LX1044667

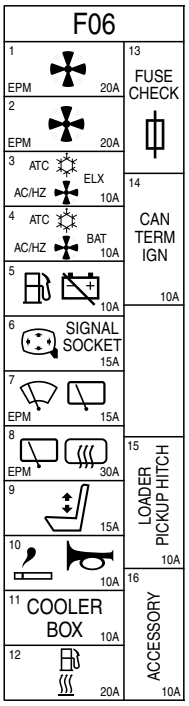


LX1044667 —UN—23NOV07

OU12401,000192F -19-10DEC07-1/1

Fuses F06 (AutoPowr/IVT)

Number	Capacity (amps)	Consumer
F06/01	20 amps	Fan motor
F06/02	20 amps	Fan motor
F06/03	10 amps	ATC/ETC/HTC control unit
F06/04	10 amps	ATC/ETC/HTC control unit, radio
F06/05	10 amps	Fuel pump, battery cut-off switch
F06/06	15 amps	Electrical rear-view mirrors, signal socket
F06/07	15 amps	Windshield wiper motor, rear window wiper motor
F06/08	30 amps	Rear window wiper motor, rear window heater
F06/09	15 amps	Operator's seat
F06/10	10 amps	Cigarette lighter, horn
F06/11	10 amps	Electrical cooling compartment
F06/12	20 amps	Fuel preheater
F06/13	-	Fuse tester
F06/14	10 amps	CAN BUS (power train)
F06/15	10 amps	Plug for front loader, electro-hydraulic pick-up hitch
F06/16	10 amps	Plug for accessories



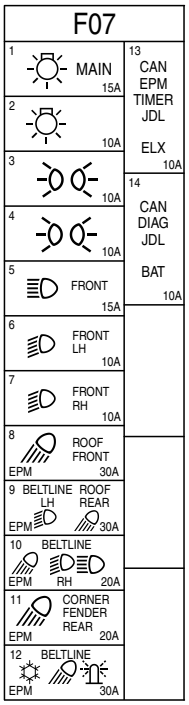
LX1044659

LX1044659 —UN—23NOV07

OU12401,0001930 -19-10DEC07-1/1

Fuses F07 (AutoPowr/IVT)

Number	Capacity (amps)	Consumer
F07/01	15 amps	Light switch
F07/02	10 amps	Lights
F07/03	10 amps	Left-hand tail light, right-hand clearance light (ECE), license plate light (ECE)
F07/04	10 amps	Right-hand tail light, left-hand clearance light (ECE)
F07/05	15 amps	High-beam headlights
F07/06	10 amps	Low-beam headlight (left)
F07/07	10 amps	Low-beam headlight (right)
F07/08	20 amps	Worklights on front of roof
F07/09	30 amps	Worklights on rear of roof, xenon (HID) worklights on rear of roof, lights on cab frame (left-hand low-beam)
F07/10	20 amps	Lights on cab frame (high beam), lights on cab frame (right-hand low-beam), worklights on cab frame
F07/11	20 amps	Front corner worklights, worklights on rear fender
F07/12	30 amps	Beacon light, air-conditioning system, worklights on cab frame, xenon (HID) worklights on cab frame
F07/13	10 amps	JDL control unit, CAN BUS (vehicle)
F07/14	10 amps	JDL control unit, service socket
F07/15	-	Not used
F07/16	-	Not used



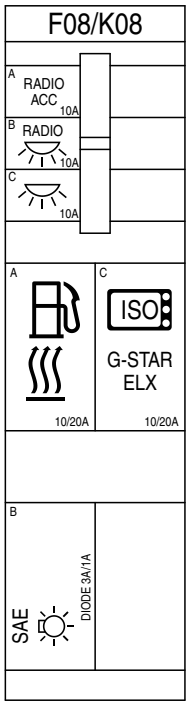
LX1044661

LX1044661 —UN—26NOV07

OU12401,0001931 -19-10DEC07-1/1

Fuses F08 (AutoPowr/IVT)

Number	Capacity (amps)	Consumer
F08/A	10 amps	Radio
F08/B	10 amps	Console light, radio light
F08/C	10 amps	Dome light, access-step light
F08/D	-	Not used
F08/E	-	Not used
F08//F	-	Not used



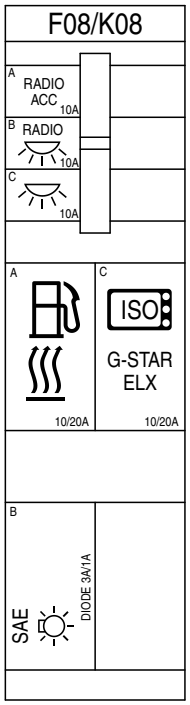
LX1044662

LX1044662 —UN—23NOV07

OU12401,0001932 -19-10DEC07-1/1

Relays / Diodes K08 (AutoPowr/IVT)

Number	Capacity (amps)	Designation
K08/A	10/20 amps	Fuel preheater relay
K08/B	1 amp	Not used
K08/B	3 amps	Diode for lights (SAE)
K08/C	10/20 amps	Relay for GreenStar display
K08/D	-	Not used



LX1044662

LX1044662 —UN—23NOV07

OU12401,000192D -19-10DEC07-1/1

Replacing the Drive Belt

NOTE: On tractors with front PTO, the drive belt must be replaced by your John Deere dealer.

Pull the catch and lift the hood up.

LX1026131 —UN—21MAY01

OU12401,000148F -19-25JUN06-1/4

Relieving tension on the drive belt

CAUTION: Disconnect negative (—) cable from battery.

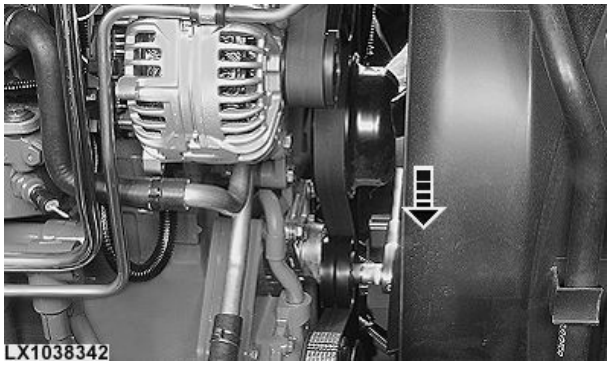
Remove cover on tensioner roll (C). Turn tensioner roll cap screw using a 15 mm (19/32 in.) wrench (see arrow). The drive belt tensioner automatically goes back to tensioning position.

The drive belt tensioner can be kept in relieved position as follows:

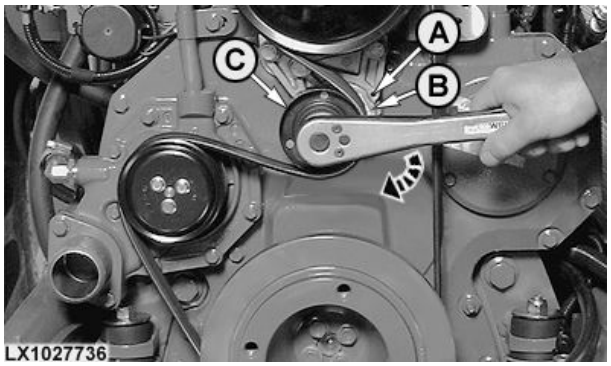
Turn tensioner roll cap screw (see arrow) until bores (A) and (B) are aligned. Insert a 5 mm (0.2 in.) dia. pin into the two holes that are in alignment.

For tensioning, turn tensioner roll slightly to release metal pin and pull it from the bores. The drive belt tensioner returns to its tensioning position automatically.

A—Hole (cam)
B—Hole (base plate)
C—Tensioner roll



LX1038342 —UN—18MAY06



LX1027736 —UN—28AUG01

Continued on next page

OU12401,000148F -19-25JUN06-2/4

Replacing the drive belt

Take the six screws (A) out of the fan.

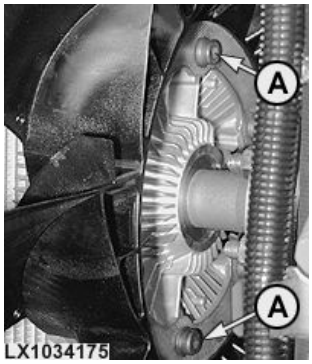
Take drive belt (B) off over fan (C) and put on a new drive belt (see below for routing of belt).

IMPORTANT: When installing, always use new corrugated-head screws.

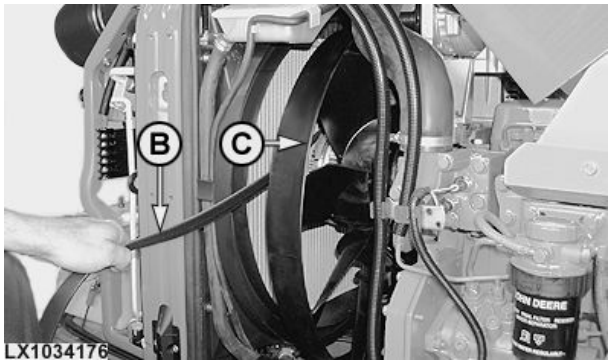
Tighten corrugated-head screws to the following specification.

Specification	
Attachment to fan—Torque	22 – 28 Nm 16 – 21 lb-ft

A—Corrugated-head screws
B—Drive belt
C—Fan

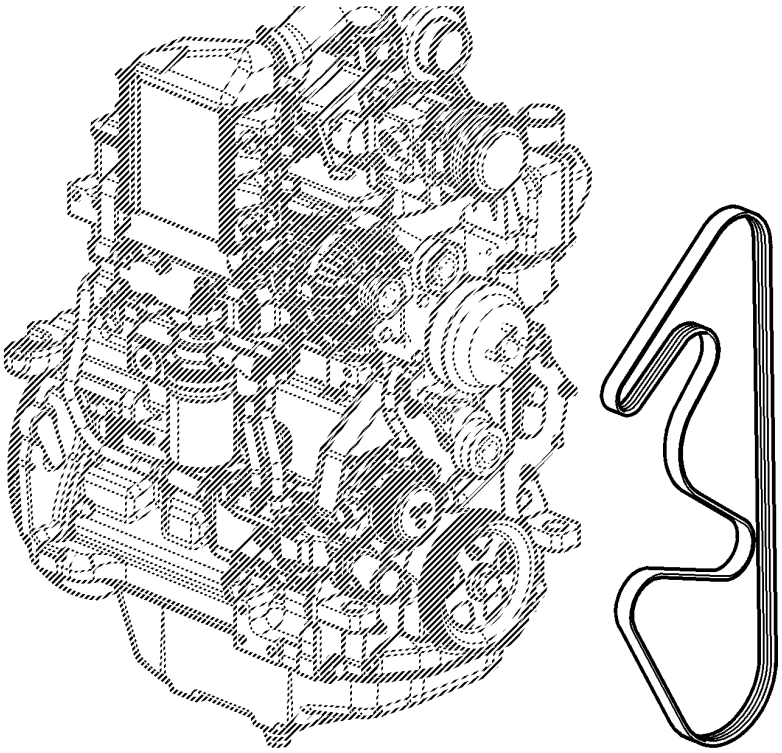


LX1034175 —UN—14JUN04



LX1034176 —UN—14JUN04

OU12401,000148F -19-25JUN06-3/4



LX1038377

LX1038377 —UN—29MAY06

Install the drive belt correctly and slacken drive belt tensioner again.

OU12401,000148F -19-25JUN06-4/4

Hydraulic System

Symptom	Problem	Solution
Hydraulic system fails to function	Not enough oil in the system	Correct oil level.
	Open electrical circuit	Check fuses.
Filter plugged/by-passed warning is active	Filter plugged	Replace filter.
Hydraulic oil overheats	Cooling system overloaded	Dirty oil cooler. Coolant level low.
	Selective control valve accidentally locked in operating position	Move selective control valve to neutral position.
Hitch fails to lift load	Excessive load on hitch	Reduce load.
Hitch rate-of-drop too slow	Rate-of-drop not adjusted properly	Adjust rate-of-drop.
Insufficient sensitivity to load control	System regulator in depth control or mixed control position	Move system regulator to load control position.
Excessive sensitivity when attaching implements	System regulator in load control position	Place system regulator in depth control position.
SCVs not operating	Hoses not connected properly	Connect hoses properly.
Remote control cylinder operates too fast or too slow	Incorrect setting for rate-of-flow	With M-SCVs/M-ICVs, adjust the flow control valve. With E-SCVs/E-ICVs, adjust the rate of flow at the CommandCenter.

OU12401,0001D20 -19-15OCT09-1/1

Engine

Symptom	Problem	Solution
Engine hard to start or will not start	No fuel	Fill tank with proper fuel.
	Air in fuel system	Bleed air from fuel system
	Low ambient air temperature	Use cold weather starting aids.
	Fuel filter contaminated	Replace filter element.
	Crankcase oil too heavy	Use correct viscosity oil
	Faulty glow plugs	See your dealer.
Engine knocks	Insufficient oil in engine	Add more oil.
	Fuel injection pump incorrectly timed	See your dealer.
Engine overheats	Low coolant level	Fill radiator to proper level. Check cooling system for leaks.
	Loose or defective fan belt	Check belt and replace, if necessary.
	Cooling system needs flushing	Drain, flush and refill cooling system.
	Dirty oil cooler or grille screens	Clean oil cooler and screens.
	Defective thermostat	Remove and check thermostat.
Engine oil pressure too low	Low engine oil level	Add more engine oil.
High oil consumption	Oil of too low viscosity	Drain and refill with oil of correct viscosity.
	Leakage	Check for leaks in lines and around gaskets.
Excessive fuel consumption	Unsuitable fuel grade	Use a suitable fuel grade.
	Incorrect valve clearance	See your dealer.
	Fuel injection nozzles dirty or damaged	See your dealer.
	Engine incorrectly timed	See your dealer.
	Clogged or dirty air cleaner	Clean air cleaner.
Engine emits black or grey exhaust smoke	Unsuitable fuel grade	Use a suitable fuel grade.
	Clogged air cleaner	Clean air cleaner.

Continued on next page

Symptom	Problem	Solution
	Defective muffler	Replace muffler.
	Fuel injection nozzles dirty or damaged	See your dealer.
Engine emits white smoke	Unsuitable fuel grade	Use a suitable fuel grade.
	Cold engine	Run engine until normal operating temperature is reached.
	Defective thermostat	Replace thermostat.
	Engine incorrectly timed	See your dealer.
	Faulty glow plugs	See your dealer.

OU12401,0001D21 -19-13JUL11-2/2

Electrical System

Symptom	Problem	Solution
Battery will not charge	Loose or corroded connections	Clean and tighten battery connections.
	Fault in alternator	See your John Deere dealer
	Sulfated battery	Check specific gravity and electrolyte level of battery.
	Loose or defective alternator belt	Adjust belt tension or replace belt.
Starter inoperative	Loose or corroded connections	Clean and tighten loose connections.
	Low battery output	Check and recharge battery.
	Blown fuse	Put in a new fuse.
	Defect in starting motor	See your John Deere dealer.
Starter cranks slowly	Low battery output	Check and recharge battery.
	Crankcase oil too heavy	Drain crankcase and add correct oil.
	Loose or corroded connections	Clean and tighten loose connections.
	Defect in starting motor	See your John Deere dealer.

LX,OMTRO 013415 -19-01SEP97-1/1

What the Diagnostic Trouble Codes Mean

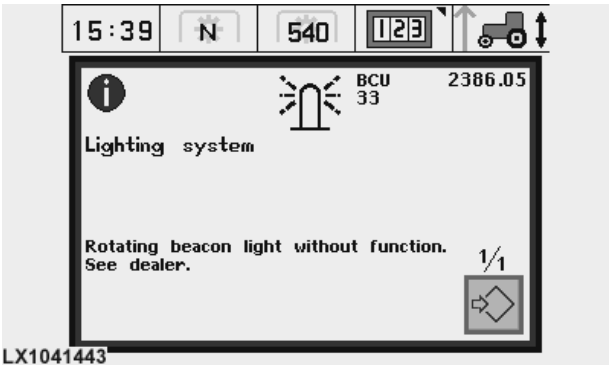
The tractor's electrical circuits are monitored by a number of different control units. While the tractor is in operation, these control units record data that can subsequently be read out. If a functional fault occurs, a diagnostic trouble code will be generated and stored in the memory. A large proportion of these codes appear before the operator automatically on his digital display (see sample illustrations).

In addition, functional faults are indicated on the dashboard by the blue INFO light, the yellow CAUTION light and the red STOP light.

Unless the displayed message is self-explanatory (e.g. transmission oil pressure too low: check oil level), you should get in touch with your John Deere dealer and discuss with him how best to proceed.

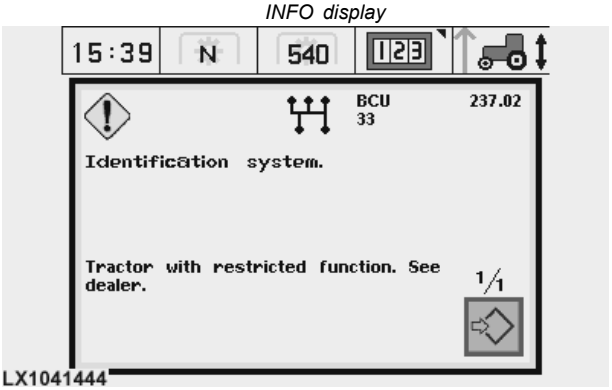
On the following pages you can read how to make all the diagnostic trouble codes appear on the display, even the ones that do not appear automatically. Diagnostic trouble codes are accessed and displayed in different ways depending on how the tractor is equipped. The following methods are possible:

- Display on CommandCenter
- Display on the GreenStar display (refer to the display operator's manual for details)



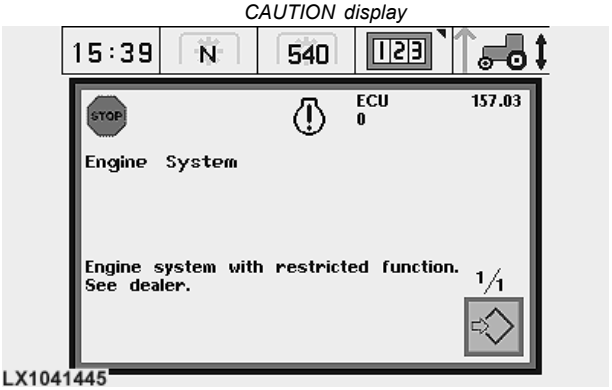
LX1041443 —UN—21NOV06

INFO display



LX1041444 —UN—21NOV06

CAUTION display



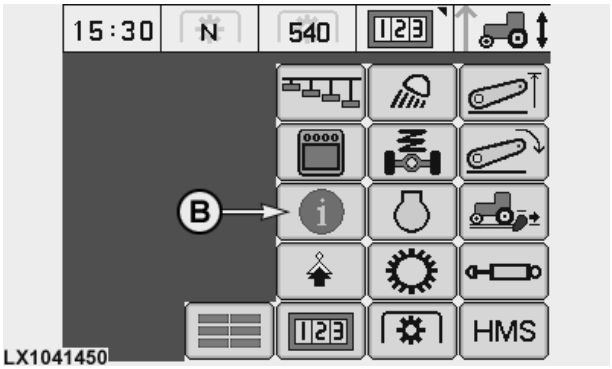
LX1041445 —UN—21NOV06

STOP display

OU12401,0001B5B -19-10FEB09-1/1

Customization

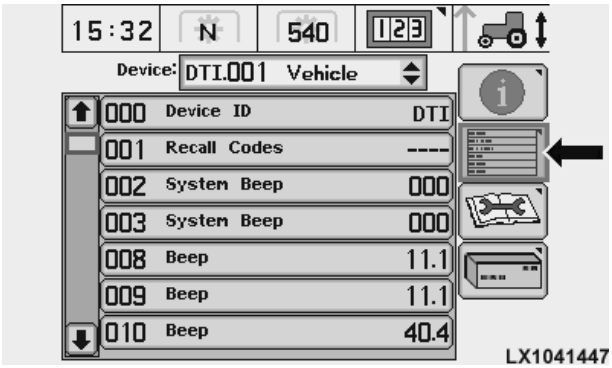
LX1037587 —UN—06NOV06



LX1041450 —UN—21NOV06

In various addresses the operator can make adjustments to adapt the operation of tractor components to his personal requirements.

This is done as follows: Press main menu key (A), select information display cell (B) and then the Diagnostic Address screen. Select desired control unit (e.g. ATC, BCU or EPC), select desired address (e.g. 033) and key in the corresponding value (see table below).



LX1041447 —UN—21NOV06

A—Main menu key **B—Information display cell**

Address	Meaning	Value
ATC033	Temperature indicator	0 alternating between desired and ambient temperature 255 desired temperature only
BCU024	Audible indicator for turn signals	0 audible indicator off 1 audible indicator on
BCU165	Rate of lift adjustment*	0 min. rate of lift 255 max. rate of lift
EPC167	Hand clutch	0 de-activated 1 activated

* value should be adjusted to 75-85 for hydraulic motor operation

OU12401,0001D81 -19-28NOV09-1/1

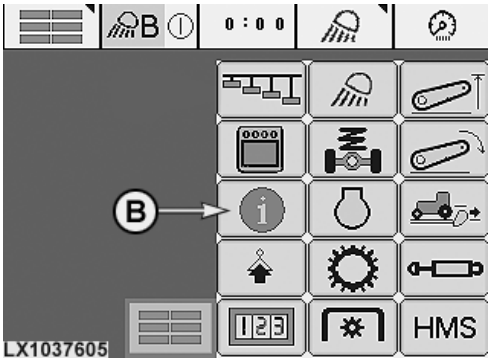
How to Access Information

Press the main menu key (A) and select the information display cell (B) on the screen.

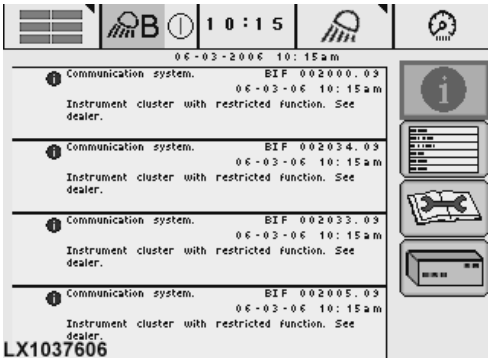
All the warning messages appear on the following screen.

A—Main menu key **B—Information display cell**

LX1037587 —UN—06NOV06



LX1037605 —UN—21MAR06



LX1037606 —UN—21MAR06

OU12401,00013B2 -19-18MAR06-1/4

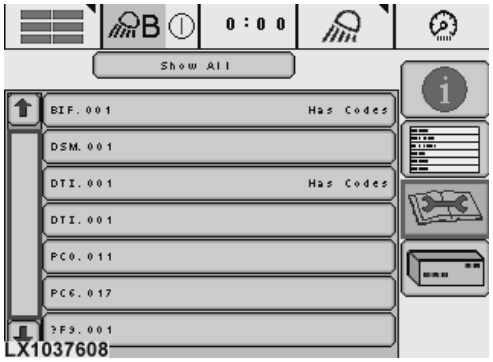
The desired control unit may be selected on the **diagnostic address** screen, where any ”customization” that is desired may be done.

LX1037607 —UN—21MAR06

Continued on next page

OU12401,00013B2 -19-18MAR06-2/4

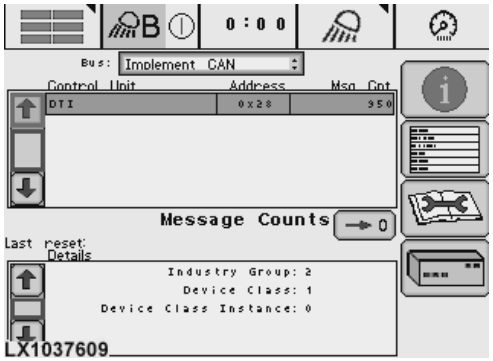
A list of control units appears and control units with diagnostic trouble codes are displayed on the **diagnostic trouble code** screen. This information can be forwarded to the John Deere dealer to identify problems with the machine.



LX1037608 —UN—21MAR06

OU12401,00013B2 -19-18MAR06-3/4

The control units that exchange data via CAN Bus are displayed on the **Control Unit** screen. A counter displays the number of messages of the relevant control unit.



LX1037609 —UN—21MAR06

OU12401,00013B2 -19-18MAR06-4/4

ATC Control Unit

The ATC (Automatic Temperature Control Unit) is responsible for controlling the ClimaTrak automatic air-conditioning system.

If diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,00013DC -19-06APR06-1/1

BCU Control Unit

The BCU (Basic Control Unit) controls the basic functions of the tractor and the hitch.

Light	Diagnostic trouble code		Basic description	Description
blue	BCU	000096.17	Fuel level is low	Fill the fuel tank.
blue	BCU	000186.17	Rear PTO	Rear PTO speed too low. Switch off and then on again.
yellow	BCU	001058.18	Brake system	Air brake pressure too low.
blue	BCU	001504.14	HMS	Check which sequences are currently active before operating with HMS.
blue	BCU	001882.17	Front PTO	Front PTO speed too low. Switch off and then on again.
blue	BCU	001894.31	Rear PTO	Rear PTO does not work. Switch off all PTO switches.
blue	BCU	001896.31	Rear PTO	Do not keep changing the preselection of rear PTO speed.
yellow	BCU	002818.31	Rear PTO	Operator not on seat.
blue	BCU	523689.31	Differential lock	Differential lock switch on all the time or stuck.
blue	BCU	523749.31	Rear PTO	Rear PTO does not work. Switch off and then on again.
yellow	BCU	523839.14	Park brake	Park brake is engaged and a gear is selected.
yellow	BCU	523839.31	Park brake	Tractor is moving although park brake is engaged.
yellow	BCU	523904.31	Front PTO	Operator not on seat.
yellow	BCU	523908.14	Rear PTO	Rear PTO can now be switched on at the switch on the fender.
blue	BCU	524216.02	HMS	Switch off the front PTO switch.
blue	BCU	524216.14	HMS	The front PTO switch must be on for operation with HMS. Caution: Unless in learn mode, PTO is switched on.
blue	BCU	524216.31	Front PTO	Switch off the front PTO switch.
blue	BCU	524224.02	HMS	Switch off the rear PTO switch.
blue	BCU	524224.14	HMS	The rear PTO switch must be on for operation with HMS. Caution: Unless in learn mode, PTO is switched on.
blue	BCU	524224.31	Rear PTO	Switch off the rear PTO switch.

If other diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,0001D84 -19-28NOV09-1/1

BIF Control Unit

The BIF (Basic Informator) is the instrument unit.

Light	Diagnostic trouble code		Brief description	Description
blue	BIF	002348.01	Lights	Lights on cab frame do not operate at high-beam. Check fuses.
blue	BIF	002348.05	Lights	Lights on cab frame do not operate at high-beam. Check bulbs.
blue	BIF	002873.31	Lights	Switch off worklights while driving on road.
blue	BIF	522427.01	Wiper	Windshield wiper inoperative. Check fuses.
blue	BIF	522435.01	Wiper	Windshield wiper inoperative. Check fuses.
blue	BIF	523900.01	Lights	Left light on cab frame not operating at low-beam. Check fuses.
blue	BIF	523909	Lights	Right light on cab frame not operating at low-beam. Check fuses.

If other diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,0001ABD -19-08OCT08-1/1

DSM Control Unit

The DSM (Distributed Tractor Informator Switch Module) is responsible for the keyboard of the CommandCenter (DTI).

Light	Diagnostic trouble code		Brief description	Description
blue	DSM	000168.04	Voltage of electrical system low	DSM inoperative. Battery voltage too low.
blue	DSM	523523.10 to 523610.10	Electrical system	Button on switch module is sticking.

If other diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,0001ABE -19-08OCT08-1/1

ECU Control Unit

The ECU (Engine Control Unit) is responsible for controlling the engine.

Light	Diagnostic trouble code		Brief description	Description
yellow	ECU	000097.16	Water trap on engine is full	Engine power is restricted. Drain the water.
yellow	ECU	000107.00	Engine air cleaner plugged	Clean or replace air cleaner.
red	ECU	000190.00	Engine speed high	Reduce engine speed.
yellow	ECU	000190.16	Engine speed high	Reduce engine speed.
blue	ECU	001569.31	Engine	Engine power cut back.
blue	ECU	523581.31	Engine	Injection system is currently being calibrated.

If other diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,0001ABF -19-08OCT08-1/1

EPC Control Unit

The EPC (Electronic PowrQuad transmission Control Unit) is the controller for PowrQuad Plus and AutoQuad Plus transmissions.

Light	Diagnostic trouble code		Brief description	Description
blue	EPC	000084.14	Transmission	Transmission operating at reduced level. Waiting for vehicle to move.
yellow	EPC	000126.16	Transmission	Transmission oil filter blocked. Change filter.
red	EPC	000127.01	Transmission	Transmission oil pressure too low. Check oil level.
red	EPC	000177.00	Transmission	Transmission oil temperature too high. Check oil level.
yellow	EPC	000177.16	Transmission	Transmission oil temperature high. Check oil level.
blue	EPC	001713.15	Transmission	Hydraulic oil filter needs to be changed soon.
yellow	EPC	001713.16	Transmission	Hydraulic oil filter blocked. Change filter.
blue	EPC	522506.31	Controls	Reverser lever not in neutral when starting. Move to neutral.
blue	EPC	523677.14	Controls	Clutch disengagement function not available.
blue	EPC	523677.31	Hand clutch	Operator not present.
blue	EPC	523961.07	Controls	Reverser lever not in neutral when park is engaged. Move to neutral.
yellow	EPC	523966.31	Transmission	Transmission's come-home mode is active.
blue	EPC	524020.31	Controls	Reverser lever not in neutral when starting. Move to neutral.
blue	EPC	524023.31 to EPC 524025	Controls	Transmission in neutral as default.

If other diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,0001AC0 -19-08OCT08-1/1

ETC Control Unit

The ETC (Electronic Temperature Control Unit) is the controller for the heater and air-conditioning system (no automatic air-conditioning system).

If diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,00013E2 -19-06APR06-1/1

HTC Control Unit

The HTC (Electronic Heater Control Unit) is the controller for the heater (no air-conditioning system).

If diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,00013E3 -19-06APR06-1/1

JDL Control Unit

The JDL (JDLink control unit) is responsible for the tractor's telecommunications.

If diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,00013E4 -19-06APR06-1/1

PLC Control Unit

The PLC (Park Lock Controller) determines how the park lock operates.

If diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,00013E5 -19-06APR06-1/1

SIC Control Unit

The SIC (E-SCV / E-ICV control unit) controls the E-SCVs and E-ICVs (selective control valves and independent control valves).

Light	Diagnostic trouble code		Brief description	Description
blue	SIC	000177.01	Selective control valves (ICV/SCV)	ICVs/SCVs inoperative. Hydraulic oil is too cold. Wait until oil has warmed up.
blue	SIC	523869.18	ICV I	ICV I inoperative. Wait until oil has warmed up.
blue	SIC	523870.18	ICV II	ICV II inoperative. Wait until oil has warmed up.
blue	SIC	523871.18	ICV III	ICV III inoperative. Wait until oil has warmed up.
blue	SIC	523887.18	SCV I	SCV I inoperative. Wait until oil has warmed up.
blue	SIC	523888.18	SCV II	SCV II inoperative. Wait until oil has warmed up.
blue	SIC	523889.18	SCV III	SCV III inoperative. Wait until oil has warmed up.
blue	SIC	523893.18	SCV IV	SCV IV inoperative. Wait until oil has warmed up.

If other diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,0001AC2 -19-08OCT08-1/1

SSU Control Unit

The SSU (Steering System Control Unit) is responsible for controlling the AutoTrac automatic steering system.

Light	Diagnostic trouble code		Brief description	Description
yellow	SSU	001504.14	AutoTrac system	Operator not on seat. AutoTrac disabled.
yellow	SSU	001504.31	AutoTrac system	Operator not on seat. Sit down on the seat.
yellow	SSU	523767.14	AutoTrac system	AutoTrac button pressed too long.

If other diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,0001B7D -19-03MAR09-1/1

TCU Control Unit

The TCU (Transmission Control Unit) controls the AutoPowr/IVT transmission.

Light	Diagnostic trouble code		Brief description	Description
yellow	TCU	000126.00	Transmission	Transmission oil filter blocked. Change filter.
red	TCU	000127.01	Transmission	Transmission oil pressure too low. Check oil level and filter.
yellow	TCU	000161.00	Transmission	Engine speed too high. Reduce ground speed.
red	TCU	000177.00	Transmission	Transmission oil temperature too high. Check oil level and filter.
yellow	TCU	000191.00	Transmission	Tractor speed too high. Reduce ground speed.

If other diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,0001AC4 -19-08OCT08-1/1

TEC Control Unit

The TEC (Tractor Equipment Control Unit) is responsible for communication between the vehicle CAN BUS and the ISOBUS.

If diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,00013E9 -19-06APR06-1/1

TEI Control Unit

The TEI (Tractor Equipment Control Unit) is responsible for communication between the vehicle CAN BUS and the ISOBUS.

If diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,00013EA -19-06APR06-1/1

TSC Control Unit

The TSC (Tractor Suspension Control Unit) is responsible for controlling the cab and front axle suspension systems.

If diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,00013EB -19-06APR06-1/1

UIC Control Unit

The UIC (User Interface Control Unit) processes the various commands given by the operator with regard to speed and direction of travel.

Light	Diagnostic trouble code		Brief description	Description
yellow	UIC	000606.16	Engine	Engine speed too high. Reduce ground speed.
blue	UIC	001504.30	Controls	Before driving, actuate brake or clutch and move to park position.
blue	UIC	001504.31	Controls	Before driving, sit on seat or actuate brake or clutch and move to park position.
blue	UIC	001713.15	Hydraulic oil filter blocked	Filter needs to be changed soon.
yellow	UIC	001713.16	Hydraulic oil filter blocked	Change filter.
blue	UIC	523956.31	Controls	When starting, move lever to forward or reverse. Shift to park position and start again.
yellow	UIC	523957.31	Electrical system	When starting, move lever to forward or reverse. Shift to park position and start again.
blue	UIC	523960.31	Controls	Before driving, sit on seat or actuate brake or clutch and move to park position.
blue	UIC	523966.11	Transmission's come-home mode is active.	Restart.
blue	UIC	523966.14	Transmission's come-home mode is active.	Select direction of travel.
blue	UIC	523966.31	Transmission's come-home mode is active.	Move lever to park position or neutral.
yellow	UIC	524020.31	Controls	When starting, move lever to forward or reverse. Shift to park position and start again.
blue	UIC	524180.07	Transmission's come-home mode is active.	To stop, press clutch.
blue	UIC	524180.14	Transmission's come-home mode is active.	Press clutch.
blue	UIC	524180.31	Transmission's come-home mode is active.	Release clutch.
blue	UIC	524190.14	Transmission	Slip control is active.
blue	UIC	524193.14	Transmission oil temperature is low.	Vehicle does not operate until oil is warm.
blue	UIC	524193.31	Transmission oil temperature is low.	Shift to park position.

If other diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,0001B7E -19-03MAR09-1/1

UIM Control Unit

The UIM (User Interface Module) is responsible for the keyboard of the GreenStar Display 2100.

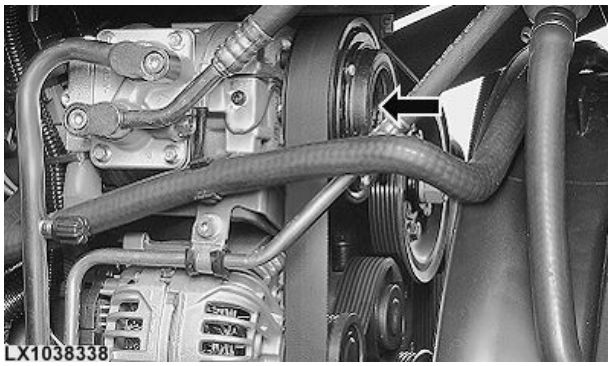
If diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,00013ED -19-06APR06-1/1

Storage for a Long Period

The following storage preparations are good for long term tractor storage up to one year. When this time is up, run the engine until it reaches operating temperature and operate some hydraulic functions. Afterwards re-treat tractor for an extended storage period.

IMPORTANT: Any time your tractor will not be used for over six (6) months, the following recommendations for storing it and removing it from storage will help to minimize corrosion and deterioration.



LX1038338 —UN—27APR06

Change the engine oil and filter. Change transmission oil and filter. Used oil will not give adequate protection.

Clean the air cleaner.

Draining and flushing of cooling system is not necessary if engine is to be stored only for several months. However, for extended storage periods of a year or longer, it is recommended that the cooling system be drained, flushed and refilled. Refill with appropriate coolant.

Fill the fuel tank.

Remove fan/alternator belt, if desired.

Remove and clean batteries. Store them in a cool, dry place and keep them fully charged.

Clean the exterior of the tractor with salt-free water and touch up any scratched or chipped painted surfaces with a good quality paint.

Coat all exposed (machined) metal surfaces with grease or corrosion inhibitor if not feasible to paint.

Seal all openings such as the vent tube and exhaust outlet.

Store the machine in a dry, protected place. If the tractor must be stored outside, cover it with a waterproof canvas or other suitable protective material and use a strong waterproof tape.

Block up the tractor so that tires do not touch the ground. Protect tires from heat and sunlight.

Tractors with air-conditioning

If tractor is equipped with an air-conditioning system, manually turn the inner part of the pulley through several revolutions once a month.

OU12401,0001D23 -19-16OCT09-1/1

Removing Tractor from Storage

Remove all protective coverings. Check tire inflation and remove blocks.

Install battery and connect cables. Negative terminals are grounded!

Check transmission and hydraulic oil level. See that fuel tank is filled. Check coolant level in radiator. Check crankcase oil level. Carry out 750-hour check.

Check whether dirt or other foreign bodies have collected under the hood or cab. If so, remove them.

CAUTION: Never operate the engine in a closed building. Make sure there is plenty of ventilation. Danger of asphyxiation!

OU12401,0001D22 -19-15OCT09-1/1

Engine (up to Model Year 2009)

Engine types	2-valve	4-valve
- 6230 tractor	4045HL280	4045HL480
- 6330 tractor	4045HL281	4045HL480
- 6430 tractor	4045HL281	4045HL480
PTO power output	Standard	Intelligent Power Management (power boost)
- 6230 tractor	56 kW (75 hp)	64 kW (85 hp)
- 6330 tractor	64 kW (85 hp)	71 kW (95 hp)
- 6430 tractor	71 kW (95 hp)	79 kW (105 hp)
Max. torque		
- 6230 tractor at 1500 rpm	381 Nm (281 lb-ft)	
- 6330 tractor at 1500 rpm	432 Nm (318 lb-ft)	
- 6430 tractor at 1500 rpm	470 Nm (346 lb-ft)	
Number of cylinders	4	
Bore	106.5 mm (4.19 in.)	
Stroke	127.0 mm (5.00 in.)	
Displacement	4530 cm^3 (276 in^3)	
Firing order	1-3-4-2	
Intake valve clearance	0.35 mm (0.014 in.)	
Exhaust valve clearance	0.45 mm (0.018 in.)	
Slow idle	850 rpm	
Fast idle	2460 rpm	
Rated engine speed	2300 rpm	
Working speed range	1500 - 2300 rpm	
Engine speed for PTO operation		
-540 rpm rear PTO (reversible of shiftable)	2143 rpm	
-540E rpm rear PTO	1684 rpm	
-1000 rpm rear PTO	2208 rpm	
-1000 rpm front PTO	2185 rpm	

OU12401,0001D94 -19-09DEC09-1/1

Engine (from Model Year 2010)

Engine types	2-valve	4-valve
- 6230 tractor	4045HL287	4045HL482
- 6330 tractor	4045HL288	4045HL482
- 6430 tractor	4045HL288	4045HL481
PTO power output	Standard	Intelligent Power Management (power boost)
- 6230 tractor	59 kW (79 hp)	69 kW (93 hp)
- 6330 tractor	66 kW (89 hp)	77 kW (103 hp)
- 6430 tractor	77 kW (103 hp)	85 kW (114 hp)
Max. torque		
- 6230 tractor at 1600 rpm	406 Nm (299 lb-ft)	416 Nm (307 lb-ft)
- 6330 tractor at 1600 rpm	444 Nm (328 lb-ft)	455 Nm (336 lb-ft)
- 6430 tractor at 1600 rpm	504 Nm (372 lb-ft)	518 Nm (382 lb-ft)
Number of cylinders	4	
Bore	106.5 mm (4.19 in.)	
Stroke	127.0 mm (5.00 in.)	
Displacement	4530 cm^3 (276 in^3)	
Firing order	1-3-4-2	
Intake valve clearance	0.36 mm (0.014 in.)	
Exhaust valve clearance	0.46 mm (0.018 in.)	
Slow idle	850 rpm	
Fast idle	2460 rpm	
Rated engine speed	2300 rpm	
Working speed range	1600 - 2300 rpm	
Engine speed for PTO operation		
-540 rpm rear PTO (reversible of shiftable)	2143 rpm	
-540E rpm rear PTO	1684 rpm	
-1000 rpm rear PTO	2208 rpm	
-1000 rpm front PTO	2185 rpm	

OU12401,0001D95 -19-10DEC09-1/1

Transmission

PowrQuad Plus/AutoQuad Plus transmissions	planetary gears, hydraulically actuated
Gear selections	16 or 24 forward gears, 16 or 24 reverse gears
Actuation of reverser lever	electrical/hydraulic, under load, without operating the clutch
Clutch	electric/hydraulic
IVT	infinitely variable mechanical/hydraulic transmission
Speed ranges	0.05 - 40 km/h (0.03 - 25 mph)
Change of direction of travel	electrical, under load, without operating clutch

OU12401,000149C -19-29JUN06-1/1

Hydraulic System

Type	closed-center system with Load-Sensing control
Pump	Axial piston pump
System pressure	
- min. (stand-by):	3000 kPa (30 bars; 435 psi)
- max.:	20000 kPa (200 bars; 2900 psi)
Steering	hydrostatic

OU12401,000135A -19-28OCT05-1/1

Loads and Weights

Maximum permissible static vertical load	**6230 Premium**	**6330 Premium**	**6430 Premium**
- drawbar category	CAT 2	CAT 2	CAT 2
- on drawbar (transport), extended 250 mm (9.8 in.)			
• without front-wheel drive axle	1400 kg (3086 lb)	1400 kg (3086 lb)	1400 kg (3086 lb)
• with front-wheel drive axle	1600 kg (3527 lb)	1600 kg (3527 lb)	1600 kg (3527 lb)
- on drawbar (field operation)			
• extended 250 mm (9.8 in.)	2250 kg (4960 lb)	2250 kg (4960 lb)	2250 kg (4960 lb)
• extended 350 mm (13.8 in.)	1400 kg (3086 lb)	1400 kg (3086 lb)	1400 kg (3086 lb)
• extended 400 mm (15.7 in.)	1200 kg (2646 lb)	1200 kg (2646 lb)	1200 kg (2646 lb)
• extended 550 mm (19.7 in.)	800 kg (1764 lb)	800 kg (1764 lb)	800 kg (1764 lb)
Maximum permissible front axle load (without front-wheel drive axle)			
- normal operation (axle with one row of holes)	1600 kg (3527 lb)	1600 kg (3527 lb)	1600 kg (3527 lb)
- normal operation (axle with two rows of holes)	2050 kg (4519 lb)	2050 kg (4519 lb)	2050 kg (4519 lb)
- with front loader, up to max. 10 km/h (6 mph) and with tread width of 180 mm (71 in.)	5000 kg (11023 lb)	5000 kg (11023 lb)	5000 kg (11023 lb)
Maximum permissible front axle load (with front-wheel drive)			
- in normal operation	3700 kg (8157 lb)	4200 kg (9259 lb)	4400 kg (9700 lb)
- with front loader, up to max. 10 km/h (6 mph) and with tread width of 1,80 m (71 in.)	5500 kg (12125 lb)	5800 kg (12787 lb)	5800 kg (12787 lb)
Maximum permissible rear axle loads	6000 kg (13228 lb)	6800 kg (14991 lb)	6800 kg (14991 lb)
Maximum permissible total weight	8000 kg (17637 lb)	9000 kg (19842 lb)	9000 kg (19842 lb)

NOTE: Traffic regulations in certain countries may restrict the permissible axle loads and total weight to figures lower than those quoted above.

OU12401,0001AD7 -19-11NOV11-1/1

Towed Mass

Depending on how the trailer/implement is braked, the following masses and speeds are permitted:

Trailer/implement brake system	Maximum permissible towed mass	Top speed
- unbraked	3000 kg (6615 lb)	25 km/h (15.5 mph)
- independent	4000 kg (8820 lb)	25 km/h (15.5 mph)
- overrun brake	8000 kg (17635 lb)	25 km/h (15.5 mph)
- hydraulic brake	34000 kg (74955 lb)	25 km/h (15.5 mph)
- single-line air brake	34000 kg (74955 lb)	25 km/h (15.5 mph)
- dual-line air brake	34000 kg (74955 lb)	Maximum design speed

There may be legal limits in force that restrict the maximum towed mass and/or travel speeds to figures lower than those quoted here.

OULXE59,00106A1 -19-30SEP04-1/1

Electrical System

Battery	12 V, 110 Ah or 12 V, 154 Ah
Alternator with overvoltage protection	14 V, 115 A
Starter motor	12 V, 3.0 kW (4.0 hp)
Battery terminal grounded	negative

OU12401,000149E -19-29JUN06-1/1

Capacities

Fuel tank	116 L (30.6 U.S.gal.), 165 L (43.6 U.S.gal.) or 185 L (48.9 U.S.gal.)
Cooling system	29.0 L (7.7 U.S.gal)
Crankcase with filter	16 L (4.2 U.S.gal.)
Transmission/hydraulic system	
- PowrQuad Plus transmission with 16/16 gears	49 L (12.9 U.S.gal.)
- PowrQuad Plus transmission with 24/24 gears	50 L (13.2 U.S.gal.)
- AutoQuad Plus transmission with 24/24 gears	50 L (13.2 U.S.gal.)
- IVT transmission	60 L (15.9 U.S.gal.)
- extra with creeper transmission	1 L (0.3 U.S.gal.)
- extra with front-wheel drive	3 L (0.8 U.S.gal.)
- extra with TLS axle	3 L (0.8 U.S.gal.)
Front PTO	3.5 L (0.9 U.S.gal.)
Front-wheel drive	
- axle housing	6.5 L (1.7 U.S.gal.)
- final drives	0.95 L (0.25 U.S.gal.)

OU12401,00019FE -19-07OCT10-1/1

Permissible Front Axle Load in Relation to Tires (Normal Operation)

Permissible axle load (without front-wheel drive):

NOTE: On axles with one row of holes, permissible axle load is limited to 1600 kg (3525 lb).

Tires		
7.50-18	8 PR	1890 kg (4165 lb)
7.50-20	8 PR	2040 kg (4500 lb)
10.00-16	10 PR	2050 kg (4520 lb)
11L-15	8 PR	2050 kg (4520 lb)
11L-16	8 PR	2000 kg (4410 lb)
	12 PR	2050 kg (4520 lb)
27/9.5-15	6 PR	1620 kg (3570 lb)
9.5L-15	8PR	1700 kg (3745 lb)

Permissible axle load (with front-wheel drive):

Tires		SRI*	6230	6330	6430
10.5/80-18	10 PR	425 mm (16.7 in.)	2480 kg (5465 lb)	2480 kg (5465 lb)	2480 kg (5465 lb)
12.4R24	119A8	550 mm (21.7 in.)	2720 kg (5995 lb)	2720 kg (5995 lb)	2720 kg (5995 lb)
13.6-24	10 PR	575 mm (22.6 in.)	3700 kg (8155 lb)	4200 kg (9260 lb)	4400 kg (9700 lb)
13.6R24	121A8	575 mm (22.6 in.)	2900 kg (6395 lb)	2900 kg (6395 lb)	2900 kg (6395 lb)
	128A8	575 mm (22.6 in.)	3600 kg (7935 lb)	3600 kg (7935 lb)	3600 kg (7935 lb)
14.9R24	126A8	600 mm (23.6 in.)	3400 kg (7495 lb)	3400 kg (7495 lb)	3400 kg (7495 lb)
16.9-24	6 PR	625 mm (24.6 in.)	3100 kg (6835 lb)	3100 kg (6835 lb)	3100 kg (6835 lb)
16.9R24	134A8	625 mm (24.6 in.)	3700 kg (8155 lb)	4200 kg (9260 lb)	4240 kg (9345 lb)
12.4R28	121A8	600 mm (23.6 in.)	2900 kg (6395 lb)	2900 kg (6395 lb)	2900 kg (6395 lb)
13.6R28	123A8	625 mm (24.6 in.)	3100 kg (6835 lb)	3100 kg (6835 lb)	3100 kg (6835 lb)
13.6-38	6 PR	775 mm (30.5 in.)	3000 kg (6615 lb)	3000 kg (6615 lb)	3000 kg (6615 lb)
280/85R24	115A8	525 mm (20.7 in.)	2430 kg (5355 lb)	2430 kg (5355 lb)	2430 kg (5355 lb)
320/85R24	122A8	550 mm (21.7 in.)	3000 kg (6615 lb)	3000 kg (6615 lb)	3000 kg (6615 lb)
340/85R24	125A8	575 mm (22.6 in.)	3300 kg (7275 lb)	3300 kg (7275 lb)	3300 kg (7275 lb)
380/70R24	125A8	575 mm (22.6 in.)	3300 kg (7275 lb)	3300 kg (7275 lb)	3300 kg (7275 lb)
380/75R24	127A8	575 mm (22.6 in.)	3500 kg (7715 lb)	—	—
380/85R24	131A8	600 mm (23.6 in.)	3700 kg (8155 lb)	3900 kg (8600 lb)	3900 kg (8600 lb)
420/70R24	130A8	600 mm (23.6 in.)	3800 kg (8375 lb)	3800 kg (8375 lb)	3800 kg (8375 lb)
420/85R24	137A8	625 mm (24.6 in.)	3700 kg (8155 lb)	4200 kg (9260 lb)	4400 kg (9700 lb)
480/70R24	138A8	625 mm (24.6 in.)	3700 kg (8155 lb)	4200 kg (9260 lb)	4400 kg (9700 lb)
480/75R24	140A8	625 mm (24.6 in.)	—	4200 kg (9260 lb)	4400 kg (9700 lb)
540/65R24	135A8	625 mm (24.6 in.)	3700 kg (8155 lb)	4200 kg (9260 lb)	4360 kg (9610 lb)
320/85R28	124A8	600 mm (23.6 in.)	3200 kg (7055 lb)	3200 kg (7055 lb)	3200 kg (7055 lb)
340/85R28	127A8	625 mm (24.6 in.)	3500 kg (7715 lb)	3500 kg (7715 lb)	3500 kg (7715 lb)

* Speed/radius index

OU12401,0001D89 -19-08DEC09-1/1

Permissible Front Axle Load in Relation to Tires (Operation with Front Loader)

The values quoted here apply only for travel speeds up to 8 km/h (5 mph). Max. tread width with front loader is 1.80 m (71 in.).

Tires		SRI*	6230	6330	6430
10.5/80-18	10 PR	425 mm (16.7 in.)	3720 kg (8200 lb)	3720 kg (8200 lb)	3720 kg (8200 lb)
12.4R24	119A8	550 mm (21.7 in.)	4080 kg (8995 lb)	4080 kg (8995 lb)	4080 kg (8995 lb)
13.6-24	10 PR	575 mm (22.6 in.)	5500 kg (12125 lb)	5800 kg (12785 lb)	5800 kg (12785 lb)
13.6R24	121A8	575 mm (22.6 in.)	4350 kg (9590 lb)	4350 kg (9590 lb)	4350 kg (9590 lb)
	128A8	575 mm (22.6 in.)	5400 kg (11905 lb)	5400 kg (11905 lb)	5400 kg (11905 lb)
14.9R24	126A8	600 mm (23.6 in.)	5100 kg (11240 lb)	5100 kg (11240 lb)	5100 kg (11240 lb)
16.9-24	6 PR	625 mm (24.6 in.)	4340 kg (9565 lb)	4340 kg (9565 lb)	4340 kg (9565 lb)
16.9R24	134A8	625 mm (24.6 in.)	5500 kg (12125 lb)	5800 kg (12785 lb)	5800 kg (12785 lb)
12.4R28	121A8	600 mm (23.6 in.)	4350 kg (9590 lb)	4350 kg (9590 lb)	4350 kg (9590 lb)
13.6R28	123A8	625 mm (24.6 in.)	4650 kg (10250 lb)	4650 kg (10250 lb)	4650 kg (10250 lb)
13.6-38	6 PR	775 mm (30.5 in.)	4200 kg (9260 lb)	4200 kg (9260 lb)	4200 kg (9260 lb)
280/85R24	115A8	525 mm (20.7 in.)	3650 kg (8045 lb)	3650 kg (8045 lb)	3650 kg (8045 lb)
320/85R24	122A8	550 mm (21.7 in.)	4500 kg (9920 lb)	4500 kg (9920 lb)	4500 kg (9920 lb)
340/85R24	125A8	575 mm (22.6 in.)	4950 kg (10910 lb)	4950 kg (10910 lb)	4950 kg (10910 lb)
380/70R24	125A8	575 mm (22.6 in.)	4950 kg (10910 lb)	4950 kg (10910 lb)	4950 kg (10910 lb)
380/75R34	127A8	575 mm (22.6 in.)	5250 kg (11575 lb)	—	—
380/85R24	131A8	600 mm (23.6 in.)	5500 kg (12125 lb)	5800 kg (12785 lb)	5800 kg (12785 lb)
420/70R24	130A8	600 mm (23.6 in.)	5500 kg (12125 lb)	5700 kg (12565 lb)	5700 kg (12565 lb)
420/85R24	137A8	625 mm (24.6 in.)	5500 kg (12125 lb)	5800 kg (12785 lb)	5800 kg (12785 lb)
480/70R24	138A8	625 mm (24.6 in.)	5500 kg (12125 lb)	5800 kg (12785 lb)	5800 kg (12785 lb)
480/75R24	140A8	625 mm (24.6 in.)	—	5800 kg (12785 lb)	5800 kg (12785 lb)
540/65R24	135A8	625 mm (24.6 in.)	5500 kg (12125 lb)	5800 kg (12785 lb)	5800 kg (12785 lb)
320/85R28	124A8	600 mm (23.6 in.)	4800 kg (10580 lb)	4800 kg (10580 lb)	4800 kg (10580 lb)
340/85R28	127A8	625 mm (24.6 in.)	5250 kg (11575 lb)	5250 kg (11575 lb)	5250 kg (11575 lb)

* Speed/radius index

OU12401,0001D8A -19-08DEC09-1/1

Permissible Rear Axle Load in Relation to Tires

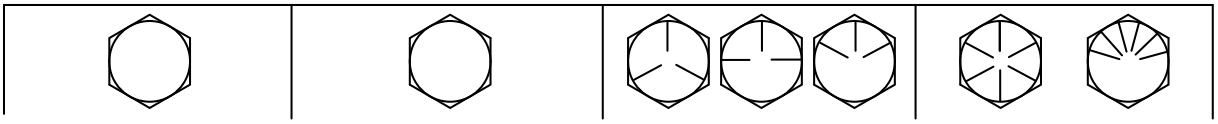
Tires		SRI*	6230	6330 and 6430
16.9-24	6PR	625 mm (24.6 in.)	3100 kg (6835 lb)	3100 kg (6835 lb)
18.4-26	6PR	675 mm (26.6 in.)	3600 kg (7935 lb)	3600 kg (7935 lb)
16.9R30	137A8	700 mm (27.6 in.)	4600 kg (10140 lb)	4600 kg (10140 lb)
18.4R30	142A8	725 mm (28.5 in.)	5300 kg (11685 lb)	5300 kg (11685 lb)
24.5-32	12PR	825 mm (32.5 in.)	6000 kg (13225 lb)	6800 kg (14990 lb)
16.9R34	139A8	750 mm (29.5 in.)	4860 kg (10715 lb)	4860 kg (10715 lb)
16.9-34	10PR	730 mm (28.7 in.)	6000 kg (13225 lb)	6800 kg (14990 lb)
18.4R34	144A8	775 mm (30.5 in.)	5600 kg (12350 lb)	5600 kg (12350 lb)
14.9R38	133A8	775 mm (30.5 in.)	4120 kg (9085 lb)	4120 kg (9085 lb)
16.9R38	141A8	800 mm (31.5 in.)	5150 kg (11355 lb)	5150 kg (11355 lb)
18.4R38	146A8	825 mm (32.5 in.)	6000 kg (13225 lb)	6000 kg (13225 lb)
13.6-46	6 PR	875 mm (34.4 in.)	3300 kg (7275 lb)	3300 kg (7275 lb)
420/85R24	137A8	625 mm (24.6 in.)	4940 kg (10890 lb)	4940 kg (10890 lb)
460/85R26	143A8	675 mm (26.6 in.)	5450 kg (12015 lb)	5450 kg (12015 lb)
420/85R30	140A8	700 mm (27.6 in.)	5000 kg (11025 lb)	5000 kg (11025 lb)
460/85R30	145A8	725 mm (28.5 in.)	5800 kg (12785 lb)	5800 kg (12785 lb)
420/85R34	142A8	750 mm (29.5 in.)	5300 kg (11685 lb)	5300 kg (11685 lb)
460/85R34	147A8	775 mm (30.5 in.)	6000 kg (13225 lb)	6150 kg (13560 lb)
480/70R34	143A8	750 mm (29.5 in.)	5450 kg (12015 lb)	5450 kg (12015 lb)
480/75R34	145A8	750 mm (29.5 in.)	5800 kg (12785 lb)	—
520/70R34	148A8	775 mm (30.5 in.)	6000 kg (13225 lb)	6300 kg (13890 lb)
340/85R38	133A8	750 mm (29.5 in.)	4120 kg (9085 lb)	4120 kg (9085 lb)
420/85R38	144A8	800 mm (31.5 in.)	5600 kg (12350 lb)	5600 kg (12350 lb)
460/85R38	149A8	825 mm (32.5 in.)	6000 kg (13225 lb)	6500 kg (14330 lb)
480/70R38	145A8	800 mm (31.5 in.)	5800 kg (12785 lb)	5800 kg (12785 lb)
520/70R38	150A8	825 mm (32.5 in.)	6000 kg (13225 lb)	6700 kg (14770 lb)
520/75R38	151A8	825 mm (32.5 in.)	—	6800 kg (14990 lb)
600/65R38	147A8	825 mm (32.5 in.)	6000 kg (13225 lb)	6150 kg (13560 lb)
320/90R42	139A8	800 mm (31.5 in.)	4860 kg (10715 lb)	4860 kg (10715 lb)

* Speed/radius index

OU12401,0001D8B -19-08DEC09-1/1

Unified Inch Bolt and Screw Torque Values

TS1671 —UN—01MAY03



Bolt or Screw Size	SAE Grade 1				SAE Grade 2[a]				SAE Grade 5, 5.1 or 5.2				SAE Grade 8 or 8.2			
	Lubricated[b]		Dry[c]		Lubricated[b]		Dry[c]		Lubricated[b]		Dry[c]		Lubricated[b]		Dry[c]	
	Nm	lb.-in.	Nm	lb.-in.	Nm	lb.-in.	Nm	lb.-in.	Nm	lb.-in.	Nm	lb.-in.	Nm	lb.-in.	Nm	lb.-in.
1/4	3.7	33	4.7	42	6	53	7.5	66	9.5	84	12	106	13.5	120	17	150
													Nm	lb.-ft.	Nm	lb.-ft.
5/16	7.7	68	9.8	86	12	106	15.5	137	19.5	172	25	221	28	20.5	35	26
									Nm	lb.-ft.	Nm	lb.-ft.				
3/8	13.5	120	17.5	155	22	194	27	240	35	26	44	32.5	49	36	63	46
			Nm	lb.-ft.	Nm	lb.-ft.	Nm	lb.-ft.								
7/16	22	194	28	20.5	35	26	44	32.5	56	41	70	52	80	59	100	74
	Nm	lb.-ft.														
1/2	34	25	42	31	53	39	67	49	85	63	110	80	120	88	155	115
9/16	48	35.5	60	45	76	56	95	70	125	92	155	115	175	130	220	165
5/8	67	49	85	63	105	77	135	100	170	125	215	160	240	175	305	225
3/4	120	88	150	110	190	140	240	175	300	220	380	280	425	315	540	400
7/8	190	140	240	175	190	140	240	175	490	360	615	455	690	510	870	640
1	285	210	360	265	285	210	360	265	730	540	920	680	1030	760	1300	960
1-1/8	400	300	510	375	400	300	510	375	910	670	1150	850	1450	1075	1850	1350
1-1/4	570	420	725	535	570	420	725	535	1280	945	1630	1200	2050	1500	2600	1920
1-3/8	750	550	950	700	750	550	950	700	1700	1250	2140	1580	2700	2000	3400	2500
1-1/2	990	730	1250	930	990	730	1250	930	2250	1650	2850	2100	3600	2650	4550	3350

Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For plastic insert or crimped steel type lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application. Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.

Replace fasteners with the same or higher grade. If higher grade fasteners are used, tighten these to the strength of the original. Make sure fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts or wheel nuts, unless different instructions are given for the specific application.

[a] Grade 2 applies for hex cap screws (not hex bolts) up to 6 in. (152 mm) long. 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.

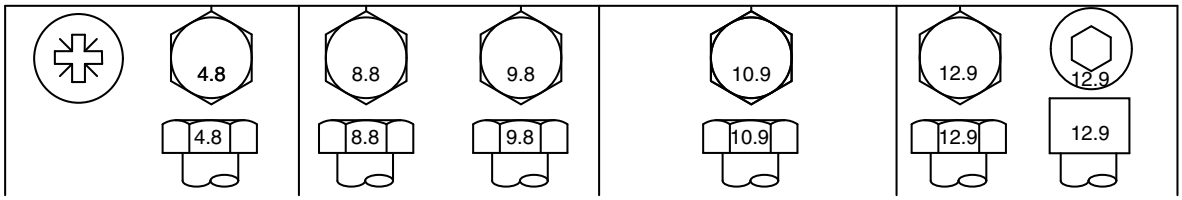
[b] "Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or 7/8 in. and larger fasteners with JDM F13C, F13F or F13J zinc flake coating.

[c] "Dry" means plain or zinc plated without any lubrication, or 1/4 to 3/4 in. fasteners with JDM F13B, F13E or F13H zinc flake coating.

DX,TORQ1 -19-12JAN11-1/1

Metric Bolt and Screw Torque Values

TS1670 —UN—01MAY03



Bolt or Screw Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Lubricated[a]		Dry[b]		Lubricated[a]		Dry[b]		Lubricated[a]		Dry[b]		Lubricated[a]		Dry[b]	
	Nm	lb.-in.	Nm	lb.-in.	Nm	lb.-in.	Nm	lb.-in.	Nm	lb.-in.	Nm	lb.-in.	Nm	lb.-in.	Nm	lb.-in.
M6	4.7	42	6	53	8.9	79	11.3	100	13	115	16.5	146	15.5	137	19.5	172
									Nm	lb.-ft.	Nm	lb.-ft.	Nm	lb.-ft.	Nm	lb.-ft.
M8	11.5	102	14.5	128	22	194	27.5	243	32	23.5	40	29.5	37	27.5	47	35
			Nm	lb.-ft.	Nm	lb.-ft.	Nm	lb.-ft.								
M10	23	204	29	21	43	32	55	40	63	46	80	59	75	55	95	70
	Nm	lb.-ft.														
M12	40	29.5	50	37	75	55	95	70	110	80	140	105	130	95	165	120
M14	63	46	80	59	120	88	150	110	175	130	220	165	205	150	260	190
M16	100	74	125	92	190	140	240	175	275	200	350	255	320	235	400	300
M18	135	100	170	125	265	195	330	245	375	275	475	350	440	325	560	410
M20	190	140	245	180	375	275	475	350	530	390	675	500	625	460	790	580
M22	265	195	330	245	510	375	650	480	725	535	920	680	850	625	1080	800
M24	330	245	425	315	650	480	820	600	920	680	1150	850	1080	800	1350	1000
M27	490	360	625	460	950	700	1200	885	1350	1000	1700	1250	1580	1160	2000	1475
M30	660	490	850	625	1290	950	1630	1200	1850	1350	2300	1700	2140	1580	2700	2000
M33	900	665	1150	850	1750	1300	2200	1625	2500	1850	3150	2325	2900	2150	3700	2730
M36	1150	850	1450	1075	2250	1650	2850	2100	3200	2350	4050	3000	3750	2770	4750	3500

Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For stainless steel fasteners or for nuts on U-bolts, see the tightening instructions for the specific application. Tighten plastic insert or crimped steel type lock nuts by turning the nut to the dry torque shown in the chart, unless different instructions are given for the specific application.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical property class. 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 fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts or wheel nuts, unless different instructions are given for the specific application.

[a] *"Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or M20 and larger fasteners with JDM F13C, F13F or F13J zinc flake coating.*

[b] *"Dry" means plain or zinc plated without any lubrication, or M6 to M18 fasteners with JDM F13B, F13E or F13H zinc flake coating.*

DX,TORQ2 -19-12JAN11-1/1

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.

Free Replacement

Any new battery which becomes unserviceable (not merely discharged) due to defects in material or workmanship within 90 days of purchase will be replaced free of charge. Installation costs will be covered by warranty if (1) the unserviceable battery was installed by a John Deere factory or dealer, (2) failure occurs within 90 days of purchase, and (3) the replacement battery is installed by a John Deere dealer.

Pro Rata Adjustment

Any new battery which becomes unserviceable (not merely discharged) due to defects in material or workmanship more than 90 days after purchase, but before the expiration of the applicable adjustment period, will be replaced upon payment of the battery's current list price less a pro rata credit for unused months of service. The applicable adjustment period is determined from the Warranty Code printed at the top of the battery and chart below. Installation costs are not covered by warranty after 90 days from the date of purchase.

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.

Pro Rata Months of Adjustment

Warranty Code	Warranty Period
A	40 Months
B	36 Months
C	24 Months

NOTE: If your battery is not labeled with a warranty code, it is a warranty code "B".

DX,BATWAR,NA -19-16APR92-1/1

Serial Numbers

Type Plates

The illustrations below show some of the type plates used on the tractor. The letters and numbers on the plates are necessary for ordering spare parts, among other things.

NOTE: Copy the letters and figures in the boxes provided.

OU12401,00013A7 -19-05MAR06-1/1

Product Identification Number

The plate bearing the product identification number is located on the right side of the main frame. The tractor is provided with one of two possible product identification numbers. Select the appropriate box.

Product identification number (13-digit)

*													*

Product identification number (17-digit)

*																	*

LX1049746 —UN—06MAY10

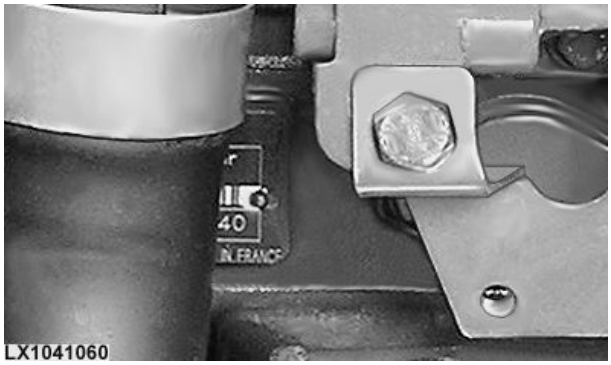
OULXBER,00018E7 -19-07MAY10-1/1

Engine Serial Number

The engine serial number plate is located on the right-hand side of engine block.

NOTE: Besides the engine serial number, the plate shows the engine type as well. When ordering spare parts for the engine, please quote all the numbers and letters on this type plate.

*													*



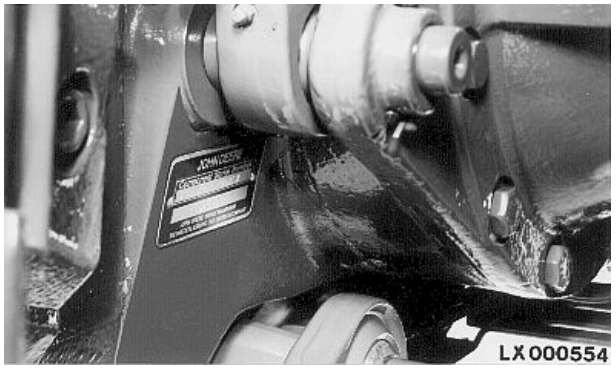
LX1041060 —UN—30JUN06

OU12401,0001491 -19-29JUN06-1/1

Transmission Serial Number

The transmission serial number plate is located on the right-hand side of differential housing. It provides details of the gear pair in the differential (e.g. 53/10) and the transmission ratio of the front-wheel drive axle (e.g. 1,712). This information will be required if the type of tires is to be changed.

*													*



LX000554 —UN—09AUG94

OU12401,0001492 -19-29JUN06-1/1

Front-Wheel Drive Axle Serial Number

The plate bearing the front-wheel drive axle serial number is located on the end of the axle, at the rear. Information provided on it includes the transmission ratio of the front axle. This information will be required if the type of tires used at the front is to be changed.

*															*

LX1031717

LX1031717 —UN—09JUL03

OU12401,0000E4D -19-01JUL03-1/1

Serial Number of Operator's Cab

The serial number of the operator's cab is located below the cab door.

*														*

LX1041061

LX1041061 —UN—30JUN06

OU12401,0001490 -19-29JUN06-1/1

Keep Proof of Ownership

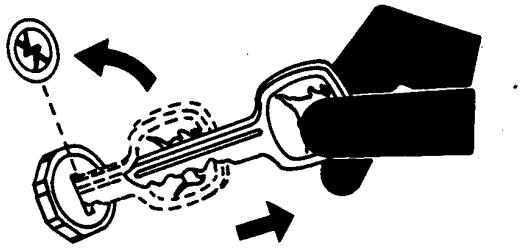
1. Maintain in a secure location an up-to-date inventory of all product and component serial numbers.
2. Regularly verify that identification plates have not been removed. Report any evidence of tampering to law enforcement agencies and order duplicate plates.
3. Other steps you can take:
   - Mark your machine with your own numbering system
   - Take color photographs from several angles of each machine

TS1680 —UN—09DEC03

DX,SECURE1 -19-18NOV03-1/1

Keep Machines Secure

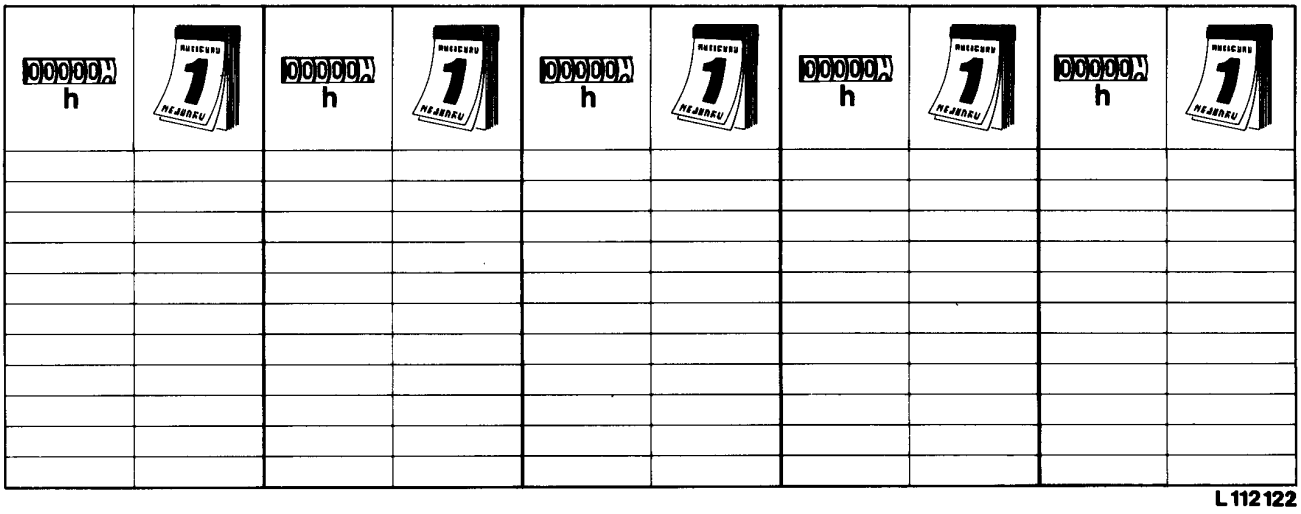
1. Install vandal-proof devices.
2. When machine is in storage:
   - Lower equipment to the ground
   - Set wheels to widest position to make loading more difficult
   - Remove any keys and batteries
3. When parking indoors, put large equipment in front of exits and lock your storage buildings.
4. When 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.



TS230 —UN—24MAY89

DX,SECURE2 -19-18NOV03-1/1

Every 250 Hours



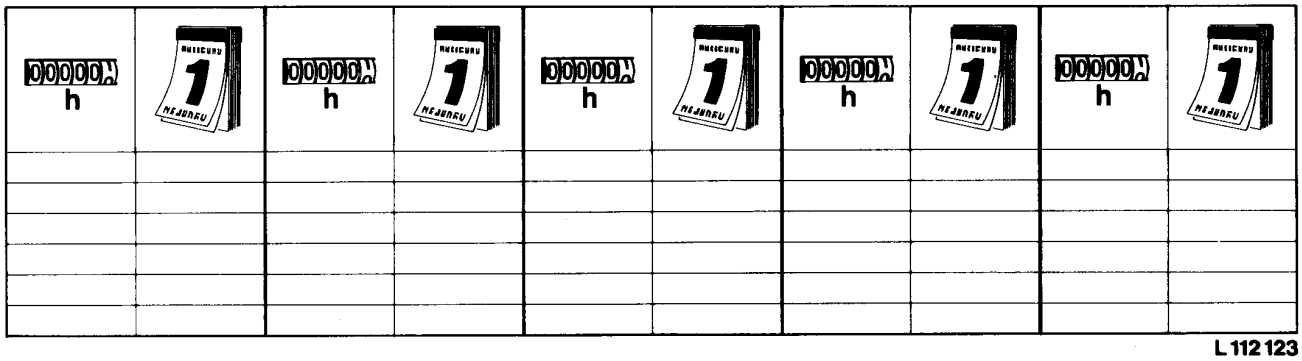
L112122 —UN—05SEP94

L112122

Drain residue from fuel tank. Check oil level of transmission/hydraulic system. Clean battery and check electrolyte level. Lubricate the front axle. Lubricate front-wheel drive axle/drive shafts and check oil level. Lubricate the front PTO drive shaft. Lubricate three-point hitch. Lubricate pivoting fenders. Check neutral start circuit. Tighten wheel retaining bolts. Check brakes. Tighten the screws on the front loader bracket. Check components of swinging drawbar for wear.

OU12401,0001960 -19-16DEC07-1/1

Every 500 Hours



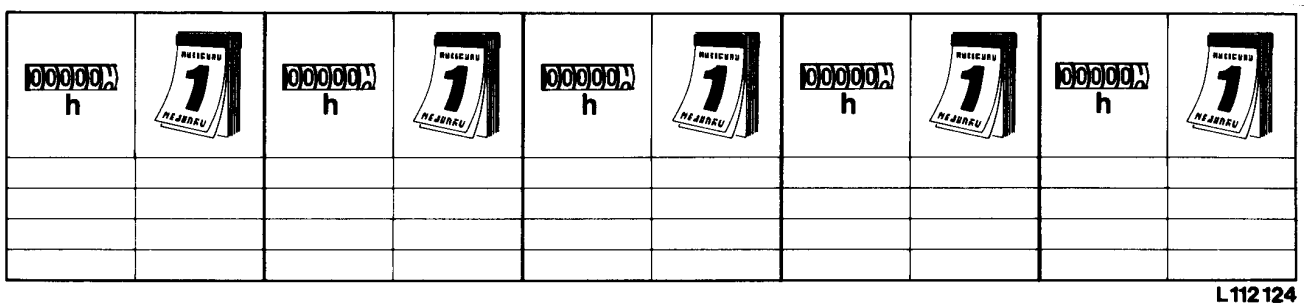
L112123 —UN—05SEP94

L112123

Drain and refill engine crankcase. Change engine oil filter. Change fuel filter(s). Lubricate rear axle bearings. Check air intake hoses. Check engine ground connection. Check cab ground connection. Check engine drive belt. Drain residue from fuel tank. Check oil level of transmission/hydraulic system. Clean battery and check electrolyte level. Lubricate the front axle. Lubricate front-wheel drive axle/drive shafts and check oil level. Lubricate the front PTO drive shaft. Lubricate three-point hitch. Lubricate pivoting fenders. Check neutral start circuit. Tighten wheel retaining bolts. Check brakes. Tighten the screws on the front loader bracket. Check components of swinging drawbar for wear.

OU12401,0001961 -19-16DEC07-1/1

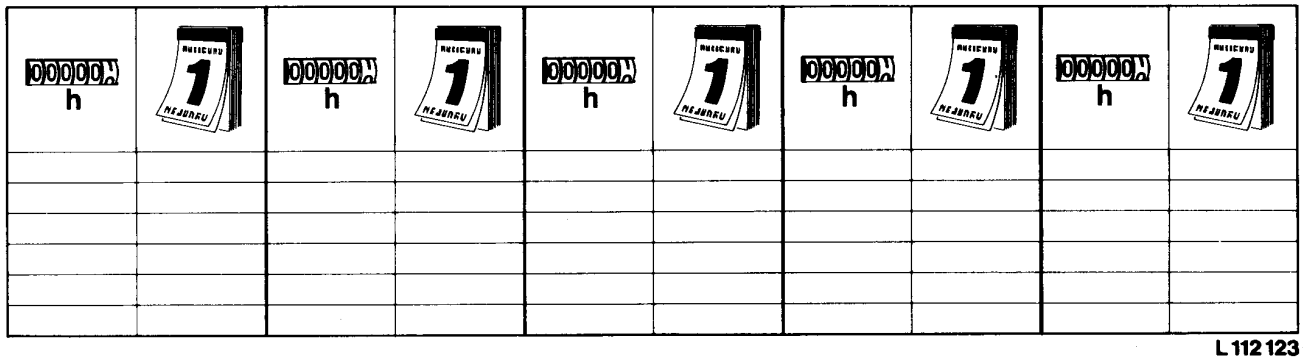
Every 750 Hours



Change the transmission/hydraulic oil filter. Change front PTO filter. Drain residue from fuel tank. Check oil level of transmission/hydraulic system. Clean battery and check electrolyte level. Lubricate the front axle. Lubricate front-wheel drive axle/drive shafts and check oil level. Lubricate the front PTO drive shaft. Lubricate three-point hitch. Lubricate pivoting fenders. Check neutral start circuit. Tighten wheel retaining bolts. Check brakes. Tighten the screws on the front loader bracket. Check components of swinging drawbar for wear.

OU12401,0001962 -19-16DEC07-1/1

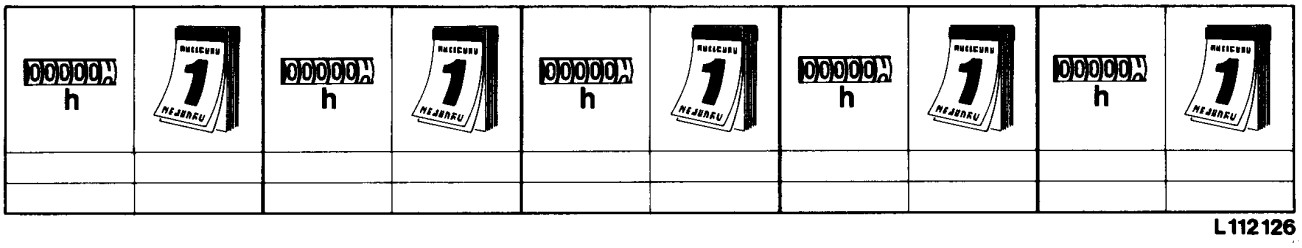
Every 1000 Hours



Have viscous fan drive and accumulators of cab suspension checked by your John Deere dealer. Drain and refill engine crankcase. Change engine oil filter. Change fuel filter(s). Lubricate rear axle bearings. Check air intake hoses. Check engine ground connection. Check cab ground connection. Check engine drive belt. Drain residue from fuel tank. Check oil level of transmission/hydraulic system. Clean battery and check electrolyte level. Lubricate the front axle. Lubricate front-wheel drive axle/drive shafts and check oil level. Lubricate the front PTO drive shaft. Lubricate three-point hitch. Lubricate pivoting fenders. Check neutral start circuit. Tighten wheel retaining bolts. Check brakes. Tighten the screws on the front loader bracket. Check components of swinging drawbar for wear.

OU12401,0001963 -19-16DEC07-1/1

Every 1500 Hours



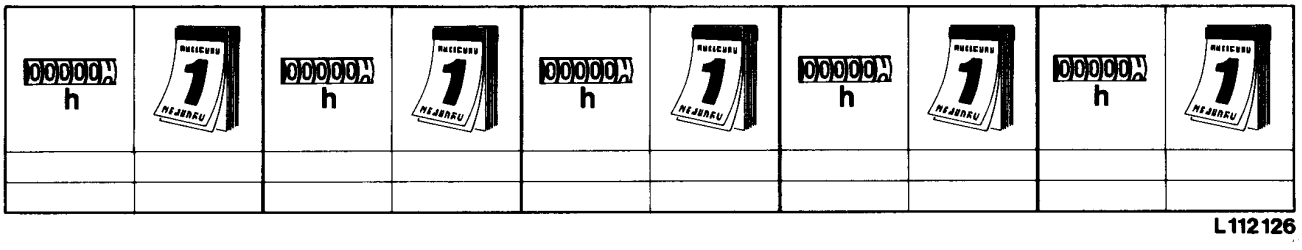
L112126

L112126 —UN—05SEP94

Drain and refill the front-wheel drive axle. Drain and refill the transmission/hydraulic system and clean the intake screen. Change the transmission/hydraulic oil filter. Change engine air cleaner element and cab air filters. Change front PTO oil and filter. Have accumulator of TLS front axle checked by your John Deere dealer. Drain and refill engine crankcase. Change engine oil filter. Change fuel filter(s). Lubricate rear axle bearings. Check air intake hoses. Check engine ground connection. Check cab ground connection. Check engine drive belt. Drain residue from fuel tank. Clean battery and check electrolyte level. Lubricate the front axle. Lubricate front-wheel drive axle/drive shafts. Lubricate the front PTO drive shaft. Lubricate three-point hitch. Lubricate pivoting fenders. Check neutral start circuit. Tighten wheel retaining bolts. Check brakes. Tighten the screws on the front loader bracket. Check components of swinging drawbar for wear.

OU12401,0001964 -19-16DEC07-1/1

Every 2000 Hours



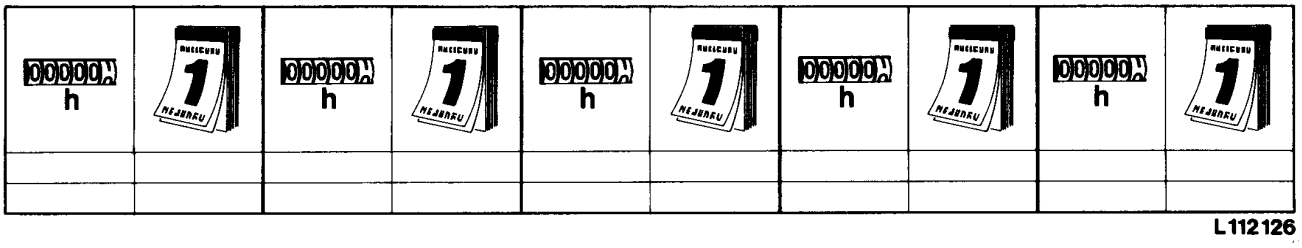
L112126

L112126 —UN—05SEP94

Have valve clearance, glow plug resistance, viscous fan drive and accumulators of cab suspension checked by your John Deere dealer. Drain and refill engine crankcase. Replace engine crankcase filter element. Replace fuel filter. Lubricate rear axle bearings. Check air intake hoses. Check engine ground connection. Check cab ground connection. Check engine drive belt. Drain residue from fuel tank. Check oil level of transmission/hydraulic system. Clean battery and check electrolyte level. Lubricate the front axle. Lubricate front-wheel drive axle/drive shafts and check oil level. Lubricate the front PTO drive shaft. Lubricate three-point hitch. Lubricate pivoting fenders. Check neutral start circuit. Tighten wheel retaining bolts. Tighten the screws on the front loader bracket. Check components of swinging drawbar for wear. Check brakes.

OU12401,0001965 -19-09DEC11-1/1

Every 6000 Hours



L112126

L112126 —UN—05SEP94

Have the accumulator of TLS front axle, cab suspension, valve clearance, glow plug resistance and viscous fan drive checked by your John Deere dealer. Drain, flush and refill the cooling system*. Drain and refill the front-wheel drive axle. Drain and refill the transmission/hydraulic system and clean the intake screen. Change the transmission/hydraulic oil filter and check oil level. Change engine air cleaner element and cab air filters. Drain and refill front PTO, replace its filter and lubricate its drive shaft. Drain and refill engine crankcase. Replace engine crankcase filter element. Replace fuel filter. Lubricate rear axle bearings. Lubricate the draft link bearings. Check air intake hoses. Check engine ground connection. Check cab ground connection. Check engine drive belt. Drain residue from fuel tank. Clean battery and check electrolyte level. Lubricate the front axle. Lubricate front-wheel drive axle/drive shafts. Lubricate three-point hitch. Lubricate pivoting fenders. Check neutral start circuit. Tighten wheel retaining bolts. Tighten screws on front loader bracket. Check components of swinging drawbar for wear. Check brakes.

*If COOL-GARD II is used, perform this service after no more than 6000 hours or every 6 years.

OU12401,0001966 -19-09DEC11-1/1

Index

Page

A

Additional headlights 20-3
Air intake hoses, checking 100-2
Air-conditioning system 25-9
Alternator 85-6
Attachment controls 15-4
AutoTrac 15-16
Auxiliary heaters 40-4

B

Ballast 60-1
Battery
  Warranty 145-10
Battery electrolyte, checking level of 95-2
Battery Handling, Safety
  Safety, Battery Handling 05-14
Battery, access to 85-3
Bolt and screw torque values
  Metric 145-9
  Unified inch 145-8
Brakes, check 95-4
Brakes, foot 45-10
Break-in engine oil 80-4
Break-in period 30-1

C

Cab air filters, service 125-2
Capacities 145-4
Center link 50-11
Changing
  Engine oil 100-1
  Engine oil filter 100-1
Check the transmission oil level 95-1
Cold-weather starting aids 40-3
Controls and instruments 15-1
Coolant
  Additional information 80-11
  Diesel engine 80-9
  John Deere Cool-Gard II Coolant Extender 80-10
  Testing 80-12
  Warm temperature climates 80-10
Coolant, changing 120-2
CoolScan 80-13
Correct tire pressures 65-16
Couplers 70-12
Creeper transmission 45-9

D

Diesel fuel 80-1, 80-3
Differential lock 45-9
Drain Intervals for Diesel Engine Coolant
  Diesel Engine Coolant, Drain Intervals 80-10
Drawbar 71-1

Page

Drive belt 125-20

E

Engine 145-1
Engine oil
  Break-In 80-4
Engine oil filter element, changing 100-1
Engine oil level 90-1
Engine oil, change 100-1
Engine, shutting off 40-7
Engine, starting 40-2

F

Fan and air louvers 25-8
Front axle without front-wheel drive, lubrication 95-2
Front axle, lubricate 95-3
Front Loader Brackets 71-2
Front Loader Installation 71-2
Front wheel tread adjustment (tractors with front wheel drive) 65-4
Front wheel tread adjustment, reversible rims 65-5
Front-wheel drive 45-7
Front-wheel drive axle
  Oil 80-7
Front-wheel tread adjustment 65-2
Fuel
  Diesel 80-1, 80-3
  Handling and storing 80-1
  Lubricity 80-2
Fuel filter 90-1, 125-5
Fuel filters, changing 100-2
Fuel preheater 40-3
Fuses and relays in the engine compartment 125-7
Fuses, access to 85-3

G

Grease 80-8
GreenStar display 15-16

H

Hardware torque values
  Metric 145-9
  Unified inch 145-8
Hardware update 15-17
Hazard warning light 20-5
Headland Management System (HMS) 51-1
Heater 25-8
Heaters
  Coolant & transmission 40-4
Hitch control 50-1
HMS — Headland Management System 51-1
Hood, opening 85-2

Continued on next page

Page

Hydraulic stabilizer bars
Spreading dimension, adjusting 50-18

I

Implement, leveling 50-11
IVT
Park lock, manual release of 75-1
Safety, rules 48-1
IVT, operating 48-2

J

Jack Up the Tractor 85-4

L

Lift links 50-14
Lifting Points for Jacking Up 85-4
Lights, checks on 90-2
Lubricant
Mixing 80-8
Lubricant Storage
Storage, Lubricant 80-9
Lubricants, Safety
Safety, Lubricants 80-8
Lubrication and maintenance records 155-1
Lubricity of diesel fuel 80-2

M

Maximum permissible oil withdrawal 70-13
Measuring rear wheel slip 60-1
Metric bolt and screw torque values 145-9
MFWD axle, change oil 115-1
MFWD axle, check oil level 95-4
Mixing lubricants 80-8
Monitor installation 25-15
Multi-function lever
Mechanical, with front-loader dampening 70-10

N

Neutral start circuit, checking 95-6

O

Oil
Front-wheel drive axle 80-7
Oil filters 80-9
Oil for front-wheel drive axle 80-7
Oil withdrawal with hydraulic motor 70-14
Oilscan 80-13

P

Parking the tractor 40-7
Power outlet socket, three-terminal 25-16

Page

Pressure in tires, general 65-15
Pressure-free return circuit 70-14
PTO controls 15-3
PTO guard 55-1
PTO operation 55-3
PTO options 55-2
PTO, operating instructions 55-1
PTO-driven equipment 55-7

Q

Quick-coupling (hook-type) draft links 50-8

R

Rear axle, lubricating 100-2
Reduce fuel consumption 45-1
Refrigerator 25-12
Roll-Over Protective Structure (ROPS) 25-1

S

Safety, Avoid High-Pressure Fluids
Avoid High-Pressure Fluids 05-20
Safety, Fire Prevention
Fire Prevention 05-3
Safety, Forestry Operations
Limited Use in Forestry Operation 05-8
Safety, Handle Fuel Safely, Avoid Fires
Avoid Fires, Handle Fuel Safely 05-3
Safety, ROPS
ROPS, Keep Installed Propertly 05-4
Safety, Steps and Handholds
Use Steps and Handholds Correctly 05-5
Safety, Tightening Wheel Retaining Bolts/Nuts
Tightening Wheel Retaining Bolts/Nuts 05-20
Safety, Transport at Safe Speeds
Transport Towed Equipment at Safe Speeds 05-10
Safety, Use Caution on Slopes and Uneven Terrain
Use Caution on Slopes and Uneven Terrain 05-11
Seat Belt 25-1
Selective control valves 70-1
Selective Control Valves
Control Levers, Mechanical 70-2
Serial numbers 150-1
Service intervals 85-1
Signal socket 25-16
Software update 15-17
Speed, selecting correct travel speed 45-3
Stabilizing system 50-16
Starter motor 125-6
Steering wheel adjustment 25-13
Storage 140-1
Storage, removing tractor from 140-2
Storing fuel 80-1
Sway blocks 50-15

Continued on next page

Page

Swinging drawbar
Check for wear 95-8
Swinging drawbar adjustment 71-1

T

Telescopic draft links 50-8
Three-point hitch 50-7
Three-point hitch, lubrication of 95-5
Tire pressure 65-16
Tire pressures, general 65-15
Toe-in checks (tractors without front-wheel drive) 65-3
Torque charts
Metric 145-9
Unified inch 145-8
Towed equipment, transport at safe speeds 05-10
Towing the tractor 40-6
Transmission oil filter, replacing 105-1
Transmission/hydraulic oil, changing 115-2, 115-3
Tread adjustment, adjustable rims 65-6
Troubleshooting 130-1
Turn signal lights and horn 20-5

U

Unified inch bolt and screw torque values 145-8
Update,
Hardware or software 15-17

W

Wheel nuts, tightening 65-7
Wipers 25-7

John Deere Service Keeps You on the Job

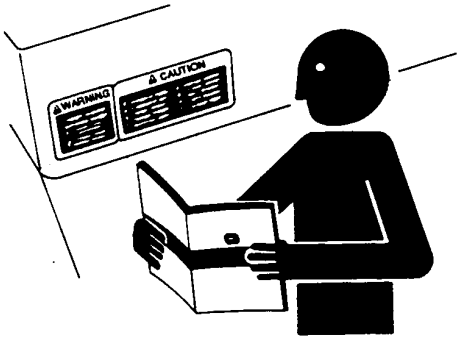
John Deere Is At Your Service

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.



TS201 —UN—23AUG88

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 -19-02APR02-1/1