

**5075EN (FT4 & Stage V), Tractors
Operator's Manual
(North American, March 2023) (S.N.
0000001 —)**



JOHN DEERE

OPERATOR'S MANUAL

5EN Series Tractors, February 2023

OMTR133711 ISSUE B3 (ENGLISH)

CALIFORNIA

Proposition 65 Warning

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

If this product contains a gasoline engine:

⚠ WARNING

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

The State of California requires the above two warnings.

John Deere Mexico
North American Edition
PRINTED IN U.S.A.



Introduction

Foreword

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

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

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

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

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

WARRANTY is provided as part of John Deere's support program for customers who operate and maintain their equipment as described in this manual. The warranty is explained on the warranty certificate or statement which you should have received from your dealer.

This warranty provides you the assurance that John Deere will back its products where defects appear within the warranty period. In some circumstances, John Deere also provides field improvements, often without charge to the customer, even if the product is out of warranty. Should the equipment be abused, or modified to change its performance beyond the original factory specifications, the warranty will become void and field improvements may be denied. Setting fuel delivery above specifications or otherwise overpowering machines will result in such action.

THE TIRE MANUFACTURER'S warranty supplied with your machine may not apply outside the U.S.

If you are not the original owner of this machine, it is in your interest to contact your local John Deere dealer to inform them of this unit's serial number. This will help John Deere notify you of any issues or product improvements.

DX,IFC1-19-03APR09

with the instructions provided in this manual to maintain the emissions performance of the engine within the requirements applicable to the engine's category/certification.

Tampering

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

DX,EMISSIONS,PERFORM-19-12JAN18

Emissions Performance and Tampering

Operation and Maintenance

The engine, including the emissions control system, shall be operated, used, and maintained in accordance

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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.

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General Information

Product View



5075EN Cab Tractor

APY68933—UN—13APR22



5075EN OOS Tractor

APY68934—UN—13APR22

RD91939,0000A82-19-07MAR22

Trademarks

Trademarks	
AutoTrac™	Trademark of Deere & Company
Bio Hy-Gard™	Trademark of Deere & Company
Break-In™	Trademark of Deere & Company
Cool-Gard™	Trademark of Deere & Company
CoolScan™	Trademark of Deere & Company
FUELGARD™	Trademark of Deere & Company
Grease-Gard™	Trademark of Deere & Company
GreenStar™	Trademark of Deere & Company
Hy-Gard™	Trademark of Deere & Company
Oilscan™	Trademark of Deere & Company
Plus-50™	Trademark of Deere & Company
PowrReverser™	Trademark of Deere & Company
Quik-Tatch™	Trademark of Deere & Company
Roll-Gard™	Trademark of Deere & Company
SERVICEGARD™	Trademark of Deere & Company
StarFire™	Trademark of Deere & Company
SyncShuttle™	Trademark of Deere & Company
Teflon™	Trademark of DuPont Company
Torq-Gard™	Trademark of Deere & Company
PowerTech™	Trademark of Deere & Company
SeedStar™	Trademark of Deere & Company

Glossary of Terms

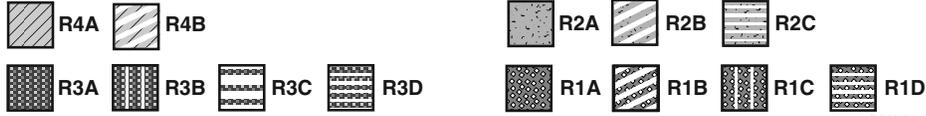
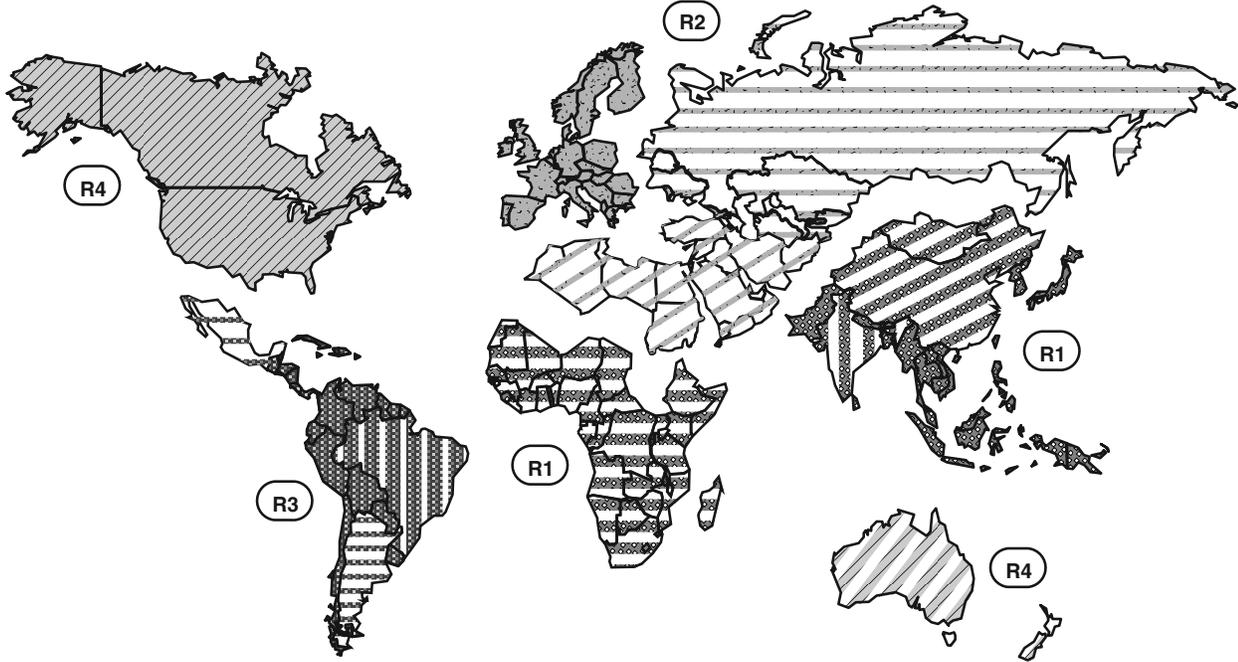
ITEM	ABBREVIATION	DESCRIPTION
Accessory	ACC	Secondary electrical system
Air Conditioning	A/C	System used for cooling the air in the cab
Alternating Current	AC	Electrical current that reverses its direction at regularly recurring intervals
Agricultural Management System	AMS	Used with an automatic guidance system
AutoTrac™ Universal	ATU	Automatic guidance system
Battery	Bat	A device used to furnish electrical current
Brakes	BR	Abbreviation
Controller Area Network	CAN	A communication system linking on-board electronics
Chassis Control Unit	CCU	Computerized system for the tractor monitoring
Clockwise	CW	Direction in which the hands of a clock rotate
Cold Cranking Amperes	CCA	Measured capability of the battery to perform during cold-weather operation
Counterclockwise	CCW	Direction opposite the rotation of the hands of a clock
Diagnostic Address	DA	Abbreviation
Direct Current	DC	Electrical current flowing in one direction only
Diagnostic Receptacle	DR	A connection where hydraulic pressure can be measured
Diagnostic Trouble Code	DTC	Abbreviation
Engine Control Unit	ECU	Electronic device used to house computerized system that controls engine functions
Electrohydraulic	EH	Hydraulic valve function that is controlled electrically
Electronic Components Relay	ELX	Relay powering most of the electronic components
Forward	FWD	Direction of movement
Forward-Neutral-Reverse	FNR	Abbreviation
Gallons per Minute	gpm	Amount of fluid displaced over a period of 1 minute
GreenStar™ Display	GSD	Abbreviation
Heating, Ventilating, and Air Conditioning	HVAC	Abbreviation
Hitch Control Unit	HCU	Computerized system used to control hitch functions
Ignition	IGN	Control for starting and stopping the tractor
Inside Diameter	ID	Abbreviation
Instrument Cluster Control Unit	ICC	Computerized system used to control instrument cluster functions
International Organization for Standardization	ISO	Standards organization
Isolated Open Operator Station	IOOS	Abbreviation
Joint Industry Council Organization	JIC	Standards organization
Left-Hand	LH or L-H	Abbreviation
Liquid Crystal Display	LCD	A technology used for displaying information
Mechanical	Mech or MECH	Abbreviation
Mechanical Front Wheel Drive	MFWD	A mechanically powered front axle
Negative	Neg (—)	Electrical Ground Circuit
Number	No.	Abbreviation
On-Board Diagnostic	OBD	Abbreviation
O-ring Face Seal	ORFS or ORS	A type of seal used in hydraulic connections
Original Equipment Manufacturer	OEM	Abbreviation
Outside Diameter	OD	Abbreviation
Open Operator Station	OOS	Abbreviation
Performance Monitor	Perf Mon or PrF	Abbreviation
Positive	Pos (+)	Charged part of an electrical circuit
Potentiometer	POT	A device used to vary electrical voltage

General Information

ITEM	ABBREVIATION	DESCRIPTION
PowrReverser™	PR	12 forward and 12 reverse mechanically shifted transmission; 4-speed gear case, 3-speed range box = 12x12 PR
PowrReverser™ Plus	PR Plus	24 forward and 12 reverse mechanically shifted transmission; 4-speed gear case, 3-speed range box, and 4-low-speed gear case = 24x12 PR Plus
Power Take-Off	PTO	Abbreviation
PowerTech™ E	PTE	Electronically controlled fuel injection
Power Train Reverser	PTR	Computerized system used to control power reverse transmission functions
Product Identification Number	PIN	Serial number relating to tractor identification
Reverse	Rev	Direction of movement
Revolutions per Minute	rpm	Abbreviation
Right-Hand	RH or R-H	Abbreviation
Rockshaft	RS	Abbreviation
Roll-Over Protective Structure	ROPS	Abbreviation
Selective Control Valve	SCV	Device used to control remote hydraulic functions
Slow Moving Vehicle	SMV	Warning sign on the rear of the tractor
Society of Automotive Engineers	SAE	Engineering Standards Organization
Specification	Spec	Abbreviation
Switch	SW	Abbreviation
Synchronized	SS	9 forward and 3 reverse mechanically shifted transmission; 3-speed gear case, 3-speed range box = 9x3 SS
Tachometer	Tach	Abbreviation
Tail Light	TL	Abbreviation
Temperature	Temp	Abbreviation
Three-Point Hitch	3PT	Abbreviation
Transmission	Trans	Abbreviation
Transient Voltage Protection	TVP	An electrical device used to protect a circuit from a voltage surge
User Interface Module	UIM	Abbreviation
Voltage (Volts)	V	Abbreviation
Voltage Detector	V Det	Abbreviation
Warning Lamp	WL	Abbreviation
Without	W/O	Abbreviation
Wide-Open Throttle	WOT	Full throttle
Two-Wheel Drive	2WD	Vehicle where only one pair of wheels is powered

PP71895,000063F-19-29MAR18

Regions and Country Versions



RXA0150920—UN—01FEB16

- R1—Asia and Sub-Saharan Africa (blue)
- R1A—Far East, Sri Lanka, and Pakistan
- R1B—China
- R1C—India
- R1D—Sub-Saharan Africa
- R2—Europe, North Africa, Mid East, CIS (orange)
- R2A—European Union (EU 28+)
- R2B—North Africa and North Middle East (NANME)
- R2C—Common Wealth of Independent States (CIS)

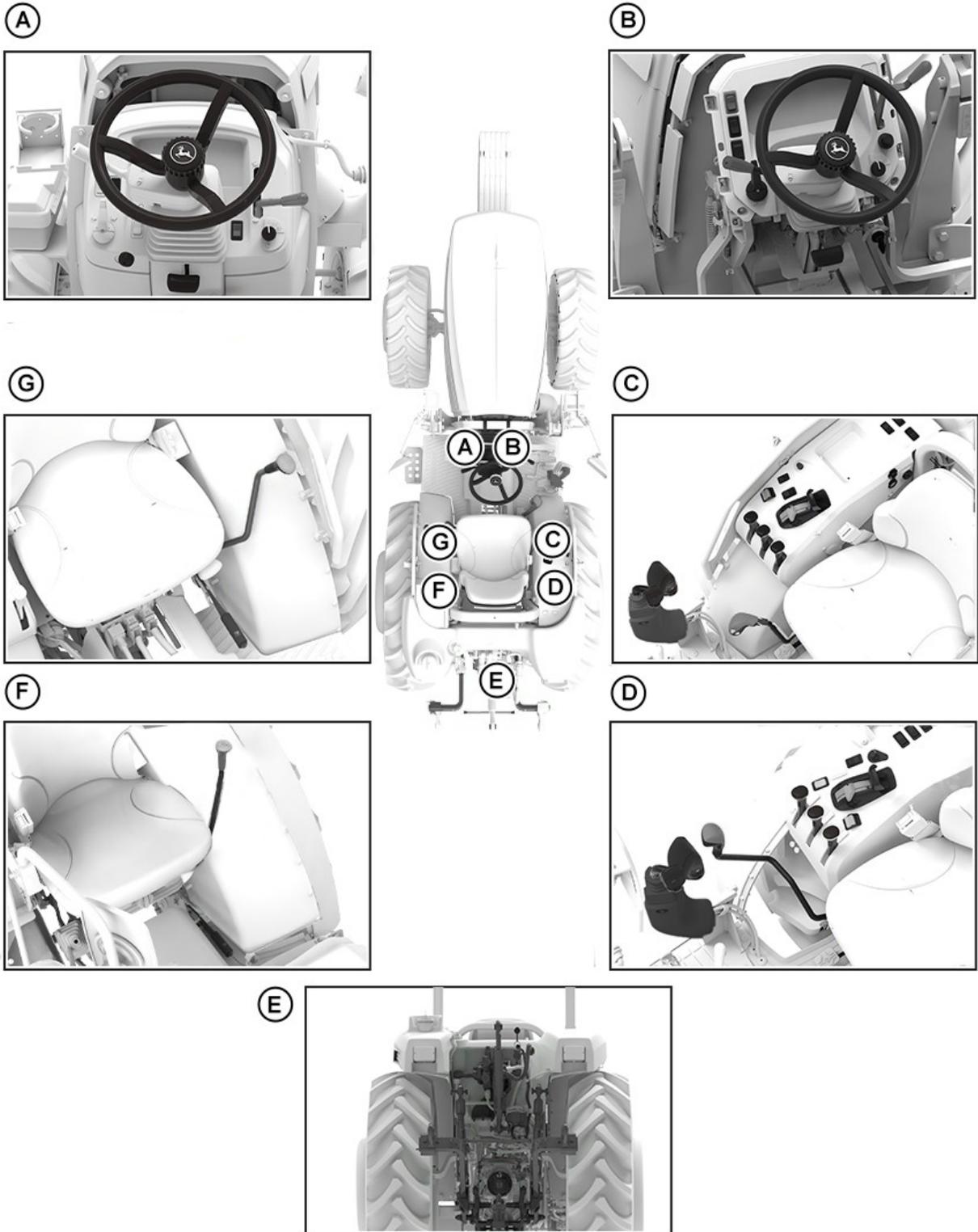
- R3—Central and South America (red)
- R3A—Latin America (JDLA)
- R3B—Brazil
- R3C—Mexico
- R3D—Argentina
- R4—North America (green)
- R4A—USA and Canada
- R4B—Oceania (Australia and New Zealand)

<p>Regions 1, 2 and 3 equipment is traditionally manufactured with Economic Commission for Europe (ECE) features or systems.</p> <ul style="list-style-type: none"> • Turn signal lights not mounted to cab roof (at fenders instead) • Turn signal flashers only operate on selected side • Parking lights • License plate light • Secondary service brake • Hydraulic trailer brake • Text-free (pictorial only) safety signs 	<p>Region 4 equipment is traditionally manufactured with Society of Automotive Engineers (SAE) features or systems.</p> <ul style="list-style-type: none"> • Turn signal lights mounted to cab roof • Turn signal flashers operate on selected side while opposite side flasher is on but does not flash • No parking lights • No license plate light • No secondary service brake • No hydraulic trailer brake • Text with picture safety signs
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Drive and signal lighting, traffic signs, safety signs, and braking features are some of the systems that differ between ECE and SAE. For example, Text-Free (pictorial only) safety signs are used for ECE while Texts with Picture safety signs are used on SAE. Use information above, if equipment information is identified by regions, countries, trade federations, industry standards, or governmental regulations.

NOTE: Australia and New Zealand (R4B) are available as either region 4 and/or region 2 configurations, only using text-free safety signs.

Machine Overview



A—Front Console Controls (OOS)
B—Front Console Controls (Cab)
C—Right Side Controls (OOS)
D—Right Side Controls (Cab)

E—Rear Implement Interface
F—Left Side Controls (Cab)
G—Left Side Controls (OOS)

APY68935—UN—13APR22

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

Review manual sections for Controls and Instruments identification, Steering and Brakes, Transmission, and Transportation before operation on the road or in the field.

Operating the Machine Introduction:

- Sit in the operator's seat and fasten seat belt.
- Start engine. (See Engine Operation section.)
- Turn on lights or signals as required. (See Electrical and Lighting Operation section.)
- Operate transmission to move the machine. (See Transmission Operation section.)
- Use steering and brakes as required. (See Steering and Brake Operation section.)
- Activate features and implements as required. (See Operational sections.)

CAUTION: The tractor is not designed for use in flooded fields, as is the case with rice crops.

Preliminary Overview

Use the following list as a reminder to inspect items before operation. Detailed operation and service information is available in Operational and Maintenance sections.

- Review manual and machine for safety information and safety signs.
- Review manual for proper operation, adjustment, and service.
- Review manual for engine and drivetrain operations. (throttles, brakes, steering, transmission gears, MFWD, and differential lock.)
- Review manual for control devices (hitch, hydraulic, and electrical).
- Review manual for regular lubrication points and intervals.
- Check for visual signs of leaks, damage, failures, and flats.
- Prepare the machine hardware, fuel, fluids, lubricants, air, and daily maintenance.
- Check and prepare implements or attachments according to implement or attachment operator's manual.

Using this Manual:

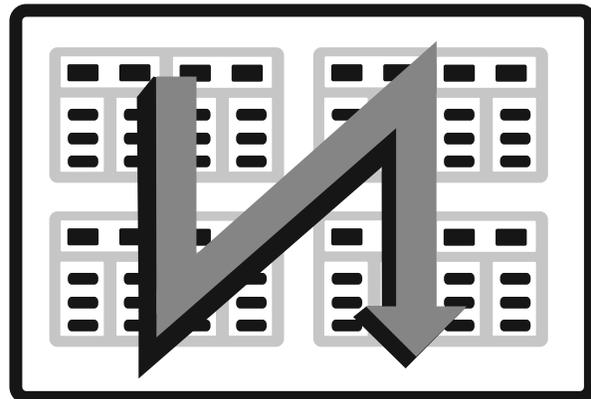
The information provided in this manual is divided into

sections. The sections are organized by typical machine features or functional systems (Engine, Electrical, Hydraulic, Transmission, and so on). These sections are identified at the top of each page. Specific information within each section is organized into modules. These modules are defined with a heading at the start and a solid line at the end. Page numbers identify the section as well as the number of the page in the section.

By reviewing this manual frequently, you learn which section to turn to for the specific information. For example, the Safety information is covered at the beginning, the Operation of all features and systems are covered in the first half of the manual, Maintenance Intervals are in the middle of the manual, the Maintenance of all the features and systems are covered in the second half of the manual, and the Specifications are covered at the end.

A detailed table of contents appears before Safety information, and there is an alphabetical index at the very end of the manual.

The Operator's Manual content flows as the sequential reading down one column of text and graphic then over to the top of the next column as shown.



W28329—UN—18OCT17
RD91939,0000A83-19-07MAR22

Safety Precautions

Recognize Safety Information



T81389—UN—28JUN13

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

Follow recommended precautions and safe operating practices.

DX,ALERT-19-03OCT22

Follow Safety Instructions



TS201—UN—15APR13

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

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

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

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

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

DX,READ-19-01AUG22

Understand Signal Words



▲ WARNING

▲ CAUTION

TS187—19—30SEP88

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

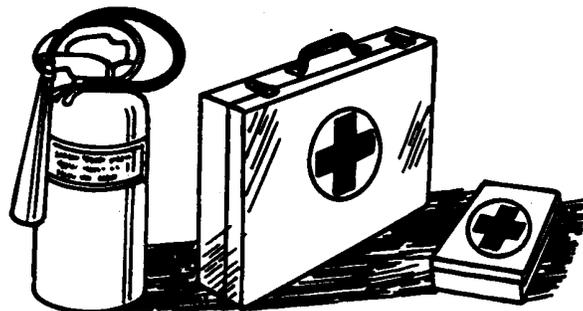
WARNING; The signal word WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

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

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

DX,SIGNAL-19-05OCT16

Prepare for Emergencies



TS291—UN—15APR13

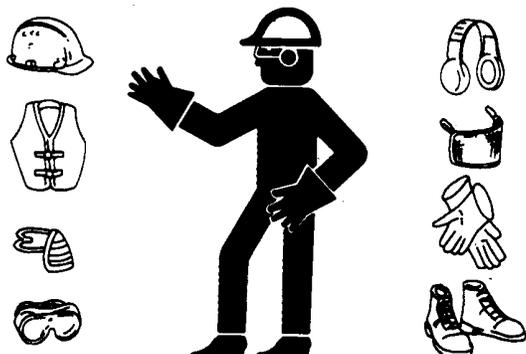
Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

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

DX,FIRE2-19-03MAR93

Wear Protective Clothing



TS206—UN—15APR13

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

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

DX.WEAR2-19-03MAR93

Handle Fuel Safely—Avoid Fires



TS202—UN—23AUG88

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

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

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

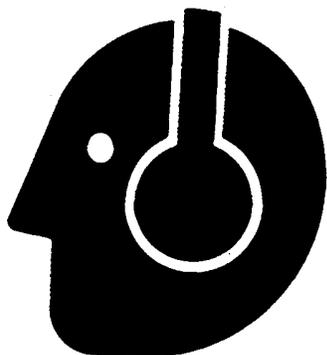
Use only an approved fuel container for transporting flammable liquids.

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

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

DX.FIRE1-19-12OCT11

Protect Against Noise



TS207—UN—23AUG88

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

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

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

DX.NOISE-19-03OCT17

Handle Starting Fluid Safely



TS1356—UN—18MAR92

Starting fluid is highly flammable.

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

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

Do not incinerate or puncture a starting fluid container.

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

DX,FIRE3-19-14MAR14

Fire Prevention

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

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

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

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

In Case of Fire



TS227—UN—15APR13

CAUTION: Avoid personal injury.

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

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

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

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

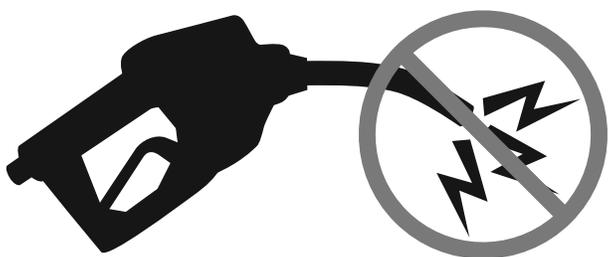
1. Pull the pin. Hold the extinguisher with the nozzle pointing away from you, and release the locking mechanism.
2. Aim low. Point the extinguisher at the base of the fire.
3. Squeeze the lever slowly and evenly.
4. Sweep the nozzle from side-to-side.

DX,FIRE4-19-22AUG13

Avoid Static Electricity Risk When Refueling



RG22142—UN—17MAR14



RG21992—UN—21AUG13

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

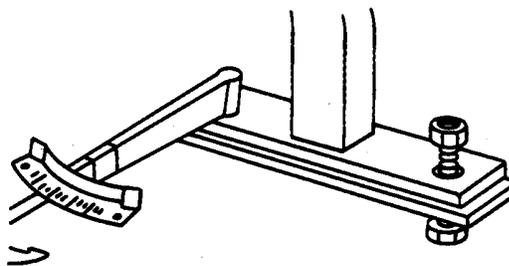
Refineries may have treated the fuel with a static dissipating additive. However, there are many factors that can reduce the effectiveness of the additive over time.

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

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

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

Keep ROPS Installed Properly



TS212—UN—23AUG88

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

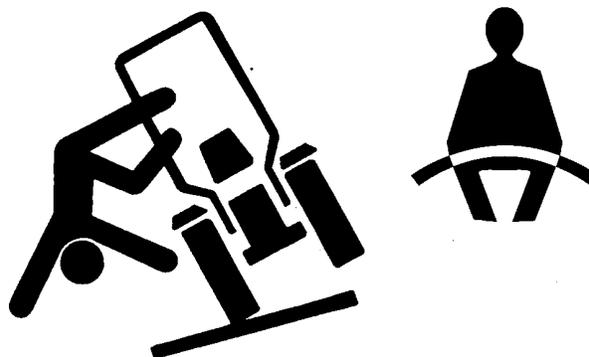
The protection offered by ROPS will be impaired if ROPS is subjected to structural damage, is involved in an overturn incident, or is in any way altered by welding, bending, drilling, or cutting. A damaged ROPS should be replaced, not reused.

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

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

DX,ROPS3-19-12OCT11

Use Foldable ROPS and Seat Belt Properly



TS1729—UN—24MAY13

Avoid crushing injury or death during rollover.

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

Safety Precautions

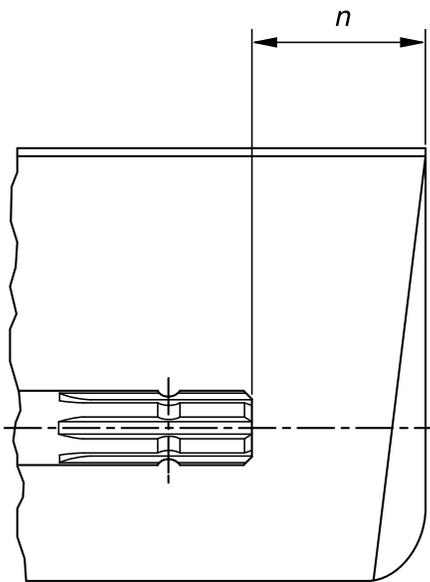
- Snug the seat belt across the hips.
- If this machine is operated with the ROPS folded (for example, to enter a low building), drive with extreme caution. **DO NOT USE** a seat belt with the ROPS folded.
- Return the ROPS to the raised, fully extended position as soon as the machine is operated under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

DX,FOLDROPS-19-22AUG13

Stay Clear of Rotating Drivelines



TS1644—UN—22AUG95



H96219—UN—29APR10

Entanglement in rotating driveline can cause serious injury or death.

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

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

Wear close fitting clothing. Stop the engine and be sure that PTO driveline is stopped before making

adjustments, connections, or cleaning out PTO driven equipment.

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

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

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

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

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

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

DX,PTO-19-28FEB17

Use Steps and Handholds Correctly



T133468—UN—15APR13

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

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

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

DX,WW,MOUNT-19-12OCT11

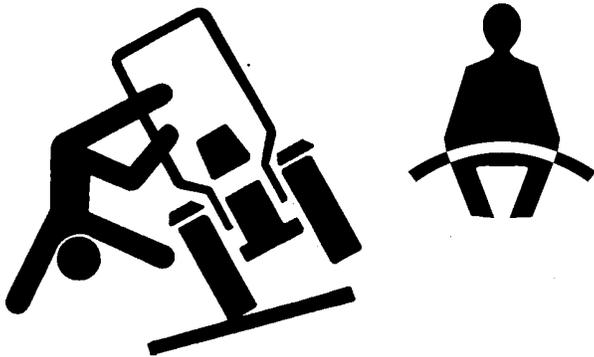
Read Operator's Manuals for ISOBUS Controllers

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

NOTE: ISOBUS refers to the ISO Standard 11783

DX,WW,ISOBUS-19-15JUL15

Use Seat Belt Properly



TS1729—UN—24MAY13

Avoid crushing injury or death during rollover.

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

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

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

Inspect seat belt and mounting hardware at least once a year. Look for signs of loose hardware or belt damage,

such as cuts, fraying, extreme or unusual wear, discoloration, or abrasion. Replace only with replacement parts approved for your machine. See your John Deere dealer.

DX,ROPS1-19-22AUG13

Operating the Tractor Safely

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

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

Driving Concerns

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

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

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

Heated and Ventilated Operator's Seat

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

Towing Loads

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

Parking and Leaving the Tractor

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

Common Accidents

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

The most common accidents involving tractors are:

- Tractor rollover
- Collisions with motor vehicles
- Improper starting procedures
- Entanglement in PTO shafts
- Falling from tractor

- Crushing and pinching during hitching

DX,WW,TRACTOR-19-08MAY19

Avoid Backover Accidents



PC10857XW—UN—15APR13

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

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

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

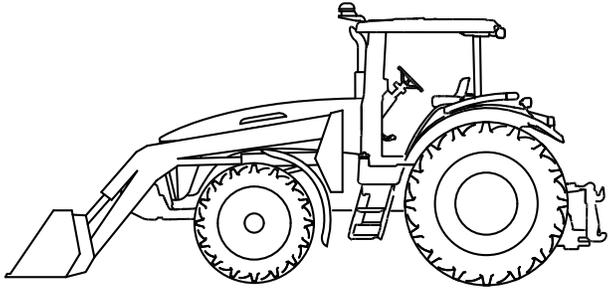
Limited Use in Forestry Operation

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

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

DX,WW,FORESTRY-19-12OCT11

Operating the Loader Tractor Safely



TS1692—UN—09NOV09

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

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

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

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

Do not use loader as a work platform.

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

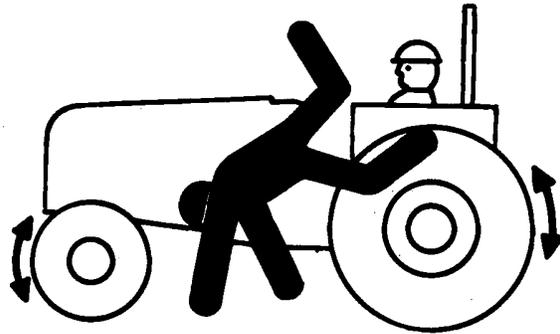
Lower loader to ground before leaving operators station.

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

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

DX,WW,LOADER-19-18SEP12

Keep Riders Off Machine



TS290—UN—23AUG88

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

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

DX,RIDER-19-03MAR93

Instructional Seat

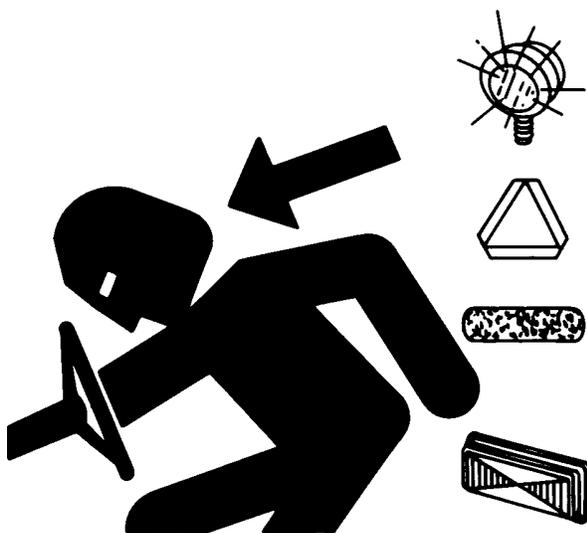


TS1730—UN—24MAY13

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

DX,SEAT,NA-19-22AUG13

Use Safety Lights and Devices



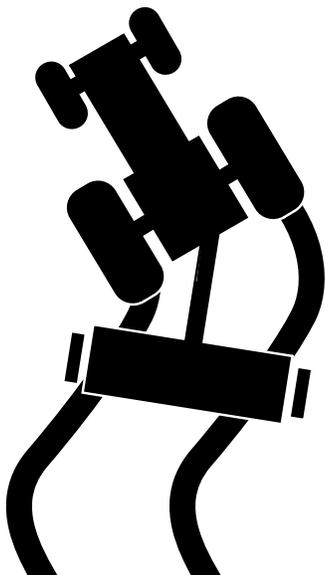
TS951—UN—12APR90

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

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

DX.FLASH-19-07JUL99

Transport Towed Equipment at Safe Speeds



TS1686—UN—27SEP06

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

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

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

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

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

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

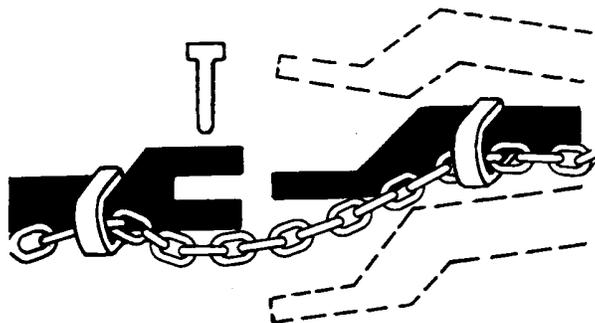
Implements with brakes:

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

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

DX.TOW1-19-28FEB17

Use a Safety Chain



TS217—UN—23AUG88

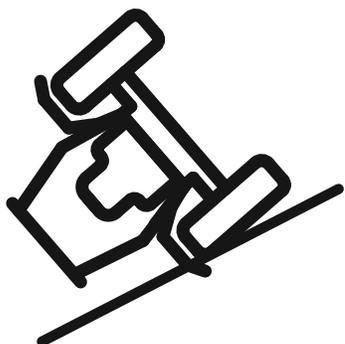
A safety chain will help control drawn equipment should it accidentally separate from the drawbar.

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

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

DX,CHAIN-19-03MAR93

Use Caution on Slopes, Uneven Terrain, and Rough Ground



RXA0103437—UN—01JUL09

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

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

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

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

Slopes are a major factor related to loss-of-control and

tip-over accidents, which can result in severe injury or death. Operation on all slopes requires extra caution.

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

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

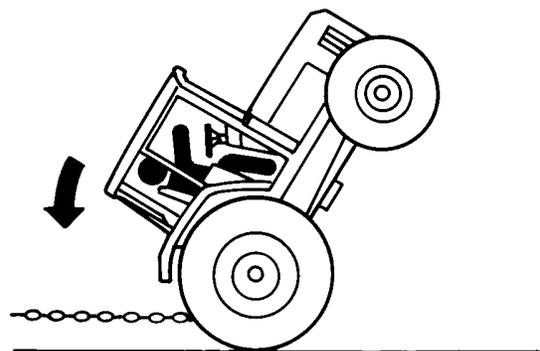
Choose a low ground speed so you will not have to stop or shift while on a slope.

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

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

DX,WWW,SLOPE-19-28FEB17

Freeing a Mired Machine



TS1645—UN—15SEP95



TS263—UN—23AUG88

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

Back your tractor out if it gets mired down in mud. Unhitch any towed implements. Dig mud from behind

Safety Precautions

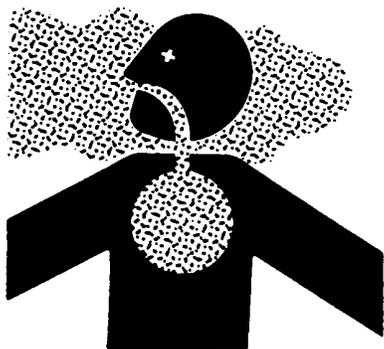
the rear wheels. Place boards behind the wheels to provide a solid base and try to back out slowly. If necessary, dig mud from the front of all wheels and drive slowly ahead.

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

Always hitch to the drawbar of the towing unit. Do not hitch to the front pushbar attachment point. Before moving, clear the area of people. Apply power smoothly to take up the slack: a sudden pull could snap any towing device causing it to whip or recoil dangerously.

DX,MIREd-19-07JUL99

Avoid Contact with Agricultural Chemicals



TS220—UN—15APR13



TS272—UN—23AUG88

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

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

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

DX,CABS-19-25MAR09

Handle Agricultural Chemicals Safely



TS220—UN—15APR13



A34471

A34471—UN—11OCT88

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

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

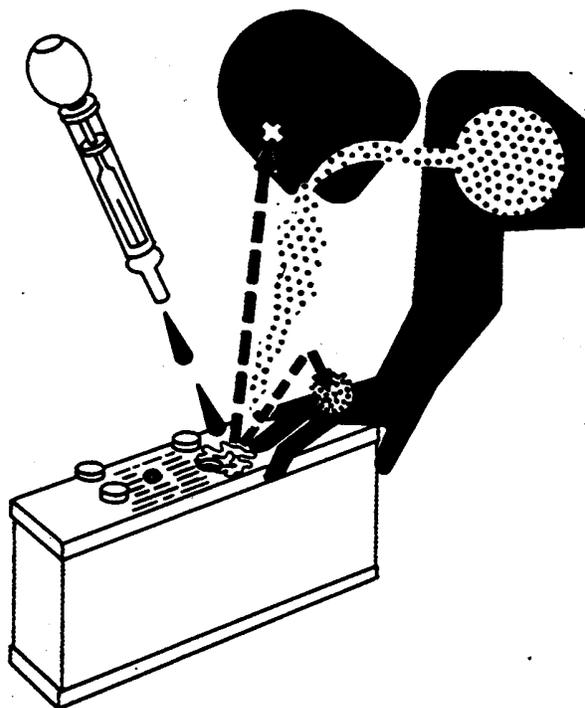
Reduce risk of exposure and injury:

- Wear appropriate personal protective equipment as recommended by the manufacturer. In the absence of manufacturer's instructions, follow these general guidelines:
 - Chemicals labeled **'Danger'**: Most toxic. Generally require use of goggles, respirator, gloves, and skin protection.
 - Chemicals labeled **'Warning'**: Less toxic. Generally require use of goggles, gloves, and skin protections.
 - Chemicals labeled **'Caution'**: Least toxic. Generally require use of gloves and skin protection.
- Avoid inhaling vapor, aerosol or dust.
- Always have soap, water, and towel available when working with chemicals. If chemical contacts skin,

hands, or face, wash immediately with soap and water. If chemical gets into eyes, flush immediately with water.

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

DX,WW,CHEM01-19-24AUG10



TS203—UN—23AUG88

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

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

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

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

Avoid hazards by:

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

If acid is spilled on skin or in eyes:

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

If acid is swallowed:

Handling Batteries Safely



TS204—UN—15APR13

Safety Precautions

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

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

DX,WW,BATTERIES-19-02DEC10

Avoid Heating Near Pressurized Fluid Lines



TS953—UN—15MAY90

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

DX,TORCH-19-10DEC04

Remove Paint Before Welding or Heating



TS220—UN—15APR13

Avoid potentially toxic fumes and dust.

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

Remove paint before heating:

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

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

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

Dispose of paint and solvent properly.

DX,PAINT-19-24JUL02

Handle Electronic Components and Brackets Safely



TS249—UN—23AUG88

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

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

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

DX,WW,RECEIVER-19-24AUG10

Practice Safe Maintenance



TS218—UN—23AUG88

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

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

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

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

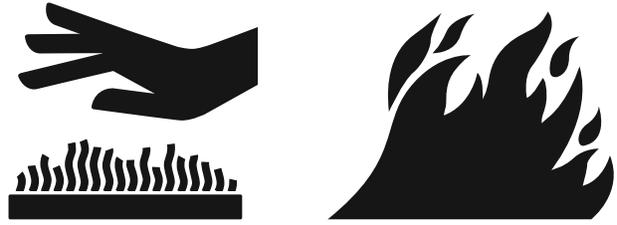
On self-propelled equipment, disconnect battery ground cable (-) before making adjustments on electrical systems or welding on machine.

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

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

DX,SERV-19-28FEB17

Avoid Hot Exhaust



RG17488—UN—21AUG09

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

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

DX,EXHAUST-19-20AUG09

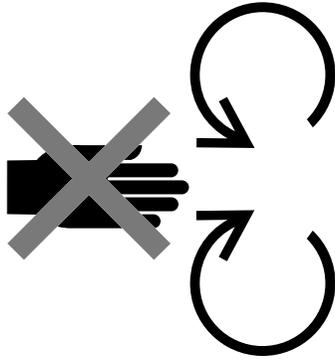
Clean Exhaust Filter Safely



TS227—UN—15APR13



TS271—UN—23AUG88



TS1693—UN—09DEC09



TS1695—UN—07DEC09

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

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

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

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

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

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

Avoid contact with these components until cooled to safe temperatures.

If service procedure requires engine to be running:

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

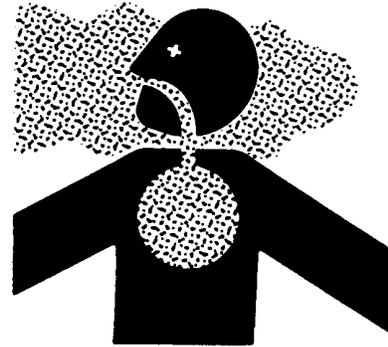
Keep hands, feet, and clothing away from power-driven parts.

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

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

DX,EXHAUST,FILTER-19-12JAN11

Work In Ventilated Area



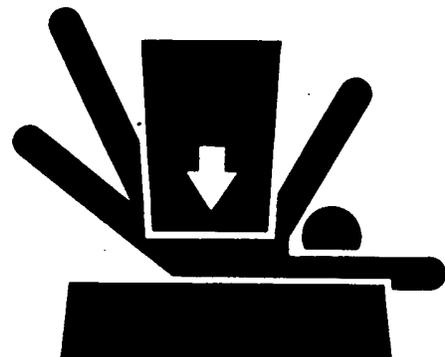
TS220—UN—15APR13

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

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

DX,AIR-19-17FEB99

Support Machine Properly



TS229—UN—23AUG88

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

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

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

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

DX,LOWER-19-24FEB00

Prevent Machine Runaway



TS177—UN—11JAN89

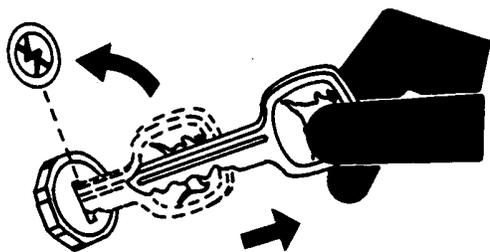
Avoid possible injury or death from machinery runaway.

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

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

DX,BYPAS1-19-29SEP98

Park Machine Safely



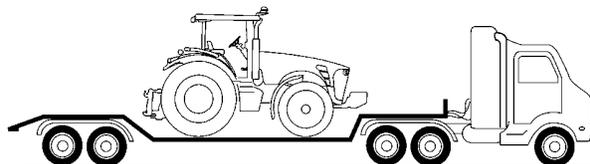
TS230—UN—24MAY89

Before working on the machine:

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

DX,PARK-19-04JUN90

Transport Tractor Safely



RXA0103709—UN—01JUL09

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

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

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

DX,WW,TRANSPORT-19-19AUG09

Service Cooling System Safely



TS281—UN—15APR13

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

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

DX,WW,COOLING-19-19AUG09

Service Accumulator Systems Safely



TS281—UN—15APR13

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

Relieve pressure from the pressurized system before removing accumulator.

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

Accumulators cannot be repaired.

DX,WW,ACCLA2-19-22AUG03

Service Tires Safely



RXA0103438—UN—11JUN09

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

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

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

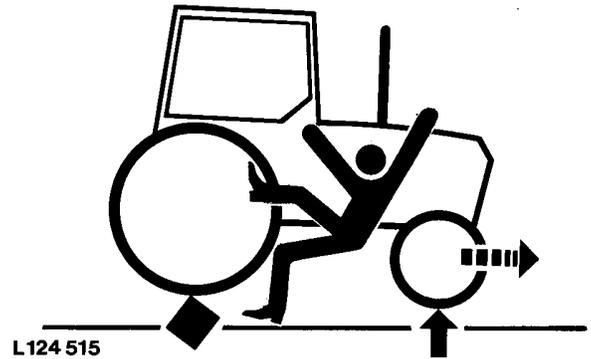
When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.

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

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

DX,WW,RIMS-19-28FEB17

Service Front-Wheel Drive Tractor Safely

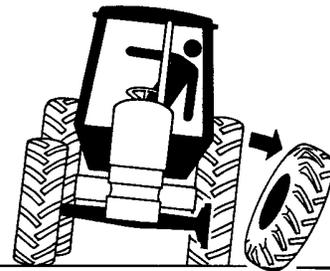


L124515—UN—06AUG94

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

DX,WW,MFWD-19-19AUG09

Tightening Wheel Retaining Bolts/Nuts



L124 516

L124516—UN—03JAN95

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

DX,WW,WHEEL-19-12OCT11

Avoid High-Pressure Fluids



X9811—UN—23AUG88

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

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

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

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

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

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

DX,FLUID-19-12OCT11

Do Not Open High-Pressure Fuel System



TS1343—UN—18MAR92

High-pressure fluid remaining in fuel lines can cause serious injury. Do not disconnect or attempt repair of fuel

lines, sensors, or any other components between the high-pressure fuel pump and nozzles on engines with High Pressure Common Rail (HPCR) fuel system.

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

DX,WW,HPCR1-19-07JAN03

Store Attachments Safely



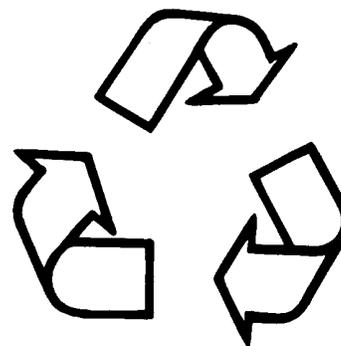
TS219—UN—23AUG88

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

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

DX,STORE-19-03MAR93

Decommissioning — Proper Recycling and Disposal of Fluids and Components



TS1133—UN—15APR13

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

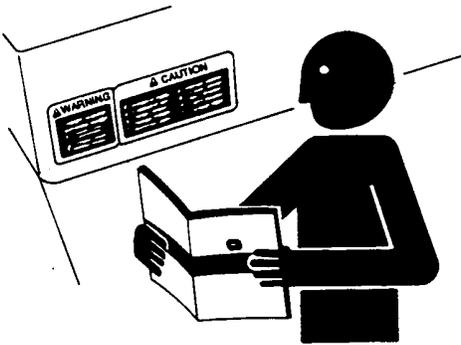
- Use appropriate tools and personal protective equipment such as clothing, gloves, face shields or glasses, during the removal or handling of objects and materials.
- Follow instructions for specialized components.

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

DX,DRAIN-19-01JUN15

Safety Signs

Replace Safety Signs



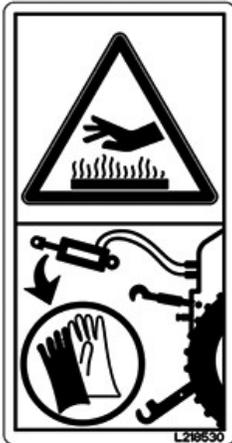
TS201—UN—15APR13

Replace missing or damaged safety signs. Use this operator's manual for correct safety sign placement.

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

DX,SIGNS-19-18AUG09

Safety Signs—All Safety Hot Surface



Safety Label—L218530

PY33008—UN—13OCT16

DANGER



Safety Label—T146195

LV1932—19—02JUN97



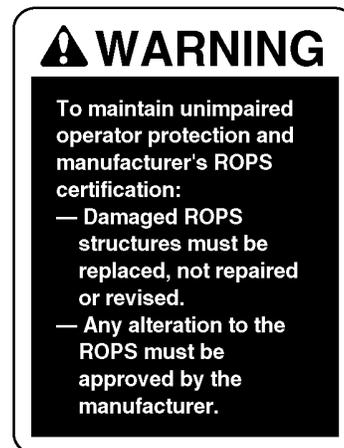
Starter

PULV000196—UN—06MAR08

**Start only from seat in park or neutral.
Starting in gear kills.**

RD91939,0000AA4-19-20JUL22

Safety Signs—ROPS WARNING



Safety Label—R120124

LV1689—19—04JUN96



PULV000203—UN—06MAR08
Right-Hand Side

To maintain unimpaired operator protection and manufacturer's ROPS certification:

—Damaged ROPS structures must be replaced, not repaired or revised.

—Any alteration to the ROPS must be approved by the manufacturer.

WARNING

⚠ WARNING

If a canopy or sunshade is attached to the ROPS structure, the weight MUST be limited to 100 lb (45 kg) or less.

LV6525—19—14MAR01
Canopy Safety Label—R141735



PULV000202—UN—06MAR08
Left-Hand Side

If a canopy or sunshade is attached to the ROPS structure, the weight must be limited to 100 lb (45 kg) or less.

RD91939,0000AA5-19-23JUN22

Safety Signs—OOS

WARNING

⚠ WARNING

AVOID CRUSHING

- Keep Rollover Protective Structure fully extended
- Do not jump if machine tips
- Use seat belt.

When structure must be down,

- **DO NOT** use seat belt
- Drive with extra care

LV6526—19—14MAR01
Safety Label—R271565



PULV000205—UN—06MAR08
Left-Hand Side Fender

AVOID CRUSHING

- Keep rollover protective structure fully extended.
- Do not jump if machine flips.
- Use seat belt.

When structure must be down,

- DO NOT use seat belt.
- Drive with extra care.

⚠ CAUTION

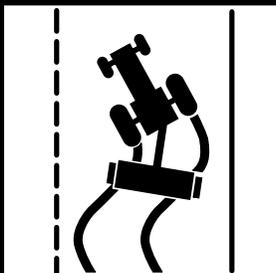
1. Read Operator's Manual before operating this tractor.
2. Keep all shields in place.
3. Hitch towed loads only to drawbar to avoid rearward upset.
4. Make certain everyone is clear of machine before starting engine or operation.
5. Keep all riders off tractor and equipment.
6. Keep hands, feet and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

PULV000209—19—22FEB08

8. Couple brake pedals together for road travel.
9. Use flashing warning lights on highway unless prohibited by law.
10. Stop engine, lower implement to ground and shift to "PARK" or set hand brake securely before dismounting.
11. Wait for all movement to stop before servicing machinery.
12. Remove key if leaving tractor unattended.

WARNING

⚠ WARNING



Avoid serious injury or death resulting from loss of control during transport or braking of a towed implement.

This tractor is capable of operating at transport speeds that may exceed the maximum allowable transport speed for towed implements. If implement manufacturer does not specify maximum transport speed, observe these transport speed limits:

- Implements without brakes: 32 km/h (20 mph)
- Implements with brakes: 40 km/h (25 mph)

Do not exceed the implement's maximum transport speed.



PULV000206—UN—06MAR08
Left-Hand Side Fender

RXA0068063—19—08JUL04

Safety Label—R195575

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. Reduce speed when turning or applying individual brakes or operating around hazards on rough ground or steep slopes.



PULV000210—UN—06MAR08
Left-Hand Side Fender

Avoid serious injury or death resulting from loss of control during transport or braking of a towed implement.

This tractor is capable of operating at transport speeds that may exceed the maximum allowable transport speed for towed implements. If implement manufacturer does not specify maximum transport speed, observe these transport speed limits:

- Implements without brakes: 32 km/h (20 mph)
- Implements with brakes: 40 km/h (25 mph)

Do not exceed the implement's maximum transport speed.

RD91939,0000AA6-19-09MAY22

Safety Signs—Cab
WARNING



Warning Label—R223236
LV15900—19—25JUL12



Left-Hand Door Post
LV15826—UN—22JUN12

Avoid serious injury or death resulting from loss of control during transport or braking of a towed implement.

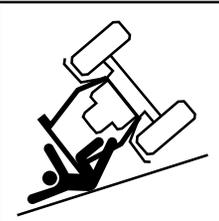
This tractor is capable of operating at transport speeds that may exceed the maximum allowable transport speed for towed implements. If implement manufacturer does not specify maximum transport speed, observe these transport speed limits:

- Implements without brakes: 32 km/h (20 mph)
- Implements with brakes: 40 km/h (25 mph)

Do not exceed the implement's maximum transport speed.

WARNING

⚠ WARNING



AVOID CRUSHING:

- Do not jump if machine tips.

USE SEAT BELT



- Pull belt fully from retractors and adjust for best protection.

To maintain unimpaired operator protection and manufacturer's ROPS certification:

- Damaged ROPS structures must be replaced, not repaired or revised.
- Any alteration to the ROPS must be approved by the manufacturer.

LV15901—19—25JUL12

Warning Label—R223236

- Pull seat belt fully from retractors and adjust for best protection.

To maintain unimpaired operator protection and manufacturer's ROPS certification:

- Damaged ROPS structures must be replaced, not repaired or revised.
- Any alteration to the ROPS must be approved by the manufacturer.

⚠ 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. Reduce speed when turning or applying individual brakes or operating around hazards on rough ground or steep slopes.
8. Couple brake pedals together for road travel.
9. Use flashing warning lights on highway unless prohibited by law.
10. Stop engine, lower implement to ground and shift to "PARK" or set handbrake securely before dismounting.
11. Wait for all movement to stop before servicing machinery.
12. Remove key if leaving tractor unattended.

LV5411—19—17NOV00

Caution Label—R223236



LV15827—UN—22JUN12

Left-Hand Door Post

AVOID CRUSHING:

- Do not jump if machine tips.

USE SEAT BELT



LV14479—UN—28JUL11

Left-Hand Door Post

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. Reduce speed when turning or applying individual brakes or operating around hazards on rough ground or steep slopes.
8. Couple brake pedals together for road travel.
9. Use flashing warning lights on highway unless prohibited by law.
10. Stop engine, lower implement to ground and shift to "PARK" or set hand brake securely before dismounting.
11. Wait for all movement to stop before servicing machinery.
12. Remove key if leaving tractor unattended.

Instructional Seat (If Equipped)



LV15878—19—26JUL12
Instructional Seat Safety Label—R174822



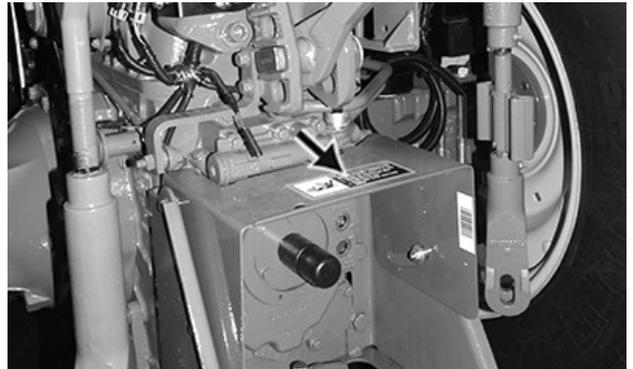
Left-Hand Front Post

LV15838—UN—26JUN12

CAUTION: This instructional seat has been provided only for training operators or diagnosing machine problems.
Keep all other riders off the tractor and equipment.
Always wear your safety belt.

RD91939,000AA7-19-09MAY22

Warning Decal — PTO Shield



PY35470—UN—14FEB17



P/N: R122717

PY20943—UN—10JUN15

Avoid injury from PTO

- Keep all shields in place.
- Keep hands, feet, clothing away.
- Operate only with 540 RPM.

MD36154,00001CF-19-10APR17



Cab (Right-Hand Door Post)

LV14487—UN—28JUL11

AVOID INJURY OR DEATH CAUSED BY FALLING LOADS

When using loader **ALWAYS** put SCV selector knobs in loader position.

If you do not, loader will continue to move after controls are released.

See operators manual for use of other knob positions.

WARNING

Safety Signs—Mid-Mount and Rear SCV (If Equipped)

WARNING



Safety Label—R117493

RXA0068062—19—29JUN05



Safety Label—R117493

RXA0068062—19—29JUN05



PULV000211—UN—06MAR08

OOS (Right-Hand Side Console)

AVOID INJURY OR DEATH CAUSED BY FALLING LOADS

When using loader ALWAYS put SCV selector knobs in loader position.

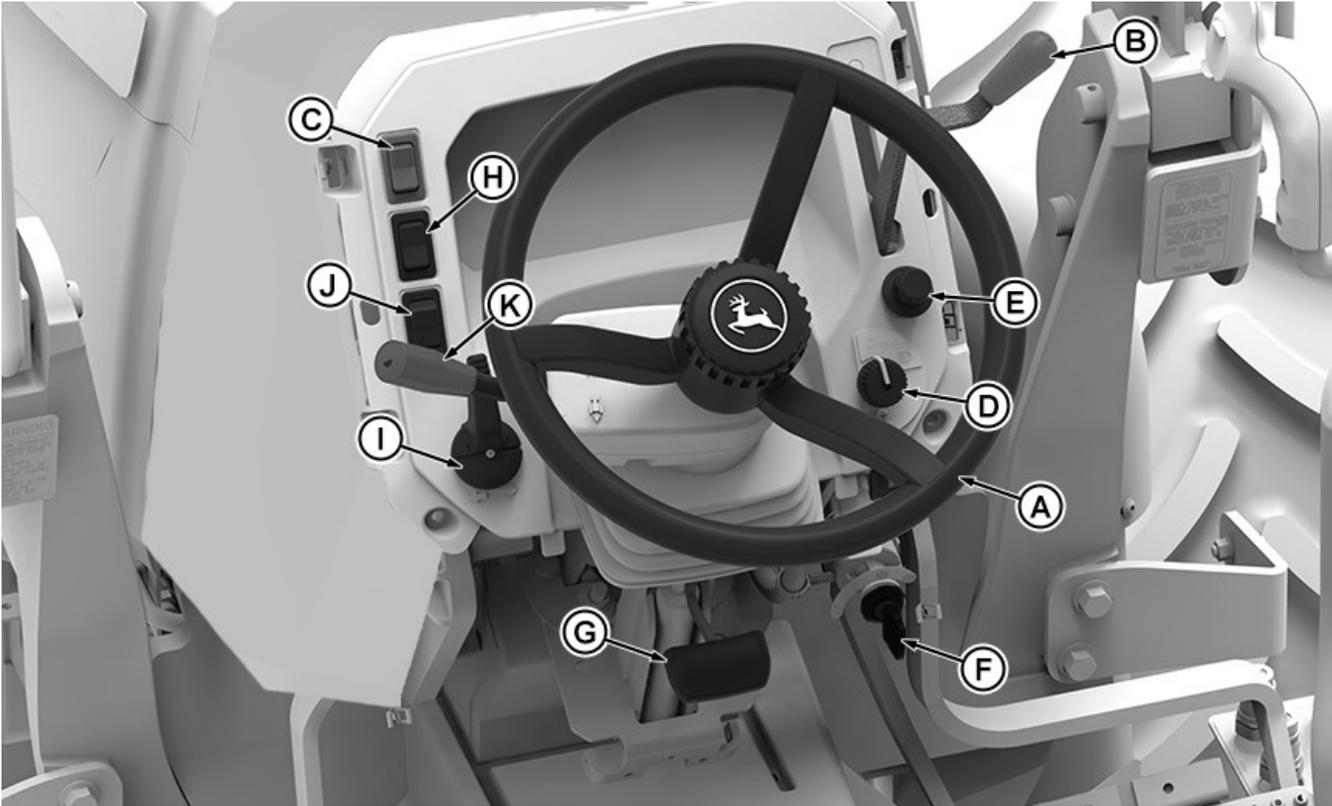
If you do not, loader will continue to move after controls are released.

See operators manual for use of other knob positions.

RD91939,0000AA8-19-23JUN22

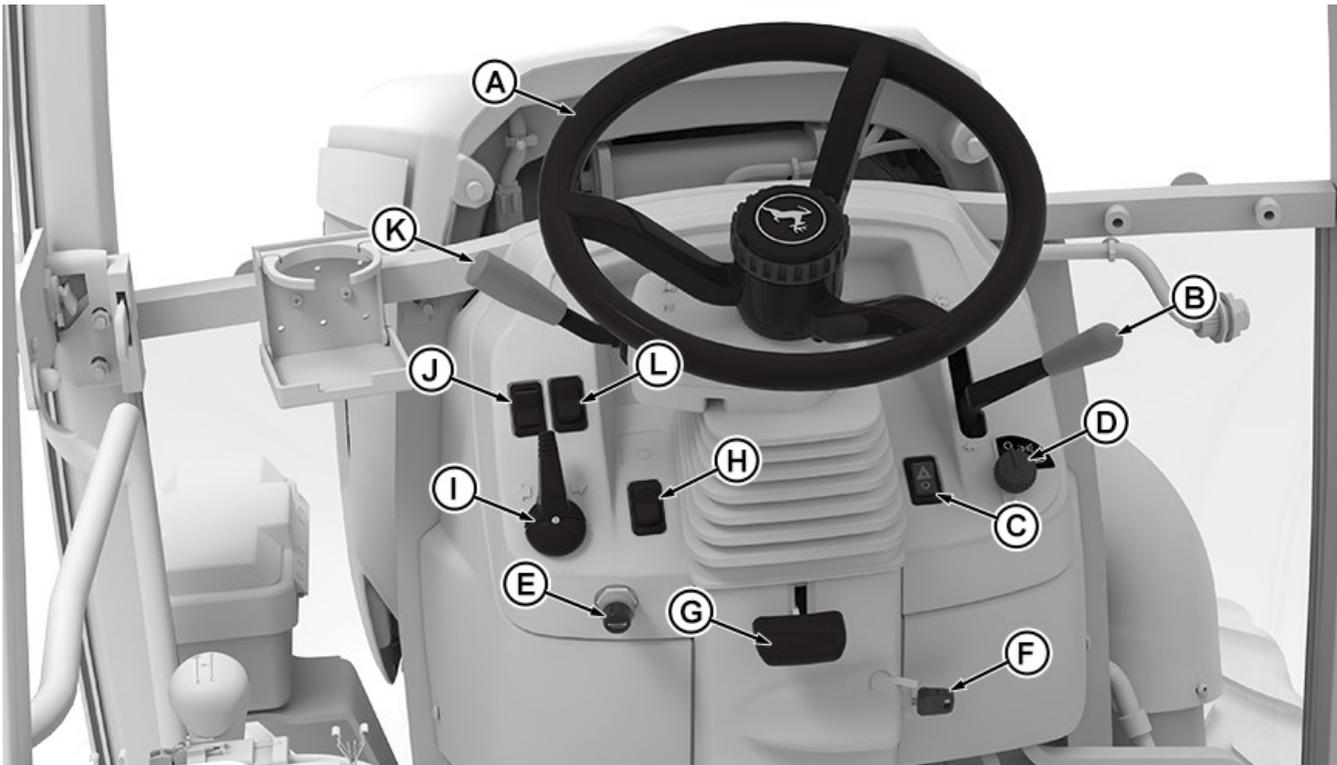
Controls and Instruments

Front Console Controls



APY68936—UN—13APR22

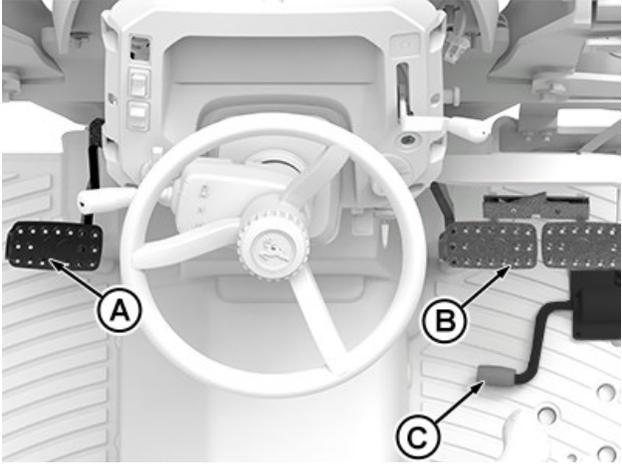
OOS



APY68937—UN—13APR22

Cab

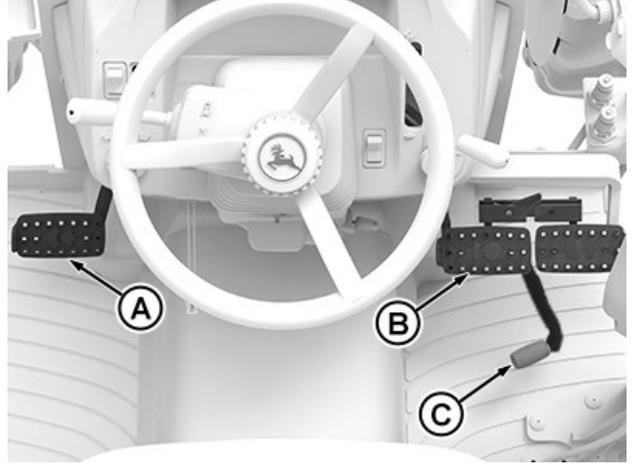
- A—Steering Wheel
- B—Hand Throttle Lever
- C—Hazard Switch
- D—Light Switch
- E—Horn
- F—Key Switch



OOS

APY68938—UN—13APR22

- G—Steering Wheel Tilt Lever
- H—Roll Mode Switch
- I—Turn Signal Light Switch
- J—High/Low Beam Switch
- K—FNR Lever
- L—Regeneration Switch



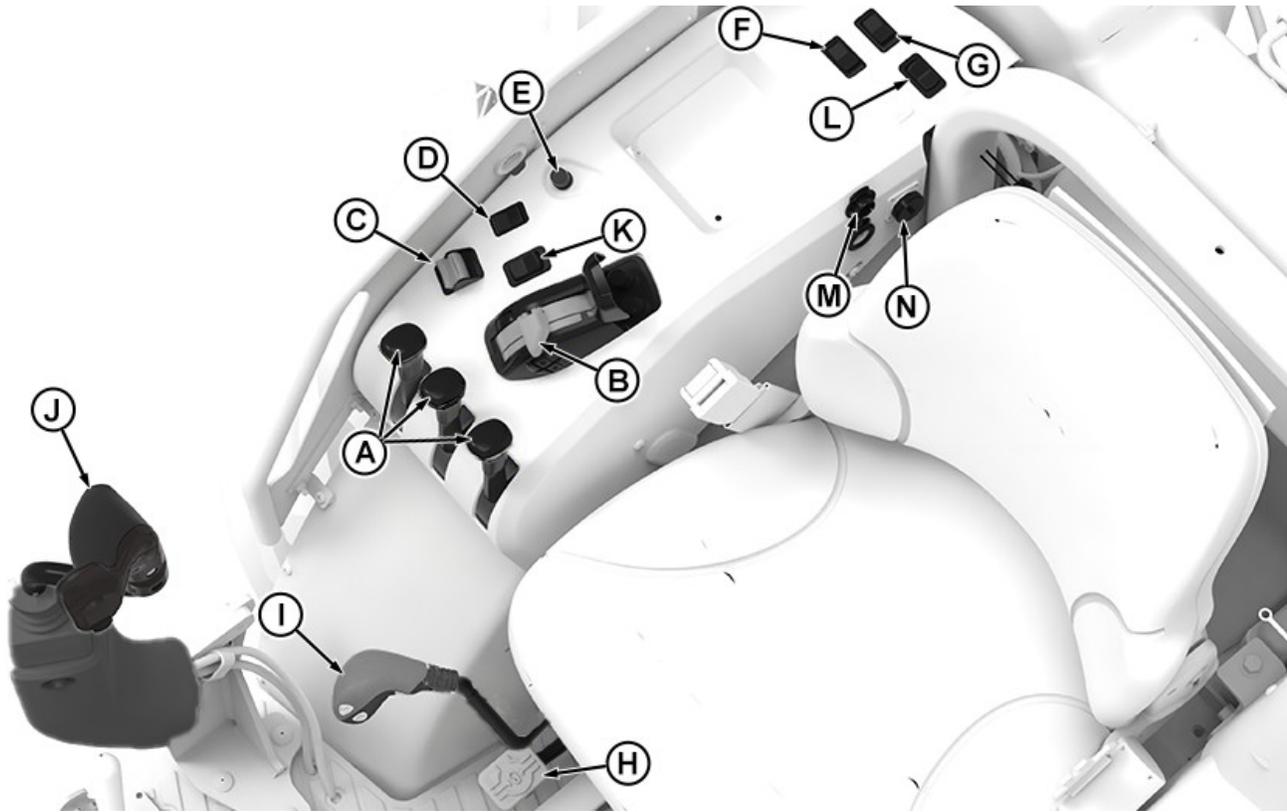
Cab

APY68939—UN—13APR22

- A—Clutch Pedal
- B—Brake Pedal
- C—Foot Throttle

RD91939,0000A84-19-12MAY22

Right-Hand Console Controls

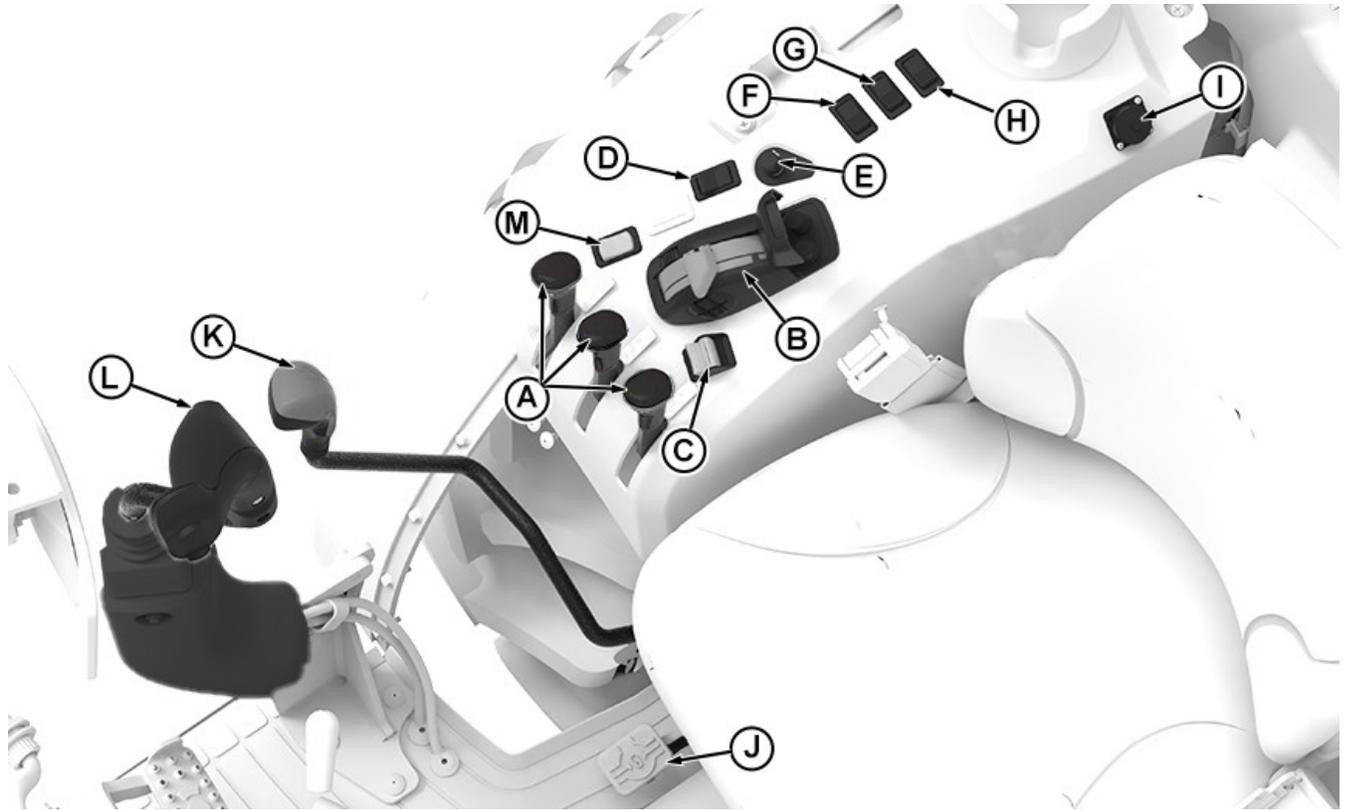


APY68940—UN—18APR22

OOS

- A—SCV Levers
- B—EH Hitch Control
- C—EH PTO Switch
- D—MFWD Switch
- E—Load/Depth Control
- F—Beacon Light Switch
- G—Rear Worklight Switch

- H—Differential Lock Pedal
- I—Gearshift Lever
- J—Mid-Mount SCV Joystick
- K—Regeneration Switch
- L—PTO Enable Switch
- M—12 V Output
- N—CNVC Outlet



APY68941—UN—18APR22

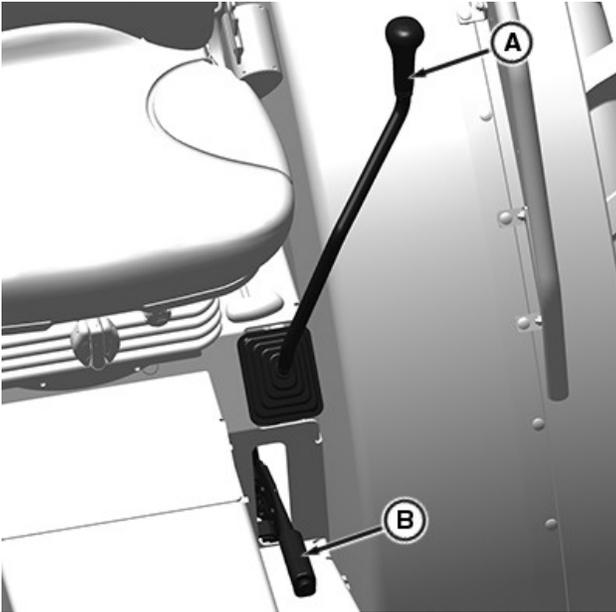
Cab

- A—SCV Levers
- B—EH Hitch Control
- C—EH PTO Control
- D—MFWD Switch
- E—Load/Depth Control
- F—Beacon Light Switch
- G—Front Worklight Switch

- H—Rear Worklight Switch
- I—CNVC Outlet
- J—Differential Lock Pedal
- K—Gearshift Lever
- L—Mid-Mount SCV Joystick
- M—PTO Enable Switch

RD91939,0000A85-19-12MAY22

Left-Hand Console Controls



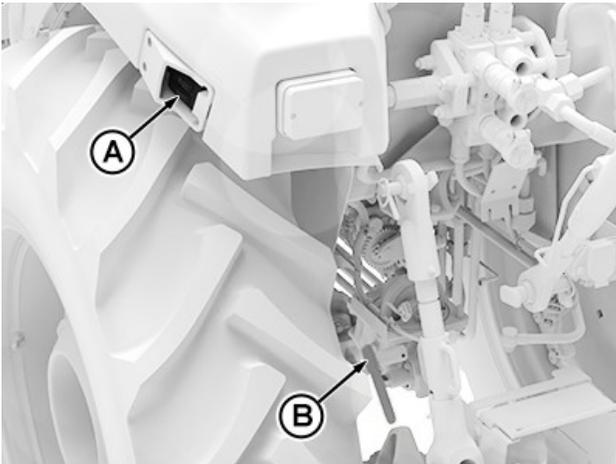
PY38108—UN—23FEB17

OOS

- A—Range Shift Lever
- B—Hand Brake

RD91939,0000A86-19-29MAR22

External Controls

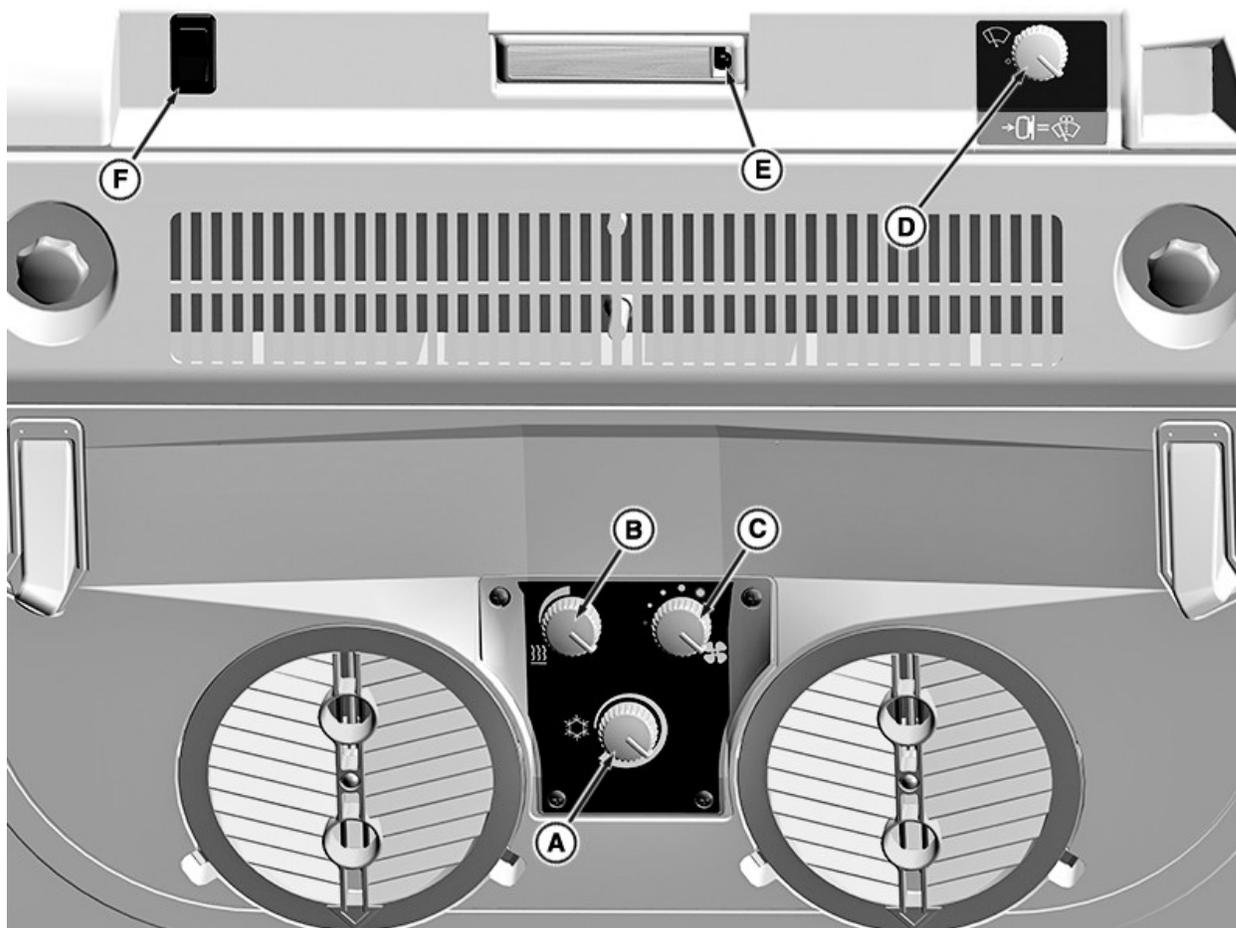


APY68943—UN—13APR22

- A—Left External Raise/Lower Switch
- B—540/540E PTO Shift Lever

RD91939,0000A87-19-29MAR22

Roof-Mounted Console Controls



PY36750—UN—16DEC16

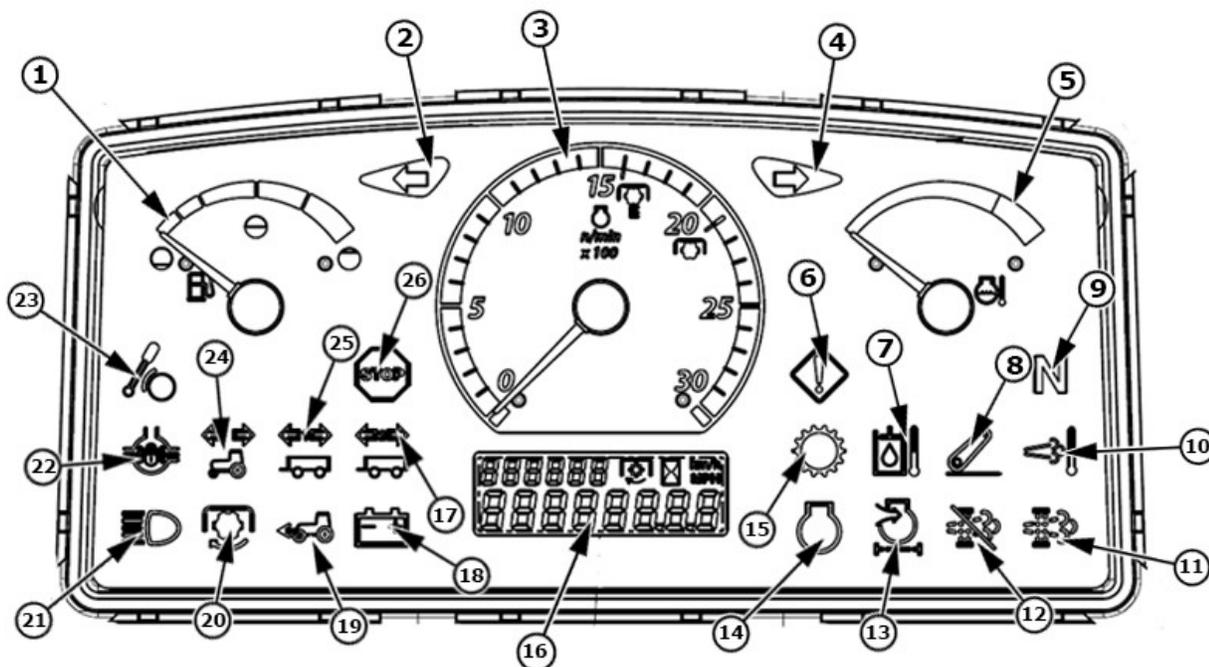
Cab

A—Air Conditioning Temperature Control
B—Heater Temperature Control
C—Blower Speed Switch

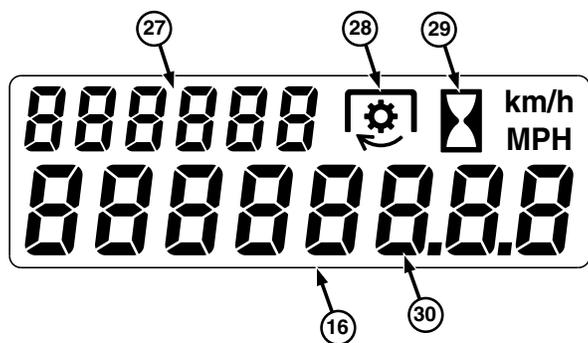
D—Windshield Wiper/Washer Switch
E—Dome Light Switch
F—Rear Window Wiper/Washer Switch

MSBAEPJ,0000260-19-09MAY22

Instrument Cluster (Gauges and Indicator Lights)



P19201—UN—07JUL22



LV14307—UN—17MAY11

1	Fuel Level Gauge	Indicates amount of fuel remaining in tank.
2	Left Turn Indicator	Flashes when turn signal switch is switched to the left-hand side.
3	Tachometer	Indicates engine speed, revolutions per minute (rpm).
4	Right Turn Indicator	Flashes when turn signal switch is switched to the right-hand side.
5	Engine Coolant Temperature Gauge	Indicates engine coolant temperature. Red area indicates overheating (coolant level too low, dirty radiator, or clogged screen). Shut off engine IMMEDIATELY to prevent the damage. If necessary, have your John Deere dealer diagnose vehicle.
6	Service Alert Indicator	Illuminates when a malfunction occurs (review error message in Information Display). If necessary, have your John Deere dealer diagnose vehicle.
7	Hydraulic Oil Temperature	Illuminates when hydraulic oil overheats.
8	Electrohydraulic Hitch Indicator	Illuminates when the hitch malfunction occurs (review the error message in Information Display). If necessary, have your John Deere dealer diagnose vehicle.
9	Neutral Indicator	Illuminates when the transmission reverser (if equipped) is in neutral position. Flashes when operator improperly shifted to reverse. If necessary, cycle reverser lever back to neutral. If flashing and Transmission Information indicator are illuminated at the same time, this indicates a malfunction (review error message in Information Display). If necessary, have your John Deere dealer diagnose vehicle.

Controls and Instruments

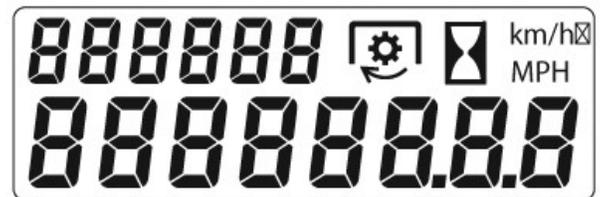
10	High Exhaust Temperature Indicator (If Equipped)	Illuminates when the presence of temperatures inside the exhaust filter allows an active filter cleaning to occur.
11	Exhaust Filter Indicator (If Equipped)	Illuminates when soot levels in the filter are high and exhaust filter cleaning is needed.
12	Exhaust Filter Disabled Indicator (If Equipped)	Illuminates when the exhaust filter cleaning switch had been disabled.
13	Engine Air Cleaner Restriction Indicator	Illuminates when air cleaner element clogged (clean or replace element). If necessary, have your John Deere dealer diagnose vehicle.
14	Engine Information Indicator	Illuminates when engine malfunction occurs (check oil level and review error message in Information Display). If necessary, have your John Deere dealer diagnose vehicle.
15	Transmission Information Indicator	Illuminates when transmission malfunction occurs (review error message in Information Display). If necessary, have your John Deere dealer diagnose vehicle.
16	Information Display	Displays speedometer, hour meter, transmission speed selection (H, L, or R) (if equipped), diagnostic trouble codes (if equipped), and on-board diagnostics (if equipped) information.
17	Trailer 2 Indicator (If Equipped)	Starts flashing when trailer turn-signal or hazard warning lights are switched on.
18	Charging System Indicator	Illuminates when the alternator malfunction occurs. If necessary, have your John Deere dealer diagnose vehicle.
19	MFWD Engaged Indicator	Illuminates when mechanical front-wheel drive is engaged.
20	PTO Engaged Indicator	Illuminates when rear PTO is engaged.
21	High Beam Indicator	Illuminates when the headlights are switched on the high beam.
22	Differential Lock Indicator	Illuminates when differential lock is engaged (not used).
23	Hand brake Indicator	Indicates that hand brake is engaged.
24	Vehicle Indicator	Starts flashing when vehicle turn-signal or hazard warning lights are switched on.
25	Trailer 1 Indicator (If Equipped)	Starts flashing when trailer turn-signal or hazard warning lights are switched on.
26	STOP Indicator	Illuminates when a serious malfunction occurs. Shutoff engine IMMEDIATELY and determine cause (review error message in Information Display). If necessary, have your John Deere dealer diagnose vehicle.
27	Vehicle Information Display	Shows H/L (If equipped). When in diagnostic mode, display shows name of the control unit (ECU) that is experiencing fault.
28	PTO Icon	Illuminates when PTO speed is selected.
29	Hour Meter Icon	Illuminates when engine operating hours are being displayed at Vehicle Information Display (27).
30	Vehicle Information Display	Shows vehicle wheel speed, engine operating hours, and PTO speed (if equipped). When in diagnostic mode, display shows the diagnostic code information.

EKPQ1SQ,000497C-19-07JUL22

Information Display



PY36725—UN—03AUG17
Roll Mode Switch (Cab Shown)



Information Display

P17842—UN—09FEB16

A—Roll Mode Switch

Roll mode switch (A) controls two different information display modes, "Normal" and "Diagnostic."

Information Display—Normal Mode

Roll mode switch (A) and information display (B) default to the normal mode. In normal mode, the information display (B) provides a numeric representation of engine hours, vehicle speed, or PTO speed.

- Press and release the roll mode switch (A) to cycle

through the display (B) values (engine hours, vehicle speed, and PTO speed).

Roll Mode Sequence Order
Engine Hours
Vehicle Speed
PTO Speed ^a
Regeneration Progress Stage 1 ^b
Regeneration Progress Stage 2 ^b
Regeneration Progress Stage 3 ^b

^aIf Equipped.

^bItems are only available when a valid value is present.

- Engine hours are displayed when the key switch is first turned on.
- Engine hours are displayed for at least 7 seconds prior to automatically switching to any other value.
- The display (B) automatically transitions to the vehicle speed when the tractor begins moving.
- The display (B) automatically transitions to PTO speed when the PTO is engaged.
- The display (B) disables automatic scrolling once the roll mode switch (A) is pressed or used to scroll through display modes.
- The PTO speed is only displayed when the enable PTO speed display is configured in the ICC diagnostic address 026 (1 = enabled) (If vehicle is equipped with electrohydraulic PTO).
- The display (B) only re-enables automatic scrolling when the key switch is cycled on and off.
- During the exhaust filter cleaning process, the display (B) transitions through the various exhaust filter cleaning states.

Information Display—Diagnostic Mode

The diagnostic mode has two levels of access; “Customer” and “Technician”.

- Customer access = Press and hold roll mode switch for 5 seconds to begin diagnostic session. This allows access to see diagnostic trouble codes and a limited number of diagnostic addresses.
- Technician access = **Only for John Deere dealer use.** Accesses everything in customer mode plus vehicle setup, configuration, and calibration.

Customer access—Recall, Record, and Clear Diagnostic Trouble Codes:

1. Press and hold the roll mode switch for 5 seconds to begin diagnostic session.
2. Upon entering diagnostic mode, any active or previously active codes automatically appear as a scroll-down list, with each one showing the control unit (three letter abbreviation) and the code number (XXXXXX.XX).

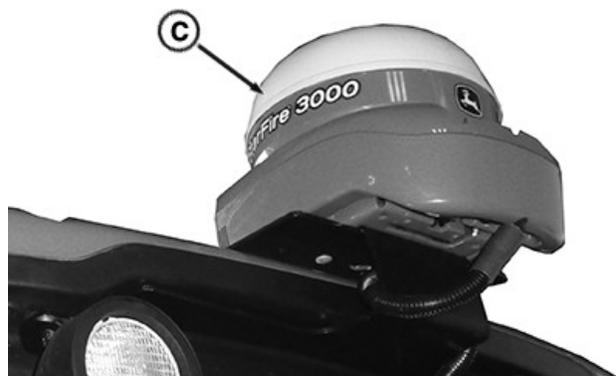
3. To view and/or clear diagnostic trouble codes for any given control unit, perform the following steps:
 1. Use the right turn signal switch to scroll to the desired control unit.
 2. Press and release the roll mode switch to enter the diagnostic addresses for desired control unit.
 3. Use the right turn signal switch to scroll to the diagnostic address 001 for desired control unit.
 4. If codes are present, the word “codes” appears. If not, the word “none” appears.
 5. Press and release the roll mode switch to view all code details for this control unit.
 6. Any codes present in that control unit appear in scrolling fashion for multiple codes.
 7. To access the option for clearing codes for this selected control unit, press and release the right turn signal switch.
 8. The question “CLR?” appears.
 9. To clear the codes, press and release the roll mode switch.
 10. To go back to the entire control unit list, press and release the left turn signal switch.
 11. Proceed to the next desired control unit by repeating steps 1—10.

RD91939,0000A88-19-12MAY22

AutoTrac™ Universal Controls



P19195—UN—06JUL22



APY00478—UN—12DEC17

- A—AutoTrac™ Universal 200 (Steering Unit)**
- B—GreenStar™ 2 1800 Display or GreenStar™ 3 2630 Display**
- C—StarFire™ 3000 (Position Receiver)**

PP71895,0000649-19-06JUL22

Engine Operation

Before Starting the Engine

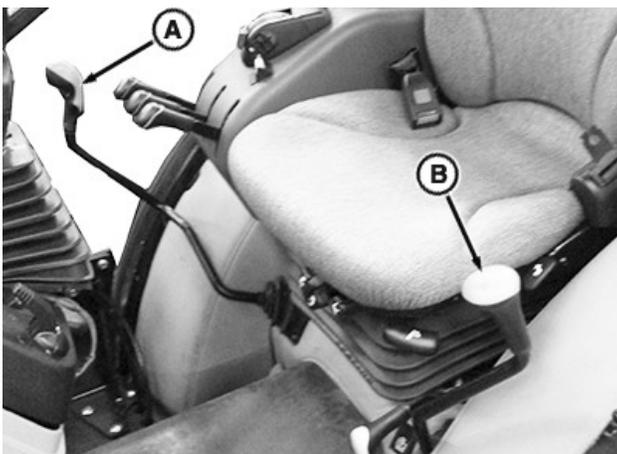
CAUTION:



TS220—UN—15APR13

Prevent the asphyxiation. Engine exhaust fumes can cause sickness or death to you or someone else.

If you must operate the engine in a building, ensure that there is an adequate ventilation. Either use an exhaust pipe extension to remove the exhaust fumes or open doors and windows to bring enough outside air into the area.



Cab

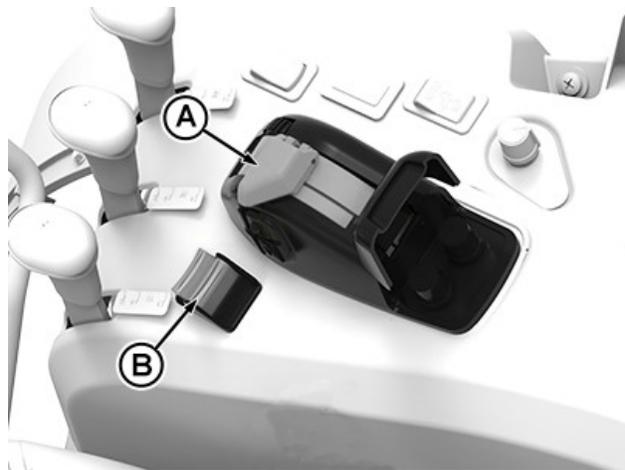
PY36727—UN—25JUL17



Cab

PY36726—UN—25JUL17

1. Check fuel gauge to be sure that fuel tank is full.
2. Place gearshift lever (A) in NEUTRAL or PARK position and range shift lever (B) in NEUTRAL. Starter operates only when the gearshift lever is in NEUTRAL or PARK position.
3. Place electrohydraulic (EH) directional reverser lever (C) in NEUTRAL position. Starter operates only when the EH directional reverser lever is in neutral.
- 4.



Cab

APY68942—UN—13APR22

Check that rear hitch position and hitch lever (A) agree. Hitch is down when the lever is in full-forward position. Hitch is up when the lever is in the full-back position, in the transport slot. Hitch moves to agree with lever position when the engine starts.

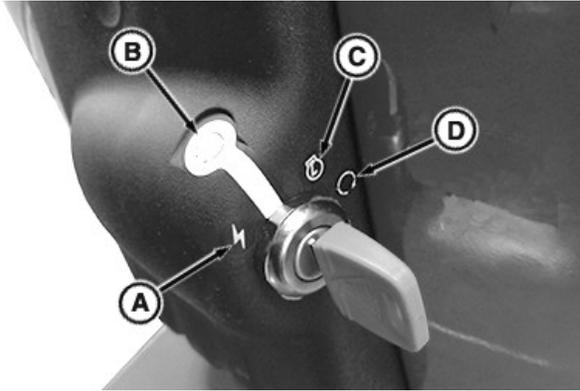
NOTE: Engine starts with knob up, but PTO turns only when the switch is cycled and reset.

5. Disengage PTO; push the PTO switch knob (B) down to disengage.

- Turn key to RUN position for an indicator bulb check. If any indicator does not light, see your John Deere dealer.

RD91939,0000A89-19-23JUN22

Operate Key Switch



APY00466—UN—12DEC17
Ignition Switch (Cab)

Accessory Position (A): Turn key to ACCESSORY position to power electrical functions.

Stop Position (B): Turn key to STOP position to turn off electrical accessories and to shut down the engine.

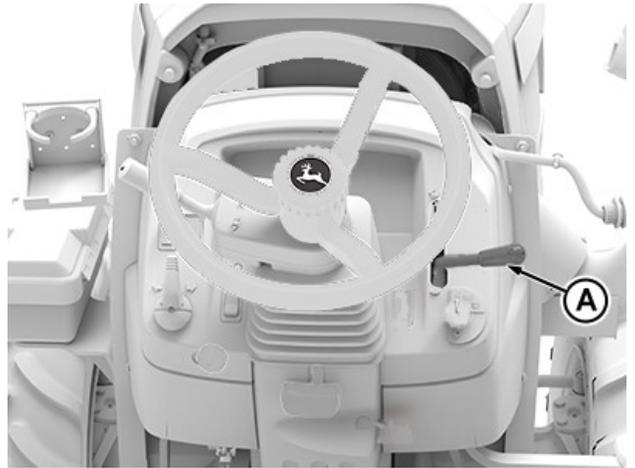
Run Position (C): Turn key to RUN position. Check to ensure that the indicator bulbs light, instrument indicator dials momentarily move, and that there is an audible beep before advancing to START position. Also, use RUN position to activate cold weather starting devices. If temperature is below 5°C (41°F), refer to Cold Weather Starting procedure in this section.

Start Position (D): Turn key to START position to crank the engine. Key returns to RUN position when released.

RD91939,0000A8A-19-12MAY22

CAUTION: NEVER start engine while standing on ground. Do not start engine by shorting across starter terminals. If the normal circuitry is bypassed, machine starts in gear and moves.

IMPORTANT: DO NOT run a cold engine at full throttle. Idle engine at 1200 rpm until it warms to operating temperature.



APY68944—UN—18APR22
Hand Throttle Lever (Cab)



APY00467—UN—12DEC17
Ignition Switch (Cab)

Start the Engine



TS177—UN—11JAN89

- Start from the operator's seat with transmission in NEUTRAL or PARK. For PR Transmission, put EH directional reverser lever in NEUTRAL.
- Push the hand throttle lever (A) forward from the idle position (1/3 of full throttle). Engine may not start with throttle pulled rearward.

IMPORTANT: DO NOT operate starter for more than 20 seconds at a time. If engine does not start, wait at least 2 minutes for the starter motor to cool before trying again.

- Depress clutch pedal and turn key (B) to START position. Release key when engine starts. If the key is released before engine starts, wait until starter and engine stop turning before trying again.
- Warm up tractor carefully. Charging and oil pressure

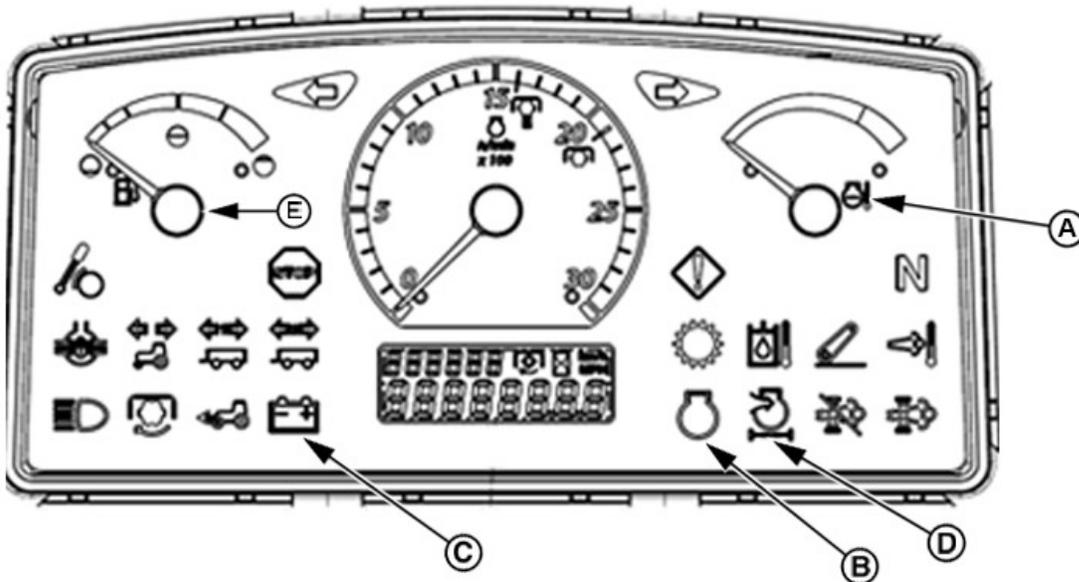
warning indicators should go off and stay off. Coolant temperature gauge should begin to move into the normal range.

5. Avoid unnecessary engine idling. Check fluid levels

frequently for engine oil, coolant, transmission-hydraulic, and mechanical front wheel drive. Watch for fluid leaks.

RD91939,0000A8B-19-23JUN22

Check Engine Indicators and Gauges



P19262—UN—19JUL22

A—Coolant Temperature Gauge
B—Oil Pressure Indicator
C—Charging System Indicator

D—Air Restriction Indicator
E—Fuel Level Gauge

IMPORTANT: If temperature gauge (A) indicates hot (red zone) or either charging system or oil pressure indicator (B or C) fails to go out, stop engine and determine the cause.

IMPORTANT: NEVER operate an engine without sufficient oil pressure. If indicator stays lit for longer than 5 seconds under the normal operating conditions, stop engine and check for cause.

Coolant Temperature Gauge (A)

The needle on the temperature gauge rises as engine warms up. If the needle reaches red zone, stop engine and determine the cause.

Check coolant level in the recovery tank and radiator when engine cools. Also check grille, radiator, and radiator screen for plugging. Check the fan belt tension. If the problem is not resolved, see your John Deere dealer.

Oil Pressure Indicator (B)

Oil pressure indicator stays illuminated when engine oil pressure is low. Indicator stays illuminated when the key is turned to RUN position and goes out when engine starts.

If low oil level is within specification, see your John Deere dealer.

Charging System Indicator (C)

Charging system indicator lights when an alternator output is low. Indicator lights when key is turned to RUN position and goes out when an engine starts.

If indicator stays lit for longer than 5 seconds in normal operation, stop engine and check for cause. If loose or broken fan belt is not the cause, see your John Deere dealer.

Air Restriction Indicator (D)

Air restriction indicator lights when air cleaner becomes plugged. Service air cleaner as soon as possible.

Fuel Level Gauge (E)

Stop to refuel before fuel gauge reaches empty mark.

IMPORTANT: Use diesel fuel only.

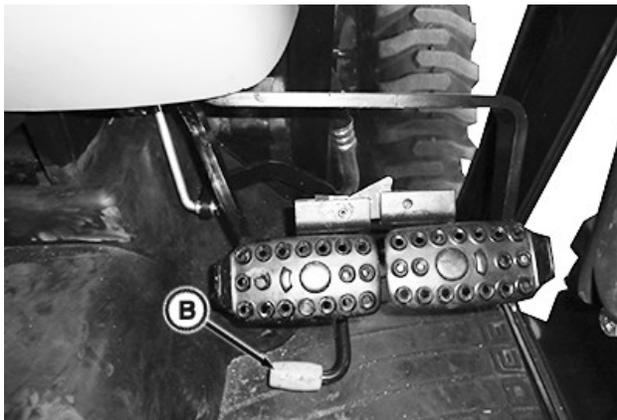
If the tractor runs out of fuel and will not start in several tries, bleed air from the fuel system.

MSBAEPJ.000002B-19-19JUL22

Change Engine Speeds



APY68944—UN—18APR22



PY36732—UN—25JUL17

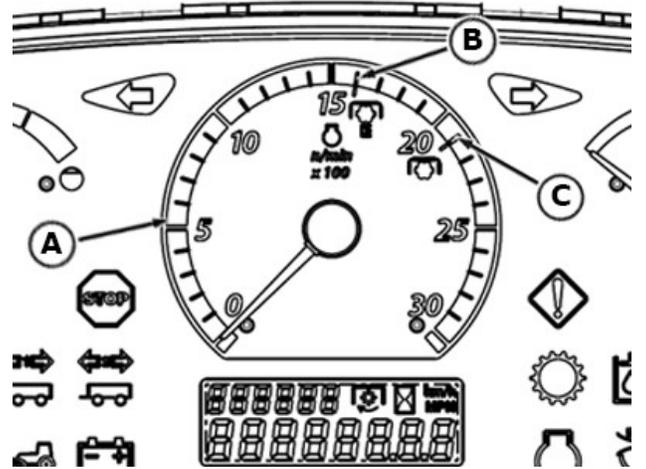
Foot Throttle

To increase speed, push hand throttle lever (A) forward.

To temporarily increase engine speed above the hand throttle lever setting, depress foot throttle (B).

RD91939,0000A8C-19-12MAY22

Recommended Engine Speeds and Operating Procedures



P19260—UN—19JUL22

Tachometer (A) shows engine rpm, read in hundreds.

Warming up Engine

Do not place the tractor under full load until it is properly warmed up.

1. Idle engine at 1200—1500 rpm for several minutes.
2. Run the engine at about 1900 rpm and under light load until engine reaches the normal operating conditions.

NOTE: If hydraulic functions operate slowly, warm the transmission-hydraulic system oil.

Avoid Idling Engine

Allowing engine to idle at low rpm uses fuel inefficiently, and can cause a buildup of carbon in the engine.

If the tractor must be left with the engine running for more than 3—4 minutes, minimum engine speed must be 1200 rpm.

Observe Engine Work and Idle Speeds

Low idle speed must be 850 ± 50 rpm. At light or no load, full throttle speed increases to 2600 +50/-25 rpm.

Normal working speed is 1600—2400 rpm rated speed. Within these limits, the engine can be put under full load.

NOTE: With the PTO shift lever in 540E position, the engine high idle speed is limited to 1700 rpm.

For correct PTO speed, run the engine at:

- **Economical 540E PTO (B) operation (lighter load):** Increase engine speed until the tachometer needle is aligned with 1700 rpm mark (B).
- **Standard 540 PTO (C) operation (load requiring full engine power):** Increase engine speed until the

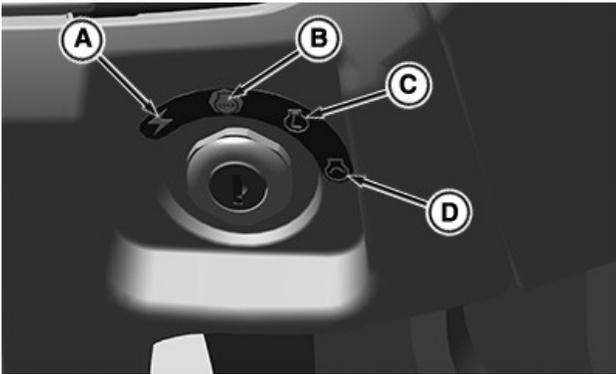
tachometer needle is aligned with 2400 rpm mark (C).

Restarting Stalled Engine

Should the engine stall when operating under load, depress the clutch and restart it immediately to prevent the abnormal heat buildup. Then continue with normal operation or operate at low idle for 1—2 minutes before stopping.

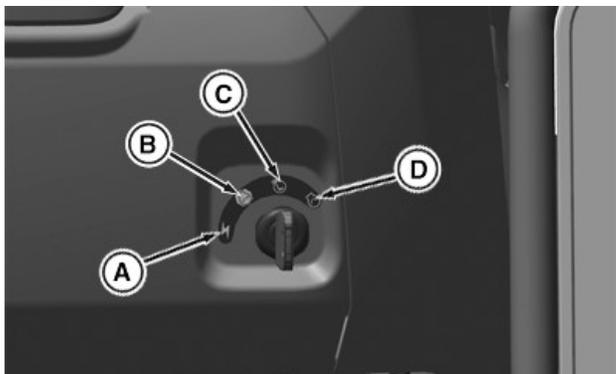
EKPQ1SQ,0004993-19-19JUL22

Cold-Weather Start Aid



Cab

PY41783—UN—20JUL17



OOS

PY43067—UN—12JUL17



Instrument Cluster

APY19585—UN—13MAR20

- A—Accessory ON Position
- B—Stop/OFF Position
- C—Ignition ON Position
- D—Start Position
- E—Count Down Timer

CAUTION: Do Not use starting fluid on engines equipped with glow plugs or air intake heaters. Ether injector starting fluid is highly flammable and would explode, causing serious injury.

Tractors are equipped with pre-heaters as a standard equipment starting aid.

1. To activate cold weather starting device, turn key to ignition ON position (C).
 - Allow the engine ECU to complete the cycle of determining the ambient temperature and energize cold start aid relay for activating the heater, if necessary.
 - Once the cold start relay is active, count down timer (E) is displayed in the instrument cluster indicating the time required for heating the grid.

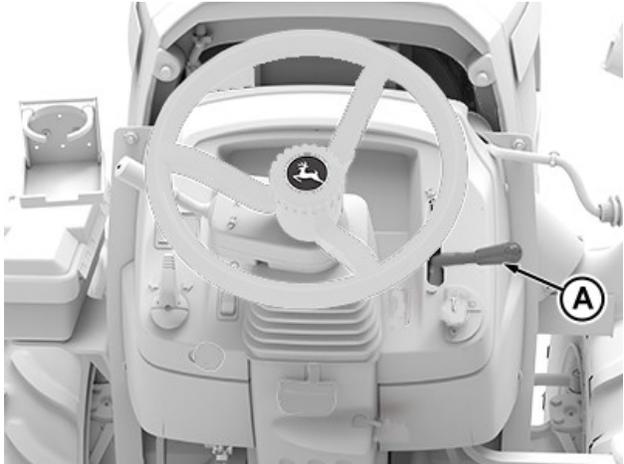
IMPORTANT: Do Not start the engine until the count down timer (E) is completed to zero.

2. Depress clutch pedal and turn key to start position (D).
 3. If engine runs rough, turn the key to stop/OFF position (B) and then to ignition ON position (C) to reactivate cold weather starting device until engine runs smoothly.
- NOTE: Anytime the engine is cranked and does not start, the ignition must be cycled from OFF to ON to reset the preheating cycle of the air heater.*
4. Idle engine until it warms to operating temperature.

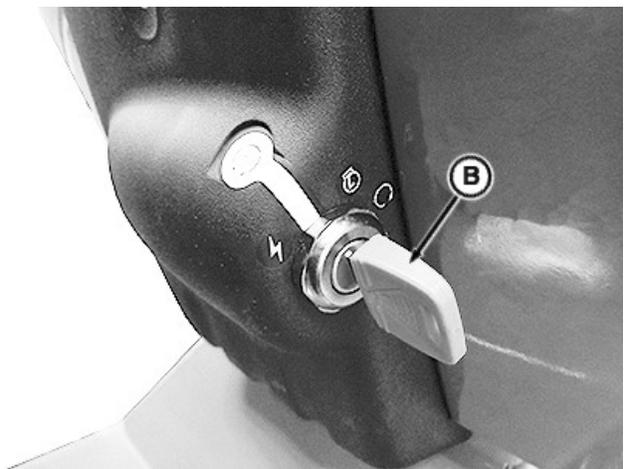
RP32883,0000B21-19-20FEB20

Stop the Engine

IMPORTANT: Cooling of certain engine parts is provided by engine oil. Stopping a hot engine suddenly could damage these parts by overheating or lack of lubrication.



APY68944—UN—18APR22
Hand Throttle Lever (Cab)



PY36730—UN—02AUG17
Key Switch (Cab)

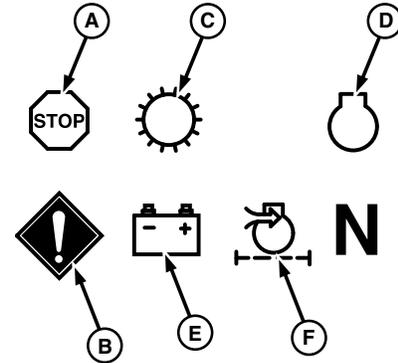
1. Pull hand throttle lever (A) back to the low idle position. Allow the engine to idle for 2—5 minutes.
2. Place gearshift lever in PARK position.
3. Place EH directional reverser lever in NEUTRAL position.
4. Lower all equipment to the ground.
5. Make sure that all SCV levers are in NEUTRAL position.
6. Make sure that PTO is disengaged.

CAUTION: To prevent operation by untrained personnel, remove key from the key switch.

7. Turn the key (B) to STOP position and remove from switch.

MSBAEPJ,000002C-19-12MAY22

Stop/Operator Alert Indicator



STOP Indicator

P15313—UN—26MAR08

- A—STOP Indicator
- B—Operator Alert Indicator
- C—Transmission Information Indicator (PowrReverser/Wet Clutch Tractors)
- D—Engine Information Indicator
- E—Charging System Indicator
- F—Engine Air cleaner Restriction indicator

ENGINE STOP Indicator (A): Light illuminates and audible alarm beeps to alert operator that a serious malfunction has occurred, which requires immediate attention or the tractor will be damaged.

Immediately stop operations, reduce engine speed to idle, then shut down engine. Correct problem before restarting.

Malfunctions that will cause STOP indicator light to come on include:

- Low engine oil pressure
- High hydraulic oil temperature (PowrReverser/Wet Clutch Tractors)
- High coolant temperature
- Water in fuel
- High manifold air temperature

Service ALERT Indicator (B): Light illuminates and audible alarm beeps to inform operator that a performance or operational problem has been detected, which needs to be resolved as soon as possible. Continued operations can cause a Operator Alert to escalate into a STOP indicator. If appropriate corrective action is not taken soon (serviced, repaired, operated in a different manner), a significant reduction in performance will occur, resulting in machine damage.

Malfunctions that will cause Service indicator light to come on include:

- Low engine oil pressure
- High hydraulic oil temperature (PowrReverser/Wet Clutch Tractors)
- High coolant temperature
- Rear PTO switch on and operator out of seat
- Water in fuel
- High manifold air temperature

Connect the heater plug to ground fault protected 110 volt electrical outlet.

⚠ CAUTION: During installation of heater element (A) make sure heater element cord (B) will lie flat along the side of engine and can be easily reached.

MSBAEPJ.000002D-19-12JUL22

SD74272.00004B9-19-19MAR14

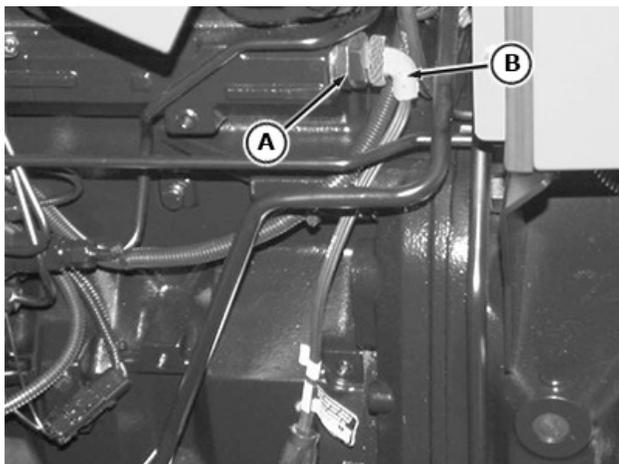
Engine Coolant Heater



TS210—UN—23AUG88

⚠ CAUTION: To avoid shock or hazardous operation, always use a three-wire heavy-duty electrical cord (minimum gauge 10 AWG and no longer than 7.6 m [25 ft]) equipped with three connectors. If a two-to-three contact adapter is used at the wall receptacle, connect the green wire to good ground.

Immerse the element in coolant before connecting heater to the power source. **NEVER** energize the heater in air.



P19218—UN—12JUL22

On the side of the engine, the 110 volt coolant heater (A) warms the engine coolant, reduces the oil drag, eases starting, and shortens the warm-up time.

Air Intake, Fuel, Coolant, and Exhaust Operation

Fill Fuel Tank



TS202—UN—23AUG88

⚠ CAUTION: Handle fuel with care. It is highly flammable. **DO NOT** refuel the machine while smoking or when near the open flame or spark.

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

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

Fill the fuel tank at the end of each day of operation. This prevents condensation in the tank as the moist air cools.

IMPORTANT: The fuel tank uses a John Deere seal cap. If a new filler cap is required, always replace it with a John Deere cap.

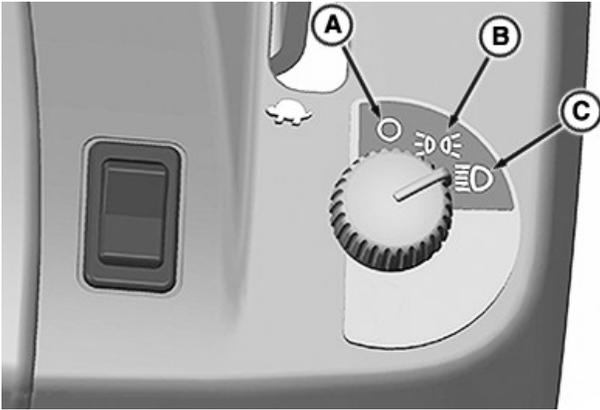
NOTE: To reduce fuel gelling and control wax separation during cold weather, add John Deere Fuel Flow Improver or equivalent to fuel or bulk storage tank.

Please keep the

MSBAEPJ.000002E-19-14JUN22

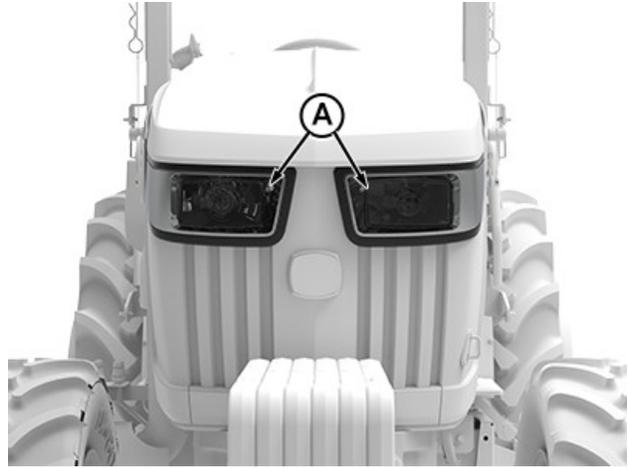
Electrical and Lighting Operation

Light Switch



PY36734—UN—25JUL17

Light Switch Positions (Cab)

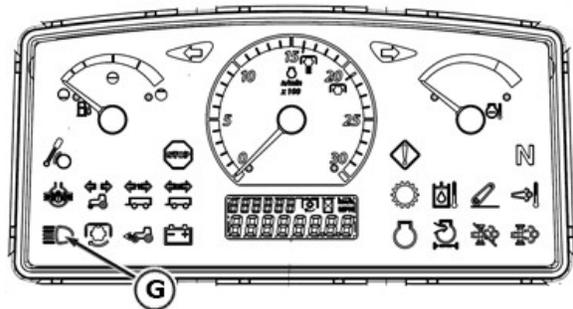


APY68958—UN—13APR22

- A—Lights Off Position
- B—Road 1 Position
- C—Road 2 Position

Switch Position	Use	Tail Lights Red	Clearance Lights	License Plate Light	Headlights
Off	Field, Day Time	Off	Off	Off	Off
Road 1	On Road, No Traffic, Day Time	On	On	On	Off
Road 2	On Road, No Traffic, Night Time	On	On	On	On

RD91939,0000A8E-19-29MAR22

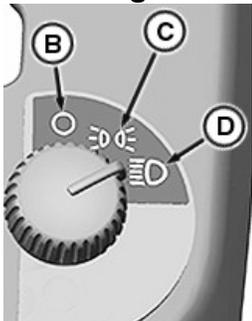


P19254—UN—19JUL22

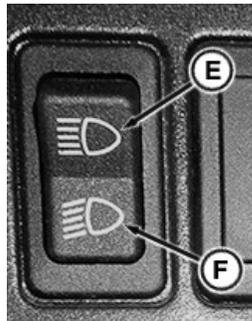
- A—Headlight
- B—Lights Off Position
- C—Road 1 Position
- D—Road 2 Position
- E—High Beam Position
- F—Low Beam Position
- G—High Beam Indicator

IMPORTANT: Dim lights before meeting another vehicle.

Use Headlights



PY36807—UN—25JUL17

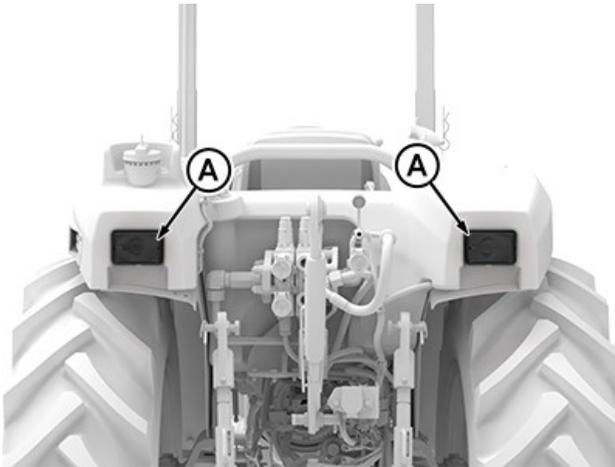


PY36808—UN—25JUL17

Light Switch Position	High/Low Beam Switch Positions	Headlights	High Beam Indicator
Off	High/Low Beam	Off	Off
Road 1	High/Low Beam	Off	Off
Road 2	High Beam	On	On
	Low Beam	On	Off

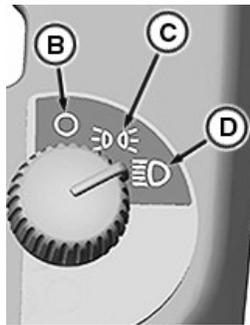
RD91939,0000AAA-19-19JUL22

Use Tail Lights



APY68957—UN—13APR22

OOS is shown



PY36807—UN—25JUL17

- A—Red Tail Light
- B—Lights Off Position
- C—Road 1 Position
- D—Road 2 Position

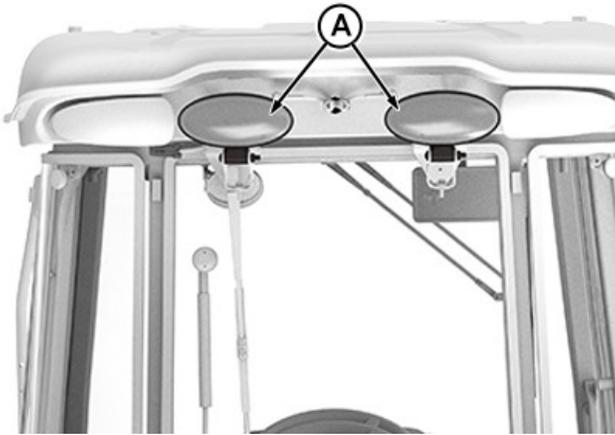
IMPORTANT: Before driving on highways, make sure that the tail lights are clean and visible to other drivers.

Switch Position	Tail Lights Red
Off	Off
Road 1	On
Road 2	On

RD91939,0000AAB-19-21APR22

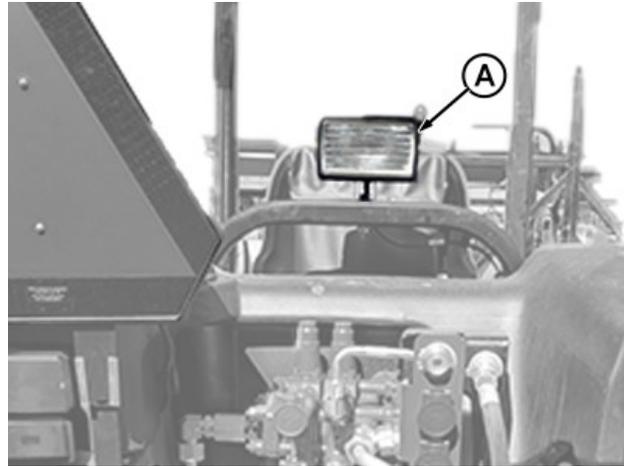
- CABUse Worklights

⚠ CAUTION: When operating on a road, move light switch to the high or low beam headlight position. Do not use worklights during transport. A bright white light at the rear of the tractor could confuse drivers of other vehicles as they approach from behind.



Cab—Rear

APY68945—UN—11APR22



OOS—Rear

APY68947—UN—27MAR22



CAB - Worklight Switch

PY36823—UN—03AUG17

- A—Rear Worklight
- B—Front Worklight
- C—Rear Worklight Switch
- D—Front Worklight Switch



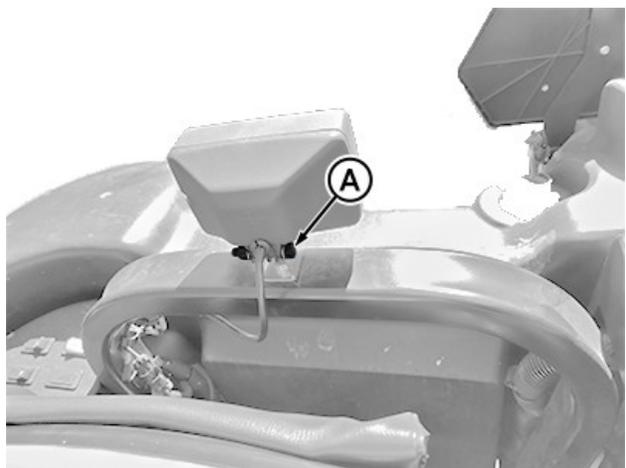
Cab—Front

APY68946—UN—13APR22

Switch Position	Rear/Front Worklights
Off	Off
On	On

MSBAEPJ.0000031-19-11JUL22

Adjust Worklights (OOS)

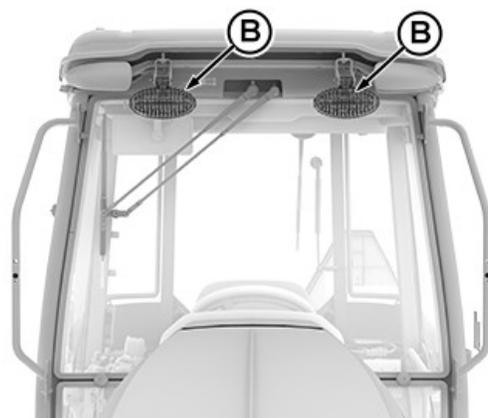


Rear Worklight (OOS)

APY68948—UN—13APR22

1. Loosen mounting hardware (A).
2. Rotate worklight to the desired position.
3. Tighten the hardware securely.

RD91939,0000A91-19-06MAY22



Front Worklight

APY68946—UN—13APR22

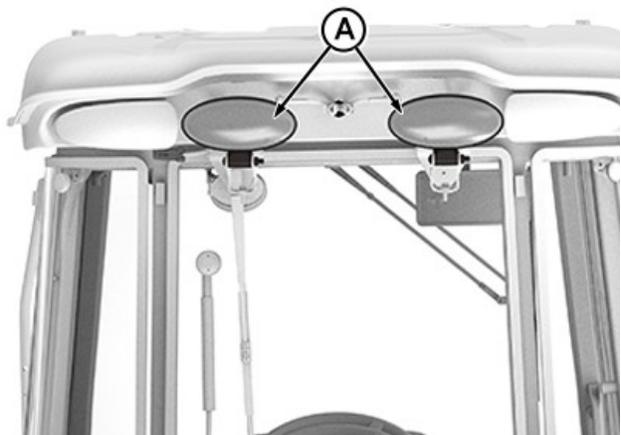
- A—Rear Worklights
- B—Front Worklights

NOTE: Rear and front worklights (A and B) adjust easily by hand.

Turn worklights to the desired position.

RD91939,0000A92-19-19JUL22

Adjust Worklights (Cab)



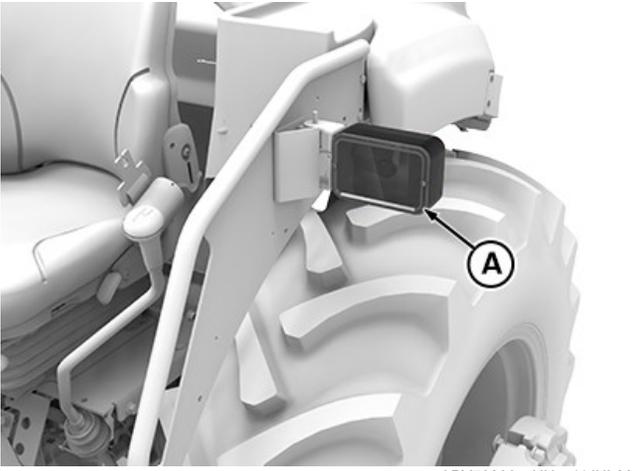
Rear Worklight

APY68945—UN—11APR22

Use Warning Lights

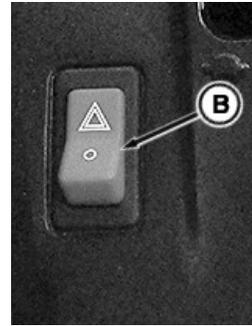
CAUTION: Prevent collisions between other road users, especially slow-moving tractors with towed implements or attachments and self-propelled machines operating on public roads. Frequently check for traffic from the rear, especially in turns, and use turn signal lights.

Use headlights, hazard flashers, and turn signals day and night. Obey local equipment lighting and signaling regulations. Keep all lights and warning plaques clean and in a good condition. Replace or repair lights and markings that have been damaged or lost. An implement safety lighting kit is available from your John Deere Dealer.



OOS—Front

APY78206—UN—11JUL22



PY36821—UN—25JUL17

A—Warning Light
B—Warning Light Switch

If any problem arises when operating the tractor on public roadways, turn on the warning lights.

Switch Position	Warning Lights
Off	Off
On	On (Flashing)

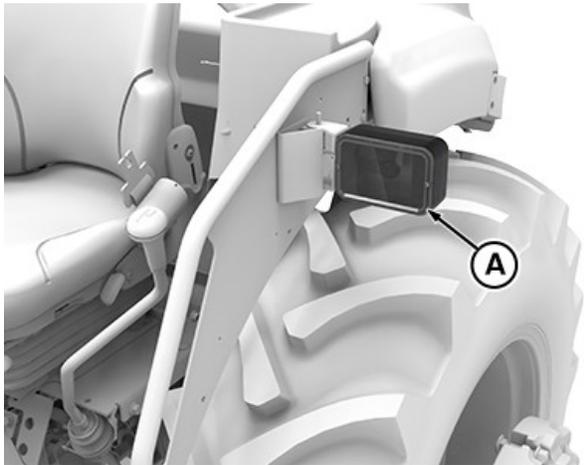
MSBAEPJ,0000032-19-11JUL22



Cab—Front

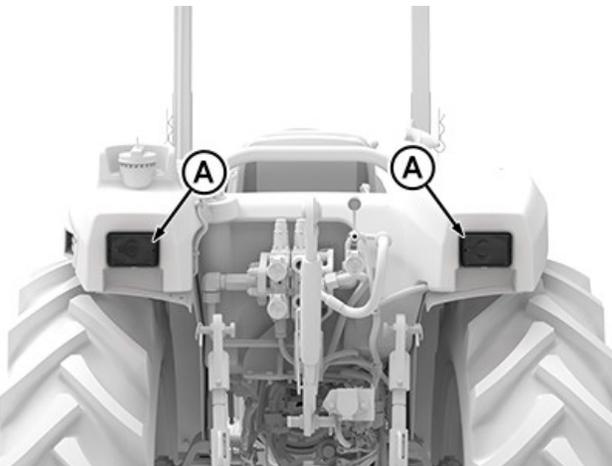
APY68949—UN—13APR22

Adjust Warning Lights to Transport Position (OOS)



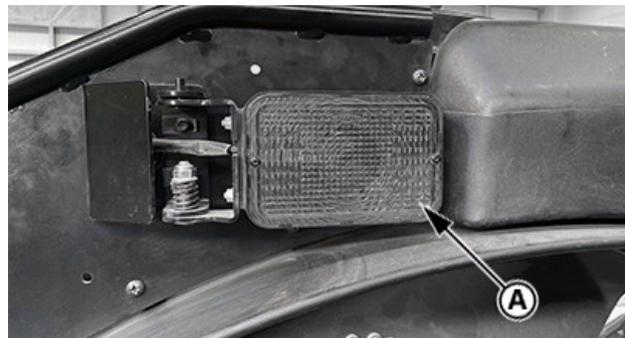
Transport Position

APY78206—UN—11JUL22



OOS is shown—Rear

APY68957—UN—13APR22



Storage Position

P19270—UN—21JUL22

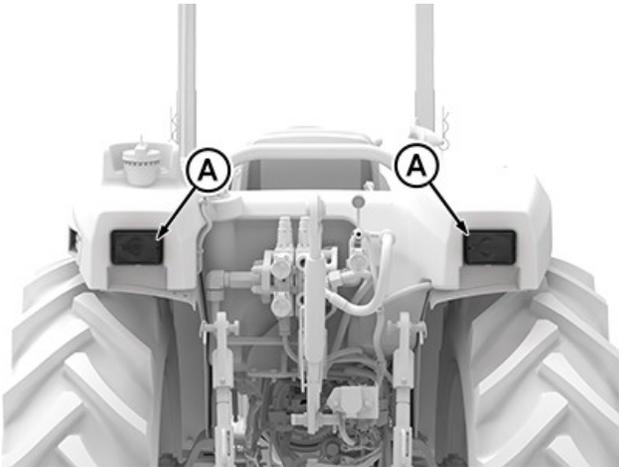
Turn warning lights (A) OUT away from tractor, for visibility during the transport on public roads. Warning lights must be visible to drivers of other vehicles as they approach from the front or rear.

After transport, turn warning lights IN against the tractor to the storage position.

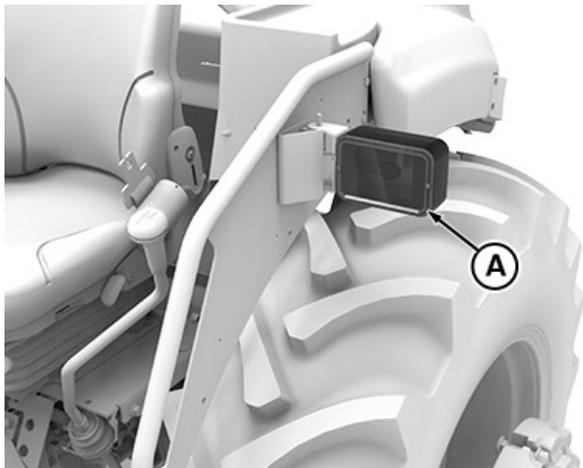
Storage position protects lights from accidental contact and damage and reduces the tractor width for the side-to-side clearance.

RD91939,0000A94-19-21JUL22

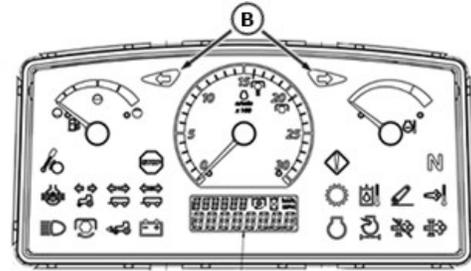
Use Turn Signals



APY68957—UN—13APR22
OOS is shown—Rear

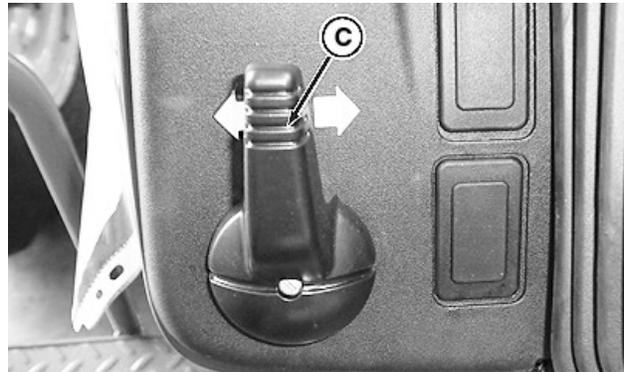


APY78206—UN—11JUL22
OOS—Front



Instrument Panel

P19144—UN—24JUN22



Turn Signal Lever

PY43510—UN—25JUL17

- A—Warning/Turn Signal Lights
- B—Instrument Panel Indicator Lights
- C—Turn Signal Lever

NOTE: Be sure to return the lever manually to the center position after turning.

Turn Signal Lever Positions	Turn Signals/Indicator Lights—Right	Turn Signals/Indicator Lights—Left
Left	Off	On (Flashing)
Center	Off	Off
Right	On (Flashing)	Off

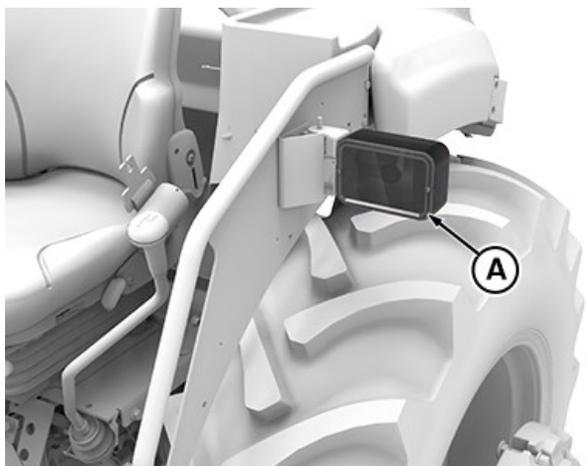
RD91939,0000A95-19-11JUL22



Cab—Front

APY68949—UN—13APR22

Use Clearance Lights



OOS

APY78206—UN—11JUL22

Road 2	On
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RD91939,0000A96-19-11JUL22

Operate Beacon Light



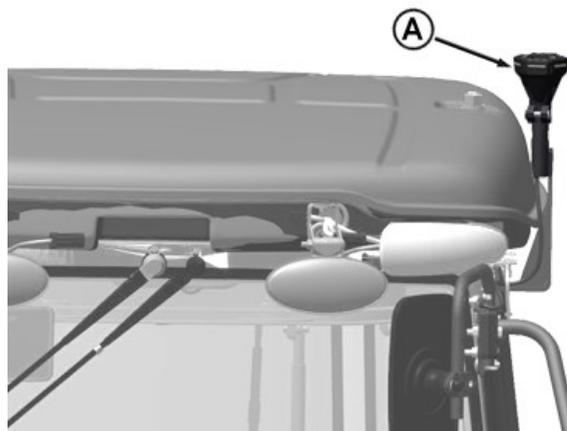
OOS

APY68970—UN—03MAY22



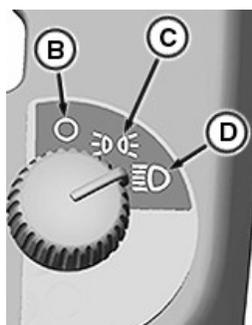
Cab

APY68949—UN—13APR22



Cab

APY68952—UN—29APR22

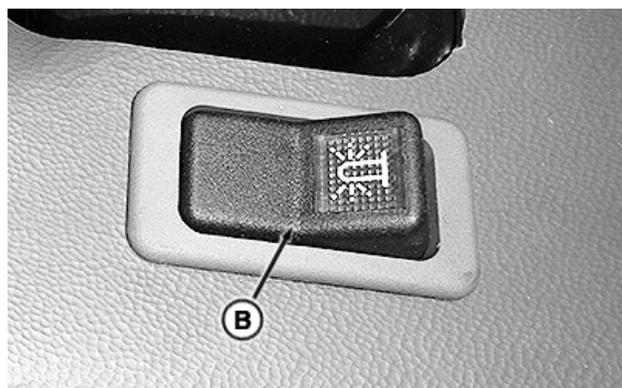


Light Switch

PY36807—UN—25JUL17

- A—Clearance Lights
- B—Off Position
- C—Road 1 Position
- D—Road 2 Position

Switch Position	Clearance Lights
Off	Off
Road 1	On



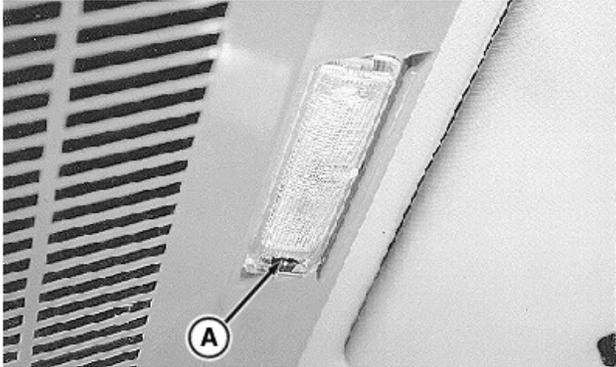
- A—Beacon Light
- B—Beacon Light Switch

PY36822—UN—25JUL17

Switch Position	Beacon Light
Off	Off
On	On (Flashing)

RD91939,0000A98-19-03MAY22

Use Dome Light



APY04813—UN—27FEB18

A—Dome Light Switch

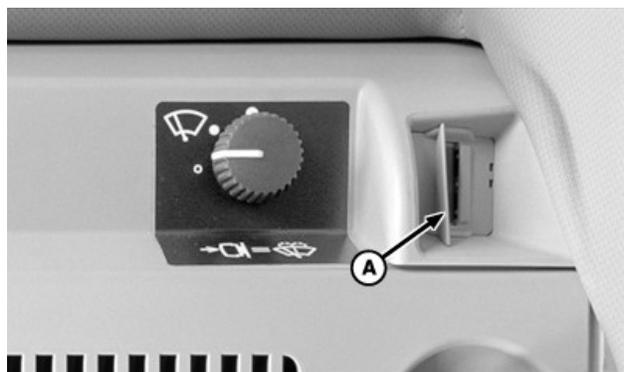
IMPORTANT: Before exiting cab, make sure that dome light is in OFF or DOOR position. Failure to do so causes battery to lose its charge.

Switch Position	Dome Light
Back	On
Center	Off
Front	On (Door) ^a

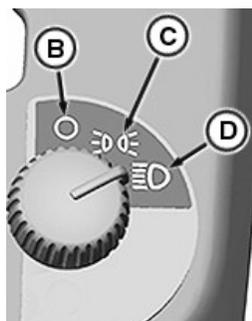
^aDome light comes ON when the door is opened and turns off when closed.

PP71895,0000660-19-07MAR18

Use Control Illumination Light



LV9770—UN—07SEP04



PY36807—UN—25JUL17

Light Switch

- A—Control Illumination Light
- B—Off Position
- C—Road 1 Position
- D—Road 2 Position

Light Switch Position	Control Illumination Light
Off	Off
Road 1	Off
Road 2	On

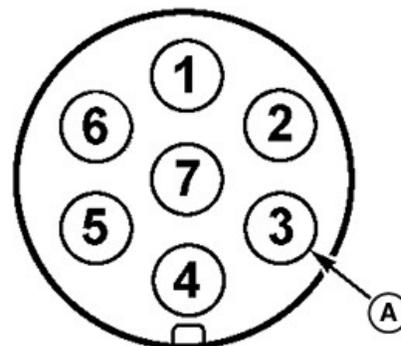
PP71895,0000661-19-31JAN18

Seven-Terminal Outlet



PY36841—UN—25JUL17

EEC



APY00549—UN—18JAN18

A—Seven-Terminal Outlet

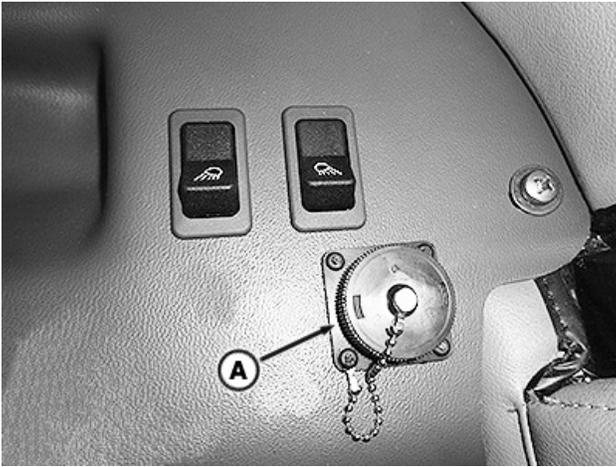
Outlet (A) is used to connect lights, turn signals, and remote electrical equipment on trailers or implements. Always use auxiliary light on towed implement when tractor signals and other lights are obscured.

NOTE: Matching plug is available through your John Deere dealer.

Terminal	Function (SAE Lighting)
1	Ground
2	Worklight
3	Left Turn
4	Auxiliary Power
5	Right Turn
6	Tail Light
7	Auxiliary Power

MSBAEPJ,000025D-19-06JUL22

Accessory Electrical Outlet



PY36842—UN—03AUG17

Cab

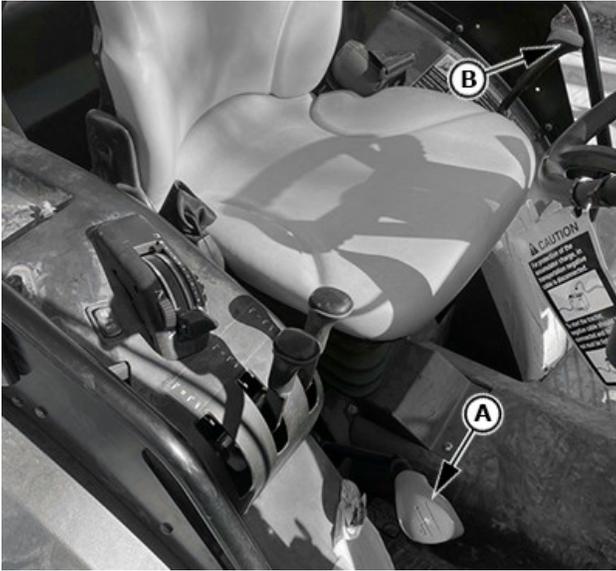
Accessory 12 volt electrical outlet (A) is used when connecting auxiliary equipment.

MSBAEPJ,0000033-19-10MAY22

Transmission Operation

Operate Transmission

⚠ CAUTION: Leaving transmission in gear with engine stopped **WILL NOT** prevent tractor from moving. Put gearshift lever (A) in PARK position and electrohydraulic directional reverser lever in NEUTRAL position before dismounting.



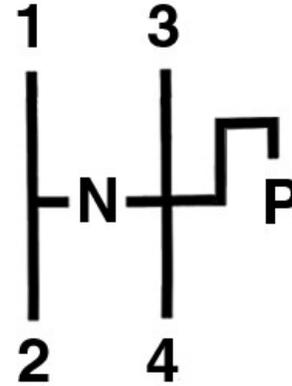
OOS

P19204—UN—08JUL22



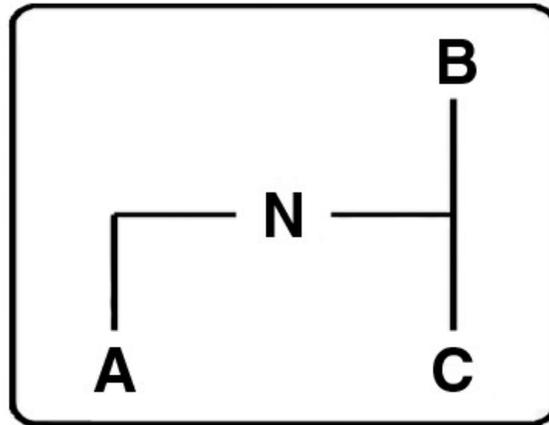
OSS

P19203—UN—08JUL22



Gear Shift Pattern

PY43513—UN—10JUL17



Range Shift Pattern

PY43514—UN—10JUL17

- A—Gearshift Lever
- B—Range Shift Lever
- C—Reverser Lever

Gearshift lever (A) provides four forward and reverse travel speeds (1, 2, 3, 4).

Range shift lever (B) provides three forward and reverse speed ranges (A, B, and C).

Reverser lever (C) provides travel direction (forward or reverse).

When using range and speed shift levers in different combinations, 12 forward and reverse speeds are available.

1. When starting tractor, put the reverser lever in neutral and depress the clutch pedal.

NOTE: Tractor will not start if:

- Reverser lever (C) is not in NEUTRAL.
- Gearshift lever (A) is in any position except NEUTRAL or PARK.
- Range shift lever (B) is not in NEUTRAL.

In order to start the tractor, put the reverser lever (C), gearshift lever (A), and range shift lever (B) in NEUTRAL.

NOTE: While starting tractor, see Before Starting the Engine and Start the Engine in the Engine Operation section.

IMPORTANT: To prevent the unnecessary wear, never “ride” the clutch by resting a foot on the pedal.

2. Depress clutch pedal and stop the tractor before shifting range shift lever.
3. Use the reverser lever (C) to select forward or reverse travel direction. You can change travel direction without depressing the clutch pedal.
4. Depress clutch pedal when shifting speed. Speed shifts (1, 2, 3, 4) can be made on-the-go, without stopping. Release clutch pedal gradually to take up the load smoothly.

NOTE: See Instrument Cluster (Gauges and Indicator Lights) in Controls and Instruments section for the instrument panel indicators.

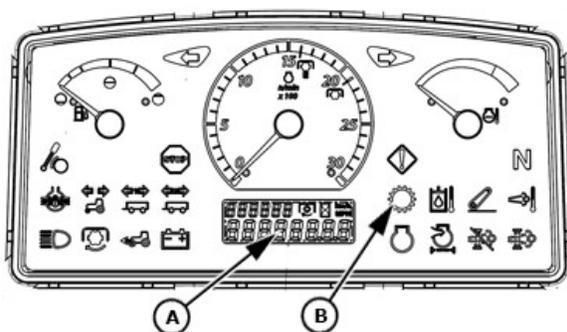
MSBAEPJ,0000037-19-08JUL22

NOTE: Under certain circumstances, the tractor can still be driven even if there is any electrical fault in the transmission.

NOTE: Under certain circumstances when indicator “N” is illuminated, transmission control is regained by cycling reverser lever to neutral and back into a direction.

MSBAEPJ,000003A-19-08JUL22

Electrohydraulic Transmission System Indicator



P19205—UN—08JUL22

- A—Transmission information indicator
- B—Information display

Transmission information indicator (B) warns of a malfunction in the electrohydraulic transmission control system (see your John Deere dealer). A diagnostic trouble code can be present at information display (A). Electrohydraulic transmission control is available with PR tractors.

Stop Tractor

IMPORTANT: Tractor must be stopped before placing gearshift lever in park “P” or neutral “N” position. If the tractor is on the move, the Park pawl does not engage and transmission can be damaged.

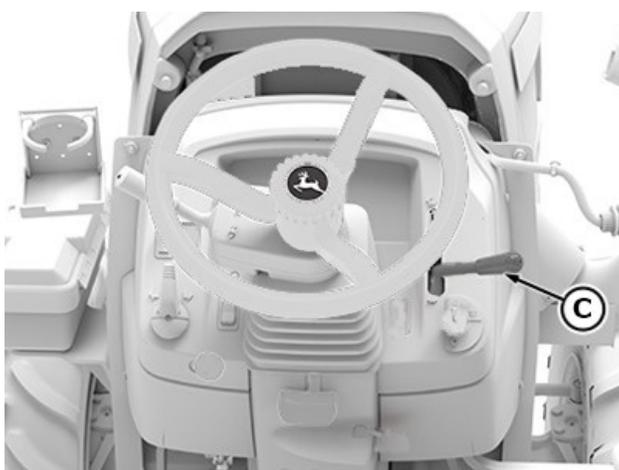
1. Stop the tractor travel with brakes.

⚠ CAUTION: Always place the gearshift lever in the park “P” position and engage hand brake before dismounting. Leaving transmission in gear with engine stopped **DOES NOT** prevent tractor from moving.



P19204—UN—08JUL22

Cab



P19266—UN—21JUL22



APY00483—UN—12DEC17



APY00482—UN—12DEC17

- A—Gearshift Lever
- B—Range Shift Lever
- C—Hand Throttle Lever
- D—Rockshaft Position Lever
- E—Electrohydraulic Directional Reverser Lever

2. Depress clutch pedal and place gearshift lever (A) in park “P” position, and range shift lever (B) in the neutral “N” position.
3. Place reverser lever (E) into the neutral “N” position.
4. Lower all equipment to ground using rockshaft lever (D).
5. Put all SCV levers in neutral.
6. Disengage PTO.
7. Pull hand throttle lever (C) back to the low idle position. Allow the engine to idle for 1—2 minutes.

IMPORTANT: Cooling of the certain engine parts is provided by engine oil. Stopping a hot engine suddenly could cause damage to these parts by over heating or lack of lubrication.

8. Turn key switch to the “STOP” position.

⚠ CAUTION: Remove the main switch key to prevent operation by untrained personnel.

MSBAEPJ.000003B-19-21JUL22

Creep Gear Operation (If Equipped)

NOTE: Use the creeper in low speed, low torque condition that requires power up-to 35 hp. Constantly pulling heavy load in the high torque condition can damage the creeper.

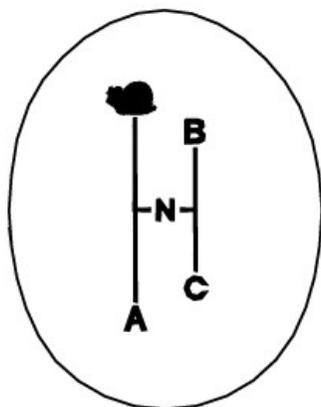
NOTE: Range shift lever must be in the NEUTRAL position to shift into creeper.

MSBAEPJ.000003C-19-08JUL22



P19204—UN—08JUL22

OOS



PY14435—UN—20OCT12

OOS

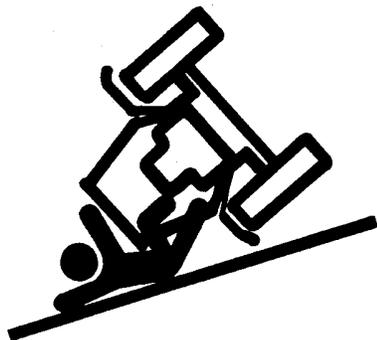
A—Gearshift Lever
B—Range Shift Lever

A slow-speed gearing, creeper gear, is available as an option and provides the slowest speed range.

Placing the range shift lever (B) in the optional creeper range (designated with a “snail” logo on the console) provides greatly reduced ground speeds for special operations. The gearshift lever (A) provides forward and reverse speed gears to be selected in the creeper range.

MFWD and Front Axle Operation

Operate EH MFWD with Auto Engage and Brake Assist



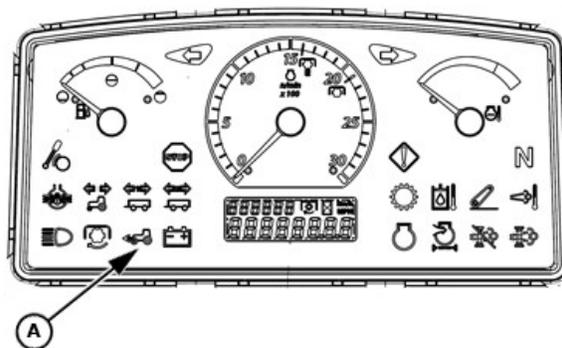
RW13093—UN—07DEC88

CAUTION: Mechanical front-wheel drive (MFWD) greatly increases the traction, but it does not increase the stability of the tractor. With MFWD engaged, the tractor can climb steeper slopes but it does not become more stable. The possibility of a tip-over increases with MFWD. Use extra caution on slopes.

When driving on icy, wet, or graveled surfaces, reduce speed and properly ballast tractor to avoid skidding and loss of the steering control. For best control under adverse conditions, engage MFWD (if equipped).

Do not operate the tractor if it is exposed to flooded fields, this can result in serious damage.

IMPORTANT: Use AUTO or BRAKE ASSIST positions when transporting tractor, every time.



MFWD Indicator

P19211—UN—11JUL22

A—MFWD Switch with Auto Engage and Brake Assist
B—MFWD Indicator

NOTE: MFWD indicator (B) lights whenever front-wheel drive is engaged.

MFWD can be engaged and disengaged in all gears (forward and reverse) during operation and under full load. Switch (A) has three operating positions:

- **ON** (button in center position): Position engages the MFWD full time.
- **AUTO** (top half pressed down): Position disengages MFWD automatically when either brake pedal is pressed or if speed exceeds 18 km/h (11 mph). MFWD automatically *re-engages* when brakes are released and speed is below 18 km/h (11 mph).
- **BRAKE ASSIST** (bottom half pressed down): Position engages MFWD when BOTH brake pedals are depressed at speeds above 5 km/h (3 mph).

MSBAEPJ,00003D-19-11JUL22



APY68953—UN—13APR22

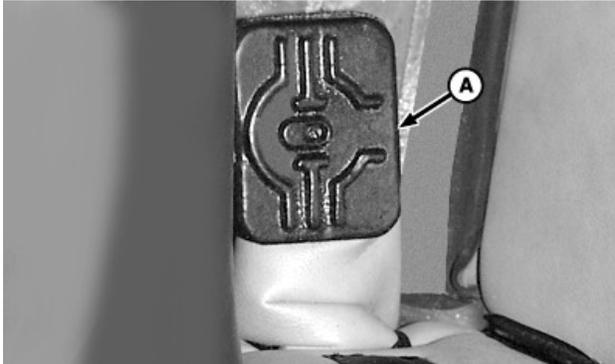
MFWD Switch with Auto Engage and Brake Assist

Differential and Rear Axle Operation

Differential Lock

⚠ CAUTION: DO NOT attempt to turn or operate tractor at high speed with the differential lock engaged.

IMPORTANT: To prevent damage to drivetrain, DO NOT engage the differential lock when one wheel is spinning and the other is stopped.



LV9787—UN—07SEP04

Cab

When one wheel starts to lose the traction, stop the tractor and depress the differential lock pedal (A) to engage the differential lock. Tractor wheels must be stopped or turning at the same speed before engaging differential lock. If possible, engage the differential lock before entering conditions where tires may slip.

Unequal traction keeps the lock engaged. When the traction equalizes, lock disengages itself by spring action. If the lock does not disengage, depress one brake pedal and then the other.

If tires repeatedly slip, then get the traction, then slip again, hold pedal down in the engaged position.

EKPQ1SQ,00049C8-19-10MAY22

Power Take Off (PTO) Operation

Attach PTO-Driven Implement



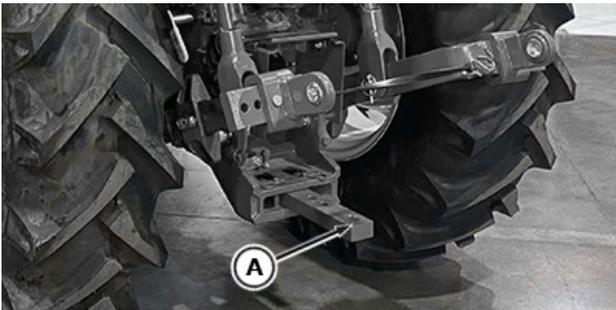
TS1644—UN—22AUG95

CAUTION: Entanglement in rotating the driveline can cause serious injury or death.

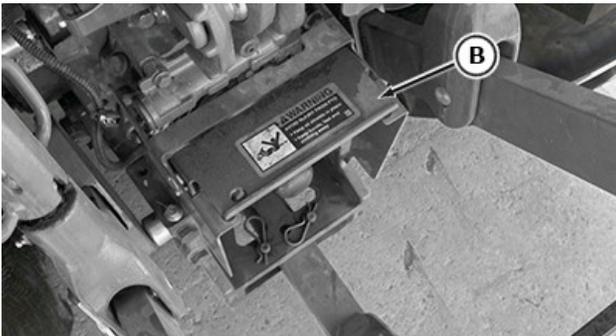
Keep tractor master shield and driveline shields in place at all times. Make sure rotating shields turn freely.

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.

1. Turn key to STOP position to shut off the engine.



P19206—UN—08JUL22



P19207—UN—08JUL22

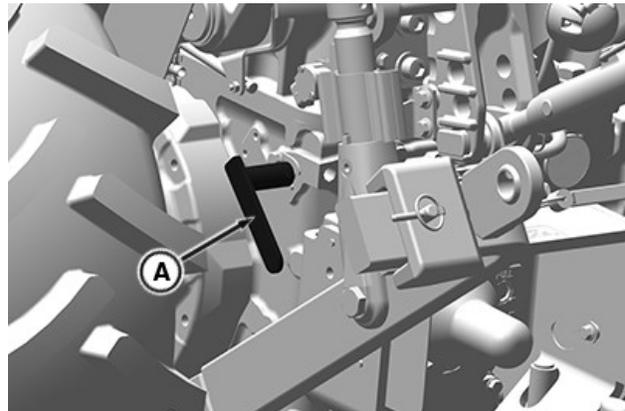
2. If PTO-driven implement is attached, the drawbar (A) must be extended to the proper position. See Select Drawbar Position in Hitch and Drawbar Operation section for more details. Make sure that the drawbar lock pin is in place.

If implement is connected to 3-point hitch, be sure that the drawbar does not interfere. Fully retract the drawbar or remove it if necessary.

3. Attach implement to tractor (drawbar or 3-point hitch) before connecting PTO driveline. Raise the hitch to full-up (transport) position if it is not to be used.
4. Rotate the PTO shield (B) up for clearance. With engine off, turn the PTO shaft by hand to line up splines. Connect driveline to the PTO shaft. Pull out on the shaft to be sure that the driveline is locked to the PTO shaft. Return PTO shield to down position.
5. Be sure that all shields are in place and in the good condition. Never operate PTO before the master shield is properly installed. **WITH ENGINE STOPPED**, check integral shields on driveline by making sure that they rotate freely on shaft. Lubricate or repair as necessary.
6. Check for interference.

EKPQ1SQ.00049CA-19-08JUL22

Select Correct PTO Speeds



PY38109—UN—23FEB17

540/540E Operation

For standard 540 PTO operation (load requiring full engine power), push PTO shift lever (A) down to 540 position.

For economical PTO operation (lighter load), pull PTO shift lever (A) up to 540E position. In economical mode, engine runs at a lower rpm to conserve fuel and reduce the overall operating noise while still turning PTO shaft at 540 rpm.

NOTE: With the PTO shift lever in 540E position, engine high idle speed is limited to 1700 rpm.

MSBAEPJ.000003E-19-14JUL22

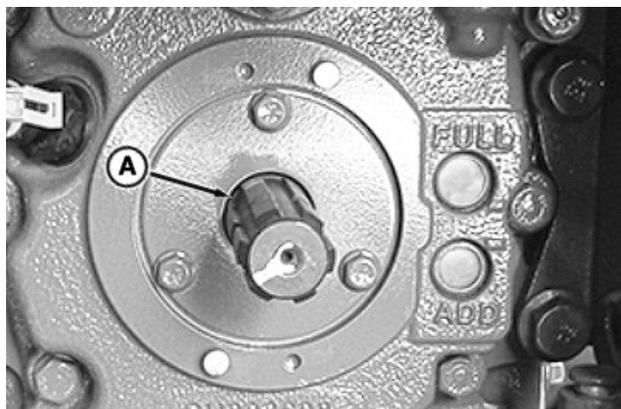
Reverse 540/1000 rpm PTO Stub Shaft

CAUTION: Avoid personal injury. PTO shaft can be hot from operation. Wear gloves and allow the shaft to cool before changing.

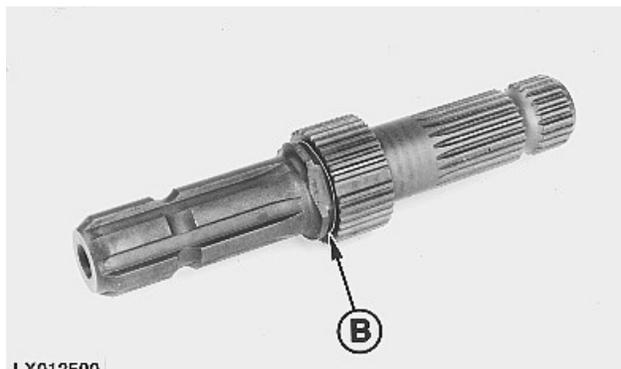
Power Take Off (PTO) Operation

PTO stub shaft has 6 splines for operating 540 rpm implements and 21 splines for 1000 rpm implements.

NOTE: A flattened area on the stub shaft facilitates snap ring removal and installation.



PY38914—UN—25JUL17



LX012500

LX012500—UN—29JAN96

540/1000 rpm Stub Shaft



RW21883A—UN—02AUG99

1. Align snap ring ends with access flat. Remove snap ring (A) and pull out the stub shaft (B).
2. Clean stub shaft thoroughly and coat with grease. Be sure the end bore (C) is clean when installing shaft for 1000 rpm operation.
3. Turn the stub shaft end-for-end and insert in the PTO housing until snap ring groove is visible.
4. Install snap ring.
5. Move the shift lever to agree with the stub shaft

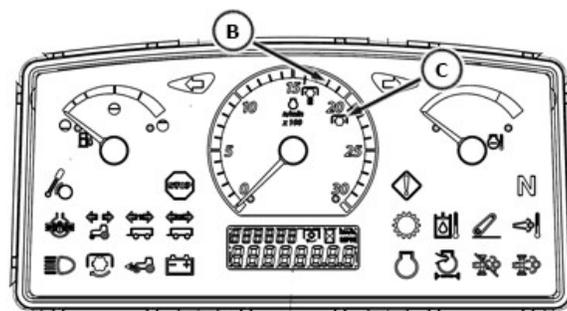
position. See Select Correct PTO Speeds in this section.

MSBAEPJ,0000266-19-10MAY22

Operate EH PTO



APY68944—UN—18APR22



P19213—UN—11JUL22

B—540E Operation Speed
C—540 Operation Speed

NOTE: The Engine starts with switch up (engaged), but PTO shaft will not rotate until switch is reset.

1. To start engine, depress clutch pedal.
2. Push hand throttle lever (A) forward until the tachometer indicates PTO rated speed:

PTO Rated Speed	
PTO	Engine rpm Speed
540	2083 RPM
540	1588 RPM

NOTE: When in 540E position, limit the engine speed to a maximum of 1700 rpm 540E operation will not engage if the engine speed is above 1700 rpm

Power Take Off (PTO) Operation

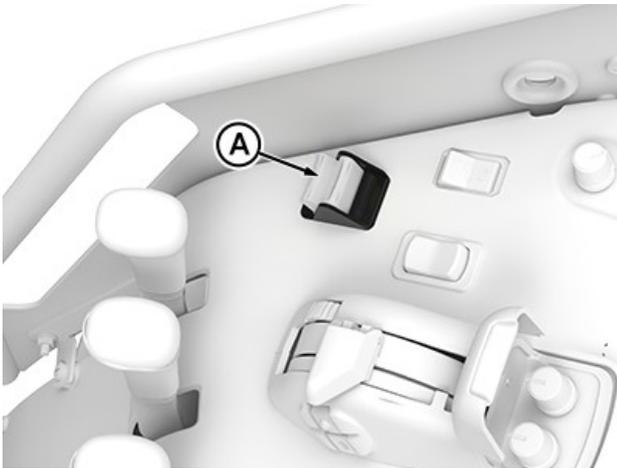
Both 540 rpm and 1000 rpm PTOs operate at the same engine speed: 2400 rpm

NOTE: PTO is engaged or disengaged without depressing the clutch pedal.



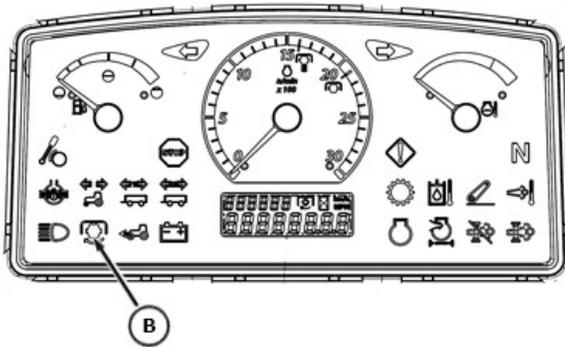
Cab

PY36864—UN—25JUL17



OOS

APY68954—UN—13APR22



P19214—UN—11JUL22

3. Lift (OOS) or push forward (cab) switch (A) to engage PTO.

PTO indicator (B) lights when PTO is engaged.

IMPORTANT: A warning alarm sounds if operator leaves the seat with PTO engaged.

NOTE: If the engine is stopped while PTO is engaged, restart the engine, depress, and lift the switch knob to reset and engage PTO.

CAUTION: Avoid personal injury. Stop engine and allow PTO driveline to stop before adjusting, connecting, or cleaning PTO driven equipment.

To avoid the entanglement with rotating the shaft, always disengage PTO when not in use.

4. Set engine to the low idle. Push down (OOS) or pull back (cab) switch (A) to disengage PTO.

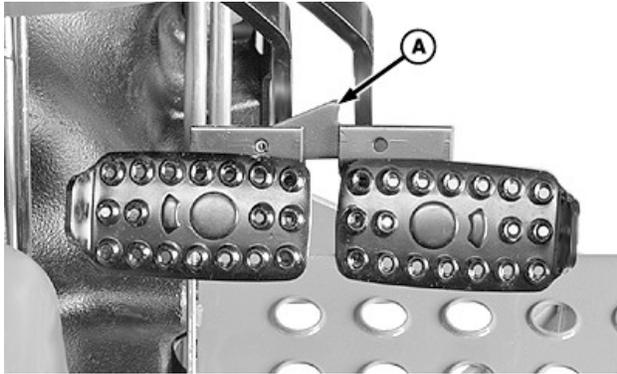
NOTE: Go to the low idle before disengaging PTO.

PTO brake automatically engages when PTO is disengaged.

MWG7GFH,0000025-19-14JUL22

Steering and Brake Operation

Operate Brakes



LV9594—UN—07AUG04

CAUTION: Before operating tractor on a road, lock brake pedals together with locking bar (A). Use brakes lightly and cautiously when slowing from transport speed.

NOTE: Brake pedals shown in the locked position.

Use individual brakes to assist in making sharp turns. Disengage the brake pedal locking bar (A) and depress only one brake pedal.

To stop the tractor, depress both brake pedals.

IMPORTANT: To prevent the unnecessary wear, never ride the brakes by resting a foot on the pedals.

Reduce speed if towed load weighs more than the tractor and is not equipped with brakes. Avoid hard braking applications. Refer to the implement Operator's Manual for recommended transport speeds.

Use additional caution when transporting towed loads under adverse conditions, when turning, or when stopping on inclines.

MSBAEPJ,000003F-19-12MAY22

Lift the steering wheel tilt lever (A) and move steering column to the desired angle. Release lever to lock into position.

Height Adjustment - If Equipped



APY05448—UN—20APR18

Loosen telescope release ring (B) and adjust steering wheel to the desired height. Tighten the release ring (B) to lock position.

MSBAEPJ,0000041-19-30MAR22

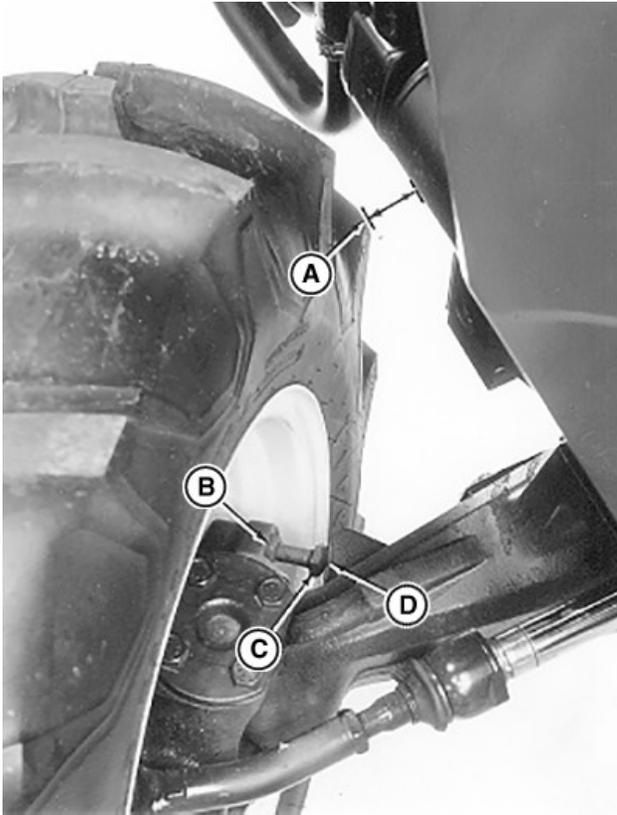
Adjust Steering Wheel

Tilt Adjustment



PY43515—UN—10JUL17

Set MFWD Steering Stops Turning Radius



APY00561—UN—02FEB18

Right-Hand Side Shown

- A—Tire Clearance
- B—Lock Nut
- C—Adjustment Bolt
- D—Steering Stop

1. Raise and support the front of the tractor so the MFWD axle can be oscillated to its stops.
2. Slowly turn the steering wheel to the left until the steering cylinder travel has reached its limit or adjustment bolt (C) head contacts the steering stop (D).
3. Raise the left side of the axle against its stop and measure the clearance between the tire and the nearest tractor component. The distance should not be less than 25 mm (1 in) (A).
4. Loosen the lock nut (B) and adjust the bolt (C) so it touches the steering stop (D). It is necessary to shorten the adjustment bolt in order to obtain maximum turning angle.
5. Tighten lock nut (B) to specification.

Specification

MFWD Steering Stop Lock
Nut—Torque 150 N·m (111 lb-ft)

6. Turn the wheel fully to the left so the adjustment bolt (C) head contacts steering stop (D).

7. Repeat previous steps for the right side.

NOTE: Wide tread settings and large tire sizes increase turn radius slightly.

EKPQ1SQ,00049CE-19-10MAY22

AutoTrac™ Universal Steering

CAUTION: Refer to the AutoTrac™ Universal manual for safe and proper operation of the guidance system and ATU.

The AutoTrac™ Universal system uses the Global Positioning System (GPS) for guided steering of the vehicle. When an AutoTrac™ Universal system is NOT active, the operator steers the vehicle manually.

See ATU reference manuals for more information on installation, operation, and maintenance.

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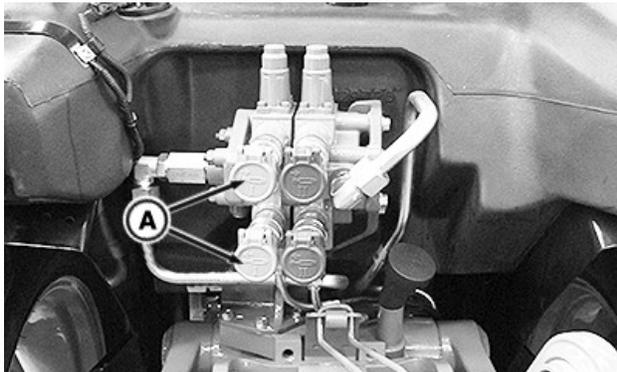
Hydraulics Operation

Warm Hydraulic System Oil

Steering, transmission, and hydraulic systems respond slowly when the tractor is started in cold weather.

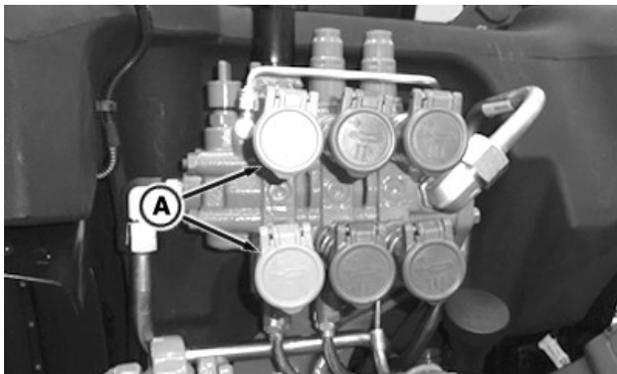
⚠ CAUTION: Overheated hydraulic oil can cause personal injury and component malfunctions. To prevent hydraulic oil from overheating, DO NOT hold selective control valve (SCV) lever or mid-mount SCV joystick in operating position for an extended period.

NOTE: The rear SCV is preferred, but operator can perform the oil warm-up operation at mid-mount SCV.



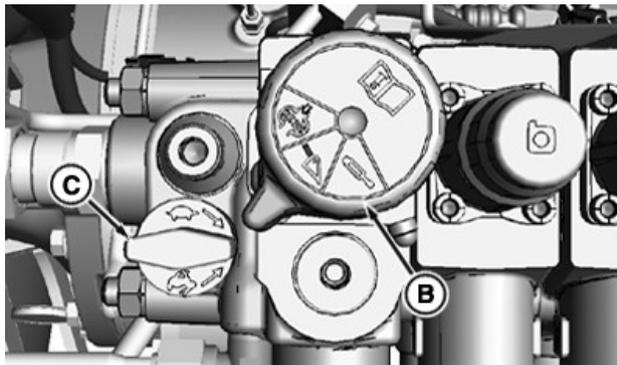
Dual Rear SCV I Couplers

APY00461—UN—12DEC17



Deluxe Rear SCV I Couplers

APY00462—UN—12DEC17



Deluxe Rear SCV Inlet I Section

APY00463—UN—12DEC17

1. Connect jumper hose to SCV I couplers (A).
2. **For tractors equipped with deluxe rear SCV, perform the following steps:**
 1. Turn SCV I selector knob to cylinder (automatic) detent position (B).
 2. Turn flow control knob (C) fully counterclockwise (open).



Cab

PY36872—UN—25JUL17

3. Depress clutch pedal, start engine, and idle at 1200 rpm.
4. Move SCV I lever (A) forward or rearward until hydraulic oil warms to operating temperature.

NOTE: If equipped with dual rear SCV, and for any mid-mount SCV, lever must be held into extend or retract.

5. To check warm-up progress, turn steering wheel side-to-side. When the wheel turns smoothly without hesitation, oil has warmed to operating temperature.
6. After transmission-hydraulic oil has warmed to operating temperature: Return SCV I lever to neutral.
7. Return detent selector and flow control knobs to original positions and setting.
8. Remove jumper hose.

MSBAEPJ,0000040-19-10MAY22

Rear Hitch and Drawbar Operation

3-Point Hitch Components



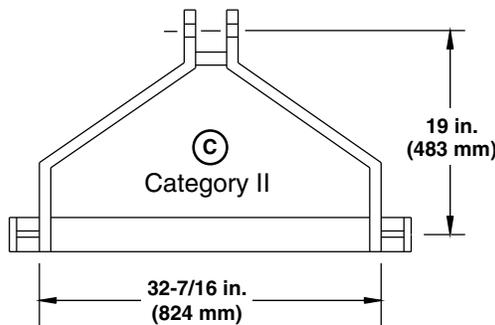
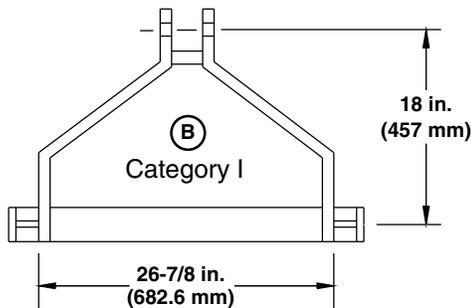
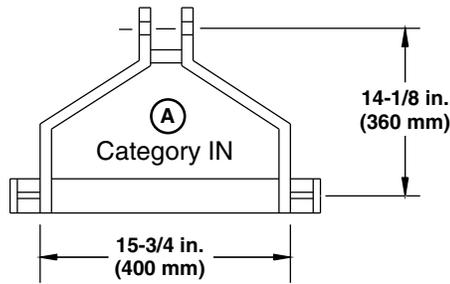
A—Lift Arms
B—Lift Links

C—Sway Block
D—Center Link

P19127—UN—21JUN22

PP71895.0000676-19-21JUN22

Prepare Implement



LV9805—UN—07SEP04

IMPORTANT: When attaching Category I implements to the tractor, sway blocks can need adjustment to prevent binding and limiting full raise of the hitch. (See Adjust Sway Blocks in this section.)

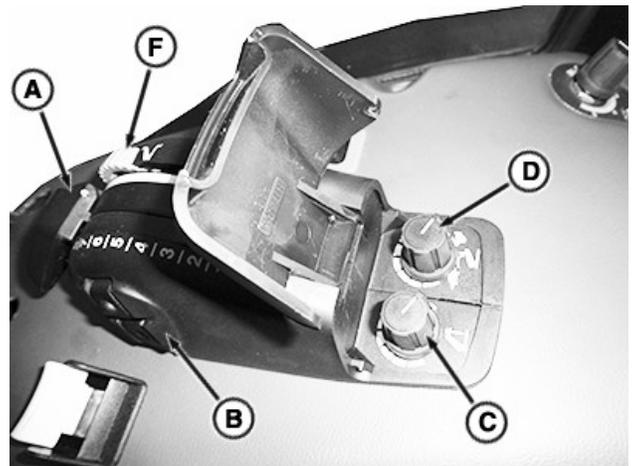
Categories IN (A) and I (B), 3-point hitches are narrower and used on smaller implements than Category II (C) implements. Refer to the following chart to identify an implement category.

Category II implements should have the top hole of the implement mast located 483 mm (19 in) above the lower pins. Drill another hole in the top mast or extend the top mast if necessary.

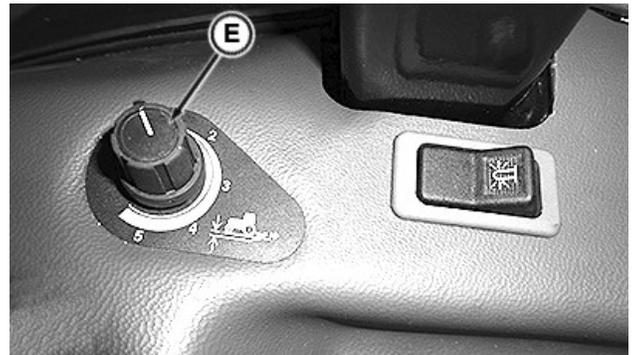
Category	Mast Height	Width Between Lower Pins	Pin Size	
			Lower	Upper
IN (A)	360 mm (14-1/8 in)	400 mm (15-3/4 in)	22 mm (7/8 in)	19 mm (3/4 in)
I (B)	457 mm (18 in)	682.6 mm (26-7/8 in)	22 mm (7/8 in)	19 mm (3/4 in)
II (C)	483 mm (19 in)	824 mm (32-7/16 in)	28 mm (1-1/8 in)	25.4 mm (1 in)

MWG7GFH.0000026-19-10MAY22

Rockshaft Controls



PY36875—UN—25JUL17



PY36878—UN—02AUG17

- A—Hitch Lever
- B—Raise/Lower Switch
- C—Height-Limit Control
- D—Rate-of-Drop Control
- E—Load/Depth Control
- F—Depth Stop

CAUTION: To prevent possible injury, use only the hitch lever (A) when attaching or detaching implements. Do not use raise/lower switch (B).

NOTE: The Engine must be running for electrohydraulic (EH) hitch controls to work.

Rockshaft is controlled by hitch lever (A) and raise/lower

switch (B). Lift height is limited by height-limit control (C).

Hitch lever (A) is used to raise and lower hitch, and to set implement working depth. Pull the lever rearward to raise it, Push the lever forward to lower it.

To make the rockshaft ready for operation:

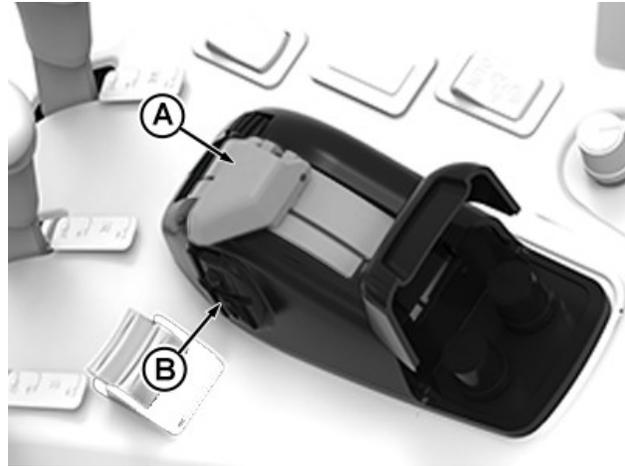
1. Start engine
2. Move lever (A) to the position that corresponds to the position of draft links.
3. Actuate raise/lower switch (B).

The implement can be raised and lowered independently of lever (A) by raise/lower switch (B). This is of assistance when **turning at the end of a field**.

- Top part of raise/lower switch pressed: Implement is raised as high as height-limit control (C) setting.
- Bottom part of raise/lower switch pressed: Implement is lowered as far as lever (A) setting.

Refer to following information for operational details of height-limit control (C), rate-of-drop (D), load/depth control (E), and depth stop (F).

MWG7GFH.0000027-19-10MAY22



APY68962—UN—29APR22

Cab Shown

- A—Hitch Lever
- B—Raise/Lower Switch

CAUTION: To prevent the injury or damage caused by tractor movement, be sure that transmission is in **PARK** position before using external raise and lower switches. Stay clear of interference points when using external switches.

Use External Raise and Lower Switches



APY68959—UN—28APR22

Left-Hand External Raise/Lower Switch

Fender-mounted switches allow the rockshaft to be operated at a distance from the operator's position. When using the fender-mounted switches, the rockshaft raises and lowers at slower rate, while height and depth settings are ignored. Fender switches are disabled when the hitch is in the transport position.

Press and hold the switch to move the rockshaft:

- Top switch—Raise implement
- Bottom switch—Lower implement

NOTE: Once either switch has been activated, the rockshaft is prevented from moving accidentally. To make the rockshaft ready for operation again, return to the operator's station, and:

- Move hitch lever (A) to the position that corresponds to the position of the draft links.
- Actuate raise/lower switch (B).

MWG7GFH.0000028-19-10MAY22

Adjust Raise Height



Cab

PY36876—UN—25JUL17

The height to which an implement is raised can be limited with height-limit control (A).

- Minimum height—Turn counterclockwise
- Maximum height—Turn clockwise

MWG7GFH,000002B-19-10MAY22

Pull hitch lever (A) as far to the rear as it goes and place in the transport lock slot (B).

RD91939,0000AAD-19-02MAY22

Adjust Rate-of-Drop

⚠ CAUTION: Excessive drop speed can cause personal injury or damage to tractor and implement. Fully lowering implement require at least 2 seconds.



Cab

PY36877—UN—25JUL17

Transport Implements

⚠ CAUTION: To prevent possible injury and equipment damage while transporting, set hitch lever in the transport lock position. Transport lock prevents hitch from lowering.

NOTE: Raise/lower switches are disabled when the lever is in the transport lock position. Hitch rises when starting tractor with the hitch lever in the transport lock position.



Cab Shown

APY68963—UN—28APR22

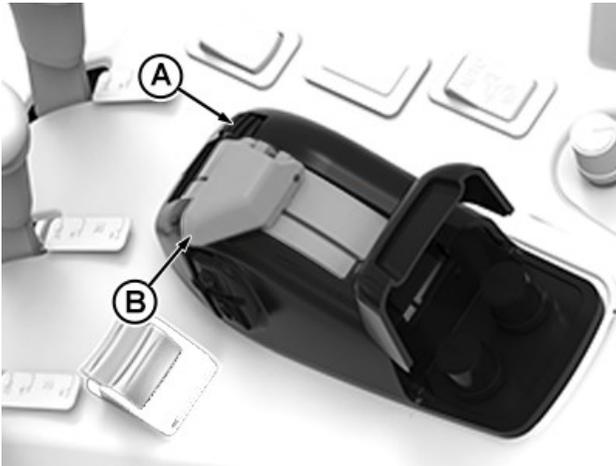
The speed at which the rockshaft and mounted implement lowering is controlled by the rate-of-drop knob (A).

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

- Turn the knob counterclockwise to slow the rate-of-drop.
- Turn the knob clockwise for faster rate-of-drop.

EKPQ1SQ,00049D5-19-10MAY22

Adjust Depth Stop



Cab Shown

APY68964—UN—02MAY22

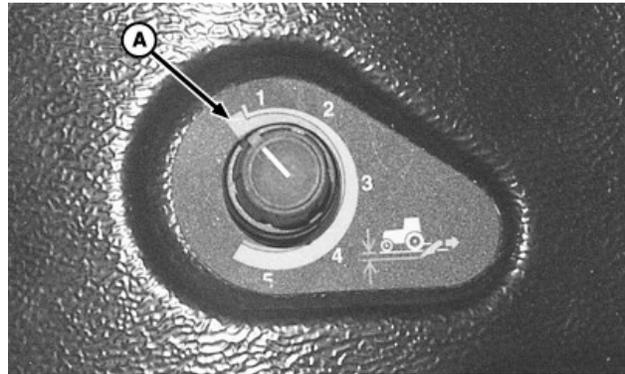
Push down wheel (A) and rotate it to the desired working depth.

After lifting, the implement will be returned to the same working depth when the hitch lever (B) is pushed forward to contact the stop.

If it is necessary to lower the hitch below the preset depth, the lever can be lifted and pushed past the stop.

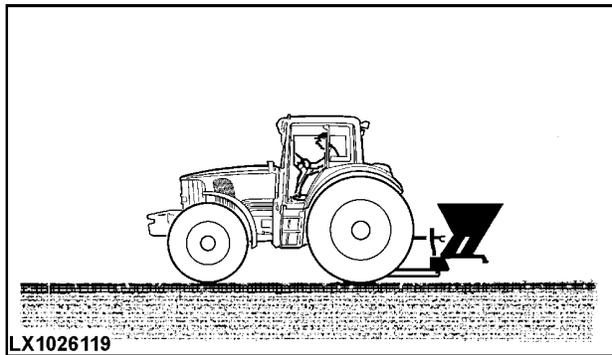
MSBAEPJ.0000047-19-02MAY22

Use Position Control Setting



LV9796—UN—07SEP04

Open Station Shown (cab similar)



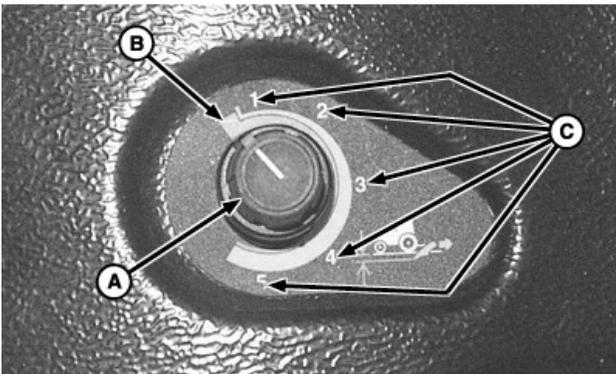
LX1026119

LX1026119—UN—10MAY01

With the load/depth knob in the position control detent (A), the implement is held at the selected position.

PP71895.000067F-19-31JAN18

Adjust Load/Depth Control



LV9795—UN—07SEP04

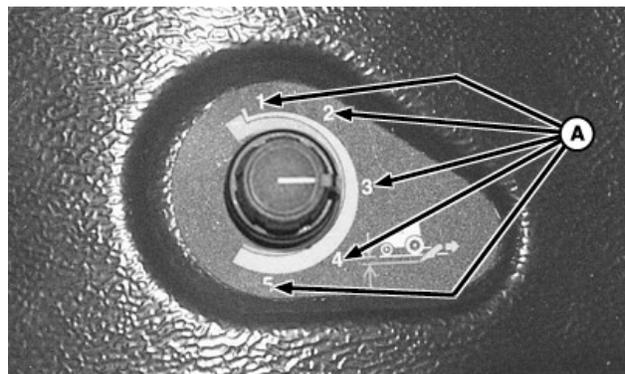
Open Station Shown (cab similar)

CAUTION: Before connecting implement to 3-point hitch, load/depth control (A) must be moved to position the control detent (B) to prevent unintentional raising or lowering of the rockshaft.

The Hitch has two operating modes: position control (B) and draft control (C).

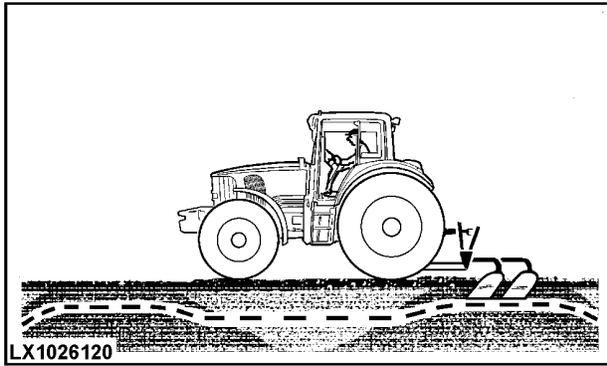
MSBAEPJ.0000044-19-10MAY22

Use Draft Control



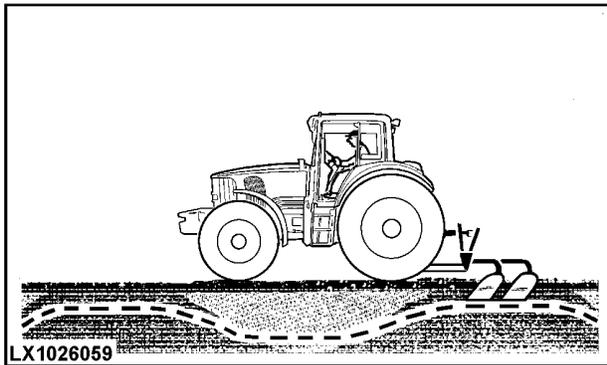
LV9797—UN—07SEP04

Open Station Shown (cab similar)



Low-to-Mid-Settings

LX1026120—UN—10MAY01



Mid-to-High Settings

LX1026059—UN—18MAY01

Turning load/depth knob to a numbered area (A) allows depth and load control to be varied as ground conditions require. The setting of the control depends on implement being used and field or soil conditions.

Turning the control counterclockwise reduces draft response.

Turning the control clockwise increases draft response. With the control turned to a higher number, the implement is raised as resistance (soil density) increases and lowered as resistance decreases. Typical settings are:

Implement	Draft Control Setting
Integral Ripper/Subsoiler	1—3
Integral Chisel Plow	2—4
Semi-Integral Moldboard Plow	2—4
Integral Moldboard Plow	3—5
Integral Field Cultivator	4—5

PP71895,0000680-19-31JAN18

Use Float Control

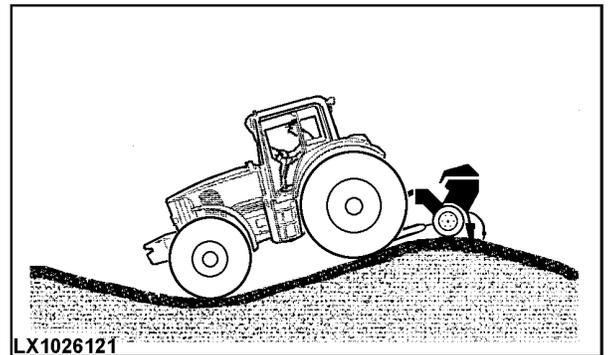


APY06065—UN—27MAR18



APY68965—UN—02MAY22

Cab Shown



LX1026121—UN—10MAY01

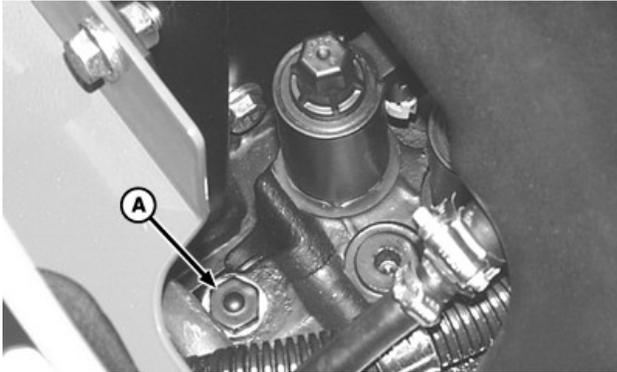
In "Float" (for rockshaft-controlled implements with the depth gauge wheel), implement can move freely up and down to follow the ground contours independently of the tractor. To obtain "floating" action, set load/depth control knob (A) to position control detent and move hitch lever (B) as far forward as it goes.

RD91939,0000AAE-19-02MAY22

Manually Lower the Hitch

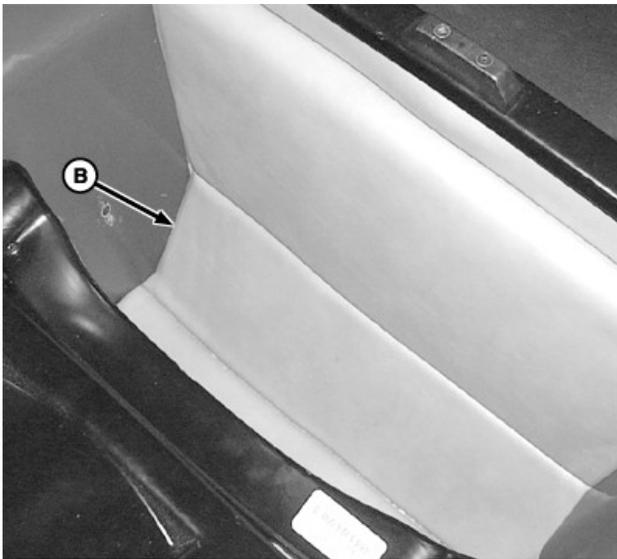
⚠ CAUTION: Avoid possible injury. Perform the procedure from operator's station.

The Hitch can be lowered manually if engine or electrical power is not available. Manual override screw is on the hitch control valve behind the operator's seat.



LV9799—UN—07SEP04

Open Station Shown; Cab Similar



APY00468—UN—12DEC17

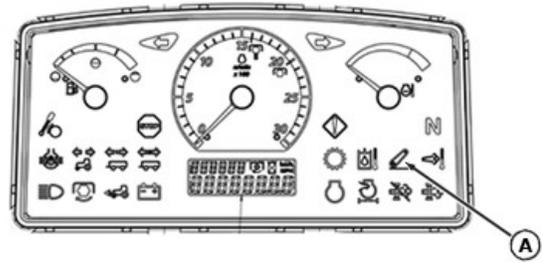
Rear Upholstery Panel (Cab)

NOTE: Cab Tractor— Rear upholstery panel and valve cover plate must be removed to access hitch control valve.

1. **Cab Tractor:** Remove the rear upholstery panel (B) and valve cover plate.
2. To access set screw, remove protective cap (A).
3. Turn set screw counterclockwise to lower the hitch.
4. With hitch lowered, turn the set screw clockwise and install cap.
5. See your John Deere dealer for repairs.

MSBAEPJ,0000048-19-10MAY22

Electrohydraulic Hitch Indicator

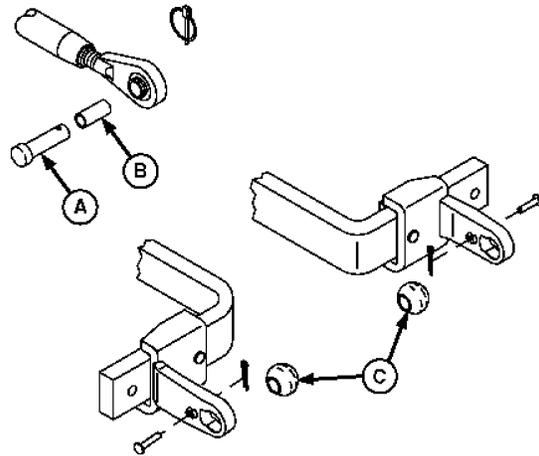


P19143—UN—24JUN22

EH hitch indicator (A) lights if a malfunction is detected in the hitch control system. If this indicator lights up, contact your John Deere dealer.

MSBAEPJ,0000049-19-24JUN22

Convert Category II Hitch to Category IN or Category I



APY00469—UN—12DEC17

A—Implement mast pin
B—Reducer bushing
C—Draft link balls

Tractor center link and draft link ends are sized for Category II implement attaching pins.

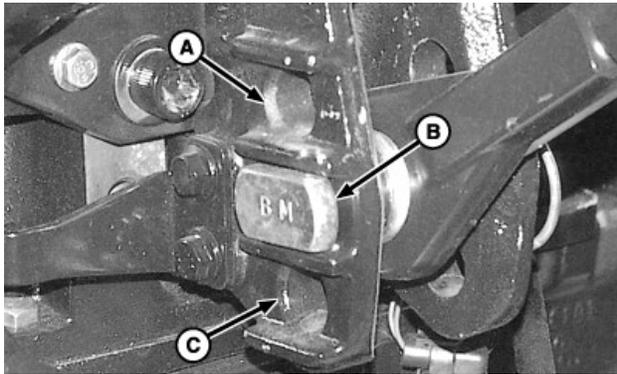
If Category IN or Category I implements are to be used, the Category II hitch can be converted as follows:

1. Insert reducer bushing (B) in the center link end. Smaller implement the mast pin (A) is also needed when bushing is installed.
2. Replace draft link balls (C).

See your John Deere dealer for parts.

MSBAEPJ,000004C-19-10MAY22

Position Center Link



LV9806—UN—07SEP04

- A—Upper Hole
- B—Middle Hole
- C—Lower Hole

The center link attaching bracket has holes, which allow three different positions for attaching the center link. The position affects the draft sensing sensitivity.

Should the following conditions occur, move the center link to indicated holes to correct.

Condition	Use Holes
Excessive hitch activity or hunting occurs in the draft control operation.	A or B
Rear of implement rises too much when lifted. The implement weight, which can be lifted is reduced slightly with the center link attachment in lower holes.	A or B
Rear of implement drags ground.	B or C
Draft lever range is too small.	B or C
The Hitch seems unresponsive in draft control operation and allows engine speed to drop too far before raising rockshaft.	B or C

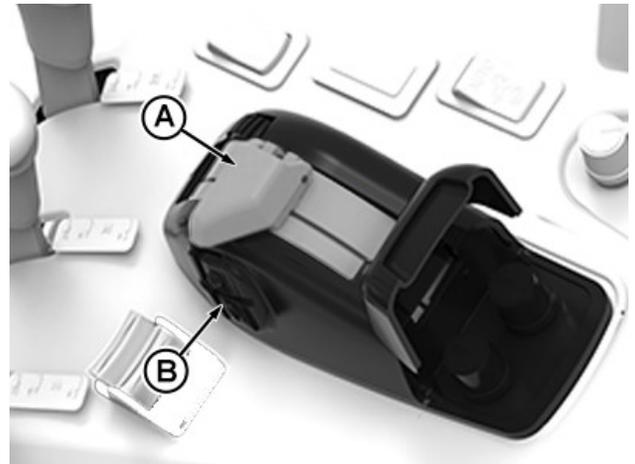
NOTE: Implements with Category IN mast height of 360 mm (14-1/8 in) normally use the lower attaching hole.

Implements with Category I mast height of 457 mm (18 in) normally use the center attaching hole.

Implements with Category II mast height of 483 mm (19 in) normally use the upper attaching hole.

EKPQ1SQ.00049D7-19-10MAY22

Attach Implements to 3-Point Hitch



APY68962—UN—29APR22

Hitch Lever



PY36880—UN—26JUL17

- A—Hitch Lever
- B—Raise/Lower Control
- C—Rockshaft Load/Depth Control

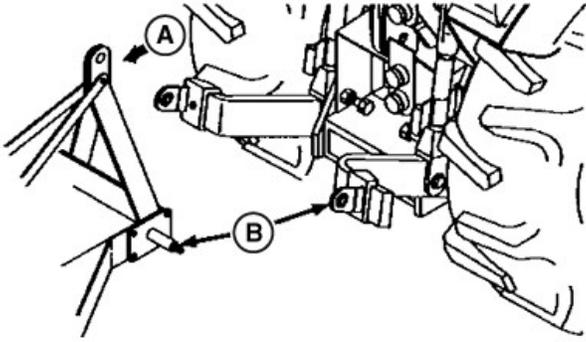
CAUTION: Prevent hitch movement and possible injury. Turn raise/lower control (B) fully counterclockwise to “position” the control detent, before attaching or detaching implement.

To prevent possible injury, use only the hitch lever (A) when attaching or detaching implements. **DO NOT** use raise/lower switch (C).

Make sure rockshaft load/depth control (C) is set to position the control detent. (See Adjust Load/Depth Control in Hitch and Drawbar Operation section.) The Engine must be running for EH control to work.

1. Be sure that drawbar does not interfere. If necessary, move the drawbar to fully retracted position or remove it. Check for any other potential interference.

CAUTION:



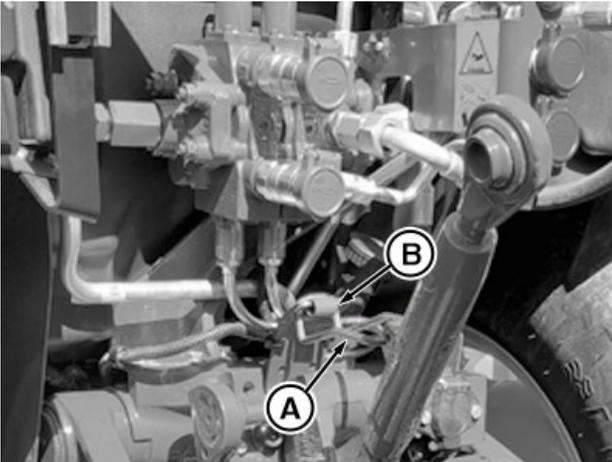
APY00565—UN—02FEB18

To prevent unexpected movement of the rockshaft, place draft sensing control in OFF position before attaching implement to hitch.

2. Back tractor up to implement (A) so hitch points align. Place transmission in PARK and stop engine.
3. Slip draft links over implement hitch pins (B) and retain with quick-lock pins.

NOTE: Locking pins can be stored on draft links when not in use.

4.



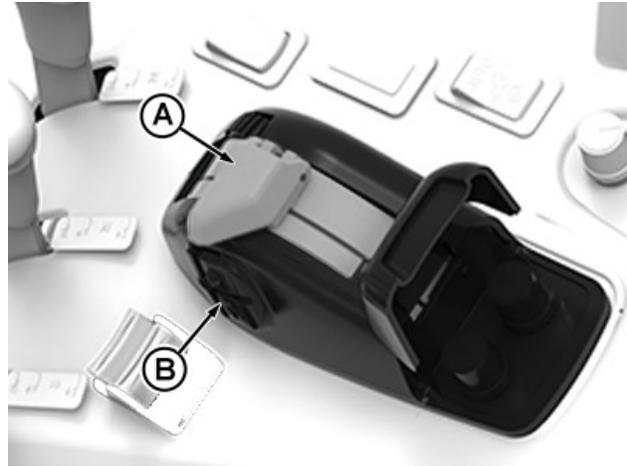
APY78203—UN—11JUL22

Lift locking clip (A), and rotate the tab (B) to rear to release the center link from the transport hook.

5. Attach center link to implement the top mast.
6. Adjust center link and lift links as necessary. (See Level the Hitch in this section.)

⚠ CAUTION: To avoid bodily injury or machine damage whenever an implement, implement quick-coupler, or other attachment is connected to the tractor 3-point hitch, check full range of operation for interference, binding, or PTO separation.

7.



APY68962—UN—29APR22



APY68959—UN—28APR22

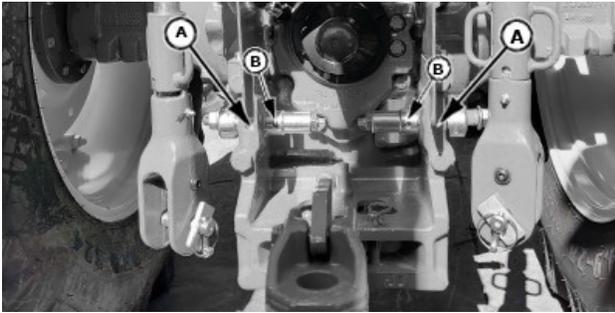
Fender-Mounted Switches

Start engine. Using the hitch lever (A), slowly raise and lower implement and check for interference.

NOTE: Raise/lower switch (B) or external switches can also be used to raise and lower implement and check for interference.

EKPQ1SQ,00049D8-19-11JUL22

Adjust Sway Blocks



P19135—UN—22JUN22

NOTE: Check implement Operator's Manual for the instruction on whether to allow the side sway.

Sway blocks (A) are used to limit the side sway of draft links.

If the attachment (plow, disk) needs side sway in operating position, adjust sway blocks tight to the frame.

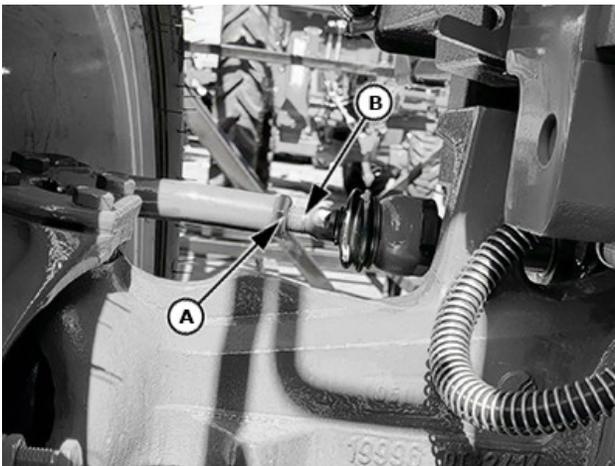
To limit side sway, adjust out blocks away from frame to contact draft links and limit side-to-side motion.

Tighten lock nuts (B) after adjustment.

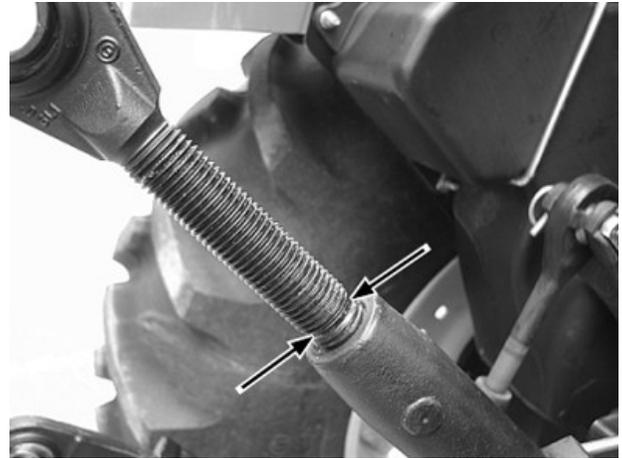
MSBAEPJ.0000261-19-27JUN22

Level the Hitch

1.



P19166—UN—30JUN22



LV13102—UN—14FEB08

Extension Limit Groove

- A—Locking Clip
- B—Center Link Clockwise Rotation
- C—Center Link Counterclockwise Rotation

Lower implement to take the weight off the hitch.

2. Adjust center link to the level implement front-to-rear.

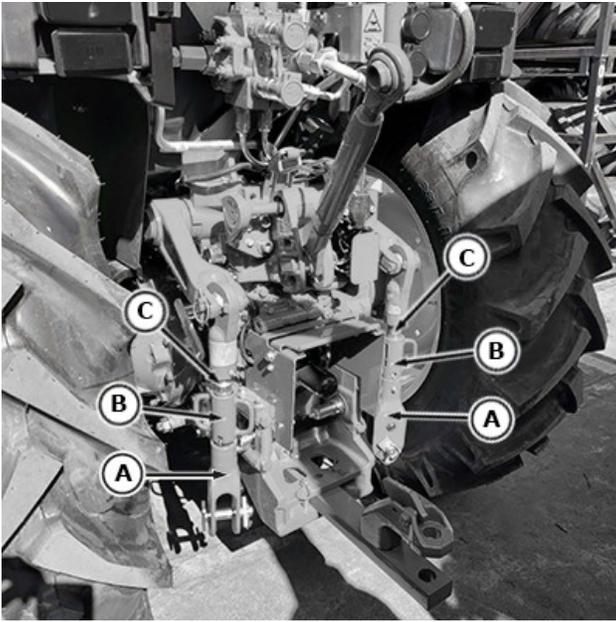
- a. Unlatch locking clip (A).
- b. Rotate center link body:
 - Clockwise (B) to lengthen the center link.
 - Counterclockwise (C) to shorten center link.
- c. Latch locking clip.

IMPORTANT: DO NOT attempt to overextend the center link beyond limits of locking clip or lift links past the stops. Link body threads could be damaged.

NOTE: Maximum adjustment range of the center link can only be obtained if the ends are positioned equally within the body when attached to an implement.

NOTE: Make sure that the center link does not unscrew past the extension limit groove cut into threads, as shown in photo.

3.



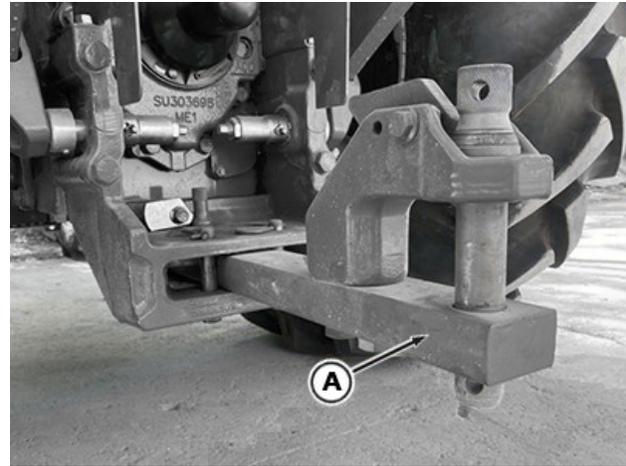
P19136—UN—22JUN22

Adjust lift links (A) to level implement side-to-side:

- a. Lift the crank handle (B) and turn 1/4 turn to engage the slot onto roll pin (C) in the center portion of the lift link (A).
- b. Turn the crank handle (B):
 - Clockwise to raise the draft link.
 - Counterclockwise to lower the draft link.
- c. After adjustment, lower and turn the crank handle (B) to engage the slot onto the lower body lug to prevent the change of adjustment during operation.

NOTE: Different length lift links are provided depending on the rear tire size. Short lift links are used when the rear tire statically loaded radius is 565 mm (22-1/4 in) or less. Long lift links are used with tires over 565 mm (22-1/4 in) statically loaded radius.

EKPQ1SQ.00049D9-19-06JUL22



P19147—UN—27JUN22

PTO Mid-Position

A—Drawbar

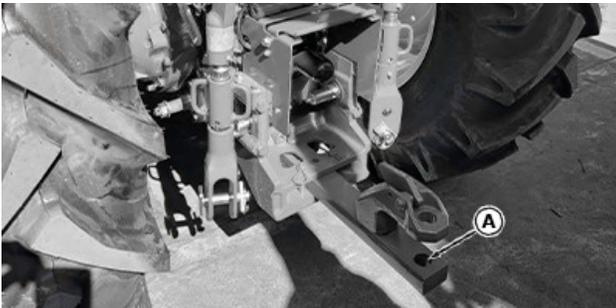
IMPORTANT: Certain heavy equipment, such as a loaded single-axle trailer, can place excessive strain on the drawbar (A). Rough terrain and speed increases the strain on the drawbar (A). Do not exceed the maximum static vertical load on drawbar.

Drive slowly with heavy loads.

For more information, see Permissible Drawbar Load Specifications in the Specifications section.

MSBAEPJ.0000267-19-27JUN22

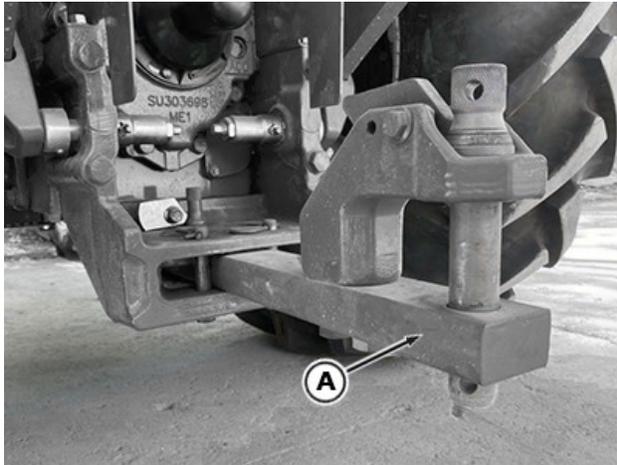
Observe Drawbar Load Limitations



P19137—UN—22JUN22

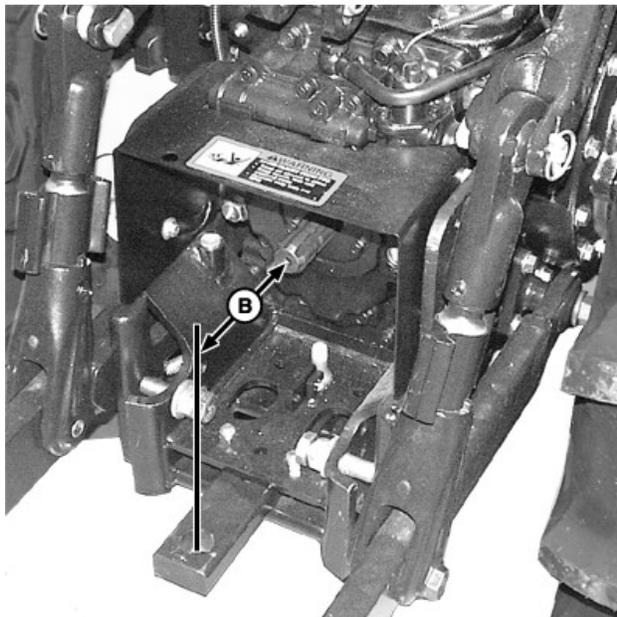
Fully Extended

Select Drawbar Position



PTO Mid-Position

P19147—UN—27JUN22



LV9812—UN—07SEP04

A—Drawbar
B—Measure From/To

Position the drawbar (A) in the center, fully retracted position for the maximum traction and efficiency. (See implement Operator's Manual for more information.)

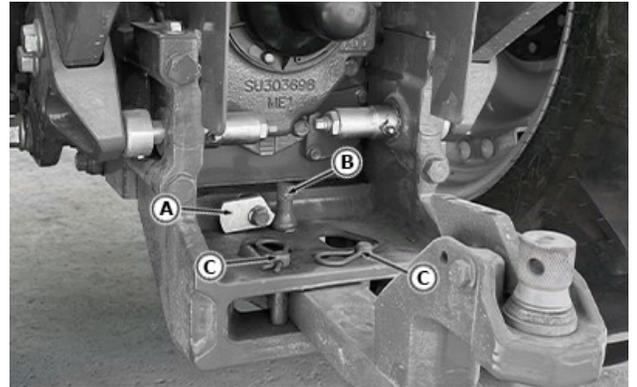
IMPORTANT: For drawn PTO-driven implements, drawbar must be extended to the proper position.

Drawbar Positions	
PTO Shaft	PTO Shaft End-to-Hitch Pin Hole (B)
540 rpm (6 spline)	356 mm (14 in)

If needed, drawbar can be offset from center or allowed to swing.

MSBAEPJ,0000268-19-20JUL22

Adjust Drawbar Length and Offset



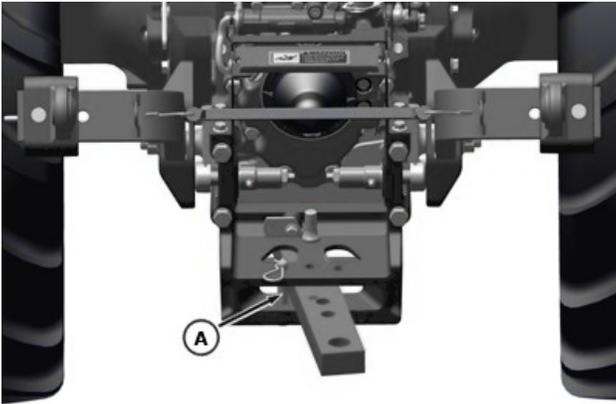
P19149—UN—27JUN22

1. Lift the retaining latch (A).
2. Remove the drawbar pin (B).
3. Slide drawbar to the desired position.
4. Install the drawbar pin and rotate the latch to retain in the place.
5. Drawbar can be locked in the center position, using drawbar cap screws (C). It can also be offset to either side, using one drawbar cap screw in the center hole.

NOTE: Drawbar cap screws (C) can be removed to let the drawbar swing free, which is helpful when turning under load. There are two holes on either side of the pivot for the cap screw storage.

MSBAEPJ,000004F-19-27JUN22

Use Swinging Drawbar

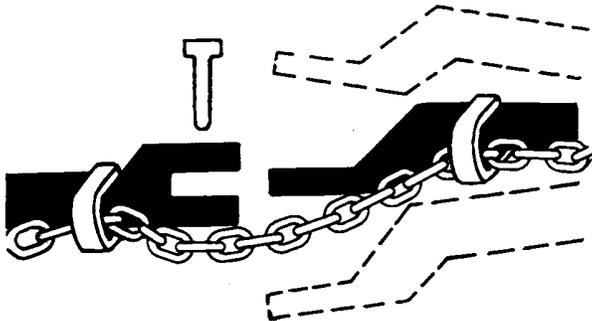


P19150—UN—27JUN22

Drawbar cap screws (A) can be removed to let drawbar swing free. This is helpful when turning under load.

PP71895,000068C-19-27JUN22

Use a Safety Chain



TS217—UN—23AUG88

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

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

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

DX,CHAIN-19-03MAR93

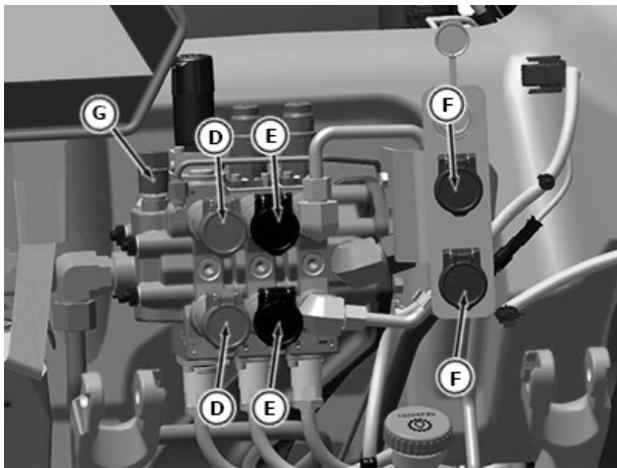
Selective Control Valve Operation

Rear SCV Lever and Coupler Identification



Cab

PY36873—UN—26JUL17



DualPower Beyond SCV

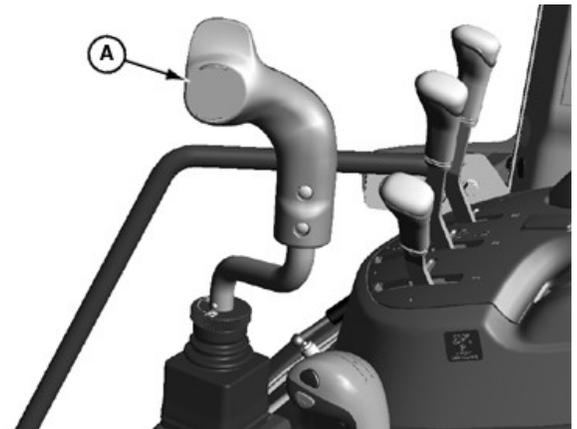
P19151—UN—27JUN22

- A—SCV I Lever (Green)
- B—SCV II Lever (Blue)
- C—SCV III Lever (Brown)
- D—SCV I Coupler (Green)
- E—SCV II Coupler (Blue)
- F—SCV III Coupler (Brown)
- G—Adjustable Flow Control

Levers (A—C) control oil flow to the corresponding selective control valve (SCV) couplers, which are at the rear of tractor. Top couplers are for retraction; bottom couplers are for extension.

MSBAEPJ.000004A-19-27JUN22

Mid-Mount SCV Joystick and Coupler Identification

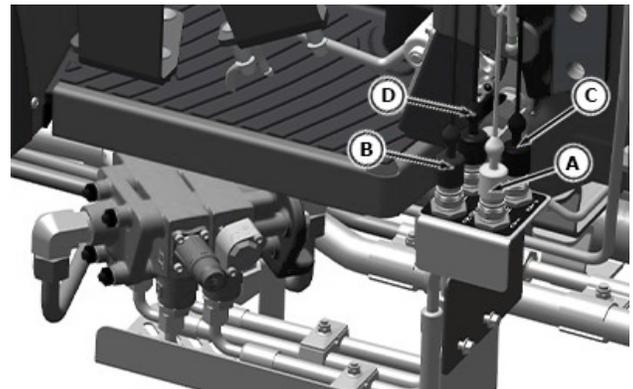


Mid-Mount SCV Joystick

APY00485—UN—12DEC17

A—Mid-Mount SCV Joystick

Mid-mount SCV joystick (A) controls oil flow to the corresponding selective control valve (SCV) couplers, at the right side of tractor. Right-hand side couplers are for extension; left-hand side couplers are for retraction.



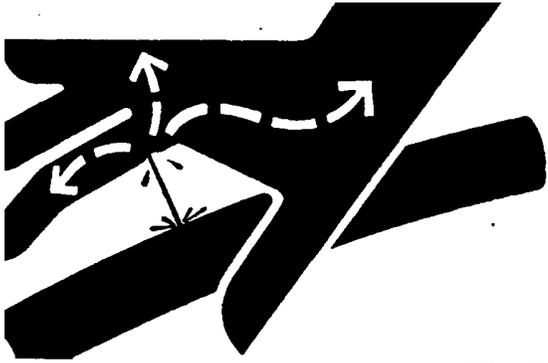
Dual Mid-Mount SCV

P19152—UN—27JUN22

- A—Bucket Cylinder—Retract
- B—Bucket Cylinder—Extend
- C—Boom Cylinder—Retract
- D—Boom Cylinder—Extend

PP71895.000068E-19-27JUN22

Connect or Disconnect High-Pressure Hoses



X9811—UN—23AUG88

CAUTION: 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 can result. Doctors unfamiliar with this type of injury must refer a knowledgeable medical source. Such information is available from Deere & Company Medical Department in Moline, Illinois, U.S.A., by calling 1-800-822-8262 or +1 309-748-5636.

1. If possible, retract the remote cylinder as much as possible to protect the rod from damage.

IMPORTANT: Implement must be raised slightly, by pulling back on the lever to reset coupler check valves before it can be lowered.

- a. If the hose accidentally pulls from the tractor during use, clean hose tip and coupler before reconnecting. Hoses can be reinstalled with minimal loss of oil.
 - b. After reinstalling the hose, extend and retract cylinder to seat the connector properly and reset check valve.
2. Move the SCV lever while the tractor is off and release the pressure from the hydraulic system.
 3. With as much hydraulic pressure relieved as possible from hoses, pull hoses from the selective control valve (SCV) couplers.
 4. Wipe couplers clean, then close coupler covers. Install dust caps on hose ends.
 5. Make sure that couplers are clean before installing dust cover.

6. Verify that dust cover plugs are installed after each use.
7. To check the perfect functioning of the coupling, lubricate the seals and perform a connection and disconnection operation.

CAUTION: When a disconnection is performed, there could be a residual pressure. Depending on the temperature and position, it could reach high values especially while using couplers equipped with the breakaway function. This prevents the opening of the valve in the male part and as a consequence, the connection is not possible. This residual pressure can cause residual oil coming from the center of the coupler. Avoid forcing the coupling male valve to decrease residual pressure. Use the female part suitable for the connection under pressure. Do not use any sharpened or improper tools, which could damage the seals when opening the valves.

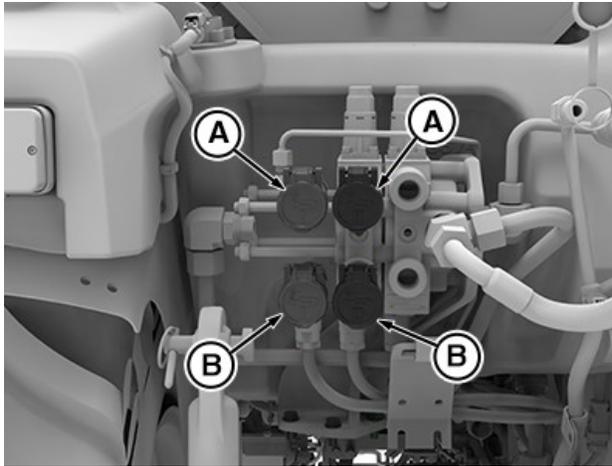
NOTE: If the previous steps are not taken, premature damage could happen in the couplings, causing leaks.

MSBAEPJ,000004B-19-10MAY22

Connect Cylinder Hoses to Rear SCV

IMPORTANT: Hydraulic hoses can fail due to physical damage, kinks, age, and exposure. Check hoses regularly. Replace damaged hoses.

1. Identify extend and retract hoses.
2. Remove dust caps (if equipped) from the hose end.
3. Open coupler covers.
4. Ensure that hose end and coupler are clean. Push the hose tip firmly into the selective control valve (SCV) coupler. Pull on the hose to make sure that the positive connection was made.
- 5.



APY78201—UN—11JUL22

Triple Rear SCV Shown

Connect retract hoses to top couplers (A) and extend hoses to bottom couplers (B).

Always use SCV extend ports for lift functions for the best performance. Deluxe SCV sections (with flow control and selectable detents) perform better than standard SCV sections.

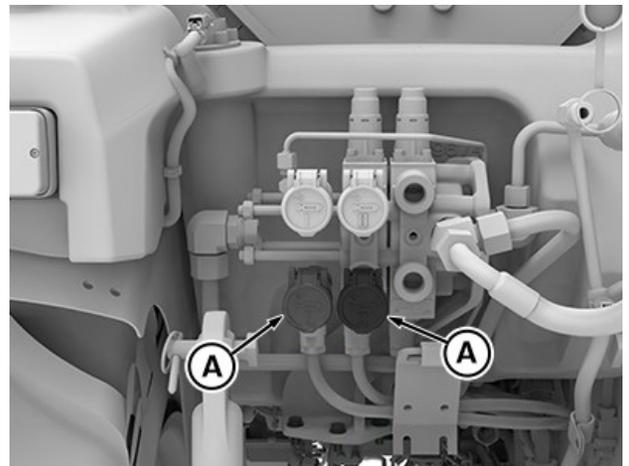
MSBAEPJ,0000269-19-11JUL22

1. Match hoses to corresponding couplers.
2. Remove dust caps from hose ends.
3. Ensure that hose end and couplers are clean. Slide sleeve then push the hose tip firmly into coupler and release sleeve.
4. Ensure that positive connection was made by pulling on hose.

NOTE: Always use SCV extend ports for lift functions for the best performance.

MSBAEPJ,0000050-19-27JUN22

Connect and Operate Single-Acting Cylinder



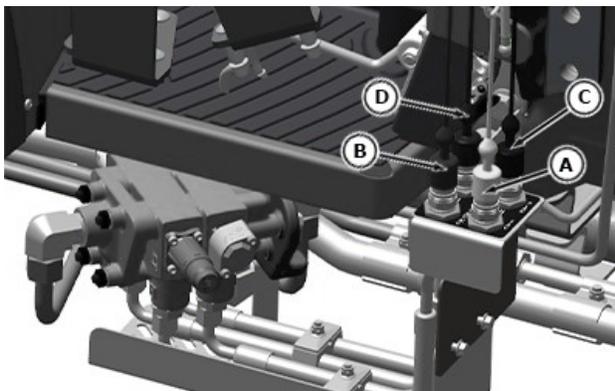
APY78202—UN—11JUL22

Dual Rear SCV

Connect Cylinder Hoses to Mid-Mount SCV

IMPORTANT: Hydraulic hoses can fail due to physical damage, kinks, age, and exposure. Check hoses regularly. Replace damaged hoses.

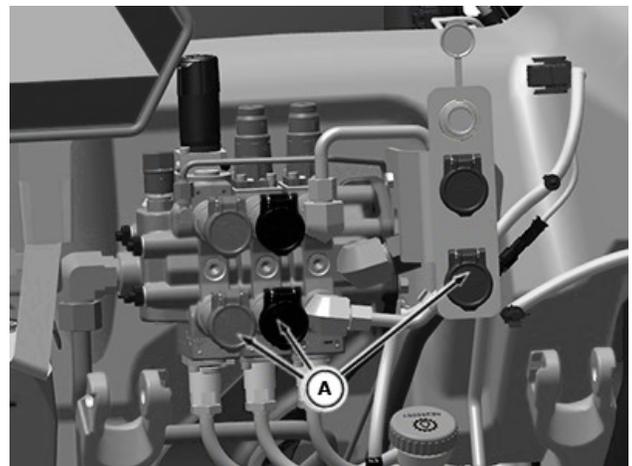
NOTE: If using hose with ISO ends, connections are capped and require couplers to be installed. Direct connection to the fittings can be made for permanent applications.



P19152—UN—27JUN22

Dual Mid-Mount SCV

- A—Bucket Cylinder—Retract
- B—Bucket Cylinder—Extend
- C—Boom Cylinder—Retract
- D—Boom Cylinder—Extend



P19155—UN—27JUN22

Dual Rear Power Beyond.

Single-acting cylinder is only connected to the selective control valve (SCV) extend the coupler (A).

IMPORTANT: Volume of oil required to extend the cylinder lowers transmission-hydraulic oil level. With cylinder fully extended, check the oil level and fill to the proper level. (See Check Transmission-Hydraulic System Oil Level in Transmission Maintenance Guide.)

1. Pull selective control valve (SCV) lever back to pressurize and extend the single-acting cylinder.
2. To retract the cylinder, push SCV lever fully forward to the "FLOAT" position.

MSBAEPJ.0000051-19-11JUL22

Correct Reversed Cylinder Response

CAUTION: If the cylinder response is opposite of lever, extending when it should retract, reverse hose connections at couplers.

MSBAEPJ.000026A-19-10MAY22

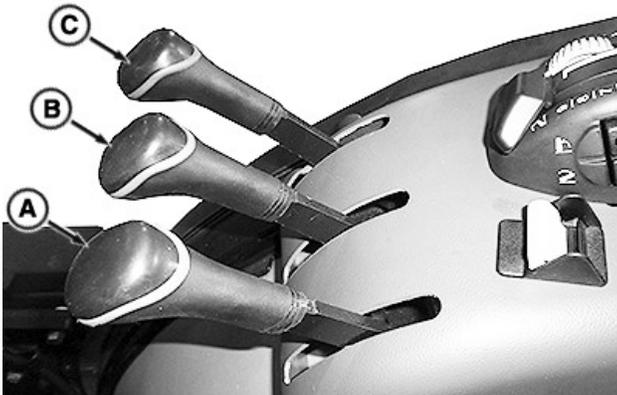
Use Correct Hose Tips

Selective control valve (SCV) couplers accept a standard hose tip as recommended by ISO¹ and SAE². Adapters are available to update older hose tips to the ISO couplers on this tractor.

MSBAEPJ.0000053-19-30MAR22

Operate Rear SCV Levers

CAUTION: Overheated hydraulic oil can cause personal injury and component malfunctions. To prevent hydraulic oil from overheating, DO NOT hold Selective Control Valve (SCV) lever in operating position for an extended period.



PY36873—UN—26JUL17

A—SCV I Lever
B—SCV II Lever

C—SCV III Lever

Rear SCV levers have four positions:

- EXTEND
- RETRACT
- NEUTRAL
- FLOAT

FLOAT is the only position with a mechanical detent. Extend and retracts the spring automatically back to neutral when the lever is released. FLOAT has to be manually returned to neutral.

To EXTEND the cylinder, pull lever REARWARD.

To RETRACT the cylinder, push lever FORWARD.

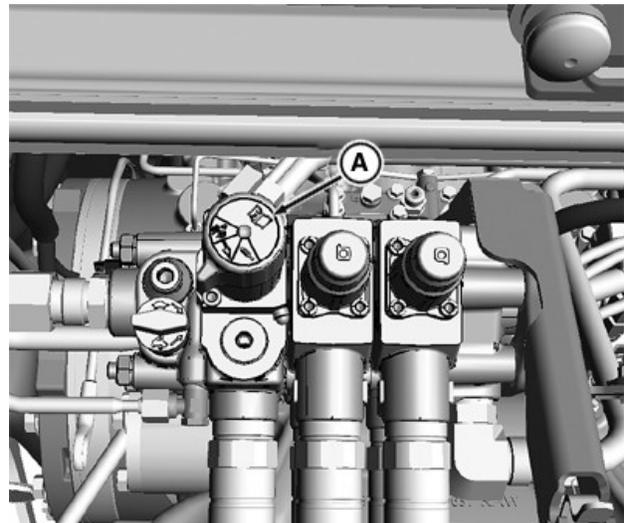
To place the cylinder in NEUTRAL position, release the lever to CENTER position.

To place the cylinder in FLOAT position, push the lever FORWARD past retract.

MSBAEPJ.0000052-19-10MAY22

Set Rear SCV Detents

Setting Lever Detents

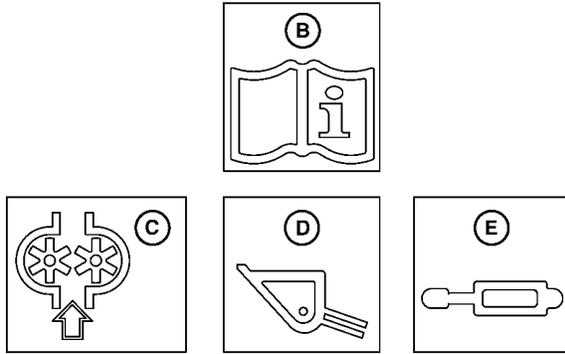


APY03276—UN—22FEB18

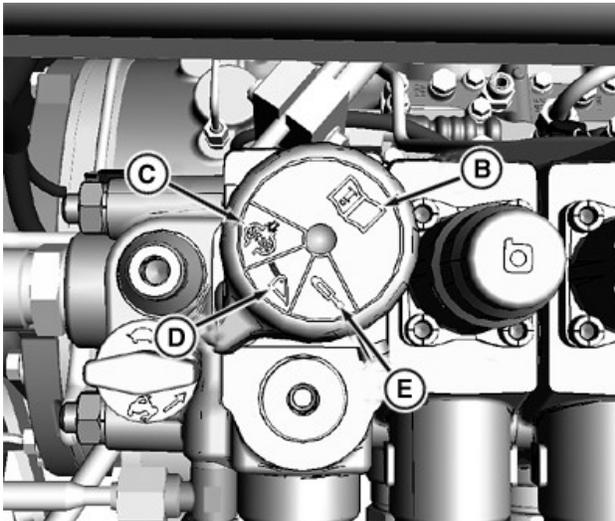
Triple Rear SCV

¹ International Standards Organization (ISO) 7241-1

² Society of Automotive Engineers



LV22102—UN—12JUN14



APY03277—UN—22FEB18

- A—SCV Knob
- B—Read Operator Manual
- C—Continuous Detent (motor)
- D—No Detent (loader)
- E—Automatic Detent (cylinder)

Section 1 of the deluxe SCV has selectable detents, used to change lever operations to meet operating requirements of different implements. Detent settings affect only extend and retract lever positions, not “FLOAT.”

NOTE: Read Operator’s Manual symbol (B) is for reference only and is not a selectable setting.

The three settings are:

- (C)—Continuous Detent (Motor)
- (D)—No Detent (Loader)
- (E)—Automatic Detent (Cylinder)

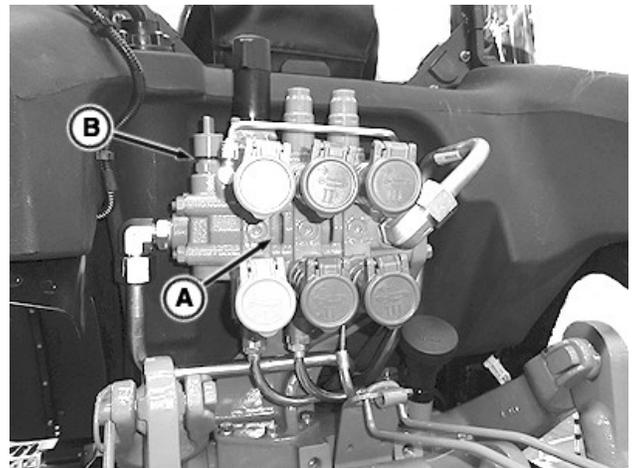
SCV I Knob Position	SCV I Lever Detent
Continuous Detent (Motor) (C) for the cylinder operation	Continuous Detent—Holds lever in operating position until manually returned to neutral.
No Detent (Loader) (D) for the loader operation	No Detent—Lever returns to neutral when released.
Automatic Detent (Cylinder) (E) for the motor operation	Automatic Detent—Lever automatically returns to neutral when

SCV I Knob Position	SCV I Lever Detent
	the cylinder reaches the end of stroke.

IMPORTANT: To avoid overheating hydraulic oil and damage to tractor, use SCV I when the long duration “continuous” (motor) operation is required. Section I of deluxe SCV has a flow control valve. When properly adjusted, valve provides flow to operate an implement at required speed while maintaining oil temperature within the normal operating range.

EKPQ1SQ,00049DB-19-10MAY22

Use Deluxe Rear SCV to Operate Hydraulic Motor



PY36886—UN—31AUG17

NOTE: To understand motor features, refer to implement the operator’s manual.

If equipped with the deluxe rear selective control valve (SCV), use SCV I retract coupler (A), with adjustable (internal) flow control valve (B) for the hydraulic motor operations.

IMPORTANT: Never regulate SCV I oil flow with an external flow control valve. Having two flow control valves in the same hydraulic circuit overheats oil, causing component malfunctions and damage.

DO NOT use deluxe rear SCV for any low flow, high-pressure applications such as the SeedStar™ variable rate drive planter motor or active downforce circuits. PTO driven hydraulic motor is recommended for low flow, high-pressure applications.

To regulate oil flow when operating a hydraulic motor with any standard valve without the adjustable flow control, use an external flow control valve.

Recommendations to Avoid Hydraulic Motor Damage

Use the hydraulic motor return coupler (if equipped) for implements having:

- Single directional hydraulic motor.
- Hydraulic motor with a low-pressure shaft seal.
- Hydraulic motor with an internal case drain.

Use the hydraulic motor case drain connection (if equipped) for implements having motor with a case drain line.

IMPORTANT: If the implement motor is not equipped with the return coupler, use FLOAT position instead of NEUTRAL lever position to stop hydraulic motor. Internal load check valve causes backpressure damage to the hydraulic motor or hoses.

Hydraulic Motor Hose Connections and Lever Operations

IMPORTANT: Use only SCV I of rear SCV for “continuous” (motor) applications. SCV I of rear SCV is for the high flow and lower pressure application (motor).

DO NOT return hydraulic motor directly to sump via the port on the differential case, except intermittent high-pressure applications, such as post pounder.



A—SCV I Lever

P19156—UN—28JUN22

1. Shut off engine.
2. Move SCV lever full forward, into FLOAT detent.
3. Connect the hydraulic motor supply hose to the retract coupler and return hose to the SCV extend, case drain or fast dump port as required by the application.
4. **Deluxe Valve:** Set SCV lever detent for the continuous “motor” operation. (See Set Rear SCV Detents in this section.)

5. Start engine.
6. To activate hydraulic motor, move SCV lever forward to RETRACT position.

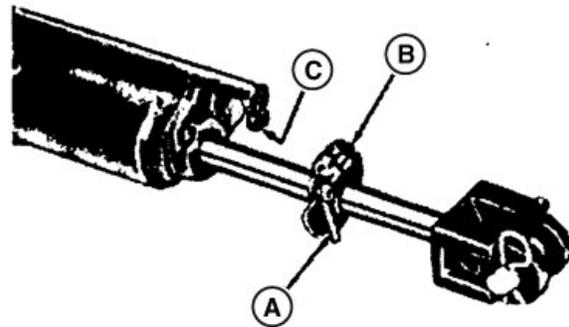
IMPORTANT: To stop hydraulic motor, do not use NEUTRAL lever position; instead use FLOAT position. Internal check valves cause backpressure damage to the hydraulic motor or hoses.

7. To stop hydraulic motor, move SCV lever fully forward into FLOAT detent.
8. Shut off engine and disconnect hoses from couplers.

IMPORTANT: Lever Operations with Power Beyond option.

EKPQ1SQ,00049DC-19-28JUN22

Adjust Cylinder Stop



APY00438—UN—28NOV17

Working stroke of the remote cylinder is adjustable. Cylinder retracts only until there is contact with the movable stop. Once contact is made, the cylinder stops automatically.

1. Lift lever (A).
2. Slide adjustable stop (B) to the desired position.
3. Push the lever down firmly. Be sure that lever does not contact stop rod arm (C).

IMPORTANT: Be sure that the stop clamps securely on rod. If it does not, lift the lever and rotate it clockwise, then push it down firmly.

MSBAEPJ,000026B-19-10MAY22

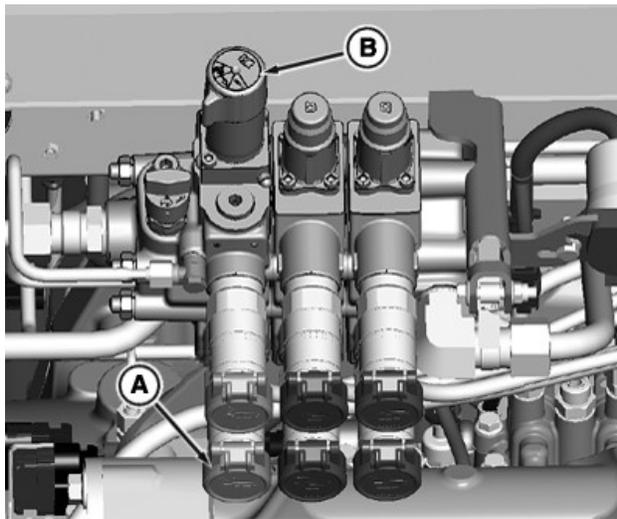
Use Rear SCV to Provide Power Beyond Oil

IMPORTANT: Power beyond connections must be used when operating any external hydraulic orbital motor with this tractor. Failure to comply with power beyond connections can overheat and possibly damage the hydraulic system of the tractor.

NOTE: If equipped with a rear selective control valve (SCV), oil can be supplied to power beyond equipment using SCV 1 on the deluxe SCV (in continuous mode) or by using power beyond kit with the standard dual rear SCV.

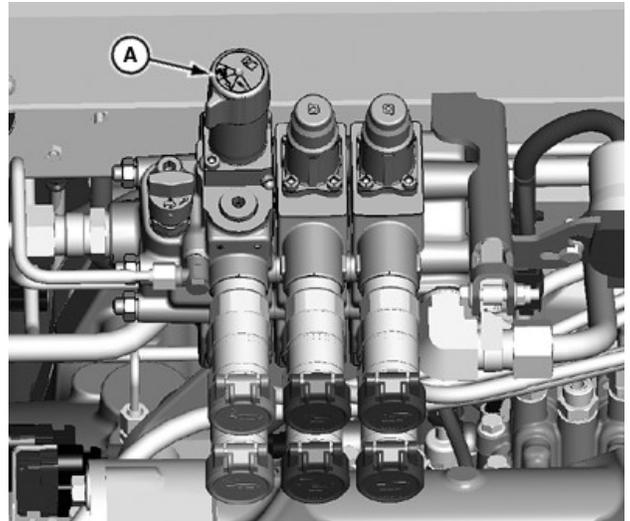
5. Move SCV lever I into extend.
6. Oil is now supplied to power beyond device.
7. To stop, de-activate the power beyond device and return SCV lever I to neutral.
8. Shut off engine and disconnect hoses.

MSBAEPJ.000026C-19-10MAY22



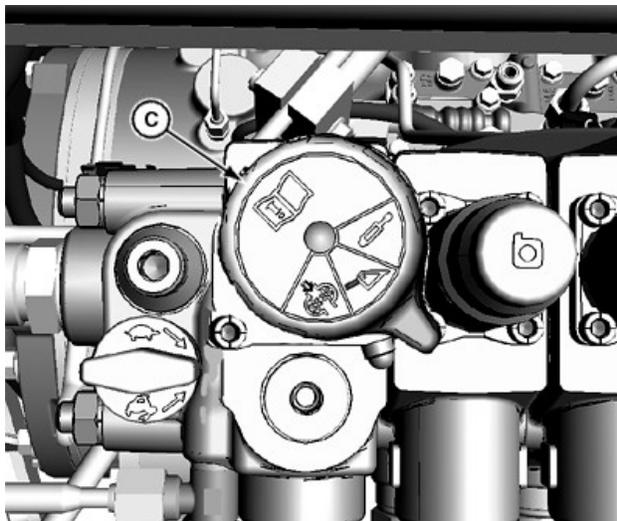
RXA0149424—UN—22JUL15

Rear SCV



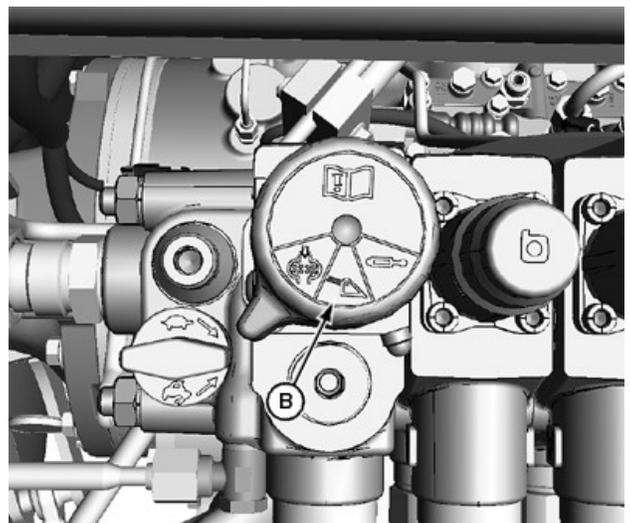
LV22106—UN—17JUN14

Rear SCV



LV22103—UN—17JUN14

1. Shut off engine.
2. Connect power beyond hose to SCV I extend coupler (A).
3. Set rear SCV I Detent (B) to "continuous" (C).
4. START engine.



LV22107—UN—17JUN14

No Detent (loader) Position

- A—SCV Detent Selector Knob
- B—No Detent (loader) Position

⚠ CAUTION: Avoid injury or death caused by falling loads. When using selective control valve (SCV) to operate loader, detent must be set in No Detent (Loader) position (B), for the loader movement to stop when the lever is released. Moving lever to a detented position would cause the loader to rise to the full height unexpectedly and the load to fall back on the operator or suddenly lower to the ground, causing crushing injury.

When using loader, always put the SCV detent selector knob (A) in no detent (loader) position (B) to prevent the unexpected machine movement.

MSBAEPJ,000026D-19-10MAY22

two-function zone (F). Two-function zones are: Boom Lower/Bucket Dump, Bucket Dump/Boom Raise, Boom Raise/Bucket Curl, Bucket Curl/Boom Lower.

3. When the lever is released to the spring-centered neutral position, mid-mount valve holds the boom and bucket in position.
4. Cylinder operating speed depends on how far from center the joystick is moved. When the lever is first moved from center, hydraulic functions operate slowly (G). Hydraulic functions move progressively faster as lever is moved farther away from center and out to the fast operating position (H).

FLOAT: Push the lever full forward into detent when FLOAT is desired. FLOAT position (I) allows loader boom to move up and down freely while traveling over the rough ground. Manually return the lever to neutral when FLOAT is no longer needed.

Transport Lock

CAUTION: When the front loader is not in use, the joystick must be locked. To lock the joystick, turn locking ring (A), and check that the joystick cannot be moved. If not done, the front loader can be actuated while the tractor is in motion, which could lead to serious accidents.



Transport Lock

LV16018—UN—28AUG12

CAUTION: To prevent loader movement, engage the joystick transport lock (A) before dismounting tractor. Joystick must be in center (neutral) position for the lock to engage.

Transport lock does not lock out switch operated third-function hydraulics, which are active anytime the key is ON.

- To lock the joystick for transport, turn the locking ring

(A) clockwise aligning the indicator line of the lock symbol to the rivet.

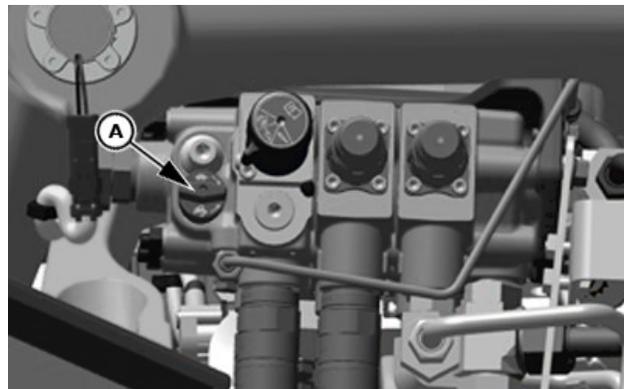
- To unlock, turn the locking ring counterclockwise, aligning the indicator line of the unlock symbol to the rivet.

MSBAEPJ,0000054-19-11JUL22

Adjust Flow Control—Rear SCV

CAUTION: Excessive operating speed can cause injury or machine damage.

Decrease flow rate if hydraulic oil overheats, remote cylinder moves too quickly, or if hydraulic motor turns too fast.



P19196—UN—07JUL22

A—Flow Control Knob

Flow control adjustment only affects the number 1 section of the deluxe rear selective control valve (SCV). This adjustment does not affect other valve sections.

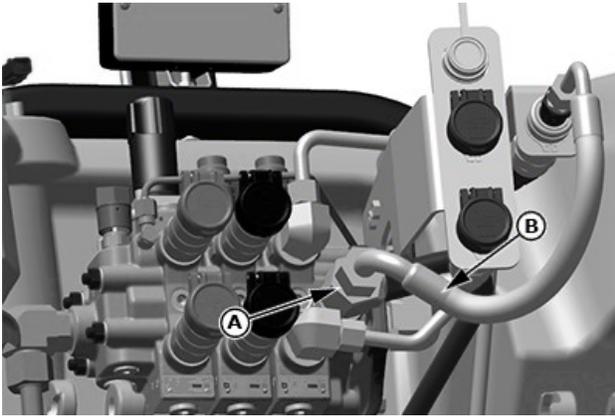
To increase flow, rotate counterclockwise.

To decrease flow, rotate clockwise.

NOTE: If the detent kicks out before end of cycle, adjust the flow control.

MSBAEPJ,0000055-19-07JUL22

Use Hydraulic Power Beyond Coupler



P19158—UN—28JUN22

Power Beyond is designed for applications where the continuous high-volume hydraulic oil flow is needed.

To use Power Beyond feature, remove the hose (B) from coupler (A) and attach to implement the RETURN port. To complete the hydraulic circuit, attach the implement “pressure” hose to open coupler (A).

When not in use, plug hose end into the coupler for storage (as shown).

Parts for this attachment are available from your John Deere dealer.

MSBAEPJ.0000056-19-28JUN22

Match Tractor Power to Implement

IMPORTANT: Tractor power should be matched to the size of certain implements. Excessive power can damage an implement, and too large an implement can damage the tractor. (Refer to your implement Operator's Manual for minimum and maximum power requirements before attaching an implement.)

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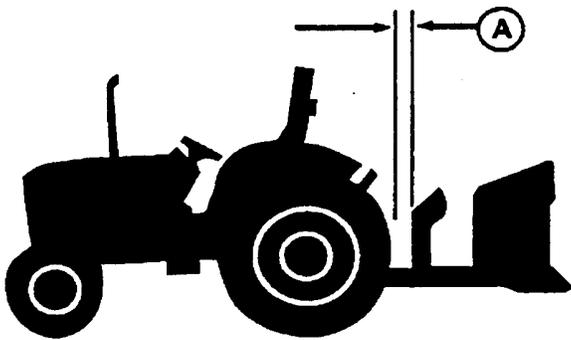
Wheels and Tires Operation

Check Implement-to-Tire Clearance

IMPORTANT: Whenever an implement, quick-coupler, or attachment is connected to the rear hitch, check the full range of operation for interference, binding, or PTO separation.

When large diameter rear tires are installed on a Tractor with a 3-Point Hitch, a quick-coupler or similar device is required to provide the adequate implement-to-tire clearance.

1. Adjust center link and lift links as necessary. See "Level Hitch" in Rear Hitch and Drawbar Operation section.
2. Adjust sway as necessary. See "Adjust Sway Blocks" in Rear Hitch and Drawbar Operation section.
3. Start engine.
4. Slowly raise and lower implement with the rear hitch fender switch or position control lever.
5. Watch for interference points and adjust rear hitch setting as required.



M47177—UN—31JAN92

6. Check for adequate clearance (A) between outside diameter of the tire and implement with hitch in the raised position.

MSBAEPJ,0000057-19-10MAY22

Tire Sidewall Information

Tire sidewalls information is useful to:

- Order a replacement tires.
- Order a new machine with a specific tires.
- Verify if tires are correct for the job.
- Read the tire inflation chart.

Reading the Sides of Tires

The information on the side of the tire includes:

Aspect Ratio — Ratio of the tire section height to tire section width.

Tire Construction Type — Radial ply, bias ply.

Load Index — Numerical code indicates the tire load-carrying capacity. Higher load index number designates the higher load capacity.

Speed Rating — Maximum speed tire is designed to travel.

Additional information that can be displayed on sidewall:

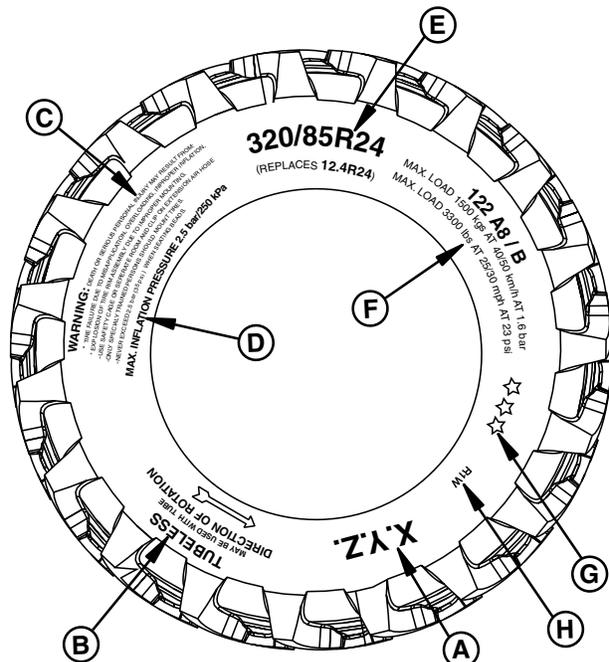
Tread Pattern — Indicates tread design and tire usage. Designs offered are all lug- or bar-type tires and are separated into one of three specifications: R1, R1W, or R2.

Direction of Rotation — Icon (usually an arrow or group of arrows) indicating tire rotation direction.

Manufacturer Name — Name of the tire manufacturer.

Max Load and Pressure Information — Maximum load a tire is permitted to carry under specified pressure and operating conditions.

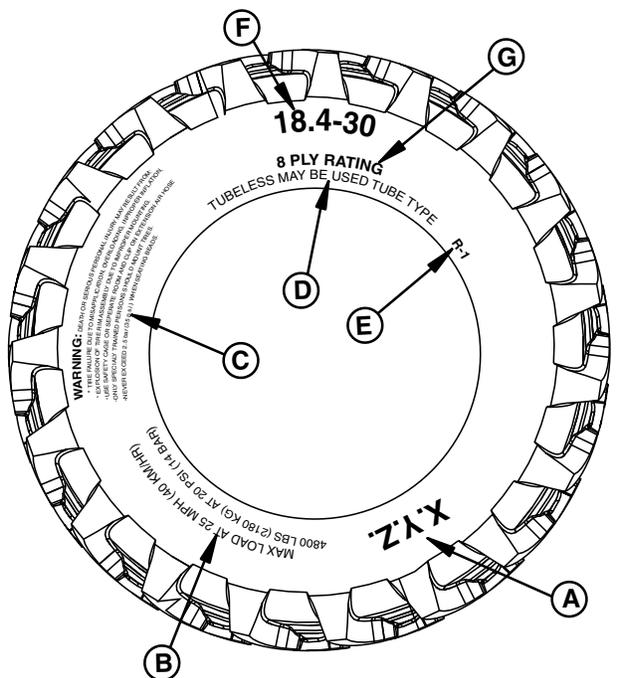
Safety Warnings — Important safety information provided by tire manufacturer.



APY14718—UN—27NOV18

Example for Radial Tire Sidewall Information

- A—Tire Manufacturer Name
- B—Tubeless/Tube Type
- C—Safety Warning
- D—Maximum Inflation Pressure Information
- E—Tire Size
- F—Maximum Load Information
- G—Star Rating
- H—Tread Designation



APY14719—UN—19NOV18

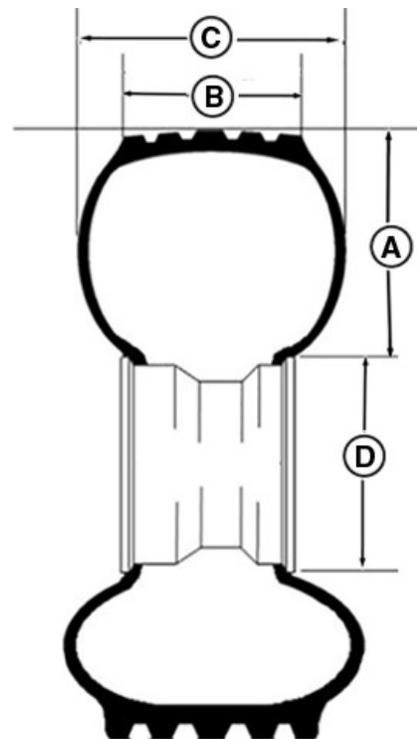
Example for Bias Tire Sidewall Information

- A—Tire Manufacturer Name
- B—Maximum Load Information
- C—Safety Warning
- D—Tubeless/Tube Type
- E—Tread Designation
- F—Tire Size
- G—Ply Rating

Tire Size Designation:

Tire size represented in one or more ways.

Dimensions such as tire section height, tire section width, rim diameter are important to consider when changing tire sizes or matching a tire to a specific piece of equipment.



APY14721—UN—20NOV18

- A—Tire Section Height
- B—Tread Width
- C—Tire Section Width
- D—Rim Diameter

Radial ply Tire Size Designation

520 / 85 R 42 158 A8
 (A) (B) (C) (D) (E) (F)

RXA0149658—UN—13AUG15

For Radial ply Tire

- A—Tire Section Width in Millimeter
- B—Tire Aspect Ratio
- C—Construction Type
- D—Rim Diameter in inch
- E—Load Index
- F—Speed Rating

Example of the load index based on the tire size:

A 480/80R46 with a 158 Load Index and an A8 speed symbol has maximum load of 4250 kg (9350 lb) at the required cold inflation pressure of 241kPa (35psi) and maximum speed of 40 km/h (25 mph).

Wheels and Tires Operation

International Load Index Numbers					
Load index	lb	kg	Load index	lb	kg
135	4800	2180	163	10700	4875
136	4940	2240	164	11000	5000
137	5080	2300	165	11400	5150
138	5200	2360	166	11700	5300
139	5360	2430	167	12000	5450
140	5520	2500	168	12300	5600
141	5680	2575	169	12800	5800
142	5840	2650	170	13200	6000
143	6000	2725	171	13600	6150
144	6150	2800	172	13900	6300
145	6400	2900	173	14300	6500
146	6600	3000	174	14800	6700
147	6800	3075	175	15200	6900
148	6950	3150	176	15700	7100
149	7150	3250	177	16100	7300
150	7400	3350	178	16500	7500
151	7600	3450	179	17100	7750
152	7850	3550	180	17600	8000
153	8050	3650	181	18200	8250
154	8250	3750	182	18700	8500
155	8550	3875	183	19300	8750
156	8800	4000	184	19800	9000
157	9100	4125	185	20400	9250
158	9350	4250	186	20900	9500
159	9650	4375	187	21500	9750
160	9900	4500	188	22000	10000
161	10200	4625	189	22700	10300
162	10500	4750	190	23400	10600

Tire Speed Rating Chart		
Speed symbol	Speed category (km/h)	Speed category (mph)
A1	5	3
A2	10	6
A3	15	9
A4	20	12.5
A5	25	15.5
A6	30	19
A7	35	22
A8	40	25
B	50	31
C	60	37
D	65	40
E	70	43
F	80	50

Tire Speed Rating Chart		
Speed symbol	Speed category (km/h)	Speed category (mph)
G	90	55

Bias Ply Tire Size Designation

18.4-30 8PR R1

A B C D

APY14720—UN—19NOV18

For Bias ply Tire

- A**—Tire Section Width in inch
- B**—Rim Diameter in inch
- C**—Ply Rating
- D**—Tread Designation

MSBAEPJ.0000058-19-10MAY22

Select Tire Inflation Pressure

Tire inflation pressure plays a vital role in determining the vehicle behavior, tractive force, tire life, and fuel consumption.

Inadequately inflated tires lead to the premature wear; over-inflated tires reduce the traction and increase the wheel slip.

Since the correct tire pressure depends on many different factors, it is not possible to make a general recommendation.

NOTE: Contact your John Deere Dealer or Tire Dealer for the tire manufacturer's inflation pressure chart.

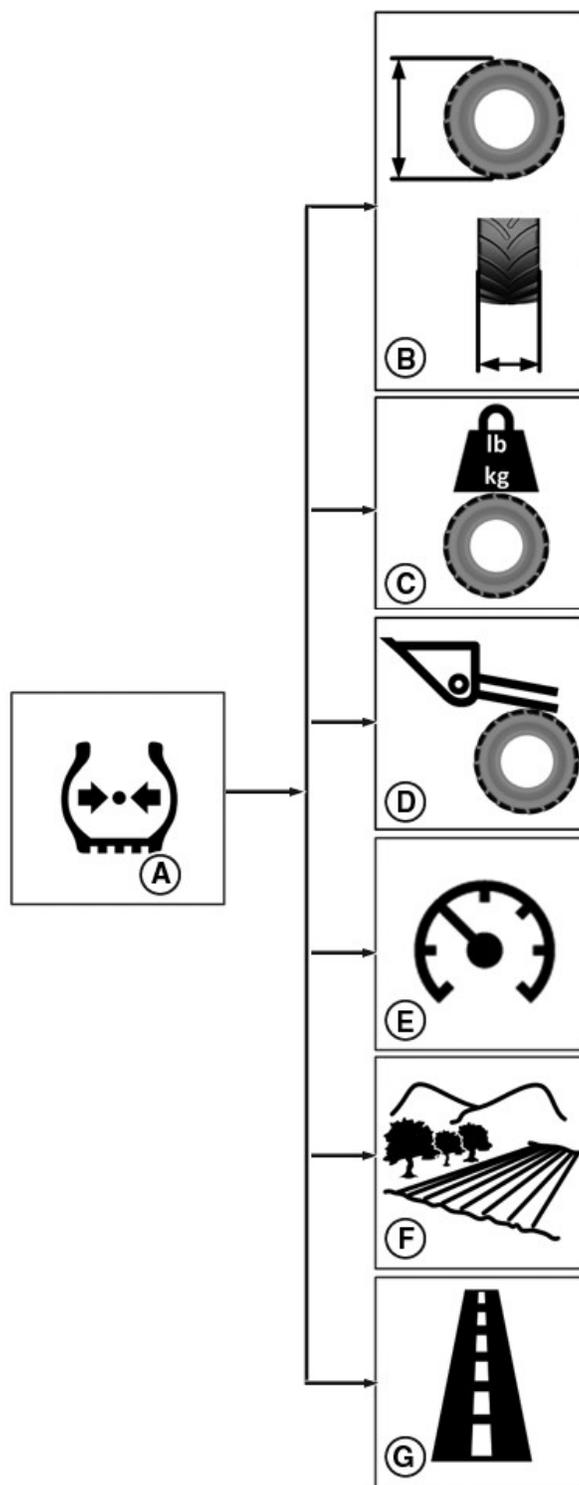
When selecting inflation pressure (A), take the following into account:

- Tire manufacturer
- Tire size (B)
- Axle load of machine (C)
- Ballast on machine (D)
- Nature of the work to be done (E)
- Soil conditions (F)
- Expected travel speed (G)
- Whether the tire is used on a front or rear wheel.

NOTE: To ascertain the pressure for specific applications, contact your John Deere Dealer or Tire Dealer for the tire manufacturer inflation pressure chart.

IMPORTANT: Tire life can decrease drastically when tires are overinflated or underinflated. Tires must never be inflated to a pressure higher than the maximum value stated on the tire.

Particular attention must be paid to inflation pressure for row-crop tires, special tires, and tires with the liquid ballast. If in doubt, obtain the correct inflation pressure from the tire manufacturer.



APY14716—UN—16NOV18
MSBAEPJ,0000059-19-10MAY22

Tire Inflation Pressure Guidelines

At least every 100 hours of operation, check tire inflation pressure while tires are cool, using an accurate dial or stick-type gauge having 10 kPa (0.1 bar) (1 psi) graduations.

If tires contain liquid ballast, use special air-water gauge and measure with the valve stem at bottom.

Maximum tire pressure is specified on the tire sidewall.

In case of furrow plowing or during hillside operation, tire pressure can be increased 28 kPa (0.28 bar) (4 psi) ABOVE maximum to prevent the tire wrinkling or buckling.

Determine correct tire pressure.

Integral implements transfer significant weight to the real axle. Always include this weight when determining correct inflation pressures. Weigh the tractor as described in order to determine the correct tire pressure:

Rear Mounted Implement — The front axle must be weighed with implement lowered. The rear axle must be weighed with the implement raised.

Front-Mounted Implement — The front axle must be weighed with implement raised. The rear axle must be weighed with the implement lowered.

Front and Rear Mounted Implement — Weigh the tractor with front and rear implements both raised.

Set tire inflation pressures according to the measured weight. Ballasting and tire inflation pressure must be adjusted when operating the condition change.

Altering tire inflation pressure

If the weight of the load changes, then recalculate the minimum tire pressure.

NOTE: Contact your John Deere or Tire Dealer for the inflation pressure chart.

Tractors operating with a loader increase front tire pressure values 30 kPa (0.3 bar) (4 psi) above the values listed to compensate for the weight transfer.

Reduce inflation pressure when using towed implements.

Tractors with heavy hitch-mounted implements that require additional front cast-weights to maintain steering stability require increased front and rear tire inflation pressure to carry the increased weight.

MSBAEPJ,000005A-19-10MAY22

Check Tire Inflation Pressure

Check tires daily for damage or noticeably low pressure.

IMPORTANT: Always check inflation pressure with accurate tire gauge and prevent the over-inflation. Over-inflation reduces performance and increases strain of both tire and rim.

Consider Following When Inflating Tires:

1. All inflation pressures are calculated for 29 km/h (18 mph) travel speeds for both diagonal (bias) ply and radial ply tires.
2. Correctly inflated radial tires show a large deflection of the sidewall or bulges. This is normal and will not damage the tire if the inflation pressure is maintained.
3. Inflation pressure less than 80 kPa (12 psi) should be monitored regularly because of the increased risk of low-pressure air leaks (especially due to leaking the valve cores).
4. Tires run as singles in high traction conditions sometimes experience bead slip if the bead was not fully seated or if too much lubricant was used to mount the tire. Increasing the inflation pressure compensates for this condition but will not cause the reduced traction. Consult your tire dealer if this problem occurs.
5. If higher load capacities are needed, contact your John Deere dealer for the tire manufacturers load information.
6. Consult your Tire Dealer for inflation pressure values.

The steps for determining the correct tire inflation pressure are:

NOTE: Contact your John Deere or Tire Dealer for the inflation pressure chart.

IMPORTANT: Correct inflation contributes to a high level of traction and long life by maintaining as large as the contact area or "footprint" between the tire and the surface as possible. Because inflation has such an impact on performance, it is important to advise your operators on the correct procedure for inflating tires to the correct pressure for load.

1. Read the side of the tire to determine the tire size designation including the aspect ratio. The aspect ratio tells you whether the tire is Conventional, Wide Base, or Low Profile.
2. Determine the tire code/type.
3. Determine whether the tire is bias ply or radial.
4. Locate the correct tire load and inflation chart.

NOTE: Contact your John Deere or Tire Dealer for the inflation pressure chart.

5. Use the tire size and aspect ratio to locate the correct row on the tire inflation chart.

NOTE: Contact your John Deere or Tire Dealer for the inflation pressure chart.

6. Determine the machine weight and load weight.
7. Locate the intersection on the inflation chart of the tire size/aspect ratio and the weight to determine the inflation pressure (pounds per square inch).

NOTE: Contact your John Deere or Tire Dealer for the inflation pressure chart.

MSBAEPJ.000005B-19-10MAY22

Changing to a Different Tire Size

IMPORTANT: Refitting is only permissible to a tire combination that is authorized for the tractor. It may be necessary to adjust the transmission ratio or to exchange the steering valve.

NOTE: When changing tire sizes, it is recommended to have your John Deere dealer ensure that the machine is properly set up.

- Changing to different tire size make considerable adjustments necessary. The scope of this depends on the tractor's configuration.
- Any change of tire combination must conform to a combination authorized for that particular machine.
- Depending on the new tire size, change to the MFWD ratio is be required.

Be sure to take all the information in the following list into account and follow the recommendations in the right column.

Symptom	Problem	Solution
The indicated speed is lower or higher than the actual speed.	Parameters to determine the wheel speed do not fit to the new tires.	An adjustment of the top speed becomes essential. Entry of the correct parameters by an authorized dealer.
The emergency steering characteristics may get worse.	Change to different tires on the front wheels may cause increased steering forces. This has effect in particular on the steering characteristics without the motor support.	An authorized dealer must check whether a different steering valve is required for using the new front tires. If a non-suitable steering valve is used, the operating license becomes void.
Increased wear of tires and front-wheel drive clutch	The value for the front wheel lead of the front wheels may get worse.	Check of the tire combination by an authorized dealer. If necessary, retrofitting of a fitting transmission ratio.

Symptom	Problem	Solution
Strains in the drivetrain may occur.	The transmission ratio between rear and front axle does not fit.	Check of the tire combination by an authorized dealer. If necessary, retrofitting of a fitting transmission ratio.
Tires may come into contact with tractor components.	Modifications to tread width or tire size make a readjustment of the steering stop and fenders necessary.	An authorized dealer must adjust the steering stop and fenders.
The load capacity of the front tires may get worse.	If tires with a smaller load index are used, the load capacity decreases.	Customized tasks can no longer be performed.
The oil sight glass shows a wrong oil level.	If you change to the different tire size, the height ratio of rear to the front axle may change. This effects on the oil level.	An authorized dealer must check whether exchange of the oil sight glass becomes necessary.
The automatic switch-off¹ of the front-wheel drive does not function.	The maximum shutoff angle for the automatic engagement and disengagement of the front-wheel drive depends on the tire type, tread width, and steering stop and can be less than the angle that can be selected on display.	Set the shutoff angle for the automatic engagement and disengagement. See "Engage Front-Wheel Drive" in Section 50A.

MSBAEPJ,000005C-19-10MAY22

Tighten Wheel-Axle Hardware Correctly

⚠ CAUTION: NEVER operate the tractor with a loose rim, wheel, hub, or axle.

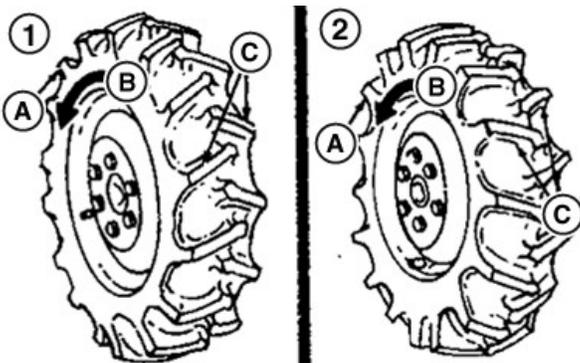
Anytime hardware is loosened, retighten to the specified torque.

NOTE: Follow checking procedure when a new tractor is first used or wheels have been off.

1. After driving tractor about 100 m (109 yd), and before placing it under load, tighten hardware to the specified torque.
2. Check hardware after working 3 hours and again after 10 hours.
3. Check all hardware frequently and keep it tight.

MSBAEPJ,0000262-19-10MAY22

Select Front Tire Rolling Direction



APY00536—UN—17JAN18

Left-Hand Tire (viewed from rear)

A—Front Tire (viewed from rear)
 B—Rolling Direction of Tire
 C—Tire Lug

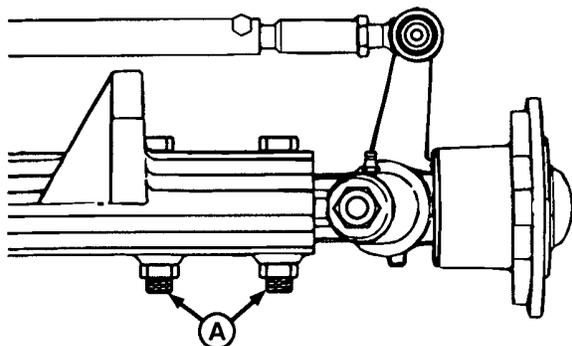
(1)—Under most conditions, front tires (A) must be mounted with the direction of tire lugs (C) the same as the tire rolling direction (B).

(2)—If the tractor is used for loader operations, lug direction can be reversed on the MFWD axle for the improved tire wear.

MWG7GFH,000002C-19-10MAY22

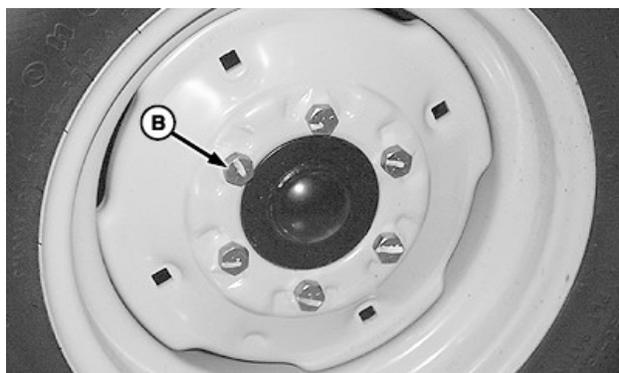
¹ If equipped

Tighten Bolts—Adjustable Front Axle



Right-Hand Side Shown

LV812—UN—20JUL94



LV9755—UN—04SEP04

- A—Axle-to-Knee Bolt
- B—Disk-to-Flange Bolt

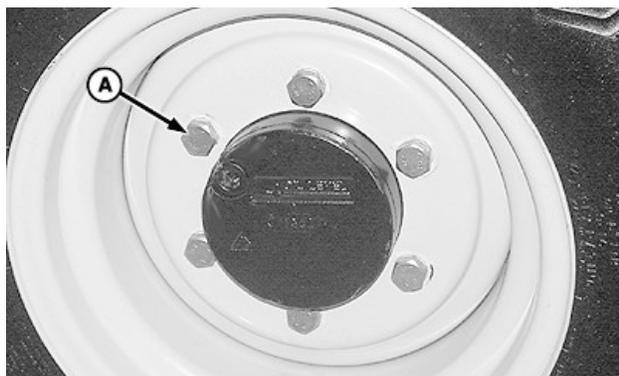
Tighten bolts (A and B) to specifications.

Specification

Adjustable Front Axle-to-Knee
Bolts (A)—Torque. 400 N·m (295 lb·ft)
Adjustable Front Axle Disk-to-
Flange Bolts (B)—Torque. 175 N·m (130 lb·ft)

PP71895.00006A4-19-31JAN18

Tighten Bolts—MFWD Axle



LV9756—UN—04SEP04

- A—MFWD Wheel Disk-to-Hub Bolt

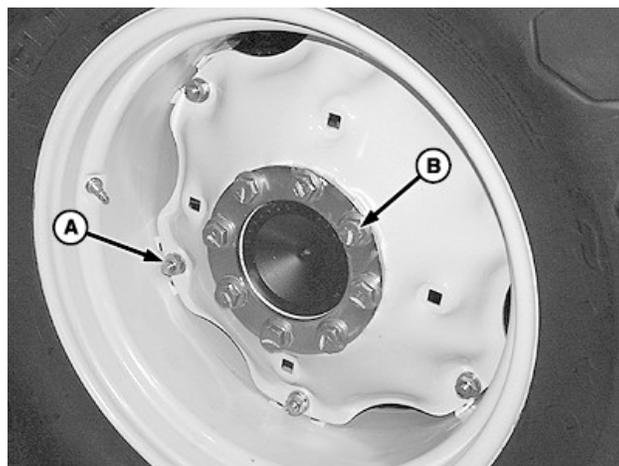
Tighten hardware (A) to specifications.

Specification

MFWD Wheel Disk-to-Hub Bolts
(A)—Torque. 300 N·m (220 lb·ft)

PP71895.0001190-19-28NOV18

Tighten Bolts—Rear Axle



LV9757—UN—04SEP04

- A—Rear Wheel Rim-to-Disk Nut
- B—Rear Wheel Disk-to-Hub Bolt

Tighten the hardware (A and B) to specifications.

Specification

Rear Wheel Rim-to-Disk Nuts
(A)—Torque. 245 N·m (180 lb·ft)
Rear Steel Wheel Disk-to-Hub
M20 Bolts—Torque. 600 N·m (445 lb·ft)

MWG7GFH.000002D-19-10MAY22

Tread Settings—Multi-Position Rear Wheels

Wheel tread on the rear axle with multi-position wheels can be adjusted by repositioning or exchanging the rims or by reversing the wheel disks.

Wheel tread can also be adjusted by exchanging the complete wheel to the opposite side of the tractor. This maneuver allows the change from disk-dished-in to disk-dished-out operations without disassembling the wheel. When changing rear wheels from one side to the other, the arrow on the sidewall of tire points in the direction of forward rotation.

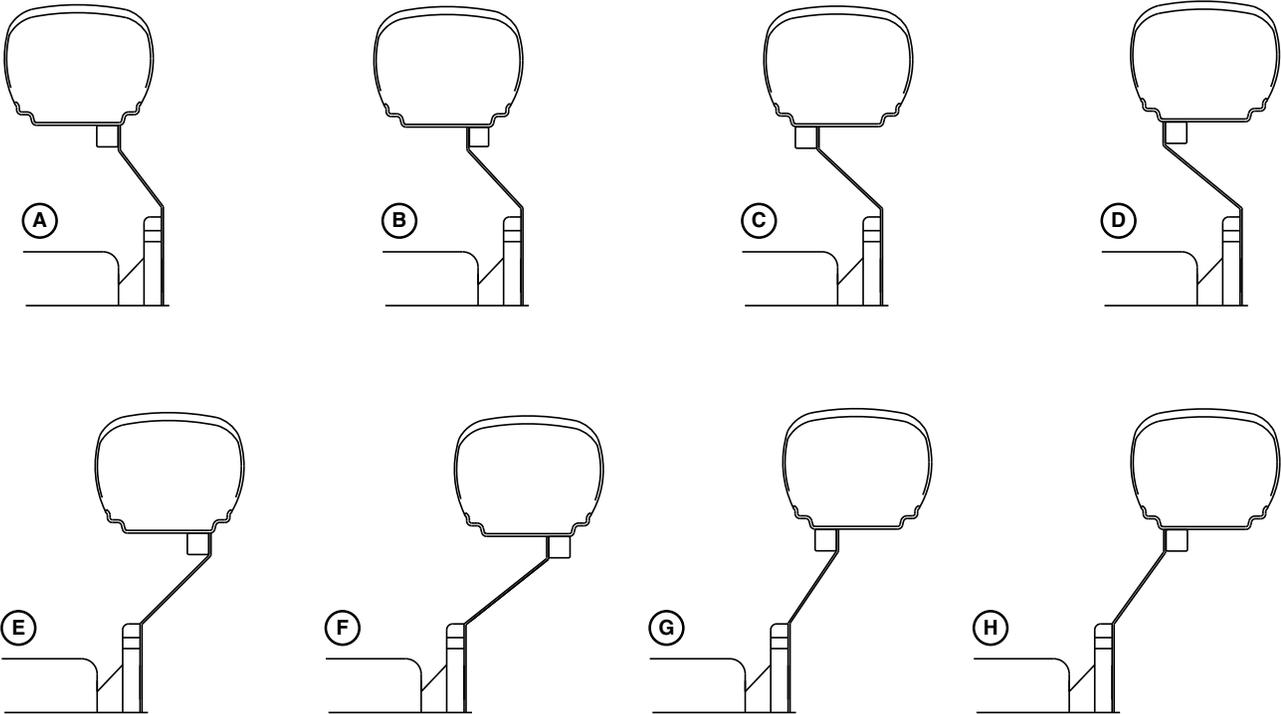
The relationship of the wheel disk and rim in obtaining different tread settings is shown in the diagrams.

Study the diagrams before attempting to change tread settings to save unnecessary labor.

IMPORTANT: After setting wheel spacing, tighten the rear wheel disk-to-hub and rear wheel rim-to-disk hardware to specification. Drive tractor 100 m (109 yd) and tighten again.

Specification

Rear Wheel Rim-to-Disk Nuts—Torque.	245 N·m*** (180 lb·ft)
Rear Wheel Disk-to-Hub M20 Bolts—Torque.	600 ***N·m (445 lb·ft)



LV8610—UN—28AUG03

MULTI-POSITION REAR WHEELS—TREAD WIDTH (Centerline-to-Centerline)								
Tire Size	Wheel Configuration							
	A	B	C	D	E	F	G	H
12.4-24 8PR R1	N/A	N/A	997 mm	1102 mm	1189 mm	1294 mm	1392 mm	1497 mm
14.9-28 10PR R1	N/A	N/A	997 mm	1102 mm	1189 mm	1294 mm	1392 mm	1497 mm
380/70R24 R1W	N/A	N/A	997 mm	1102 mm	1189 mm	1294 mm	1392 mm	1497 mm
280/85R28	N/A	N/A	997 mm	1102 mm	1189 mm	1294 mm	1392 mm	1497 mm
420/65R28	N/A	N/A	997 mm	1102 mm	1189 mm	1294 mm	1392 mm	1497 mm

MWG7GFH.000002E-19-20JUL22

Tread Settings—Two-Position MFWD Wheels

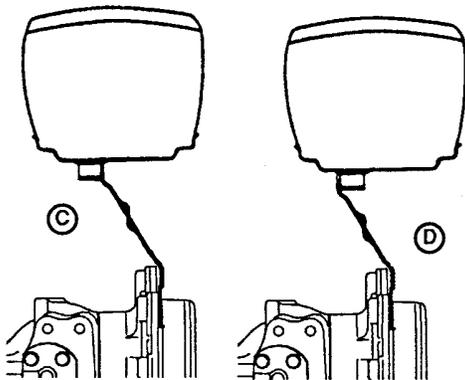
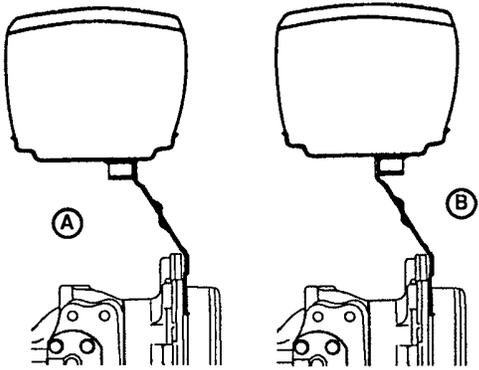
Wheel tread on the MFWD axle can be adjusted by exchanging the wheels from side-to-side.

The relationship of the wheels is shown in the diagrams.

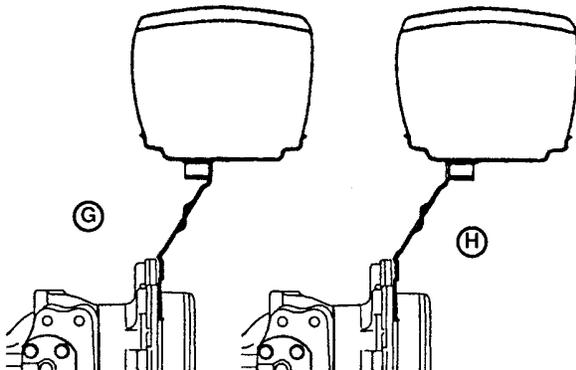
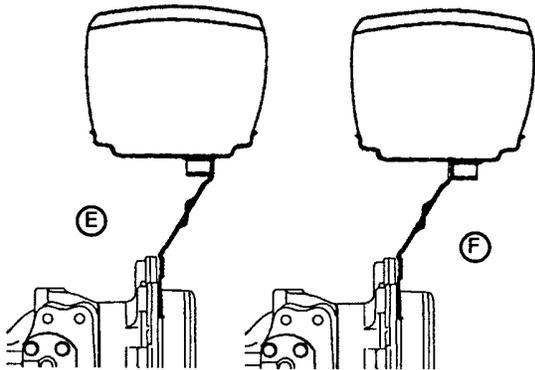
IMPORTANT: After setting wheel spacing, tighten MFWD wheel disk-to-hub bolts to specification. Drive tractor 100 m (109 yd) and tighten again.

Specification

MFWD Wheel Disk-to-Hub	
Bolts—Torque	300 N·m (220 lb·ft)



LV601—UN—22APR94



LV602—UN—22APR94

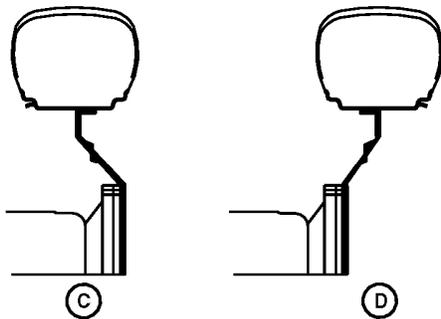
Wheels and Tires Operation

TWO-POSITION MFWD WHEELS—TREAD WIDTH (Centerline-to-Centerline)		
Tire Size	Wheel Position	
	Min	Max
8.0	1077	1207
9.5-16	1100	1163
10.5/80-18	1094	1190

TWO-POSITION MFWD WHEELS—TREAD WIDTH (Centerline-to-Centerline)		
Tire Size	Wheel Position	
	Min	Max
210/95R16	1077	1207
280/70R18	1194	1190

PP71895.00006A9-19-20JUN22

Tread Settings—Adjustable Front Axle



LV1515—UN—05MAR96

Front rims are offset. With some tires, this provides two tread spacings, at each axle setting.

IMPORTANT: After setting wheel spacing, tighten the adjustable front axle wheel disk-to-flange bolts to specification. Drive tractor 100 m (109 yd) and tighten again.

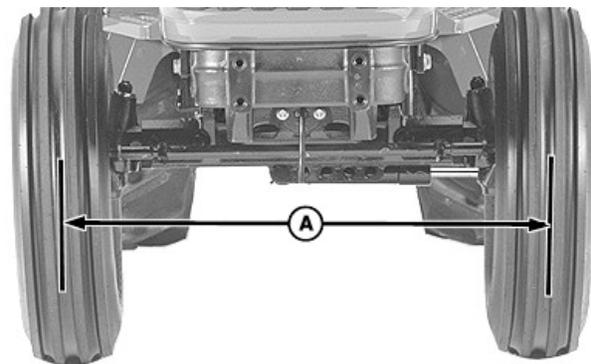
Specification

Adjustable Front Axle Wheel

Disk-to-Flange Bolts—Torque. 175 N·m
(130 lb-ft)

MSBAEPJ,000026E-19-21JUL22

Check Toe-In—Adjustable Front Axle



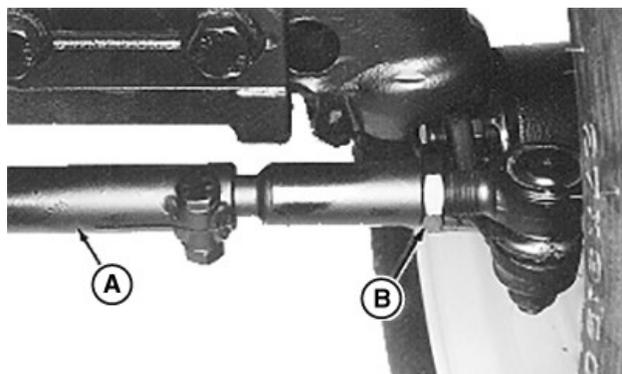
LV9758—UN—04SEP04

A—Front Axle Toe-In Distance

1. Park machine on a flat, level surface.
2. Turn steering wheel so front wheels are in the straight-ahead position. Stop the engine.
3. Measure distance (A) between tires at the hub level in the front of axle. Record measurement and mark the tires.
4. Move tractor back about 1 m (3 ft), so the mark is at the hub level behind the axle. Again, measure distance between tires at the same point on tire. Record measurement.
5. Determine the difference between front and rear measurements. If the front measurement is smaller, toe is in. If the rear is smaller, toe is out.
6. Distance (A) at the front of tires must be 3—6 mm (1/8—1/4 in) less than distance measured at the rear of tires. Adjust the toe-in if necessary. (See Adjust Toe-In—Adjustable Front Axle in this section.)

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Adjust Toe-In—Adjustable Front Axle



APY00568—UN—02FEB18

Front Left-Hand Side Shown

1. Loosen lock nuts (B) on both ends of tie rod.
2. Adjust the inner tube (A) to lengthen or shorten the tie rod until the toe-in is 3 to 6 mm (1/8 to 1/4 in).

Tie Rod Rotation	Approximate Change in Toe-In
1/2 turn	8 mm (5/16 in)
1 turn	16 mm (5/8 in)

3. Tighten lock nuts (B) to specification. Do not overtighten as damage to the tube can occur.

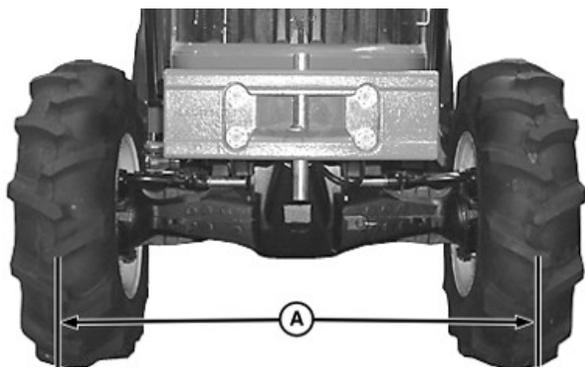
Specification

Front Wheel Drive Tie Rod Lock

Nut—Torque 140 N·m (103 lb-ft)

MSBAEPJ,000026F-19-10MAY22

Check Toe-In—MFWD



LV12695—UN—03MAY05

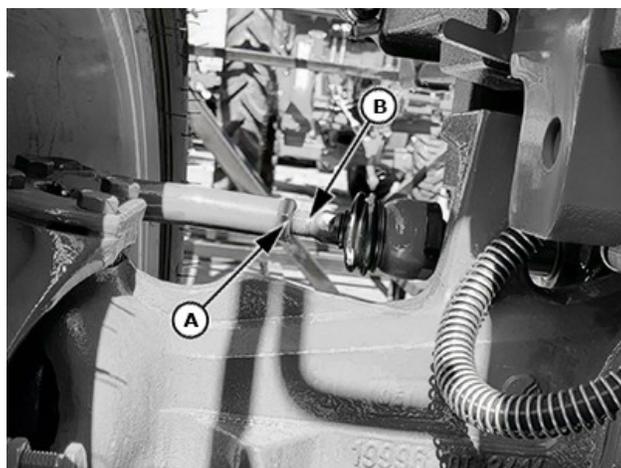
A—MFWD Axle Toe-In Distance

1. Disengage MFWD and park tractor on smooth, level surface. Steer front wheels straight ahead. Stop the engine.
2. Measure distance (A) between the centerline of tires at the hub level in the front of axle, using an outside bar of each tire or an inside bar of each tire. Record measurement and mark the tires.

3. Move tractor back about 1 m (3 ft), so the mark is at the hub level behind the axle. Again, measure distance between tires at the same point on tire. Record measurement.
4. Determine the difference between front and rear measurements. If the front measurement is smaller, toe is in. If the rear is smaller, toe is out. The difference may be in either direction (toe-in or toe-out), but must be less than 3 mm (1/8 in). Adjust toe-in if necessary. (See Adjust Toe-In—MFWD in this section.)

MSBAEPJ,0000270-19-10MAY22

Adjust Toe-In—MFWD



P19166—UN—30JUN22

Front Left-Hand Side Shown

A—Tie Rod Lock Nut (2 used)

B—Inner Rod

1. Loosen lock nuts (A) on both ends of tie rod.
2. Adjust both sides equally by rotating the inner rod (B) to lengthen or shorten the tie rod, as needed, to obtain toe-in or toe-out of less than 3 mm (1/8 in).

Tie Rod Rotation	Approximate Change
1/8 turn	4 mm (3/16 in)
1/4 turn	8 mm (3/8 in)
1/2 turn	16 mm (5/8 in)

3. Tighten lock nuts to specification.

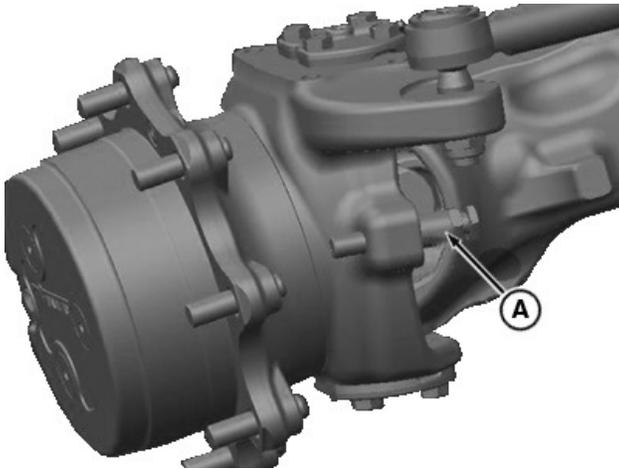
Specification

MFWD Tie Rod Lock

Nuts—Torque 120 N·m (88 lb-ft)

MSBAEPJ,0000271-19-30JUN22

Steering Angle - CARRARO



A—Bushing

PY44480—UN—03AUG17

IMPORTANT: Bush needs to be removed to increase the steering angle from 46 degree till 60 degree.

shqw455,1655760535678-19-20JUN22

steering stop (C). It may be necessary to shorten the stop bolt (B) in order to obtain the maximum turning angle.

5. Tighten steering stop bolt retaining lock nut (A) as per specification.
6. Turn wheel fully to the left. Impact knuckle housing to steering stop five times.
7. Tighten steering stop bolt retaining nuts again to specification.

Specification

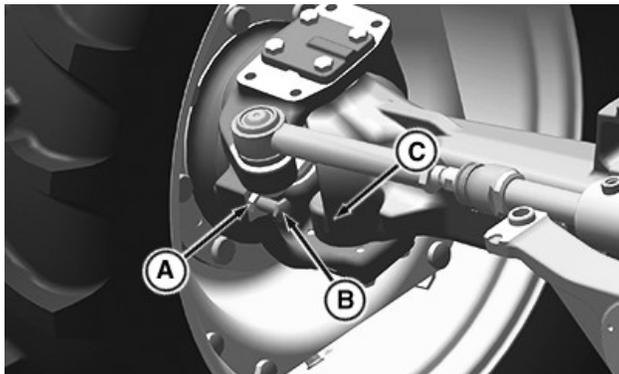
Steering Stop Bolt Retaining
Lock Nut—Torque. 125 N·m (92 lb·ft)

8. Repeat the steps for the right side.

NOTE: Wide tread settings and large tire sizes increase turn radius slightly.

shqw455,1655760496286-19-20JUN22

Set MFWD Steering Stops Turning Radius



PY40207—UN—13FEB17

Set MFWD Steering Stops Turning Radius

- A—Steering Stop Locking Nut
- B—Steering Stop Bolt
- C—Steering Stop

1. Raise and support the front of the tractor so the MFWD axle can be oscillated to its stops.
2. Slowly turn the steering wheel to the left until the steering cylinder travel has reached its limit, the steering stops, or the tires are within 25 mm (1 in.) of the grille screen or the side panels.
3. Raise the left side of the axle against its stop and measure the clearance between the tire and the nearest tractor component. The distance might not be less than 25 mm (1 in.).
4. Loosen the locking nut (A) on the steering stop and adjust the steering stop bolt (B) so it touches the

Use Correct Tire Combinations

In order to achieve the maximum drawbar pull, maintain the proper steerability, and reduce the tire wear and fuel consumption, comply with the correct tire combinations shown on TIRE COMPATIBILITY CHART.

Mechanical front wheel drive front tires show excessive wear in comparison with the rear tire, the front tires must be replaced in order to maintain the predetermined tire ratio.

IMPORTANT: When replacing tires, consult your tire dealer. Mixing worn and new tires, bias and radial, or tires of different diameters or loaded radii can reduce the tire life and overall tractor performance.

Using any tire combination, other than the ones listed on the TIRE COMPATIBILITY CHART, could result in the premature tire and driveline wear due to excessive underspeed or overspeed.

MSBAEPJ,000005F-19-10MAY22

Tire Combinations

IMPORTANT: If you replace tires, always consult your John Deere dealer. Combining worn and new tires or tires with the different diameter or radius under load can shorten the tire service life or reduce the tractor performance. Using any tire combination different from the ones listed in the tire compatibility chart can cause premature wear of tires or drivetrain due to excessive or insufficient speed.

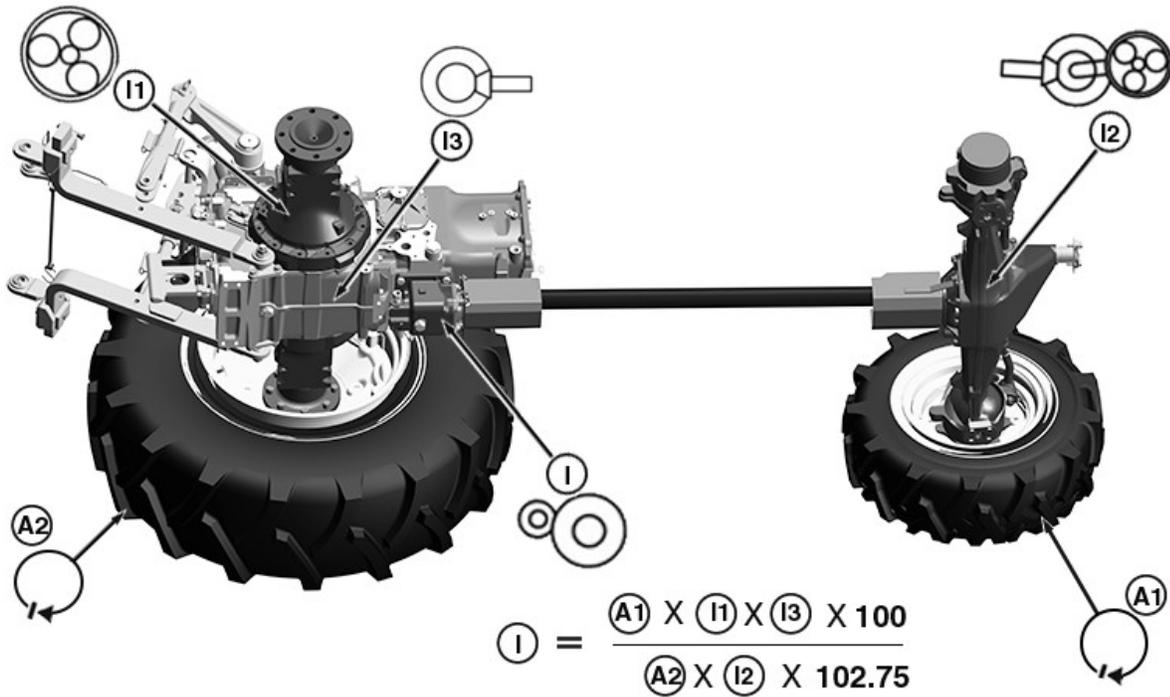
Tire Combinations	Tire	Tire Size/ Load Capacity/Speed Category	Rolling Radius (mm)	Tire Load Rating (per Tire) (Kg) at 40 km/h	Maximum Permissible mass per axle (Kg)	Maximum Permissible mass of the vehicle (Kg)
	ear	(135D/138A8)				
3	Front	8.0-16 (91A6/6 PR)	390	490	980	4800
	Rear	12.4-24 (121A8/8 PR)	550	1450	2900	
4	Front	9.5-16 (95A6/6 PR)	400	620	1240	4800
	Rear	14.9-24 (128A8/8 PR)	600	1800	3200	
5	Front	10.5/80-18 (119B/10 PR)	425	1630	3260	4800
	Rear	14.9-28 (130A8/8 PR)	650	1900	3200	

MSBAEPJ,0000060-19-14JUL22

Tire Combinations

Tire Combinations	Tire	Tire Size/ Load Capacity/Speed Category	Rolling Radius (mm)	Tire Load Rating (per Tire) (Kg) at 40 km/h	Maximum Permissible mass per axle (Kg)	Maximum Permissible mass of the vehicle (Kg)
1	Front	210/95R16 (106A8/B)	390	950	1900	4800
	Rear	280/85R28 (118A8/B)	575	1320	2640	
2	Front	280/70R18 (114A8/B)	410	1180	2360	4800
	Rear	420/65R28	600	2360	3200	

Calculate Tire Combinations (Graphic)



APY14717—UN—19NOV18

A1—Rolling Circumference of Front Tires
 A2—Rolling Circumference of Rear Tires
 I—Ratio of the Front-Wheel Drive Gear Pair

I1—Rear Axle Ratio
 I2—Overall Ratio of Front-Wheel Drive Axle
 I3—Ratio of Differential

This illustration shows the relationship of components for calculating the transmission ratio.

PP71895.0001191-19-28NOV18

Ballasting

Plan for Maximum Productivity

Proper ballasting is an important factor in the tractor performance. Maximum productivity can be achieved only if the tractor weight is appropriate for the job.

John Deere FMO (Fundamentals of Machine Operations) Tractors, discusses methods of determining the correct tractor weight and ballast selection. FMO—Machinery Management includes information on tractor and implement matching and increasing productivity. Your John Deere dealer can assist you with information on these subjects.

MSBAEPJ,0000272-19-10MAY22

Selecting Ballast Carefully

Match amount of ballast needed for each job. What is right for one job may be wrong for another job. Ballast for traction and stability.

Factors determining amount of ballast:

- Soil surface—loose or firm
- Type of implement—integral/semi-integral or towed
- Travel speed—slow or fast
- Tractor power output—partial or full load
- Tire size

Ballasting MFWD-Equipped Tractors

Ideal tire slippage for MFWD-equipped tractors is 8—12%. To reduce wheel slip to this level, more weight is needed on the front than with two-wheel-drive tractors. The ideal weight split is 40% front, 60% rear, of total tractor weight. In some cases liquid ballast will be needed in front tires to obtain this weight split.

If equipped with a loader, provide adequate ballast to rear wheels.

NOTE: Implement codes are used to determine proper ballast for stability and steering control. Refer to the implement code in your implement operator's manual, along with USING IMPLEMENT CODES in this section, to determine the minimum number of front weights that are required for your tractor model. In some cases, additional front ballast is required for optimum field performance. If more assistance is needed, see your John Deere dealer.

Matching Ballast to Work Load

Use no more ballast than necessary, and remove ballast when it is no longer needed.

Rather than weighing tractor down to pull heavy loads, try to reduce load. Pulling a lighter load at a higher speed is more economical and more efficient.

Too Little Ballast		Too Much Ballast	
1.	Excessive wheel slip	1.	Increased load
2.	Power loss due to churning soil	2.	Power loss due to carrying extra weight
3.	Tire wear	3.	Tire strain
4.	Fuel waste	4.	Soil compaction
5.	Lower productivity	5.	Fuel waste
		6.	Lower productivity

Ballast Limitations

Ballast should be limited by either tire capacity or tractor capacity. Each tire has a recommended carrying capacity which should not be exceeded (see Wheels, Tires and Treads section). If a greater amount of weight is needed for traction, a larger single tire should be considered.

Ballast can be added as either liquid or cast iron.

Checking for Correct Ballast

The best way to check for correct ballast is to measure amount of travel reduction (% slip) of the drive wheels. Under normal field conditions, travel reduction should be 10—15% (8—12% for MFWD tractors)..

Add more weight to drive wheels if slip is excessive. If there is less than minimum recommended slip, weight should be removed.

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Ballast Front End for Transport

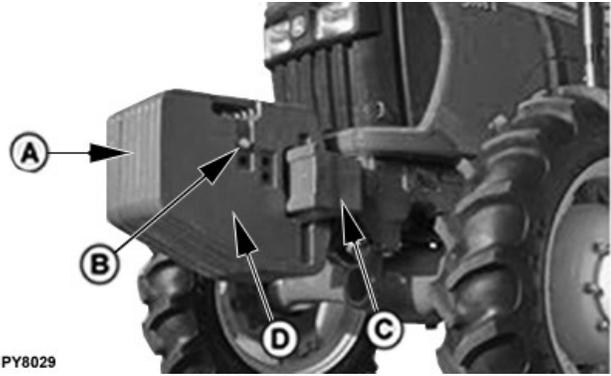
CAUTION: Additional front ballast may be needed for transporting rear-mounted implements. When implement is raised, drive slowly over rough ground, regardless of how much ballast is used.

CAUTION: Weights are heavy. Use proper lifting equipment. Approximate weight of starter weight (C). Approximate weight of QUIK-TATCH™ weights (D).

Specification

C - Starter Weight (Ballast)—Weight.	55 kg (121 lb) Each
D - QUIK-TATCH™ Weight (Ballast)—Weight.	45 kg (99 lb) Each

QUIK-TATCH is a trademark of Deere & Company



- A—Ballast Center
- B—Ballast Retaining Bolts
- C—Starter Weight
- D—QUIK-TATCH Weights

Installing QUIK-TATCH™ Weights: QUIK-TATCH™ weights can be installed on the front of the tractor.

One starter weight and up to eight QUIK-TATCH™ weights can be installed.

1. Install weights in pairs, one on each side of center (A).
2. To hold weights in place, run retaining bolts (B) through holes from side-to-side. Tighten to specification.

Specification

Ballast Weights Retaining	
Bolts—Torque.	230 N·m (170 lb-ft)
Starter Weight Bolts—Torque.	385 N·m (284 lb-ft)

shqw455,1656463372956-19-28JUN22

Ballast Two-Wheel Drive Tractors

Add weight to the front end if needed for stability. Heavy pulling and heavy rear-mounted implements tend to lift front wheels. Add enough ballast to maintain steering control and prevent the tip-over. The ideal weight split is 30% for front and 70% for rear, of the total tractor weight.

Refer to the implement Operator's Manual, along with Use Implement Codes in this section, to determine the minimum number of front weights that are required for your tractor model.

MSBAEPJ,0000063-19-12MAY22

Ballast MFWD-Equipped Tractors

Ideal tire slippage for MFWD-equipped tractors is 8—12%. To reduce the wheel slip to this level, more weight is needed on the front than with two-wheel-drive tractors. The ideal weight split is 40% for front and 60%

for rear, of total tractor weight. In some cases, liquid ballast is needed in front tires to obtain this weight split.

NOTE: Implement codes are used to determine proper ballast for stability and steering control. Refer to the implement code in your implement Operator's Manual, along with Use Implement Codes in this section, to determine the minimum number of front weights that are required for your tractor model. In some cases, additional front ballast is required for the optimum field performance. If more assistance is needed, see your John Deere dealer.

MSBAEPJ,0000064-19-12MAY22

Determine Maximum Rear Ballast

IMPORTANT: DO NOT overload tires. If the weight of the tire exceeds the maximum, reduce the load or install heavier ply tires. To extend drivetrain life, avoid excessive soil compaction and rolling resistance, avoid adding too much ballast. Ballast should never exceed the weight required to provide traction for continuous full power loads in the third gear for 2-WD tractors. Remove ballast if tractor engine labors when pulling heavy loads in the first three gears. When using front wheel drive, ballasting to one gear lower is appropriate.

NOTE: Use official John Deere tire suppliers.

MSBAEPJ,0000065-19-20JUN22

Determine Maximum Front Ballast

Use appropriate front ballast for a particular operating condition. To maintain safe steering control, install enough ballast on 2WD tractors. To load front wheels properly, install adequate ballast on MFWD equipped tractors. Remove ballast when it is no longer needed.

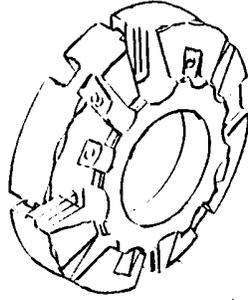
Use official John Deere tire suppliers.

IMPORTANT: DO NOT overload tires. If the weight of the tire exceeds the maximum weight, reduce load or install tires with heavier load rating.

MSBAEPJ,0000066-19-20JUN22

QUIK-TATCH is a trademark of Deere & Company

Use Cast Iron Weights



M47215—UN—29JAN92

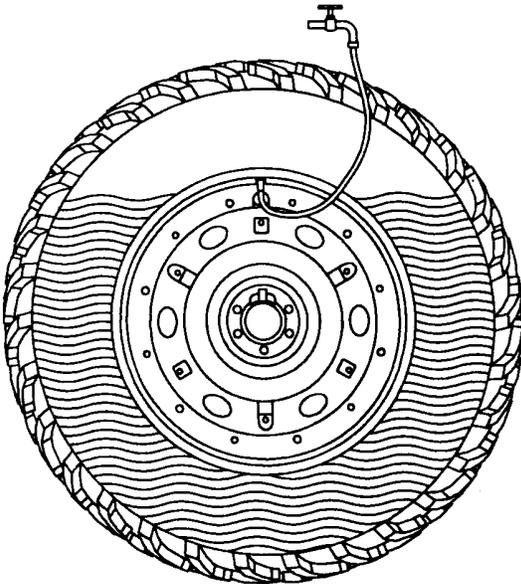
Cast iron weights are available in a 48 kg (106 lb) size. Weights can be installed on the inside or outside of wheel. See nearest John Deere dealer for more information and recommendations on weight use and placement.

Specification

Cast Iron Weights—Weight. 48 kg (106 lb)

shqw455,1655761538212-19-20JUN22

Use Liquid Weight



RW25003—UN—07JUL93

CAUTION: Installing liquid ballast requires special equipment and training. Refer to your John Deere dealer or a tire service store.

IMPORTANT: NEVER fill the tire to more than 90% full. More solution would leave too little air space to absorb shocks. Damage to tire could occur.

A solution of water and calcium chloride provides safe, economical ballast. If used properly, it will not damage tires, tubes, or rims.

Use the calcium chloride to prevent water from the freezing. A mixture of 0.4 kg of calcium chloride per liter (3.5 lb per gal) does not freeze solid more than -45°C (-50°F).

NOTE: Use of alcohol as the liquid ballast is not recommended. Calcium chloride solution is heavier and more economical.

Fill tubeless tires slightly above the valve level (minimum 75% full). Less solution would expose part of the rim, possibly causing corrosion. Tube-type tires are filled to any level below 90%.

Charts show how much each tire size holds when it is filled to 75% full.

LIQUID WEIGHT FOR FRONT TIRES With 0.6 kg/L (5 lb/gal) Calcium Chloride Solution	
2-WD	
Tire Size	Liquid Weight per Tire kg (lb)—75% Full
6.50-16	34 (74)
9.5L-15	54 (120)
MFWD	
Tire Size	Liquid Weight per Tire kg (lb)—75% Full
9.5-16	60 (133)
10.5/80-18	97 (213)
280/70R16	50 (112)
8.0-16	56 (125)

LIQUID WEIGHT FOR REAR TIRES With 0.6 kg/L (5 lb/gal) Calcium Chloride Solution	
Tire Size	Liquid Weight per Tire kg (lb)—75% Full
12.4-24	151 (333)
14.9-24	230 (507)
14.9-28	260 (574)
16.9-24	297 (654)
380/70R24	166 (367)

MSBAEPJ.0000067-19-11MAY22

Use Implement Codes

CAUTION: DO NOT attempt to transport an implement without the adequate front ballast. Lack of steering control can result.

John Deere engineers have developed code to

determine how much front ballast is needed for stability and steering control.

1. Find the implement code in the implement operator's manual.
2. Use the following chart to determine how many Quik-Tatch™ front weights are required on your tractor model.

To use chart, find the implement code range in the left column into which your implement code fits. Then move to the right until you are beneath the column, which identifies your tractor configuration. The number that you find at this point in the chart is the number of Quik-Tatch™ weights needed.

With maximum front ballast, do not attempt to transport an implement whose code exceeds:

- 115 for 2-WD Tractor
- 137 for MFWD Tractor

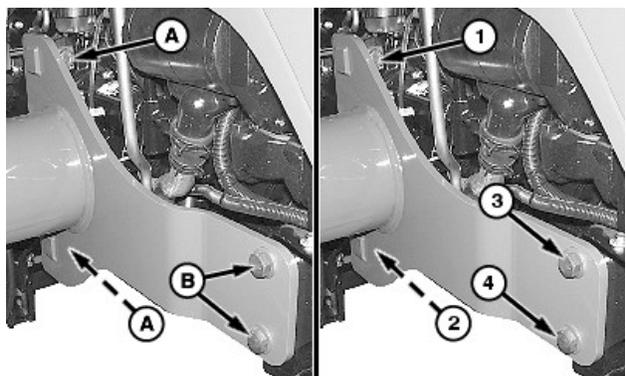
NUMBER OF Quik-Tatch™ WEIGHTS NEEDED		
2-WD		
Implement Code	Without Liquid in Front Tires	With Liquid in Front Tires
0—65	0	—
66—75	2	0
76—85	4	2
86—95	6	4
96—105	8	6
106—115	—	8
MFWD		
Implement Code	Without Liquid in Front Tires	With Liquid in Front Tires
0—87	0	—
88—97	2	0
98—107	4	2
108—117	6	4
118—127	8	6
128—137	—	8

Example: An implement with code 100 to be used on an MFWD tractor with a quick-coupler, but without liquid in the front tires, it requires 4 front weights.

MSBAEPJ.0000068-19-11MAY22

Additional Equipment

Front Loader Mounting Bracket Installation



W09806—UN—27AUG08

Mounting Hardware—Torque Sequence

CAUTION: Approximate weight of each mounting frame is 70 kg (154 lb). Avoid personal injury from falling or shifting frame; use a lifting device to position the frame.

Hardware for John Deere Front Loader Brackets

Item	Designation	Width across Flats	Torque	Standard	Thread	Length	Identification/Grade
A	2 cap screws	30 mm (1.2 in)	610 N·m (450 lb·ft)	ISO4014	M20 x 2.5	90 mm (3.5 in)	10.9
B	2 cap screws	30 mm (1.2 in)	530 N·m (390 lb·ft)	ISO4017	M20 x 2.5	55 mm (2.1 in)	10.9

Using a suitable hoist, position the front loader brackets on the main frame of the tractor and tighten the screws to the specified torque.

A front loader checked and approved by John Deere is available for purchase. When installing John Deere front-loader brackets, use the appropriate hardware only, as shown in the illustration. Comply also with Operator's Manual and Installation Instructions of the front loader.

MSBAEPJ,0000275-19-11MAY22

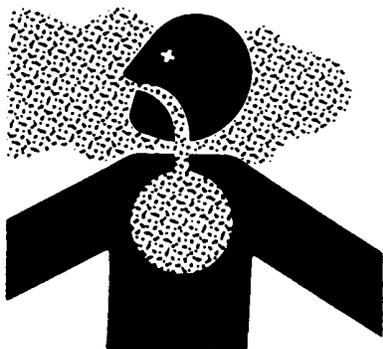
Additional Equipment Operation

To operate attachments or implements, refer to relevant Operator's Manual.

MWG7GFH,0000030-19-10MAY22

Operator Station Operation

Avoid Contact with Agricultural Chemicals



TS220—UN—15APR13



TS272—UN—23AUG88

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.

DX,CABS1-19-25MAR09

Operate Foldable ROPS

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

The protection offered by ROPS is impaired if ROPS is subjected to structural damage, as in an overturn incident, or is in any way altered by welding, bending, drilling, or cutting. A damaged ROPS must be replaced, not reused. Any alteration to the ROPS must be approved by the manufacturer.

Always keep upper part of ROPS pinned in the vertical position (as pictured) when operating tractor. If tractor is operated with ROPS folded (for example, to enter a low building) drive with extreme caution and **DO NOT** use seat belt.

Lift the ROPS up again and pin in the vertical position as soon as the tractor is operated under normal conditions.



APY68977—UN—17MAY22

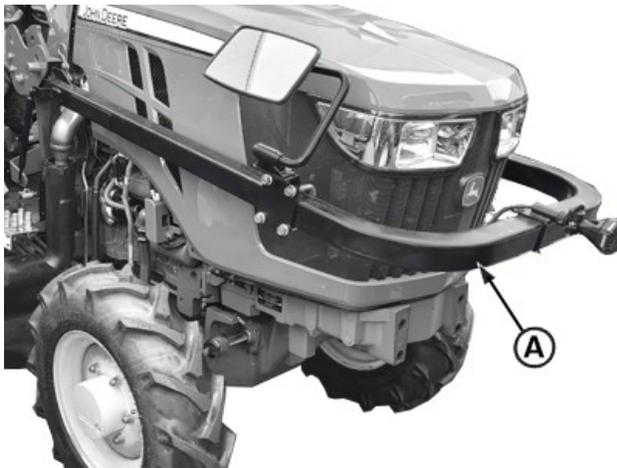
ROPS—Vertical Operating Position

A—ROPS Vertical Operating Position

Lower ROPS Crossbar (A):



APY68977—UN—17MAY22
ROPS Vertical Operating Position



APY68968—UN—03MAY22
ROPS Folded



P19271—UN—21JUL22
ROPS Adjustment

- A—ROPS Crossbar
- B—Rops Lever

1. Remove quick-lock pins (B) and headed pins (C) on both side of ROPS.
2. Lower crossbar (A) of ROPS onto stops.

3. To lock the crossbar down, use the pins to hold the lower position.

Put ROPS in Operating Position:

1. Use the lever for adjust the ROPS (B).
2. Lift crossbar (A) of ROPS to the vertical position.
3. To lock in position, reinstall pins (B) into holes in ROPS.

RD91939,0000AAF-19-21JUL22

Use Seat Belt



LV9749—UN—07SEP04
Open Station Shown; Cab Similar

CAUTION: Use a seat belt when you operate with a roll-over protective structure (ROPS) or cab. Seat belts minimize the chance of injury from an accident such as overturning. **DO NOT** use seat belt when ROPS is folded down.

To retain the operator safely, seat belt (A) must fit snugly across abdomen. Seat belt extends as necessary to fit comfortably.

Inspect seat belt and mounting hardware annually. (See Inspect Seat Belt in the Operator Station Maintenance section.)

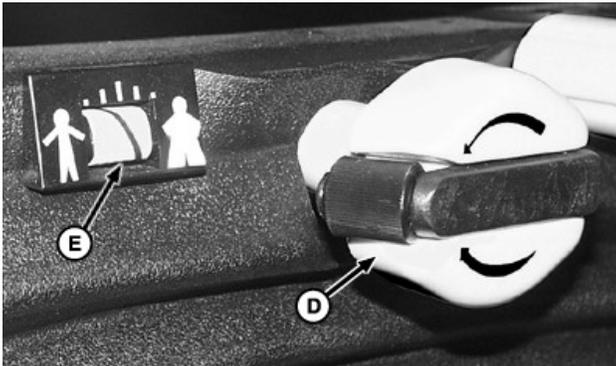
MWG7GFH,0000031-19-11MAY22

Adjust Seat



LV9760—UN—07SEP04

Cab Shown; Open Station Similar



LV9761—UN—07SEP04

- A—Backrest Angle Handle
- B—Fore/Aft Handle
- C—Seat Height Adjustment Knob
- D—Weight Adjustment Knob
- E—Weight Indicator

CAUTION: To avoid accidents, adjust the seat before driving.

NOTE: Use these instructions as a guideline. Since everybody is different, the final settings must be determined by personal preferences. Each operator makes adjustments that suit them best.

The weight adjustment must be performed each time the height adjustment is changed.

For best results, make adjustments while seated in operating position.

Backrest Angle: Lift handle (A) and lean back to position the backrest at a comfortable angle.

Fore/Aft Seat Position: Lift handle (B) and slide seat forward or backward to the desired position. Make sure that all controls are within the easy reach.

NOTE: If the height adjustment knob (C) is locked and will not rotate, turn the weight adjustment knob (D) to a lighter setting or force seat lower.

Seat Height: Turn the knob (C):

- Clockwise to raise the seat.
- Counterclockwise to lower the seat.

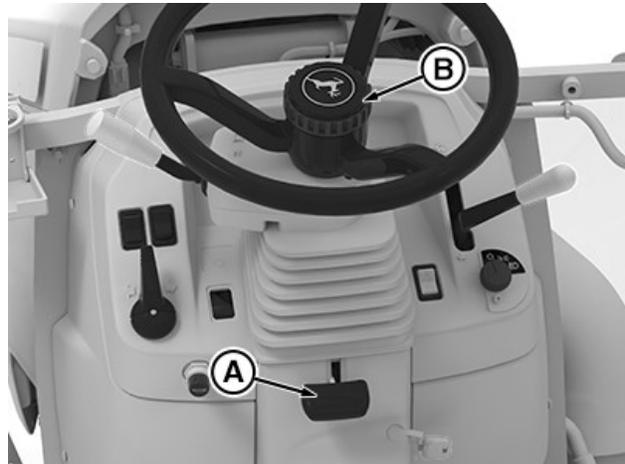
Ride Comfort (Weight): Adjust the seat suspension to firm or soft ride. Unfold the crank handle and turn the knob (D):

- Clockwise for heavier setting and firmer ride.
- Counterclockwise for lighter setting and softer ride.

Indicator (E) shows current setting within overall weight range of 52—136 kg (115—300 lb).

MWG7GFH,0000032-19-10MAY22

Adjust Steering Wheel



APY68969—UN—03MAY22

- A—Steering Wheel Tilt Lever
- B—Steering Wheel Telescope Release Ring

Tilt: Lift the steering wheel tilt lever (A) and move steering column to the desired angle. Release lever to lock into position.

Height—If Equipped: Loosen the steering wheel telescope release ring (B) and adjust steering wheel to the desired height. Tighten the ring to lock into position.

RD91939,0000AB0-19-03MAY22

Use Emergency Exit

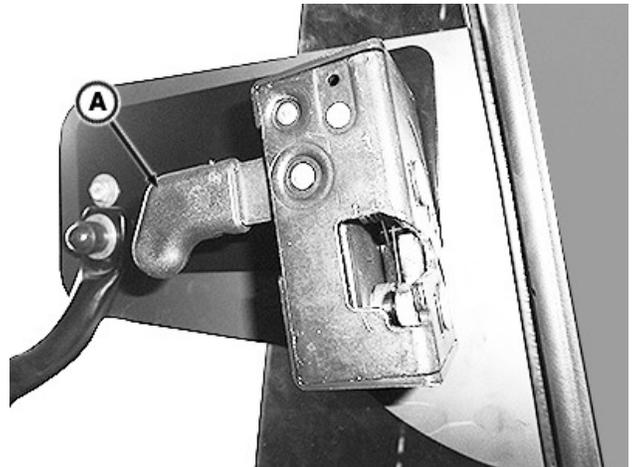


PY36895—UN—26JUL17

Rear window (A) provides a large exit path if the cab door is blocked in an emergency situation.

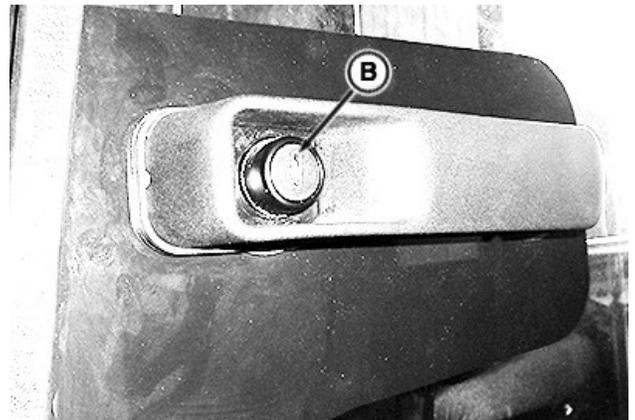
MWG7GFH,0000033-19-10MAY22

Open Door



PY36897—UN—26JUL17

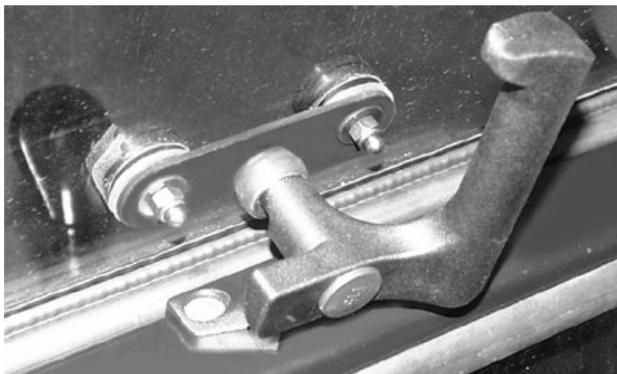
Inside of Cab



PY36896—UN—26JUL17

Outside of Cab

Open Windows



LV09213—UN—22JUL04

Rear Window Latch

Release latch and push the window out to open.

MWG7GFH,0000034-19-10MAY22

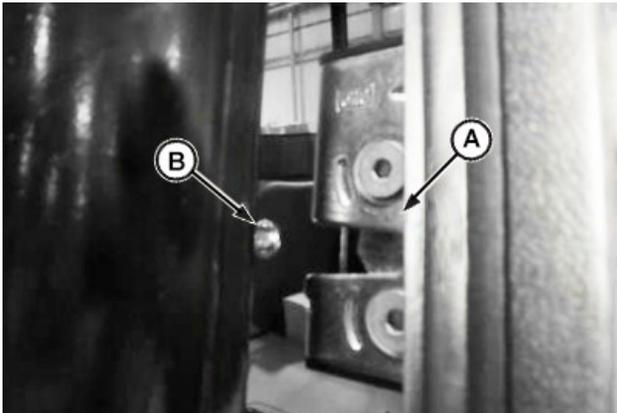
Pull the handle (A) from the inside of cab and push the door.

Press knob (B) from outside of cab and pull the door.

MWG7GFH,0000036-19-10MAY22

Door Latch Adjustment

Door Latch Adjustment



P19939—UN—27JAN23

A—Door Latch
B—Bolt

If difficulties to close door are present; check that door latch (A) is properly aligned to lock bolt (B), if misaligned; try this procedure to align doorlatch to lock pin.

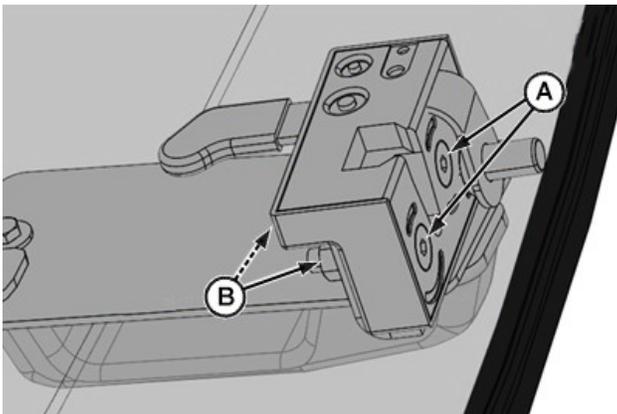


P19938—UN—27JAN23

2. Align Door Latch to Lock Bolt and Tighten 2 bolts (Hex socket cap screw) holding nuts.

NOTE: If it was not possible to align Doorlatch to lock bolt, and still having difficulties to close the door. Please follow RTM procedure: CAB Door adjustment.

shqw455.1674683176986-19-01FEB23



P19955—UN—31JAN23

A—Hex Socket Cap Screw
B—Nut

1. Loosen 2 Bolts Hex socket cap screw (A) with a #5 driver and a 13mm wrench to hold the Nut (B).

Inner Mirror

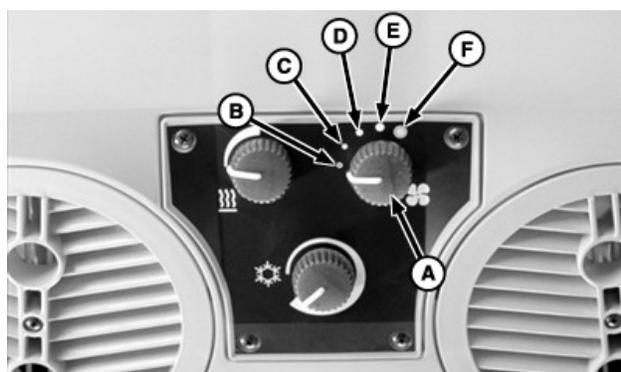


PY36898—UN—03AUG17

The Cab is equipped with an inner mirror (A).

MWG7GFH,0000037-19-10MAY22

Adjust Blower Speed



LV9763—UN—07SEP04

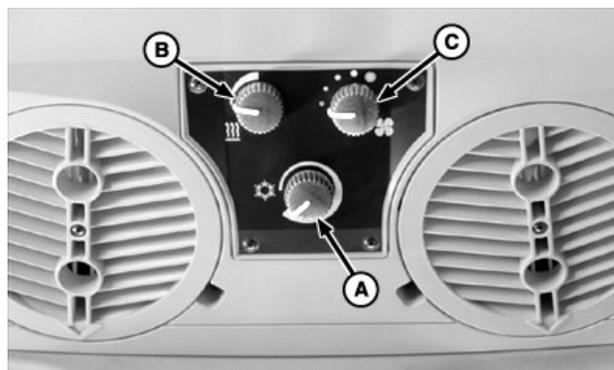
- A—Blower Speed Control Knob
- B—Off
- C—Low
- D—Medium
- E—High
- F—Purge

Turn the blower speed control knob (A) to desired setting (B—F).

NOTE: Purge position is used for the rapid cab cool down.

MWG7GFH,0000038-19-10MAY22

Control Temperature



LV9764—UN—08SEP04

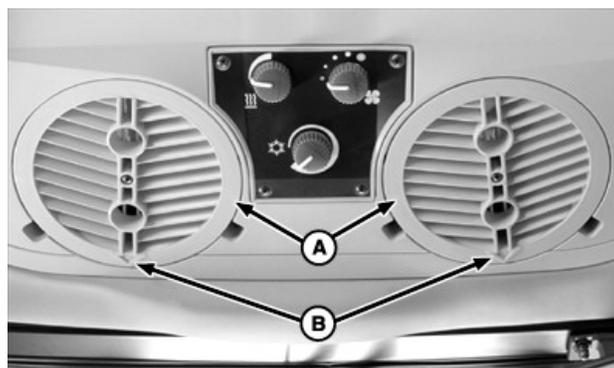
Blower speed control knob (C) turns on blower and controls blower speed. (See Adjust Blower Speed in this section.)

Adjusting Air Conditioning Temperature: Turn the air conditioning temperature control knob (A) clockwise to circulate colder air through vents or counterclockwise to circulate the warmer air.

Adjusting Heater Temperature: Turn the heater temperature control knob (B) clockwise to circulate warmer air through vents or counterclockwise to circulate the cooler air.

MWG7GFH,0000039-19-10MAY22

Optimize Air-Conditioning and Heater Performance



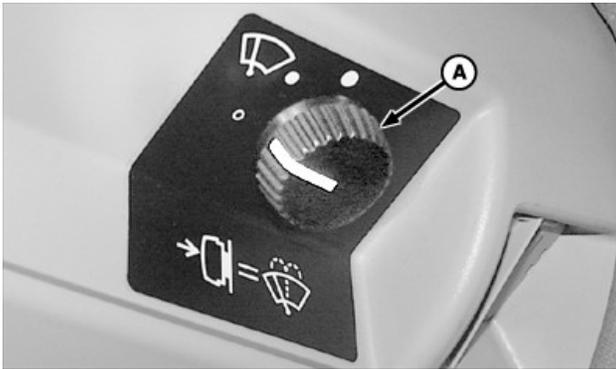
LV9765—UN—07SEP04

De-icing or Defrosting the Windshield: Set heater and air conditioning controls for the maximum heat output. Rotate vents (A) to point air flow arrows (B) at windshield and set blower speed to High.

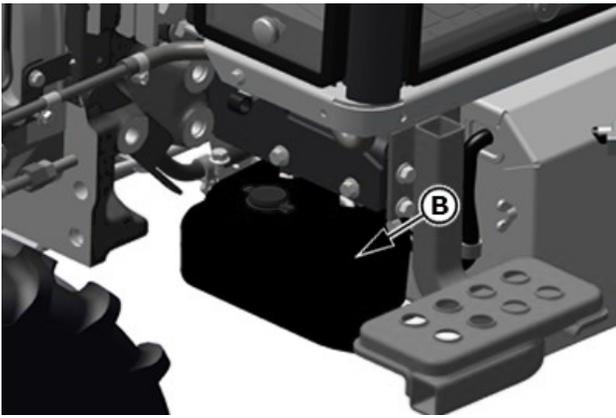
Heating and Cooling: Set heater or air conditioning controls for desired results. Rotate vents to point air flow arrows to the sides or rear and adjust blower speed as needed.

MSBAEPJ,0000069-19-10MAY22

Operate Windshield Wiper and Washer



LV9766—UN—07SEP04



P19159—UN—29JUN22

- A—Windshield Wiper/Washer Switch**
- B—Washer Fluid Reservoir**

Rotate wiper switch (A) to activate three windshield wiper positions:

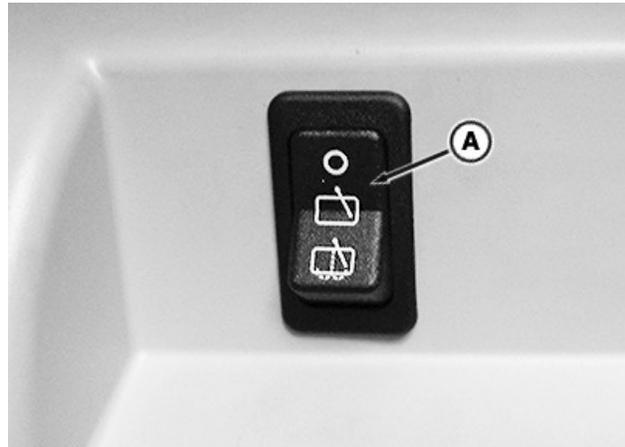
- Off
- Slow
- Fast

To activate wash function, push switch (A).

Fill reservoir (B) with non-freezing windshield washer fluid. Reservoir is located below the cab door, on the left-hand side.

PP71895,00006CA-19-29JUN22

Operate Rear Window Wiper and Washer



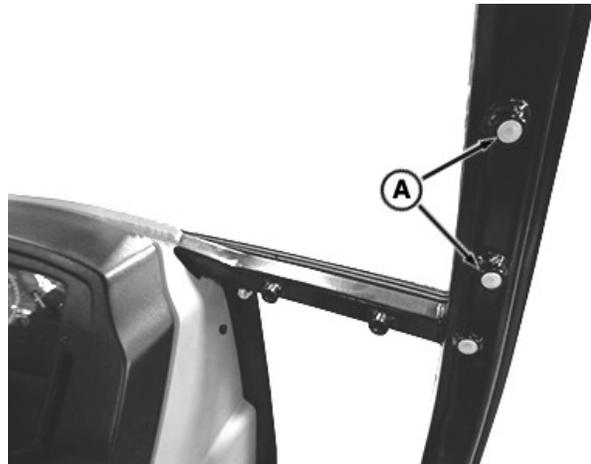
PY36900—UN—26JUL17

Rear window wiper/washer switch (A) has three positions:

- Front WASH position—Hold down switch to activate the washer.
- Center ON position—Rear window wiper is activated.
- Back OFF position.

MSBAEPJ,0000263-19-10MAY22

Install a Monitor



PY36901—UN—26JUL17

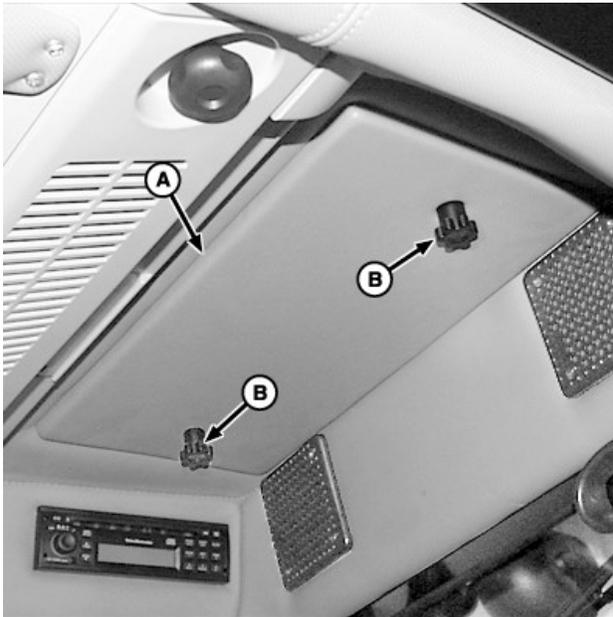
A—Front Mounting Location

There is one location used for attaching monitors and controls in the cab:

- Front right-hand windshield frame (A)

MWG7GFH,000003A-19-10MAY22

Use Storage Compartment

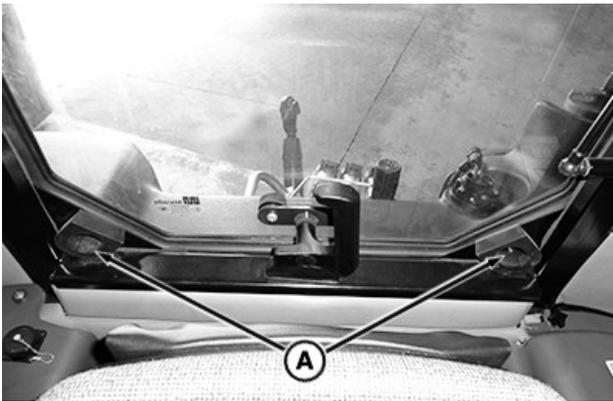


LV9773—UN—07SEP04

Storage compartment (A) can be used to store flat paperback materials. To remove it, loosen thumbscrews (B).

MSBAEPJ,000006A-19-31MAR22

Route the Cables



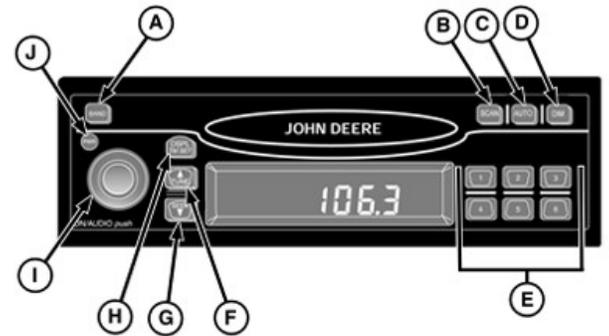
PY36903—UN—15FEB17

From Inside of Cab

Rear window of cab is provided with two openings, allowing cables to be routed. Open the window and take out the rubber stoppers (A). Cut the rubber stoppers at the incisions provided to enable the cables to be routed. Connect the plugs, insert the rubber stoppers, and close the window.

PP71895,000006CE-19-31JAN18

Operate Radio



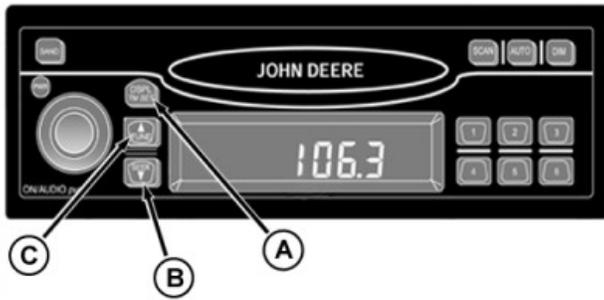
LV12461—UN—12APR05

A—Band
 B—Scan
 C—Auto Preset
 D—Dim
 E—Preset Stations
 F—Tune
 G—Seek
 H—Display/Time Set
 I—On/Audio/Volume
 J—Power

1. Press BAND (A) to select FM1, FM2, AM, SAT, or WX (Weather).
2. Press TUNE (F) once to turn to the next higher station. Press SEEK (G) once to turn to the next lower station.
3. Press and hold both TUNE (F) and BAND (A) to switch between manual tune mode and SEEK mode.
4. Holding SEEK longer than half a second starts the "seek" function. When a station with a strong enough signal is found, SEEK function stops at that station.
5. Press SCAN (B) to scan all stations. When a strong enough signal is found, the station plays for 5 seconds, then continue to scan until SCAN is pressed again.
6. Adjust volume, bass, treble, fade, and balance by pressing and releasing ON/AUDIO knob (I) repeatedly until the desired function appears on display. Rotate the ON/AUDIO knob for adjustment.
7. Adjust the brightness of display by pressing (D) until DIM appears on display. Rotate the ON/AUDIO knob to adjust.

MSBAEPJ,000006B-19-10MAY22

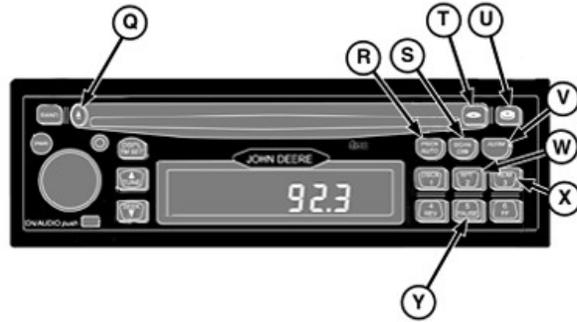
Set Clock



1. Switch ignition to ON position.
2. Press and hold DSPL/TM SET (A) button until the "hours" digits flash.
3. Press SEEK (B) or TUNE (C) to set the correct hour.
4. Press and hold DSPL/TM SET until the "minutes" digits flash.
5. Press SEEK or TUNE to set correct minute. The seconds are reset to zero when the minute setting is changed.

RW26907—UN—05APR00

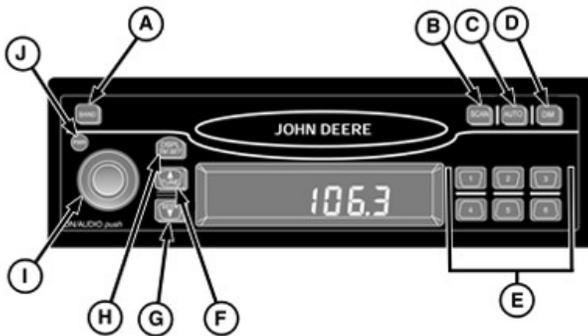
PP71895,00006D0-19-31JAN18



LV12463—UN—12APR05

- A—Band
- B—Scan
- C—Auto Preset
- D—Dim
- E—Preset Stations
- F—Tune
- G—Seek
- H—Display/Time Set
- I—On/Audio/Volume
- J—Power
- K—Tape
- L—Tape Reverse
- M—Eject Tape
- N—Tape Slot
- O—Rewind Tape
- P—Fast Forward Tape
- Q—Eject CD
- R—Pre-Scan/Auto
- S—Scan/Dim
- T—CD Mode
- U—CD Changer Mode
- V—Alarm
- W—CD Repeat
- X—CD Random
- Y—CD Pause

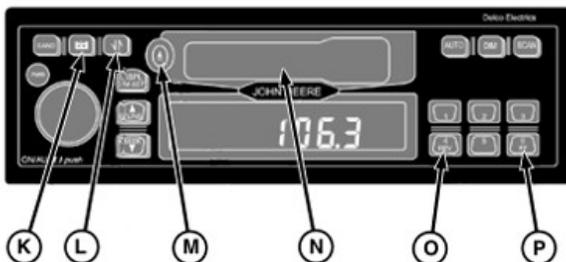
Operate Cassette Tape or Compact Disc Player



LV12461—UN—12APR05

Operating Cassette Tape Player

1. Turn receiver ON.
2. Insert cassette into slot (N). If the radio is playing, press (K) to play the cassette.
3. Press (L) to play the opposite side of tape.
4. Press (O) to rewind.
5. Press (P) to fast forward.
6. Press (M) to eject tape.
7. If receiver detects a defective cassette, BAD TAPE appears on the display and the tape is ejected.



LV12462—UN—12APR05

Operating Compact Disc Player

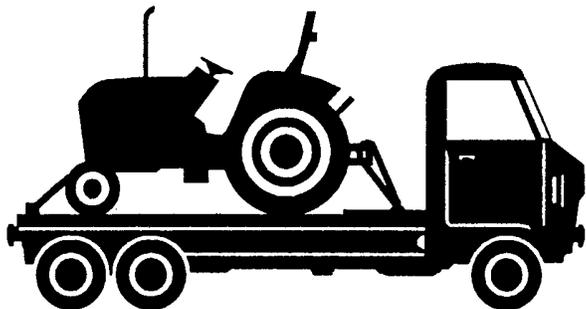
1. Turn the ignition and receiver ON.
2. Insert the compact disc into the slot, label side up.
3. Press (F) to forward to the next track. Press (G) to reverse to the beginning of the track.
4. Press (W) to repeat the current track. Press (X) for the random track selection.
5. Press and hold (O) to fast reverse. Release to play at the normal speed.
6. Press (Y) to pause the CD. Press (Y) again to resume the play.

7. Press and hold (P) to fast forward. Release button to play at the normal speed.
8. Press (Q) to eject CD.
9. Press (S) to advance to the next track on the CD. The CD plays 10 seconds of that track and then plays each successive track for 10 seconds. Press again to cancel.

MSBAEPJ.000006C-19-10MAY22

Transport and Storage

Transport on Carrier



LV610—UN—22APR94

CAUTION: Avoid the personal injury from the unexpected machine movement. Chain tractor to carrier securely. **DO NOT** chain around mechanical front-wheel drive (MFWD) shaft or axle housing. Drive carrier slowly.

A disabled tractor is best transported on a flatbed carrier. Use chains to secure the tractor to the carrier.

IMPORTANT: Seal exhaust to prevent dirt from entering and damaging engine and/or turbocharger.

NOTE: Remove or cover SMV sign, unless SMV faces away from the rear of the transport vehicle.

MWG7GFH,000003B-19-11MAY22

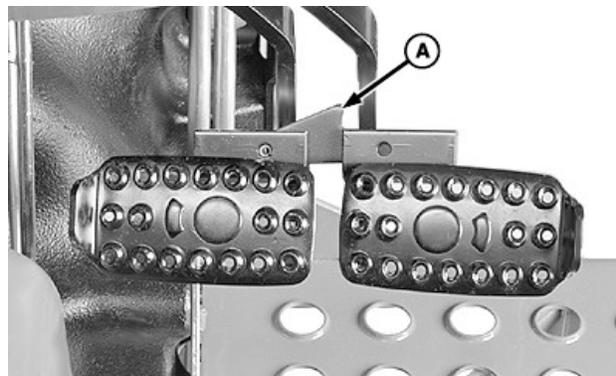
Drive on Public Roads

CAUTION: Avoid personal injury or death from losing the control of tractor. When driving tractor on roads:

- Couple brake pedals together
- Use the foot throttle instead of the hand throttle lever.
- Reduce speed when driving on icy, wet, or graveled surfaces.
- Ballast tractor correctly (see the Ballasting section).

Prevent collisions between the 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.

1. Adjust rear-view mirrors and clean windows.



LV9594—UN—07AUG04

Brake Locking Bar (Open Station Shown; Cab Similar)

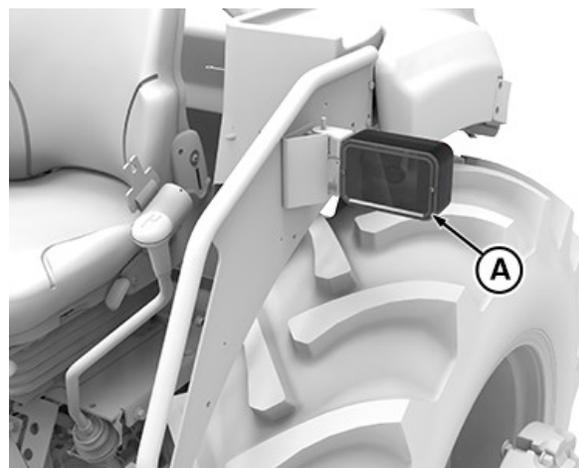
A—Brake Locking Bar

CAUTION: Use brakes lightly and cautiously when slowing from transport speed.

2. To ensure that differential lock is NOT engaged, tap the brake pedal. Couple brake pedals together using brake locking bar (A). Avoid the hard brake application.

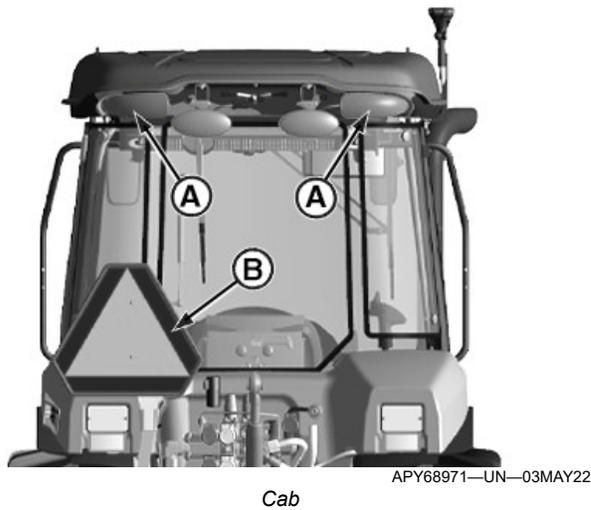
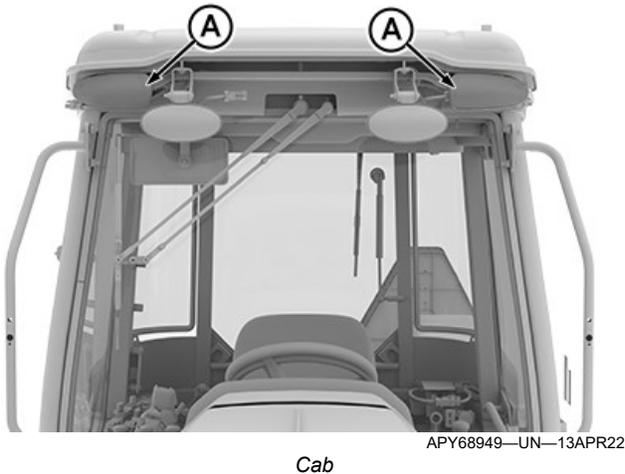
IMPORTANT: To prevent the unnecessary wear, never ride the brakes by resting a foot on the pedals.

CAUTION: When transporting on a public road or highway, use warning lights and devices for an adequate warning to operators of other vehicles. Check local governmental regulations. Various safety devices are available from your John Deere dealer. Keep safety items in the good condition. Replace missing or damaged items.



APY78206—UN—11JUL22

OOS



3. Check local laws and regulations for lighting requirements. Be sure Slow Moving Vehicle (SMV) emblem (B) and warning lights (A) are clean and visible. If towed or rear-mounted equipment obstructs view of safety devices, install SMV emblem and warning lights on equipment. (See your John Deere dealer.)

IMPORTANT: Open Station; Move warning lights from storage to the transport position, before driving on public roads. See Adjust Warning Lights to Transport Position — OOS in Electrical and Lighting Operation section.

Refer to Lights section for operation of;

- Warning lights
- Transport lights
- Turn signals
- Seven-terminal outlet

4. **MFWD (if equipped):** Disengage the front wheel drive when transporting tractor. When driving on

roads, engage BRAKE ASSIST position of the MFWD switch to provide four wheel braking. (See Operate EH MFWD with Auto Engage and Brake Assist in MFWD and Front Axle Operation section.)

5. **Loader Cylinders (if equipped):** Engage transport lock to eliminate the possibility of loader movement during transport by inadvertently bumping the joystick. (See Operate Mid-Mount SCV Joystick in the Selective Control Valve Operation section.)
6. **Rear Hitch:** Position or lock hitch in the transport position to eliminate the possibility of lowering an implement during transport by inadvertently bumping the raise/lower lever. (See Transport Implements in Hitch and Drawbar Operation section.)
7. Drive slowly enough to maintain safe control at all times. Before descending a hill, shift to the lower gear, slow enough to control speed without using brakes. Slow down for rough ground and sharp turns, especially when transporting heavy, rear-mounted equipment.

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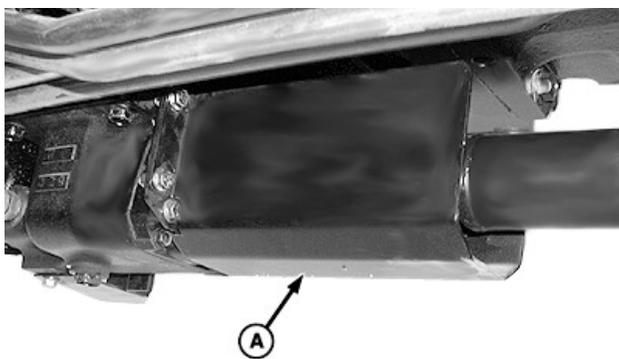
Tow Tractor

⚠ CAUTION: Avoid personal injury or death. Disconnect MFWD drive shaft if towing tractor with front wheels on a carrier. Loss of electrical power or transmission-hydraulic system pressure engages the MFWD and pulls off the tractor from the carrier, even with switch in the DISENGAGED position.

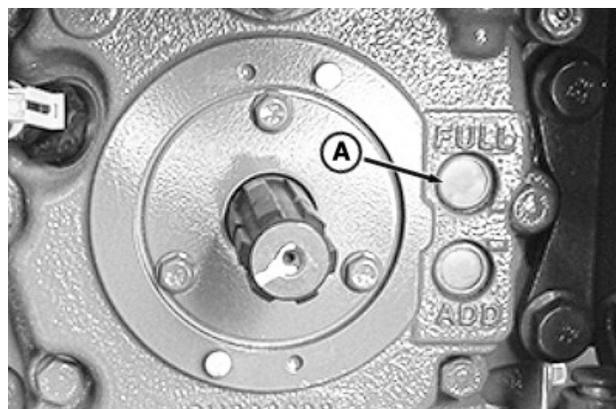
IMPORTANT: Avoid transmission and drivetrain component damage:

- **NEVER attempt to start the tractor by towing. The Engine will not start.**
- **If possible, operate the engine above 1250 rpm to provide lubrication, power steering, and power brakes. Have an operator steer and brake tractor.**
- **Do not tow the tractor faster than 8 km/h (5 mph). Do not exceed 3 km/h (2 mph) for the first ten minutes in below freezing temperatures.**
- **Check the transmission-hydraulic oil level. Add 1 L (1 qt) for each 90 mm (3-1/2 in) that front wheels are raised off ground. DO NOT raise wheels more than 305 mm (12 in). Drain excess oil after transporting.**

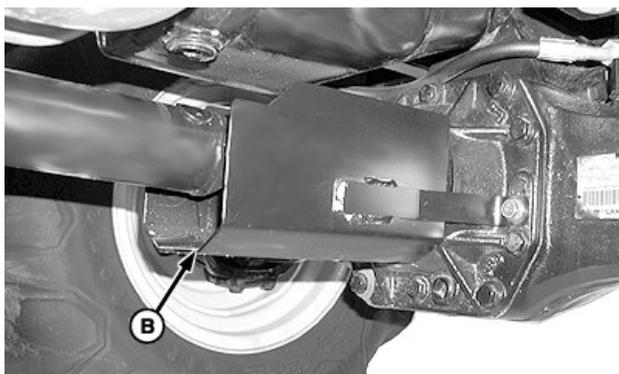
1. If equipped with MFWD, remove the driveshaft if towing tractor with front wheels on a carrier:



LV9836—UN—08SEP04
MFWD Drive Shaft—Rear Shield

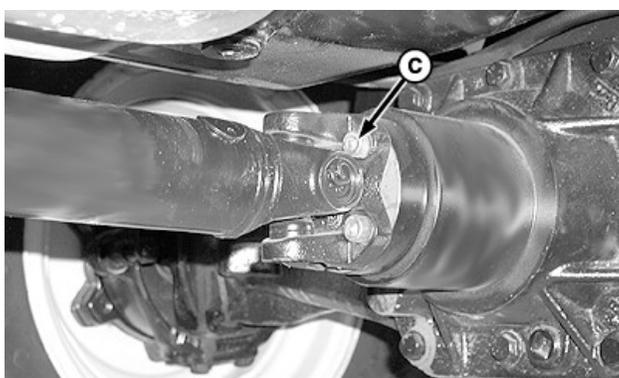


PY36954—UN—26JUL17
Rear of Tractor



LV9837—UN—08SEP04
MFWD Drive Shaft—Front Shield

2. Be sure that transmission-hydraulic system oil is visible in the top sight glass (A). If the tractor is to be towed with front wheels raised, add 1 liter (1 qt) of oil for each 90 mm (3-1/2 in) that wheels are raised. DO NOT raise front wheels more than 305 mm (12 in) above the ground.
3. To make sure that the differential lock is not engaged, tap brake pedals.
4. Make sure that PTO is disengaged.
5. Place gear and range shift levers in NEUTRAL position.
6. Make sure that EH directional reverser lever is in NEUTRAL position.



LV9838—UN—08SEP04

After Towing



LV9839—UN—08SEP04
Drive Shaft-to-Front Axle

- A—Rear Shield
- B—Front Shield
- C—Socket Head Cap Screw, M10 x 25 (4 used)

- a. Remove mounting hardware and rear shield (A).
- b. Remove two cap screws and front shield (B).
- c. Support driveshaft and remove four socket head cap screws (C).
- d. Lower front of driveshaft and pull away from the drop housing.

- A—Socket Head Cap Screw, M10 x 25 (4 used)

If equipped with MFWD: Apply the multipurpose grease to shaft splines and install the driveshaft assembly. Tighten socket head cap screws (A) to specifications.

Specification

Drive Shaft-to-Axle Housing	
Socket Head Cap	
Screws.—Torque.	70 N·m (52 lb·ft)

Drain excess transmission-hydraulic oil to the lower level back to full.

MSBAEPJ,000006D-19-11MAY22

Operator Training Required

Study Operating the Engine section of this manual before operating tractor.

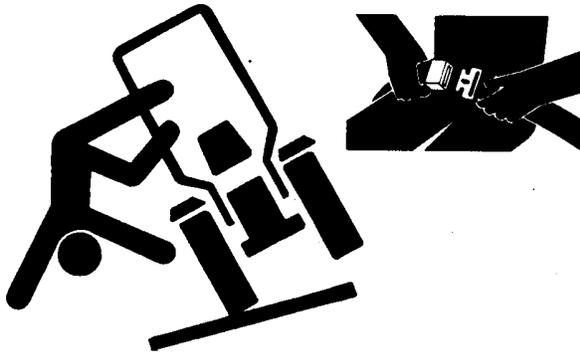
Operate the tractor in an open, unobstructed area under the direction of an experienced operator.

Learn the use of all controls.

Operator experience is required to learn moving, stopping, turning, and other operating characteristics of tractor.

MSBAEPJ,000006E-19-11MAY22

Use Caution on Hillside



TS205—UN—23AUG88

CAUTION: Open Station: Operate only with the Roll-Over Protective Structure (ROPS) in the UP or extended position whenever possible. Always use your seat belt when the ROPS is in the UP or extended position to minimize the chance of injury from an overturn accident.

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

Never drive near the edge of a gully or steep embankment—it might cave in.

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

With MFWD: While mechanical front wheel drive greatly increases the traction, it does not increase the stability of the tractor. With mechanical front wheel drive engaged, the tractor can climb steeper slopes, but it does not become more stable. When this option is used, extra caution is needed on slopes. Compared to 2-wheel drive, a front-wheel drive tractor maintains the traction on steeper slopes, increasing the possibility of a tip-over.

To improve braking on sloped, icy, wet, or graveled surfaces, engage the MFWD. Add ballast to the tractor and travel at reduced speed to avoid skidding and loss of the steering control.

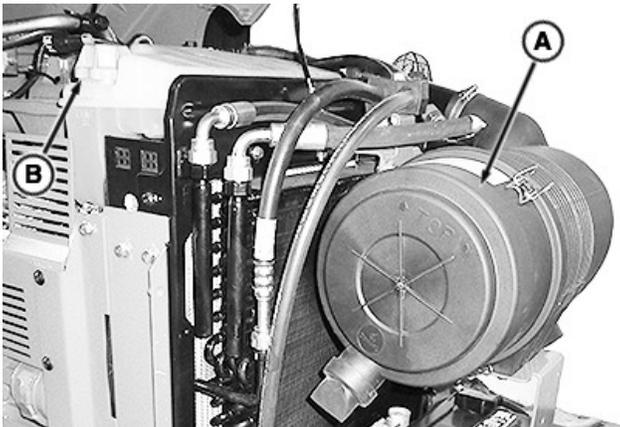
Danger of overturn increases greatly with narrow tread setting at the high speed. Widest possible tread setting provides maximum stability.

Hitch towed loads only to drawbar. When using a chain, take up the slack slowly.

MWG7GFH,000003C-19-11MAY22

Store Tractor

IMPORTANT: When the tractor is not used for several months, use this procedure to minimize the corrosion and deterioration. Use an AR41785 Engine Storage Kit and an extra 0.95 L (1 pt) of AR41870 Corrosion Inhibitor.



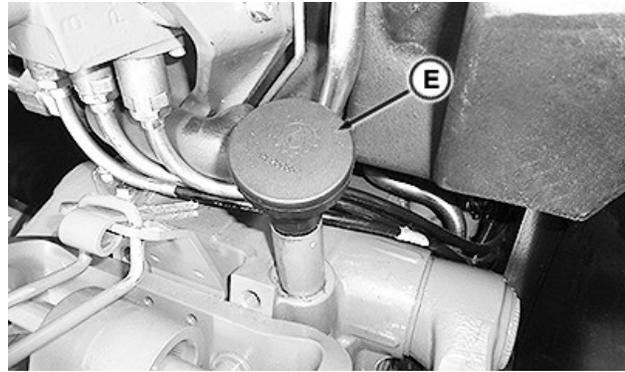
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PY36905—UN—26JUL17



PY36904—UN—26JUL17



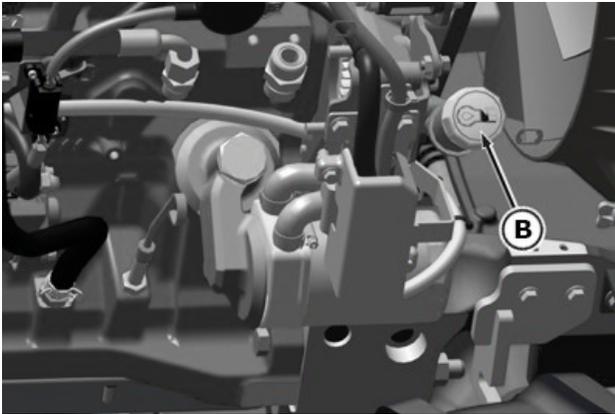
PY36906—UN—26JUL17

A—Air Cleaner
B—Cooling System
C—Engine Oil Drain Plug
D—Engine Oil Filter
E—Hydraulic-Transmission Oil Dipstick

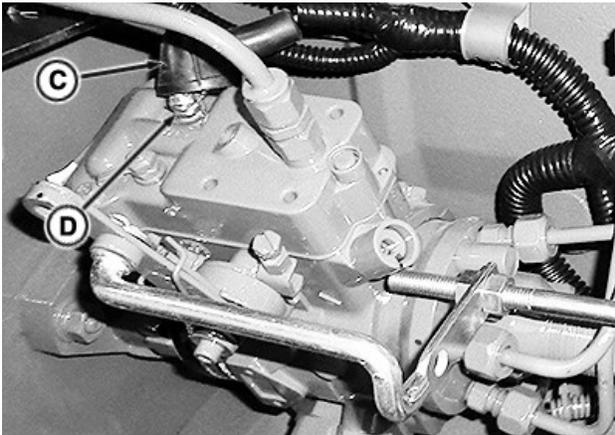
1. Service air cleaner (A).
2. If coolant has been in tractor for 2 years, flush cooling system (B). Add 50 % antifreeze-water mixture. Test coolant for the adequate cold-weather protection.
3. Remove the engine oil drain plug (C) to change engine oil and filter (D).
4. Drain fuel and add back 4 L (1 gal) of fuel. Then add 0.4 L (12 oz) of the corrosion inhibitor.
5. Add 0.25 L (9 oz) of the corrosion inhibitor to the hydraulic-transmission oil dipstick (E).
6. Depress the clutch and start the engine. Run the engine until it reaches operating temperature. Also, raise and lower rockshaft several times. Shut off engine.



PY36911—UN—30AUG17



P19265—UN—20JUL22



PY36909—UN—26JUL17

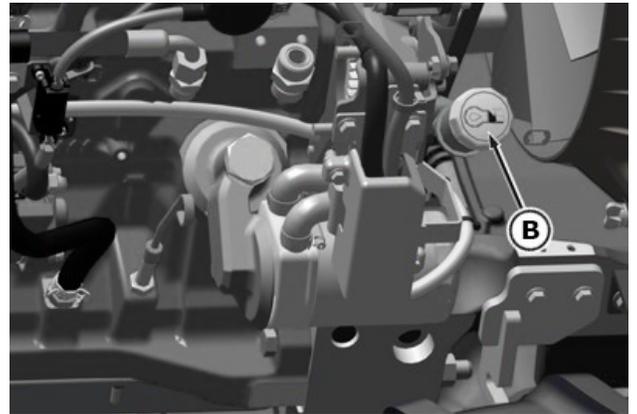
- A—Fuel Tank Filler/Cap
- B—Crankcase Filler/Breather
- C—Boot
- D—Fuel Shutoff Solenoid Wiring Lead

7. Add 0.5 L (16 oz) more inhibitor to fuel tank at filler/cap (A).
8. Add 0.5 L (16 oz) inhibitor to engine crankcase at filler/breather (B).
9. Remove boot (C) and disconnect the fuel shutoff solenoid wiring lead (D). This prevents engine from starting while cranking.
10. Remove the air intake hose at the manifold. Pour 0.1 L (3 oz) inhibitor into manifold and replace the hose. Pull hand throttle lever back to the low idle position. Crank the engine only a few revolutions.
11. Loosen alternator/fan belt after it has cooled.
12. Remove and clean battery. Store in cool, dry place. Keep it charged.¹
13. Tie or block clutch pedal in the disengaged position.
14. Coat exposed metal surfaces, such as the adjustable front axles, if extended, with grease or a corrosion inhibitor.

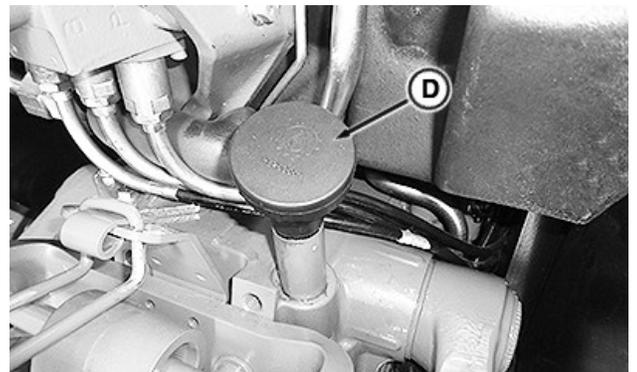
¹ Disconnect battery ground cable for short-term storage periods (20—90 days).



APY04904—UN—07MAR18



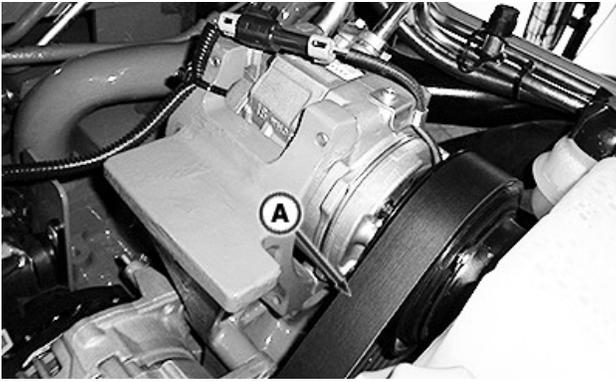
P19265—UN—20JUL22



PY36907—UN—28JUL17

- A—Air Cleaner Inlet Hole
- B—Crankcase Filler/Breather
- C—Dust Unloader Valve
- D—Transmission-Hydraulic System Filler/Cap

15. Use the tape to seal the air inlet hole (A), dust unloader valve (C), exhaust pipe, crankcase filler/breather (B), fuel cap, coolant recovery tank, and transmission-hydraulic system filler/cap (D).
16. Cover dash with opaque material to prevent gauges from fading.
17. Raise tires off ground. Protect them from heat and sunlight.
18. Thoroughly clean tractor. Touch up any painted surfaces that are scratched or chipped.
19. If the tractor must be stored outside, cover it with the waterproof material.



PY36912—UN—28JUL17

20. **Cab:** Rotate air-conditioning compressor pulley (A) several turns once a month to prevent the seizure of compressor.

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Remove Tractor from Storage

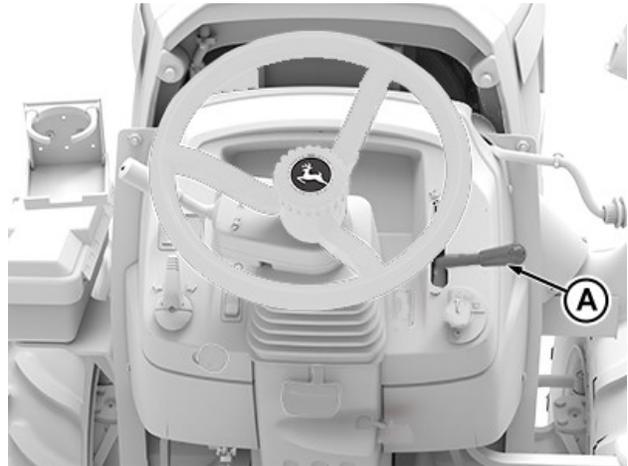
IMPORTANT: If the tractor is in storage for more than 30 days, air conditioner must be turned on for 2-3 minutes at the engine idle (800-900 rpm). This avoids damage on the air conditioner compressor.

1. Check the tire inflation pressure. (See Check Tire Inflation Pressure in Wheels and Tires Operation section.) Lower tires to ground.
2. Unseal all openings that were sealed while performing the steps of Store Tractor in this section.
3. Install battery.

IMPORTANT: Cab tractors: If the air-conditioning compressor is seized, engine operation with the compressor clutch engaged damage belt or compressor.

4. **Cab:** Check that the air-conditioning compressor pulley moves freely and is not seized.
5. Remove ties or block that secured the clutch pedal in the disengaged position.
6. Check levels of engine oil, transmission-hydraulic oil, and engine coolant. Add if necessary.
7. Drain a small amount of fuel from the fuel tank to purge any moisture condensation that has collected.
8. Fill the fuel tank.
9. Perform all appropriate 10-hour, 50-hour, 250-hour, and 500-hour services as instructed in the Service Records section.
10. Check all instruments and indicators by turning key switch to ON position.

IMPORTANT: DO NOT operate starter for more than 20 seconds, and wait at least 2 minutes for starter to cool before trying again.

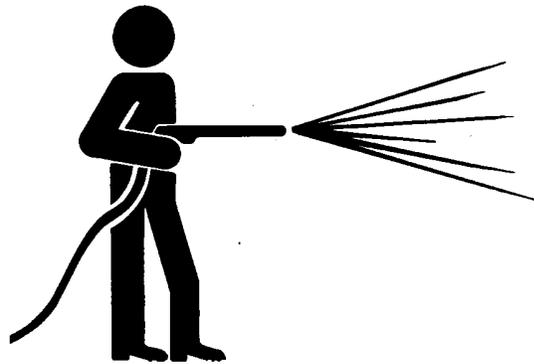


APY68944—UN—18APR22

11. Pull hand throttle lever (A) all the way back, depress clutch pedal, and start engine until the oil pressure raises.
12. Connect the wiring lead to the fuel injection pump shutoff solenoid.
13. Depress clutch pedal and start engine. Operate the engine at the low idle for several minutes. Warm up carefully and check all systems before placing tractor under load.

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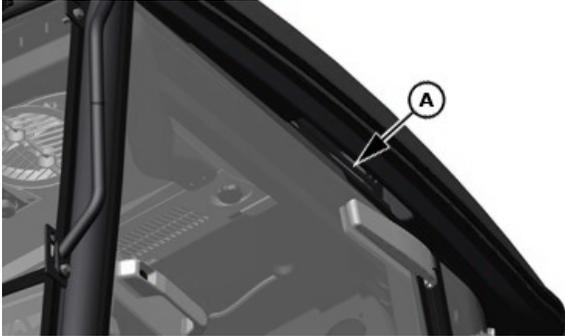
Using High-Pressure Washers



T6642EJ—UN—18OCT88

IMPORTANT: High-pressure washers are an 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 (for example, the engine) with the 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.



P19191—UN—06JUL22

Please don't wash with high pressure the above cab area it has grids.

A - Grids.

MSBAEPJ,0000071-19-06JUL22

Maintenance Intervals

Important Considerations

IMPORTANT: Recommended service intervals are for average conditions. Service MORE OFTEN if tractor is operated under adverse conditions.

Examples of operation under severe or adverse conditions:

- Wet or muddy conditions: Much more frequent lubrication of grease fittings is required.
- High concentration of dust: Engine air cleaner is obstructed more frequently and dry matter accumulated in different parts of the tractor.

MSBAEPJ,0000072-19-09MAY22

Practice Safe Maintenance



TS218—UN—23AUG88

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

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

ground. Stop the engine. Remove the key. Allow the machine to cool.

Securely support any machine elements that must be raised for the 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 the self-propelled equipment, disconnect battery ground cable (-) before making adjustments on electrical systems or welding on machine.

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

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

MSBAEPJ,0000276-19-23NOV22

Maintenance Interval Chart

Activity	Daily or 10 Hours	Weekly or 50 Hours	First 100 Hours	Every 250 Hours	Every 500 Hours / Annually	Every 1000 Hours	Every 1500 Hours / 3 Years	Every 3000 Hours	Every 4500 Hours / 5 Years
Check Engine Oil Level	•								
Clean Air Filter Dust Unloading Valve	•								
Drain Water and Sediment from Fuel Filter as needed	•								
Check Transmission/Hydraulic System Oil Level	•								
Inspect Tires	•								
Check Front Loader Mounting Bracket Installation Cap Screws Tensions	•			•					
Inspect Tractor for Loose Hardware	•	•							
Inspect Cab Protection System Installed Properly	•	•							
Inspect ROPS for Loose Hardware	•	•							
Check MFWD Axle Hub Oil Level		•							
Check Coolant Level		•							
Check Tire Inflation Pressure		•							
Lubricate MFWD Axle		•							
Lubricate Rear Hitch		•							
Change Transmission/Hydraulic Filter			•		•				
Change Engine Oil And Filter (2.9Liter 3 Cylinder Engine)			•		•				
Check Hoses and Hose Clamps			•			•			
Check Oil Level in MFWD Axle and wheel hubs				•					
Change Activated Carbon Cab Filter (OOS)				•					
Inspect Hitch and Drawbar for Excessive Wear				•					
Check Fan Belt Tensioner				•					
Clean Primary Air Filter Element					•				
Checking Air Filter Restriction Indicator Performance					•				
Change MFWD Axle and Wheel Hub Oil					•				
Check Neutral Start System					•				
inspect Seat Belts (OOS)					•				
Check Front Axle Pivot Pin End Play					•				
Check Coolant Properties					•				
Change Fuel Filters (2.9 Liter 3 Cylinder Engine)					•				
Change MFWD Axle Wheel Hub and Housing Oil					•				
Clean Cab Air Filters					•				
Clean Open Crankcase Vent					•				
Service Air Cleaner Elements					•				
Service Battery and Connections					•				
Lubricate Rear Axle Bearings					•				
Lubricate PTO Stub Shaft Support (Not reversable)					•				
Replace Primary and Secondary Air Filter Elements						•			
Adjust Engine Valve Clearance and Fuel Injectors						•			
Replace Fan Belt						•			
Engine Crankcase Ventilation (OCV) Tube Cleaning						•			
Adjust Engine Valve Clearance (2.9 Liter 3 Cylinder Engine) [See your John Deere dealer for service]						•			
Change Transmission/Hydraulic Oil and Filter							•		
Cleaning of the oil suction screen of the							•		

Maintenance Intervals

Activity	Daily or 10 Hours	Weekly or 50 Hours	First 100 Hours	Every 250 Hours	Every 500 Hours / Annually	Every 1000 Hours	Every 1500 Hours / 3 Years	Every 3000 Hours	Every 4500 Hours / 5 Years
transmission and the hydraulic system (Pick up screen)									
Test or Replace Thermostat									•
Drain and Replace Coolant									•

NOTE: See *Fuels, Lubricants, and Coolants* section for more information.

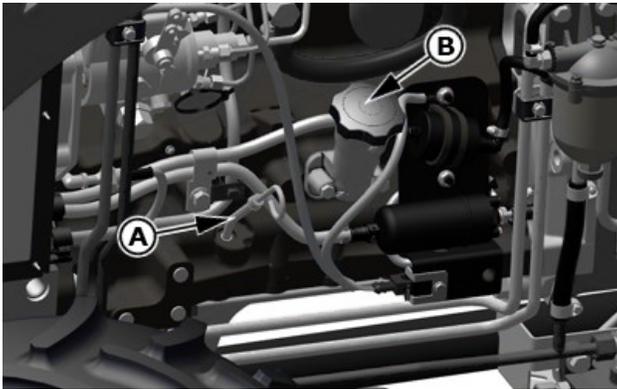
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Service Daily Before Start-Up

IMPORTANT: During the first 100 hours of operation, fill with John Deere diesel engine Break-In™ oil. (See Diesel Engine Break-In™ Oil — Non-Emissions Certified and Certified 5EN - FT4 in *Fuels, Lubricants, and Coolants* section for oil specifications.)



P19160—UN—29JUN22



P19199—UN—07JUL22

1. Check the engine oil level. Remove the dipstick (A) and reinsert completely. Remove it again and check the oil level.

NOTE: Safe operating range is between the two marks on dipstick. Do not start engine if the oil level is below the lower mark on the dipstick. Add seasonal viscosity grade oil at oil filler opening (B). (See *Diesel Engine Oil — 5EN - FT4* in *Fuels, Lubricants, and Coolants* section for oil specifications.)

2. Check coolant level in the recovery tank (A).

NOTE: If the engine is cool and coolant level is below the "LOW" mark, add coolant to recovery tank to bring level to the "LOW" mark.

Coolant level with a cold engine must be at the "LOW" mark. A tractor at operating temperature must have a coolant level at the "FULL" mark.

3. Lubricate the following points every 10 hours when operating in wet conditions or mud:

- Front axle pivot pin
- Steering knuckles
- King pins (MFWD)
- Tie rod ends
- Rear axle bearings

Use the multipurpose grease. (See *Grease* in *Fuels, Lubricants, and Coolants* section.)

4. Lubricate the following items after pressure washing, if necessary:

- Hood latch

Use the multipurpose grease. (See *Grease* in *Fuels, Lubricants, and Coolants* section.)

MSBAEPJ.000010B-19-07JUL22

Break-In Service

IMPORTANT: Verify that wheel hardware is tight before initial use, twice for initial 10 hours (after 5 and 10 hours), and after every 50 hours of operation.

New engines are filled with John Deere diesel engine Break-In™ oil. If oil is required during the first hours of operation, be sure to use Break-In™ oil. Change oil and filter after first 100 hours of operation.

During the First 10 Hours of Operation:

- Perform daily or 10-hours service. (See Maintenance Interval Chart in Maintenance Intervals section.)
- Tighten the wheel hardware. (See Wheels and Tires Operation section for more information.)

After the First 50 Hours of Operation:

- Tighten the wheel hardware. (See Wheels and Tires Operation section for more information.)
- Check the alternator/fan belt tension. (See Inspect and Replace Alternator/Fan Belt in Electrical and Lighting Maintenance section.)
- Tighten air intake and cooling system hose clamps.
- Perform 50 Hours Service. (See Maintenance Interval Chart in Maintenance Intervals section.)

After the First 100 Hours of Operation:

- Replace the transmission-hydraulic filter element. (See Change Transmission-Hydraulic Oil and Filter in Transmission Maintenance section.)
- Change engine oil and filter. (See Change Engine Oil and Filter in Engine Maintenance section.)

MSBAEPJ,000010C-19-11MAY22

Additional Service Information

This is not a detailed service manual. It contains only information needed for operation and routine maintenance. If you want more detailed service information, see your John Deere dealer.

PP71895,00006E2-19-31JAN18

Service Tractor Safely

Disengage power to attachments and stop engine before making any repairs or adjustments.

Do not change engine governor setting or overspeed engine.

Keep the vehicle and attachments in the good operating condition.

Keep safety devices in place and in working condition.

Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.

Before you work on any part of the engine, stop the engine and let it cool. Hot engine parts can burn the skin on contact.

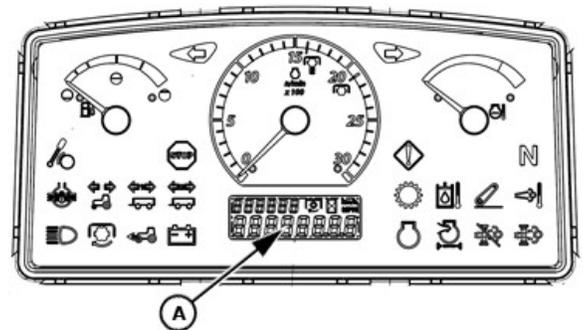
Never run the engine unless gearshift lever or electrohydraulic directional reverser (PR) is in PARK position.

Be careful to prevent clothing, jewelry, or long hair from getting caught in the fan blades, drive belts, or any other moving engine parts.

Unauthorized modifications to the machine can impair function and/or safety and affect the machine life.

MSBAEPJ,000010D-19-11MAY22

Observe Service Intervals



P19161—UN—29JUN22

NOTE: Services required during the break-in period must be performed previously. (See Break-In Service in Maintenance Intervals Section.)

Using hour meter (A) as a guide, perform all services at the hourly intervals indicated on the Maintenance Interval Chart in this section. Record the service performed in the Service Records section.

IMPORTANT: Recommended service intervals are for average conditions. Service more often if the tractor is operated under adverse conditions.

MSBAEPJ,0000077-19-29JUN22

Fuels, Lubricants, and Coolants

Diesel Engine Coolant (engine with wet sleeve cylinder liners)

Failure to follow applicable coolant standards and drain intervals can result in severe engine damage that may not be covered under warranty. Warranties, including the emissions warranty, are not conditioned on the use of John Deere coolants, parts, or service.

Preferred Coolants

The following pre-mix engine coolants are preferred:

- John Deere COOL-GARD™ II
- John Deere COOL-GARD II PG

COOL-GARD II pre-mix coolant is available in several concentrations with different freeze protection limits as shown in the following table.

COOL-GARD II Pre-Mix	Freeze Protection Limit
COOL-GARD II 20/80	-9°C (16°F)
COOL-GARD II 30/70	-16°C (3°F)
COOL-GARD II 50/50	-37°C (-34°F)
COOL-GARD II 55/45	-45°C (-49°F)
COOL-GARD II PG 60/40	-49°C (-56°F)
COOL-GARD II 60/40	-52°C (-62°F)

Not all COOL-GARD II pre-mix products are available in all countries.

Use COOL-GARD II PG when a non-toxic coolant formulation is required.

Additional Recommended Coolants

The following engine coolant is also recommended:

- John Deere COOL-GARD II Concentrate in a 40—60% mixture of concentrate with quality water.

IMPORTANT: When mixing coolant concentrate with water, do not use less than 40% or greater than 60% concentration of coolant. Less than 40% gives inadequate additives for corrosion protection. Greater than 60% can result in coolant gelation and cooling system problems.

Other Coolants

Other ethylene glycol or propylene glycol base coolants may be used if they meet the following specification:

- Pre-mix coolant meeting ASTM D6210 requirements
- Is formulated with a 2-ethylhexanoic acid (2-EHA) free additive package
- Coolant concentrate meeting ASTM D6210 requirements in a 40—60% mixture of concentrate with quality water

If coolant meeting one of these specifications is unavailable, use a coolant concentrate or pre-mix coolant that has a minimum of the following chemical and physical properties:

- Provides cylinder liner cavitation protection according to either the John Deere Cavitation Test Method or a fleet study run at or above 60% load capacity
- Is formulated with a nitrite-free additive package
- Is formulated with a 2-ethylhexanoic acid (2-EHA) free additive package
- Protects the cooling system metals (cast iron, aluminum alloys, and copper alloys such as brass) from corrosion

Water Quality

Water quality is important to the performance of the cooling system. Deionized or demineralized water is recommended for mixing with ethylene glycol and propylene glycol base engine coolant concentrate.

Coolant Drain Intervals

Drain and flush the cooling system and refill with fresh coolant at the indicated interval, which varies with the coolant used.

When COOL-GARD II or COOL-GARD II PG is used, the drain interval is 6 years or 6000 hours of operation.

If a coolant other than COOL-GARD II or COOL-GARD II PG is used, reduce the drain interval to 2 years or 2000 hours of operation.¹

IMPORTANT: Do not use cooling system sealing additives or antifreeze that contains sealing additives.

Do not mix ethylene glycol and propylene glycol base coolants.

Do not use coolants that contain nitrites.

DX,COOL3-19-25AUG20

Operating in Warm Temperature Climates

John Deere engines are designed to operate using recommended engine coolants.

Always use a recommended engine coolant, even when operating in geographical areas where freeze protection is not required.

IMPORTANT: Water may be used as coolant in emergency situations only.

¹ Coolant analysis may extend the service interval of other "Coolants" to a maximum not to exceed the interval of Cool-Gard II coolants. Coolant analysis means taking a series of coolant samples at 1000 hour increments beyond the normal service interval until either the data indicate the end of useful coolant life or the maximum service interval of Cool-Gard II is reached.

Foaming, hot surface aluminum and iron corrosion, scaling, and cavitation occur when water is used as the coolant, even when coolant conditioners are added.

Drain cooling system and refill with recommended engine coolant as soon as possible.

DX,COOL6-19-17FEB20

John Deere COOL-GARD™ II Coolant Extender

Some coolant additives gradually deplete during engine operation. For COOL-GARD™ II pre-mix and COOL-GARD II Concentrate, replenish coolant additives between drain intervals by adding COOL-GARD II Coolant Extender.

COOL-GARD II Coolant Extender should not be added unless indicated by COOL-GARD II Test Strips. These test strips provide a simple, effective method to check the freeze point, additive levels, and pH of your engine coolant.

Test the coolant solution at intervals of 12 months and whenever excessive coolant is lost through leaks or overheating.

IMPORTANT: Do not use COOL-GARD II Test Strips with COOL-GARD II PG.

COOL-GARD II Coolant Extender is a chemically matched additive system for use with all COOL-GARD II coolants. COOL-GARD II Coolant Extender is not intended for use with nitrite-containing coolants.

IMPORTANT: Do not add a supplemental coolant additive when the cooling system is drained and refilled with any of the following:

- John Deere COOL-GARD II
- John Deere COOL-GARD II PG

The use of non-recommended supplemental coolant additives can result in additive drop-out, gelation of the coolant, or corrosion of cooling system components.

Add the recommended concentration of COOL-GARD II Coolant Extender. DO NOT add more than the recommended amount.

DX,COOL16-19-15MAY13

Water Quality for Mixing with Coolant Concentrate

Engine coolants are a combination of three chemical

components: ethylene glycol (EG) or propylene glycol (PG) antifreeze, inhibiting coolant additives, and quality water.

Water quality is important to the performance of the cooling system. Deionized or demineralized water is recommended for mixing with ethylene glycol and propylene glycol base engine coolant concentrate.

All water used in the cooling system should meet the following minimum specifications for quality:

Chlorides	<40 mg/L
Sulfates	<100 mg/L
Total solids	<340 mg/L
Total dissolved I hardness	<170 mg/L
pH	5.5—9.0

IMPORTANT: Do not use bottled drinking water because it often contains higher concentrations of total dissolved solids.

Freeze Protection

The relative concentrations of glycol and water in the engine coolant determine its freeze protection limit.

Ethylene Glycol	Freeze Protection Limit
40%	-24°C (-12°F)
50%	-37°C (-34°F)
60%	-52°C (-62°F)
Propylene Glycol	Freeze Protection Limit
40%	-21°C (-6°F)
50%	-33°C (-27°F)
60%	-49°C (-56°F)

DO NOT use a coolant-water mixture greater than 60% ethylene glycol or 60% propylene glycol.

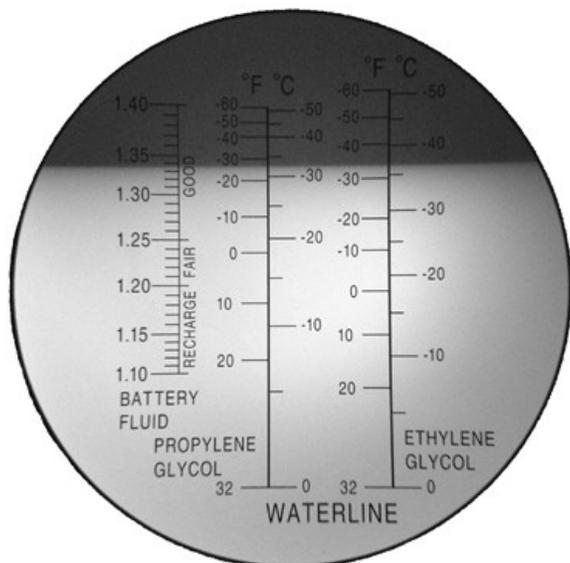
DX,COOL19-19-13JAN18

Testing Coolant Freeze Point



TS1732—UN—04SEP13
SERVICEGARD™ Part Number 75240

COOL-GARD is a trademark of Deere & Company



TS1733—UN—04SEP13

Image with a Drop of 50/50 Coolant Placed on the Refractometer Window

The use of a handheld coolant refractometer is the quickest, easiest, and most accurate method to determine coolant freeze point. This method is more accurate than a test strip or a float-type hydrometer which can produce poor results.

A coolant refractometer is available through your John Deere dealer under the SERVICEGARD™ tool program. Part number 75240 provides an economical solution to accurate freeze point determination in the field.

To use this tool:

1. Allow cooling system to cool to ambient temperatures.
2. Open radiator cap to expose coolant.
3. With the included dropper, collect a small coolant sample.
4. Open the lid of the refractometer, place one drop of coolant on the window and close the lid.
5. Look through the eyepiece and focus as necessary.
6. Record the listed freeze point for the type of coolant (ethylene glycol coolant or propylene glycol) being tested.

DX,COOL,TEST-19-13JUN13

Diesel Exhaust Fluid (DEF) — Use in Selective Catalytic Reduction (SCR) Equipped Engines

In order to maintain the emissions performance of the

SERVICEGARD is a trademark of Deere & Company

engine, it is essential to use and refill DEF in accordance with the specification.

Diesel exhaust fluid (DEF) is a high purity liquid that is injected into the exhaust system of engines equipped with selective catalytic reduction (SCR) systems. Maintaining the purity of DEF is important to avoid malfunctions in the SCR system. Engines requiring DEF shall use a product that meets the requirements for aqueous urea solution 32 (AUS 32) according to ISO 22241-1.

The use of John Deere Diesel Exhaust Fluid is recommended. John Deere Diesel Exhaust Fluid is available at your John Deere dealer in a variety of package sizes to suit your operational needs.

If John Deere Diesel Exhaust Fluid is not available, use DEF that is certified by the American Petroleum Institute (API) Diesel Exhaust Fluid Certification Program or by the AdBlue™ Diesel Exhaust Fluid Certification Program. Look for the API certification symbol or the AdBlue™ name on the container.



RG30211—UN—08MAR18

In some cases, DEF is referred to by one or more of these names:

- Urea
- Aqueous Urea Solution 32
- AUS 32
- AdBlue™
- NOx Reduction Agent
- Catalyst Solution

DX,DEF-19-13JAN18

Disposal of Diesel Exhaust Fluid (DEF)

Although there is little issue with minor spillage of DEF on the ground, large amounts of DEF should be contained. If large spills occur, contact local environmental authorities for assistance with clean-up.

If a substantial quantity of DEF is not within specification, contact the DEF supplier for assistance with disposal. Do not dump substantial quantities of DEF onto the ground or send DEF to wastewater treatment facilities.

DX,DEF,DISPOSE-19-13JUN13

AdBlue is a trademark of VDA, the German Association of the Automotive Industry.

Refilling Diesel Exhaust Fluid (DEF) Tank



TS1731—UN—23AUG13

⚠ CAUTION: Avoid contact with eyes. In case of contact, immediately flush eyes with large amounts of water for a minimum of 15 minutes. Reference the Materials Safety Data Sheet (MSDS) for additional information.

Do not ingest DEF. In the event DEF is ingested, contact a physician immediately. Reference the Materials Safety Data Sheet (MSDS) for additional information.

IMPORTANT: Use only distilled water to rinse components that are used to deliver DEF. Tap water can contaminate DEF. If distilled water is not available, rinse with clean tap water, then thoroughly rinse with ample amounts of DEF.

If DEF is spilled or contacts any surface other than the storage tank, immediately clean the surface with clear water. DEF is corrosive to painted and unpainted metallic surfaces and can distort some plastic and rubber components.

If DEF is filled into engine fuel tank or other fluid compartment, do not operate engine until system is properly purged of DEF. Contact your John Deere dealer immediately to determine how to clean and purge the system.

Reasonable care should be taken when refilling the DEF tank. Ensure that the DEF tank cap area is free of debris before removing the cap. Seal containers of DEF between use to prevent contamination and evaporation.

Avoid splashing DEF and do not allow DEF to come into contact with skin, eyes, or mouth.

DEF is not harmful to handle, but DEF can be corrosive to materials such as steel, iron, zinc, nickel, copper, aluminum, and magnesium. Use suitable containers to transport and store DEF. Containers made of polyethylene, polypropylene, or stainless steel are recommended.

Avoid prolonged contact with skin. In case of accidental contact, wash skin immediately with soap and water.

Keep anything used to store or dispense DEF clean of dirt and dust. Wash and rinse containers or funnels thoroughly with distilled water to remove contaminants.

If an unapproved fluid, such as diesel fuel or coolant is added to the DEF tank, contact your John Deere dealer immediately to determine how to clean and purge the system.

If water has been added to the DEF tank, a tank cleaning is necessary. See Cleaning DEF Tank in this manual. After refilling the tank, check the DEF concentration. See Testing Diesel Exhaust Fluid (DEF).

The operator must maintain appropriate DEF levels at all times. Check the DEF level daily and refill the tank as needed. The filling port is identified by a blue colored cap embossed with the following DEF symbol.

DX,DEF,REFILL-19-15JUL20

Storing Diesel Exhaust Fluid (DEF)

⚠ CAUTION: Avoid contact with eyes. In case of contact, immediately flush eyes with large amounts of water for a minimum of 15 minutes. Reference the Materials Safety Data Sheet (MSDS) for additional information.

Do not ingest DEF. In the event DEF is ingested, contact a physician immediately. Reference the Materials Safety Data Sheet (MSDS) for additional information.

IMPORTANT: It is unlawful to tamper with or remove any component of the aftertreatment system. Do not use DEF that does not meet the required specifications or operate the engine with no DEF.

Never attempt to create DEF by mixing agricultural grade urea with water. Agricultural grade urea does not meet the necessary specifications and can damage the aftertreatment system.

Do not add any chemicals or additives to DEF in an effort to prevent freezing. Any chemicals or additives added to DEF can damage the aftertreatment system.

Never add water or any other fluid in place of, or in addition to DEF. Operating with a modified DEF or using an unapproved DEF can damage the aftertreatment system.

Storage information provided below is for reference and is to be used as a guideline only.

It is preferred to store DEF out of extreme ambient temperatures. DEF freezes at -11°C (12°F). Exposure to temperatures greater than 30°C (86°F) can degrade DEF over time. Do not store DEF in direct sunlight.

Dedicated DEF storage containers must be sealed between uses to prevent evaporation and contamination. Containers made of polyethylene,

polypropylene, or stainless steel are recommended to transport and store DEF.

Ideal conditions for storage of DEF are:

- Store at temperatures between -5°C and 30°C (23°F and 86°F)
- Store in dedicated containers sealed to avoid contamination and evaporation

Under these conditions, DEF is expected to remain useable for a minimum of 18 months. Storing DEF at higher temperatures can reduce its useful life by approximately 6 months for every 5°C (9°F) temperature above 30°C (86°F).

If unsure how long or under what conditions DEF has been stored, test DEF. See Testing Diesel Exhaust Fluid (DEF).

Long-term storage in the DEF tank (over 12 months) is not recommended. If long-term storage is necessary, test DEF prior to operating engine. See Testing Diesel Exhaust Fluid (DEF).

It is recommended to purchase DEF in quantities that will be consumed within 12 months.

DX,DEF,STORE-19-15JUL20

Testing Diesel Exhaust Fluid (DEF)

IMPORTANT: Using DEF with the correct concentration is critical to engine and aftertreatment system performance. Extended storage and other conditions can adversely alter the DEF concentration.

If DEF quality is questionable, draw a sample out of the DEF tank or storage tank into a clear container. DEF must be crystal clear with a light ammonia smell. If DEF appears cloudy, has a colored tint, or has a profound ammonia smell, it is likely not within specification. DEF in this condition should not be used. Drain tank, flush with distilled water and refill with new or good DEF. After refilling the tank, check the DEF concentration.

If the DEF passes the visual and smell test, check the DEF concentration with a handheld refractometer calibrated to measure DEF.

DEF concentration should be checked when the engine has been stored for extended periods, or if there is suspicion the engine or packaged DEF fluid has been contaminated with water.

Two approved tools are available through your John Deere dealer:

- JDG11594 Digital DEF Refractometer—A digital tool providing an easy to read concentration measurement
- JDG11684 DEF Refractometer—Low-cost alternative tool providing an analog reading

Follow instructions included with either tool to obtain the measurement.

The correct DEF concentration is 31.8—33.2% urea. If the DEF concentration is not within specification, drain the DEF tank, flush with distilled water and fill with new or good DEF. If packaged DEF is not within specification, dispose of DEF packages and replace with new or good DEF.

DX,DEF,TEST-19-13JUN13

Diesel Engine Oil Service Interval for Operation at High Altitude

To avoid excessive oil degradation and potential engine damage, reduce oil and filter service intervals to 50% of the original recommended values when operating engines at altitudes above **1675 m (5500 ft)**.

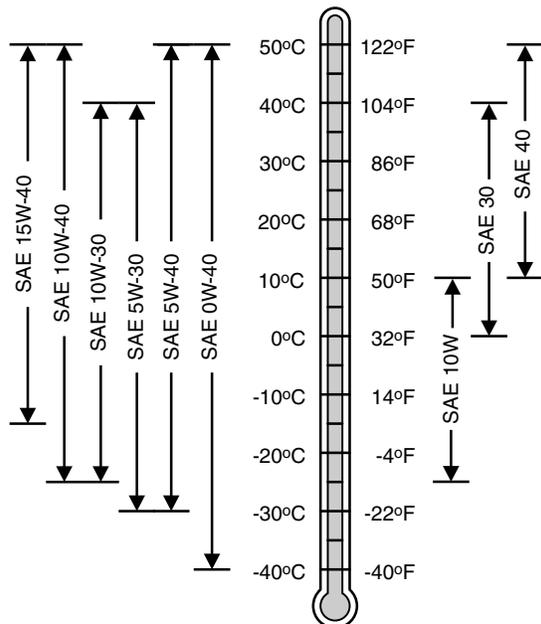
Oil analysis may allow longer service intervals.

Use only approved oil types.

Example of Original Hours	Corresponding High Altitude Hours
125	60
150	75
175	85
200	100
250	125
275	135
300	150
350	175
375	185
400	200
500	250

DX,ENOIL,SERV,HALT-19-11NOV14

Diesel Engine Oil — Interim Tier 4, Final Tier 4, Stage IIIB, Stage IV, and Stage V



TS1743—UN—25APR19

Oil Viscosities for Air Temperature Ranges

Failure to follow applicable oil standards and drain intervals can result in severe engine damage that might not be covered under warranty. Warranties, including the emissions warranty, are not conditioned on the use of John Deere oils, parts, or service.

Use oil viscosity based on the expected air temperature range during the period between oil changes.

John Deere Plus-50™ II is the recommended engine oil.

Extended service intervals may apply when John Deere Plus-50™ II engine oil is used. Refer to the engine oil drain interval table and consult your John Deere dealer for more information.

If John Deere Plus-50™ II engine oil is not available, engine oil meeting one or more of the following may be used:

- API Service Category CK-4
- API Service Category CJ-4
- ACEA Oil Sequence E9
- ACEA Oil Sequence E6

DO NOT use engine oil containing more than 1.0% sulfated ash, 0.12% phosphorus, or 0.4% sulfur.

Multi-viscosity diesel engine oils are preferred.

Diesel fuel quality and fuel sulfur content must comply with all existing emissions regulations for the area in which the engine operates.

Plus-50 is a trademark of Deere & Company

IMPORTANT: Use only ultra low sulfur diesel (ULSD) fuel with a maximum sulfur content of 15 mg/kg (15 ppm).

DX,ENOIL14-19-23APR19

Engine Oil and Filter Service Intervals — Interim Tier 4, Final Tier 4, Stage IIIB, Stage IV, and Stage V Engines

Failure to follow applicable oil standards and drain intervals can result in severe engine damage that might not be covered under warranty. Warranties, including the emissions warranty, are not conditioned on the use of John Deere oils, parts, or service.

Recommended oil and filter service intervals are based on a combination of oil pan capacity, type of engine oil and filter used, and sulfur content of the diesel fuel. Actual service intervals also depend on operation and maintenance practices.

Approved Oil Types:

- John Deere Plus-50™ II
- “Other Oils” include API CK-4, API CJ-4, ACEA E9, and ACEA E6

Use oil analysis to evaluate the condition of the oil and to aid in selection of the proper oil and filter service interval. Contact your John Deere dealer or other qualified service provider for more information on engine oil analysis.

Change the oil and oil filter at least once every 12 months even if the hours of operation are fewer than the otherwise recommended service interval.

Diesel fuel sulfur content affects engine oil and filter service intervals. Higher fuel sulfur levels reduce oil and filter service intervals.

Use of diesel fuel with sulfur content less than 15 mg/kg (15 ppm) is REQUIRED.

Engine operation at high altitude decreases oil change intervals. See Diesel Engine Oil Service Interval for Operation at High Altitude for additional information.

NOTE: The 500 hour extended oil and filter change interval is only allowed if all of the following conditions are met:

- Use of diesel fuel with sulfur content less than 15 mg/kg (15 ppm)
- Use of John Deere Plus-50™ II oil
- Use of an approved John Deere oil filter

Engine Oil and Filter Service Intervals	
John Deere Plus-50™ II	500 hours
Other Oils	250 hours

Engine Oil and Filter Service Intervals

Oil analysis may extend the service interval of "Other Oils" to a maximum not to exceed the interval of Plus-50™ II oils. Oil analysis means taking a series of oil samples at 50-hour increments beyond the normal service interval until either the data indicates the end of useful oil life or the maximum service interval of John Deere Plus-50 II oils is reached.

IMPORTANT: To avoid engine damage:

- **Reduce oil and filter service intervals by 50% when using biodiesel blends greater than B20. Oil analysis may allow longer service intervals.**
- **Use only approved oil types.**

DX,ENOIL15,IT4,120toMAX-19-13JAN18

John Deere Break-In Plus™ Engine Oil — Interim Tier 4, Final Tier 4, Stage IIIB, Stage IV, and Stage V

New engines are filled at the factory with John Deere Break-In Plus™ Engine Oil. During the break-in period, add John Deere Break-In Plus™ Engine Oil, as needed to maintain the specified oil level.

Operate the engine under various conditions, particularly heavy loads with minimal idling, to help seat engine components properly.

During the initial operation of a new or rebuilt engine, change the oil and filter between a minimum of 100 hours and maximum equal to the interval specified for John Deere Plus-50™ II oil.

After engine overhaul, fill the engine with John Deere Break-In Plus™ Engine Oil.

If John Deere Break-In Plus™ Engine Oil is not available, use an SAE 10W-30 viscosity grade diesel engine oil meeting one of the following:

- API Service Category CK-4
- API Service Category CJ-4
- ACEA Oil Sequence E9
- ACEA Oil Sequence E6

If one of these oils is used during the initial operation of a new or rebuilt engine, change the oil and filter between a minimum of 100 hours and a maximum of 250 hours.

IMPORTANT: Do not use any other engine oils during the initial break-in of a new or rebuilt engine.

John Deere Break-In Plus™ Engine Oil can be used for all John Deere diesel engines at all emission certification levels.

After the break-in period, use John Deere Plus-50™ II or other diesel engine oil as recommended in this manual.

DX,ENOIL16-19-13JAN18

Oil Filters

Filtration of oils is critically important for proper operation and lubrication. John Deere brand oil filters have been designed and produced specifically for John Deere applications.

John Deere filters adhere to engineering specifications for quality of the filter media, filter efficiency rating, strength of the bond between the filter media and the element end cap, fatigue life of the canister (if applicable), and pressure capability of the filter seal. Non-John Deere branded oil filters might not meet these key John Deere specifications.

Always change oil filters regularly as specified in this manual.

DX,FILT1-19-11APR11

Fuel Filters

The importance of fuel filtration cannot be overemphasized with modern fuel systems. The combination of increasingly restrictive emission regulations and more efficient engines requires fuel system to operate at much higher pressures. Higher pressures can only be achieved using fuel injection components with very close tolerances. These close manufacturing tolerances have significantly reduced capacities for debris and water.

John Deere brand fuel filters have been designed and produced specifically for John Deere engines.

To protect the engine from debris and water, always change engine fuel filters as specified in this manual.

DX,FILT2-19-14APR11

Diesel Fuel

Consult your local fuel distributor for properties of the diesel fuel available in your area.

In general, diesel fuels are blended to satisfy the low temperature requirements of the geographical area in which they are marketed.

Diesel fuels specified to EN 590 or ASTM D975 are recommended. Renewable diesel fuel produced by hydrotreating animal fats and vegetable oils is basically identical to petroleum diesel fuel. Renewable diesel that meets EN 590, ASTM D975, or EN 15940 is acceptable for use at all percentage mixture levels.

Plus-50 is a trademark of Deere & Company.

Break-In Plus is a trademark of Deere & Company

Required Fuel Properties

In all cases, the fuel shall meet the following properties:

Cetane number of 40 minimum. Cetane number greater than 47 is preferred, especially for temperatures below -20°C (-4°F) or elevations above 1675 m (5500 ft.).

Cloud Point should be below the expected lowest ambient temperature or **Cold Filter Plugging Point** (CFPP) should be a maximum 10°C (18°F) below the fuel cloud point.

Fuel lubricity should pass a maximum scar diameter of 0.52 mm as measured by ASTM D6079 or ISO 12156-1. A maximum scar diameter of 0.45 mm is preferred.

Diesel fuel quality and sulfur content must comply with all existing emissions regulations for the area in which the engine operates. DO NOT use diesel fuel with sulfur content greater than 10 000 mg/kg (10 000 ppm).

Materials such as copper, lead, zinc, tin, brass and bronze should be avoided in fuel handling, distribution and storage equipment as these metals can catalyze fuel oxidation reactions which can lead to fuel system deposits and plugged fuel filters.

E-Diesel fuel

DO NOT use E-Diesel (Diesel fuel and ethanol blend). Use of E-Diesel fuel in any John Deere machine may void the machine warranty.

CAUTION: Avoid severe injury or death due to the fire and explosion risk from using E-Diesel fuel.

Sulfur Content for Interim Tier 4, Final Tier 4, Stage III B, Stage IV, and Stage V Engines Above 560 kW

- Use ONLY diesel fuel with a maximum of 500 mg/kg (500 ppm) sulfur content.

Sulfur Content for Interim Tier 4, Final Tier 4, Stage III B, Stage IV Engines, and Stage V Engines

- Use ONLY ultra low sulfur diesel (ULSD) fuel with a maximum of 15 mg/kg (15 ppm) sulfur content.

Sulfur Content for Tier 3 and Stage III A Engines

- Use of diesel fuel with sulfur content less than 1000 mg/kg (1000 ppm) is RECOMMENDED.
- Use of diesel fuel with sulfur content 1000—2000 mg/kg (1000—2000 ppm) REDUCES the oil and filter change interval.
- BEFORE using diesel fuel with sulfur content greater than 2000 mg/kg (2000 ppm), contact your John Deere dealer.

Sulfur Content for Tier 2 and Stage II Engines

- Use of diesel fuel with sulfur content less than 2000 mg/kg (2000 ppm) is RECOMMENDED.
- Use of diesel fuel with sulfur content 2000—5000 mg/kg (2000—5000 ppm) REDUCES the oil and filter change interval.²
- BEFORE using diesel fuel with sulfur content greater than 5000 mg/kg (5000 ppm), contact your John Deere dealer.

Sulfur Content for Other Engines

- Use of diesel fuel with sulfur content less than 5000 mg/kg (5000 ppm) is RECOMMENDED.
- Use of diesel fuel with sulfur content greater than 5000 mg/kg (5000 ppm) REDUCES the oil and filter change interval.

IMPORTANT: Do not mix used diesel engine oil or any other type of lubricating oil with diesel fuel.

Improper fuel additive usage may cause damage on fuel injection equipment of diesel engines.

DX,FUEL1-19-01NOV22

Handling and Storing Diesel Fuel

CAUTION: Reduce the risk of fire. Handle fuel carefully. DO NOT fill the fuel tank when engine is running. DO NOT smoke while you fill the fuel tank or service the fuel system.

Fill the fuel tank at the end of each day's operation to prevent water condensation and freezing during cold weather.

Keep all storage tanks as full as practical to minimize condensation.

Ensure that all fuel tank caps and covers are installed properly to prevent moisture from entering. Monitor water content of the fuel regularly.

When using biodiesel fuel, the fuel filter may require more frequent replacement due to premature plugging.

Check engine oil level daily prior to starting engine. A rising oil level may indicate fuel dilution of the engine oil.

IMPORTANT: The fuel tank is vented through the filler cap. If a new filler cap is required, always replace it with an original vented cap.

When fuel is stored for an extended period or if there is a slow turnover of fuel, add a fuel conditioner to stabilize

² See DX,ENOIL12,OEM, DX,ENOIL12,T2,STD, or DX,ENOIL12,T2,EXT for more information on Engine Oil and Filter Service Intervals.

the fuel. Keeping the free water drained and treating the bulk fuel storage tank quarterly with a maintenance dose of a biocide will prevent microbial growth. Contact your fuel supplier or John Deere dealer for recommendations.

DX,FUEL4-19-13JAN18

Testing Diesel Fuel

A fuel analysis program can help to monitor the quality of diesel fuel. The fuel analysis can provide critical data such as calculated cetane index, fuel type, sulfur content, water content, appearance, suitability for cold weather operations, bacteria, cloud point, acid number, particulate contamination, and whether the fuel meets ASTM D975 or equivalent specification.

Contact your John Deere dealer for more information on diesel fuel analysis.

DX,FUEL6-19-13JAN18

Minimizing the Effect of Cold Weather on Diesel Engines

John Deere diesel engines are designed to operate effectively in cold weather.

However, for effective starting and cold-weather operation, a little extra care is necessary. The following information outlines steps that can minimize the effect that cold weather may have on starting and operation of your engine. See your John Deere dealer for additional information and local availability of cold-weather aids.

Use Winter Grade Fuel

When temperatures fall below 0°C (32°F), winter grade fuel (No. 1-D in North America) is best suited for cold-weather operation. Winter grade fuel has a lower cloud point and a lower pour point.

Cloud point is the temperature at which wax begins to form in the fuel. This wax causes fuel filters to plug.

Pour point is the lowest temperature at which movement of the fuel is observed.

NOTE: On average, winter grade diesel fuel has a lower Btu (heat content) rating. Using winter grade fuel may reduce power and fuel efficiency, but should not cause any other engine performance effects. Check the grade of fuel being used before troubleshooting for low-power complaints in cold-weather operation.

Air Intake Heater

An air intake heater is an available option for some engines to aid cold weather starting.

Ether

An ether port on the intake is available to aid cold weather starting.

⚠ CAUTION: Ether is highly flammable. Do not use ether when starting an engine equipped with glow plugs or an air intake heater.

Coolant Heater

An engine block heater (coolant heater) is an available option to aid cold weather starting.

Seasonal Viscosity Oil and Proper Coolant Concentration

Use seasonal grade viscosity engine oil based on the expected air temperature range between oil changes and a proper concentration of low silicate antifreeze as recommended. (See DIESEL ENGINE OIL and ENGINE COOLANT requirements in this section.)

Diesel Fuel Cold Flow Additive

Use John Deere Fuel-Protect Diesel Fuel Conditioner (winter formula), which contains anti-gel chemistry, or equivalent fuel conditioner to treat non-winter grade fuel (No. 2-D in North America) during the cold-weather season. This generally extends operability to about 10°C (18°F) below the fuel cloud point. For operability at even lower temperatures, use winter grade fuel.

IMPORTANT: Treat fuel when outside temperature drops below 0°C (32°F). For best results, use with untreated fuel. Follow all recommended instructions on label.

Biodiesel

When operating with biodiesel blends, wax formation can occur at warmer temperatures. Begin using John Deere Fuel-Protect Diesel Fuel Conditioner (winter formula) or equivalent at 5°C (41°F) to treat biodiesel fuels during the cold-weather season. Use B5 or lower blends at temperatures below 0°C (32°F). Use only winter grade petroleum diesel fuel at temperatures below -10°C (14°F).

Winterfronts

Use of fabric, cardboard, or solid winterfronts is not recommended with any John Deere engine. Their use can result in excessive engine coolant, oil, and charge air temperatures. This can lead to reduced engine life, loss of power and poor fuel economy. Winterfronts may also put abnormal stress on fan and fan drive components potentially causing premature failures.

If winterfronts are used, they should never totally close off the grill frontal area. Approximately 25% area in the center of the grill should remain open at all times. At no time should the air blockage device be applied directly to the radiator core.

Radiator Shutters

If equipped with a thermostatically controlled radiator shutter system, this system should be regulated in such a way that the shutters are completely open by the time the coolant reaches 93°C (200°F) to prevent excessive intake manifold temperatures. Manually controlled systems are not recommended.

If air-to-air aftercooling is used, the shutters must be completely open by the time the intake manifold air temperature reaches the maximum allowable temperature out of the charge air cooler.

For more information, see your John Deere dealer.

DX,FUEL10-19-13JAN18

Supplemental Diesel Fuel Additives

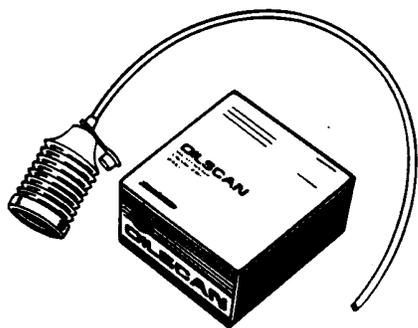
Diesel fuel can be the source of performance or other operational problems for many reasons. Some causes include poor lubricity, contaminants, low cetane number, and a variety of properties that cause fuel system deposits. These and others are referenced in other sections of this Operator's Manual.

To optimize engine performance and reliability, closely follow recommendations on fuel quality, storage, and handling, which are found elsewhere in this Operator's Manual.

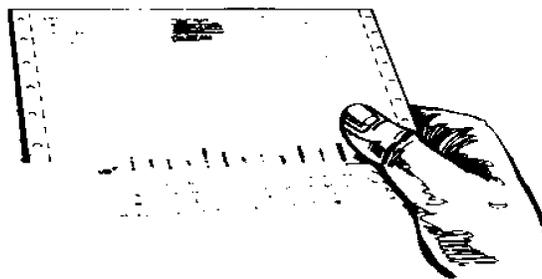
To further aid in maintaining performance and reliability of the engine's fuel system, John Deere has developed a family of fuel additive products for most global markets. The primary products include Fuel-Protect Diesel Fuel Conditioner (full feature conditioner in winter and summer formulas) and Fuel-Protect Keep Clean (fuel injector deposit removal and prevention). Availability of these and other products varies by market. See your local John Deere dealer for availability and additional information about fuel additives that might be right for your needs.

DX,FUEL13-19-07FEB14

Oilscan™ and CoolScan™



T6828AB—UN—15JUN89



T6829AB—UN—26AUG11

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.

DX,OILSCAN-19-13SEP11

Alternative and Synthetic Lubricants

Conditions in certain geographical areas may require lubricant recommendations different from those printed in this manual.

Some John Deere brand coolants and lubricants may not be available in your location.

Consult your John Deere dealer to obtain information and recommendations.

Synthetic lubricants may be used if they meet the performance requirements as shown in this manual.

The temperature limits and service intervals shown in this manual apply to John Deere branded fluids or fluids that have been tested and/or approved for use in John Deere equipment.

Re-refined base stock products may be used if the finished lubricant meets the performance requirements.

DX,ALTER-19-13JAN18

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.

*Oilscan is a trademark of Deere & Company
CoolScan is a trademark of Deere & Company*

IMPORTANT: Make sure the diesel fuel used in your machine demonstrates good lubricity characteristics.

Fuel lubricity should pass a maximum scar diameter of 0.52 mm as measured by ASTM D6079 or ISO 12156-1. A maximum scar diameter of 0.45 mm is preferred.

If fuel of low or unknown lubricity is used, add John Deere Fuel-Protect Diesel Fuel Conditioner (or equivalent) at the specified concentration.

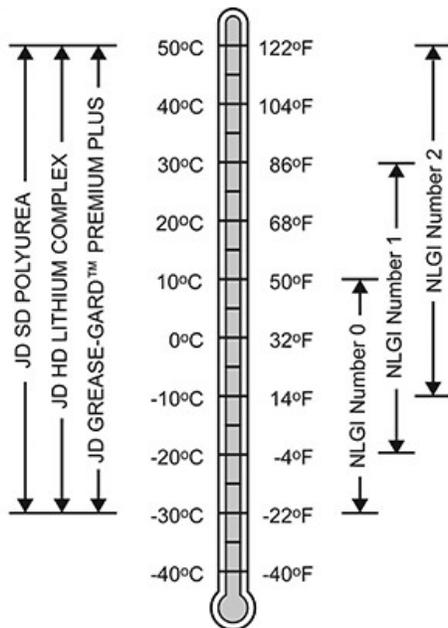
Lubricity of BioDiesel Fuel

Fuel lubricity can improve significantly with BioDiesel blends up to B20 (20% BioDiesel). Further increase in lubricity is limited for BioDiesel blends greater than B20.

DX,FUEL5-19-07FEB14

Multipurpose Extreme Pressure (EP) Grease

IMPORTANT: For automated lubrication systems different ambient air temperatures need to be considered.



RG30199—UN—08MAR18

Greases for Air Temperature Ranges

Use grease based on NLGI consistency numbers and the expected air temperature range during the service interval.

John Deere SD Polyurea Grease is preferred.

The following greases are also recommended:

- John Deere HD Lithium Complex Grease

- John Deere Grease-Gard™ Premium Plus

Other greases may be used if they meet the following:

- NLGI Performance Classification GC-LB
- ISO-L-X-BDHB 2 or DIN KP 2 N-10 Lithium Complex, Non-Synthetic Base Oil (100 to 220 mm²/s @ 40°C)

IMPORTANT: Some types of thickeners, base oils, and additives used in greases are not compatible with others. Mixing greases should be avoided. Consult your grease supplier before mixing different types of grease.

DX,GREA1-19-13JAN18

Mixing of Lubricants

In general, avoid mixing different brands or types of oil. Oil manufacturers blend additives in their oils to meet certain specifications and performance requirements.

Mixing different oils can interfere with the proper functioning of these additives and degrade lubricant performance.

Consult your John Deere dealer to obtain specific information and recommendations.

DX,LUBMIX-19-18MAR96

Lubricant Storage

Your equipment can operate at top efficiency only when clean lubricants are used.

Use clean containers to handle all lubricants.

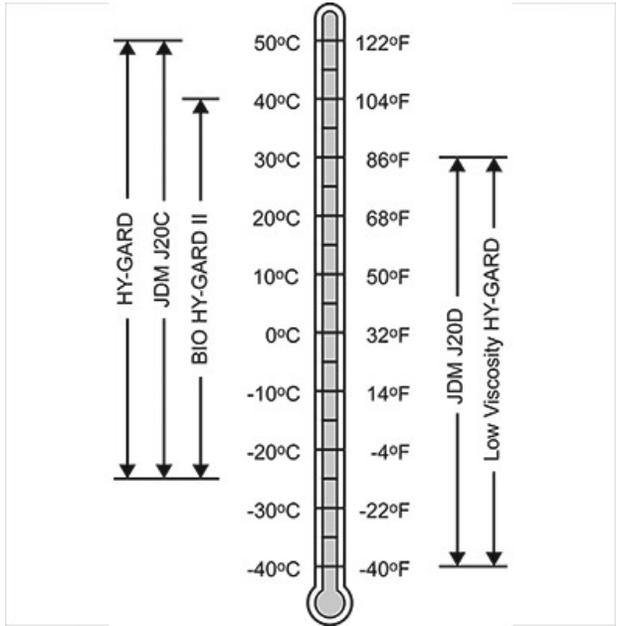
Store lubricants and containers in an area protected from dust, moisture, and other contamination. Store containers on their side to avoid water and dirt accumulation.

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

Transmission, Steering, Brake, Hydraulic, and Gear Case Oil



Oils for Air Temperature Ranges

Use oil viscosity based on the expected air temperature range during the period between oil changes.

The following oils are preferred:

- John Deere Hy-Gard™
- John Deere Low Viscosity Hy-Gard™

Other oils may be used if they meet one of the following:

- John Deere Standard JDM J20C
- John Deere Standard JDM J20D

Use John Deere Bio Hy-Gard™ II oil when a biodegradable fluid is required.³

DX,OIL1-19-13JAN18

Hy-Gard is a trademark of Deere & Company
Bio Hy-Gard is a trademark of Deere & Company

³ Bio Hy-Gard II meets or exceeds the minimum biodegradability of 80% within 21 days according to CEC-L-33-T-82 test method. Bio Hy-Gard II should not be mixed with mineral oils, because this reduces the biodegradability and makes proper oil recycling impossible.

As Required Maintenance

As Required Maintenance

- Clean Primary Air Filter Element¹
- Refill Engine Oil
- Bleed Fuel System
- Clean Grille Screens, Radiator, Oil Cooler, and Air-Conditioning Condenser
- Replace Battery
- Replace Alternator/Fan Belt
- Adjust Headlights
- Replace Headlight Bulb
- Replace Warning/Clearance Bulbs
- Replace Taillight Bulb
- Replace Worklight Bulb
- Replace Dome Light Bulb
- Replace Controls Illumination Light Bulb
- Replace Rotary Beacon Light Bulb
- Replace Loader Light Bulb
- Refill Transmission-Hydraulic System Oil
- Warm Hydraulic System Oil
- Check Selective Control Valve
- Check Air Conditioner (Cab)
- Check Engine Cooling System for Leaks
- Adjust Door Lock

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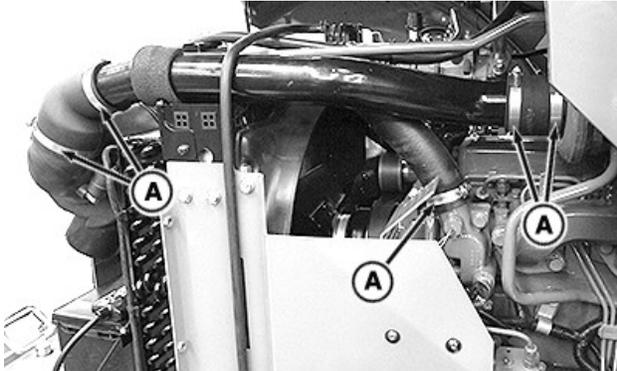
¹ Indicated by the air filter restriction indicator

Controls and Instruments Maintenance

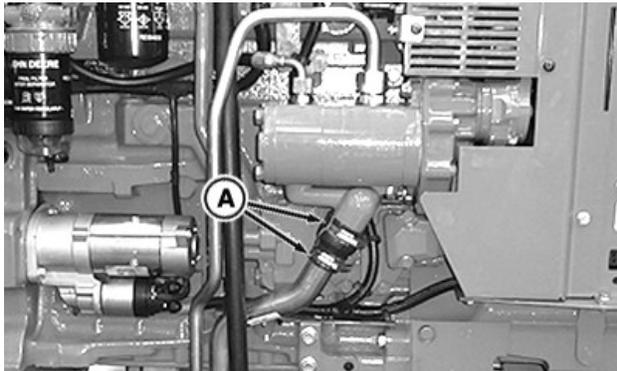
Check Hoses and Hose Clamps

Service Interval:

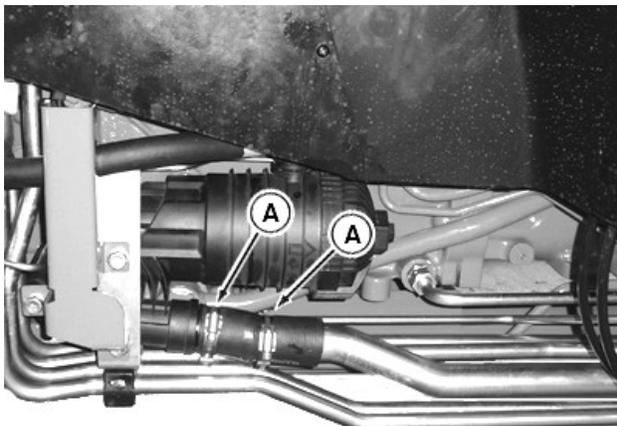
- Firts—Every 250 hours
- Tighten—Every 1000 hours



PY28585—UN—28JUL17



PY28584—UN—31AUG17



PY43543—UN—30AUG17

A—Hose Clamp

Check the following system hose for tightness:

- Air Cleaner-to-Engine Intake or Turbocharger
- Engine Cooling
- Hydraulics
- Fuel
- Air Conditioning and Heater

Check all hoses for cracks, which could cause leaks or possible failure. Replace as necessary.

MSBAEPJ,0000078-19-29NOV22

Clutch Pedal Operation

We can extend the clutch lifecycle by the following actions:

- Do not ride the clutch. Avoid leaving your foot on the pedal when not in use.
- Push the clutch pedal all the way down: When you are applying the clutch, push your foot all the way down to ensure complete activation.
- Keep the calibration within spec: Refer to the operator manual for the proper measurement and procedure.
- Do not over modulate the clutch: Use your brakes to slow down.

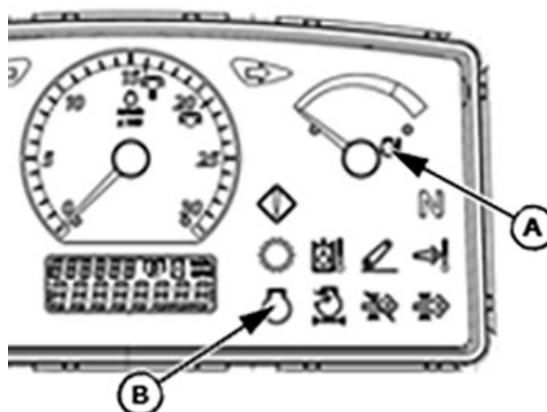
MSBAEPJ,000007A-19-11MAY22

Engine Maintenance

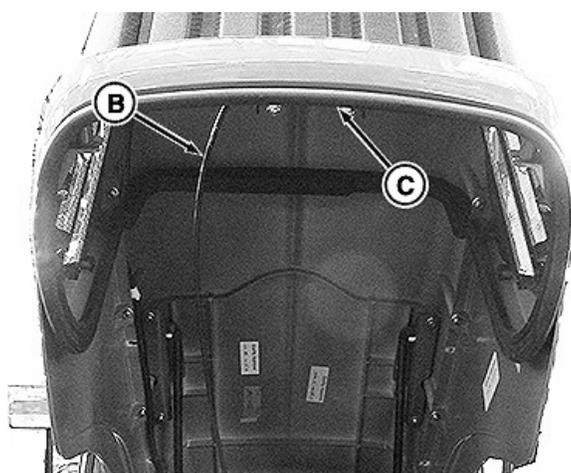
Open Hood



P19163—UN—29JUN22



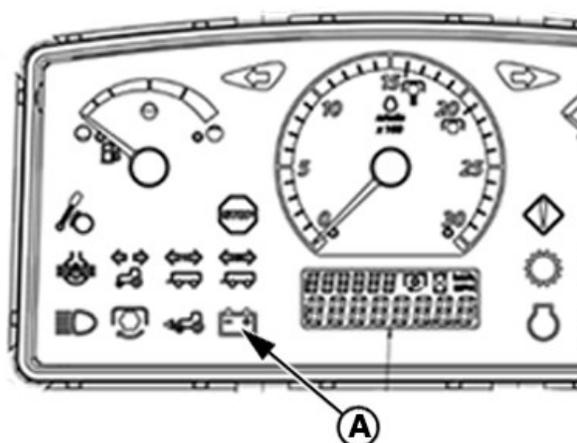
P19164—UN—29JUN22



PY28588—UN—28JUL17

1. Pull the hood latch release (A) out to unlock the hood.
2. Raise the hood and unlatch the cable (B).
3. Insert the hood cable (B) into the hood latch (C) to hold the hood in the raised position.

MSBAEPJ.000007B-19-20JUL22



P19165—UN—30JUN22

Warm up the tractor carefully. Check the charge indicator (C), oil pressure indicator (B), and coolant temperature indicator (A).

Avoid unnecessary engine idling.

Check engine oil, coolant, transmission-hydraulic, and mechanical front wheel drive fluid levels frequently. Watch for possible fluid leaks.

MSBAEPJ.000007C-19-30JUN22

Observe Engine Operation Closely

IMPORTANT: The engine is ready for the normal operation. Be extra cautious during the first 100 hours of operation until you become thoroughly familiar with the sound and feel of the tractor. Stay extra attentive and alert.

IMPORTANT: If engine oil must be added, use the seasonal viscosity grade oil. Use only lubricants meeting specifications given in the Fuels, Lubricants, and Coolants section.

Check and Refill Oil Level

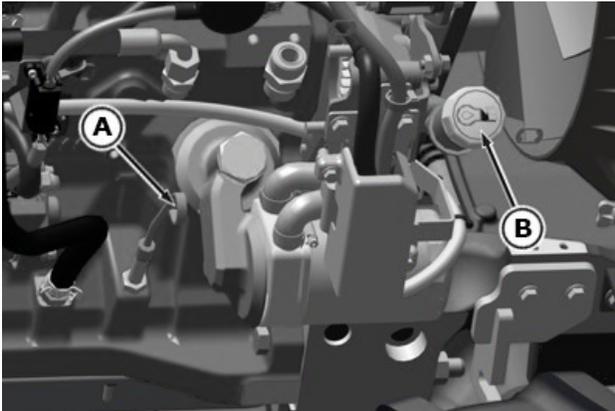
Service Interval:

- Check—Every 10 hours
- Refill—As required

IMPORTANT: During the first 100 hours of operation, fill with the John Deere diesel engine Break-In™ oil. (See Diesel Engine Break-In Oil — Non-Emissions Certified and Certified 5EN-FT4 in Fuel, Lubricants, and Coolant section for oil specifications.)

NOTE: Make sure to push the dipstick all the way in, to check the oil level.

1. Park tractor on the level ground, place transmission in PARK position, turn off the engine, and remove key.



P19240—UN—18JUL22

2. Pull out the dipstick (A).

NOTE: Oil level must be between two marks on dipstick.

3. If the level is low, add oil through the oil filler hole (B) until even with the upper mark.

IMPORTANT: DO NOT overfill oil. Use the seasonal viscosity grade oil. (See Diesel Engine Oil — Tier 2 and Stage II in Fuels, Lubricants, and Coolants section.)

Do not operate the engine with the oil level below the low mark on dipstick.

MSBAEPJ,000007D-19-18JUL22

Change Engine Oil and Filter

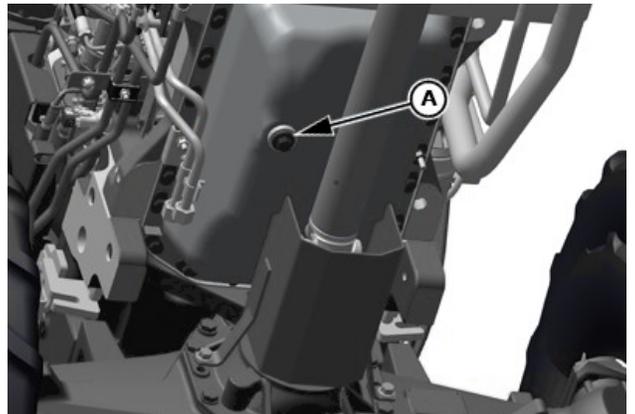
Service Interval:

- After the first 100 hours.
- Every 250 hours when not using John Deere PLUS-50™ engine oil and John Deere specified filters.
- Every 500 hours when using John Deere PLUS-50™ engine oil and John Deere specified filters.

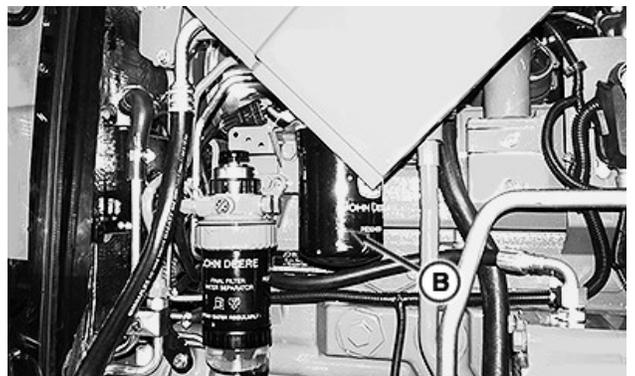
IMPORTANT: During the first 100 hours of operation, fill with John Deere Diesel Engine Break-In™ Oil. (See Diesel Engine Break-In Oil — Non-Emissions Certified and Certified 5EN-FT4 in Fuel, Lubricants, and Coolants section for oil specifications.)

NOTE: For oil capacities, see Machine Specifications — Capacities in Specifications section.

1. Operate the engine to warm oil.
2. Park tractor on level ground, place transmission in PARK position, turn off the engine, and remove key.
3. Raise the hood.

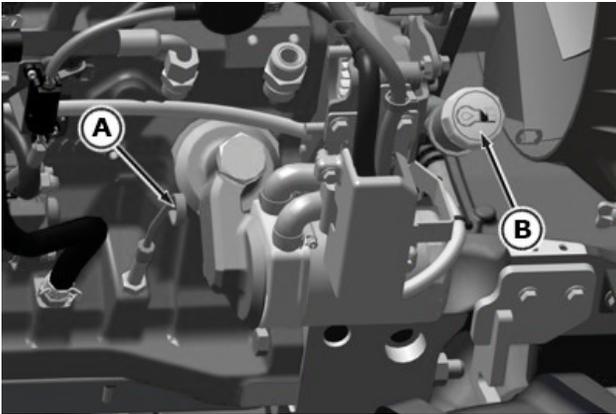


P19167—UN—30JUN22



PY28590—UN—28JUL17

Oil Filter (right-hand Side)



Filler (left-hand Side)

P19240—UN—18JUL22

⚠ CAUTION: Reduce compressed air to less than 210 kPa (2 bar) (30 psi) when using for cleaning purposes. Clear area of bystanders, guard against flying chips, and wear personal protection equipment including eye protection.

1. Remove crankcase vent tube (A) from the engine.
2. Wash in solvent or blow clean with the compressed air.
3. Reassemble vent tube breather cap to the engine.
4. Be sure that the vent tube is not kinked or pinched.

MSBAEPJ,000007F-19-29NOV22

Adjust Engine Valve Clearance and Fuel Injectors

Service Interval—Every 1000 hours/2 years

See your John Deere dealer to perform engine valve clearance adjustment and inspect fuel injectors.

MSBAEPJ,0000080-19-23NOV22

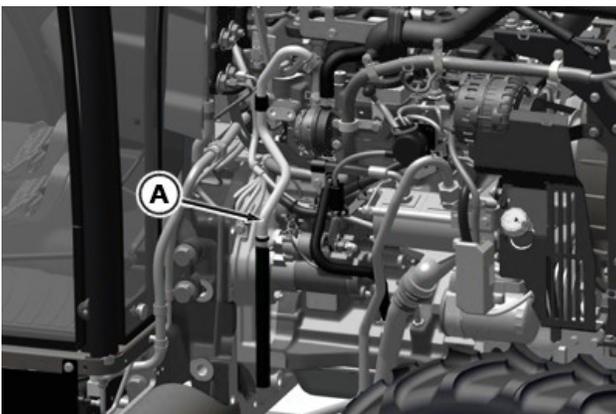
4. Remove oil drain plug (A) and drain oil into a suitable container.
5. Remove the engine oil filter (B).

NOTE: Make sure that the old filter gasket is removed from manifold before installing new filter.

6. Apply film of oil on the new oil filter gasket and install the new filter. Hand-tighten plus 1/2 turn.
7. Install drain plug.
8. Add seasonal viscosity grade oil to the filler neck (C). (See Diesel Engine Oil — Tier 2 and Stage II in Fuels, Lubricants, and Coolants section.)
9. Start engine and check for leaks.
10. Stop the engine and remove key. Recheck the oil level.
11. Lower hood.

MSBAEPJ,000007E-19-23NOV22

Clean Engine Crankcase Vent Tube

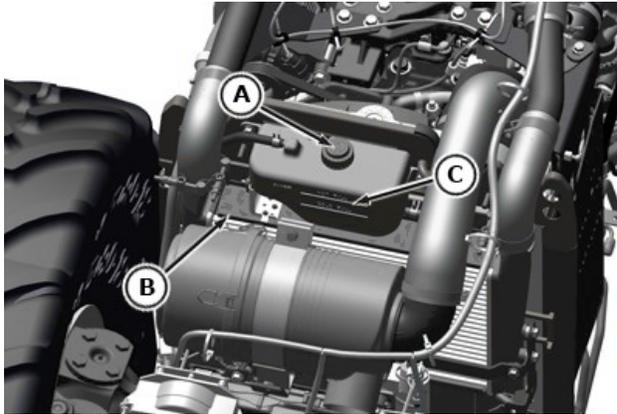


P19224—UN—13JUL22

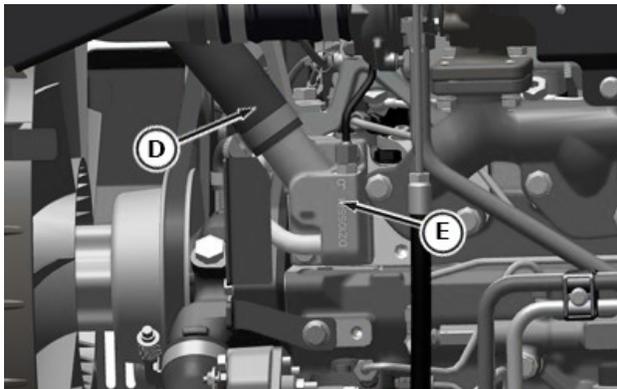
Service Interval—Every 1000 hours

Air Intake, Fuel, Coolant, and Exhaust Maintenance

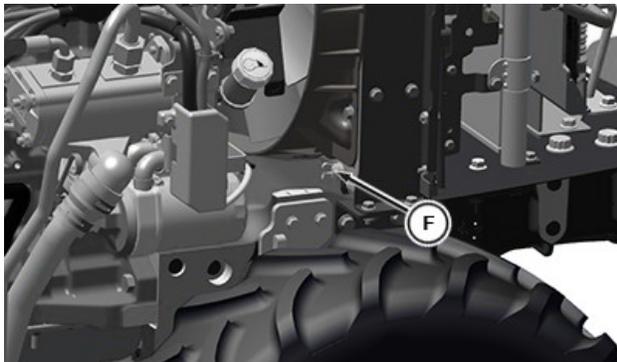
Engine Cooling System Components



P19219—UN—12JUL22



P19220—UN—12JUL22



P19221—UN—12JUL22

- A—Radiator Cap
- B—Radiator
- C—Coolant Recovery Tank
- D—Upper Radiator Hose
- E—Thermostat Housing
- F—Radiator Drain

IMPORTANT: Never pour cold water into the cooling system of a hot engine, as it might crack the cylinder block or head. DO NOT operate engine without coolant for even a few minutes, as it may cause engine failure.

Tractor utilizes a remote coolant recovery tank. Make-up coolant must be added to the coolant recovery tank rather than directly to the radiator.

MSBAEPJ,000008B-19-12JUL22

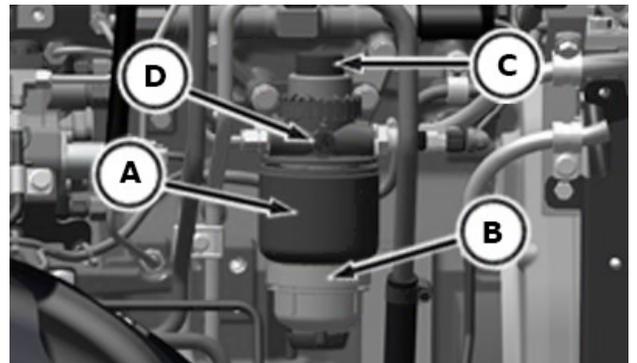
Winterize Cooling System

IMPORTANT: If antifreeze is weak, draining the cooling system WILL NOT protect against freezing, because the system does not drain completely.

1. Prior to cold weather, make sure that the cooling system contains 50—67% antifreeze. (See Fuels, Lubricants, and Coolants section for more information.)
2. After adding antifreeze, run engine until it reaches operating temperature. This mixes solution uniformly and circulates it through the entire system.

MSBAEPJ,000008C-19-09MAY22

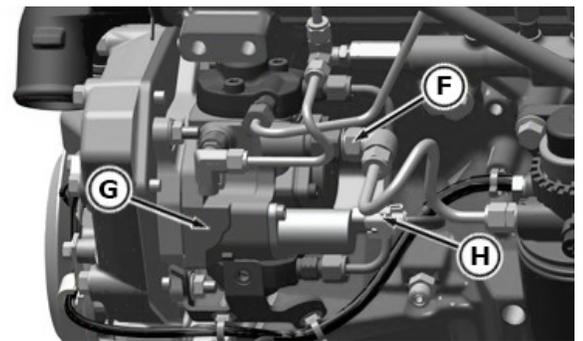
Fuel System Components



P19267—UN—21JUL22

Fuel Filter

- A—Fuel Filter
- B—Fuel Filter Water Separator
- C—Priming Pump
- D—Bleed Screw



P19264—UN—20JUL22

Fuel Pump

- F—Fuel Injection Line
- G—Injection Pump
- H—Electric Fuel Shutoff

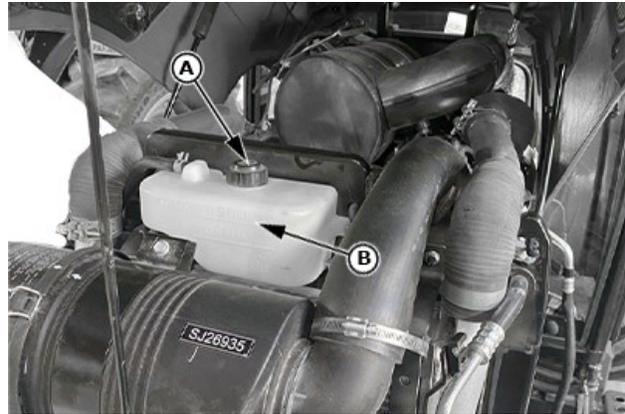
MSBAEPJ,000008D-19-21JUL22

Do Not Modify Fuel System

IMPORTANT: Modification or alteration of the injection pump, the injection pump timing, or the fuel injectors in ways not recommended by the manufacturer terminates the warranty obligation to the purchaser. (See warranty information inside the front cover.)

DO NOT attempt to service injection pump or fuel injectors yourself. Special training and special tools are required. (See your John Deere dealer.)

MSBAEPJ.000008E-19-01APR22



P19168—UN—30JUN22

A—Radiator Cap
B—Coolant Recovery Tank

2. Check level in the coolant recovery tank (B) BEFORE starting the tractor.

IMPORTANT: Coolant level must be checked when the engine is **COOL**.

3. If engine is **COOL** and coolant level is below "**MIN**" mark, remove the radiator cap (A) and add coolant to recovery tank to bring level between "**MIN**" and "**MAX**" mark. (See Fuel, Lubricants, and Coolants section for more information.)
4. Install cap and lower hood.

MSBAEPJ.000008F-19-30JUN22

Check Engine Coolant Level



TS281—UN—15APR13

Service Interval—Every 50 hours

CAUTION: Only remove radiator cap (A) when engine is cold. Slowly loosen cap to first stop to relieve pressure before removing completely.

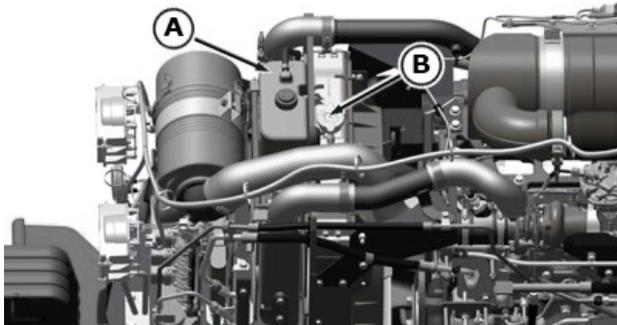
IMPORTANT: Periodically check coolant level in radiator. If cap becomes defective, coolant will not be drawn from the recovery tank and could cause the engine to overheat. Replace cap as necessary.

1. Raise the hood.

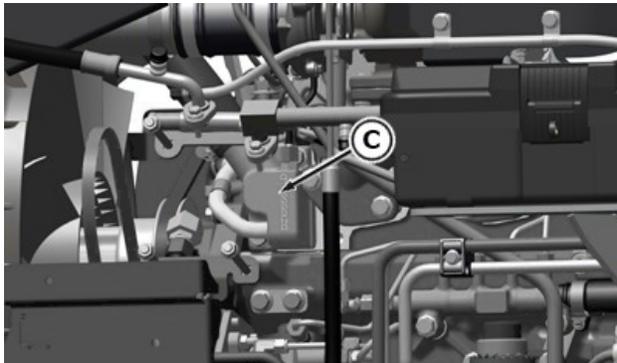
Check Engine Cooling System for Leaks

Service Interval—As required

IMPORTANT: Never pour cold water into the cooling system of a hot engine, as it might crack the cylinder block or head. **DO NOT** operate engine without coolant for even a few minutes.



P19225—UN—13JUL22



P19226—UN—13JUL22

A—Coolant Recovery Tank
B—Radiator
C—Thermostat Housing

1. Check cooling system for leaks.
2. Check all coolant hoses and tighten clamps if necessary.
3. Inspect thermostat housing (B), radiator (C), and coolant recovery tank (A) for leakage.
4. Make-up coolant is added to the coolant recovery tank (A), rather than directly to the radiator.

MSBAEPJ,0000090-19-13JUL22

Drain Water and Sediment from Fuel Filter & Fuel Tank

Service Interval (Fuel Filter) —Every 10 hours

IMPORTANT: The fuel filter must be drained when water or debris are evident in the sediment bowl. If this reoccurs more than three days in a row, then drain the sediment from the fuel tank.

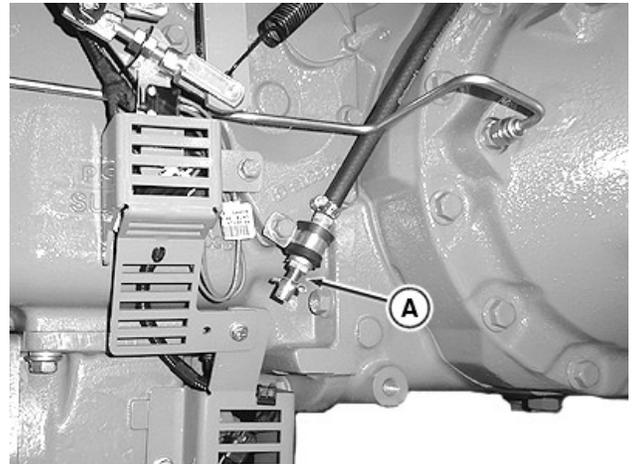
Service Interval (Fuel Tank) —Every 50 hours

IMPORTANT: Drain water and sediment from fuel tank and fuel filter [The fuel filter must be drained when water or debris is evident in the sediment bowl. If this reoccurs more than three days in a row, then drain the sediment from the fuel tank

NOTE: Fuel tank drain is at the front of the fuel tank on the left-hand side.

1. Place a small container under the drain fitting to catch the draining fuel.

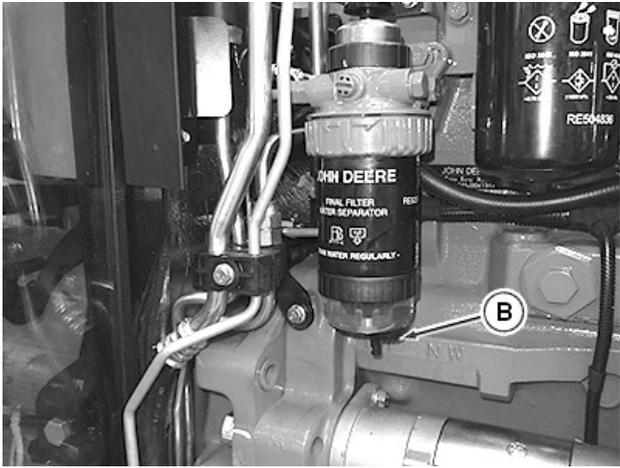
NOTE: Left-hand side tire removed for the illustration purpose.



PY28601—UN—23AUG17

Fuel Tank Drain (left-hand side)

2. Open fuel tank drain plug (A) to bleed the accumulated moisture and sediment from the fuel tank. Tighten the plug when clear fuel runs from fitting.
3. Raise the hood.



PY28600—UN—23AUG17

Fuel Filter

C—Drain Valve
D—Water Separator

Service Interval—Every 500 hours

1. Raise the hood.
2. Open drain valve (C) and drain fuel into a suitable container.
3. Block fuel supply to fuel filter using plugs.
4. Lift up and rotate retaining ring (A) counterclockwise. Remove the ring with the filter (B).
5. Remove the separator (D) from filter.
6. Drain and clean separator. Dry with the compressed air.
7. Install the water separator on the new filter.
8. Fill the new filter with the fresh diesel fuel.
9. Install the new filter assembly. Tighten retaining ring hand-tight. Ensure the fuel supply to the filter.
10. Bleed the fuel system. (See Bleed Fuel System in Air Intake, Fuel, Coolant, and Exhaust Maintenance section.)
11. Start engine and allow to run at low idle for ten minutes.

4. Open fuel filter/water separator drain (B) to bleed the accumulated moisture and sediment from filter. Tighten the drain when clear fuel runs from drain.
5. Lower hood.
6. Dispose of waste properly.

MSBAEPJ,0000092-19-29NOV22

Inspect and Clean Fuel Level Sender

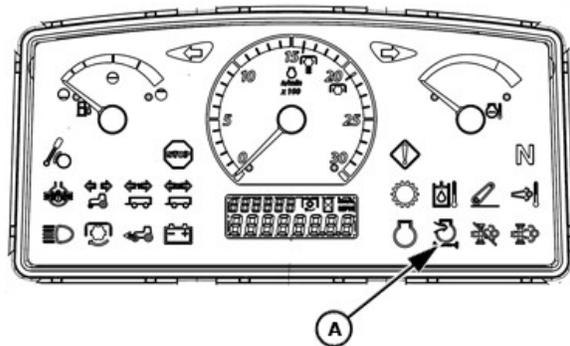
Service Interval:
• As required

Ask your John Deere dealer to inspect and clean the fuel level sender.

MWG7GFH,000003D-19-29NOV22

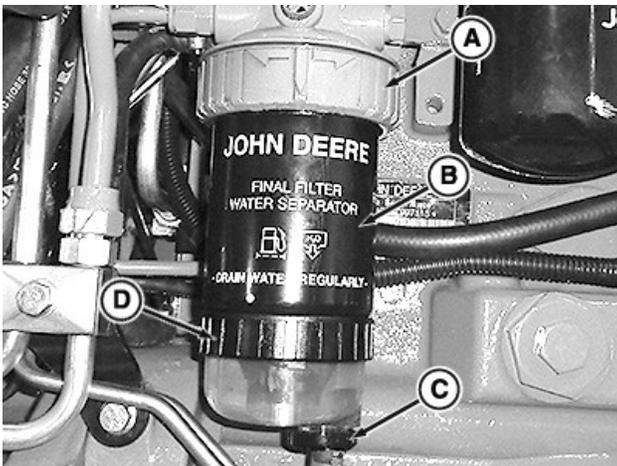
MSBAEPJ,0000093-19-11MAY22

Checking Air Filter Restriction Indicator Performance



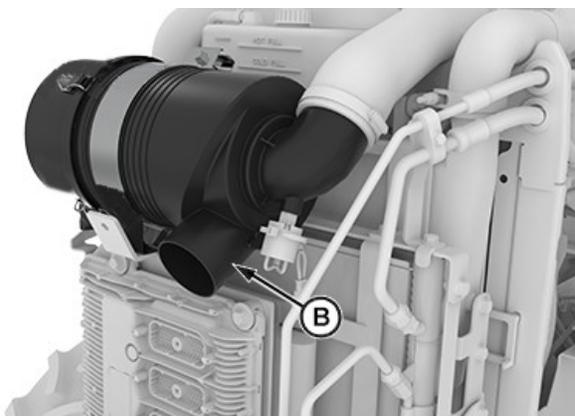
P19173—UN—30JUN22

Replace Fuel Filter



PY28602—UN—31JUL17

A—Retaining Ring
B—Fuel Filter



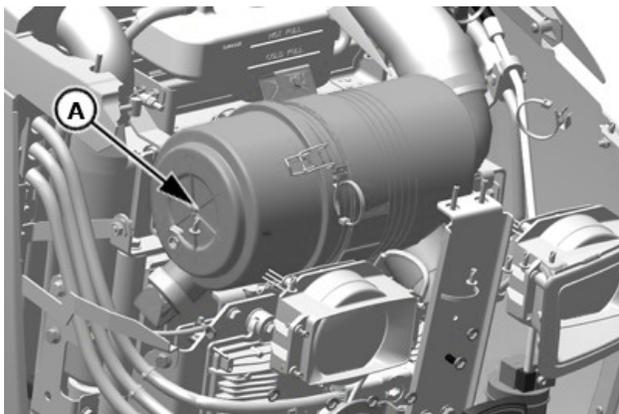
P19890—UN—06JAN23

Service Interval—Every 500 hours

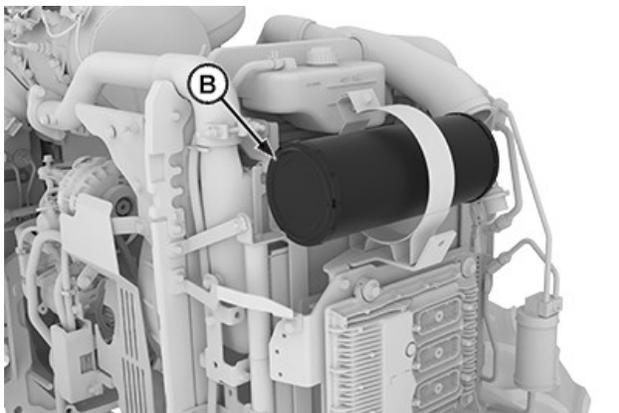
Check air filter restriction indicator performance by obstructing air intake tube (B) intentionally. Air filter restriction indicator (A) must light up.

MSBAEPJ,0000095-19-06JAN23

Replace Primary and Secondary Air Filter Elements



P19175—UN—30JUN22

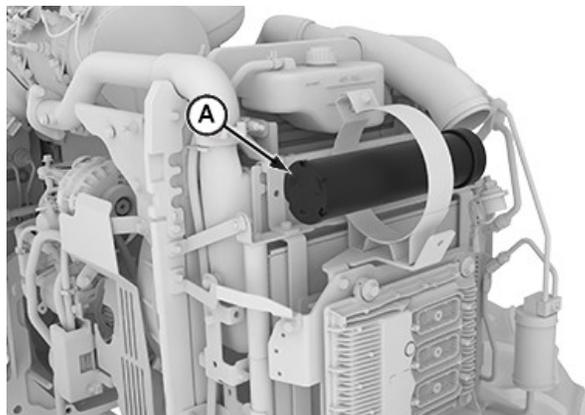


P19891—UN—06JAN23

Service Interval—Every 1000 hours/Annually, whichever occurs first; or after the primary element has been cleaned six times

1. Release three clips and remove the air cleaner cover (A).
2. Rotate the primary element (B) counterclockwise and pull out.
3. Clean out any dirt in canister, taking care not to damage the secondary filter element.

IMPORTANT: Remove the secondary element (inner element) ONLY if it is to be replaced. Immediately install the new element to prevent dust from entering the air intake system.



P19892—UN—06JAN23

4. Pull out the secondary element (A) if necessary.
5. Clean out inside of cover and canister.

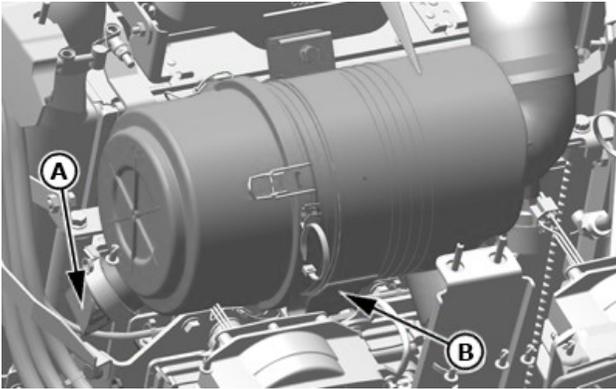
IMPORTANT: DO NOT attempt to clean filter elements. They must be replaced with new elements.

6. Inspect elements before installing.
7. Install air cleaner elements in reverse order of removal using the following special instructions:
 - a. Wipe the end seal clean before installing a new element or reinstalling a used primary element that has not reached the end of its service interval.
 - b. Install the cover with inlet "arrow" (stamped in cover) pointing down.

IMPORTANT: If replacing the air cleaner canister, make sure that the dust unloader valve is facing down.

MSBAEPJ,0000096-19-06JAN23

Check Unloader Valve Condition



P19176—UN—30JUN22

A—Air Filter
B—Unloader Valve

Service Interval:

- Look for dust saturation—**Every 10 hours**
- Check condition—**Every 1000 hours**

To look for dust saturation, squeeze the unloader valve. If there is excess dust, remove and clean the unloader valve.

Make sure that the unloader valve (B) is in the optimum condition. Replace if it is necessary.

MSBAEPJ,000097-19-30JUN22

Check Engine Coolant Properties

Service Interval—**Every 500 hours**

NOTE: Coolant replacement period is after 3 years or 1500 hours thereafter. If coolant is checked annually and replaced with the Cool-Gard™ II, it can be extended to 5 years or 4500 hours thereafter.

Ask your John Deere dealer to check engine coolant properties. (See Fuels, Lubricants, and Coolants section for more information.)

MWG7GFH,000003E-19-29NOV22

Flush Cooling System and Replace Thermostat

Service Interval:

- **Every 1000 hour /3 year, whichever occurs first** when the coolant is NOT checked annually or not serviced with the pre-diluted John Deere Cool-Gard™ II.
- **Every 1500 hour**, when the coolant is serviced with the pre-diluted John Deere Cool-Gard™ II.

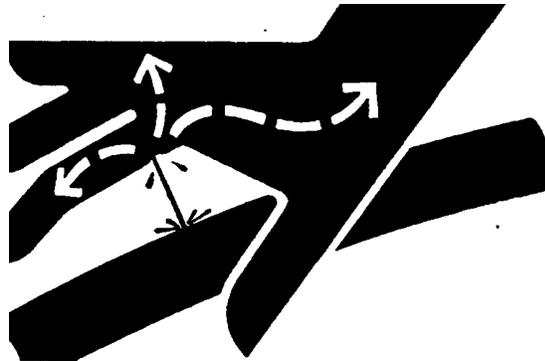
Have your John Deere dealer drain old coolant, flush the entire system, install the new thermostat, and fill with the clean antifreeze solution.

IMPORTANT: Service interval can be extended to 5 years or 5000 hours thereafter if the tractor coolant has been checked annually and serviced with pre-diluted John Deere Cool-Gard™.

MSBAEPJ,0000264-19-29NOV22

Bleed Fuel System

Service Interval—**As required**



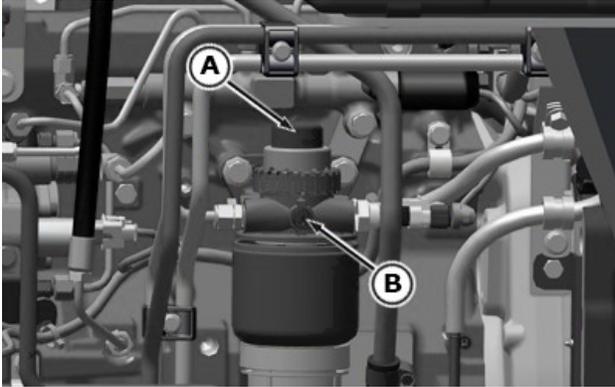
X9811—UN—23AUG88

CAUTION: 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.

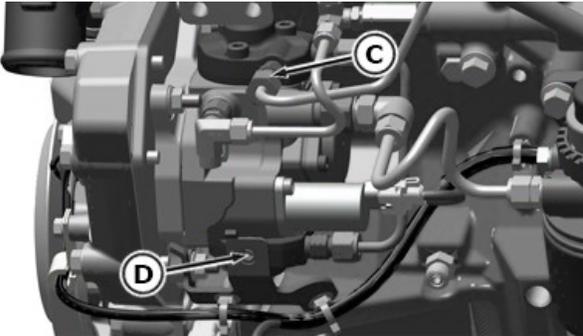
If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene can result. Doctors unfamiliar with this type of injury must refer a knowledgeable medical source. Such information is available from Deere & Company Medical Department in Moline, Illinois, U.S.A.

IMPORTANT: To avoid injection pump damage, **DO NOT** attempt to start the engine while bleeding the fuel system.

1. Check the fuel level. Fuel tank must be full. Add fuel if necessary.
2. Raise the hood.



P19233—UN—14JUL22



P19263—UN—20JUL22

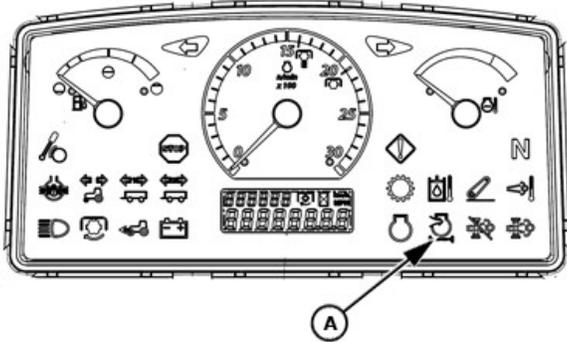
- A—Priming Pump
- B—Bleed Screw
- C—Fuel Return Line
- D—Bleed Screw

3. Loosen the fuel return line (C).
4. Loosen the filter base bleed screw (B).
5. Push the priming pump (A) until fuel runs out smoothly without spitting, then tighten bleed screw (B).
6. Loosen the injection pump bleed screw (D).
7. Push the priming pump (A) until fuel runs out smoothly without spitting, then tighten the fuel return line (C).
8. Tighten bleed screw (D).
9. Lower hood.

MSBAEPJ,0000098-19-20JUL22

Clean Primary Air Filter Element

Service Interval—Every 500 hours/As required, whichever occurs first (indicated by the air filter restriction indicator).



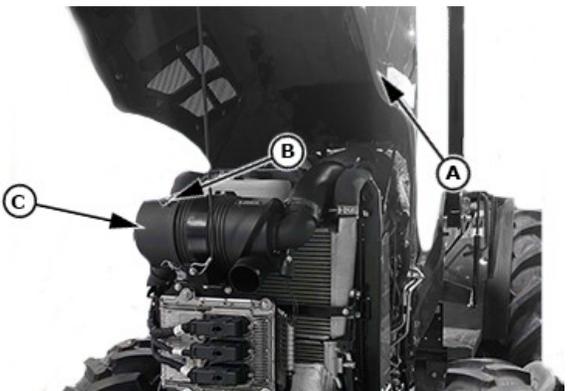
P19173—UN—30JUN22

A dual element air cleaner is a standard.

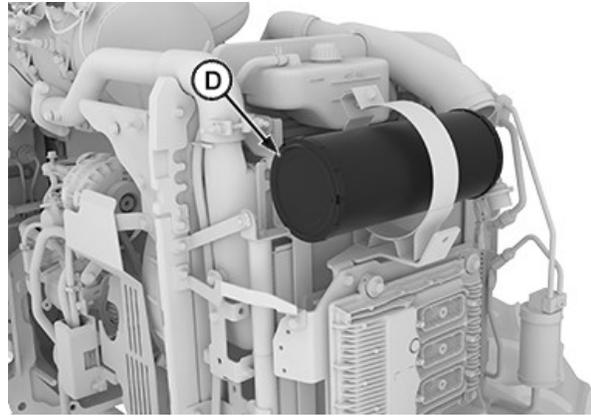
The smaller “secondary” element should be removed only when being replaced, normally once a year. Air restriction indicator (A) lights up to indicate that primary element is dirty.

IMPORTANT: A dirty element can result in loss of power or excessive smoke.

1. Replace air cleaner elements at least once a year.
2. Primary element should be replaced after having been cleaned six (6) times.



P19177—UN—01JUL22



P19893—UN—06JAN23

A—Hood
B—Cover Retaining Clip (3 used)
C—Air Cleaner Cover
D—Primary Element

1. Open hood (A).
2. Release three air cleaner cover retaining clips (B) and remove the air cleaner cover (C).
3. Remove the primary element (D).

IMPORTANT: Remove the secondary safety element ONLY if the replacement is necessary. Do not attempt to clean the secondary element. Install the new element immediately to prevent dust from entering the air intake system. Dust can damage internal engine components and turbocharger (if equipped).



LV2108—UN—19MAY97

4. Tap the primary element with the palm of your hand, NOT ON HARD SURFACE.
5. If this does not remove dust, use compressed air under 207 kPa (2.1 bar) (30 psi). Direct air up and down the pleats, blowing from inside to outside. Be careful not to break or crack the element. Use the element cleaning gun AR62377.
6. After you clean the primary element, put a lighted bulb inside it. Inspect the element and seal (A) for damage. Throw away an element that is cracked or broken and install a new element.

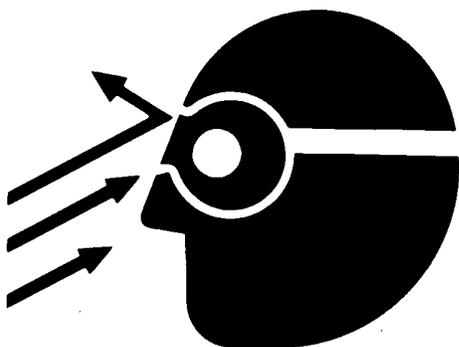
IMPORTANT: DO NOT wash element in fuel oil, gasoline, or solvent. **DO NOT** use compressed air to remove water from an element.

7. Before you install the primary element, clean the inside of the air cleaner housing and unloader valve with damp cloth.
8. Install the primary element.
9. Install air cleaner cover and retaining clips.

MSBAEPJ.0000099-19-06JAN23

Clean Grille Screens, Radiator, Oil Cooler, and Air-Conditioner Condenser

Service Interval—As required



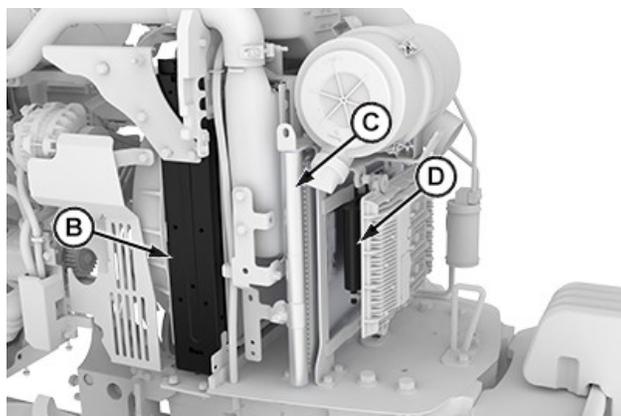
TS266—UN—23AUG88

CAUTION: Reduce compressed air to less than 210 kPa (2 bar) (30 psi) when using for cleaning purposes. Clear area of bystanders, guard against flying chips, and wear personal protection equipment including eye protection.



Front Grille

P19178—UN—01JUL22



P19894—UN—06JAN23

Cab Shown

- A—Grille
- B—Radiator
- C—Air-Conditioner Condenser and Oil Cooler Unit
- D—Fuel Cooler

NOTE: Cab shown. OOS is similar.

1. Whenever trash builds up on the front grille (A), stop the engine and brush clean.
2. Raise the hood and see if the trash has built up on radiator (B), oil cooler (if equipped), or air-conditioner condenser and the oil cooler unit (C). If so, remove it using brush or compressed air.
3. If a more thorough cleaning is necessary, clean radiator from behind with the compressed air or water. Straighten any bent fins.

MSBAEPJ.000009A-19-06JAN23

Electrical and Lighting Maintenance

Prevent Battery Explosions



TS204—UN—15APR13

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.

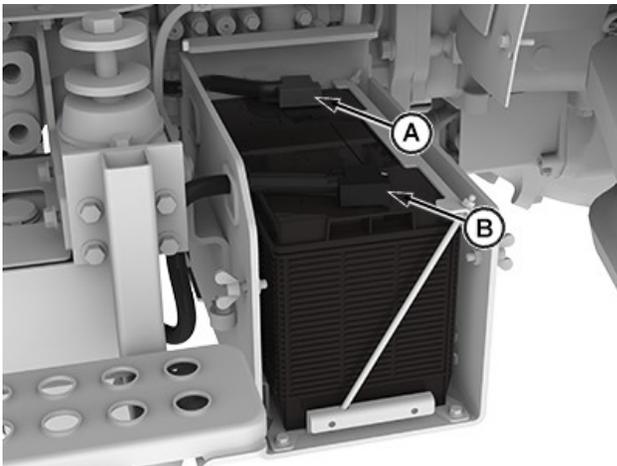
Do not charge a frozen battery; it may explode. Warm battery to 16°C (60°F).

DX,SPARKS-19-03MAR93

Observe Electrical Service Precautions



TS204—UN—15APR13



APY72443—UN—01NOV22

A—Positive (+) Cable
B—Negative (-) Cable

⚠ CAUTION: Keep all sparks and flames away from batteries, as gas given off by electrolyte is explosive. To avoid sparks, connect negative (ground) cable (B) last and disconnect it first. When using a booster battery, follow instructions in Operating the Engine section.

To avoid shocks and burns, disconnect battery negative (ground) cable before servicing any part of the electrical system, then remove the positive cable (A) if removing the battery.

Keep all electrical shields in place.

MSBAEPJ,000009B-19-11MAY22

Clean and Check Battery



APY68972—UN—03MAY22

Service Interval:

- Every 50 hours (under warm climate conditions)
- Every 500 hours (under normal conditions)

1. Wipe battery with a damp cloth.
 2. Clean and tighten connections if needed.
 3. To remove any corrosion, wash terminals with a solution of four parts water to one part baking soda.
- See your John Deere dealer to check electrolyte levels in each cell.

MSBAEPJ,000009C-19-23NOV22

Charge Battery

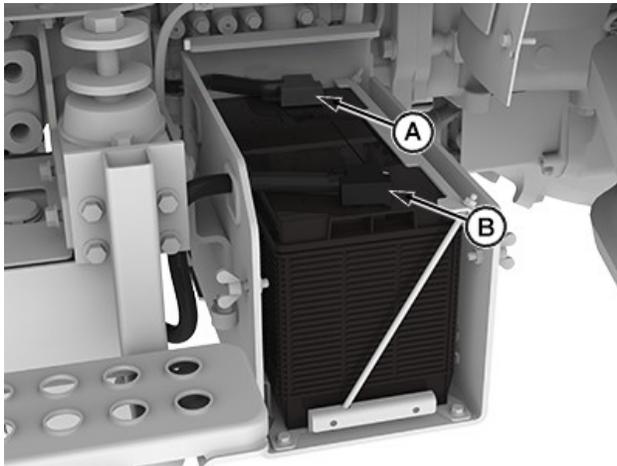


TS204—UN—15APR13

⚠ CAUTION: Gas given off by battery is explosive. Keep sparks and flames away from battery. Before connecting or disconnecting a battery charger, turn off the charger. Make last connection and disconnection at a point away from battery.

⚠ CAUTION: To avoid sparks, connect negative (-) cable last and disconnect it first.

IMPORTANT: Keep battery fully charged, especially during the cold weather.



APY72443—UN—01NOV22

A—Positive (+) Cable Nut
B—Negative (-) Cable Nut

1. With charger off, attach the positive battery charger lead to the positive battery terminal (A). Attach the negative charger lead to the negative battery terminal (B), or to the tractor frame away from the battery.
2. Turn on charger and recharge the battery following battery manufacturer's instructions for using charger. Check battery condition as described above.
3. To disconnect the battery charger, turn off the

charger. Remove negative charger lead first. Then remove the positive charger lead.

MSBAEPJ,000009D-19-11MAY22

Use a Booster Battery or Charger

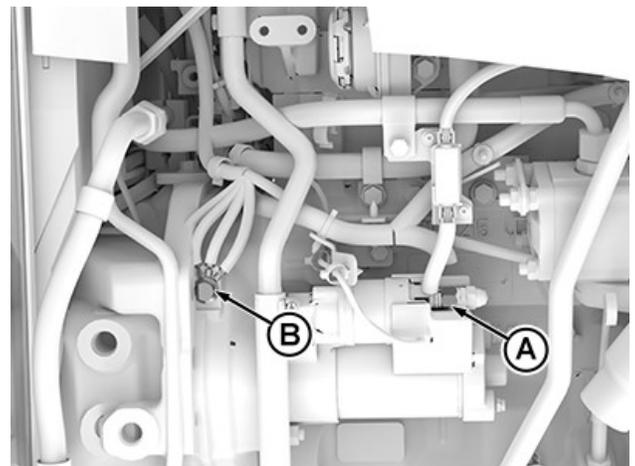


TS204—UN—15APR13

⚠ CAUTION: Battery gas is explosive. Keep sparks and flames away from battery. Make last connection and first disconnection at a point away from battery.

IMPORTANT: Reversed polarity can damage an electrical system or cause the battery to explode.

Booster Battery



APY68955—UN—13APR22

A—Starter Positive Terminal
B—Common Ground

1. Attach red power cable to the starter positive terminal (A) and positive terminal of the booster battery.
2. Attach black ground cable to negative terminal of the booster battery and to good ground (B) on the engine block.
3. Turn key to START position.
4. When an engine starts, remove ground cable (B) first, then power cable.

Battery Charger

1. With charger OFF, attach the red positive lead to positive (+) battery terminal and negative charger lead to good ground on the engine block, away from battery.
2. Charge battery according to charger manufacturer's instructions.
3. Disconnect negative charger lead first, then positive lead.

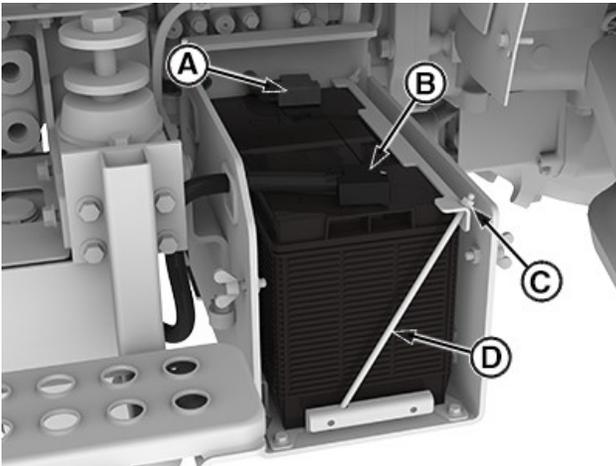
shqw455,1656012698595-19-23JUN22

For battery specifications, see Machine Specifications—
Electrical System in Specifications section.

MSBAEPJ,000009F-19-01APR22

Remove Battery

Service Interval—As required



APY68973—UN—03MAY22

- A—Positive (+) Cable Nut
- B—Negative (-) Cable Nut
- C—Nuts
- D—Battery Hold-Down

⚠ CAUTION: To avoid sparks, disconnect negative (-) cable first and connect it last.

1. Remove the nut retaining negative (ground) battery cable (B) and remove the cable connection. Then remove the positive cable nut (A) and connection.
2. Loosen nuts (C) securing battery hold-down (D) and rotate the holder down freeing the battery.
3. Lift and slide the battery from the battery tray.

MSBAEPJ,000009E-19-03MAY22

Battery Replacement Specifications

⚠ CAUTION: When replacing battery, use a John Deere battery or equivalent.

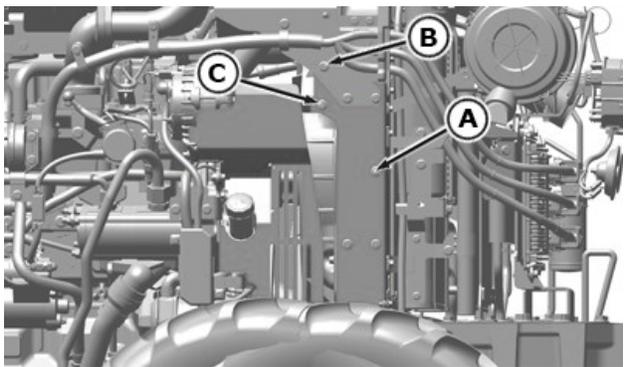
Inspect and Replace Alternator/Fan Belt

Service Interval:

- Inspect—Every 500 hours
- Replace—As required

NOTE: Fan drive belt is equipped with an automatic tensioner, which does not require the adjustment.

IMPORTANT: Cab Tractors, DO NOT remove the belt guard fastened to the air conditioner compressor. Compressor will be loose if cap screws are removed.

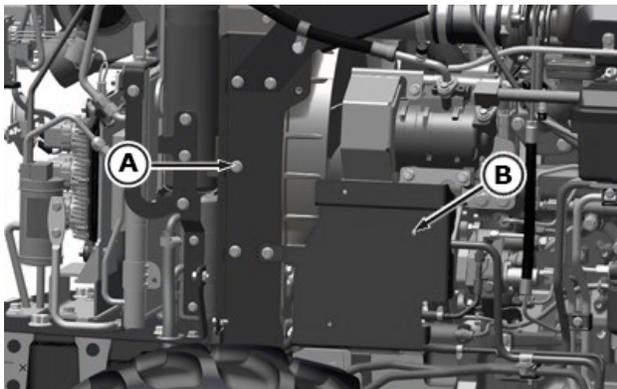


P19229—UN—14JUL22

Left-Hand Guard

- A**—Flanged Nut
B—Cap Screw
C—Hex Socket head cap screw

1. Remove hex socket head cap screw, washer, and flange nut (A) from the guard brace.
2. Remove hex socket head cap screw (C) from the bottom of guard.
3. Remove the rest of the Flange Nut (B) retaining guard to radiator. Remove the right-hand guard.



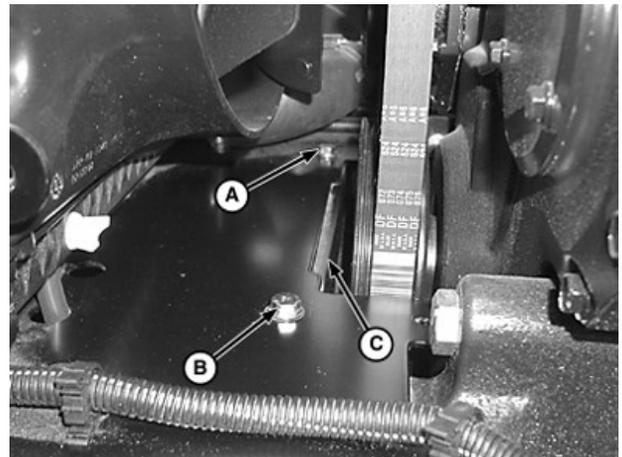
P19230—UN—14JUL22

Left-Hand Guard

- A**—Cap Screw (2 used)

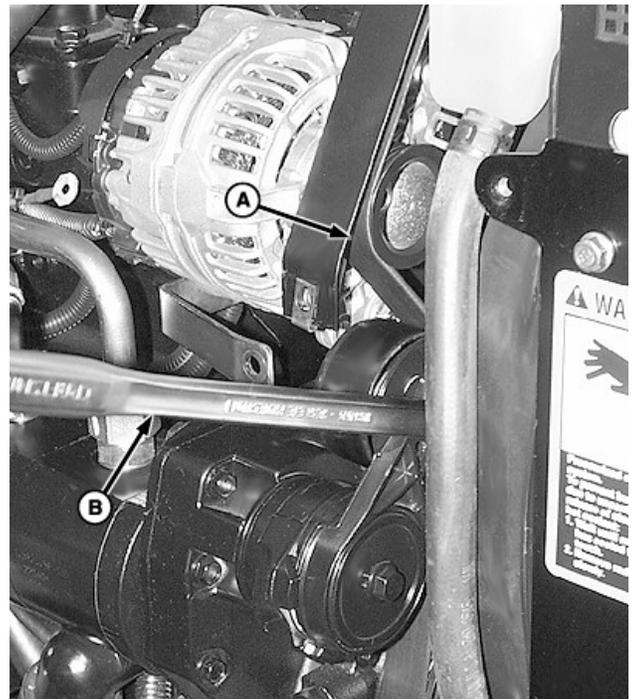
- B**—Hex Socket Head Cap Screw, Washer, and Flange Nut
C—Hex Socket Head Cap Screw

4. Remove hex socket head cap screw, washer, and flange nut (B) from the left-hand guard brace.
5. Remove hex socket head cap screw (C) from the bottom of guard.
6. Remove two cap screws (A) retaining guard to radiator. Remove the left-hand guard.

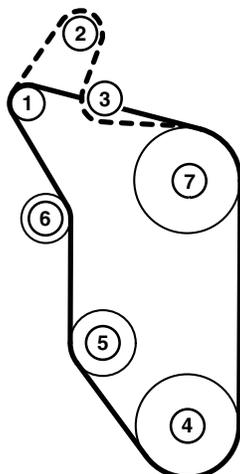


LV12646—UN—22APR05

7. Loosen right-hand cap screw (A).
8. Remove left-hand cap screw (B).
9. Swing damper guard (C) forward away from damper.



LV9596—UN—07AUG04



LV9587—UN—06AUG04

10. Release tension on belt using a long-handle 1/2 in drive breaker bar (B) to pull the tensioner away from engine.
11. Remove belt (A) from the alternator pulley.
12. Release tension on tensioner and remove breaker bar.
13. Remove belt.
14. Install new belt in the reverse order of removal.

Belt Routing	
1	Alternator
2	Air Conditioner Compressor ^a
3	Idler ^a
4	Crankshaft Pulley
5	Coolant Pump
6	Tensioner
7	Fan Drive

^aCab only.

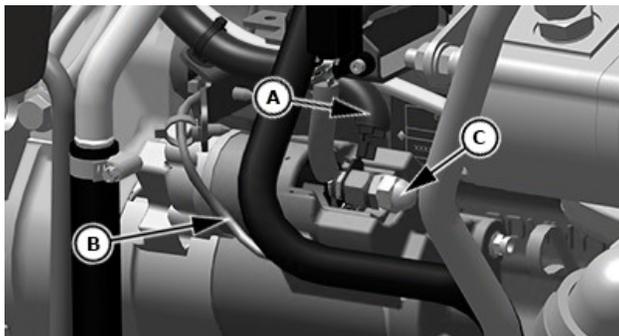
MSBAEPJ,00000A0-19-29NOV22

IMPORTANT: Disconnect battery cable before servicing any part of the electrical system. Make all other connections before connecting ground cable.

1. Connect large battery cable (A) and front console/chassis cable (B) to large solenoid post (C).

MSBAEPJ,00000A1-19-18AUG22

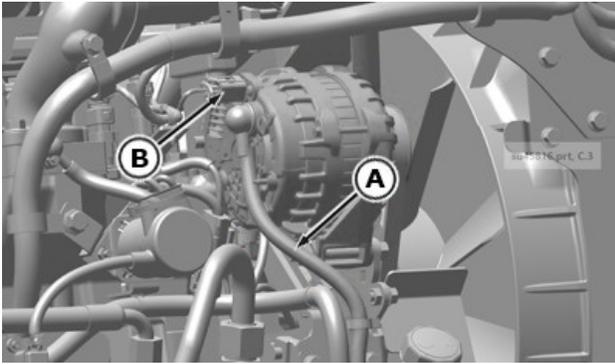
Connect Starter Wiring



P19350—UN—18AUG22

- A—Large Battery Cable
- B—Front Console/Chassis Cable
- C—Large Solenoid Post

Connect Alternator Wiring



A—Engine Power Cable
B—Front Console/Chassis Harness

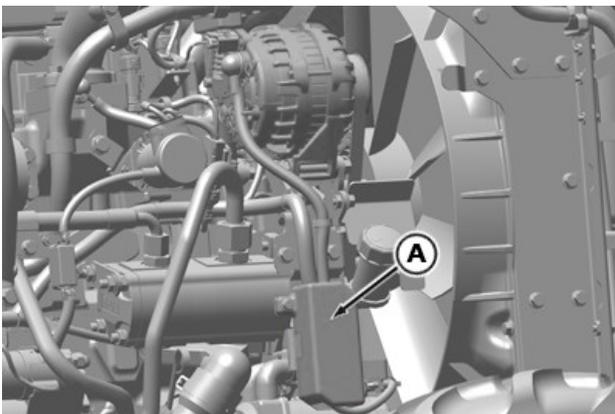
IMPORTANT: Disconnect battery negative (ground) cable before servicing any part of the electrical system. Make all other connections before connecting ground cable.

To prevent damage to the electrical system, disconnect the alternator before making any electrical weld repairs. If attached implement needs weld repair, disconnect it from tractor before welding to prevent the damage to the tractor electrical system.

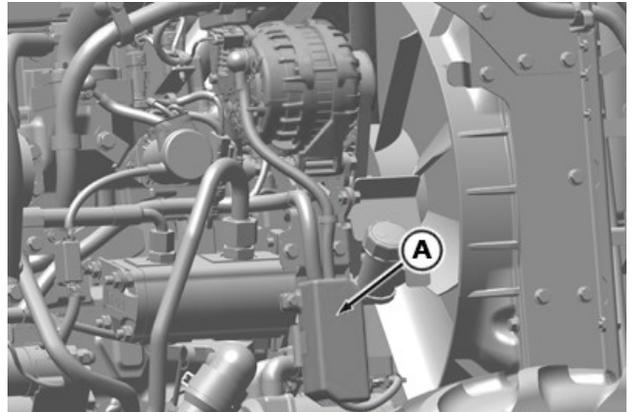
If the alternator is disconnected for any reason, connect Engine power Cable (A) and Front Console/Chassis Harness (B) as shown in the picture.

MSBAEPJ,00000A2-19-14JUL22

Locate Fusible Link



P19232—UN—14JUL22



P19232—UN—14JUL22

Electrical circuits are protected by fusible links.

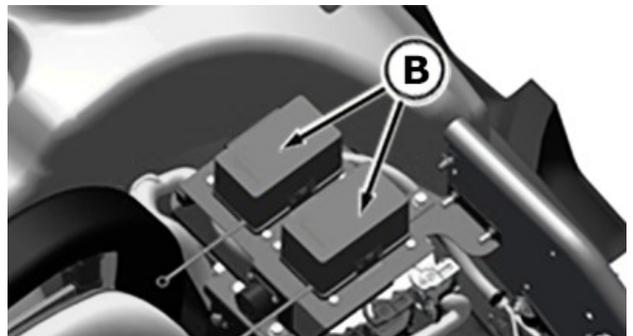
Fusible link (A) is located under the hood along the right side of battery.

MSBAEPJ,0000277-19-14JUL22

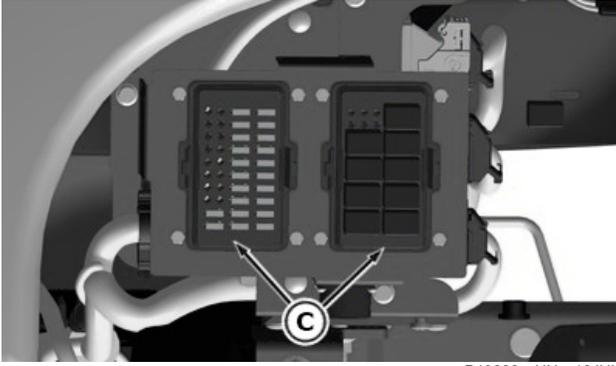
Load Center Fuses and Relays—OOS



P19208—UN—08JUL22



P19239—UN—18JUL22



P19222—UN—12JUL22

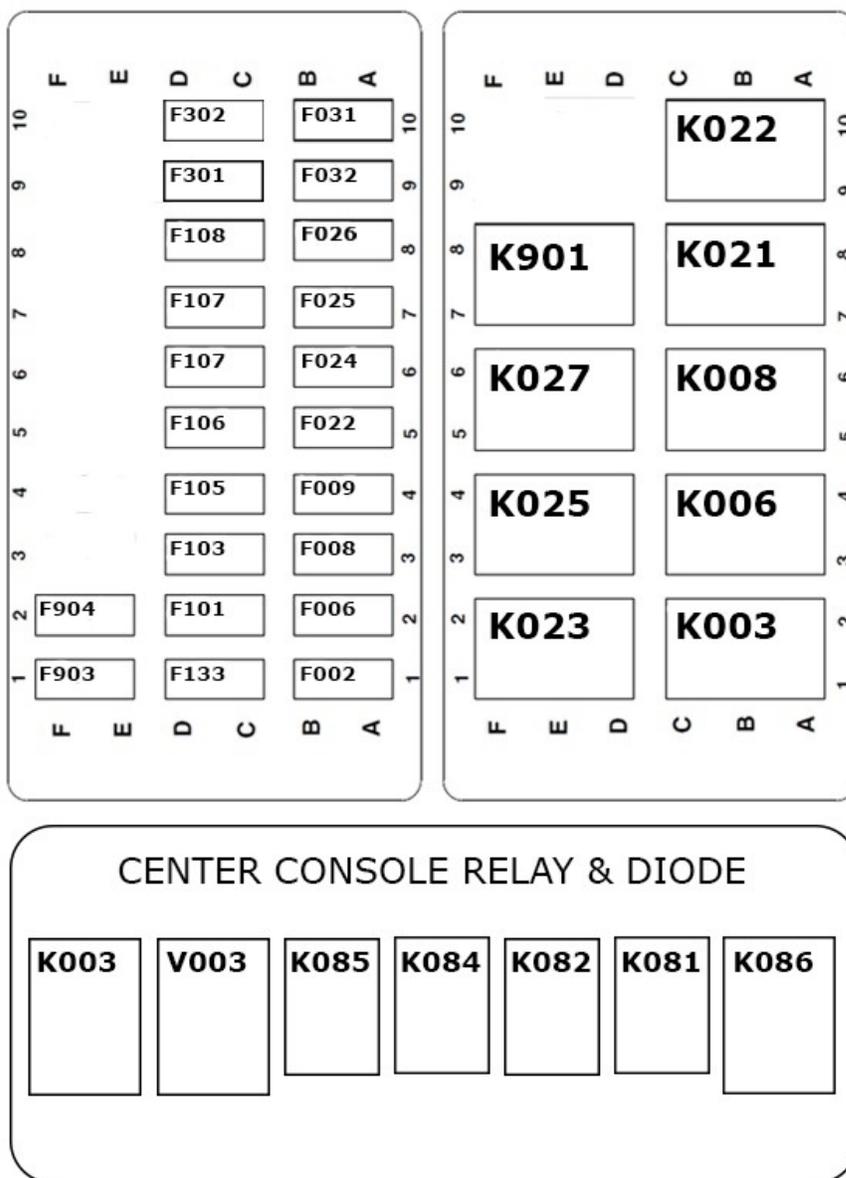
NOTE: A fuse and relay reference label is provided inside cover.

Remove the primary cover (A) and secondary cover (B) to access the main fuse and relay load center (C).

All electrical circuits are protected by fuses. Amperage rating is marked on each fuses. Fuses are color coded to ensure proper replacement.

Fuse Rating	Color
5 A	Orange
10 A	Red
15 A	Blue
20 A	Yellow
30 A	Green

IMPORTANT: DO NOT replace the original fuse with the higher rated fuse or machine damage can occur. If an original size fuse does not carry the electrical load and continues to blow, have the electrical system checked by your John Deere dealer.



Load Center—OOS

P19235—UN—14JUL22

F904—REAR WORK
 F903—BEACON LAMP
 F302—JD LINK POW
 F301—JD LINK ACC
 F108—BAT - UNSWITCHED
 F107—BAT - UNSWITCHED
 F107—BAT - SWITCHED
 F106—R CLEAR LAMP
 F105—INST CLUSTER
 F103—TRAILER
 F101—L CLEAR LAMP
 F033—TURN HAZARD
 F031—ECU
 F032—TURN LT
 F026—BACKUP ALARM
 F025—ELX
 F024—ELX

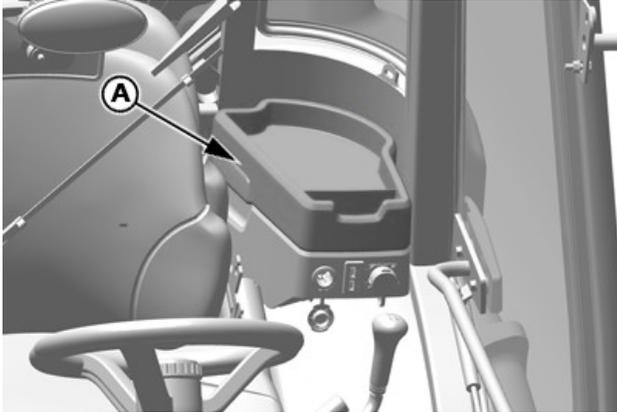
F022—EH CU
 F009—LIGHT
 F008—SEAT / HORN / BR
 F006—HI / LO BEAM
 F002—KEY
 K901—WORK LAMP
 K027—BRAKE LT
 K025—ELX
 K023—TRANS EN
 K022—NEUTRAL TRANS EN
 K021—NEUTRAL
 K008—ACCESORY
 K006—HI / LO HEADLIGHT
 K003—TAIL / CLEAR / LIC
 K002—TRAILER POWER
 V003—DIODE MODULE
 K085—R FLASH RELAY

K084—L FLASH RELAY
K082—R TURN RELAY

K081—L TURN RELAY
K086—TURN HAZARD RELAY

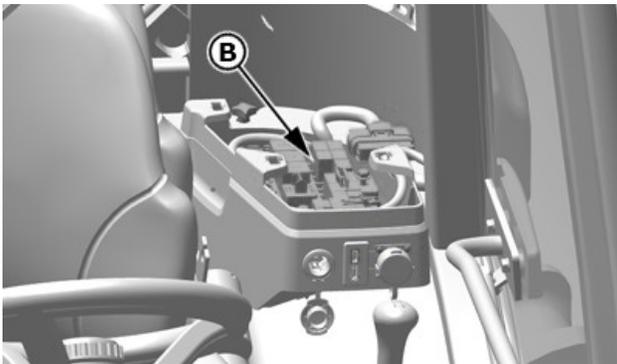
MSBAEPJ,00000A3-19-18JUL22

Load Center Fuses and Relays—Cab



Right-Hand Console

P19179—UN—01JUL22



P19180—UN—01JUL22

A—Cover
B—Load Center

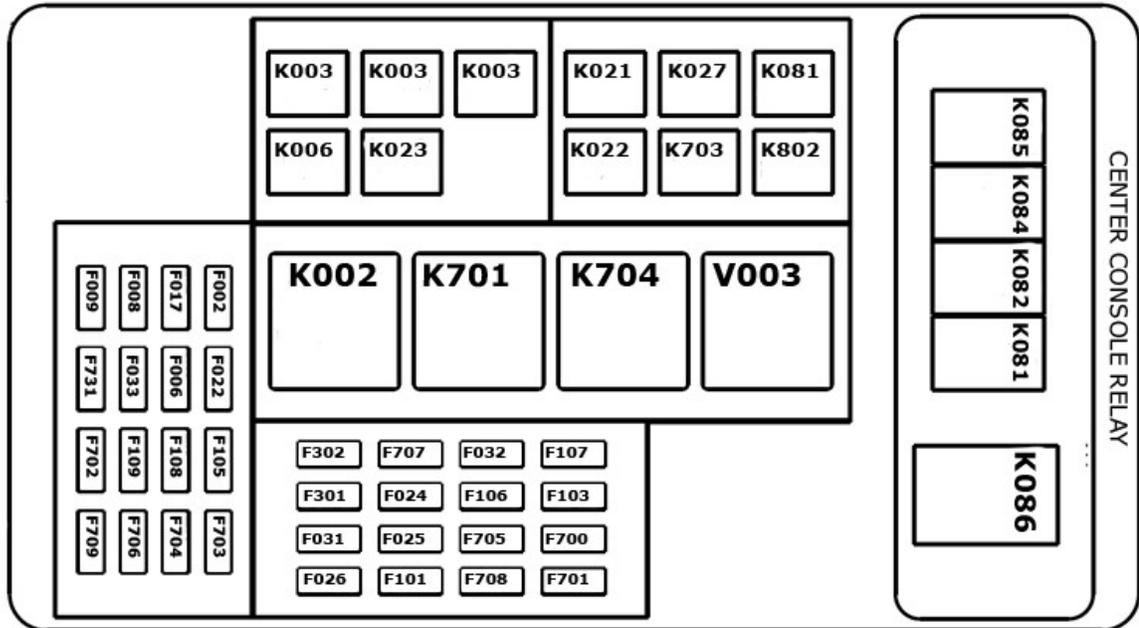
NOTE: Fuse and relay reference label is provided inside cover.

Remove the cover (A) to access the main fuse and relay load center (B).

NOTE: All electrical circuits are protected by fuses. Amperage rating is marked on each fuse. Fuses are color coded to ensure proper replacement.

Fuse Rating	Color
5 A	Orange
10 A	Red
15 A	Blue
20 A	Yellow
30 A	Green

IMPORTANT: DO NOT replace the original fuse with the higher rated fuse or machine damage can occur. If an original size fuse does not carry the electrical load and continues to blow, have the electrical system checked by your John Deere dealer.



Load Center—Cab

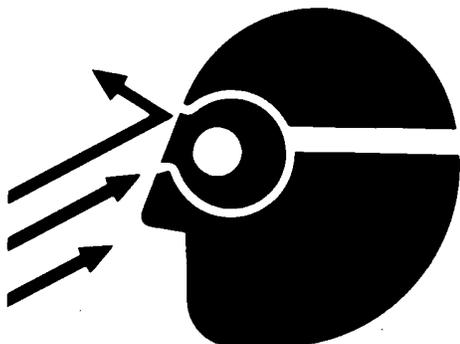
P19237—UN—15JUL22

K003—TAIL / CLEAR LIC
 K008—ACCESORY
 K025—ELX
 K006—HI / LOW HEADLIGHT
 K023—TRANS ENABLE
 K021—NEUTRAL
 K027—BRAKE
 K801—NAR L BLOWER
 K022—NEUTRAL TRANS EN
 K703—WIPER
 K802—NAR R BLOWER
 F002—KEY SWITCH
 F022—EH CU
 F105—INST CLUSTER
 F703—HVAC
 F017—USB PWR
 F006—HI / LO BEAM
 F108—BAT - UNSWITCHED
 F704—WIPER
 F008—SEAT / HORN / BR
 F033—TURN HAZARD
 F109—TRAILER POWER
 F706—HVAC FULL
 F009—LIGHT SWITCH
 F731—REAR WORK
 F702—DOME / RADIO BAT

F709—AMS PWR
 F302—JD LINK ACC
 F707—RADIO
 F032—TURN LIGHT
 F107—BAT - SWITCHED
 F301—JD LINK PWR
 F024—ELX
 F106—R CLEARANCE
 F103—TRAILER WORK
 F031—ECU
 F025—ELX
 F705—ATU
 F700—BEACON LAMP
 F026—BACKUP ALARM
 F101—L CLEARANCE
 F708—AMS PWR
 F701—FRONT WORK
 K002—TRAILER POWER
 K701—REAR WORK LAMP
 K704—HVAC
 V003—DIODE MODULE
 K085—R FLASH RELAY
 K084—L FLASH RELAY
 K082—R TURN RELAY
 K081—L TURN RELAY
 K086—FLASHER RELAY

MSBAEPJ,00000A4-19-15JUL22

Handle Halogen Light Bulb Safely



TS266—UN—23AUG88



A—Halogen Bulb

H39474—UN—30JUN00

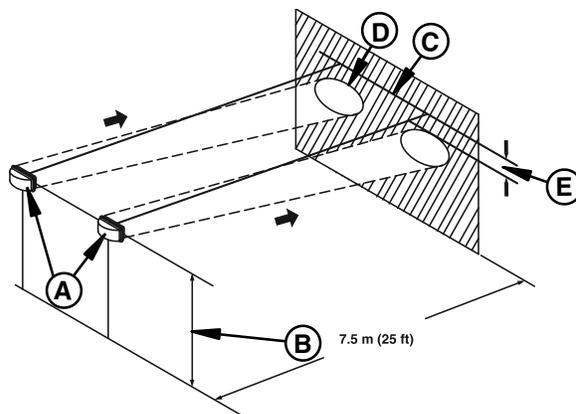
⚠ CAUTION: Halogen bulbs (A) contain gas under pressure. Handling a bulb improperly could cause it to shatter into flying fragments. To avoid possible injury:

- Handle bulb by its base. Keep the bulb free of oil. Wear gloves to avoid touching glass.
- Turn light switch off and allow bulbs to cool before changing. Leave switch off until the change is complete.
- Wear eye protection.
- Do not drop or scratch bulb.
- Keep away moisture.
- Place used bulb in the new bulb's carton and dispose of properly. Keep out of the reach of children.

MSBAEPJ.00000A5-19-11MAY22

Adjust Headlights

Service Interval—As required



PY49023—UN—27OCT17

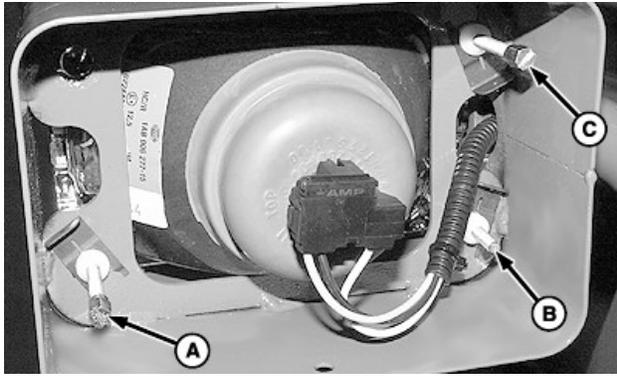
- A—Headlights
- B—Distance from Center of Headlight to Ground
- C—Horizontal Line on Wall
- D—Border of Bright Area
- E—10% of Distance (B)

1. Park tractor on a level surface with headlights (A) 7.5 meters (25 ft) from a vertical wall.
2. Measure the distance (B) from the center of a headlight to ground.
3. Mark a horizontal line (C) on the wall at the same distance from the ground as (B).
4. Set headlights to low beam and observe bright areas on the wall.
5. Adjust headlights so the upper border of bright area (D) is **at least 10% of distance (B) below** the line (C).



P19183—UN—04JUL22

Headlight (left-hand Side)



LV9547—UN—03AUG04

Loader Light—If Equipped

- A—Top Left-Hand Screw
- B—Top Right-Hand Screw
- C—Bottom Right-Hand Screw

NOTE: Adjustment procedure is the same for BOTH sides. If equipped with loader lights, remove back cover to access adjustment screws.

Loader light (if equipped):

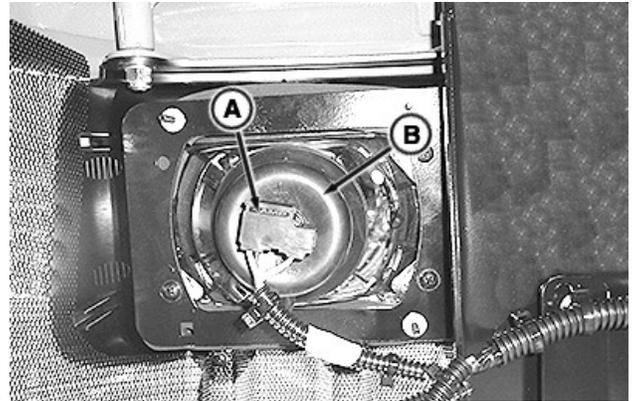
- Remove the rear cover.
- To adjust beam height, turn screws (A and B):
 - Counterclockwise to lower the beam.
 - Clockwise to raise the beam.
- To adjust the beam IN toward the center of tractor, turn screws an equal number of times:
 - Screw (A) counterclockwise
 - Screws (B and C) clockwise
- To adjust the beam OUT from the center of tractor, turn screws an equal number of times:
 - Screws (B and C) counterclockwise
 - Screw (A) clockwise
- Install the rear cover.

MSBAEPJ.00000A6-19-04JUL22

Replace Headlight Bulb

Service Interval—As required

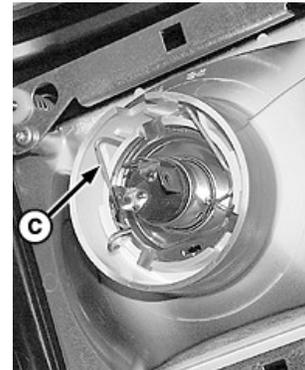
CAUTION: Halogen bulbs contain gas under pressure. Handling a bulb improperly could cause it to shatter into flying fragments. (See Handle Halogen Light Bulbs Safely in this section.)



PY36977—UN—31JUL17

- A—Wiring Harness Plug
- B—Dust Boot

1. Raise the hood.
2. Disconnect the wiring harness plug (A).
3. Remove dust boot (B).



LV9511—UN—01AUG04



LV9512—UN—01AUG04

- C—Retaining Spring
- D—Light Bulb

4. Unlatch the retaining spring (C) and remove the light bulb (D).
5. Install the new bulb in the reverse order of removal.
6. Adjust headlights, if necessary. (See Adjust Headlights in this section.)

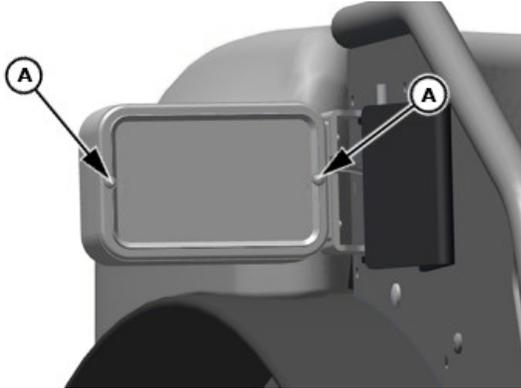
MSBAEPJ.0000278-19-11MAY22

Replace Warning

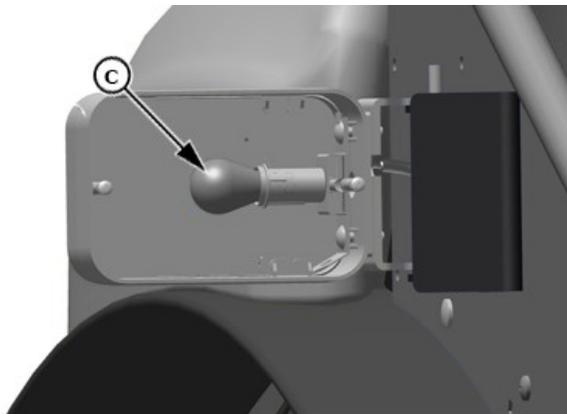
Service Interval—As required

NOTE: Procedure is the same for both sides of machine.

1.



P19184—UN—04JUL22



P19186—UN—04JUL22

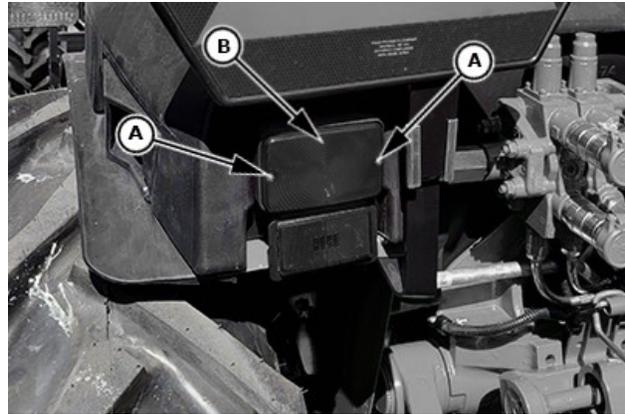
A—Lens Screw
B—Lens
C—Warning Light Bulb

Remove two screws (A) and lens from warning light housing.

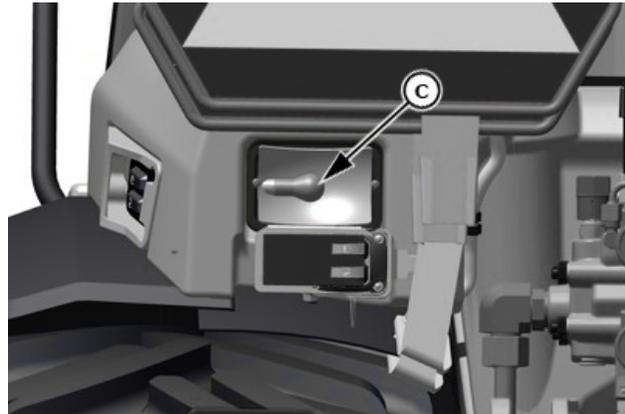
2. To remove bulb (C) from socket, push in and twist bulb.

3. Install the new bulb, lens, and screws to housing.

MSBAEPJ,00000A7-19-06JUL22



P19188—UN—04JUL22



P19189—UN—04JUL22

1. Remove lens screws (A) and lens (B).
2. Push in and twist the light bulb (C) to remove from socket.
3. Install new bulb, lens, and screws.

MSBAEPJ,0000279-19-04JUL22

Replace Taillight Bulb

Service Interval—As required

Replace Worklight Bulb—OOS

Service Interval—As required

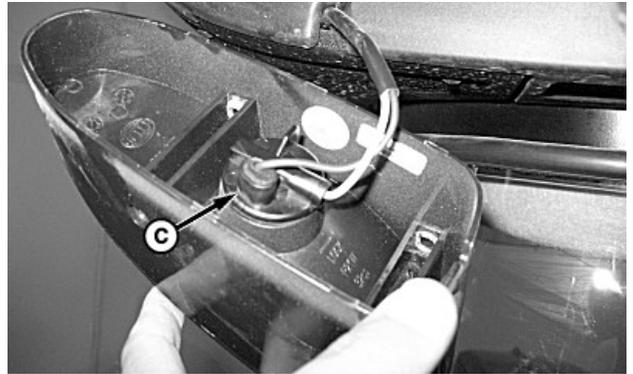


PY38056—UN—31JUL17

A—Worklight
B—Cap Screw (2 used)

1. Loosen the mounting cap screw and rotate worklight (A) outward to access cover fastening screw. Remove cap screw (B).
2. Remove the cover and bulb from the housing.
3. Remove all wires from bulb.
4. Rotate the bulb counterclockwise to remove.
5. To reassemble the worklight, follow above steps in reverse order.

MSBAEPJ,00000A8-19-19JUL22



P14710—UN—05NOV07



P14711—UN—05NOV07

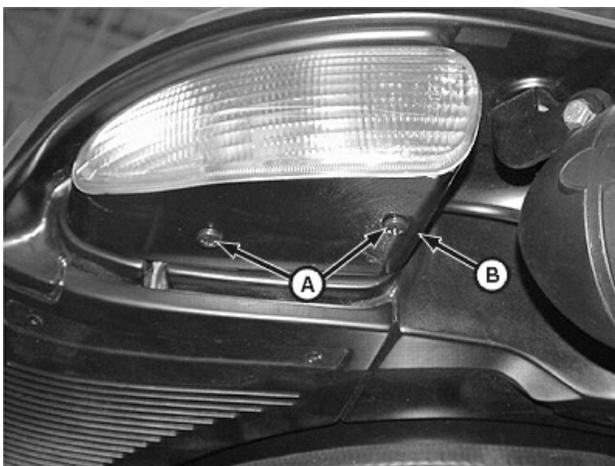
A—Socket Head Screws
B—Lens
C—Bulb Socket
D—Bulb

1. Remove socket head screws (A) and lens (B).
2. Twist and pull to remove bulb socket (C) from lens.
3. Gently push and turn bulb (D) to remove.
4. Install new bulb.
5. Reinstall bulb sockets to lens.
6. Inspect rubber seal for cracks that may cause leaks. Replace if necessary.
7. Reinstall lens (B) with previously removed socket head screws (A).

shqw455,1657054696426-19-05JUL22

Replace Worklight Bulb—Cab

NOTE: Procedure is the same for all warning lights on machine.

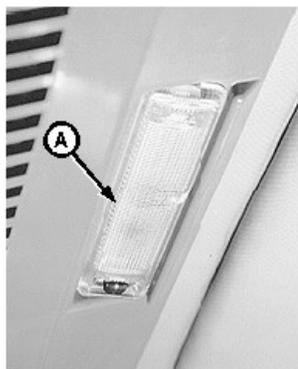


LV5559—UN—29NOV00

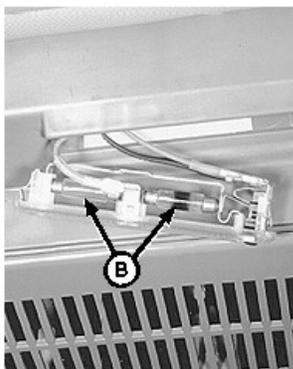
Left Rear Shown

Replace Dome Light Bulb

Service Interval—As required



LV1592—UN—22MAY96



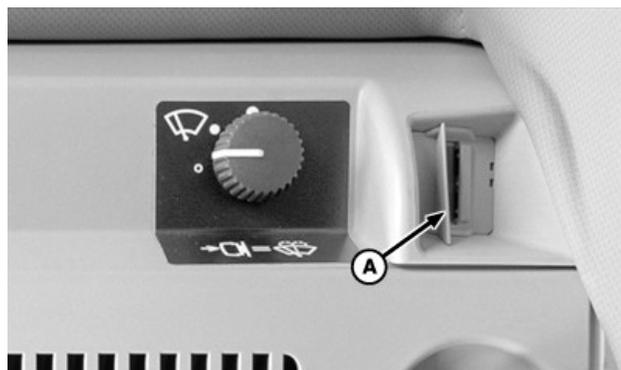
LV1593—UN—22MAY96

1. Pry the dome light housing (A) from headliner with a screwdriver.
2. Replace the dome light bulb (B).
3. Install dome light housing into headliner.

MSBAEPJ,000027A-19-11MAY22

Replace Controls Illumination Light Bulb

Service Interval—As required



LV9770—UN—07SEP04

1. Pry off panel (A).
2. Rotate the light bulb retainer counterclockwise approximately 1/4 turn and remove.
3. Pull out the light bulb.
4. Install new bulb in the reverse order of removal.

MSBAEPJ,000027B-19-11MAY22

Replace Rotary Beacon Light Bulb

Service Interval—As required

CAUTION: Halogen bulbs contain gas under pressure. Handling a bulb improperly could cause it to shatter into flying fragments. (See Handle Halogen Light Bulbs Safely in this section.)



P19241—UN—18JUL22

Cab Shown



P19242—UN—18JUL22

A—Wing Nut
B—Cap screws

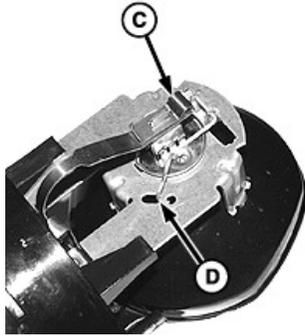
1. Loosen wing nut (A) and remove the rotary beacon light assembly.
2. Install rubber cap (B).



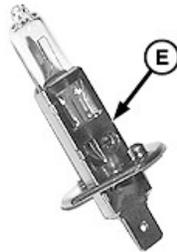
LV9695—UN—19AUG04

A—Tab
B—Lens

3. Depress the tab (A) and rotate the lens (B) counterclockwise to remove.



LV9696—UN—19AUG04



LV9697—UN—19AUG04

- C—Tab
- D—Retaining Spring
- E—Bulb

4. Pull the tab (C) away from bulb (E).
5. Unlatch the retaining spring (D) and remove the bulb (E).
6. Install new bulb in the reverse order of removal.

MSBAEPJ,00000CC-19-18JUL22



APY68974—UN—03MAY22

- A—Bolt
- B—Lock Nuts

NOTE: Use a wrench in the bolt head to hold the bolt while removing the nut.

1. Remove lock nut (B) from bolt (A) only for the disassembly of the Beacon Light.
2. Remove the beacon light assembly.

MSBAEPJ,00000AB-19-18JUL22

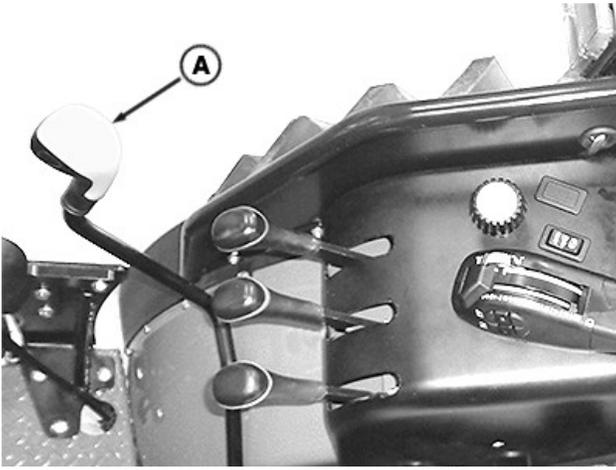
Remove Beacon Light Assembly

Service Interval—As required

Drivetrain Maintenance

Check Neutral Start System—Transmission

Service Interval—Every 500 hours



Gearshift Lever—OOS

PY36939—UN—31JUL17



EH Directional Reverser Lever—OOS

PY36941—UN—31JUL17



EH Directional Reverser Lever—Cab

PY36942—UN—31JUL17



Gearshift Lever—Cab

PY36940—UN—31JUL17

NOTE: Your tractor is equipped with interlocks to prevent inadvertent movement when the engine is started.

1. Depress clutch pedal and brake pedals.
2. Move gearshift lever (A) to any position except PARK or NEUTRAL position.
3. Move the EH directional reverser lever (B) to forward or reverse position.
4. Start engine.

The engine should start in NEUTRAL or PARK positions only.

IMPORTANT: If the engine starts in any of these positions, neutral start system should be repaired. See your John Deere dealer immediately.

The engine starts with the PTO switch up (engaged) or down (disengaged), but the PTO shaft will not rotate.

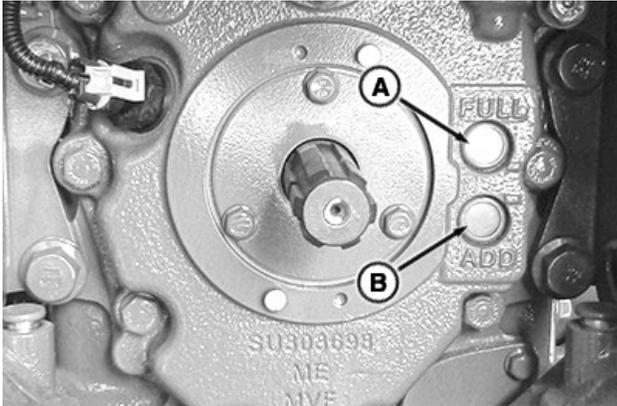
MSBAEPJ,00000AD-19-23NOV22

Transmission Maintenance

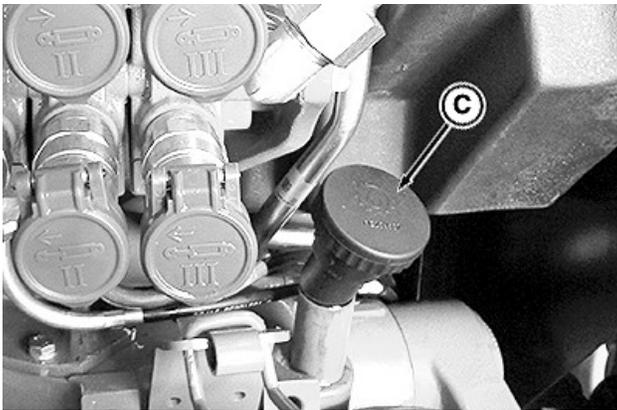
Check Transmission—Hydraulic System Oil Level

Service Interval:

- Check—Every 50 hours
- Refill—As required



PY36943—UN—02AUG17



PY36944—UN—02AUG17

Sight Glass

A—FULL Mark/Upper Sight Glass
B—ADD Mark/Lower Sight Glass
C—Oil Filler Tube

IMPORTANT: Routine checks help prevent the downtime. Documenting the leakage and other malfunctions by the operator aids in preventive maintenance. Since the transmission operates in oil, it is important to keep oil clean and at the correct level at all times.

1. Operate the engine at approximately 1000 rpm for at least 1 minute.
2. Move the rockshaft lever fully forward to lower the hitch all the way down.
3. Stop the engine and wait an additional three minutes before checking oil level.

NOTE: Oil level must be in the middle of the upper window.

As long as the Add mark (B) in the lower window is full, it is not necessary to add oil. The full mark (A) in upper window indicates that the oil level is full. No additional oil is required.

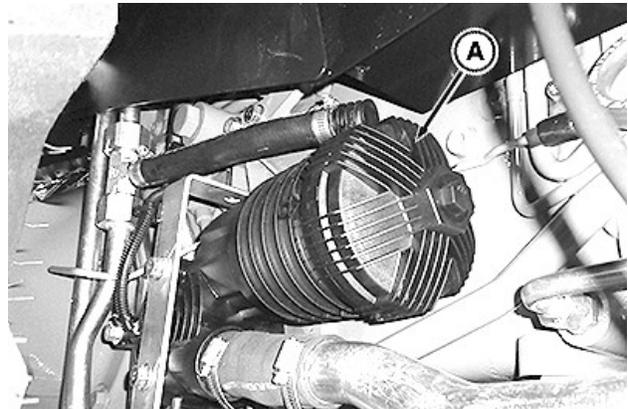
4. If the oil level is below the Add mark (B), open oil filler tube (C) and pour in the clean hydraulic oil until oil level reaches the Full mark (A). (See Transmission, Steering, Brake, Hydraulic, and Gear Case Oil in Fuels, Lubricants, and Coolants section).

MSBAEPJ.00000AE-19-11MAY22

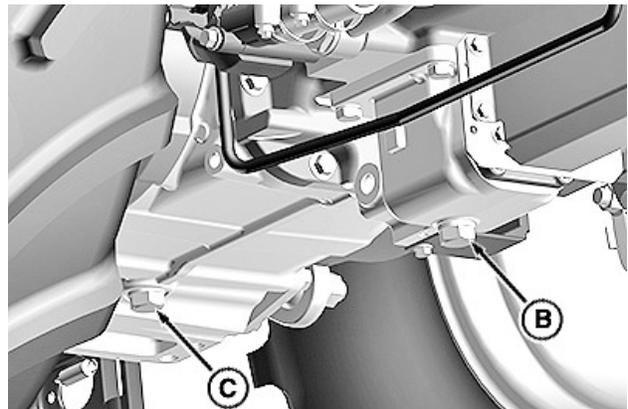
Change Transmission—Hydraulic Oil and Filter

Service Interval:

- Hydraulic Filter and Oil—First 100 hours
- Hydraulic Filter—Every 100 hours
- Hydraulic Filter and Oil—Every 1500 hours



PY36952—UN—02AUG17



PY36953—UN—02AUG17

A—Filter
B—MFWD Drain Plug
C—Transmission Case Drain Plug

1. Lower rockshaft to remove the trapped oil.

NOTE: For oil capacities, see Machine Specifications—Capacities in the Specifications Section.

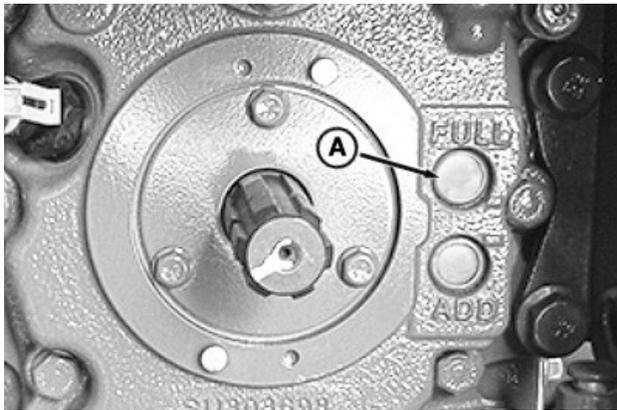
2. Remove drain plugs:

- Adjustable Front Axle—Remove drain plug (C)
- MFWD Axle—Remove drain plugs (B and C)

Drain oil into pan and dispose of the waste oil properly.

3. Replace the filter (A) while changing oil.

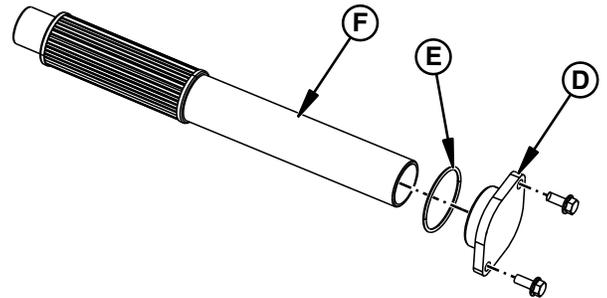
4. Fill the system with the transmission-hydraulic oil. (See Transmission, Steering, Brake, Hydraulic, and Gear Case Oil in Fuels, Lubricants, and Coolants section.)



PY36954—UN—26JUL17

5. Check the oil level at sight glass (A) after filling, and again after operating for five minutes. (See Check Transmission-Hydraulic System Oil Level in the Transmission Maintenance section.)

MSBAEPJ,00000CF-19-29NOV22



PY36956—UN—24JAN17

- A—Drawbar Support
- B—Cap Screw (4 used)
- C—Cap Screw (6 used)
- D—Pickup Screen Cover
- E—O-Ring
- F—Pickup Screen

NOTE: Hitch arms are in the raised position for the clarity of photo.

1. Drain transmission-hydraulic oil. (See Change Transmission-Hydraulic Oil and Filter in this section.)
2. Remove four cap screws (B) (drawbar support-to-bottom of the differential housing).
3. Remove six cap screws (C) (drawbar support-to-back of the differential housing) and drawbar support (A).
4. Remove cap screws, pick up the screen cover (D), O-ring (E), and pickup screen (F). Examine the pickup screen for damage; replace if necessary. Clean the pickup screen in solvent and blow dry with compressed air.
5. Inspect O-ring (E) for damage. Replace if necessary.
6. Carefully install the screen so the front of screen is inserted in the hole at the front of differential case.
7. Install O-ring, cover, and cap screws.
8. Install drawbar support and cap screws. Tighten cap screws to specification.

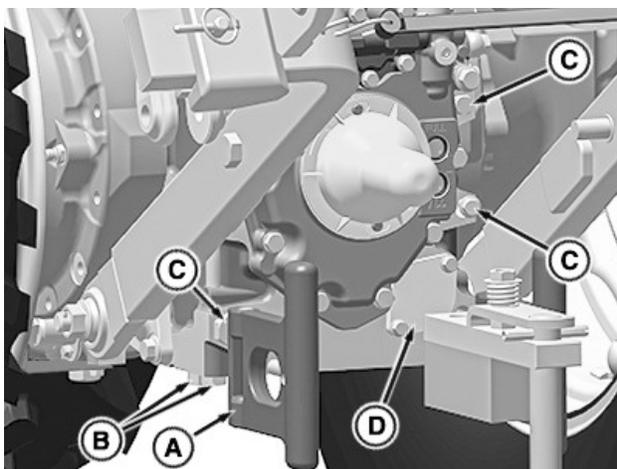
Specification

Drawbar Support Cap Screw	
(C)—Torque.	225 N·m (165 lb·ft)
Drawbar Support Cap Screw	
(B)—Torque.	350 N·m (255 lb·ft)

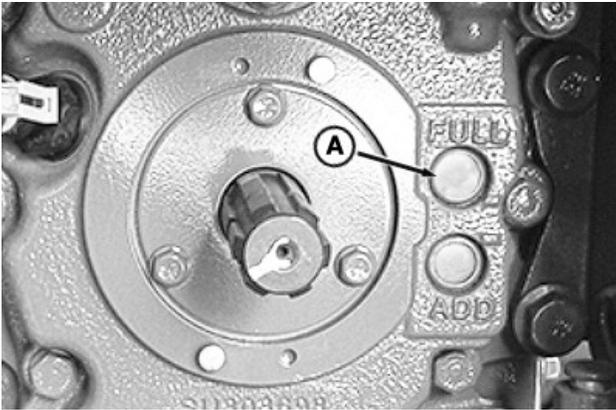
9. Fill the system with the transmission-hydraulic oil. (See Change Transmission-Hydraulic Oil and Filter in this section.)

Clean Transmission Hydraulic Pickup Screen

Service Interval—Every 1500 hours



PY36957—UN—24JAN17



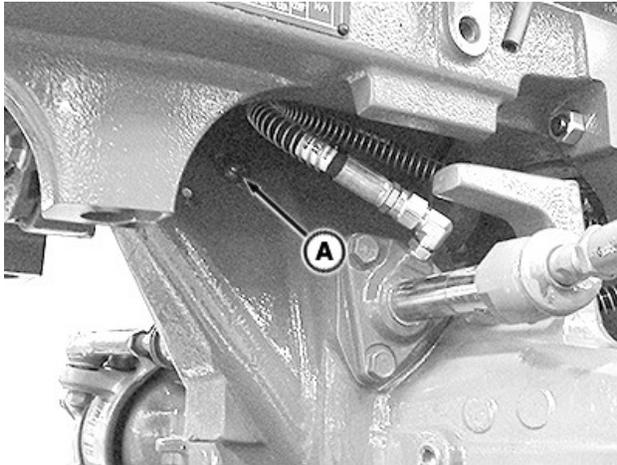
PY36954—UN—26JUL17

10. Check the oil level at sight glass (A) after filling and again after operating for five minutes.

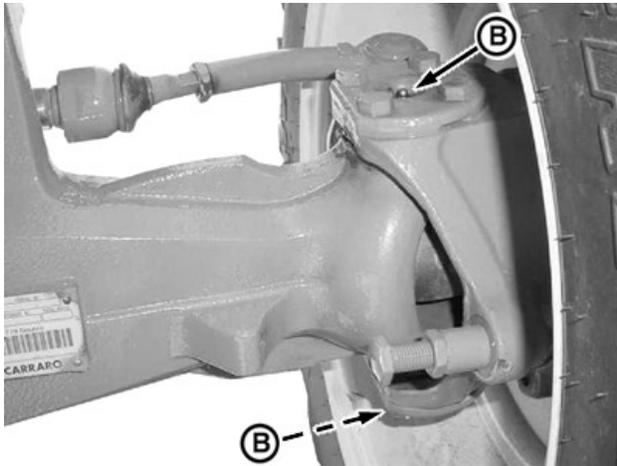
MSBAEPJ,00000CD-19-23NOV22

MFWD and Front Axle Maintenance

Lubricate MFWD Axle



PY36958—UN—02AUG17



P13203—UN—17SEP04

A—Front Axle Pivot Pin Lube Fitting
B—Steering King Pin Lube Fitting

Service Intervals:

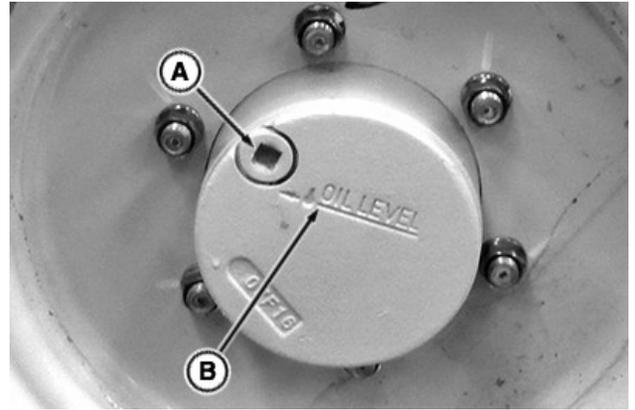
- Front Axle Pivot Pin—**Every 50 hours**
- Steering King Pins—**Every 50 hours**

Lubricate front axle pivot pin applying multipurpose grease to lube fitting (A).

Lubricate steering king pins applying multipurpose grease to lube fittings (B).

MSBAEPJ,00000B2-19-01APR22

Check MFWD Wheel Hub Oil Level



PY36947—UN—24JAN17

Service Interval—Every 100 hours

1. Park the tractor so that oil fill mark (B) on the MFWD hub is level with the ground.
2. Remove the oil fill plug (A).

NOTE: Oil level must be even with bottom of the fill plug hole.

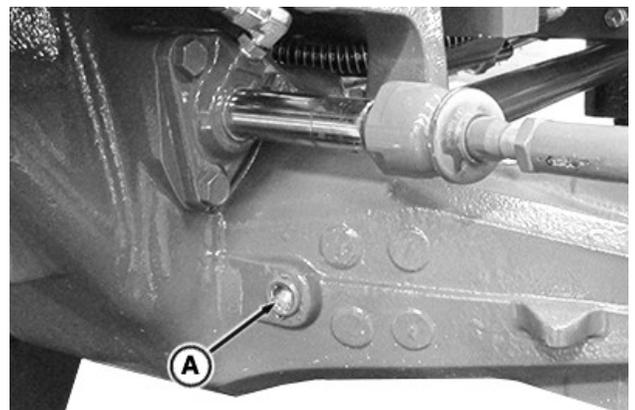
3. If the level is low, add oil through the same hole. (See Transmission, Steering, Brake, Hydraulic, and Gear Case Oil in Fuel, Lubricants, and Coolants section.)
4. Apply pipe sealant with Teflon™ (or equivalent) to the threads of plug.
5. Install the plug and tighten to specification.

Specification

Plug-to-Hub—Torque..... 70 N·m
 (52 lb·ft)

MSBAEPJ,00000B3-19-22AUG22

Check MFWD Axle Housing Oil Level



PY36948—UN—24JAN17

Service Interval—Every 50 hours

1. Park the tractor on flat surface so that MFWD axle is level with the ground.
2. Remove the oil fill plug (A).

NOTE: Oil level must be even with bottom of the fill plug hole.

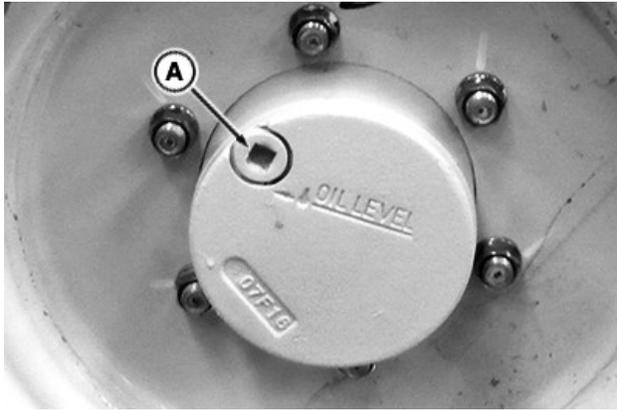
3. If the level is low, add oil through the same hole. (See Transmission, Steering, Brake, Hydraulic, and Gear Case Oil in Fuel, Lubricants, and Coolants section.)
4. Apply pipe sealant with Teflon™ (or equivalent) to the threads of plug.
5. Install the plug and tighten to specifications.

Specification

Plug-to-Hub—Torque 70 N·m
(52 lb·ft)

MSBAEPJ,00000B4-19-11MAY22

Change MFWD Wheel Hub Oil



PY36949—UN—24JAN17

A—Drain/Fill Port Plug

Service Interval:
 • **Every 500 hours**

NOTE: For oil capacities, see Machine Specifications—Capacities in the Specifications section.

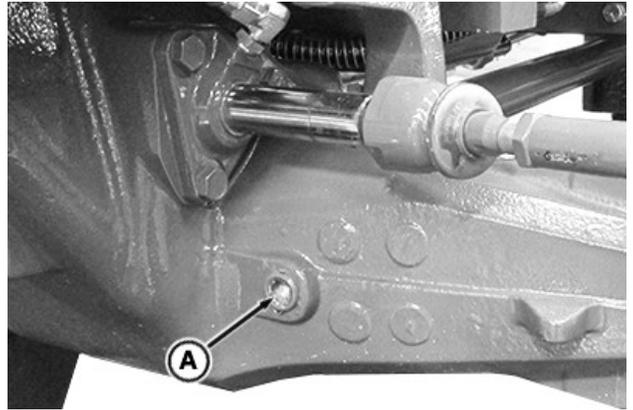
1. Park the tractor on level surface.
2. Rotate the wheel until the drain/fill port plug (A) is at the bottom of hub.
3. Remove the plug and drain oil.
4. After the oil has drained, rotate wheel until the drain/fill port is positioned parallel with ground.
5. Add oil until even with bottom of the drain/fill port. (See Transmission, Steering, Brake, Hydraulic, and Gear Case Oil in Fuels, Lubricants, and Coolants section.)
6. Apply the pipe sealant with Teflon™ (or equivalent) to threads of plug.
7. Install the plug and tighten to specification.

Specification

Plug-to-Hub—Torque. 70 N·m
 (52 lb·ft)

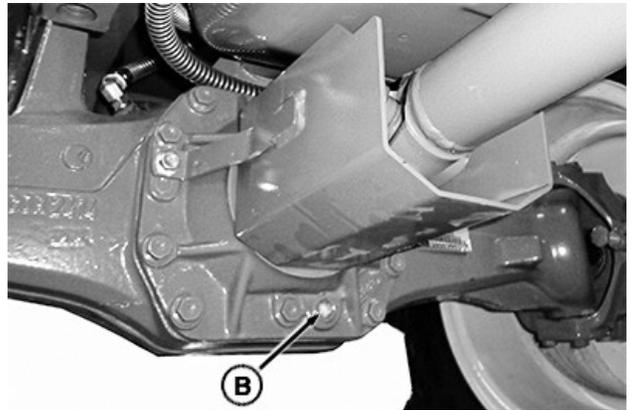
MSBAEPJ.00000B5-19-24NOV22

Change MFWD Axle Housing Oil



PY36948—UN—24JAN17

Front Left-Hand Side



PY36955—UN—24JAN17

Rear Right-Hand Side

A—Axle Housing Check/Fill Port Plug
B—Drain Plug

Service Interval:
 • **Every 500 hours**

NOTE: For oil capacities, see Machine Specifications—Capacities in the Specifications section.

1. Park the tractor on level surface.
2. Remove the Axle Housing Check/Fill Port Plug (A) and Drain Plug (B).
3. After the oil has drained, apply the pipe sealant with Teflon™, or equivalent, to the threads of the drain plug (B) and install. Tighten to specification.
4. Add the oil until even with bottom of the Axle Housing Check/Fill Port (A). (See Transmission, Steering, Brake, Hydraulic, and Gear Case Oil in Fuels, Lubricants, and Coolants section.)
5. Install the Axle Housing Check/Fill Port Plug (A).

IMPORTANT: Check the oil level after 30 minutes.

NOTE: Oil flows slowly through bearings and axle housings.

6. After approximately 30 minutes of operation, recheck oil level. Add oil as necessary.
7. Apply the pipe sealant with Teflon™, or equivalent, to threads of plug (A).
8. Install the plug and tighten to specifications.

Specification

Plugs-to-Axle Housing—Torque. 70 N·m
(52 lb·ft)

MSBAEPJ,00000B6-19-24NOV22

Check MFWD for Oil Leaks

Service Interval—As required

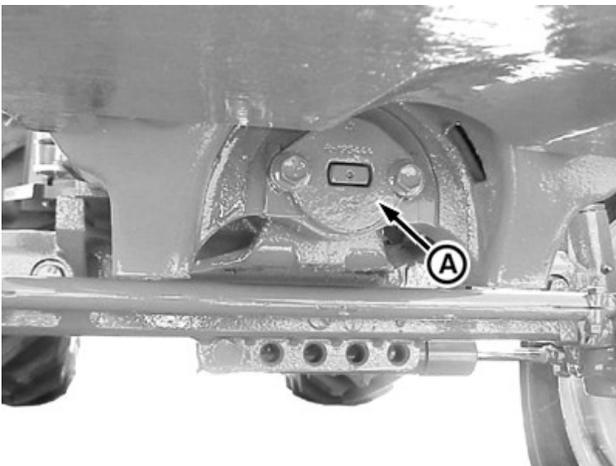
Check MFWD axle housing and MFWD axle wheel hub for leaks.

Make sure that no oil leaks from the drain plug and fill the port.

NOTE: If oil leaks, replace the drain plug and fill port. If oil leakage is excessive, see your John Deere dealer.

MSBAEPJ,00000B7-19-29NOV22

Check Front Axle Pivot Pin End Play



P13183—UN—17SEP04

Adjustable Front Axle Shown

Service Interval—**Every 500 hours**

Ask your John Deere dealer to check the front axle pivot pin (A) for correct end play.

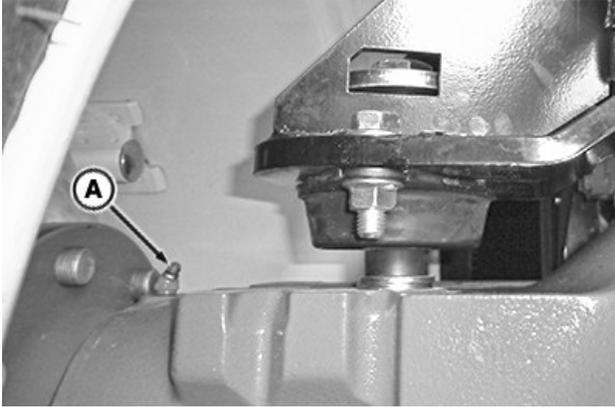
PP71895,0000769-19-23NOV22

Differential and Rear Axle Maintenance

Lubricate Rear Axle Bearings

Service Interval:

- **Every 500 Hour** under normal conditions.
- **Daily or every 10 hours** if operated in wet conditions.



PY36951—UN—24JAN17

Left-Hand Side Shown

Lubricate rear axle fittings with several shots of multipurpose grease. (See Fuels, Lubricants, and Coolants section for more information.)

PP71895,000075E-19-23NOV22

Power Take Off (PTO) Maintenance

Adjust 540 EH PTO Switch

No adjustment required.

PP71895,000076A-19-01FEB18

Check Neutral Start System—PTO

Service Interval—Every 500 hours

⚠ CAUTION: Make sure that everyone is clear of tractor.



APY68975—UN—03MAY22

Cab shown

A—PTO Switch

1. Fully depress clutch and brake pedals.
2. Pull the PTO switch (A) to ENGAGED position.
3. Start engine.

IMPORTANT: PTO should NOT ENGAGE until the PTO switch (A) is OFF and then back in ENGAGED position. If PTO engages when the engine is started and switch is in ENGAGED position, inspect it. See your John Deere dealer immediately.

NOTE: The engine must start regardless of the PTO switch position.

MSBAEPJ,00000B8-19-23NOV22

Hydraulics Maintenance

Warm Hydraulic System Oil

Service Interval— As required

If hydraulics performance is not satisfactory, warm hydraulic system oil. (See Warm Hydraulic System Oil in the Hydraulic Operation section.)

MWG7GFH,000003F-19-11MAY22

Hydraulic Maintenance

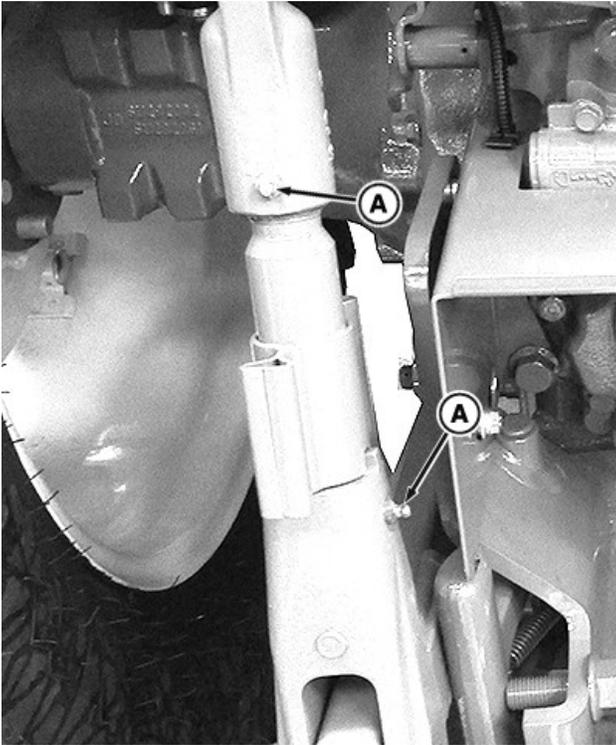
See Transmission Maintenance section for servicing the hydraulic oil and filters.

MSBAEPJ,00000BC-19-11MAY22

Hitch and Drawbar Maintenance

Lubricate 3-Point Hitch

Service Interval—Every 50 hours



PY28619—UN—02AUG17

Left-Hand Lift Link Shown

A—Lubrication Point

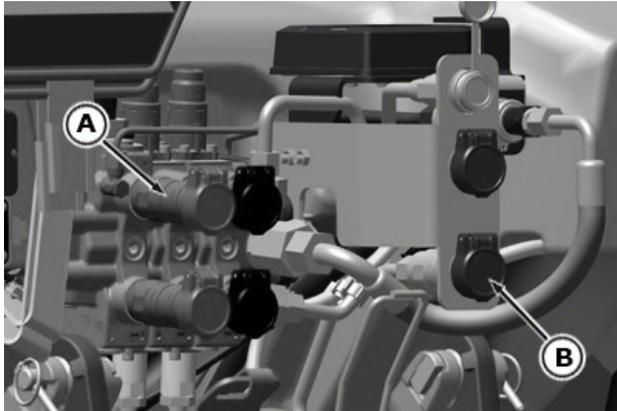
Lubricate fittings on both left- and right-hand lift links with several shots of multipurpose grease. (See Grease in Fuels, Lubricants, and Coolants section.)

MSBAEPJ,00000BD-19-01APR22

Selective Control Valve Maintenance

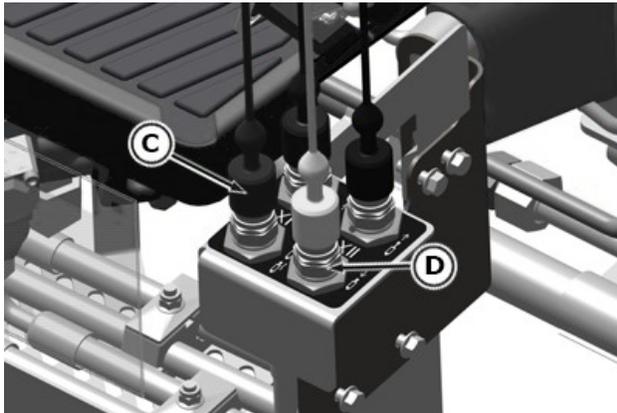
Check Selective Control Valve (SCV)

Service Interval — As required



P19243—UN—18JUL22

Triple Rear SCV Shown



P19244—UN—18JUL22

Mid-Mount SCV Shown

A—Coupler Receptacle (6 used)
B—Dust Cap (6 used)
C—Dust Plug (4 used)
D—Coupler Receptacle (4 used)

1. Check dust caps (B) and dust plugs (C) for damage. Replace as needed.
2. Clean coupler receptacles (A and D).
3. Check the coupler receptacles for oil leakage. Consult your John Deere dealer if this problem occurs.

MSBAEPJ,00000BF-19-18JUL22

Wheels and Tires Maintenance

Check Tires

Service Interval — Every 10 hours

IMPORTANT: Keep the wheel hardware tight for safety.

1. Check tires daily for damage or noticeably low pressure.
2. Have any cuts or breaks repaired as soon as possible.
3. Protect tires to exposure to sunlight, petroleum products, and chemicals.
4. Drive carefully. Try to avoid rocks and sharp objects.

IMPORTANT: Minimum pressure is used for light loads and only if Tractor has no added weight. If you install ballast or mounted implements, or if you pull heavy loads, increase pressure.

NOTE: Contact your John Deere dealer or Tire Dealer for the tire inflation pressure chart.

5. At least every 100 hours of operation, check tire inflation pressure with accurate gauge having 10 kPa (0.1 bar) (1 psi) graduations. If tires contain liquid ballast, use special air-water gauge and measure pressure with the valve stem at bottom.

MSBAEPJ,00000C0-19-11MAY22

Change Tires Safely

CAUTION: Do not operate the tractor until the wheel change has been completed.

For rear wheels with wheel weights, the removal and installation must be carried out by an authorized dealer.

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.

When storing removed wheels, make sure that they cannot fall.



LX1049987

LX1049987—UN—15JUL11

Wheel Dolly



LX1049890

LX1049890—UN—11FEB11

Support Stand

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 the unauthorized operation.
- When removing rear wheels, prevent the front axle oscillation by using wedges.
- Only jack up the tractor at the recommended lifting points.
- Use a stable jack with sufficient lifting force.
- Stop jacking up the tractor when the wheel is completely off ground.
- Use a suitable wheel dolly, especially when removing a rear wheel. It is available at an authorized dealer.
- Support the tractor when a wheel is removed. Appropriate jack stands are available from an authorized dealer.
- When installing a wheel, observe the screw torques (see Tighten Bolts—MFWD Axle, Tighten Bolts—Rear Axle in Wheels and Tires Operation Section).

MSBAEPJ,00000C1-19-11MAY22

Inspect Tractor for Loose Hardware

Service Interval:

- **First 10 hours**
- **Every 50 hours**

Tighten all wheel bolts and adjustable front axle-to-knee bolts see Wheels and Tires Operation section.

For torque specifications, refer to Inspect ROPS for Loose Hardware or Keep Cab Protection System Installed Properly, in the Operator Station Maintenance section.

MSBAEPJ,00000C2-19-03MAY22

Tubeless Tire Repair

Certain sizes of tires are tubeless. Small tubeless tire punctures can be temporarily repaired without dismounting the tire, avoiding down time during the busy season. (See your John Deere dealer or tire service store for repair kits and instructions.)

IMPORTANT: A permanent, inside-out repair must be made as soon as possible to prevent tire damage.

PP71895,0000776-19-01FEB18

Ballasting Maintenance

Match Ballast to Work Load

Use no more ballast than necessary, and remove ballast when it is no longer needed.

Do not weight the tractor down to pull heavy loads. Reduce the load instead. Pulling lighter load at higher speed is more economical and more efficient.

Too Little Ballast	Too Much Ballast
	Lower productivity

MSBAEPJ.00000C3-19-11MAY22

Too Little Ballast	Too Much Ballast
Excessive wheel slip	Increased load
Power loss due to the churning soil	Power loss due to carrying the extra weight
Tire wear	Tire strain
Fuel waste	Soil compaction
Lower productivity	Fuel waste

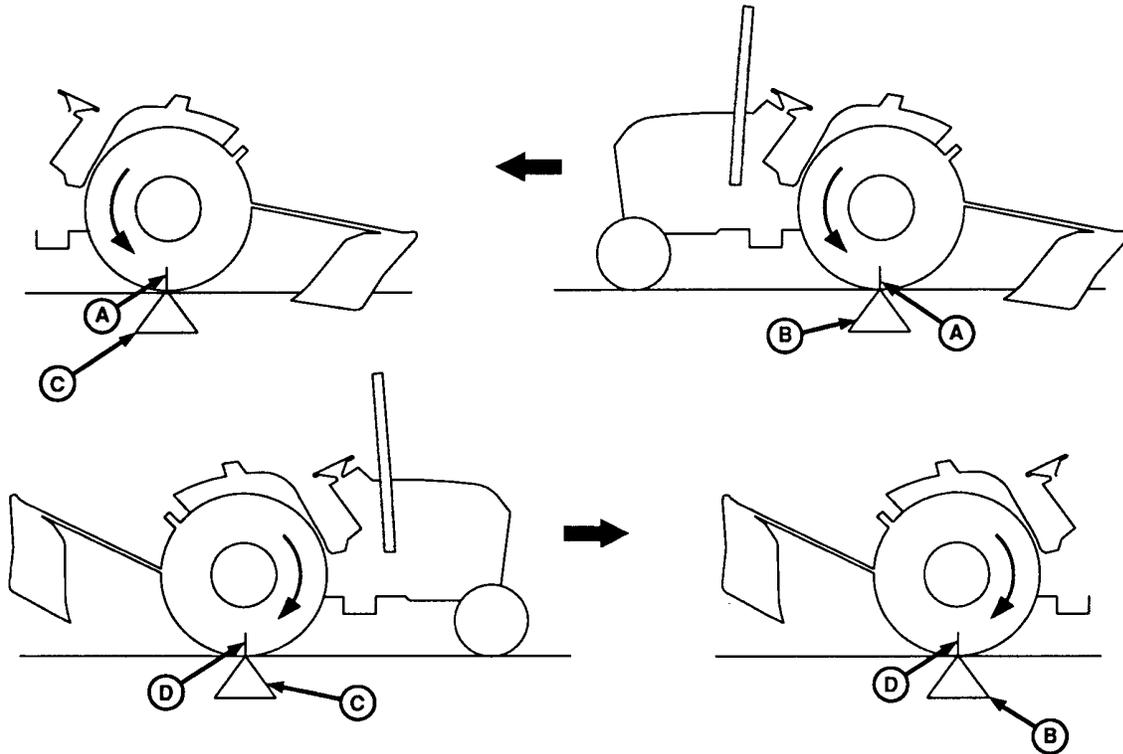
Check for Correct Ballast

The best way to check for correct ballast is to measure the amount of travel reduction (percentage of slip) of the drive wheels. Under normal field conditions, travel reduction is 10–15 %.

Add more weight to the drive wheels if slip is excessive. If there is less than 10 % slip, weight must be removed.

MWG7GFH.0000040-19-11MAY22

Measure Wheel Slip Manually



A—Mark on Rear Tire
B—Starting Point on Ground

1. Make a visible mark on rear tire (A) (a chalk mark is recommended).
2. With tractor working, mark a starting point (B) on the ground at the place where tire mark (A) touches the ground.
3. Drive tractor forward until the mark on rear tire (A)

C—Second Point on Ground
D—Mark on Rear Tire

4. With implement raised, return in the opposite direction. Make one more mark on the tire (D) and ground (C).
5. While driving the tractor along the same path with implement raised, count the tire revolutions required to reach the starting point (B).

LV733—UN—25JUN94

NOTE: Ideal slippage range is 10-15% for two-wheel drive tractors and 8-12% for tractors with engaged MFWD.

- Use the return tire revolutions count and Wheel Slippage Chart to determine the slippage.
- Adjust ballast or load to give the correct slippage.

NOTE: Available horsepower is greatly reduced when the wheel slip drops below 10%.

WHEEL SLIPPAGE CHART		
Non-Loaded Wheel Revolutions (Step 5)	Estimated Percentage of Slip	Recommended Action
10	0	Remove Ballast
9-1/2	5	Remove Ballast
9	10	Proper Ballast
8-1/2	15	Proper Ballast
8	20	Add Ballast
7-1/2	25	Add Ballast
7	30	Add Ballast

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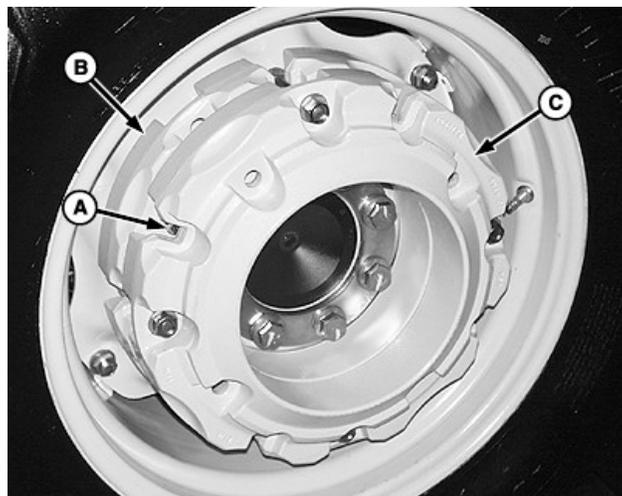
- To hold weights in place, run retaining bolts (B) through-holes from side-to-side. Tighten to specification.

Specification

Ballast Weights Retaining
 Bolts—Torque 215 N·m
 (159 lb·ft)

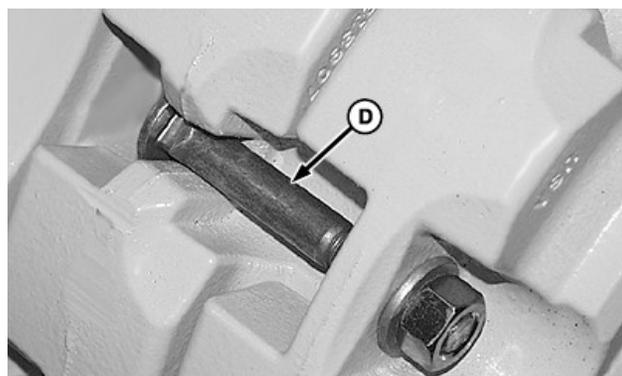
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Install Rear Cast Iron Weights



LV9753—UN—04SEP04

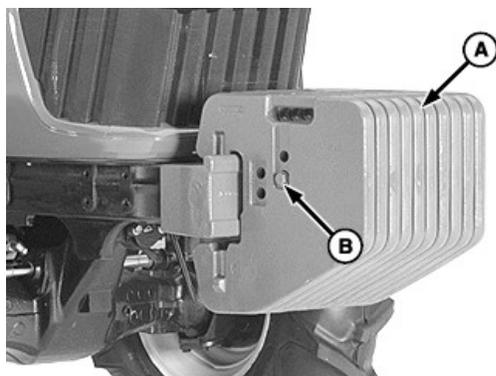
Dual Wheel Weights Shown



LV9692—UN—19AUG04

Install Bolt in Slot (additional weight)

Ballast Front End for Transport



LV9736—UN—04SEP04

- A—Ballast Center
- B—Ballast Retaining Bolt

CAUTION: Additional front ballast is needed for transporting rear-mounted implements. When implement is raised, drive slowly over the rough ground, regardless of how much ballast is used.

Weights are heavy. Prevent possible crushing injury from weights. Use a proper lifting equipment.

For more information, see Permissible Tractor Load Specifications in Specifications Section.

- Install weights in pairs, one on each side of ballast center (A).

- A—Nut, 5/8-11 (4 used)
- B—Wheel Weight
- C—Additional Wheel Weight
- D—Round-Head Bolt (4 used)

CAUTION: Cast iron weights are heavy. Handle with care! Use the appropriate equipment or have the job done by your John Deere dealer.

For more information, see Permissible Tractor Load Specifications in Specifications Section.

- Remove the wheel.

2. Attach weight (B) to wheel disks using four special round head bolts, washers, and nuts (A). Tighten nuts to specifications.

Specification

Wheel Weight-to-Disk

Nuts—Torque. 215 N·m
(159 lb·ft)

3. Install additional weights (C):
 - a. Insert four round head bolts (D) through slots of the first weight.
 - b. Align mounting holes of second weight with round head bolts and install the weight. Fasten with washers and nuts. Tighten nuts to specifications.

Specification

Wheel Weight-to-Weight

Nuts—Torque. 215 N·m
(159 lb·ft)

4. Install the wheel and tighten mounting hardware.
5. Tighten wheel weights and mounting hardware again after service. Check regularly.

MSBAEPJ,00000CE-19-11MAY22

Additional Equipment Maintenance

Check Front Loader Mounting Bracket Installation Cap Screws Tensions

Service Interval:

- First 10 hour
- Every 250 hour

Cap screw tensions for the front loader mounting bracket. (See Front Loader Mounting Bracket Installation in an Additional Equipment section.)

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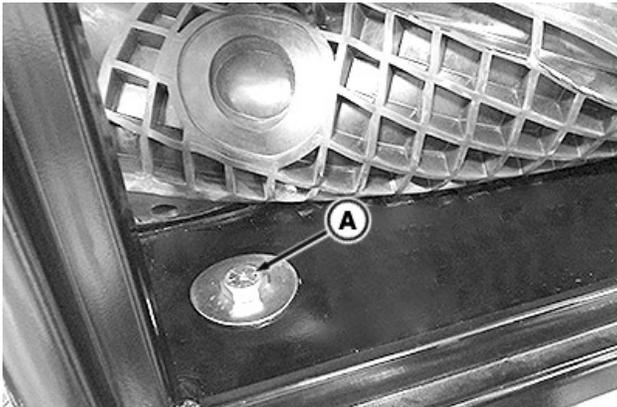
Additional Equipment Maintenance

Refer to the original equipment manufacturer (OEM) service manual for the information on servicing the additional equipment.

MSBAEPJ,00000C8-19-11MAY22

Operator's Station Maintenance

Inspect Cab Protection System Installed Properly



PY36982—UN—02AUG17
Front Mount (Left-Hand Side Shown)

A—Front Mounting Cap Screw and Washer (2 used)

- Service Interval:
- First 10 hours
 - Every 50 hours

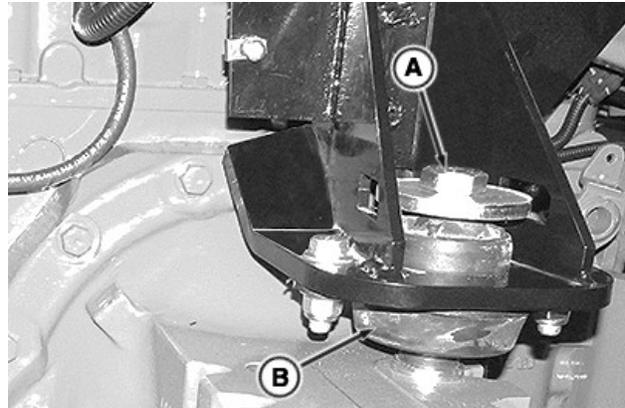
CAUTION: Make sure that all parts are installed correctly if the cab protection system is loosened or removed for any reason. Tighten mounting cap screws to specification.

The protection offered by cab protection system is impaired if the cab protection system is subjected to structural damage, as in an overturn incident, or is in any way altered by welding, bending, drilling, or cutting. A damaged cab protection system must be replaced, not reused. Any alteration to the cab protection system must be approved by the manufacturer.

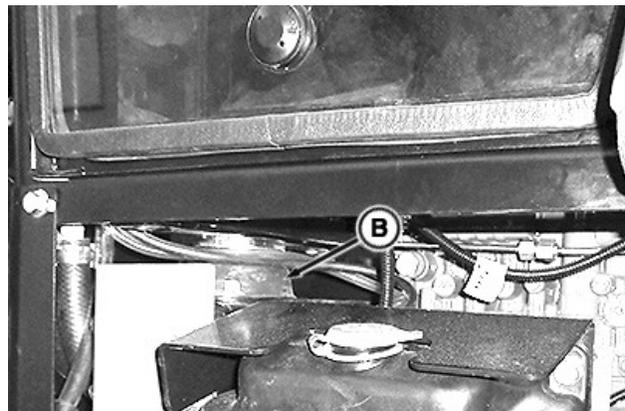
When installation of equipment on a machine necessitates loosening or removing the cab protection system, mounting cap screws must be tightened to specification.

Inspect the cab protection system mounting hardware every 50 hours for the proper torque or replacement.

Lift up the rubber floor mat to access FRONT mounting hardware (A).



PY36984—UN—02AUG17
Rear Cab Mount (Left-Hand Side Shown)



PY36983—UN—02AUG17
Front Cab Mount (Left-Hand Side Shown)

A—Mounting Cap Screw (4 used)
B—Isolator (4 used)

Check front and rear mounting hardware (A) for the proper torque.

Specification

Cab Protection System	
Mounting Cap Screws —	
Front—Torque.	200 N·m (147 lb-ft)

Cab Protection System	
Mounting Cap Screws —	
Rear—Torque.	350 N·m (258 lb-ft)

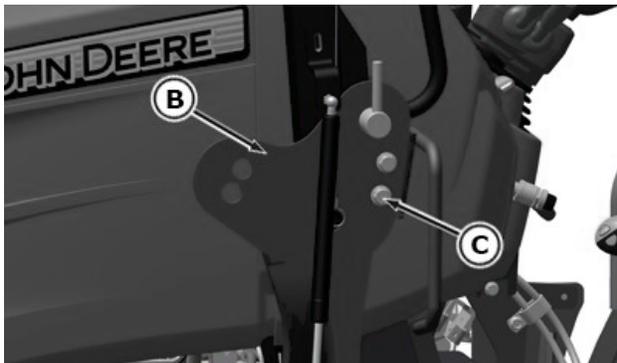
Check isolators (B) for cracks or wear. See your John Deere dealer to replace cab mounts if necessary.

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Inspect ROPS for Loose Hardware



APY68977—UN—17MAY22
Roll-Over Protective Structure (ROPS)



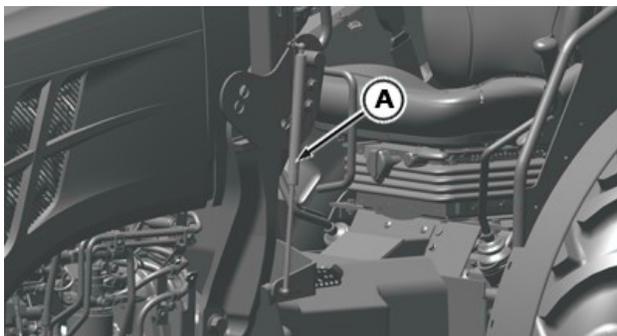
P19251—UN—19JUL22
ROPS Frame (left-hand Side Shown)

- A—ROPS Crossbar
- B—Frame
- C—Mounting Cap Screw (4 used)

Service Interval:

- First 10 hours
- Every 50 hours

Clean the ROPS shock absorber



P19675—UN—05OCT22

Clean the ROPS Piston (A) for a better interaction
(Recommend clean every 100 hours).

A—Piston

CAUTION: Make sure that all parts are installed correctly if roll-over protective structure (ROPS) is loosened or removed for any reason. Tighten mounting cap screws to specification.

The protection offered by ROPS is impaired if ROPS is subjected to structural damage, as in an overturn incident, or is in any way altered by welding, bending, drilling, or cutting. A damaged ROPS must be replaced, not reused. Any alteration to the ROPS must be approved by the manufacturer.

When installation of equipment on a machine necessitates loosening or removing ROPS crossbar(A), or frame (B), mounting the cap screws should be tightened to specification.

Specification

ROPS Mounting Cap Screw	
(C)—Torque.	550 N·m (406 lb·ft)
ROPS Mounting Cap Screw	
(D)—Torque.	225 N·m (166 lb·ft)

MSBAEPJ,00000CA-19-07OCT22

Clean or Replace Cab Air Filters

Service Interval • Replace - 250 Hours

NOTE: When operating in dusty conditions, reduce the service interval to 50—100 hours.

CAUTION: The use of activated carbon filters in the air ventilation system of the operator's cab does not protect against injuries caused by toxic chemicals. Prior to working with chemicals, review and comply with the warning and handling instructions of the manufacturer of the chemicals used and take the recommended actions to protect yourself and the environment against damage.

CAUTION: Chemicals must be stored and transported only in properly closed containers that are specified for the purpose. Do not store or transport these containers inside the operator's cab. For detailed instructions, refer to the documentation provided by the manufacturer.

⚠ CAUTION: Refrigerant under pressure. Improper servicing of air conditioner results in damage. Escaping refrigerant under pressure can penetrate eyes and skin causing serious injury or burns.

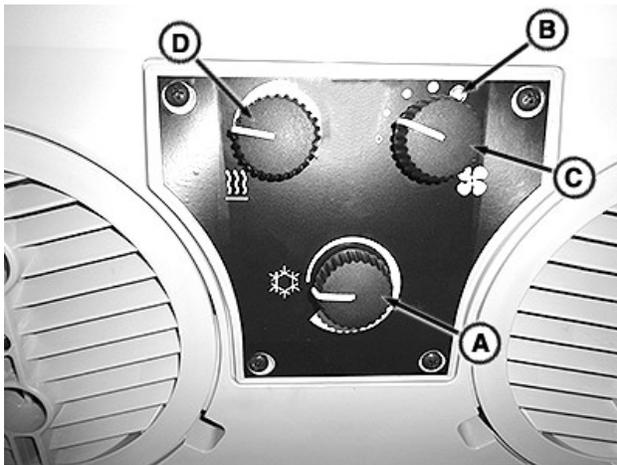
IMPORTANT: Use only R-134a refrigerant. Special equipment and procedures are required. See your John Deere dealer for more information.

NOTE: Some oil seepage from the compressor shaft seal on the lower front is normal.

Check the following if air conditioner does not cool, or if cooling is intermittent:

1. If air conditioner clutch slips after tractor has been in storage, compressor may be stuck.
 - a. Stop the engine by turn ignition switch to STOP (off) position.
 - b. Raise the hood and rotate the clutch hub back and forth to free the compressor.

NOTE: Ensure the heater control knob (D) is turned to fully counterclockwise position.



PY36988—UN—02AUG17

Controls—Overhead Panel

- A—Air Conditioner Knob
- B—HIGH Position
- C—Blower Control Knob
- D—Heater Control Knob

2. Run the engine at 2000 rpm. Set air conditioner knob (A) to ON position and set blower control knob (C) to HIGH position (B).

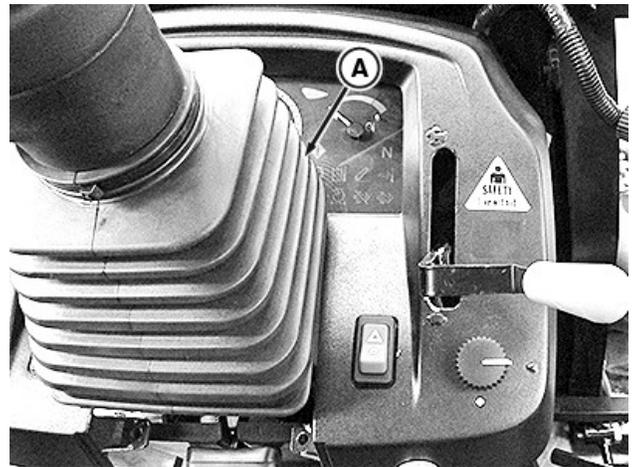
NOTE: If cooling is intermittent, clean front grille, radiator, and condenser. (See Clean Grille Screens, Radiator, Oil Cooler or Air-Conditioner Condenser in Air Intake, Fuel, Coolant, and Exhaust Maintenance section). If the problem is not solved, see your John Deere dealer.

3. Inspect operator's cab filters for restriction. Clean filters (See Clean Cab Air Filters in this section).

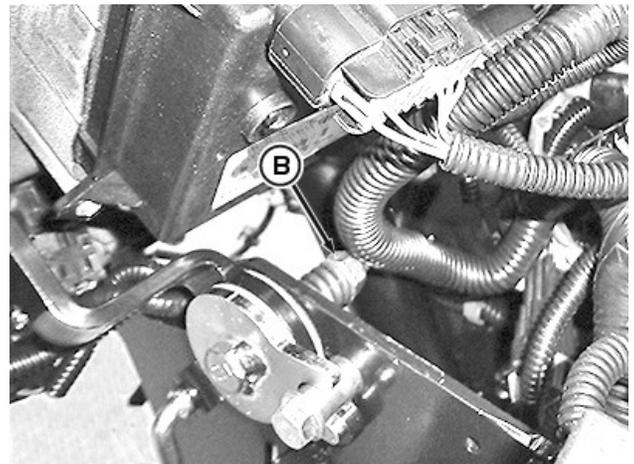
NOTE: If the problem persists, see your John Deere dealer to have the evaporator core cleaned.

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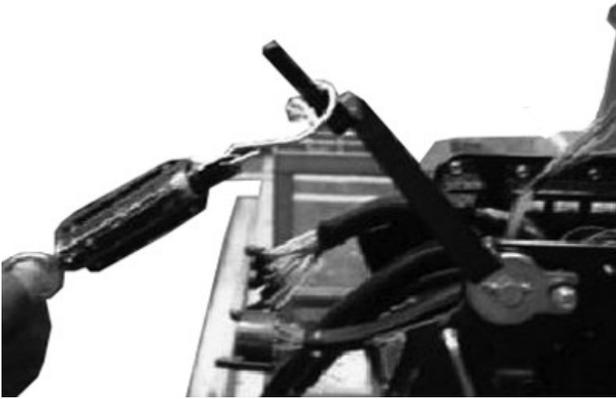
Adjust Throttle Friction



PY36989—UN—02AUG17



PY38101—UN—02AUG17



PY45652—UN—01SEP17

Tension Meter

1. Pry out steering column boot (A).
2. Adjust the spring tension by loosening or tightening throttle lever lock nut (B) until throttle lever movement is smooth throughout its range of travel with only slight drag.
3. Measure force required for throttle movement using tension meter.

Specification

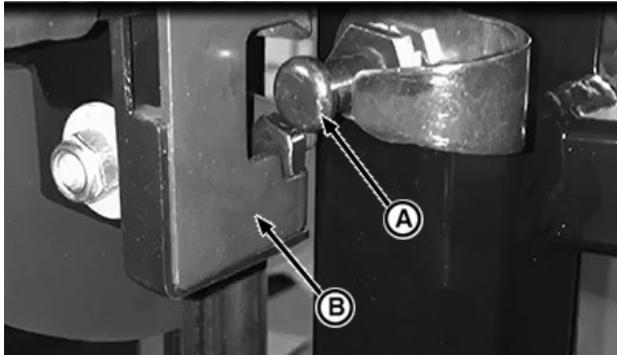
Tension Gauge Reading—Force 68.6 N
(15.4 lbf)

4. Install boot.

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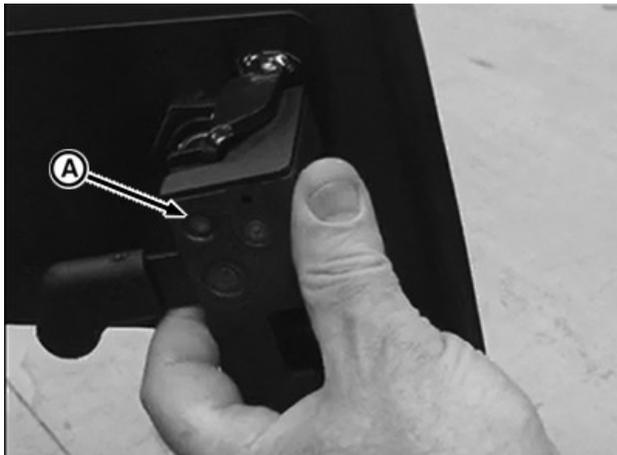
Adjust Door Lock

Service Interval—As required



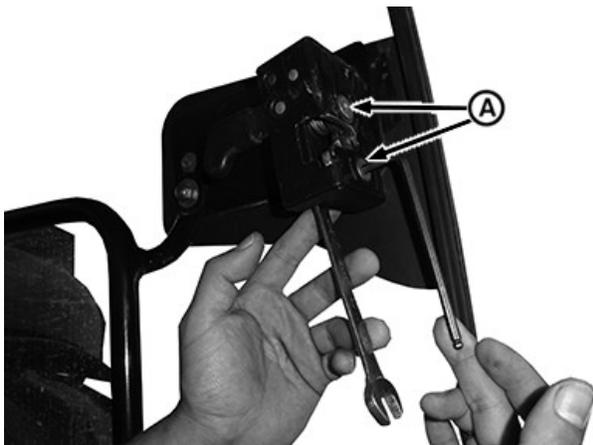
P18181—UN—12JUN17

1. To adjust the door lock, center the frame bolt (A) in the hole of the door lock (B).



P18182—UN—12JUN17

2. Move the door lock (A) to the desired direction.



P18183—UN—12JUN17

A—Hex Socket Screw (2 used)

3. Tighten hex socket screws (A).

MSBAEPJ,00000D2-19-11MAY22

Inspect Seat Belt

⚠ CAUTION: If the seat belt system, including the mounting hardware, buckle, belt, or retractor shows any sign of damage, such as cuts, fraying, extreme or unusual wear, discoloring or abrasion, the entire seat belt system must be replaced immediately. Replace the belt system only with replacement parts approved for your machine.



LV9749—UN—07SEP04

Cab Seat Shown

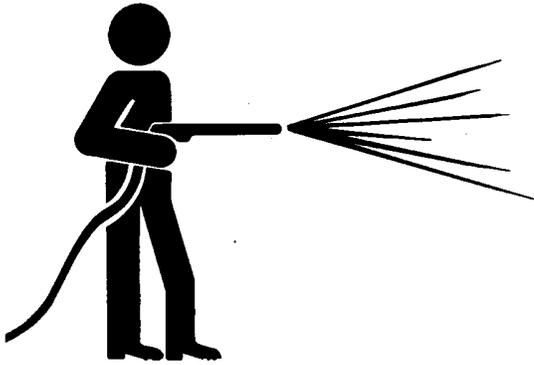
Service Interval—Every 500 hours

Inspect seat belt (A) and mounting hardware. If seat belt (A) must be replaced, see your John Deere dealer.

MWG7GFH,0000041-19-29NOV22

Troubleshooting

Wash Machine After Unloading



T6642EJ—UN—18OCT88

IMPORTANT: Reduce corrosion from road salt and sea salt. Promptly wash equipment delivered by truck during winter months or delivered by cargo ship.

Avoid malfunction or damage to machine components. Do not direct high-pressure spray at electronic or electrical components and connectors, bearings, hydraulic seals, fuel injection pumps, or other sensitive components. Reduce water pressure to wash sensitive components.

Avoid water penetration behind seals and similar components. Do not direct spray on these components at an angle less than 45°.

Avoid discoloration of machine paint. Do not use strong soaps, chemical detergents, or cleaning agents that contain acids, caustics, or abrasives. Do not allow cleaning agents to dry on machine. Promptly rinse machine after washing with a cleaning agent.

Use a top-to-bottom wash sequence. Wash behind panels and in hidden areas where salt can accumulate during transport.

If a cleaning agent is used, the agent must be the correct concentration. Do not allow cleaning agent to dry on machine, promptly rinse from top to bottom. Your John Deere dealer has cleaners which are compatible with your equipment and which are recommended to remove protective shipping coatings.

Incorrect detergent, excessive concentration, a delay in rinsing, or incomplete rinsing can discolor paint after delivery.

DX,WASH-19-14MAR14

Engine Troubleshooting

Symptom	Problem	Solution
Engine hard to start or will not start	Improper starting procedure.	Review starting procedure.
	No fuel.	Check the fuel tank.
	Air in the fuel tank.	Bleed the fuel tank.
	Cold weather.	Use cold weather starting procedure.
	Slow starter speed.	See the Starter Cranks Slowly in Electrical System Troubleshooting section.
	Crankcase oil too heavy.	Use the oil of proper viscosity.
	Improper type of fuel.	Consult the fuel supplier; use proper type fuel for operating conditions.
	Water, dirt, or air in the fuel system.	Drain, flush, fill, and bleed the system.
	Clogged fuel filter.	Replace the filter element.
Dirty or faulty injectors.	Have your John Deere dealer check injectors.	

Troubleshooting

Symptom	Problem	Solution
	Injection pump shutoff not reset.	Turn ignition switch to STOP, then to ON.
Engine knocks	Insufficient oil.	Add oil.
	Injection pump out of time.	See your John Deere dealer.
	Low coolant temperature.	See your John Deere dealer.
	Engine overheating.	See Engine Overheats in this section.
Engine runs irregularly or stalls frequently	Low coolant temperature.	See your John Deere dealer.
	Clogged fuel filter.	Replace filter element.
	Water, dirt, or air in the fuel system.	Drain, flush, fill, and bleed system.
	Dirty or faulty injectors.	Have your John Deere dealer check injectors.
	Improper type of fuel.	Use proper fuel.
Below normal engine temperature	Defective temperature gauge or sender.	Check gauge, sender, and conditions.
Lack of power	Engine overloaded.	Reduce load or shift to lower gear.
	Low high idle speed.	See your John Deere dealer.
	Intake air restriction.	Service air cleaner.
	Clogged fuel filter.	Replace filter element.
	Improper type of fuel.	Use proper fuel.
	Overheated engine.	See Engine Overheats in this section.
	Engine temperature below normal.	See your John Deere dealer.
	Improper valve clearance.	See your John Deere dealer.
	Dirty or faulty injectors.	Have your John Deere dealer check injectors.
	Injection pump out of time.	See your John Deere dealer.
	Turbocharger not functioning.	See your John Deere dealer.
	Leaking exhaust manifold gasket.	See your John Deere dealer.
	Implement improperly adjusted.	See implement Operator's Manual.

Troubleshooting

Symptom	Problem	Solution
	Restricted fuel line.	See your John Deere dealer.
	Restricted return line.	See your John Deere dealer.
	Improper ballast.	Adjust ballast to load.
Low oil pressure	Low oil level.	Add oil.
	Improper type of oil.	Drain; fill crankcase with oil of proper viscosity and quality.
High oil consumption	Crankcase oil too light.	Use proper viscosity oil.
	Oil leaks.	Check for leaks in lines, around gaskets, and drain plugs.
	Restricted crankcase vent tube.	Clean vent tube.
	Defective turbocharger.	See your John Deere dealer.
Engine emits white smoke	Improper type fuel.	Use proper fuel.
	Low engine temperature.	Warm up engine to normal operating temperature.
	Defective thermostat.	See your John Deere dealer.
	Defective injection nozzles.	See your John Deere dealer.
	Engine out of time.	See your John Deere dealer.
	Cold start advance or light load advance not functioning.	See your John Deere dealer.
Engine emits black or gray exhaust smoke	Improper type of fuel.	Use proper fuel.
	Clogged or dirty air cleaner.	Service air cleaner.
	Engine overloaded.	Reduce load or shift to a low gear.
	Injection nozzles dirty.	See your John Deere dealer.
	Engine out of time.	See your John Deere dealer.
	Turbocharger not functioning.	See your John Deere dealer.
Engine overheats	Dirty radiator core or grille screen.	Remove all trash.
	Engine overloaded.	Shift to lower gear or reduce load.
	Low engine oil level.	Check oil level. Add oil as required.

Troubleshooting

Symptom	Problem	Solution
	Low coolant level.	Fill radiator to the proper level. Check radiator, coolant recovery tank, and hoses for loose connections or leaks.
	Faulty radiator cap.	Replace cap.
	Loose or defective fan belt.	Check belt tension. Replace if necessary.
	Cooling system needs flushing.	See your John Deere dealer.
	Defective thermostat.	See your John Deere dealer.
	Defective temperature gauge or sender.	See your John Deere dealer.
	Incorrect grade of fuel.	Use proper fuel.
High fuel consumption	Improper type of fuel.	Use proper fuel.
	Clogged or dirty air cleaner.	Service air cleaner.
	Engine overloaded.	Reduce load or shift to a lower gear.
	Improper valve clearance.	See your John Deere dealer.
	Injection nozzles dirty.	See your John Deere dealer.
	Engine out of time.	See your John Deere dealer.
	Implement improperly adjusted.	See implement Operator's Manual.
	Low engine temperature.	See your John Deere dealer.
	Excessive ballast.	Adjust ballast to load.
	Defective turbocharger.	See your John Deere dealer.
	Restricted air intake system.	Check system.
	Plugged crankcase vent tube.	Clean vent tube.

MSBAEPJ,00000D3-19-12MAY22

Transmission Troubleshooting

Symptom	Problem	Solution
Transmission oil overheats	Low oil supply.	Fill system with correct oil.
	Clogged transmission-hydraulic oil filter.	Replace filter.

Troubleshooting

Symptom	Problem	Solution
	Internal hydraulic leak.	See your John Deere dealer.
	Hitch feedback linkage improperly adjusted.	Reset linkage. See your John Deere dealer.
	Implement-mounted hydraulic motor not plumbed correctly or not matched to circuit.	See your John Deere dealer.
	SCV lever held in extend or retract position.	Return SCV lever to neutral position.
Low transmission pressure	Low oil supply.	Fill system with correct oil.
	Clogged transmission-hydraulic oil filter.	Replace filter.

MSBAEPJ,00000D4-19-01APR22

Hydraulic System Troubleshooting

Symptom	Problem	Solution
Entire hydraulic system fails to function	Low oil supply.	Fill system with correct oil.
	Clogged transmission-hydraulic filter.	Replace filter.
	Clogged transmission-hydraulic pickup screen.	Clean pickup screen.
	High-pressure internal leak.	See your John Deere dealer.
Hydraulic oil overheats	Low oil supply.	Fill system with correct oil.
	Clogged transmission-hydraulic oil filter.	Replace filter.
	Internal hydraulic leak.	See your John Deere dealer.
	Hitch feedback linkage improperly adjusted.	Reset linkage. See your John Deere dealer.
	Implement mounted hydraulic motor not plumbed correctly or not matched to circuit.	See your John Deere dealer.
	Basic valve: SCV lever held in extend or retract position.	Return SCV lever to neutral position.
	Deluxe valve: Flow control or detent setting incorrect.	Adjust flow control and/or detent setting.

MSBAEPJ,00000D5-19-05JUL22

Brakes Troubleshooting

Symptom	Problem	Solution
No solid pedal feel	Air in system.	See your John Deere dealer.
Pedal settles	Rear brake piston seal leaking.	See your John Deere dealer.
Excessive pedal travel	Air in system.	See your John Deere dealer.
Brakes drag during transport	Brakes out of adjustment.	See your John Deere dealer.

MSBAEPJ,00000D6-19-01APR22

Rockshaft and Quick-Coupler 3-Point Hitch Troubleshooting

Symptom	Problem	Solution
Insufficient transport clearance	Center link too short.	Adjust center link.
	Lift links too short.	Adjust lift links.
	Implement not level.	Level implement.
	Implement not properly adjusted.	See implement Operator's Manual.
	Front of center link in upper holes.	Move center link to lower holes.
	Sway blocks not in correct position.	Adjust sway blocks.
	Raise height limit not correctly set.	Adjust raise height limit.
Hitch fails to follow the lever	Malfunction in the lever position sensor circuit or hitch position sensor.	See your John Deere dealer.
Poor position control	Load/depth mix control in wrong position.	Turn load/depth mix control to position control detent.
	System is reset.	Enable system.
	Malfunction in the lever position sensor circuit or hitch position sensor.	See your John Deere dealer.
Hitch drops slowly	Rockshaft rate-of-drop not properly set.	Adjust rate-of-drop.
Hitch fails to lift or lifts slowly	Excessive load on hitch.	Reduce load.
	Center the link in wrong position.	Adjust center link.
	Low oil level.	Fill the system with the proper oil.
	Hydraulic oil too cold.	Allow oil to warm.
	Transmission-hydraulic oil filter clogged.	Replace the filter.

Troubleshooting

Symptom	Problem	Solution
	Transmission-hydraulic pickup screen clogged.	Clean or replace the pickup screen.
Implement will not operate at desired depth	Lift links too short.	Adjust lift links.
	Lack of penetration.	See implement Operator's Manual.
	Draft sensor failed.	See your John Deere dealer.
	Improper setting of the hitch control stop.	Readjust the position.
	Improper setting of the load/depth control.	See Hitch and Drawbar Operation section.
Insufficient or no hitch response to draft load	Front attachment of center link in upper holes.	Move center link attachment to the lower bracket holes.
	Load/depth control in position 1.	Turn load/depth mix control to higher setting.
	Lift links too short.	Adjust lift links.
	Lack of penetration.	See implement Operator's Manual.
	System is reset.	Enable the system.
	Rate-of-drop too slow.	Adjust the rate-of-drop.
Hitch too responsive	Front attachment on center link in the lower bracket holes.	Move center link attachment to the upper bracket holes.
	Improper draft sensing adjustment.	Adjust draft sensing.
	Load/depth mix control not correctly set.	Turn load/depth mix control to lower setting.
Hitch drops too fast	Rate-of-drop set too fast.	Adjust the rate-of-drop.
Hitch settles too fast after tractor is parked and after engine is shutoff	Internal system leakage.	See your John Deere dealer.
Hitch will not move (controls not working, including external raise/lower switch)	One or more fuses blown.	Replace fuses.
External raise/lower switch will not move hitch	Failure of the raise/lower switch, connector, or wiring harness.	See your John Deere dealer.
Hitch indicator lights	One or more hitch component failures.	See your John Deere dealer.

MSBAEPJ,00000D7-19-12MAY22

Selective Control Valve (SCV) Troubleshooting

Symptom	Problem	Solution
Flow control knob or detent will not turn	Dirt buildup.	Clean dirt from the flow control knob shaft.
Remote cylinder rate-of-travel too fast or too slow	Incorrect flow control adjustment.	Adjust flow control.
Detent does not hold SCV lever (Deluxe Rear SCV)	Detent the selector in wrong position.	Turn selector to correct position.
	Mid-mount SCV activated.	Avoid use of mid-mount SCV.
	3-point hitch activated.	Avoid the use of 3-point hitch.
	Low engine rpm.	Increase engine rpm
	Pressure restriction with some implements.	Reduce oil flow by changing flow control setting.
	Flow control or detent setting incorrect.	Adjust flow control and/or detent setting.
SVC lever released too soon (Deluxe Rear SCV)	Detent the selector in wrong position.	Turn the selector to the correct position.
	Implement is not connected to SCV I.	Connect implement to SCV I.
SCV lever does not release	Detent the selector not in automatic detent position (Deluxe Rear SCV).	Turn the selector to the correct position. See your John Deere dealer.
	Built-in pressure leakage with some implements.	Increase oil flow by changing flow control setting.
	Incorrect flow control (Deluxe Rear SCV).	Adjust flow control.
Rear SCV fails to function	Rear SCV does not generate the pressure.	Check the O-ring/back-up ring on power beyond fitting in mid-mount SCV.

MSBAEPJ,00000F1-19-11MAY22

Remote Hydraulic Cylinders Troubleshooting

Symptom	Problem	Solution
Direction of remote cylinder travel is reversed	Improper hose connections.	Reverse hose connections.
Hoses will not couple	Improper hose male tips.	Replace tip with the ISO standard tips.
Remote cylinder will not lift load	Excessive load.	Reduce load.

Troubleshooting

Symptom	Problem	Solution
	Hoses not installed correctly.	Attach hoses correctly.
	Incorrect remote cylinder size.	Use the correct size cylinder.

MSBAEPJ,00000D9-19-11MAY22

Electrical System Troubleshooting

Symptom	Problem	Solution
Battery will not charge	Loose or corroded connections.	Clean and tighten connections.
	Sulfated or worn-out battery.	Check electrolyte level and the specific gravity.
	Loose or defective fan belt.	Check belt tension. Replace belt if necessary.
Charging system indicator glows with engine running	Low engine speed.	Increase speed.
	Defective battery.	Check electrolyte level and the specific gravity.
	Defective alternator.	See your John Deere dealer.
	Slipping fan belt.	Check belt tension. Replace belt if necessary.
Starter inoperative	Gearshift lever not in PARK.	Move lever to PARK.
	EH directional reverser lever in forward or reverse.	Move lever to NEUTRAL.
	Low battery output.	See your John Deere dealer.
	Blown fuse.	Replace the fuse.
Starter starts slowly	Low battery output.	Check electrolyte level and the specific gravity.
	Crankcase oil too heavy.	Use the proper viscosity oil.
	Loose or corroded connections.	Clean and tighten loose connections.
Light system does not function while rest of the electrical system functions	Blown fuse.	Replace the fuse.
Entire electrical system does not function	Faulty battery connections.	Clean and tighten connections.
	Sulfated or worn-out battery.	Check electrolyte level and the specific gravity.

Troubleshooting

Symptom	Problem	Solution
	Blown fuse.	Replace the fuse.
Relay(s) sticking or nonfunctional with repeated failures	Diode to protect circuit from arcing has failed.	See your John Deere dealer.

MWG7GFH,0000042-19-11MAY22

Heater and Air Conditioning System Troubleshooting (Cab)

Symptom	Problem	Solution
All cab electrical switches do not work	Loose, defective, or blown fusible link.	See your John Deere dealer.
Blower malfunctioning	Blower does not work.	Check both blower fuses.
Blower operates only in purge position	One of two fuses blown.	Replace the fuse.
	Blown blower resistance assembly.	See your John Deere dealer.
Heater does not work	Low coolant level.	Check coolant level; add if necessary.
	Faulty thermostat.	See your John Deere dealer.
	Heater control valve not functioning properly.	See your John Deere dealer.
	Heater core or hoses clogged or damaged.	Flush cooling system. (See your John Deere dealer.) Replace heater core or hoses. (See your John Deere dealer.)
Air conditioning does not work	Fan belt loose or slipping.	Check belt tension. Replace belt if necessary.
	Blown fuse.	Replace the fuse.
	Defective switch.	See your John Deere dealer.
	Faulty wiring or loose connections.	See your John Deere dealer.
	Defective compressor clutch.	See your John Deere dealer.
Drafts	Poor air distribution	Adjust directional air louvers. Set blower switch to medium or low positions.
Inadequate air flow	Clogged air filters.	Clean filters.
	Evaporator core air flow restricted.	Clean the evaporator and the housing with compressed air.
	Faulty blower fan motors.	See your John Deere dealer.

Troubleshooting

Symptom	Problem	Solution
	Defective blower switch.	See your John Deere dealer.
	Faulty wiring or loose connections.	See your John Deere dealer.
	Loose hose clamp.	Tighten clamp.
Water leaking or dripping from evaporator core compartment	Air conditioner drip pan dirty.	Clean evaporator pan and outlet with compressed air.
	Air conditioner drain tubes plugged.	Clean drain tubes.
	Dirty air filters.	Clean filters.
Strange odors inside the operator's cab	Evaporator condenser pan dirty.	Clean pan and outlet with compressed air.
	Drain tubes plugged.	Clean drain tubes.
	Tobacco smoke and tar on evaporator exterior.	Clean filters.
	Fan belt slipping.	Check belt tension. Replace belt if necessary.
Partial frosting and sweating of lines combined with poor cooling	Loss of refrigerant.	Check system for leaks. See your John Deere dealer.
	Restricted or clogged liquid line.	See your John Deere dealer.
	Expansion valve malfunctioning.	See your John Deere dealer.
	Control dial set too low.	Adjust the temperature control to a warmer position.
Ice flecks blowing from evaporator		
Failure to cool	Insufficient blower speed.	Increase blower speed.
	Dirty air filters.	Clean filters.
	Debris on the front grille.	Clean front grille.
	Lint or dirt on condenser fins.	Blow out condenser fins with compressed air.
	Refrigerant is lost or low.	See your John Deere dealer.
	Loose fan belt.	Check belt tension. Replace belt if necessary.
	Compressor clutch not engaging.	See your John Deere dealer.
	Expansion valve not functioning.	See your John Deere dealer.

Troubleshooting

Symptom	Problem	Solution
	Restriction in the refrigerant system.	See your John Deere dealer.
	Faulty wiring or loose connections.	See your John Deere dealer.
	Defective temperature control switch.	See your John Deere dealer.
	Condenser is overheating.	Clean condenser screens, cores and fins of condenser, and radiator.
	Severe restriction in the high side.	See your John Deere dealer.
	Burned out clutch field or faulty field.	See your John Deere dealer.
	Short circuit in the control circuit or failure of a switch in circuit.	See your John Deere dealer.
Hissing noise at the expansion valve	Loss of refrigerant.	Check system for leaks. See your John Deere dealer.
	Restriction in the refrigerant system.	Check for kinks in hoses. Check receiver-dryer for uniformity of temperature. (See your John Deere dealer.)

MSBAEPJ,00000DA-19-11MAY22

Wipers, Worklights, Dome Light, and Radio Troubleshooting (Cab)

Symptom	Problem	Solution
All cab electrical switches do not work	Loose, defective, or blown fusible link.	See your John Deere dealer.
Window wiper(s) and washer will not run	Blown fuse.	Replace fuse.
	Defective switch(es).	See your John Deere dealer.
	Defective motor(s).	See your John Deere dealer.
	Faulty wiring or loose connections.	See your John Deere dealer.
Worklights do not work	Blown fuse.	Replace fuse.
	Defective bulb or switch.	Replace bulb or see your John Deere dealer.
	Faulty wiring or loose connections.	See your John Deere dealer.
Dome light does not work	Blown fuse.	Replace fuse.
	Defective bulb or switch.	Replace bulb or see your John Deere dealer.

Troubleshooting

Symptom	Problem	Solution
	Defective door switch.	See your John Deere dealer.
	Faulty wiring or loose connections.	See your John Deere dealer.
Radio does not work	Blown fuse.	Replace fuse.

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Storage

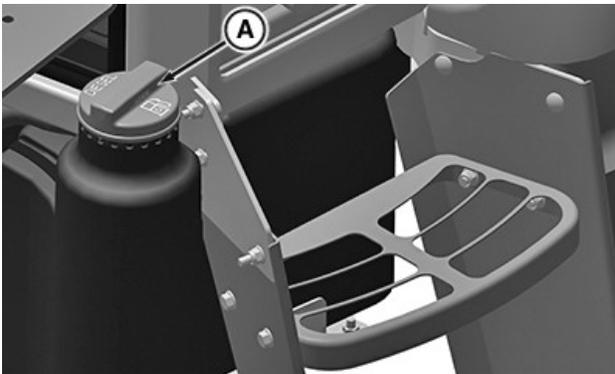
Place Tractor in Long-Term Storage

IMPORTANT: If the tractor will not be used for several months, the following recommendations for storage and removal from storage minimizes corrosion and deterioration.

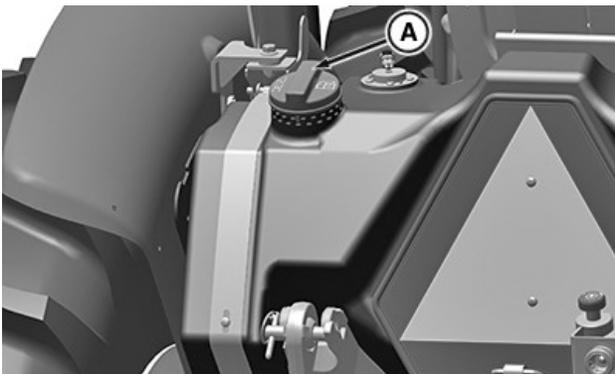
NOTE: Use Engine Storage Kit available from your John Deere dealer.

Perform the following steps for long-term tractor storage:

1. Service engine air cleaner. (See SERVICE ENGINE AIR INTAKE AND PRE-CLEANER in General Maintenance and Inspection section.)
2. If coolant in tractor is more than 2 years old, flush cooling system. (See DRAIN, FLUSH AND REFILL COOLING SYSTEM in Maintenance—Cooling System section). Add 50% antifreeze water mixture. Test coolant for adequate cold-weather protection.
3. Change engine oil and filter (See procedure in Lubrication section).



Left-Hand Side of Tractor—Cab

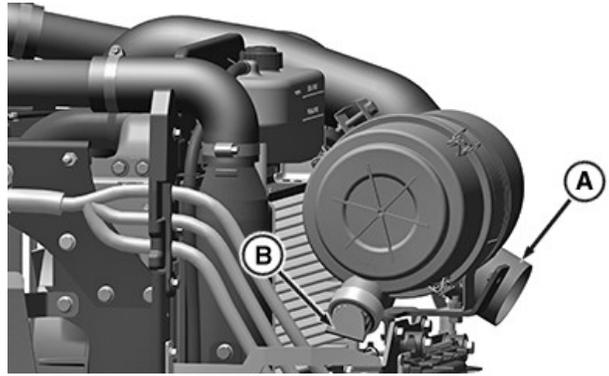


Back Side of Tractor—OOS

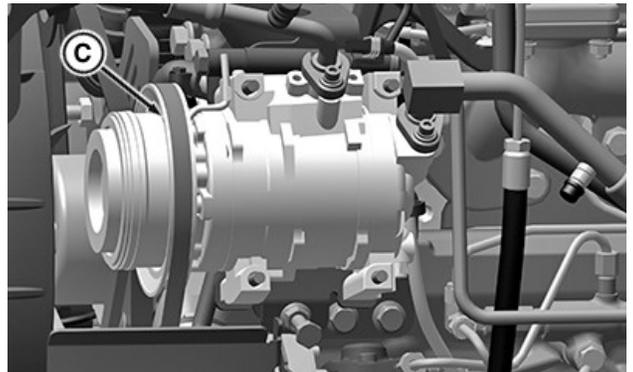
A—Fuel Tank Fill Cap

4. Drain fuel tank. Remove fuel tank fill cap (A) and add 4 L (1 gal) of fuel. Install cap.
5. Remove alternator/fan belt after it has cooled.

6. Remove and clean battery. Store in a cool, dry place. Keep it charged.¹
7. Tie or block clutch pedal in the disengaged position.
8. Coat exposed metal surfaces such as the adjustable front axles, if extended, with grease or a corrosion inhibitor.



PY39746—UN—06FEB17



PY39747—UN—06FEB17

A—Air Cleaner Inlet B—Dust Unloader Valve C—Air Conditioner Compressor Pulley (Cab)

9. Use tape to seal air cleaner inlet (A), dust unloader valve (B), exhaust pipe, crankcase fill cap, fuel fill cap, coolant recovery tank, and transmission/hydraulic system fill cap.
10. Cover dash with opaque material to prevent gauges from fading.
11. Raise tires off ground. Protect from heat and sunlight.
12. Thoroughly clean tractor. Touch up any painted surfaces that are scratched or chipped.
13. If the tractor must be stored outside, cover it with a waterproof material.
14. **Cab:** Rotate air conditioner compressor pulley (C) several turns once a month to prevent seizure of compressor.

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¹ Disconnect battery ground cable for short-term storage periods (20 to 90 days).

Remove Tractor from Storage

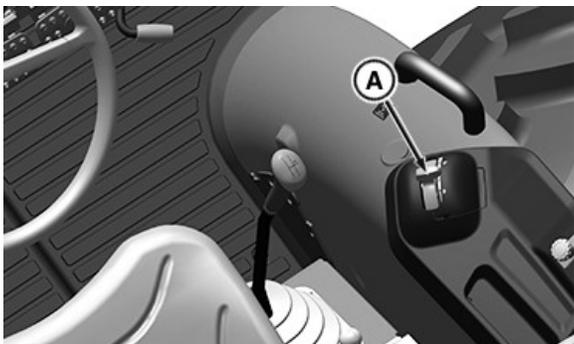
Perform the following steps to remove the tractor from storage:

1. Check tire inflation pressure. (See *Wheels, Tires, and Treads* section.) Lower tires to ground.
2. Remove all coverings.
3. Unseal all openings sealed during storage.
4. Install battery.
5. Remove ties or block which secured clutch pedal down.

IMPORTANT: Cab tractor: If air conditioner compressor is seized, engine operation with compressor clutch engaged damages belt or compressor.

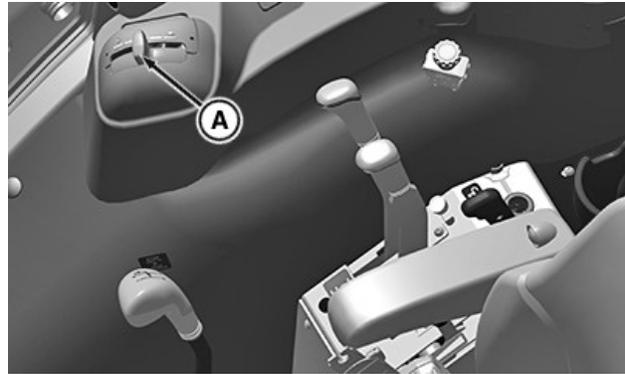
6. **Cab:** Check that air-conditioning compressor pulley moves freely and is not seized.
7. Install alternator/fan belt.
8. Check levels of engine oil, transmission/hydraulic oil, and engine coolant. Add fluids as needed.
9. Drain a small amount of fuel from the fuel tank to purge any moisture condensation that has collected.
10. Fill fuel tank.
11. Perform all appropriate services listed in *Maintenance and Service Intervals* section, as dictated by elapsed storage period.
12. Check instruments and indicators by turning key switch to RUN position.

IMPORTANT: Do not operate the starter more than 20 seconds at a time, and wait at least two minutes for starter to cool before trying again.



OOS only

PY40567—UN—20JUL17



PY39749—UN—06FEB17

Cab Only

A—Hand Throttle Lever

13. Make sure gearshift lever and PowrReverser™ lever (if equipped) is in neutral (“N”) and PTO control lever is in disengaged position. Pull hand throttle (A) all the way back, depress clutch pedal and crank engine until oil pressure rises. Turn key switch to OFF position.
14. Connect fuel shut-off solenoid wiring leads/connectors.
15. Depress clutch pedal and start engine. Operate engine at slow idle for several minutes. Warm up carefully and check all systems before placing tractor under load.

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Paint Finish Care

Washing tractor regularly preserves the finish. Wash tractor in indirect sunlight. All cleaning agents should be flushed promptly and not allowed to dry on the paint surface.

IMPORTANT: Do not use hot water, strong soaps, or chemical detergents. Use liquid hand, dish, or car washing (non-detergent) soaps. Cleaning agents containing acid or abrasives should not be used.

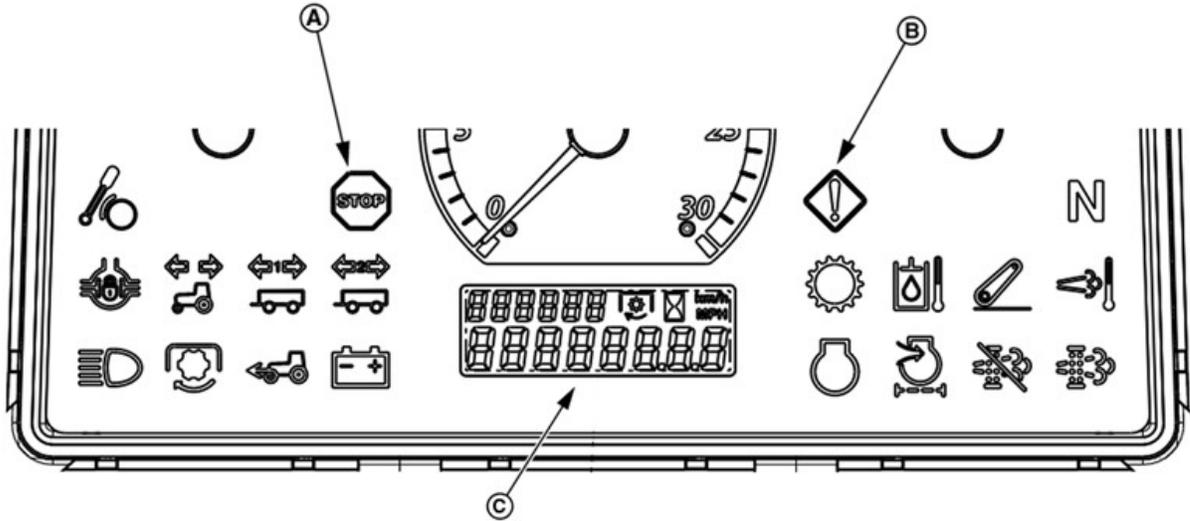
Waxing tractor occasionally may be necessary to remove residue from the paint finish. Do not use waxes containing abrasive compounds.

Inspect paint surface, during washing or waxing, for chips and scratches. Repaint any areas where paint has been removed. Paint materials are available from your John Deere dealer.

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On-Board Diagnostics

STOP, Service Alert, and Information Indicators



On-Board diagnostic communication is conducted with the indicator lights and the information display (C).

NOTE: STOP, service, and information indicators are accompanied by an informative diagnostic code on the information display.

Indicator (A) for STOP: The light flashes and uninterrupted alarm signal sounds. A serious malfunction requiring occurred that must be given immediate attention, or the tractor will be damaged. If the control software detects a malfunction or a status "out of permissible range," a diagnostic trouble code (DTC) is saved. See On-Board Diagnostic Tool in this section for more information.

IMPORTANT: Engine shuts off automatically if STOP signal is received when the operator is out of the seat for longer than 3 seconds and the transmission control is in PARK position. The information display can be reset by switching the key switch off and back on again.

Correct problem before restarting the engine. Visit your John Deere dealer if the problem cannot be solved.

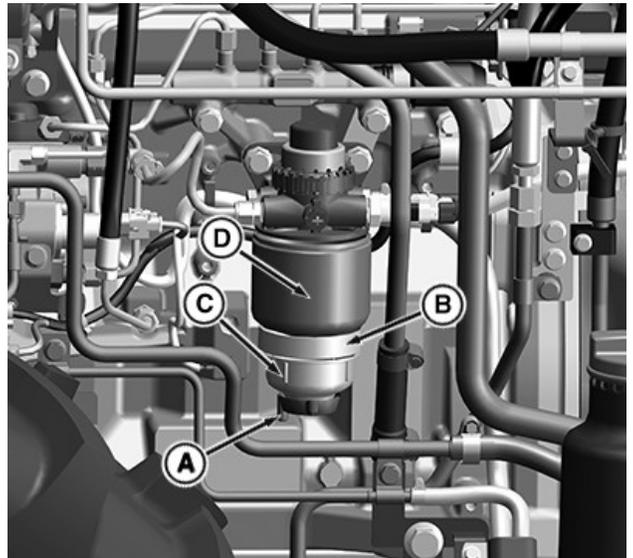
Indicator (B) for Service Alert: The light flashes and the alarm signal sounds five times and indicates a performance problem or malfunction that has to be eliminated as soon as possible. Continued operations during service alert can result in the STOP indicator lighting up. If appropriate corrective action is not taken soon (maintenance, repair, change of operating mode), a significant reduction in performance and/or machine damage occurs.

Whenever a STOP or Service Alert indicator is displayed, switch the transmission to the PARK position and shut down the engine.

P19193—UN—06JUL22

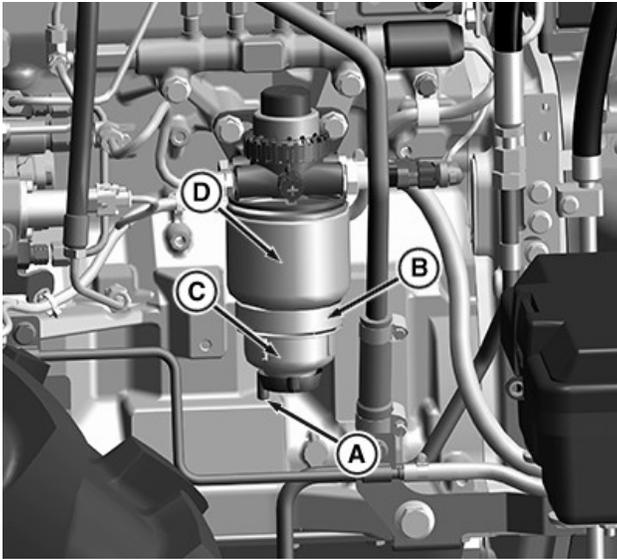
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Replace Fuel Filter / Water Separator



Primary Fuel Filter Cab - Tractors

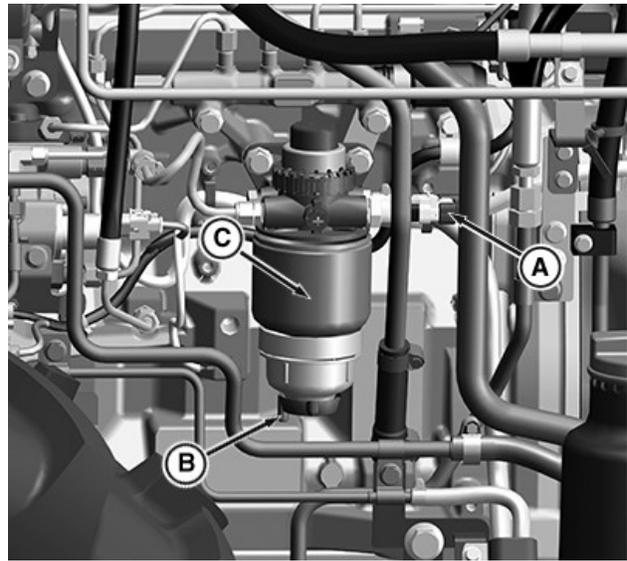
PY39695—UN—09FEB17



PY39697—UN—09FEB17

Primary Fuel Filter OOS - Tractors

Drain Water and Sediment from Fuel Filters



PY39694—UN—09FEB17

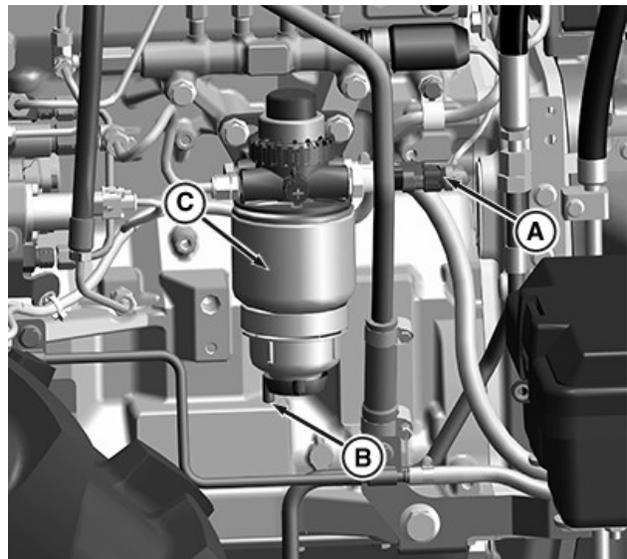
Left-Hand Side of Engine - Cab Tractors

- A—Drain Port
- B—Bottom Retaining Ring
- C—Water Separator Bowl
- D—Fuel Filter

Service Interval—500 Hrs

1. Connect a drain line to drain port (A) and place a suitable container under drain.
2. Loosen drain and drain fuel from filter.
3. Loosen bottom retaining ring (B). Remove water separator bowl (C). Disconnect wiring harness.
4. Remove fuel filter (D) and filter seal.
5. Discard old filter. Inspect filter seal for cracks, breaks, or other signs of leaking. Replace as necessary.
6. Clean and dry water separator bowl (C).
7. Install water separator bowl on the new primary fuel filter. Tighten retaining ring (B) until it snaps into place. Do not overtighten.
8. Install new primary fuel filter and filter seal to machine. Tighten retaining ring (D) until it snaps into place. Do not overtighten.
9. Connect wiring harness.
10. Bleed fuel system. (See procedure in this section.)

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PY39696—UN—09FEB17

Left-Hand Side of Engine - OOS Tractors

- A—Wiring Harness Connector
- B—Drain Plug
- C—Fuel Filter

Service Interval—Daily / 10 Hrs

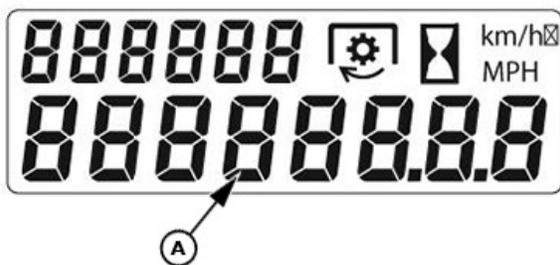
NOTE: Place a small container under the drain fitting to collect the draining fuel. Dispose of waste properly.

1. Disconnect wiring harness connector (A).
2. Connect a small hose to end of the drain plug (B).
3. Place a suitable container under drain.
4. Open drain plug (B) to drain moisture and sediment from the fuel filter (C).

5. Tighten drain plug (B) when fuel runs clear.
6. Remove drain hose and connect wiring harness connector (A).

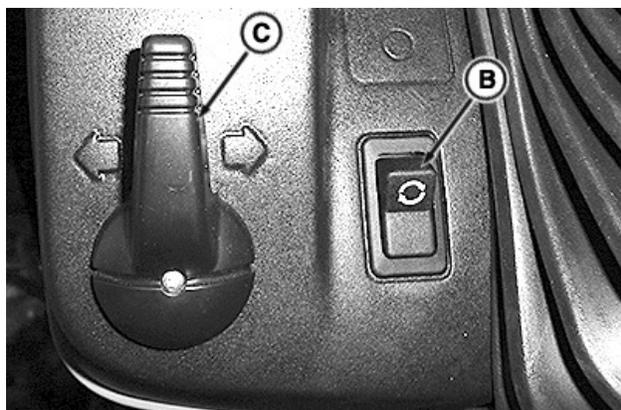
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On-Board Diagnostic Tool

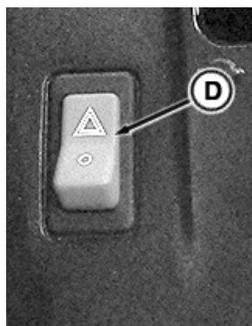


Information Display

P19194—UN—06JUL22



PY36963—UN—02AUG17



PY36964—UN—02AUG17



Diagnostic Trouble Code Mode

P17947—UN—28APR16



Diagnostic Address Mode

P17948—UN—28APR16

- A—Information Display
- B—Roll Mode Switch
- C—Turn Signal Lever
- D—Hazard Switch

NOTE: Information display accesses diagnostic mode when the hazard switch (D) is disengaged.

1. Hold roll mode switch (B) for 5 seconds.
2. Two modes are displayed on the information display (A):
 - Diagnostic Trouble Codes Mode
 - Diagnostic Address Mode

NOTE: Control unit acronyms are shown in alphabetical order (CCU, HCU, ICC, PTR).

3. Use turn signal lever (C) to navigate through the modes.
4. To exit from On-Board Diagnostic Tool, use one of the following methods:
 - Hold roll mode switch for 5 seconds.
 - Cycle the instrument cluster power.
 - Enable warning lights.

	CONTROL	COMMAND
A	Information Display	Communicates error, fault, or information messages.
B	Roll Mode Switch	Enter or select in information display menus.

	CONTROL	COMMAND
C	Turn Signal Lever	Scroll through information display menus (left goes back in menu and right goes next in menu).

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Diagnostic Trouble Code Mode



P17949—UN—28APR16

A—Control Unit
B—DTC Status
C—DTC

NOTE: See On-Board Diagnostic Tool page for directions to enter Diagnostic Trouble Code mode.

In Diagnostic Trouble Code mode, all currently active and previously active Diagnostic Trouble Codes are displayed automatically without entering the menu.

NOTE: Diagnostic Trouble Codes are displayed as soon as on-board diagnostics are accessed.

	DISPLAY	DESCRIPTION
A	Control Unit	CCU, HCU, ICC, PTR
B	DTC Status	A — Active DTC PA — Inactive DTC
C	DTC	Diagnostic Trouble Code number XXXXXX.XX

If the control unit software detects a malfunction or a status “out of the permissible range,” a diagnostic trouble code is displayed consisting of the control software and a number. The numbers to the left of the decimal point show the suspect parameter number and the numbers to the right of the decimal point show the failure mode indicator. These numbers identify the machine system and problem type.

Whenever a STOP or a Service Alert indicator is displayed, switch the transmission to the PARK position and shut down the engine. The information display does not display a solution. Contact your John Deere dealer to solve the problem.

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Diagnostic Address Mode



P17950—UN—28APR16

Control Unit Address Menu



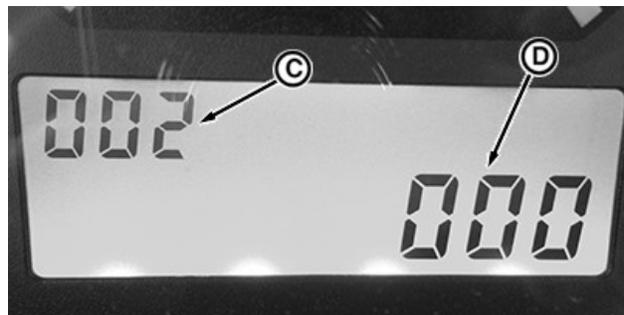
P17951—UN—28APR16

Address 001—Codes



P17952—UN—28APR16

Diagnostic Trouble Codes



P17953—UN—28APR16

Diagnostic Addresses

A—Control Unit
B—DTC
C—Diagnostic Address
D—Diagnostic Address Value

NOTE: See On-Board Diagnostic Tool page for directions to enter Diagnostic Address mode.

1. Press roll mode switch to select and enter the Control Unit Address menu.
2. Use turn signal lever to scroll through the Control Unit Address list.

3. Address 001 is shown as "Codes." Enter the Codes Address to scroll through stored Diagnostic Trouble Codes.

	DISPLAY	DESCRIPTION
A	Control Unit	CCU, HCU, ICC, PTR
B	DTC	Record code XXXXXX.XX and contact John Deere dealer.
	CLR?	CLEAR command. To clear DTC, press roll mode switch.
	DONE	Deletion of DTC is complete.

4. Addresses 002-XXX show status, configuration, and operational information on various functional systems controlled by the CCU, HCU, ICC, or PTR.

	DISPLAY	DESCRIPTION
C	Diagnostic Address	Record address number.
D	Diagnostic Address Value	Record address value XXXXXX and contact John Deere dealer.

MSBAEPJ,00000F5-19-01APR22

Specifications

Engine Specifications

NOTE: Specifications and design subject to change without notice.

Engine	5075EN
Model	3029HPY98 (FT4)
Fuel Control/Governor	Electronic
Rated rpm	2100 rpm
Aspiration (Final Tier 4 Stage V)	Turbocharged
Engine Power at 2100 rpm	55 kW (74 hp)
PTO Power at 2100 rpm for	45 KW (60.3 Hp)
OOS	45 kW (60 hp)
Cab	43 kW (58 hp)
No of cylinders (In-Line)	3
Bore	106.5 mm (4.19 in)
Stroke	110 mm (4.3 in)
Compression Ratio	16.9 : 1
Low Idle	850 rpm
High Idle	2200 rpm

SHQW455,0000021-19-20JUL22

Fuel System Specifications — Fuel System

NOTE: Specifications and design subject to change without notice.

Fuel System	5075EN
Fuel Type	Ultra Low Sulfur Diesel Fuel
Type	Electronically controlled high-pressure common rail fuel system
Fuel Filter	Single bowl filter

SHQW455,0000022-19-11JUL22

Electrical System Specifications

Electrical System	5075EN
Type	12 V Negative ground
Battery	12 V 925 CCA
Alternator (OOS)	70 A
Alternator (Cab)	90 B
Alternator (Optional field install kit)	110 A
Starting Motor	12 V, 3.2 kW

SHQW455,0000023-19-30JUN22

Specifications

Transmission Specifications

Transmission	5075EN
Standard	12/12 PowrReverser™ (PR) with EH Hitch, EH PTO (shift able 540/540E)
Optional	24/12 PowrReverser™ (PR) with EH Hitch, EH PTO (shift able 540/540E)
Gear Selection	Lever
Shifting	Manual
Brake Type	Hydraulically Operated Wet Disk

SHQW455,0000024-19-26MAY22

EH Power take-off (PTO) Specifications

EH Power take-off (PTO)	5075EN
Type (standard)	540/540E rpm
Engine Speed (540 rpm) PTO	2083 rpm
Engine Speed (540E rpm) PTO	1588 rpm
Output Shaft	Type 1(1-3/8", 6T)
Clutch (standard)	EH Wet Clutch

SHQW455,0000025-19-26MAY22

Hydraulic System Specifications

Hydraulic System	5075EN
Type	Open center
Pump	External gear type, dual section
System Pressure	
Steering	130 ±5 bar @22lpm
Implement	195 ±5 bar @43lpm
Pump Displacement	
Steering	12 cc/rev
Implement	23 cc/rev
Flow Rate	
Steering	22.5 L/min (4.94 gal/min)
Implement	43.4 L/min (9.54 gal/min)
Maximum Pressure	
Steering	13000-13500 kPa (130-135 bar) (1885-1958 psi)
Implement	19500+/-500 kPa (195+/-5 bar) (1885-1958 psi)
Steering System	Open centre, Hydro-static

SHQW455,0000026-19-26MAY22

3-Point Hitch Specifications

NOTE: Specifications and design subject to change without notice.

Specifications

3-Point Hitch	5075EN
Category	IN/I/II
Sensing	Top Link
Standard	Fixed draft links with adjustable ends and interchangeable balls
Lift Capacity at Hitch Point	1972.3 kgf (4348.2 lbf)
Lift Capacity at 610 mm (24 in) form hitch ball	1530 kgf (3374 lbf)

SHQW455,0000027-19-26MAY22

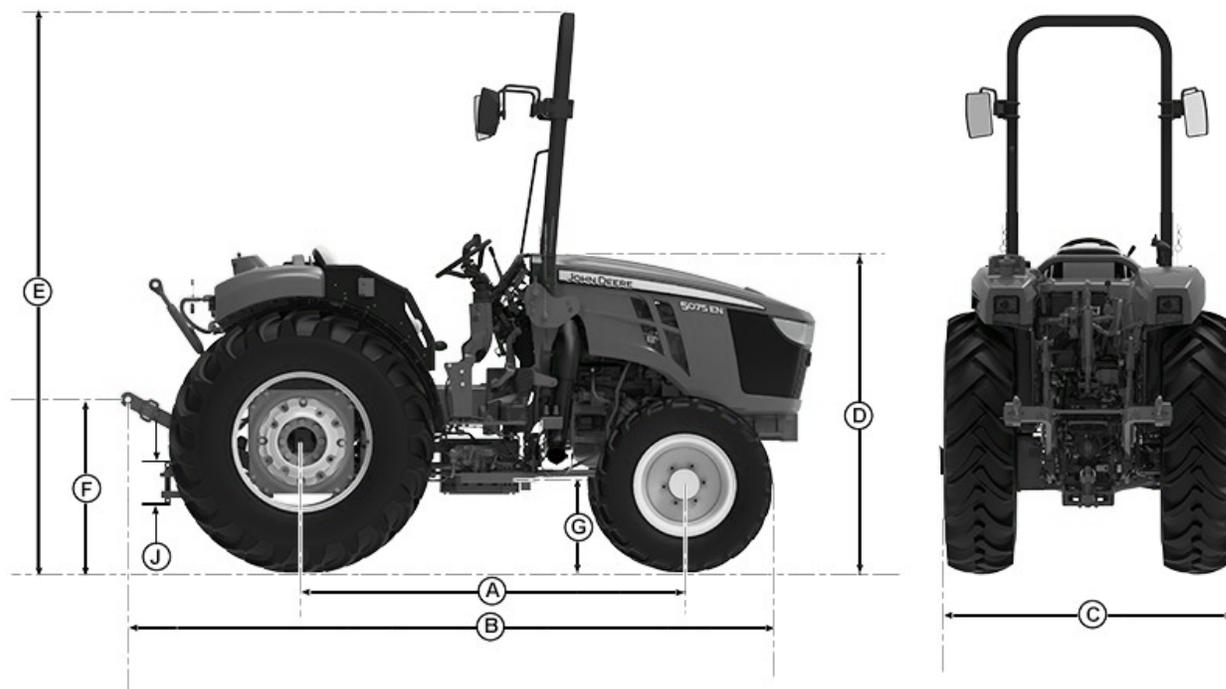
Capacities Specifications

NOTE: Specifications and design subject to change without notice.

Capacities	5075EN
Fuel Tank	68 L (18 gal)
Cooling System	9.5 (2.51 gal)
Crankcase (including filter)	8.5 L (2.24 gal)
Transmission/Hydraulic System	
12/12 PowrReverser™	39 L (10.30 gal)
24/12 PowrReverser™	45 L (11.8 gal)
Mechanical Front Wheel Drive (MFWD)	
Wheel Hubs	0.8 L (0.21 gal)
Axle Housing	4.5 L (1.18 gal)

SHQW455,0000028-19-20JUL22

OOS Dimensions



APY68976—UN—10MAY22

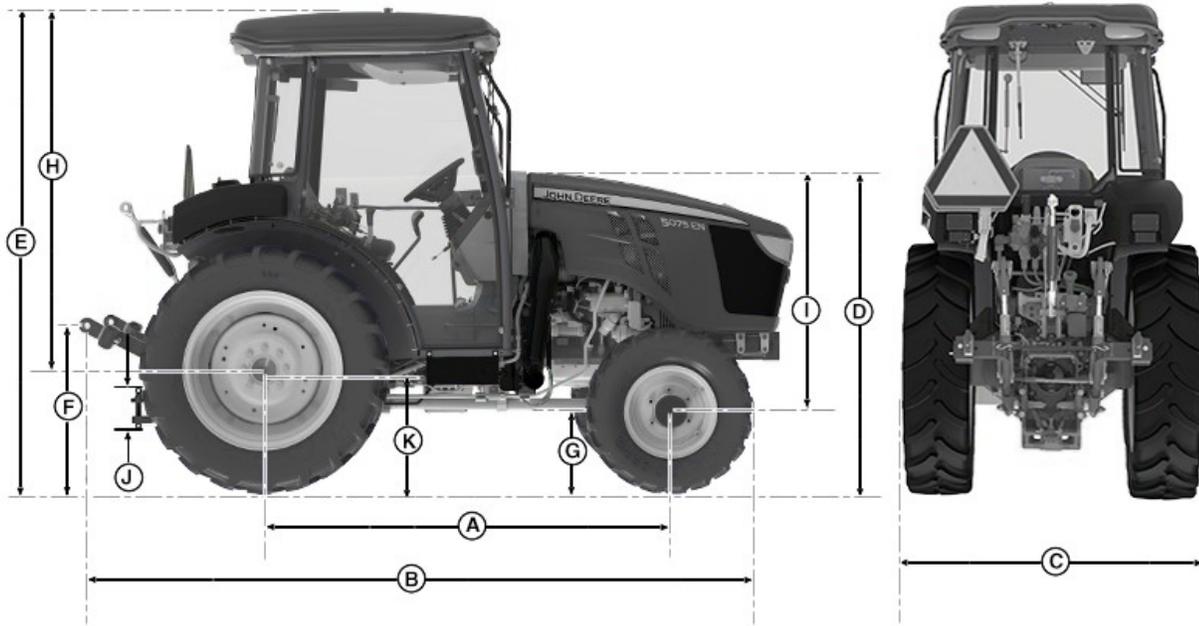
		5075EN
	Standard Tires	
	Front	9.5-16
	Rear	14.9-24
A	Standard Wheelbase	1955 mm (77 in)
B	Overall Length (Front weight support to draft links)	3617 mm (142.4 in)
C	Overall Width	
	Outside edge of tires	1707 mm (67.2 in)
	Rear axel flange to flange	1147 mm (45 in)
D	Height from ground to top of hood	1580 mm (62 in)
E	Height from ground to top of ROPS	2863 mm (112 in)
F	Height from ground to top of drawbar	382 mm (15 in)
G	Height from ground to the front axle (Front axle crop clearance)	283 mm (11 in)
H	Height from the rear axle center line to top of ROPS	2211 mm (87 in)
I	Height from front axle center line to top of hood	973 mm (38.3 in)
J	Drawbar thickness	32 mm (1.3 in)

NOTE: All dimensions are for machines equipped with standard tires.

NOTE: Specifications and design subject to change without notice.

SHQW455,0000029-19-23MAY22

Cab Dimensions



APY68956—UN—10MAY22

		5075EN
	Standard Tires	
	Front	9.5-16
	Rear	14.9-24
A	Standard Wheelbase	1955 mm (77 in)
B	Overall Length (including draft links)	3617 mm (142.4 in)
C	Overall Width	
	Outside edge of tires	1707 mm (67.2 in)
	Rear axle flange to flange	1147 mm (45 in)
D	Height from ground to top of hood	1580 mm (62 in)
E	Height from ground to top of cab	2370 mm (93 in)
F	Height from ground to top of drawbar	382 mm (15 in)
G	Height from ground to the front axle (Front axle crop clearance)	283 mm (11 in)
H	Height from the rear axle center line to top of cab	1718 mm (68 in)
I	Height from front axle center line to top of hood	973 mm (38 in)
J	Drawbar thickness	32 mm (1.3 in)
K	Height from ground to the PTO shaft	603 mm (24 in)

NOTE: All dimensions are of a machine equipped with standard tires.

NOTE: Specifications and design subject to change without notice.

SHQW455,000002A-19-23MAY22

Permissible Axle Load Specifications

IMPORTANT: Maximum permissible travel is 8 km/h (5 mph) when the tractor is equipped with loader.

Axle Load Limits and Maximum Permissible Tractor Weight 5075EN	
	Load Specifications
4WD front axle	2400 kg (5291 lb)
Rear axle	3200 kg (7055 lb)
Max permissible weight	4800 kg (10 582 lb)

Permissible Towable Mass 5075EN	
	Load Specifications
Non-braked	2800 kg (6173 lb)
Independently braked	4000 kg (8818 lb)
Inertia braked	8000 kg (17 637 lb)
Assisted braked (hydraulic)	8000 kg (17 637 lb)

NOTE: Specifications and design subject to change without notice.

SHQW455,000002B-19-26MAY22

Always consult the information of the manufacturer of your tire as permissible load is influenced by tire manufacturer, load capacity, inflation pressure, speed, load index, and travel speed.

Permissible Tractor Load Specifications

IMPORTANT: Permissible axle load is referenced on the identification plate at the front left-hand side of the front axle support.

Regardless of the configuration of ballasting, implements, tire combinations, and capabilities, the tractor maximum permissible weight is 4800 kg (10 582 lb). Surpassing this limit could result in tractor components being damaged.

NOTE: Specifications and design are subjected to change without notice.

When the tractor is equipped with a front loader, maximum permissible travel speed is 8 km/h (5 mph) and maximum front wheel tread is 1.6 m (66 in).

Shipping Weight	5075EN
Cab MFWD	2940 kg (6482 lb)
OOS MFWD	2760 kg (6085 lb)
Liquid Weight	Maximum 75% full with 0.6 kg/L (5 lb/gal) of calcium chloride solution. ^a
Weight of the Front Weight Support	85 kg (187 lb)
Weight of the Rear Weight Support	45 kg (108)
Maximum Number of Front Weights (without loader) Quik-Tatch™	10
Maximum Number of Rear Weights	6 (3 per side)

^aSee Use Liquid Weight in Ballasting section for details.

Tire Sizes	5075EN
Rear Tires	
14.9-28 10PR R1	•
14.9-24 8PR R1	•
12.4-24 8PR R1	•
16.9-24 8PR R1	•
380/70R24 R1W	•
MFWD Front Tires	
10.5/80-18 10PR	•

Specifications

Tire Sizes	5075EN
280/70R16 R1W	•
8.0-16 6PR R1	•
9.5-16 6PR R1	•

SHQW455.000002C-19-21JUL22

Permissible Drawbar Load Specifications

IMPORTANT: Maximum permissible travel is 8 km/h (5 mph) when tractor is equipped with loader.

Maximum Permissible Static Vertical Load	Specification kg (lb)
Drawbar Fully Extended	760 (1675)
Drawbar Fully Retracted	1120 (2470)

NOTE: Specifications and design subject to change without notice.

SHQW455.000002D-19-26MAY22

Estimated Vehicle Speed, 12/12 PowrReverser™

NOTE: Travel speeds are at rated engine speed of 2100 RPM, using the nominal rolling radius 642 mm (25.2 in) which is calculated from Tire & Rim Association rolling circumference

Forward			Reverse		
Gear	Total Ratio	Ground Speed (km/h)	Gear	Total Ratio	Ground Speed (km/h)
A1	337.8	1.5	A1R	309.7	1.6
A2	349.5	2.0	A2R	228.7	2.2
A3	184.6	2.8	A3R	169.2	3.0
A4	139.1	3.7	A4R	127.5	4.0
B1	117.2	4.3	B1R	107.4	4.7
B2	86.6	5.9	B2R	79.3	6.4
B3	64.0	7.9	B3R	58.7	8.7
B4	48.3	10.5	B4R	44.2	11.5
C1	40.5	12.5	C1R	37.2	13.7
C2	29.9	17.0	C2R	27.4	18.5
C3	22.2	23.0	C3R	20.3	25.0
C4	16.7	30.5	C4R	15.3	33.2

NOTE: Specification and design subject to change without notice.

SHQW455.000002E-19-12MAY22

Estimated Vehicle Speed, 24/12 PowrReverser™

NOTE: Travel speeds are at rated engine speed of 2200 RPM, using the nominal rolling radius 642 mm (25.2 in) which is calculated from Tire & Rim Association rolling circumference.

Forward Hi			Forward Low			Reverse		
Gear	Total Ratio	Ground Speed (km/h)	Gear	Total Ratio	Ground Speed (km/h)	Gear	Total Ratio	Ground Speed (km/h)
Hi A1	283.3	1.8	Lo A1	337.8	1.5	A1R	308.6	1.6
Hi A2	209.2	2.4	Lo A2	249.5	2.0	A2R	227.9	2.2
Hi A3	154.8	3.3	Lo A3	184.6	2.8	A3R	168.6	3.0
Hi A4	116.6	4.4	Lo A4	139.1	3.7	A4R	123.6	4.1

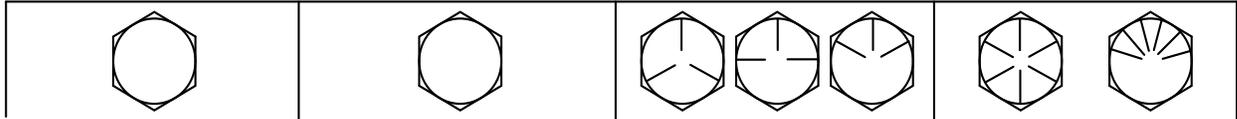
Specifications

Forward Hi			Forward Low			Reverse		
Gear	Total Ratio	Ground Speed (km/h)	Gear	Total Ratio	Ground Speed (km/h)	Gear	Total Ratio	Ground Speed (km/h)
Hi B1	98.3	5.2	Lo B1	117.2	4.3	B1R	107.1	4.7
Hi B2	72.6	7.0	Lo B2	86.6	5.9	B2R	79.1	6.4
Hi B3	53.7	9.5	Lo B3	64.0	7.9	B3R	58.5	8.7
Hi B4	40.5	12.6	Lo B4	48.3	10.5	B4R	44.1	11.5
Hi C1	34.0	15.0	Lo C1	40.5	12.5	C1R	37.0	13.7
Hi C2	25.1	20.3	Lo C2	29.9	17.0	C2R	27.4	18.6
Hi C3	18.6	27.4	Lo C3	22.2	23	C3R	20.2	25.1
Hi C4	14.0	38.5	Lo C4	16.7	30.5	C4R	15.2	33.3

NOTE: Specification and design are subjected to change without notice.

rd91939,1653303614806-19-21JUL22

Unified Inch Bolt and Screw Torque Values



TS1671—UN—01MAY03

Bolt or Screw Size	SAE Grade 1 ^a				SAE Grade 2 ^b				SAE Grade 5, 5.1 or 5.2				SAE Grade 8 or 8.2			
	Hex Head ^c		Flange Head ^d		Hex Head ^c		Flange Head ^d		Hex Head ^c		Flange Head ^d		Hex Head ^c		Flange Head ^d	
	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in
1/4	3.1	27.3	3.2	28.4	5.1	45.5	5.3	47.3	7.9	70.2	8.3	73.1	11.2	99.2	11.6	103
5/16	6.1	54.1	6.5	57.7	10.2	90.2	10.9	96.2	15.7	139	16.8	149	22.2	16.4	23.7	17.5
3/8	10.5	93.6	11.5	102	17.6	156	19.2	170	27.3	20.1	29.7	21.9	38.5	28.4	41.9	30.9
7/16	16.7	148	18.4	163	27.8	20.5	30.6	22.6	43	31.7	47.3	34.9	60.6	44.7	66.8	49.3
1/2	25.9	19.1	28.2	20.8	43.1	31.8	47	34.7	66.6	49.1	72.8	53.7	94	69.3	103	75.8
9/16	36.7	27.1	40.5	29.9	61.1	45.1	67.5	49.8	94.6	69.8	104	77	134	98.5	148	109
5/8	51	37.6	55.9	41.2	85	62.7	93.1	68.7	131	96.9	144	106	186	137	203	150
3/4	89.5	66	98	72.3	149	110	164	121	230	170	252	186	325	240	357	263
7/8	144	106	157	116	144	106	157	116	370	273	405	299	522	385	572	422
1	216	159	236	174	216	159	236	174	556	410	609	449	785	579	860	634
1-1/8	305	225	335	247	305	225	335	247	685	505	751	554	1110	819	1218	898
1-1/4	427	315	469	346	427	315	469	346	957	706	1051	775	1552	1145	1703	1256
1-3/8	564	416	618	456	564	416	618	456	1264	932	1386	1022	2050	1512	2248	1658
1-1/2	743	548	815	601	743	548	815	601	1665	1228	1826	1347	2699	1991	2962	2185

The nominal torque values listed are for general use only with the assumed wrenching accuracy of 20%, such as a manual torque wrench. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application.

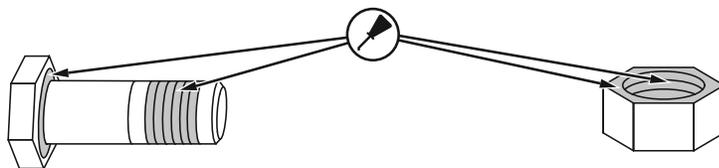
Replace fasteners with the same or higher property class. If higher property class fasteners are used, tighten these to the strength of the original.

- Make sure that fastener threads are clean.
- Apply a thin coat of Hy-Gard™ or equivalent oil under the head and on the threads of the fastener, as shown in the following image.
- Be conservative with the amount of oil to reduce the potential for hydraulic lockup in blind holes due to excessive oil.

Specifications

Bolt or Screw Size	SAE Grade 1 ^a		SAE Grade 2 ^b		SAE Grade 5, 5.1 or 5.2		SAE Grade 8 or 8.2	
	Hex Head ^c	Flange Head ^d	Hex Head ^c	Flange Head ^d	Hex Head ^c	Flange Head ^d	Hex Head ^c	Flange Head ^d

- Properly start thread engagement.



TS1741—UN—22MAY18

^aGrade 1 applies for hex cap screws over 6 in (152 mm) long, and for all other types of bolts and screws of any length.

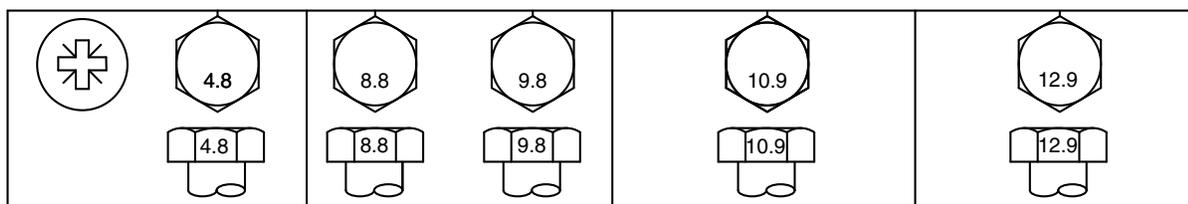
^bGrade 2 applies for hex cap screws (not hex bolts) up to 6 in (152 mm) long.

^cHex head column values are valid for ISO 4014 and ISO 4017 hex head, ISO 4162 hex socket head, and ISO 4032 hex nuts.

^dHex flange column values are valid for ASME B18.2.3.9M, ISO 4161, or EN 1665 hex flange products.

SHQW455,0000030-19-26MAY22

Metric Bolt and Screw Torque Values



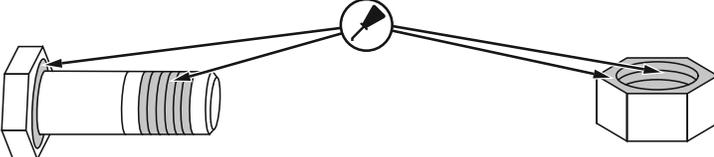
TS1742—UN—31MAY18

Bolt or Screw Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Hex Head ^a		Flange Head ^b		Hex Head ^a		Flange Head ^b		Hex Head ^a		Flange Head ^b		Hex Head ^a		Flange Head ^b	
	N·m	lb·in	N·m	lb·in												
M6	3.6	31.9	3.9	34.5	6.7	59.3	7.3	64.6	9.8	86.7	10.8	95.6	11.5	102	12.6	112
									N·m	lb·ft	N·m	lb·ft	N·m	lb·ft	N·m	lb·ft
M8	8.6	76.1	9.4	83.2	16.2	143	17.6	156	23.8	17.6	25.9	19.1	27.8	20.5	30.3	22.3
			N·m	lb·ft	N·m	lb·ft	N·m	lb·ft								
M10	16.9	150	18.4	13.6	31.9	23.5	34.7	25.6	46.8	34.5	51	37.6	55	40.6	60	44.3
	N·m	lb·ft														
M12	—	—	—	—	55	40.6	61	45	81	59.7	89	65.6	95	70.1	105	77.4
M14	—	—	—	—	87	64.2	96	70.8	128	94.4	141	104	150	111	165	122
M16	—	—	—	—	135	99.6	149	110	198	146	219	162	232	171	257	190
M18	—	—	—	—	193	142	214	158	275	203	304	224	322	245	356	263
M20	—	—	—	—	272	201	301	222	387	285	428	316	453	334	501	370
M22	—	—	—	—	365	263	405	299	520	384	576	425	608	448	674	497
M24	—	—	—	—	468	345	518	382	666	491	738	544	780	575	864	637
M27	—	—	—	—	683	504	758	559	973	718	1080	797	1139	840	1263	932
M30	—	—	—	—	932	687	1029	759	1327	979	1466	1081	1553	1145	1715	1265
M33	—	—	—	—	1258	928	1398	1031	1788	1319	1986	1465	2092	1543	2324	1714
M36	—	—	—	—	1617	1193	1789	1319	2303	1699	2548	1879	2695	1988	2982	2199

The nominal torque values listed are for general use only with the assumed wrenching accuracy of 20%, such as a manual torque wrench. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application.

Replace fasteners with the same or higher property class. If higher property class fasteners are used, tighten these to the strength of the original.

Specifications

Bolt or Screw Size	Class 4.8		Class 8.8 or 9.8		Class 10.9		Class 12.9	
	Hex Head ^a	Flange Head ^b						
<ul style="list-style-type: none"> • Make sure that fastener threads are clean. • Apply a thin coat of Hy-Gard™ or equivalent oil under the head and on the threads of the fastener, as shown in the following image. • Be conservative with the amount of oil to reduce the potential for hydraulic lockup in blind holes due to excessive oil. • Properly start thread engagement. 								
								

TS1741—UN—22MAY18

^aHex head column values are valid for ISO 4014 and ISO 4017 hex head, ISO 4162 hex socket head, and ISO 4032 hex nuts.

^bHex flange column values are valid for ASME B18.2.3.9M, ISO 4161, or EN 1665 hex flange products.

SHQW455,000031-19-12MAY22

Identifications Numbers

Identification Numbers

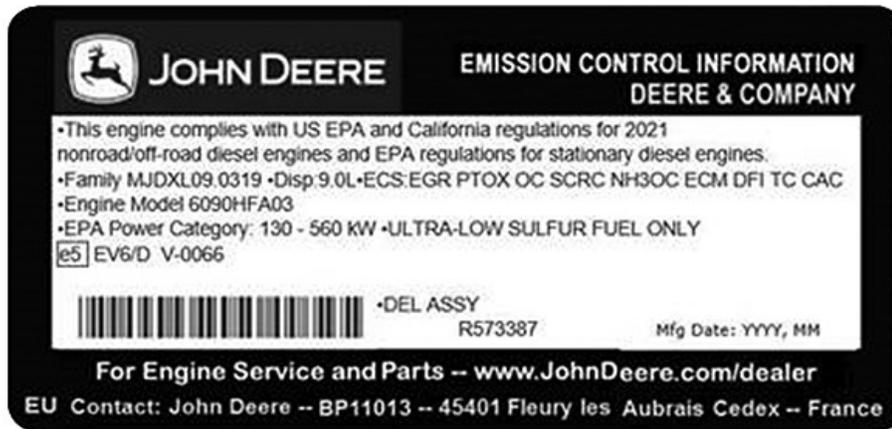
Each tractor contains a number of identification plates. The letters and num OMTR126116_19_20220512bers on the plates must identify a component or assembly when reporting a complaint under warranty or ordering spare parts.

NOTE: Keep a copy of these numbers to help law enforcement officials in the case the tractor is ever stolen.

NOTE: To ensure that you have these number at hand, enter the appropriate serial numbers in the spaces provided in each illustration.

MSBAEPJ.00000E9-19-07JUL22

Emissions Control System Certification Label



SAMPLE - Engine Emissions Label

RG33429—UN—04FEB21

⚠ CAUTION: Statutes providing severe penalties for tampering with emissions controls may apply to the user or dealer.

The emissions warranty applies to those engines marketed by John Deere that have been certified by the United States Environmental Protection Agency (EPA) and/or California Air Resources Board (CARB); and used in the United States and Canada in Non-road equipment. The presence of an emissions label like the one shown signifies that the engine has been certified with the EPA and/or CARB. The EPA and CARB warranties only apply to new engines having the certification label affixed to the engine and sold as stated above in the geographic areas. The presence of an EU number signifies that the engine has been certified with the European Union countries per Regulation (EU) 2016/1628 and supplementing legislation. The EPA and/or CARB emissions warranties do not apply to the EU countries.

The emissions label has applicable US EPA and/or CARB regulatory year. The regulatory year determines which warranty statement is applicable to engine. See “EPA Non-road Emissions Control Warranty Statement—Compression Ignition” and “CARB Non-road Emissions Control Warranty Statement—Compression Ignition”. For additional regulatory year warranty statements, see www.JohnDeere.com or contact the nearest John Deere service dealer for assistance.

Emission Control System(s) Laws

The U.S. EPA and California ARB prohibit the removal or rendering inoperative of any device or element of design installed on or in engines/equipment in compliance with applicable emission regulations prior to or after the sale and delivery of the engines/equipment to the ultimate purchaser.

shqw455,1657212961617-19-07JUL22

Product Identification Number

1	P	0	5	0	7	5	E	L	N	6	0	0	0	0	0	0
WMC	Build Factory	Machine Series	Engine hp			Machine Family	Check Letter	Calendar Year	Transmission Type	Serial Number						
		Model Number														

Identifications Numbers

WMC: World Manufacturing Code.

Build Factory: represents manufacturing location.

Machine Series: represents tractor series.

Engine hp: represents approximate engine horsepower.

Machine Family: represents overall machine configuration.

Check Letter: assigned by Deere system.

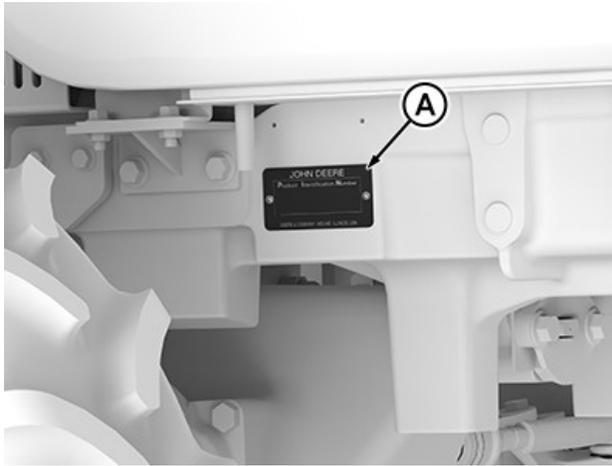
Calendar Year = represents calendar year of manufacture (2012 = A, 2031 = 1, 2040 = A again).

Transmission Type: represents transmission type.

Serial Number: Consecutive Number Assigned by IJD; example shown 123456.

L	Available
M	Available
N	Available
P	Available
R	Available
S	Available
T	Available
V	Available
W	Available
X	Available
Y	Available

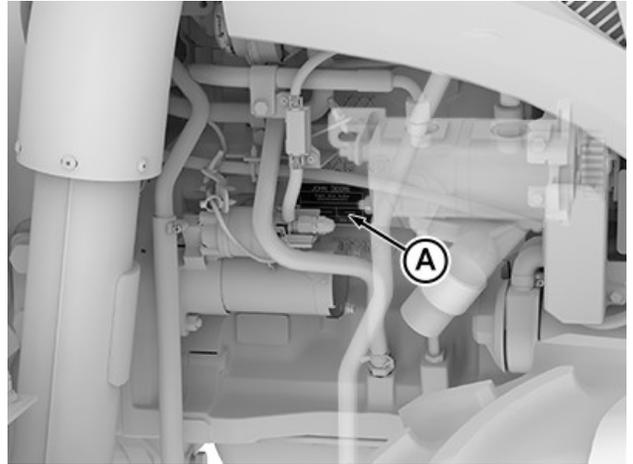
shqw455,1653420652082-19-26MAY22



APY72301—UN—23MAY22

Product Identification Number Plate Location

Engine Serial Number Location



APY72302—UN—01NOV22

A—Engine Serial Number Plate

The engine serial number plate (A) is located on the right side of the engine block, between the engine oil filter, and the final filter water separator.

Record Engine Serial Number

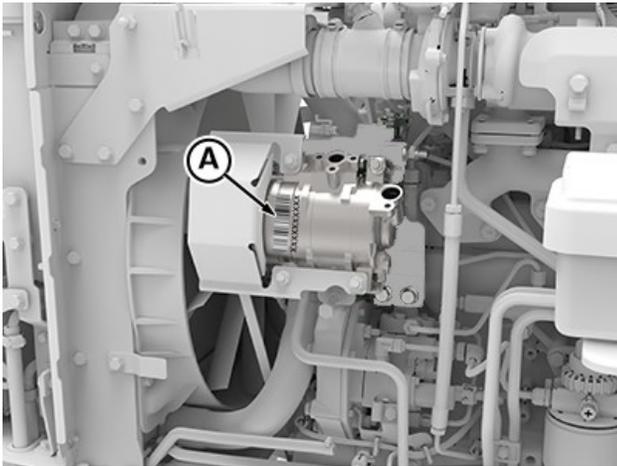
Engine Serial Number _____

rd91939,1652723927270-19-18MAY22

Refer below chart to see Transmission Type

Position 11	Transmission Type
1	Available
2	TSS 24X8
3	TSS 12X4
4	9X3 Sync
5	PR 12X12
6	PR 24X12
7	12X4 Sync plus
8	16X16 POWQUAD
9	Available
A	Available
B	Available
C	Available
D	Available
E	Available
F	Available
G	Available
H	Available
J	Available
K	Available

Fuel Injection Pump Serial Number Location



A—Fuel Injection Pump Serial Number Plate

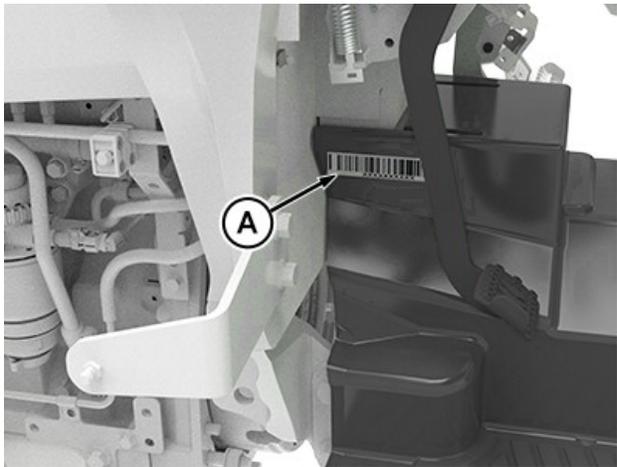
The fuel injection pump serial number plate (A) is located on the side of the pump.

Record Fuel Injection Pump Serial Number

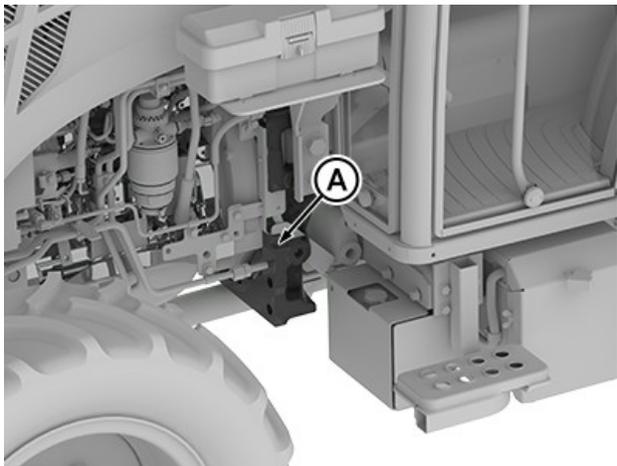
Fuel Injection Pump Serial Number _____

rd91939,1652723939502-19-18MAY22

Transmission Serial Number Location



OOS



Cab

A—Transmission Serial Number

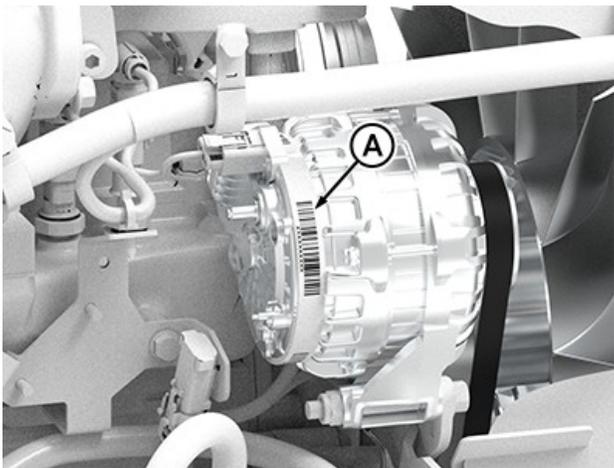
The transmission (drivetrain) serial number (A) is at the left-hand side of the transmission housing.

Record Transmission Serial Number

Transmission Serial Number _____

rd91939,1652723957991-19-18MAY22

Alternator Identification Number Location



A—Alternator Identification Number

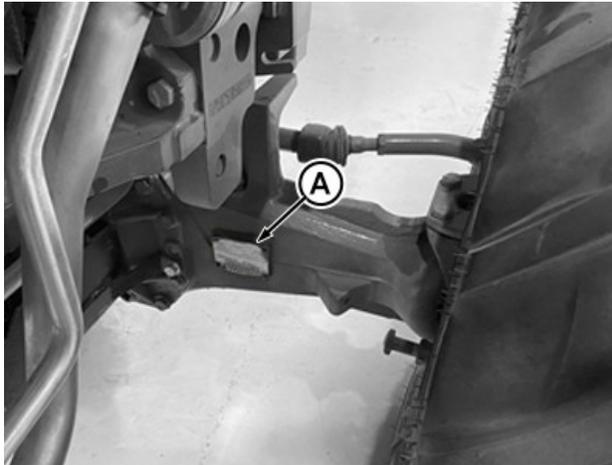
The alternator identification number is located at the rear of the housing.

Record Alternator Identification Number

Alternator Identification Number _____

rd91939,1652723950365-19-18MAY22

Front Axle (2WD) Serial Number Location



APY72308—UN—01NOV22

A—2WD Front Axle Serial Number Plate

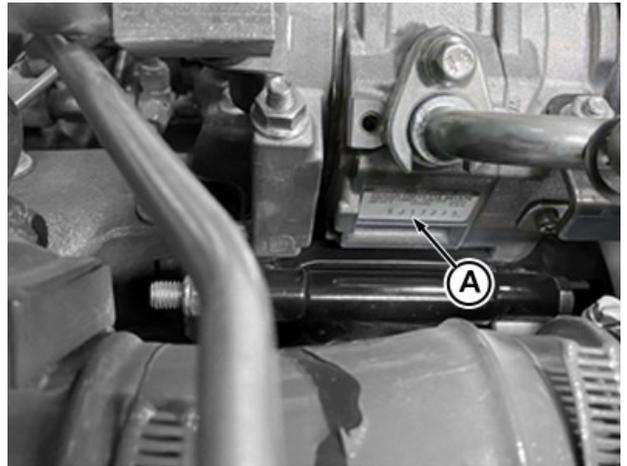
The 2WD front axle serial number plate (A) is located on the rear right side of the axle.

Record 2WD Front Axle Serial Number

2WD Front Axle Serial Number _____

rd91939,1652723973470-19-24MAY22

Air Conditioning Compressor Serial Number Location



APY72309—UN—01NOV22

A—Air Conditioning Compressor Serial Number Plate

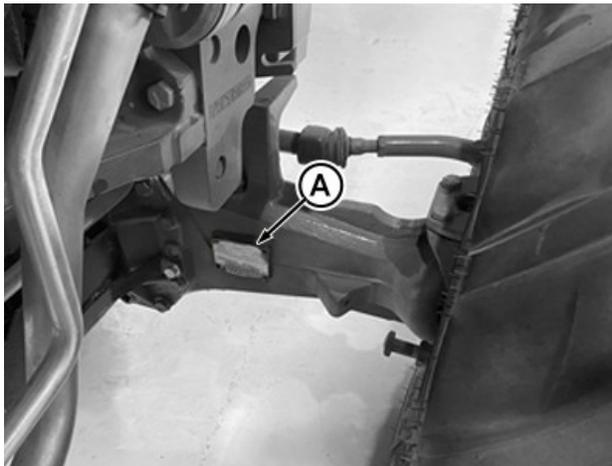
The air conditioning compressor serial number plate (A) is located on the rear of the housing.

Record Air Conditioning Compressor Serial Number

Air Conditioning Compressor Serial Number _____

rd91939,1652723999798-19-18MAY22

Mechanical Front Wheel Drive (MFWD) Serial Number Location



APY72308—UN—01NOV22

A—MFWD Serial Number Plate

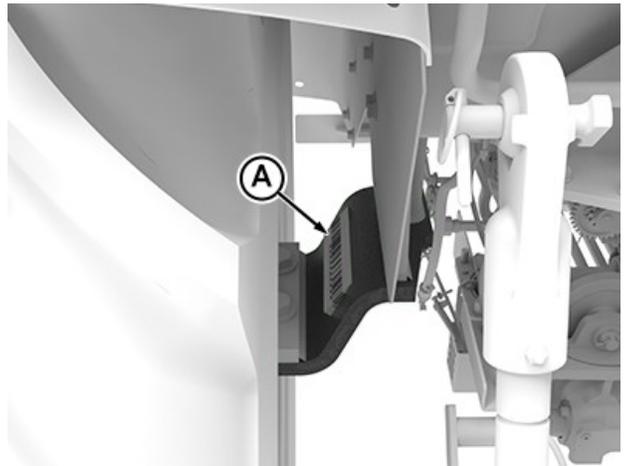
The MFWD serial number plate (A) is located on the rear right side of the axle housing.

Record MFWD Serial Number

MFWD Serial Number _____

rd91939,1652723986988-19-18MAY22

ROPS Serial Number Location



APY72310—UN—24MAY22

A—ROPS Serial Number Plate

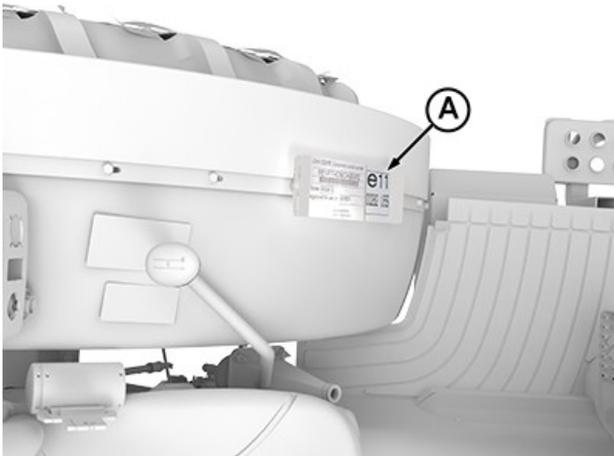
ROPS serial number plate (A) is on inner side of ROPS.

Record ROPS Serial Number

ROPS Serial Number _____

rd91939,1652724039449-19-18MAY22

Cab Serial Number Location



APY72311—UN—01NOV22

A—Cab Serial Number Plate

Cab Serial Number is on the rear left-hand post.

Record Cab Serial Number

CAB Serial Number _____

rd91939,1652724049991-19-18MAY22

Starter Motor Serial Number Location



APY72313—UN—23MAY22

A—Starter Motor Serial Number Plate

Starter motor serial number plate (A) is located on the side of the starter motor housing.

Record Starter Motor Serial Number

Starter Motor Serial Number _____

rd91939,1652724067832-19-18MAY22

Power Steering Valve Serial Number Location



APY72312—UN—01NOV22

A—Power Steering Valve Serial Number Plate

The power steering valve serial number plate (A) is located on the bottom of the valve.

Record Power Steering Valve Serial Number

Power Steering Valve Serial Number _____

rd91939,1652724059286-19-18MAY22

Certification and Warranty

ROPS Certificate—OOS



APY07057—UN—23APR18

Roll-Over Protective Structure

To maintain operator protection and ROPS certification:

- Replace damaged ROPS. Do not repair or revise.
- Any alteration to the ROPS must be approved by the manufacturer.

Tested in accordance with:

ISO 12003-1 (2008)

AS 1636.3 (1996)

MSBAEPJ,00000EF-19-01APR22

- —Any alteration to the ROPS must be approved by the manufacturer.

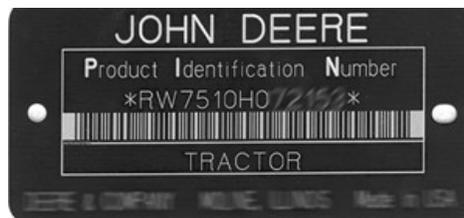
Tested in accordance with:

ISO 12003-2 (2008)

AS 1636.2 (1996)

MSBAEPJ,0000102-19-01APR22

Keep Proof of Ownership



TS1680—UN—09DEC03

1. Maintain in a secure location an up-to-date inventory of all product and component serial numbers.
2. Regularly verify that identification plates have not been removed. Report any evidence of tampering to law enforcement agencies and order duplicate plates.
3. Other steps you can take:

- Mark your machine with your own numbering system
- Take color photographs from several angles of each machine

shqw455,1657302909883-19-08JUL22

ROPS Certificate—Cab



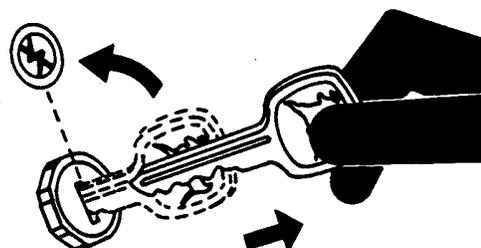
APY07060—UN—23APR18

Roll-Over Protective Structure

To maintain operator protection and ROPS certification:

- —Replace damaged ROPS. Do not repair or revise.

Keep Machines Secure



TS230—UN—24MAY89

1. Install vandal-proof devices.
2. When machine is in storage:

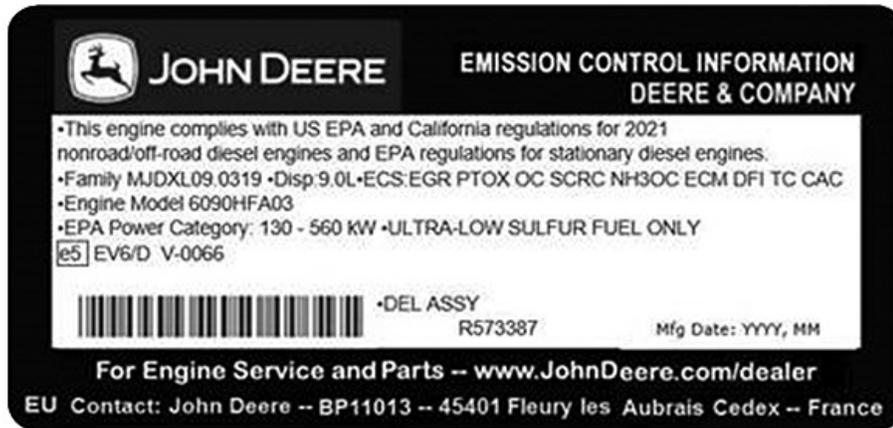
Certification and Warranty

- 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.

shqw455,1657302917928-19-08JUL22

Carbon Dioxide Emissions (CO₂)



SAMPLE - Engine Emissions Label

RG33429—UN—04FEB21

To identify the carbon dioxide (CO₂) output, locate the engine emissions label. Find the appropriate family on the emissions label and reference the chart.

Emissions Label Family	CO ₂ Result
F32	710 g/kW-hr
F33	677 g/kW-hr

NOTE: The first letter of the family number is not utilized for family identification on the chart.

This CO₂ measurement results from testing over a fixed test cycle under laboratory conditions a(n) (parent) engine representative of the engine type (engine family) and shall not imply or express any guarantee of the performance of a particular engine.

DX,EMISSIONS,CO2-19-20JUL21

Emissions Label Family	CO ₂ Result
_JDXL02.9323	952 g/kW-hr
_JDXL02.9327	784 g/kW-hr
_JDXL04.5337	819 g/kW-hr
_JDXL04.5338	682 g/kW-hr
_JDXL04.5304	1004 g/kW-hr
_JDXN04.5174	792 g/kW-hr
_JDXL06.8324	720 g/kW-hr
_JDXL06.8328	683 g/kW-hr
_JDXL06.8336	701 g/kW-hr
_JDXN06.8175	771 g/kW-hr
_JDXL09.0319	646 g/kW-hr
_JDXL09.0325	695 g/kW-hr
_JDXL09.0329	657 g/kW-hr
_JDXL09.0333	650 g/kW-hr
_JDXL13.5326	684 g/kW-hr
_JDXL13.6320	651 g/kW-hr
_JDXL13.5340	632 g/kW-hr
_JDXL18.0341	683 g/kW-hr
F28	870 g/kW-hr

Service Records

Daily or First 10 Hours

SERVICE PROCEDURE	
<input type="checkbox"/> Check Engine Oil Level	<input type="checkbox"/> Clean Air Filter Dust Unloading Valve
<input type="checkbox"/> Drain Water and Sediment from Fuel Filter as needed	<input type="checkbox"/> Check Transmission/Hydraulic System Oil Level
<input type="checkbox"/> Inspect Tires	<input type="checkbox"/> Check Front Loader Mounting Bracket Installation Cap Screws Tensions
<input type="checkbox"/> Inspect Tractor for Loose Hardware	<input type="checkbox"/> Inspect Cab Protection System Installed Properly
<input type="checkbox"/> Inspect ROPS for Loose Hardware	

Hours: Date: Work Carried Out By:	Comments:	Dealer's Stamp
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EKPQ1SQ,0003544-19-29NOV22

Weekly or Every 50 Hours

SERVICE PROCEDURE	
<input type="checkbox"/> Inspect Tractor for Loose Hardware	<input type="checkbox"/> Inspect Cab Protection System Installed Properly
<input type="checkbox"/> Inspect ROPS for Loose Hardware	<input type="checkbox"/> Check MFWD Axle Hub Oil Level
<input type="checkbox"/> Check Coolant Level	<input type="checkbox"/> Check Tire Inflation Pressure
<input type="checkbox"/> Lubricate MFWD Axle	<input type="checkbox"/> Lubricate Rear hitch

Hours: Date: Work Carried Out By:	Comments:	Dealer's Stamp
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EKPQ1SQ,0003545-19-30NOV22

First 100 Hours

SERVICE PROCEDURE	
<input type="checkbox"/> Change Transmission/Hydraulic Filter	<input type="checkbox"/> Change Engine Oil And Filter (2.9Liter 3 Cylinder Engine)
<input type="checkbox"/> Check Hoses and Hose Clamps	

Hours: Date: Work Carried Out By:	Comments:	Dealer's Stamp
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EKPQ1SQ,0003546-19-29NOV22

Service Records

Every 250 Hours

SERVICE PROCEDURE	
<input type="checkbox"/> Check Front Loader Mounting Bracket Installation Cap Screws Tensions	<input type="checkbox"/> Check Oil Level in MFWD Axle and wheel hubs
<input type="checkbox"/> Change Activated Carbon Cab Filter (OOS)	<input type="checkbox"/> Inspect Hitch and Drawbar for Excessive Wear
<input type="checkbox"/> Check Fan Belt Tensioner	

Hours: Date: Work Carried Out By:	Comments:	Dealer's Stamp
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EKPQ1SQ,0003547-19-29NOV22

Every 500 Hours / Annually

SERVICE PROCEDURE	
<input type="checkbox"/> Change Transmission/Hydraulic Filter Clean Primary Air Filter Element	<input type="checkbox"/> Change Engine Oil And Filter (2.9Liter 3 Cylinder Engine) Checking Air Filter Restriction Indicator Performance
<input type="checkbox"/> Change MFWD Axle and Wheel Hub Oil <input type="checkbox"/> Inspect Seat Belts	<input type="checkbox"/> Check Neutral Start System <input type="checkbox"/> Check Axle Pivot Pin End Play
<input type="checkbox"/> Check Coolant Properties <input type="checkbox"/> Change MFWD Axle Wheel Hub and Housing Oil	<input type="checkbox"/> Change Engine Oil And Filter (2.9 Liter 3 Cylinder Engine) <input type="checkbox"/> Clean Cab Air Filters
<input type="checkbox"/> Clean Open Crankcase Vent <input type="checkbox"/> Service Battery and Connections	<input type="checkbox"/> Service Air Cleaner Elements <input type="checkbox"/> Lubricate Rear Axle Bearings
<input type="checkbox"/> Lubricate PTO Stub Shaft Support (Not reversable)	

Hours: Date: Work Carried Out By:	Comments:	Dealer's Stamp
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EKPQ1SQ,0003548-19-29NOV22

Service Records

Every 1000 Hours

SERVICE PROCEDURE	
<input type="checkbox"/> Replace Primary and Secondary Air Filter Elements	<input type="checkbox"/> Adjust Engine Valve Clearance and Fuel Injectors
<input type="checkbox"/> Replace Fan Belt	<input type="checkbox"/> Engine Crankcase Ventilation (OCV) Tube Cleaning
<input type="checkbox"/> Adjust Engine Valve Clearance (2.9 Liter 3 Cylinder Engine) [See your John Deere dealer for service]	

Hours:	Comments:	Dealer's Stamp
Date:		
Work Carried Out By:		

MSBAEPJ,0000265-19-29NOV22

Every 1500 Hours / 3 Years

SERVICE PROCEDURE	
<input type="checkbox"/> Change Transmission/Hydraulic Oil and Filter	<input type="checkbox"/> Cleaning of the oil suction screen of the transmission and the hydraulic system (Pick up screen)

Hours:	Comments:	Dealer's Stamp
Date:		
Work Carried Out By:		

MSBAEPJ,0000104-19-18NOV22

Every 4500 Hours/5 Years

SERVICE PROCEDURE	
<input type="checkbox"/> Test or Replace Thermostat	<input type="checkbox"/> Drain and Replace Coolant

Hours:	Comments:	Dealer's Stamp
Date:		
Work Carried Out By:		

EKPQ1SQ,000354B-19-17NOV22

Pre-Delivery Inspection

Notes on Pre-Delivery Inspection

NOTE: Depending on the regional differences and individual vehicle configuration, the tasks are only applicable if the corresponding equipment is available. The configuration can be found in the order information of the vehicle. Subsequent additions and conversions must be taken into account.

MSBAEPJ.0000106-19-01APR22

Service Procedure

The following inspection, adjustment, and service work were performed prior to the delivery of the machine.

Note for the dealer: Visit ccms.deere.com for the most updated information.

- | | | |
|--|---|---|
| <input type="checkbox"/> 1. Fill levels of the following systems were checked and refilled if necessary:
<input type="checkbox"/> 1.1 Engine oil*
<input type="checkbox"/> 1.2 Transmission and hydraulic oil*
<input type="checkbox"/> 1.3 Front-wheel drive axle oil*
<input type="checkbox"/> 1.4 Coolant
<input type="checkbox"/> 1.5 Wheel Hub (if equipped) | <input type="checkbox"/> 12 Transmission shifting mechanism working properly. | <input type="checkbox"/> 25. Check and clear codes (if applicable). Repair as needed. |
| <input type="checkbox"/> 2. Screws and nuts of the following components have been tightened to the specified torque:
<input type="checkbox"/> 2.1 Wheels and rims
<input type="checkbox"/> 2.2 Additional weights (if equipped), number of pieces (if equipped).
<input type="checkbox"/> 2.3 Front loader, mounting frame (if equipped) | <input type="checkbox"/> 13. PTOs working properly:
<input type="checkbox"/> 13.1 Rear PTO
14. Hitches working properly:
<input type="checkbox"/> 14.1 Rear hitch
<input type="checkbox"/> 14.2 Front hitch (if equipped) | <input type="checkbox"/> 26. Display language, units of measurement, and date have been adjusted according to operator's needs. |
| <input type="checkbox"/> 3. All grease fittings have been lubricated. | <input type="checkbox"/> 15. Selective control valves working properly. | <input type="checkbox"/> 27. Attach the StarFire™ receiver (if equipped). |
| <input type="checkbox"/> 4. Guards and shields have been checked. | <input type="checkbox"/> 16. Trailer hitches working properly. | <input type="checkbox"/> 28. Paint has been checked for the good condition. |
| <input type="checkbox"/> 5. Battery voltage has been checked (should be greater than 12.5 V). | <input type="checkbox"/> 17. Check tire pressure, check tires for low pressure, cuts, bubbles, damaged rims. | <input type="checkbox"/> 29. Evidence, pictures, and videos made and reported to TCSM if damage has been found. |
| <input type="checkbox"/> 6. Operator's cab controls have all been checked (heater, blower, windshield wiper, and windshield washer). | <input type="checkbox"/> 18. Front axle toe-in has been checked with tractor fully ballasted and adjusted, if necessary. | <input type="checkbox"/> 30. All warning and information stickers are in place. |
| <input type="checkbox"/> 7. Operator's seat adjustment is working properly. | <input type="checkbox"/> 19. Pivoting fenders have been adjusted. | 31. The SMV emblem is attached. |
| <input type="checkbox"/> 8. Seat belts have been checked. | <input type="checkbox"/> 20. Steering stops checked and adjusted. Inspection of the clearances when the front-wheel drive axle is pivoted and steering is at the stop. | <input type="checkbox"/> 32. The following systems have been checked and are free of leaks:
<input type="checkbox"/> 32.1 Engine cooling system
<input type="checkbox"/> 32.2 Fuel system
<input type="checkbox"/> 32.3 Hydraulic system |
| <input type="checkbox"/> 9. Headlights have been adjusted**. | <input type="checkbox"/> 21. Steering system working properly. | <input type="checkbox"/> 33. All obligatory and open product improvement programs have been completed prior to delivering the machine to a customer. |
| <input type="checkbox"/> 10. Lights working properly: | <input type="checkbox"/> 22. Park lock and park function of air brake valve of trailer have been checked (If equipped). | <input type="checkbox"/> 34. Test drive has been performed. |
| <input type="checkbox"/> 10.1 Headlights
<input type="checkbox"/> 10.2 Front worklights
<input type="checkbox"/> 10.3 Rear Worklights | <input type="checkbox"/> 23. Service brakes and secondary brake have been checked. | |
| | <input type="checkbox"/> 24. Trailer brake has been checked. (If equipped) | |

Pre-Delivery Inspection

The following inspection, adjustment, and service work were performed prior to the delivery of the machine.

Note for the dealer: Visit ccms.deere.com for the most updated information.

- 10.4 Tail Lights
- 10.5 Warning lights
- 10.6 Turn signals
- 10.7 Beacon light (if equipped)
- 11. Info board display and indicator lights work flawlessly.

*Top up with oil only if the oil level is at or below the MIN mark.

** Lights checked for compliance with local regulations and adjusted if necessary (also additional headlights, if equipped).

MSBAEPJ.0000107-19-11MAY22

Copy for Owner

Serial Number: _____ Vehicle Model: _____
Operator's Manual No.: _____ Issue: _____ Registration Number: _____
Engine Number: _____ Delivery Date: _____
Owner's Name: _____ Operating Hours at Delivery: _____
Address: _____ Number of Keys Handed Over (only for immobilizer): _____

Dealer: _____

Dealer's Stamp:

DELIVERY CHECK LIST

The following checklist is a reminder of important information that should be conveyed directly to the customer at the time tractor is delivered. Tick off each item as it is fully explained to the customer. Refer to the Operator's Manual and the Technical Manual for more information.

- Give Operator's Manual to customer. Encourage the customer to read the manual.
- John Deere warranty
- Safe and correct operation and service
- Daily and periodic inspections
- Servicing machine regularly and correctly
- Recommended machine storage
- Transporting machine correctly
- Make the customer aware of all the safety precautions that must be exercised while using this machine.
- Recommended lubricants. (See the lubrication and maintenance section in Operator's Manual.)
- Review service intervals and lubrication points. (See the lubrication and maintenance section in Operator's Manual.)
- Review all adjustments. (See the service section in Operator's Manual.)
- When the tractor is transported on a road or highway at night or during the day, lights and devices should be used for adequate warning to operators of other vehicles.
- John Deere parts and service
- Remove and file this page.

To the best of my knowledge, this machine has been delivered ready for field use and above points have been explained in detail for the proper care and operation.

Signature of Customer

Pre-Delivery Inspection

DELIVERY CHECK LIST

Date:

- Operator's seat, all possible seat configurations
- Consoles/corner post display
- Differential lock
- Transmission
- Starting and stopping
- Steering and steering system
- Brakes and brake systems
- Speed control
- Lights
- Wipers
- Heater

Operating the Tractor

- Air conditioning system
- PTOs
- Rear hitch, front hitch, and selective control valves
- Hydraulic pickup hitch
- Three-point hitch adjustment
- Fuel system and fuel quality
- Checking fluid levels (radiator, engine, transmission)
- Settings on the corner post display

- Front axle suspension
- Cab suspension

To the best of my knowledge, this machine has been delivered ready for field use and above points has been explained in detailed for the proper care and operation.

Signature of Customer

Date:

MSBAEPJ,0000108-19-11MAY22

Copy for Dealer

Serial Number: _____ Vehicle Model: _____

Operator's Manual No.: _____ Issue: _____ Registration Number: _____

Engine Number: _____ Delivery Date: _____

Owner's Name: _____ Operating Hours at Delivery: _____

Address: _____ Number of Keys Handed Over (only for immobilizer): _____

_____ Dealer: _____

_____ Dealer's Stamp:

Pre-Delivery Inspection

DELIVERY CHECK LIST

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- John Deere warranty
- Safe and correct operation and service
- Daily and periodic inspections
- Servicing machine regularly and correctly
- Recommended machine storage
- Transporting machine correctly
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- Review service intervals and lubrication points. (See the lubrication and maintenance section in Operator's Manual.)
- Review all adjustments. (See the service section in Operator's Manual.)
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- John Deere parts and service
- Remove and file this page.

To the best of my knowledge, this machine has been delivered ready for field use and above points has been explained in detailed for the proper care and operation.

Signature of Dealer

Date:

Operating the Tractor

- Operator's seat, all possible seat configurations
- Consoles/corner post display
- Differential lock
- Transmission
- Starting and stopping
- Steering and steering system
- Brakes and brake systems
- Speed control
- Lights
- Wipers
- Heater
- Air conditioning system
- PTOs
- Rear hitch, front hitch, and selective control valves
- Hydraulic pickup hitch
- Three-point hitch adjustment
- Fuel system and fuel quality
- Checking fluid levels (radiator, engine, transmission)
- Settings on the corner post display
- Front axle suspension
- Cab suspension

To the best of my knowledge, this machine has been delivered ready for field use and above points has been explained in detailed for the proper care and operation.

Signature of Dealer

Date:

MSBAEPJ.0000109-19-11MAY22

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