8RT Series Tractors (Serial No. 917001-) North American Edition C8

JOHN DEERE

OPERATOR'S MANUAL

8RT Series Tractors

(Serial No. 917001-)
North American Edition

OMRE591539 ISSUE C8 (ENGLISH)

CALIFORNIA

Proposition 65 Warning

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

If this product contains a gasoline engine:

⚠ WARNING

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

The State of California requires the above two warnings.

Additional Proposition 65 Warnings can be found in this manual.

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

Introduction

Foreword

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

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

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

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

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

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

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

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

THIS TRACTOR SHOULD BE OPERATED, serviced and repaired only by persons familiar with all its particular characteristics and acquainted with the relevant safety rules (accident prevention). The accident prevention regulations, all other generally recognized regulations on safety and occupational medicine and the road traffic regulations must be observed at all times.

Any arbitrary modifications carried out on this tractor will relieve the manufacturer of all liability for any resulting damage or injury.

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

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

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Look For Supplemental Information

Occasionally new or revised information will become available after manuals are printed. To get this up-to-date information into your hands, publication supplements are prepared and supplied to the field in the machine literature package.

Supplements can be supplied in the following forms and are usually identified with one of these titles:

- Direction(s) Sheet
- Installation Instructions
- Publications Supplement

Before your initial review of the Operator's Manual, look through the machine literature package to see if any supplemental information has been provided. If supplied, review this information to determine which operating procedures are impacted or modified by the revised instructions. Pay close attention to "CAUTION" and "IMPORTANT" statements as they address your safety, the safety of others, and safe operation of the machine.

When Operator's Manuals are revised, the supplemental information is incorporated directly into the manual, thereby eliminating the supplement.

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TouchSet™	Trademark of Deere and Company
Tractor-Implement Automation™	Trademark of Deere and Company
Vari-Cool™	Trademark of Deere and Company
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Glossary

Glossary of Terms

Alternating Current	AC	Electrical current that reverses its direction at regularly recurring intervals
Air Conditioning	A/C	System used for conditioning the air in the cab
Accessory	ACC	Secondary electrical system
Air Quality System	AQS	System used to control conditioned air in the cab
Armrest Control Unit	ACU	Armrest control used to control tractor functions
Cold Cranking Amperes	CCA	Refers to a battery's capability to perform during cold weather operation
Circulator Motor		Symbols for circulator motor speeds
	O	Medium Speed
	++	Fastest Speed
Central Control Unit	CCU	Computerized system for tractor monitoring
Component Technical Manual	CTM	Technical manual developed for the servicing of major components
Direct Current	DC	Electrical current flowing in one direction only
Engine Control Unit	ECU	Computerized system used to govern engine speed
Engine Revolutions Per Minute	erpm	Abbreviation
Electro-Hydraulic	EH	Refers to a hydraulic valve function that is controlled electrically
Electro-Hydraulic Depth Control	EHDC	Abbreviation
Electro-Hydraulic Selective Control Valve	EH SCV	Selective control valve operated with electrical solenoids
Gallons Per Minute	gpm	Amount of fluid over a period of one minute
High Intensity Discharge	HID	Type of Xenon working light used for front lighting
Hitch Control Unit	HCU	Computerized system used to control hitch functions
Hitch Slip Command	HSC	Computerized system used to supplement hitch draft control
Instrument Control Unit	ICU	Computerized system controlling tractor warning functions
Ignition	IGN	Control for starting and stopping the tractor
International Standards Organization	ISO	Standards organization
Intelligent Total Equipment Control	iTEC™	Abbreviation
Mechanical Front Wheel Drive	MFWD	A powered front axle which is driven mechanically from the transmission
Number	No.	Abbreviation
Powershift Control Unit	PCU	Computerized system used to control transmission shift functions
Powershift Transmission	PST	Abbreviation
Power Take-Off	PTO	Abbreviation
Pressure Control Valve	PCV	Valve used to control pressure within a system
Product Identification Number	PIN	Serial number relating to tractor identification
Revolutions Per Minute	rpm	Abbreviation
Society of Automotive Engineers	SAE	Standards Organization
Selective Control Valve	SCV	Device used to control remote hydraulic functions
Selective Control Unit	SCU	Computerized system used to control selective control valve functions for selective control valves 1, 2, and 3
Selective Control Option	SCo	Controller for selective control valves 4 and 5
Slow Moving Vehicle	SMV	Warning sign on the rear of the tractor
Set-Up Panel	SUP	Operator control panel used to set selective control valve function

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RX15494,0000146-19-20APR17

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-19-29SEP98

Understand Signal Words



TS187—19—30SEP88

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

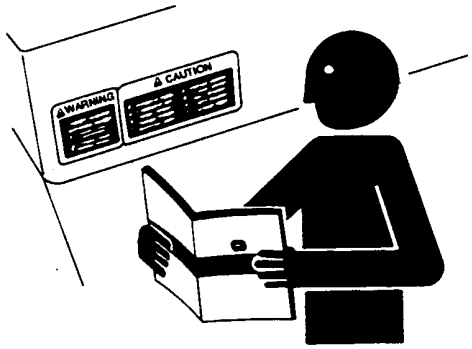
WARNING; The signal word WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

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

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

DX,SIGNAL-19-05OCT16

Follow Safety Instructions



TS201—UN—15APR13

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

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

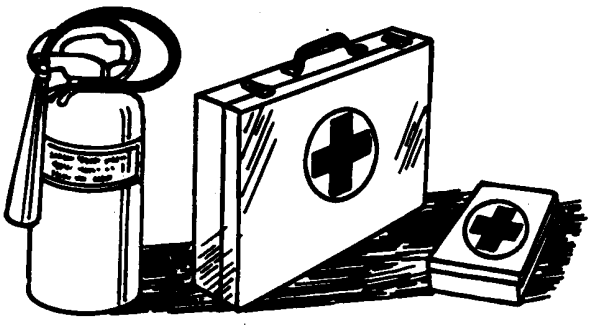
Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

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

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

DX,READ-19-16JUN09

Prepare for Emergencies



TS291—UN—15APR13

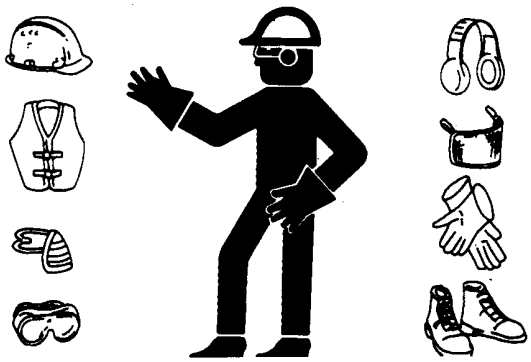
Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

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

DX,FIRE2-19-03MAR93

Wear Protective Clothing



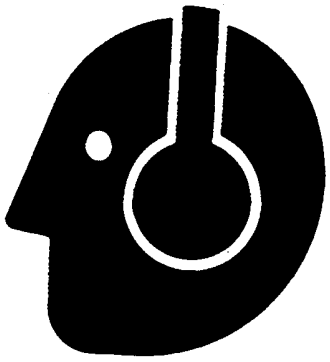
TS206—UN—15APR13

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

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

DX,WEAR2-19-03MAR93

Protect Against Noise



TS207—UN—23AUG88

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

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

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

DX,NOISE-19-03OCT17

Handle Fuel Safely—Avoid Fires



TS202—UN—23AUG88

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

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

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

Use only an approved fuel container for transporting flammable liquids.

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

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

DX,FIRE1-19-12OCT11

Handle Starting Fluid Safely



TS1356—UN—18MAR92

Starting fluid is highly flammable.

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

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

Do not incinerate or puncture a starting fluid container.

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

DX,FIRE3-19-14MAR14

Fire Prevention

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

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

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

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

In Case of Fire



TS227—UN—15APR13

CAUTION: Avoid personal injury.

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

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

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

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

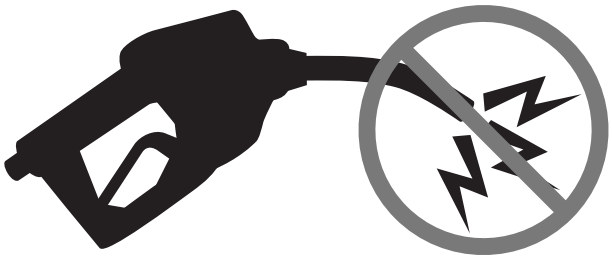
1. Pull the pin. Hold the extinguisher with the nozzle pointing away from you, and release the locking mechanism.
2. Aim low. Point the extinguisher at the base of the fire.
3. Squeeze the lever slowly and evenly.
4. Sweep the nozzle from side-to-side.

DX,FIRE4-19-22AUG13

Avoid Static Electricity Risk When Refueling



RG22142—UN—17MAR14



RG21992—UN—21AUG13

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

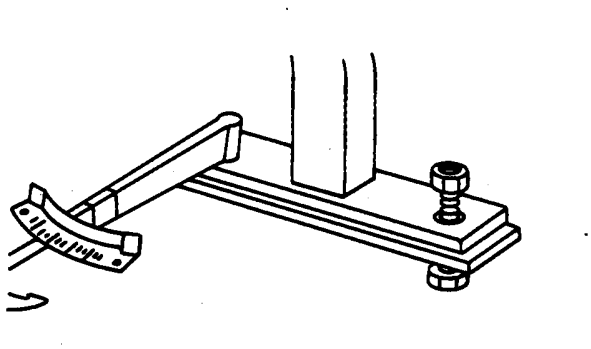
Refineries may have treated the fuel with a static dissipating additive. However, there are many factors that can reduce the effectiveness of the additive over time.

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

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

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

Keep ROPS Installed Properly



TS212—UN—23AUG88

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

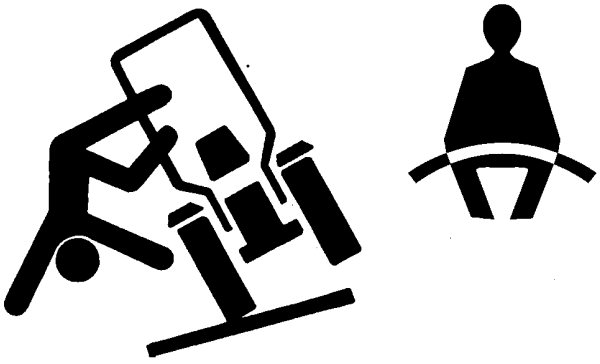
The protection offered by ROPS will be impaired if ROPS is subjected to structural damage, is involved in an overturn incident, or is in any way altered by welding, bending, drilling, or cutting. A damaged ROPS should be replaced, not reused.

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

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

DX,ROPS3-19-12OCT11

Use Foldable ROPS and Seat Belt Properly



TS1729—UN—24MAY13

Avoid crushing injury or death during rollover.

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

- Snug the seat belt across the hips.

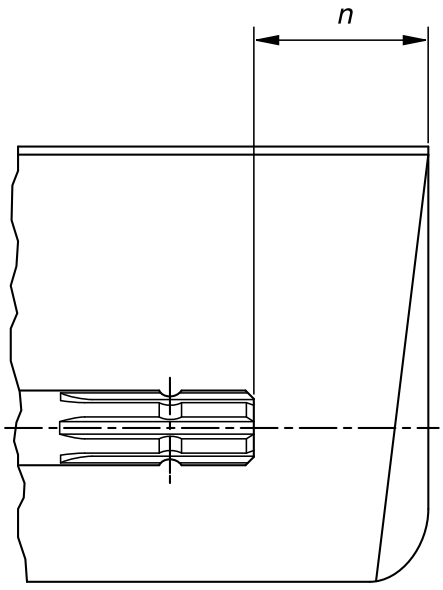
- If this machine is operated with the ROPS folded (for example, to enter a low building), drive with extreme caution. DO NOT USE a seat belt with the ROPS folded.
- Return the ROPS to the raised, fully extended position as soon as the machine is operated under normal conditions.

DX,FOLDROPS-19-22AUG13

Stay Clear of Rotating Drivelines



TS1644—UN—22AUG95



H96219—UN—29APR10

Entanglement in rotating driveline can cause serious injury or death.

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

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

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

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

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

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

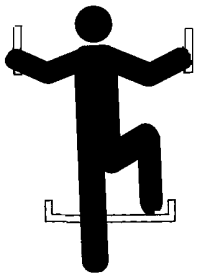
Do not raise implements high enough to damage the tractor master shield or guard of primary implement PTO driveshaft. Detach the PTO driveline shaft if it is necessary to increase implement height. (See Attching/ Detaching PTO Driveline)

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

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

DX,PTO-19-28FEB17

Use Steps and Handholds Correctly



T133468—UN—15APR13

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

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

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

DX,WW,MOUNT-19-12OCT11

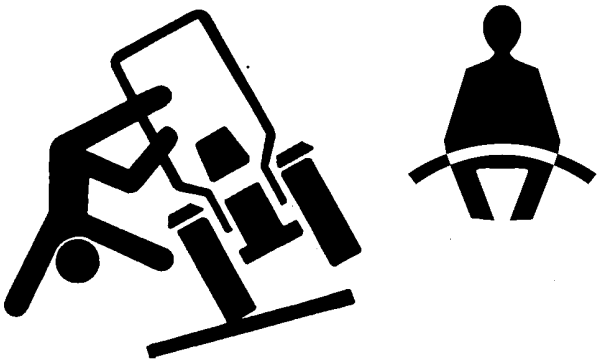
Read Operator's Manuals for ISOBUS Controllers

In addition to GreenStar™ Applications, this display can be used as a display device for any ISOBUS Controller that meets ISO 11783 standard. 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.

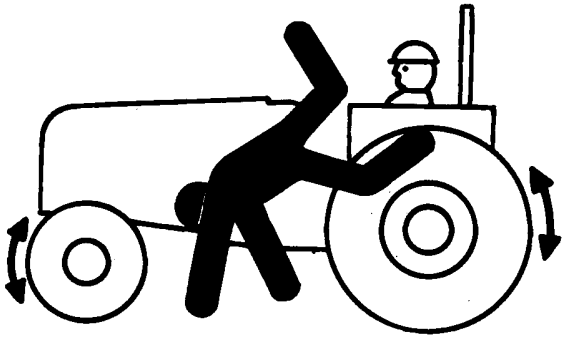
- Hold the latch and pull the seat belt across the body.
- Insert the latch into the buckle. Listen for a click.
- Tug on the seat belt latch to make sure that the belt is securely fastened.
- Snug the seat belt across the hips.

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

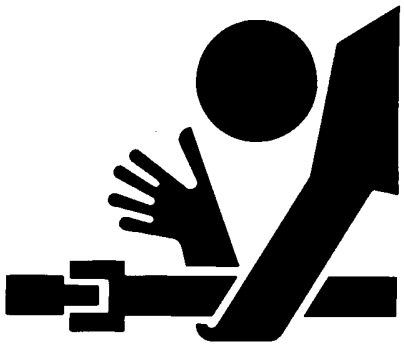
Inspect seat belt and mounting hardware at least once a year. Look for signs of loose hardware or belt damage, such as cuts, fraying, extreme or unusual wear, discoloration, or abrasion. Replace only with replacement parts approved for your machine. See your John Deere dealer.

DX,ROPS1-19-22AUG13

Operating the Tractor Safely



TS290—UN—23AUG88



TS276—UN—23AUG88

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

- Use your tractor only for jobs it was designed to perform, for example, pushing, pulling, towing, actuating, and carrying a variety of interchangeable equipment designed to conduct agricultural work.
- This tractor is not intended to be used as a recreational vehicle.
- Read this operator's manual before operating the tractor and follow operating and safety instructions in the manual and on the tractor.
- Follow operation and ballasting instructions found in the operator's manual for your implements/ attachments, such as front loaders
- 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.

GreenStar is a trademark of Deere & Company

- Stay clear of the three-point linkage and pick-up 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 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.

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 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:

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

DX,WW,TRACTOR-19-28FEB17

Avoid Backover Accidents



PC10857XW—UN—15APR13

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

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

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

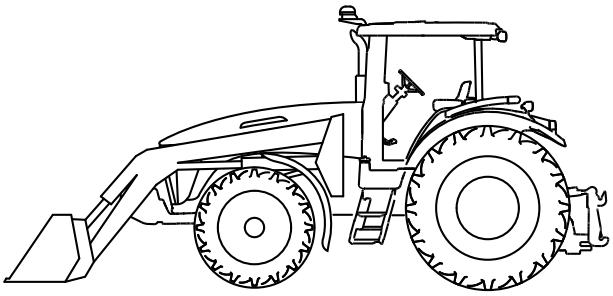
Limited Use in Forestry Operation

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

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

DX,WW,FORESTRY-19-12OCT11

Operating the Loader Tractor Safely



TS1692—UN—09NOV09

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

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

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

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

Do not use loader as a work platform.

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

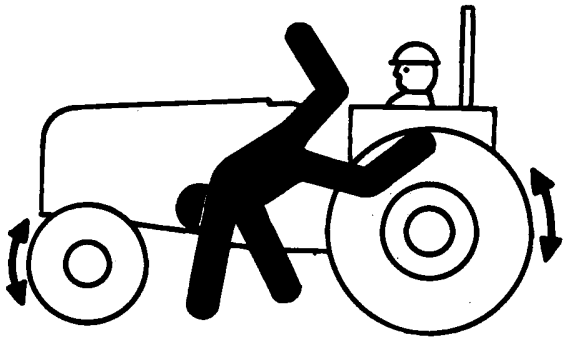
Lower loader to ground before leaving operators station.

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

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

DX,WW,LOADER-19-18SEP12

Keep Riders Off Machine



TS290—UN—23AUG88

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

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

DX,RIDER-19-03MAR93

Instructional Seat

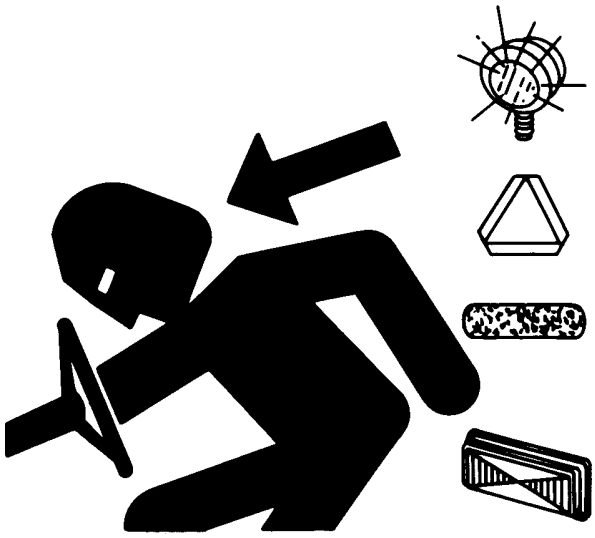


TS1730—UN—24MAY13

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

DX,SEAT,NA-19-22AUG13

Use Safety Lights and Devices



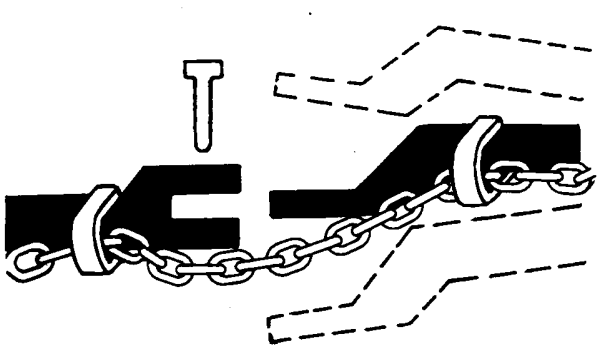
TS951—UN—12APR90

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

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

DX,FLASH-19-07JUL99

Use a Safety Chain



TS217—UN—23AUG88

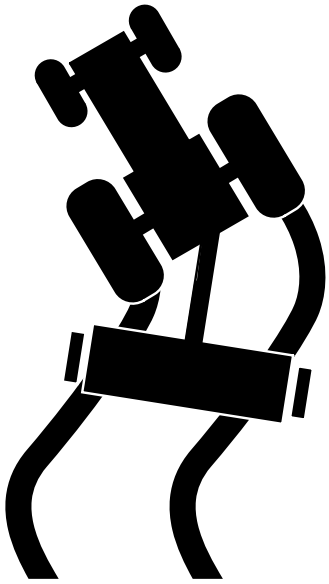
A safety chain will help control drawn equipment should it accidentally separate from the drawbar.

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

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

DX,CHAIN-19-03MAR93

Transport Towed Equipment at Safe Speeds



TS1686—UN—27SEP06

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

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

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

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

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

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

Implements with brakes:

- If the manufacturer does not specify a maximum

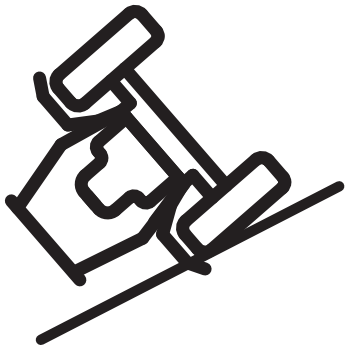
transport speed, do not tow at speeds greater than 40 km/h (25 mph).

- When transporting at speeds up to 40 km/h (25 mph) the fully loaded implement must weigh less than 4.5 times the towing unit weight.
- When transporting at speeds between 40—50 km/h (25—31 mph) the fully loaded implement must weigh less than 3.0 times the towing unit weight.

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

DX,TOW1-19-28FEB17

Use Caution on Slopes, Uneven Terrain, and Rough Ground



RXA0103437—UN—01JUL09

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

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

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

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

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

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

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

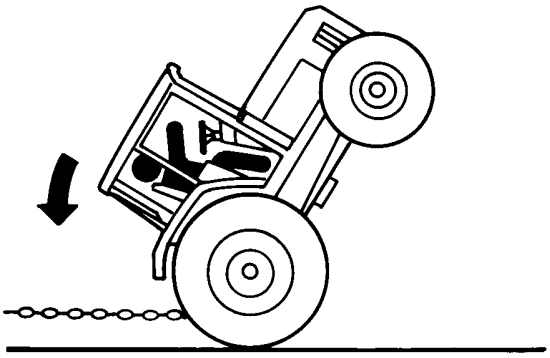
Choose a low ground speed so you will not have to stop or shift while on a slope.

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

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

DX,WW,SLOPE-19-28FEB17

Freeing a Mired Machine



TS1645—UN—15SEP95



TS263—UN—23AUG88

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

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

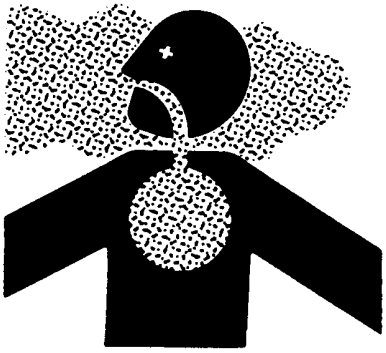
If necessary to tow with another unit, use a tow bar or a long chain (a cable is not recommended). Inspect the chain for flaws. Make sure all parts of towing devices are of adequate size and strong enough to handle the load.

Always hitch to the drawbar of the towing unit. Do not hitch to the front pushbar attachment point. Before

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

DX,MIRED-19-07JUL99

Avoid Contact with Agricultural Chemicals



TS220—UN—15APR13



TS272—UN—23AUG88

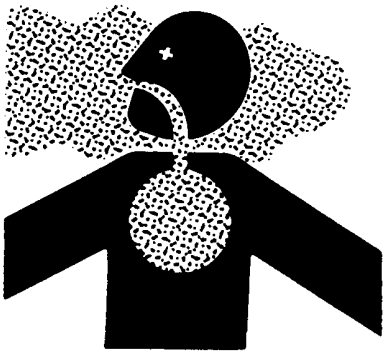
This enclosed cab does not protect against inhaling vapor, aerosol or dust. If pesticide use instructions require respiratory protection, wear an appropriate respirator inside the cab.

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

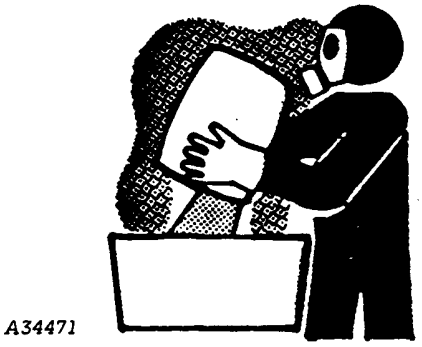
Clean your shoes or boots to remove soil or other contaminated particles prior to entering the cab.

DX,CABS-19-25MAR09

Handle Agricultural Chemicals Safely



TS220—UN—15APR13



A34471—UN—11OCT88

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

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

Reduce risk of exposure and injury:

- Wear appropriate personal protective equipment as recommended by the manufacturer. In the absence of manufacturer's instructions, follow these general guidelines:
  - Chemicals labeled **'Danger'**: Most toxic. Generally require use of goggles, respirator, gloves, and skin protection.
  - Chemicals labeled **'Warning'**: Less toxic. Generally require use of goggles, gloves, and skin protections.
  - Chemicals labeled **'Caution'**: Least toxic. Generally require use of gloves and skin protection.
- Avoid inhaling vapor, aerosol or dust.
- Always have soap, water, and towel available when working with chemicals. If chemical contacts skin, hands, or face, wash immediately with soap and water. If chemical gets into eyes, flush immediately with water.
- Wash hands and face after using chemicals and before eating, drinking, smoking, or urination.
- Do not smoke or eat while applying chemicals.

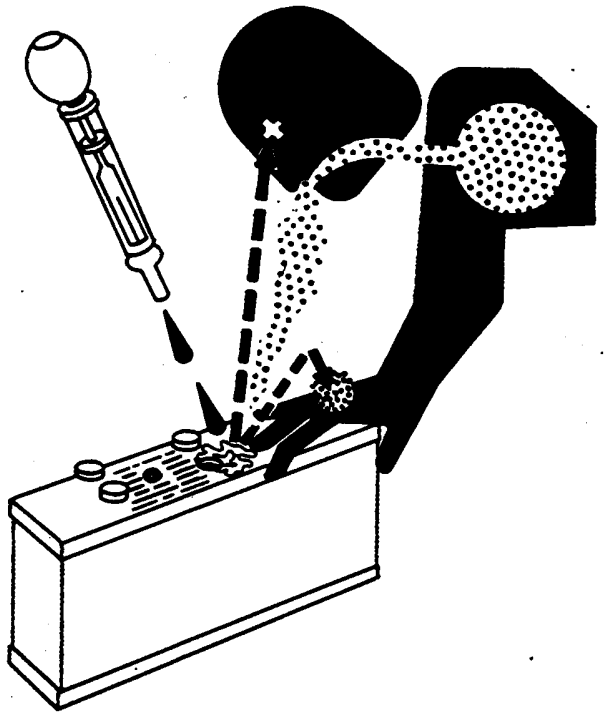
- After handling chemicals, always bathe or shower and change clothes. Wash clothing before wearing again.
- Seek medical attention immediately if illness occurs during or shortly after use of chemicals.
- Keep chemicals in original containers. Do not transfer chemicals to unmarked containers or to containers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

DX,WW,CHEM01-19-24AUG10

Handling Batteries Safely



TS204—UN—15APR13



TS203—UN—23AUG88

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

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

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

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

Avoid hazards by:

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

If acid is spilled on skin or in eyes:

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

If acid is swallowed:

1. Do not induce vomiting.

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

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

DX,WW,BATTERIES-19-02DEC10

Avoid Heating Near Pressurized Fluid Lines



TS953—UN—15MAY90

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

DX,TORCH-19-10DEC04

Remove Paint Before Welding or Heating



TS220—UN—15APR13

Avoid potentially toxic fumes and dust.

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

Remove paint before heating:

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

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

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

Dispose of paint and solvent properly.

DX,PAINT-19-24JUL02

Handle Electronic Components and Brackets Safely



TS249—UN—23AUG88

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

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

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

DX,WW,RECEIVER-19-24AUG10

Practice Safe Maintenance



TS218—UN—23AUG88

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

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

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

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

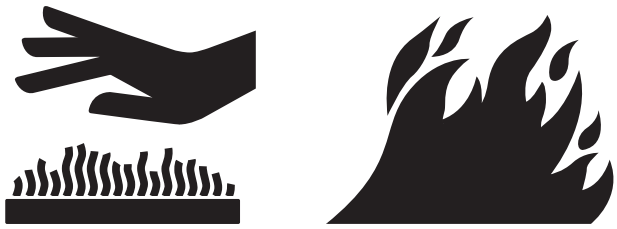
On self-propelled equipment, disconnect battery ground cable (-) before making adjustments on electrical systems or welding on machine.

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

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

DX,SERV-19-28FEB17

Avoid Hot Exhaust



RG17488—UN—21AUG09

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

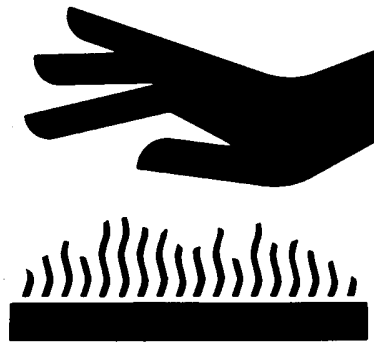
Exhaust parts and streams become very hot during operation. Exhaust gases and components reach temperatures hot enough to burn people, ignite, or melt common materials.

DX,EXHAUST-19-20AUG09

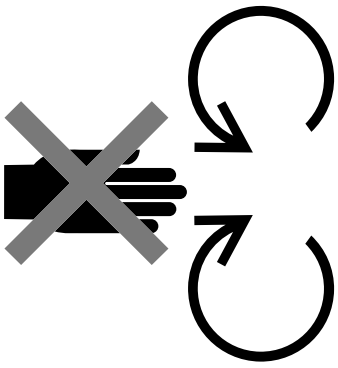
Clean Exhaust Filter Safely



TS227—UN—15APR13



TS271—UN—23AUG88



TS1693—UN—09DEC09



TS1695—UN—07DEC09

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

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

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

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

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

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

Avoid contact with these components until cooled to safe temperatures.

If service procedure requires engine to be running:

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

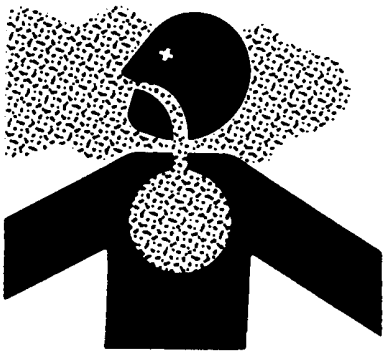
Keep hands, feet, and clothing away from power-driven parts.

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

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

DX,EXHAUST,FILTER-19-12JAN11

Work In Ventilated Area



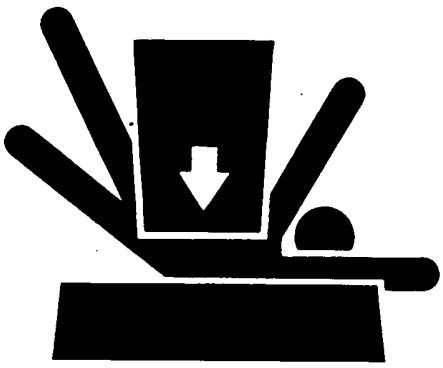
TS220—UN—15APR13

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

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

DX,AIR-19-17FEB99

Support Machine Properly



TS229—UN—23AUG88

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

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

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

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

DX,LOWER-19-24FEB00

Prevent Machine Runaway



TS177—UN—11JAN89

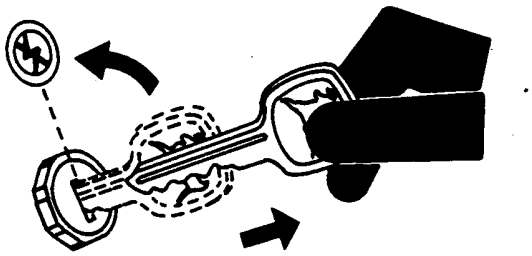
Avoid possible injury or death from machinery runaway.

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

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

DX,BYPAS1-19-29SEP98

Park Machine Safely



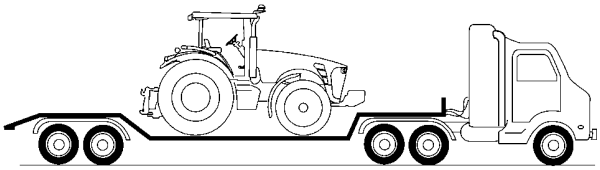
TS230—UN—24MAY89

Before working on the machine:

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

DX,PARK-19-04JUN90

Transport Tractor Safely



RXA0103709—UN—01JUL09

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

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

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

DX,WW,TRANSPORT-19-19AUG09

Service Cooling System Safely



TS281—UN—15APR13

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

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

DX,WW,COOLING-19-19AUG09

Service Accumulator Systems Safely



TS281—UN—15APR13

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

Relieve pressure from the pressurized system before removing accumulator.

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

Accumulators cannot be repaired.

DX,WW,ACCLA2-19-22AUG03

Service Tires Safely



RXA0103438—UN—11JUN09

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

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

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

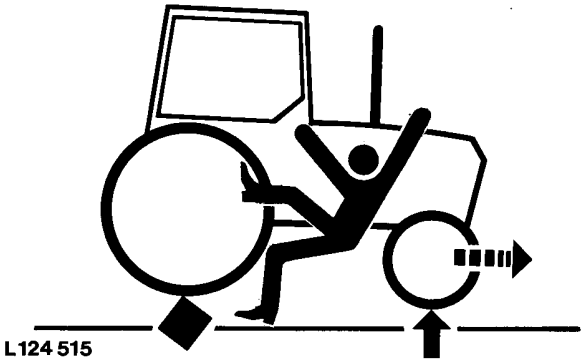
When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.

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

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

DX,WW,RIMS-19-28FEB17

Service Front-Wheel Drive Tractor Safely

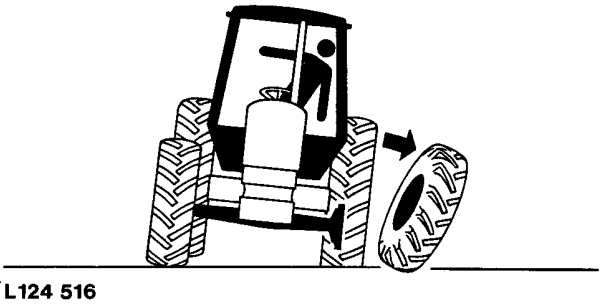


L124515—UN—06AUG94

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

DX,WW,MFWD-19-19AUG09

Tightening Wheel Retaining Bolts/Nuts

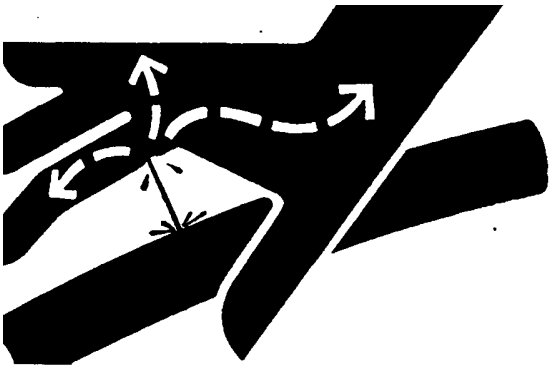


L124516—UN—03JAN95

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

DX,WW,WHEEL-19-12OCT11

Avoid High-Pressure Fluids



X9811—UN—23AUG88

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

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

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

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

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

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

DX,FLUID-19-12OCT11

Do Not Open High-Pressure Fuel System



TS1343—UN—18MAR92

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

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

DX,WW,HPCR1-19-07JAN03

Store Attachments Safely



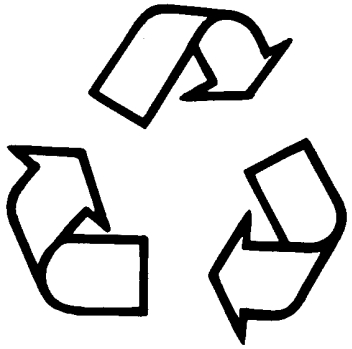
TS219—UN—23AUG88

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

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

DX,STORE-19-03MAR93

Decommissioning — Proper Recycling and Disposal of Fluids and Components



TS1133—UN—15APR13

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

- Use appropriate tools and personal protective equipment such as clothing, gloves, face shields or glasses, during the removal or handling of objects and materials.
- Follow instructions for specialized components.
- Release stored energy by lowering suspended machine elements, relaxing springs, disconnecting

the battery or other electrical power, and releasing pressure in hydraulic components, accumulators, and other similar systems.

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

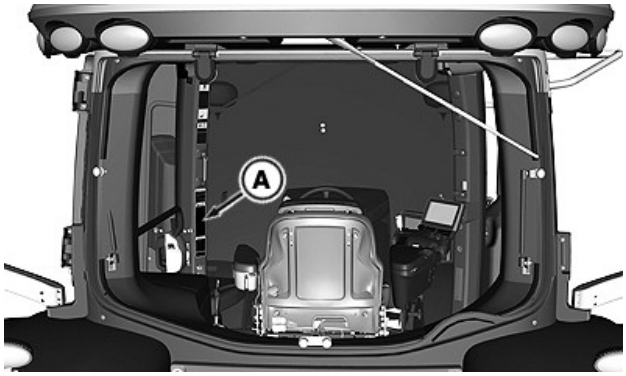
DX,DRAIN-19-01JUN15

Safety Signs

Operator's Manual



RXA0149693—19—18AUG15



RXA0143795—UN—18JUL14

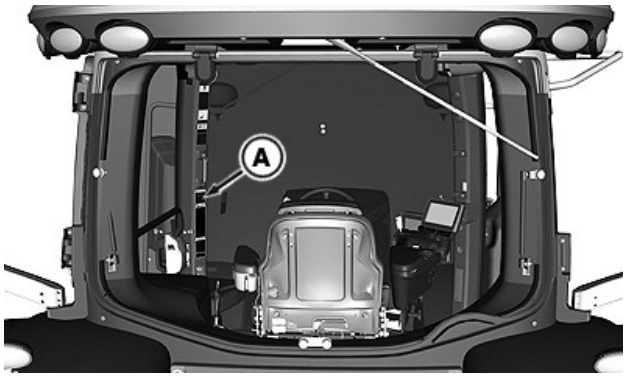
A— Before Operating Tractor Label

RD47322,00002F0-19-01DEC17

Instructional Seat (If Equipped)



RXA0139152—19—07FEB14

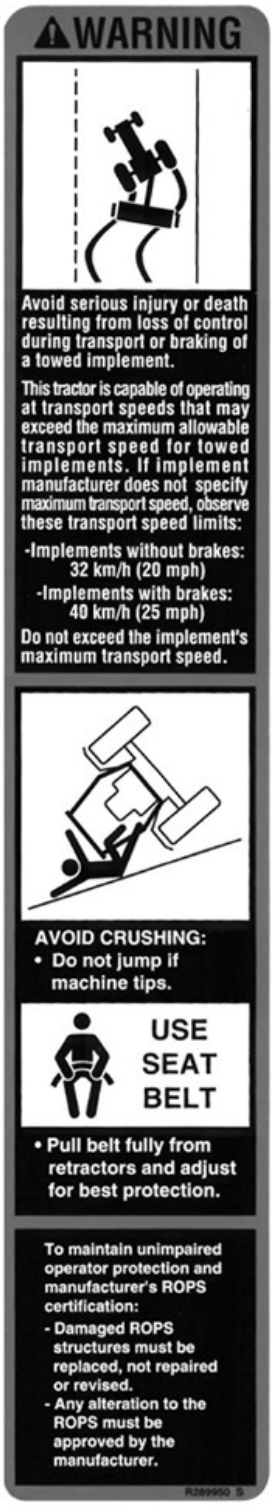


RXA0143797—UN—18JUL14

A— Instructional Seat Label

RD47322,00002F2-19-01DEC17

Seat Belt



RXA0161467—19—30NOV17



RXA0143796—UN—18JUL14

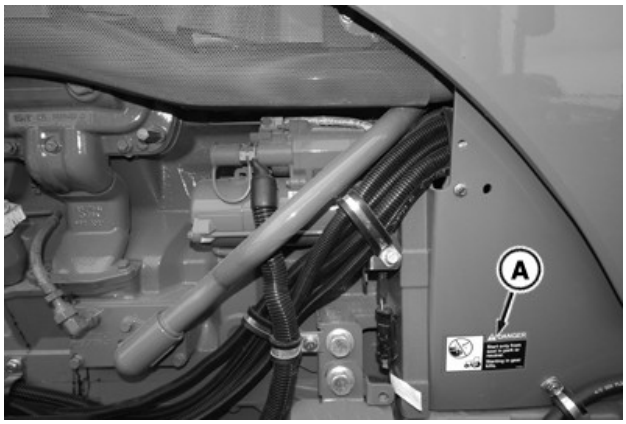
A— Transport and ROPS Warning Label

RD47322,00002F1-19-01DEC17

Starter



RXA0146409—19—26NOV14



RXA0143884—UN—22JUL14

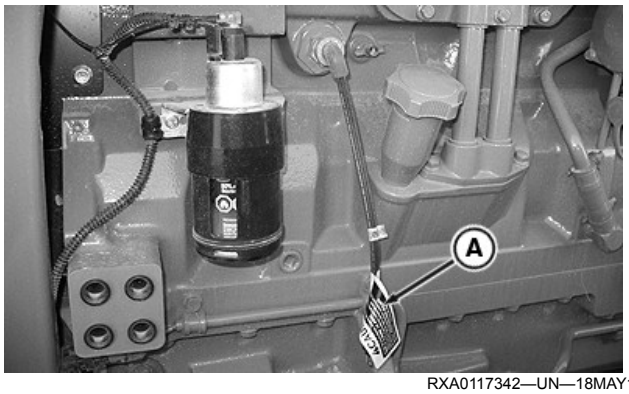
A— Starter Label

RD47322,00001D1-19-01DEC17

Engine Block Heater (If Equipped)



RXA0131967—19—15APR13



RXA0117342—UN—18MAY11

A— Engine Heater Label

RD47322,00002EB-19-01DEC17

Quick Coupler (If Equipped)



RXA0146404—19—21NOV14



RXA0104383—UN—14JUN11

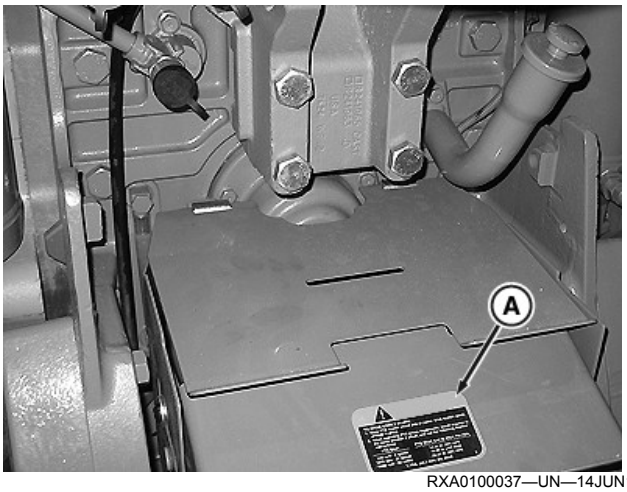
A— Quick Coupler Label

RD47322,00001D3-19-01DEC17

Rear PTO Shield



RXA0146396—19—21NOV14



RXA0100037—UN—14JUN11

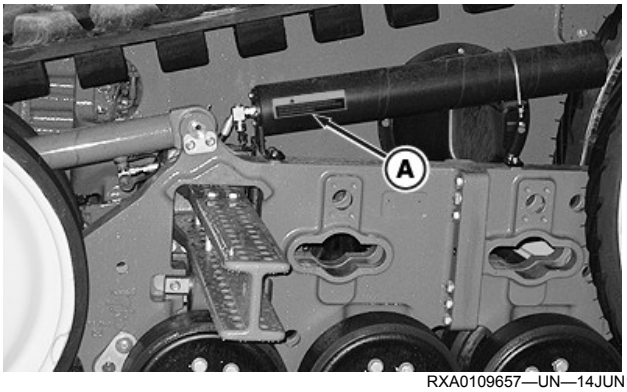
A— PTO Label

RD47322,00002EC-19-01DEC17

Track Accumulators



RXA0146397—19—20NOV14



RXA0109657—UN—14JUN11

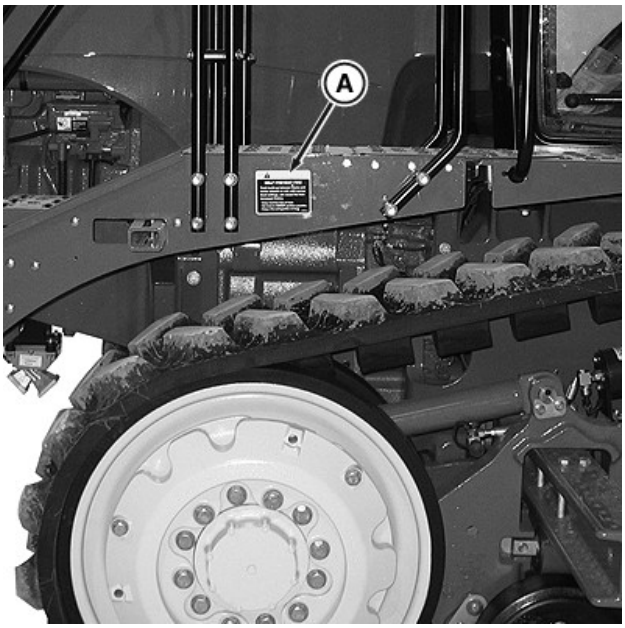
A— Accumulator Label (Left-Hand and Right-Hand)

RD47322,00002EA-19-01DEC17

Trash Build-Up



RXA0159758—19—09JUN17

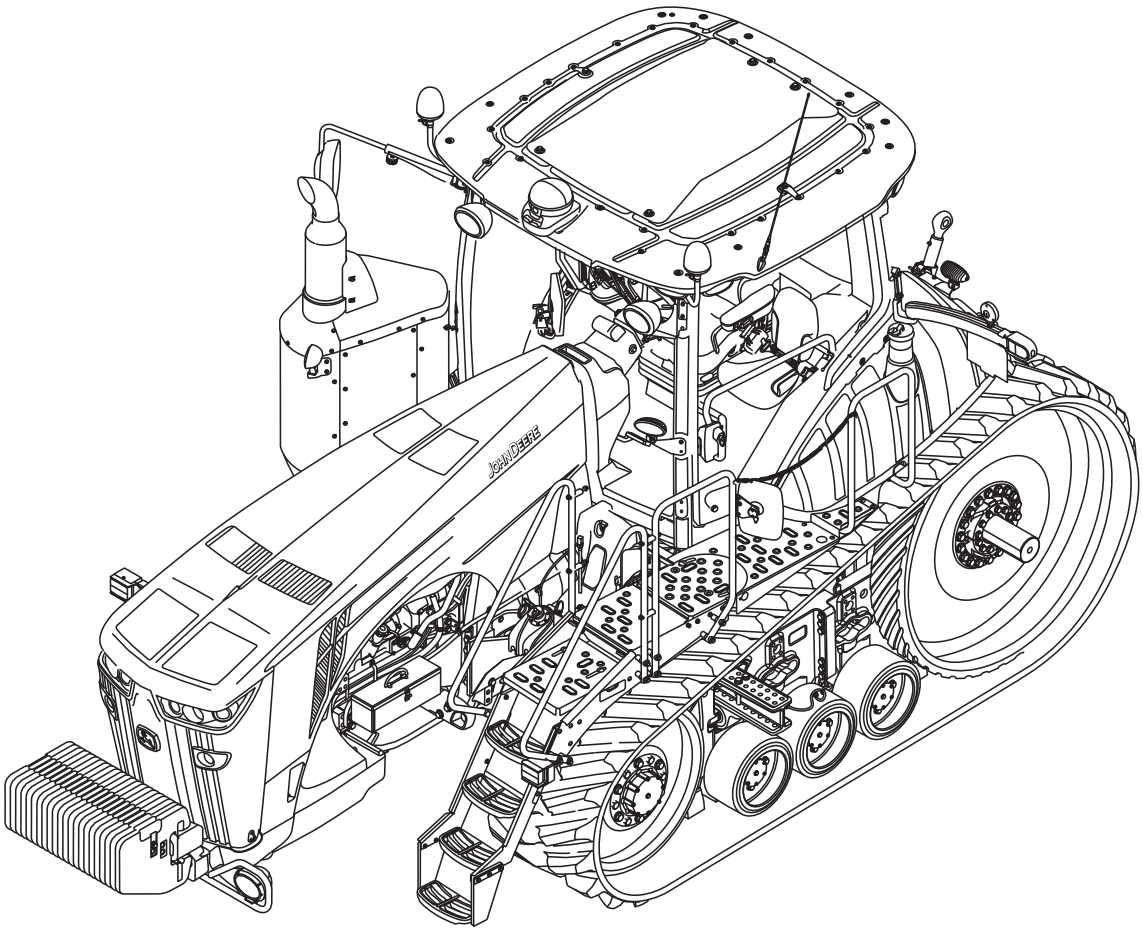


RXA0100894—UN—14JUN11

A— Trash Label

RD47322,00002EE-19-01DEC17

8RT Series Tractor



RXA0157237—UN—01FEB17

8RT Series Tractor (Typical)

KD34109,00001CC-19-21APR17

Operator’s Manual Use

This tractor Operator’s Manual contains information primarily for machine operation and routine maintenance. It is not a detailed service manual. More detailed service information, is available in the appropriate Technical Manual. See your John Deere dealer.

CAUTION: Reduce the possibility of injury or equipment damage. Before operating the tractor by itself, or in conjunction with a mounted implement or trailer become fully familiar with operating characteristics of all equipment. Carefully read appropriate tractor and implement Operator’s Manuals.

Operator’s Manuals and safety decals on this tractor and mounted implements and trailers provide important information on how to operate the equipment in the best manner possible. Thus, it is important for all users to make themselves thoroughly familiar with this information prior to starting any operations.

KT81203,000042B-19-22NOV16

8RT Series Tractor

Your 8RT Series Tractor has a high power density because of its low overall machine weight and high horsepower rating. Efficiency features found on its transmission, make your tractor an excellent choice in field work and for transport applications such as silage or manure hauling because they provide fast acceleration and low total fluid economy.

World-class efficiency is combined with increased horsepower to push productivity to higher levels than ever before. Intelligent Power Management (IPM) provides a horsepower increase during PTO and transport applications for full PTO power and speed.

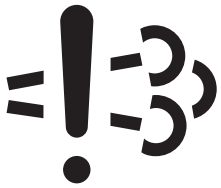
The tractor's quiet, comfortable, and intuitive CommandView™ III Cab provides a secure base of operations. A totally redesigned CommandARM™, ten inch CommandCenter™ Display, and a seat with 40-degrees of swivel, help keep you comfortable and productive during long hours spent in the cab.

KD34109,00001CB-19-29JUN17

CommandView is a trademark of Deere & Company
CommandARM is a trademark of Deere & Company
CommandCenter is a trademark of Deere & Company

Required Machine Stop Warning

Machine Stop Mandate Occurs



RG22491—UN—21AUG13

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

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



RG22492—UN—21AUG13

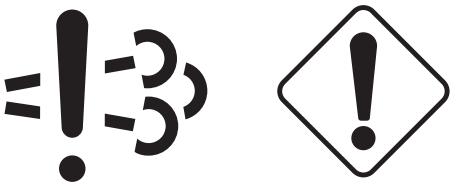
Warning Indicator illuminates when a condition exists which requires operator action.



RG22493—UN—21AUG13

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

Emission System Fault Has Occurred



RG26361—UN—04SEP14

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

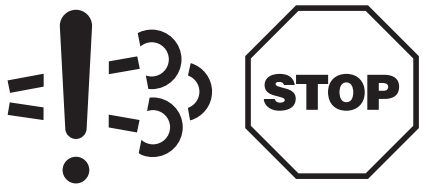
- Engine power is normal.
- Machine operation is normal.
- Place machine in a safe state.
- Contact service provider.



RG26972—UN—26MAR15

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

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



RG26972—UN—26MAR15

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

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

DX,MACHSTOPWARN,AG-19-02OCT15

Engine Fuel System and Power Rating

Fuel System

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

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

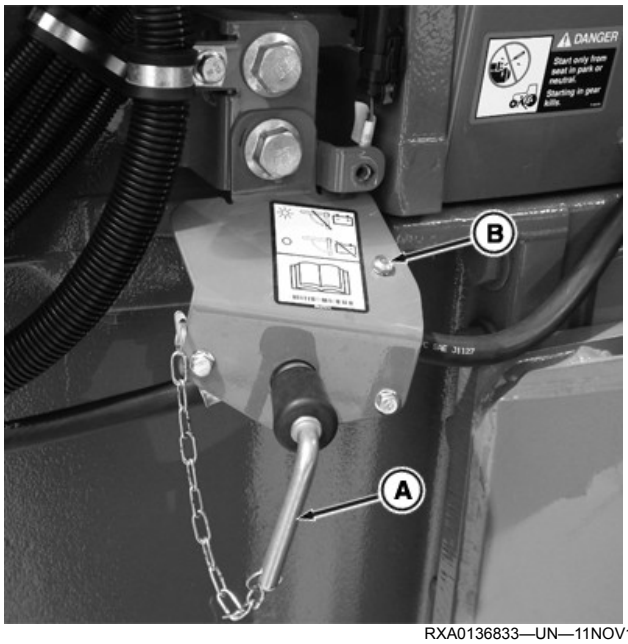
Engine Certification/Power Rating

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

TS36762,0000174-19-18NOV16

Battery Disconnect Switch

CAUTION: Never turn power off on the battery disconnect switch while the engine is running. This could result in serious damage to the tractor electrical components.

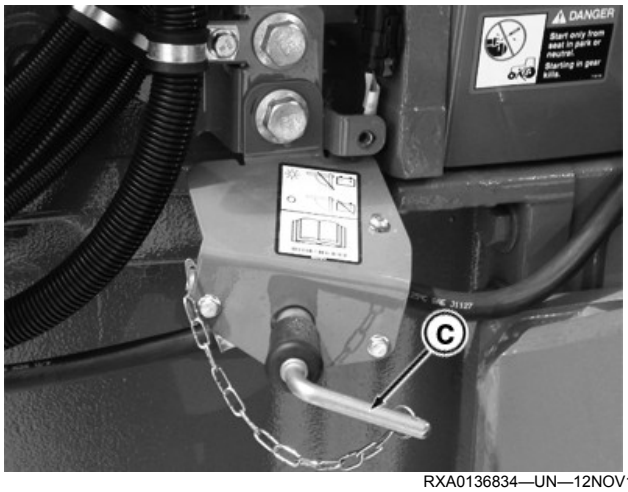


RXA0136833—UN—11NOV13

IMPORTANT: During a long storage period, always turn battery disconnect switch to OFF position. The battery could lose power if the battery disconnect switch is left ON.

Final Tier 4/Stage IV Engines Only: To determine tractor engine type, see Engine Serial Number in Identification Numbers section of this Operator's Manual. Do not disconnect battery until Selective Catalytic Reduction (SCR) system has had enough time to automatically purge system of Diesel Exhaust Fluid (DEF). If adequate time is not allowed for system to be purged, any DEF remaining can crystallize and plug system. At temperatures below -15°C (5°F), unpurged DEF freezes and damages system components. If equipped with a battery disconnect system, a light (B) next to the disconnect system is illuminated while auto-purge is in progress. It shuts off when complete and safe to disconnect the battery.

If tractor is not equipped with battery disconnect switch, wait at least 4 minutes after tractor stops before disconnecting battery.



RXA0136834—UN—12NOV13

When battery disconnect switch lever is in OFF (C) position, batteries are electrically disconnected from tractor electrical and electronic systems. Moving switch to ON (A) position reconnects batteries into system.

KT81203,00000DE-19-19DEC17

Start the Engine



TS177—UN—11JAN89

CAUTION: Avoid possibility of personal injury or death. Engine starting with shift lever in gear indicates malfunction of starting circuit. Repair immediately. See your John Deere™ dealer.

Do not start engine by shorting across starter terminals. Tractor will start in gear if normal circuitry is bypassed. Start engine ONLY from operator seat.

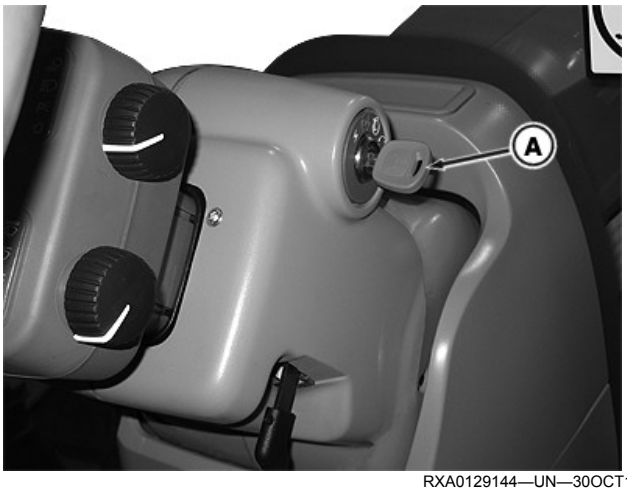
Before Starting Tractor

1. Move SCV levers to NEUTRAL position.
2. Disengage PTO.
3. Move hand throttle to slow idle position.
4. Move transmission shift lever to PARK position.

John Deere is a trademark of Deere & Company

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

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



RXA0129144—UN—30OCT12

7. Turn key switch (A) to engage starter. Release key when engine starts.

IMPORTANT: Avoid starter damage. Do not operate starter more than 30 seconds. Wait at least two minutes before trying again.

If Engine Fails To Start:

Check quantity and quality of fuel.

Check electrical system.

In cold weather (at or below -6 °C (21 °F)), follow steps listed in appropriate Cold Weather Starting topic in Cold Weather Operation section of this Operator's Manual.

Engine speed is limited to 1440 rpm based on transmission type and transmission-hydraulic oil temperature:

- e23™ transmission - temperature below -18 °C (0 ° F).
- IVT™ /AutoPowr™ transmission - temperature below -5 °C (23 °F).

If engine fails to start after three attempts, see your John Deere dealer.

KT81203,0000136-19-01JUN17

Run the Engine

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

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

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

For maximum tractor performance:

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

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

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

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

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

KT81203,0000137-19-01JUN17

Stop the Engine

IMPORTANT: Before stopping an engine that has been operating at working load, idle engine at least 2 minutes at 1000—1200 rpm to cool hot engine parts. If an exhaust filter cleaning has just been performed, increase engine idle time to 4 minutes. If service work is going to be performed on exhaust filter, increase engine idle time to 10 minutes.

e23 is a trademark of Deere & Company
IVT is a trademark of Deere & Company
AutoPowr is a trademark of Deere & Company

IMPORTANT: Final Tier 4/Stage IV Engines Only: To determine tractor engine type, see Engine Serial Number in Identification Numbers section of this Operator's Manual. Do not disconnect battery until Selective Catalytic Reduction (SCR) system has had enough time to automatically purge system of Diesel Exhaust Fluid (DEF). If adequate time is not allowed for system to be purged, any DEF remaining can crystallize and plug system. At temperatures below -15°C (5°F), unpurged DEF freezes and damages system components. If equipped with a battery disconnect system, a light next to the disconnect system is illuminated while auto-purge is in progress. It shuts off when complete and safe to disconnect the battery.

If tractor is not equipped with battery disconnect switch, wait at least 4 minutes after tractor stops before disconnecting battery.

1. Stop tractor and pull throttle back to slow idle position.
2. Depress clutch and brake pedals.
3. Put transmission in PARK position.
4. Lower all equipment to the ground.
5. Make sure SCV levers are in NEUTRAL position.
6. Pull rear PTO (if equipped) switch rearward to disengage PTO.

CAUTION: Remove key to prevent accidents.

7. Turn key switch to OFF position and remove key.

KT81203,00000D1-19-18DEC17

Restart Engine That Has Run Out of Fuel

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

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

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

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

TS36762,0000179-19-18NOV16

Reduce Fuel Consumption

Fuel consumption reduction guidelines:

- Replace air cleaner, fuel, engine oil, and transmission-hydraulic filter elements at specified service intervals (see Service - Record Charts section of this Operator's Manual) or when indicated by CommandCenter™ display messages.
- Use recommended oils and lubricants only (see Fuel, Lubricants, and Coolant sections of this Operator's Manual).
- Adjust hitch function for most efficient operation (see TouchSet™ Depth Control section of this Operator's Manual).
- Check tracks for correct alignment (see Tracks section of this Operator's Manual).
- Ballast tractor for conditions (see Performance Ballasting section of this Operator's Manual).
- For gear transmissions, select correct gear. Always drive in highest possible gear with reduced engine speed. Choose gear so engine speed drops 150-250 rpm when tractor is operating and engine is under load (see appropriate transmission section of this Operator's Manual).

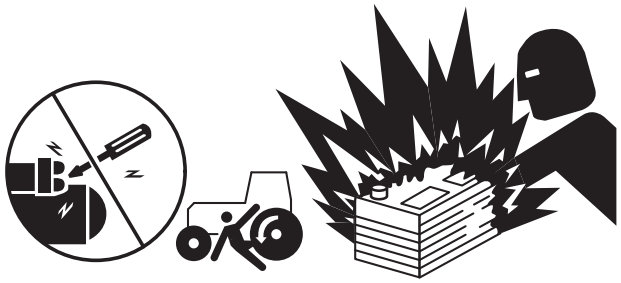
NOTE: For light work, reduce engine speed below 2000 rpm. Select gear so that engine speed drops 200—300 rpm when operating.

Using Maximum Set Speed may improve fuel economy (see Activate and Set Maximum Set Speed and Use Maximum Set Speed with Different Transmission Modes in Transmission - General Information section of this Operator's Manual).

- IVT™/AutoPowr™ transmissions provide additional fuel saving advantages (see IVT™ /AutoPowr™ section of this Operator's Manual).

KT81203,0000196-19-25JAN17

Use Battery Booster or Charger



RXA0086722—UN—10FEB06

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TouchSet is a trademark of Deere & Company
IVT is a trademark of Deere & Company
AutoPowr is a trademark of Deere & Company

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

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.

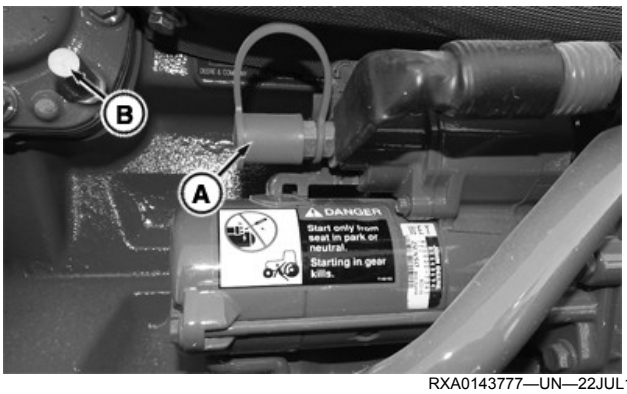
NEVER start engine while standing on ground. Start engine only from operator's seat, with transmission in neutral or park.

IMPORTANT: Be sure that polarity is correct before making connections. Reversed polarity will damage electrical system or possibly cause battery to explode.

If two or more booster batteries are used, they must be connected in parallel ensuring that booster batteries are producing 12 volt charge.

Final Tier 4/Stage IV Engines Only: To determine tractor engine type, see Engine Serial Number in Identification Numbers section of this Operator's Manual. Do not disconnect battery until Selective Catalytic Reduction (SCR) system has had enough time to automatically purge system of Diesel Exhaust Fluid (DEF). If adequate time is not allowed for system to be purged, any DEF remaining can crystallize and plug system. At temperatures below -15°C (5°F), unpurged DEF freezes and damages system components. If equipped with a battery disconnect system, a light next to the disconnect system is illuminated while auto-purge is in progress. It shuts off when complete and safe to disconnect the battery.

If tractor is not equipped with battery disconnect switch, wait at least 4 minutes after tractor stops before disconnecting battery.



RXA0143777—UN—22JUL14

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

Booster Battery

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

Battery Charger

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

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

KT81203,00000BB-19-19DEC17

Cold Weather Operation

Cold Weather Starting—Without Starting Aid

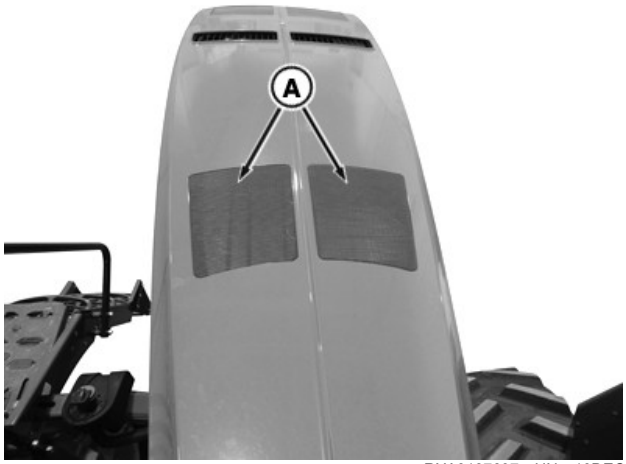


TS1356—UN—18MAR92

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

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

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



RXA0137697—UN—10DEC13

1. Spray starting fluid into air intake screen (A) for two or three seconds.
2. Follow steps as outlined in Start the Engine in Engine Operation section of this Operator's Manual.

If Engine Fails to Start:

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

KT81203,00000F1-19-01JUN17

Cold Weather Starting—With Starting Aid

CAUTION: Avoid personal injury and damage to engine. Inject fluid only while engine is turning. Follow safety information on the container. Do not carry starting fluid cans inside cab.

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

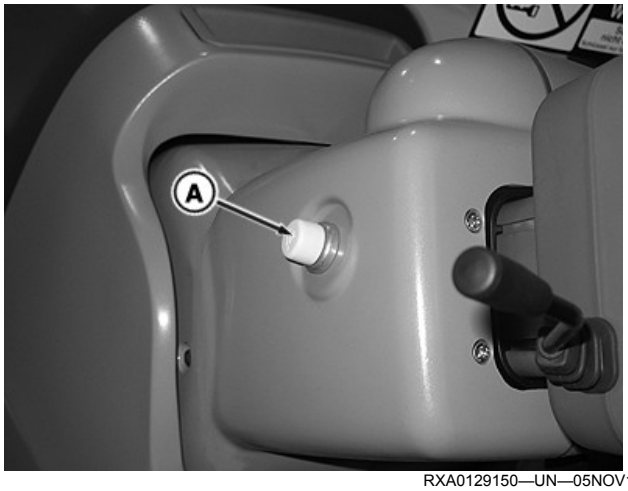
NOTE: Use of cold weather starting option is recommended when starting tractor at or below -6 ° C (21 °F).

1. Start tractor as described in Start the Engine in Engine Operation section of this Operator's Manual.

IMPORTANT: Avoid starter damage. Do not operate starter more than 30 seconds. Wait at least two minutes before trying again.

When applying starter fluid, if pre-ignition knocking is detected, stop using starter fluid immediately.

2. If engine refuses to start, complete these steps while engine is cranking:



RXA0129150—UN—05NOV12

- Press starter fluid button (A) in a series of quick taps rather than stream.

- After series of taps (no more than three) on starter fluid button, release starter fluid button for three seconds.
- If engine attempts to start but falters, use tapping motion on starter fluid button sparingly and only until engine runs on its own.

IMPORTANT: Idle engine at approximately 1000 rpm with no load for one to two minutes to assure adequate lubrication. Do not operate under full load until engine has reached normal operating temperature.

3. When engine starts, run engine at approximately 1000 rpm for two minutes.

GH15097,00003E2-19-30JUN17

Change Starting Fluid Canister

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



RXA0135906—UN—03OCT13

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

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

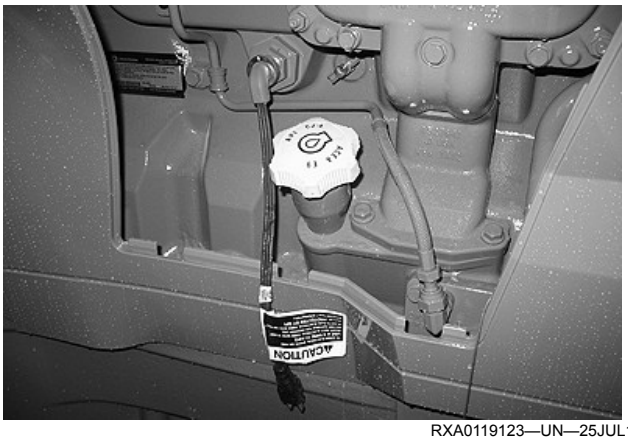
3. Loosen canister and remove old can.
4. Install new can and tighten canister.

DB71512,000001D-19-01JUN17

Auxiliary Heaters Use



TS210—UN—23AUG88



RXA0119123—UN—25JUL11

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

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

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

Your John Deere™ dealer has ground fault interrupter-equipped heaters:

- Engine Coolant (1000 W)
- Hydraulic Charge Pump (150 W)

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

GH15097,00003E4-19-10JUL15

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Exhaust Filter System Overview—Final Tier 4/Stage IV Engine

IMPORTANT: Disable exhaust filter cleaning when temporarily connected to an indoor ducted exhaust system for diagnostic and repair activities. See Auto Exhaust Filter Cleaning Mode—Final Tier 4/Stage IV Engine in this Operator's Manual section.

Exhaust filter cleaning will automatically reset back to AUTO mode after every key cycle.

Do not disable automatic exhaust filter cleaning unless absolutely necessary. Repeated disabling or ignoring prompts to perform manual or parked cleaning procedure will cause additional engine power limitation and can eventually lead to required dealer service.

Tractor is equipped with emission compliant engine which cleans and filters exhaust gas. Under normal machine operation and with system in AUTO mode, system requires minimal operator interaction.

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

- Use AUTO Exhaust Filter Cleaning mode. See Auto Exhaust Filter Cleaning Mode—Final Tier 4/Stage IV Engine in this Operator's Manual section.
- Use Parked Exhaust Filter Cleaning when AUTO Exhaust Filter Cleaning is disabled. See Parked Exhaust Filter Cleaning—Final Tier 4/Stage IV Engine in this Operator's Manual section.
- Avoid unnecessary idling.
- Use proper engine oil. See appropriate Diesel Engine Oil in Engine Oil section of this Operator's Manual.
- Use only ultra low sulfur fuel. See Diesel Fuel in Fuel section of this Operator's Manual.

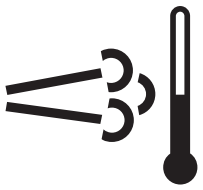
KT81203,00000CE-19-08NOV17

Aftertreatment Indicators Overview



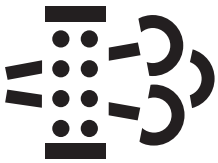
RG22487—UN—21AUG13

Diesel Exhaust Fluid Indicator



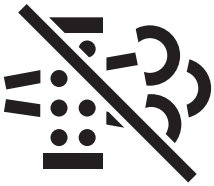
RG22488—UN—21AUG13

Engine Emissions Temperature Indicator



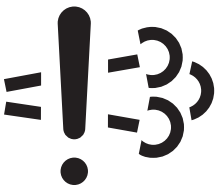
RG22489—UN—21AUG13

Exhaust Filter Indicator



RG22490—UN—21AUG13

Auto Cleaning Disabled Indicator



RG22491—UN—21AUG13

Engine Emissions System Malfunction Indicator



RG22492—UN—21AUG13

Warning Indicator



RG22493—UN—21AUG13

Engine Stop Indicator

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

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

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

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

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

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

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

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

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

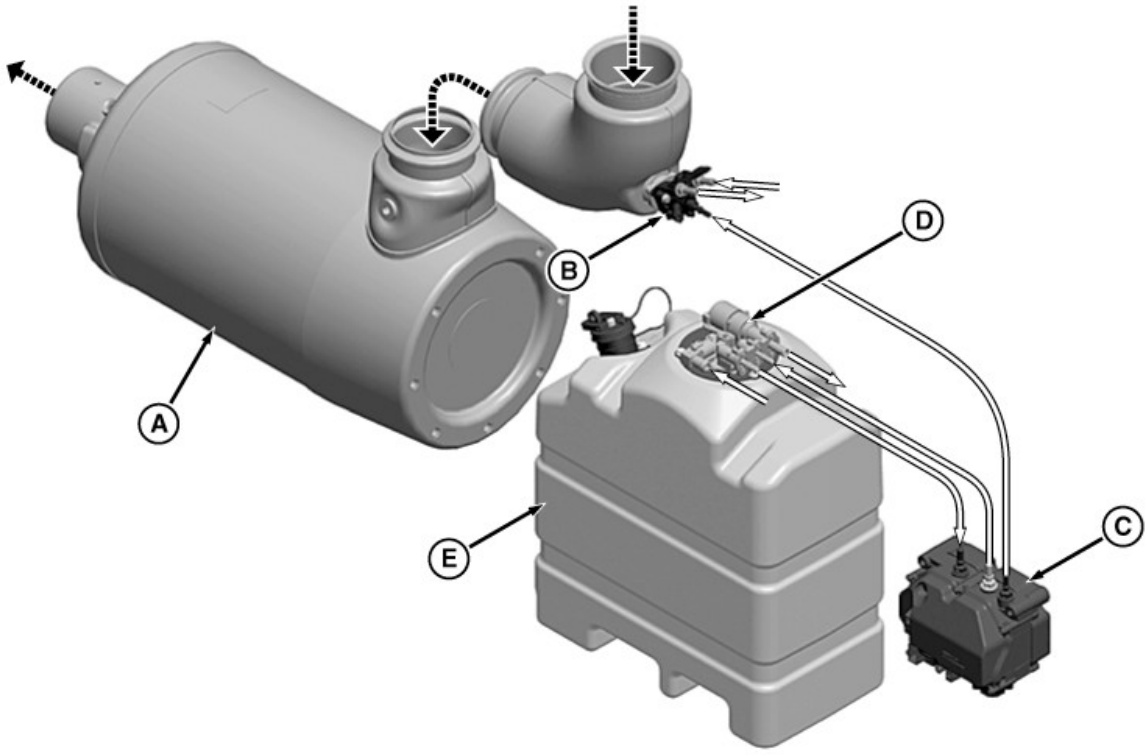
The auto cleaning disabled indicator illuminates when the operator has engaged the request to disable the auto exhaust filter cleaning function. This icon remains illuminated until the operator re-engages automatic exhaust filter cleaning from the diagnostic gauge. Disabling auto mode is not recommended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

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

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

DX,AFTRTREAT,INDCATRS-19-12FEB18

Selective Catalytic Reduction (SCR) System Overview



RG22427—UN—14FEB13

SCR System

A—SCR Catalyst
B—DEF Dosing Injector
C—DEF Dosing Unit
D—DEF Tank Header Assembly
E—DEF Tank

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

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

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

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

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

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

DX,SCR,OVERVIEW-19-05SEP14

Qualified Emergency Use — SCR Override Option

NOTE: This is a US EPA only option. Engine must have a US EPA and EU emission label. Option is not available for engine with EU only emission label.

IMPORTANT: Operating the engine without emissions related derates could damage the aftertreatment system.

Description: Qualified Emergency Use – SCR Override Option

Under the US EPA's regulations the Qualified Emergency SCR Override Option (Emergency SCR Override) is considered an Auxiliary Emission Control Device (AECD), which is only permitted during qualified emergency situations. To ensure compliance with US EPA regulations governing this type of AECD it is important that operators read the following information and comply with the requirements.

Emergency SCR Override enables a Selective Catalyst Reduction (SCR) equipped application to operate without emissions-related derates for a specified period of time during qualified emergency situations. A qualified emergency situation is one in which the condition of an engine's emission controls poses a significant direct or indirect risk to human life. An example of a direct risk is an emission control condition that inhibits the performance of an engine being used to rescue a person from a life-threatening situation. An example of an indirect risk is an emission control condition that inhibits the performance of an engine being used to provide electrical power to a data center that routes "911" emergency response telecommunications.

Emergency SCR Override Activation / Reporting

The operator can activate the Emergency SCR Override through the operator interface. Once activated, the engine can operate free of emissions-related derates for 120 hours. If the derate condition is corrected during the 120 hours, the Emergency SCR Override can be paused in order to preserve the remainder of time for future use. The option expires along with any remaining time 240 hours after the Emergency SCR Override is activated.

When the Emergency SCR Override has expired, the engine informational Diagnostic Trouble Code (DTC) is displayed to the operator upon every engine start and every hour until acknowledged by the operator. To clear the DTC and reset the Emergency SCR Override timer for future use, the operator (or other person responsible for the engine/equipment) must submit a report to the John Deere Dealer Technical Assistance Center, which must include the following:

- Contact name, mail and email addresses, and telephone number for responsible company or entity
- Description of the emergency situation, the location of the engine during the emergency, and the contact information for an official who can verify the emergency situation (such as a county sheriff, fire marshal, or hospital administrator)
- Reason for the Emergency SCR Override activation during the emergency situation, such as the lack of diesel exhaust fluid, or the failure of an emission-related sensor when the engine was needed to respond to an emergency situation
- Engine's serial number
- Description of the extent and duration of the engine operation while the Emergency SCR Override was active, including a statement describing whether or not the Override was manually deactivated after the emergency situation ended

In no event may this report be submitted to John Deere or other qualified service provide later than 60 calendar days after the Emergency SCR Override is activated.

LEGAL Notification

The following actions by the operator are an improper use of the Emergency SCR Override and are prohibited by the Clean Air Act and US EPA regulations:

- Activating the Emergency SCR Override for something other than a qualified emergency situation;
- Failing to disable the Emergency SCR Override after a qualified emergency situation ends; and,
- Failing to notify John Deere and send it reports as required in this Operators Manual and federal regulations. Note: John Deere is required to report to the US EPA the operator's failure to report to it any Emergency SCR Override event (to the extent it becomes aware of such event).

The maximum civil penalty the US EPA may assess under 40 CFR 1068.101 is $4,454 for each day an engine or piece of equipment is operated in violation of the requirements associated with the Emergency SCR Override.

US EPA regulations governing the Emergency SCR Override can be found at 40 CFR §1039.665, as may be amended.

DX,SCR,EMRGNCY,OVERIDE-19-21DEC16

Auto Exhaust Filter Cleaning Mode—Final Tier 4/Stage IV Engine

CAUTION: Never perform this procedure in a closed building unless suitable exhaust is provided.

Auto Exhaust Filter Cleaning Mode allows Exhaust Filter System to perform exhaust filter cleaning whenever

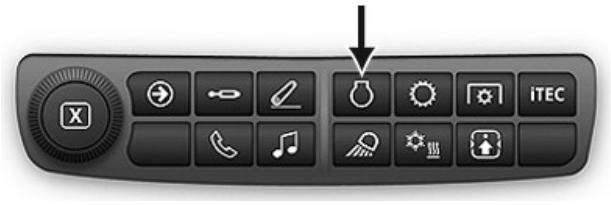
required. Corner Post Display indicators and CommandCenter™ prompts provide information related to exhaust filter system activity.

IMPORTANT: Disable exhaust filter cleaning when temporarily connected to an indoor ducted exhaust system for diagnostic and repair activities.

Exhaust filter cleaning will automatically reset back to AUTO mode after every key cycle.

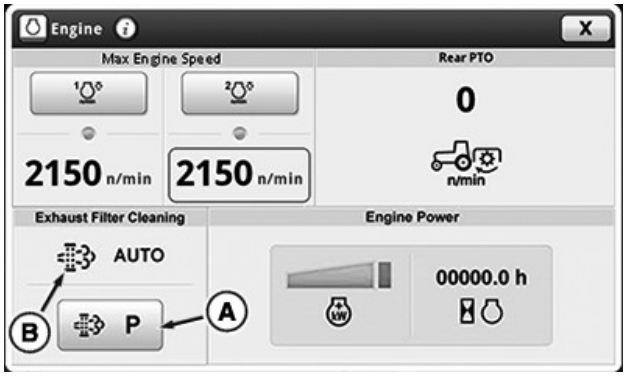
Do not disable automatic exhaust filter cleaning unless absolutely necessary. Repeated disabling or ignoring prompts to perform manual or parked cleaning procedure will cause additional engine power limitation and can eventually lead to required dealer service.

Perform AUTO Exhaust Filter Cleaning:



RXA0133711—UN—16JUL13

1. Use engine shortcut button on navigation bar to access engine main page.



RXA0157117—UN—01FEB17

2. Select Exhaust Filter Cleaning AUTO (B) mode.

   Parked exhaust filter cleaning indicator (A) may be active or inactive (grayed out) depending on exhaust filter restriction level. See Parked Exhaust Filter Cleaning in this section of this Operator's Manual.



RXA0129965—UN—07DEC12

3. Select Automatic Filter Cleaning ON (C) toggle to allow exhaust filter system to perform cleaning as required. Select Automatic Filter Cleaning OFF (D) toggle to disable exhaust filter system.



RXA0161010—UN—03OCT17

Exhaust filter cleaning indicator (E) illuminates when exhaust filter system is performing exhaust filter cleaning.

IMPORTANT: During exhaust filter cleaning operation, there may be higher exhaust gas temperatures and engine may operate at elevated idle.

Exhaust Filter Restricted—Depending on operating conditions, Exhaust Filter System may request a change in tractor operation. CommandCenter™ prompts describe specific operational changes needed.

KT81203,00000E8-19-05OCT17

Parked Exhaust Filter Cleaning—Final Tier 4/Stage IV Engine

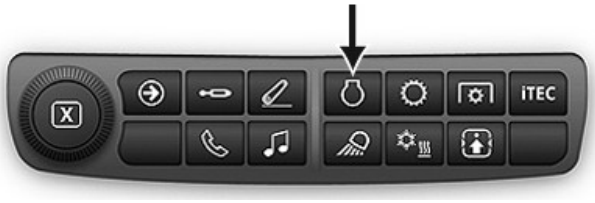
⚠ CAUTION: Never perform this procedure in a closed building unless suitable exhaust is provided.

Parked exhaust filter cleaning is automated to allow system to clean exhaust filter when required. During process engine speed is controlled by system and tractor must remain parked to complete procedure. Time required for parked exhaust filter cleaning process is

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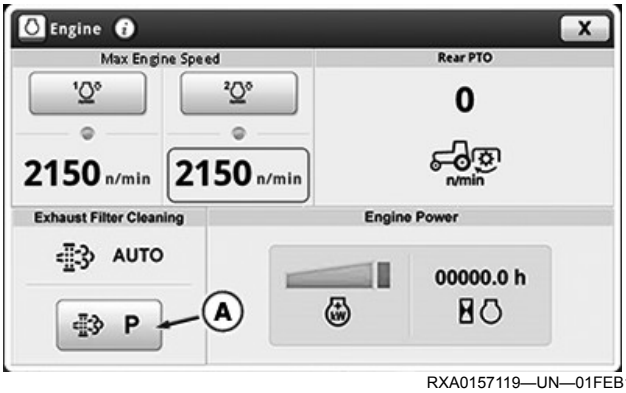
dependent upon level of exhaust filter restriction, ambient temperatures, and current exhaust gas temperature. CommandCenter™ prompts provide estimated time for completion.

Perform Parked Exhaust Filter Cleaning:



RXA0133711—UN—16JUL13

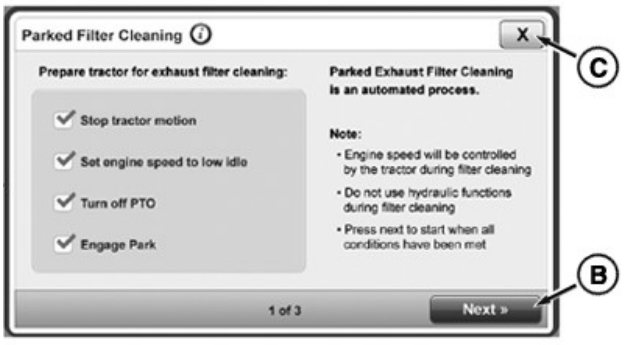
1. Press **Engine Shortcut Button on Navigation Bar.**



RXA0157119—UN—01FEB17

2. Select **Parked Exhaust Filter Cleaning button (A).**
3. **Conditions for Parked Exhaust Filter Cleaning:**
   - Stop tractor motion
   - Set engine speed to low idle
   - Turn off PTO
   - Engage PARK

   If any of these conditions are not met, procedure will not occur.



RXA0141402—UN—02MAY14

4. Select **Next button (B)** once conditions are met.

IMPORTANT: During parked exhaust filter cleaning operation, engine may operate at elevated idle.

Engine speed will be controlled by machine during filter cleaning.

NOTE: At any time during parked procedure, process can be canceled by advancing throttle, engaging transmission, selecting cancel button, or stopping engine.

5. Status page appears when process starts.

   Parked exhaust filter cleaning has two steps: preparation and cleaning. During preparation, exhaust filter system controls engine speed to increase exhaust temperature. During cleaning, diesel particulates or soot are cleaned from exhaust filter system. Parked exhaust filter cleaning may exceed 40 minutes.

6. Once parked exhaust filter cleaning process is complete, select **Close Window button (C)** to return to previously opened screen.

KT81203,0000180-19-05OCT17

Selective Catalytic Reduction (SCR) System

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

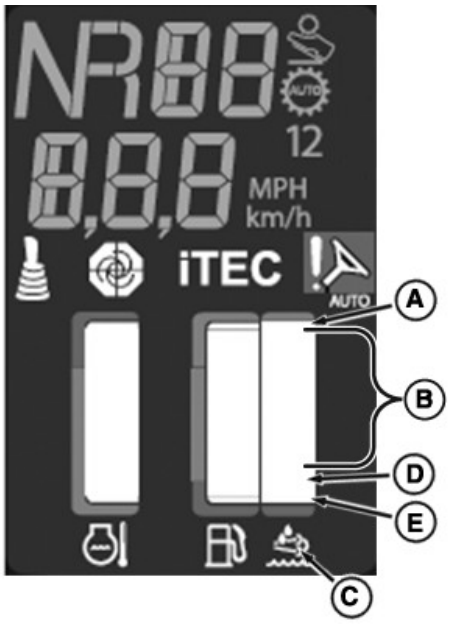
It is unlawful to tamper with or remove any component of the aftertreatment system. It is also unlawful to use Diesel Exhaust Fluid (DEF) that does not meet the specifications provided or to operate the vehicle with no DEF.

Using incorrect or unapproved aftertreatment components can cause damage to vehicle's aftertreatment system and reduce ability of aftertreatment system to function correctly. Never interchange aftertreatment components between Interim Tier 4/Stage III B and Final Tier 4/Stage IV equipped vehicles.

NOTE: SCR system monitors quality of DEF flowing through it. If a fluid other than DEF at correct urea concentration is detected, system will display a diagnostic trouble code and a four hour internal counter starts. After four hours, engine power and speed are derated.

SCR system supplies Diesel Exhaust Fluid (DEF) to engine aftertreatment system. DEF works in conjunction with tractor aftertreatment components to reduce emissions. See Diesel Exhaust Fluid (DEF) section of this Operator's Manual for specifications and information about DEF.

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RXA0152778—UN—13JUL16

Tractor electronic systems monitor DEF level to assure proper performance. Corner post displays current DEF level (A). When quantity of DEF reaches reduced levels, systems change tractor operation. Refilling DEF tank will cause system to return tractor to normal operation. Refilling DEF tank every time tractor is refueled is recommended. See Fill Diesel Exhaust Fluid (DEF) Tank in Diesel Exhaust Fluid (DEF) section of this Operator's Manual.

DEF level and operation changes:

Normal Operation—When DEF level is within this range (B), DEF symbol is on and tractor operates normally. Always maintain fill within this level for uninterrupted performance.

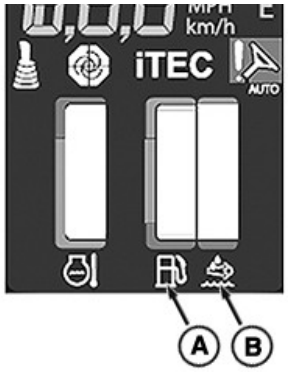
Low DEF Level 1—When DEF level drops to first red bar (D), DEF indicator light (C) flashes and a diagnostic trouble code is displayed and alarm sounds. Tractor operates normally, but refill of DEF tank is recommended.

Low DEF Level 2—When DEF level falls below this point (E), DEF indicator light stops flashing and constantly illuminates. A diagnostic trouble code is displayed and alarm sounds; engine power and speed are derated. Refill DEF tank and restart tractor to resume normal operation.

DEF freezes at -11 °C (12 °F) and will not flow to the SCR system. Tractor systems sense low temperature and allow engine to start, even with no DEF flow. Engine coolant is used to thaw fluid in DEF tank when engine is running. If system senses that DEF has thawed and SCR system is operating normally within forty minutes, tractor is allowed to continue operation. If DEF flow is not sensed within forty minutes, a diagnostic trouble code is displayed and a four hour internal counter starts. After four hours, engine power and speed are derated. Freezing and thawing of DEF does not degrade it.

EC82310,00000B8-19-27JUN17

Low Fuel or Low DEF Warning



RXA0154695—UN—12OCT16

Fuel indicator light (A) will flash and alarm will sound when approximately 39 L (10 gal) of fuel remains.

NOTE: It is recommended that DEF tank be filled at each fuel tank fill.

DEF light (B) will flash and alarm will sound when fluid level is low.

TS36762,0000185-19-14NOV17

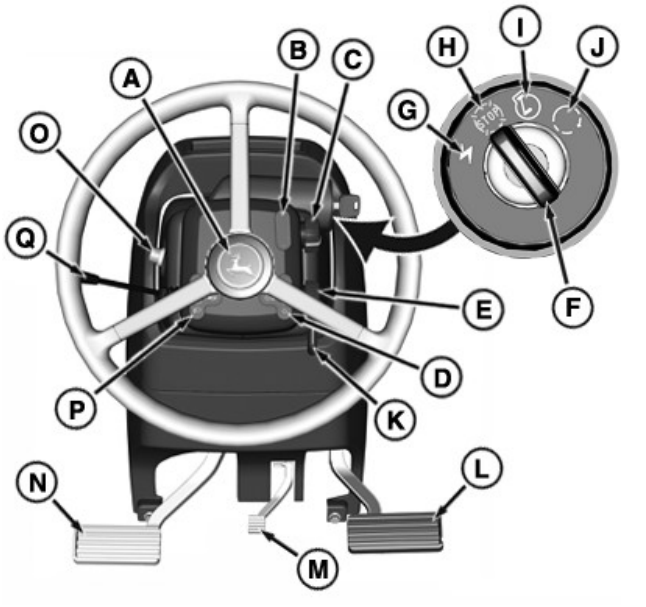
Disconnect Battery—Final Tier 4/Stage IV Engine

IMPORTANT: To determine tractor engine type, see Engine Serial Number in Identification Numbers section of this Operator's Manual. Do not disconnect battery until Selective Catalytic Reduction (SCR) system has had enough time to automatically purge system of Diesel Exhaust Fluid (DEF). If adequate time is not allowed for system to be purged, any DEF remaining can crystallize and plug system. At temperatures below -15°C (5°F), unpurged DEF freezes and damages system components. If equipped with a battery disconnect system, a light next to the disconnect system is illuminated while auto-purge is in progress. It shuts off when complete and safe to disconnect the battery.

If tractor is not equipped with battery disconnect switch, wait at least 4 minutes after tractor stops before disconnecting battery.

TS36762,000029E-19-18DEC17

Front Console



RXA0157262—UN—01FEB17

Front Console

A—Steering Wheel Telescope Release
B—Light Selection Cluster
C—Light Selector Knob
D—Windshield Wiper Cluster
E—Windshield Wiper Control Knob
F—Key Switch
G—Accessories
H—OFF (Stop)
I—Run
J—Start
K—Steering Column Tilt Release Lever
L—Brake Pedal
M—Steering Wheel Tilt Release
N—Clutch Pedal
O—Starting Aid Switch (If Equipped)
P—Turn Signal Icon, Road/Field Light Icon and Horn Icon
Q—Turn Signal Lever/Horn

TO84419,00003C7-19-17MAR17

CommandARM™ ISOBUS Shortcut Button (ISB)

In an ISOBUS-system operator can activate function of implement over ISOBUS via Implement's Operator Interface on display. See ISOBUS controller's operator's manual.

After activation, operator can change screen of display in order to operate another implement or interact with other applications.

Deactivation of functions on first implement is not possible unless operator manually switches back to corresponding screen of first implement. ISB provides a direct method to inform all ISOBUS participants about operators desire to deactivate functions that were activated by an ISOBUS control.

CAUTION: Read appropriate operator's manual. ISB button function is proprietary to implement manufacturer. Verify button function in a safe and open area that is clear of bystanders.



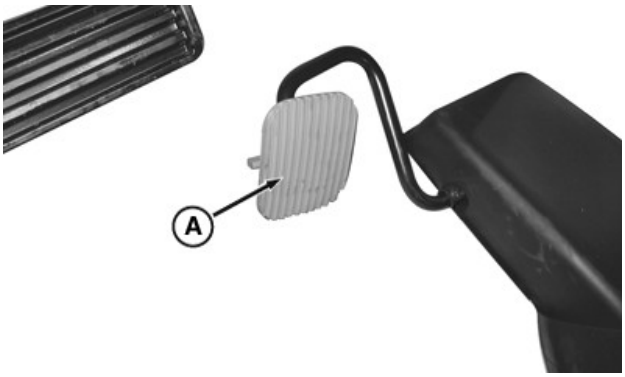
RXA0136449—UN—06NOV13

ISOBUS Shortcut Button (ISB): Pressing ISB button (A) sends "Stop All Implement Operations" signal out on ISOBUS. Reaction on ISB is proprietary to receiving control unit.

Example: Implement currently using ISOBUS Class 3 automation goes to its safe state. See Tractor-Implement Automation™ (TIA™) section of this Operator's Manual.

TS36762,0000187-19-27JUN17

Foot Throttle (If Equipped)



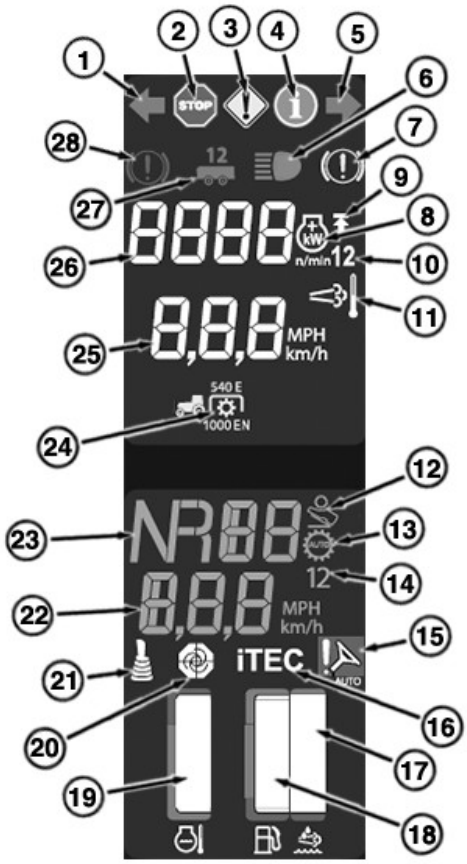
RXA0106904—UN—17MAR10

Foot operated throttle controls engine or ground speed dependent on transmission mode. Depress foot throttle (A) to increase engine rpm or ground speed.

TO84419,00003CE-19-27JUN17

Tractor Implement Automation is a trademark of Deere & Company
TIA is a trademark of Deere & Company

Corner Post Display



RXA0152791—UN—13JUL16

1— Left Turn Indicator
2— Stop Indicator
3— Service Alert Indicator
4— Information Indicator
5— Right Turn Indicator
6— High Beam Indicator
7— Brake Warning Indicator (Yellow)
8— Intelligent Power Management Indicator
9— Maximum Set Speed Indicator
10— Maximum Set Speed Selection (1 or 2)
11— Exhaust Filter Cleaning Indicator
12— Foot Pedal Mode Indicator (If Equipped)
13— Automatic Shifting Indicator
14— IVT™/AutoPowr™ Forward Speed Band Indicator (If Equipped)
15— AutoTrac™ Indicator
16— iTEC™ Indicator
17— Diesel Exhaust Fluid (DEF) Gauge
18— Fuel Gauge
19— Coolant Temperature Gauge
20— Tractor Automation Indicator
21— ISOBUS Auxiliary Mode Indicator
22— Set Speed
23— Current Gear/Range
24— Rear PTO Indicator (If Equipped)
25— Vehicle Ground Speed
26— Tachometer
27— Trailer Indicator (If Equipped)
28— Brake Warning Indicator (Red)

TO84419,00003C8-19-02JUN17

Information Indicators

STOP, Service Alert and Information Indicators are accompanied by informative message, diagnostic trouble code, and/or fault description shown on CommandCenter™. For description of indicators and codes, see STOP and Service Alert Indicators in Troubleshooting - Diagnostic Trouble Codes (DTC) section of this Operator's Manual.



RXA0109847—UN—20AUG10

STOP Indicator (A): Light flashes and alarm sounds continuously.

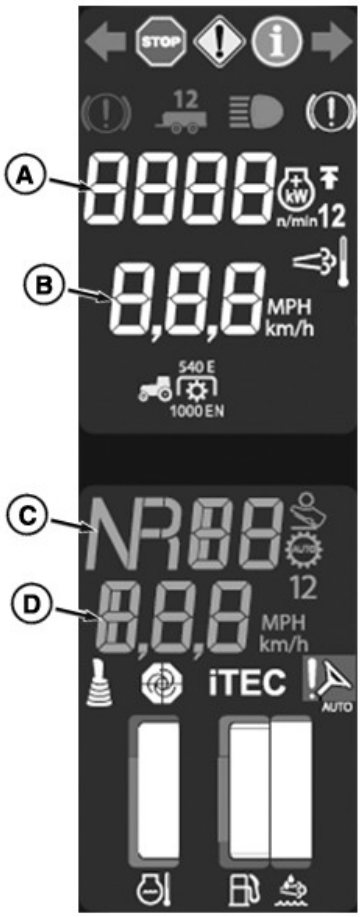
Service Alert Indicator (B): Light flashes and alarm sounds five times indicating performance or operational problem is detected that needs to be resolved as soon as possible.

Information Indicator (C): Light illuminates continuously and alarm sounds for two seconds, indicating possible fault condition.

TS36762,000018A-19-13DEC16

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AutoPowr is a trademark of Deere & Company
AutoTrac is a trademark of Deere & Company
iTEC is a trademark of Deere & Company
CommandCenter is a trademark of Deere & Company

Digital Indicators—Tachometer, Ground Speed, Transmission, and Set Speed



RXA0152792—UN—13JUL16

A—Tachometer: Displays engine speed in multiples of 10. If "- - -" is displayed, no speed signal is being received.

B—Travel Speed Indicator: Displays travel speed in either miles per hour or kilometers per hour, depending on operator selected units (U.S. or Metric).

If "- - -" is displayed, no speed signal is being received.

C—Transmission Information: Shows if transmission is in Neutral—N, Forward—F, Reverse—R, or Park—P.

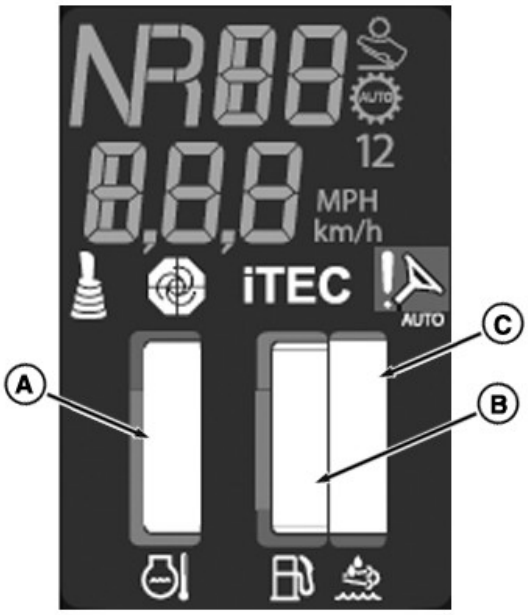
If "- - -" is displayed, no gear signal is being received.

IVT™ /AutoPowr™ Only: Shows speed bands 1 or 2 and speed settings.

D—Set Speed Indicator: Shows what speed is set using set speed adjuster.

TO84419,00003CA-19-02JUN17

Gauges - Coolant Temperature, Fuel Level, and DEF Level



RXA0152776—UN—13JUL16

A—Coolant Temperature Gauge: Shows engine coolant temperature between 40—120 °C (104—248 ° F). All segments are off when coolant temperature is below 40 °C (104 °F). All segments are lit when temperature is 120 °C (248 °F) and above.

B—Fuel Level Gauge: Displays fuel level in tank. Each lighted segment represents 4% of fuel tank total capacity. When fuel tank is full, all segments are lit. When only bottom segment is lit, tank is nearly empty with approximately 39 L (10 gal) remaining.

NOTE: Diesel Exhaust Fluid is only used on Full Tier 4 / Stage IV engine equipped tractors. DEF gauge will not display on tractors without those engines.

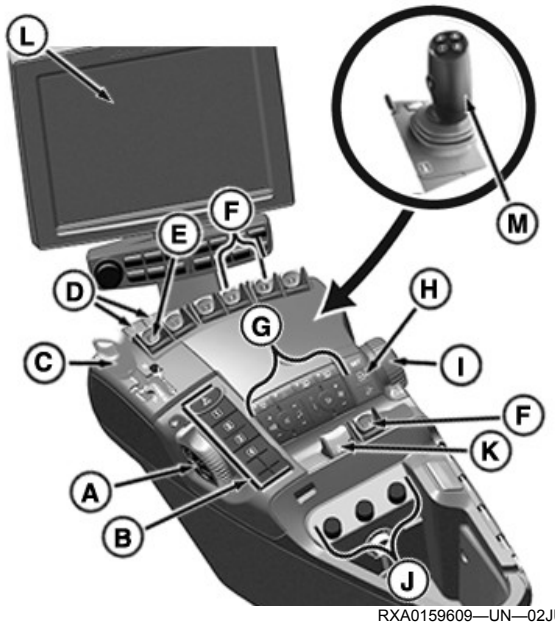
C—Diesel Exhaust Fluid (DEF) Gauge (If Equipped): Displays diesel exhaust fluid level. Each lighted segment represents 4% of DEF fluid tank total capacity. When DEF fluid tank is full, all segments are lit. When only bottom segment is lit, tank is nearly empty. DEF fluid tank should be filled whenever fuel tank is filled.

TO84419,00003CB-19-14NOV17

IVT is a trademark of Deere & Company
AutoPowr is a trademark of Deere & Company

CommandARM™ Controls

CommandARM™ with Generation 4 CommandCenter™ Display



RXA0159609—UN—02JUN17

A—Hand Throttle Control
B—iTEC™ & AutoTrac™ Resume Buttons
C—Speed Control Lever/Transmission Shift Lever
D—SCV Control Lever Lock/ISB Lock Button
E—Rear Hitch Lever
F—SCV Control Levers
G—Climate, Radio and Lighting Controls
H—Set/Lock/Resume Buttons
I—Depth Adjust Hitch Dial
J—Load Depth/Upper Limit/Drop Rate Hitch Dials
K—PTO Lever
L—Generation 4 CommandCenter™ Display
M—Joystick (If Equipped)

TO84419,00003CC-19-02JUN17

CommandARM™ Hitch Controls



RXA0157121—UN—20MAR17

A—Rear Hitch Command Lever (If Equipped)
B—Set Button
C—Rear Hitch Control Lever Lock
D—Return to Lower Set Point
E—Depth Adjust Hitch Dial
F—Drop Rate Hitch Dial
G—Upper Limit Hitch Dial
H—Load Depth Hitch Dial

See Hitch section of this Operator's Manual.

SV81855,00000F6-19-02JUN17

CommandARM™ SCV Control Levers



RXA0157122—UN—20MAR17

A—SCV 1 Control Lever
B—SCV 2 Control Lever

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AutoTrac is a trademark of Deere & Company
CommandCenter is a trademark of Deere & Company

C—SCV 3 Control Lever
D—SCV 4 Control Lever
E—SCV 5 Control Lever
F—SCV 6 Control Lever
G—SCV Control Lever Lock

IMPORTANT: SCV control lever lock (G) locks out control of SCV and front hitch control levers.

NOTE: Reconfigurable SCV controls allows operator to match device with various implement functions. This process is called Assignment. See Controls Setup in CommandCenter™ section of this Operator's Manual.



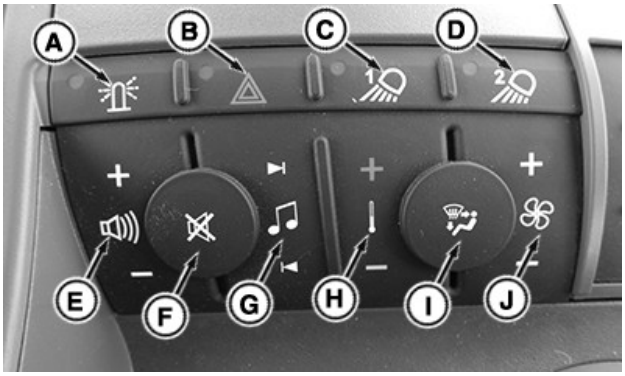
RXA0133735—UN—17JUL13

Controls Setup Icon

Controls Setup icon appears on SCV control levers that are reconfigurable. See Selective Control Valves section of this Operator's Manual for more information.

SV81855,0000039-19-02JUN17

CommandARM™ Climate, Radio and Lighting Controls



RXA0152425—UN—14JUN16

A— Rotary Beacon Lights Button
B— Hazard Lights Button
C— Field Lights 1 Button
D— Field Lights 2 Button
E— Radio Volume
F— Radio Mute Button
G— Next/Previous Station, Preset or Track
H— Temperature Control
I— Air Flow Control
J— Fan Control

TS36762,0000190-19-02JUN17

CommandARM™ PTO Control Lever

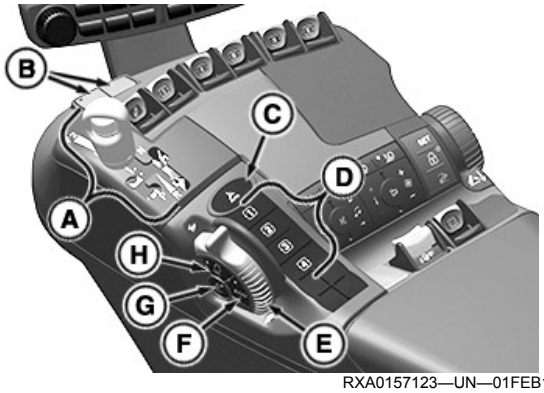


RXA0142354—UN—09JUN14

A—PTO Control Lever

RW29387,0000602-19-02JUN17

CommandARM™ Left-Hand Side Controls



RXA0157123—UN—01FEB17

A—Speed Control Lever/Transmission Shift Lever
B—SCV Control Lever Lock/ISB Lock Button
C—AutoTrac™ Resume Button
D—iTEC™ Buttons
E—Hand Throttle Control
F—ECO ON/OFF Button
G—Foot Throttle Lock/Unlock Button
H—Maximum Set Speed ON/OFF Button

RW29387,0000603-19-02JUN17

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AutoTrac is a trademark of Deere & Company
iTEC is a trademark of Deere & Company

Onscreen Help



PC15300—UN—19MAR13

Help Center Application and Information Button

Help Center is a supplement to the paper Operator's Manual. Read the Operator's Manuals prior to operation.

Navigate to Help Center

1. Select Menu.
2. Select System tab.
3. Select Help Center application.

DX,PC,INTRO,HELP-19-17DEC15

Generation 4 CommandCenter™

The John Deere Generation 4 CommandCenter™ is designed for maximum ease of use and productivity. One software system provides commonality while hardware options provide a range of price and functionality. The CommandCenter™ display is attached to the CommandARM™. There are 7 and 10 inch display options available.

NOTE: Software in Generation 4 CommandCenter™ is on processor, not display.

4100 CommandCenter™ (7 Inch)



PC17356—UN—03DEC13

4100 CommandCenter™

- Run Page Modules same as 10 inch display
- Shortcut Softkeys must be expanded to view.

4600 CommandCenter™ (10 Inch)



PC17355—UN—03DEC13

4600 CommandCenter™

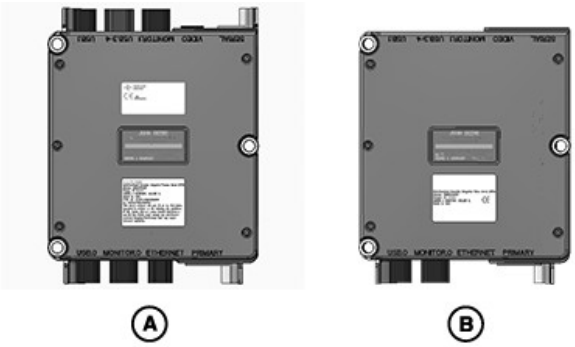
- Title Bar displays currently viewed Run Page
- Large Status Center provides more information
- Shortcut Softkeys are always visible.

DX,PC,INTRO,DISP-19-07APR17

Generation 4 CommandCenter™ Processor

Generation 4 CommandCenter™ software runs on a processor separate from the display. There are two processor options available.

NOTE: Maximum capabilities for each processor are listed. Depending on machine configuration, some functions may not be available.



PC17396—UN—15JUL14

4600 and 4100 Processors

CommandCenter is a trademark of Deere & Company
CommandARM is a trademark of Deere & Company

A—4600 Processor
B—4100 Processor

4600 Processor (A)

- 4 Video Camera Inputs
- 4 USB Inputs
- 2 Display Outputs
- Upgradable for future applications

4100 Processor (B)

- 1 Video Camera Input
- 1 USB Input
- 1 Display Output

DX,PC,INTRO,PROC-19-07APR17

Generation 4 CommandCenter™ 4600 Processor Wi-Fi® Capabilities

The CommandCenter™ 4600 processor contains a non-enabled wireless (Wi-Fi®) transmitter. Hardware is present to enable future functionality.

Federal Communications Commission Part 15.21 Statement:

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

DX,PC,INTRO,WIFI-19-10MAY16

CommandCenter is a trademark of Deere & Company

Wi-Fi is a registered trademark of Wi-Fi Alliance.

Federal Communications Commission and Industry Canada Notification

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

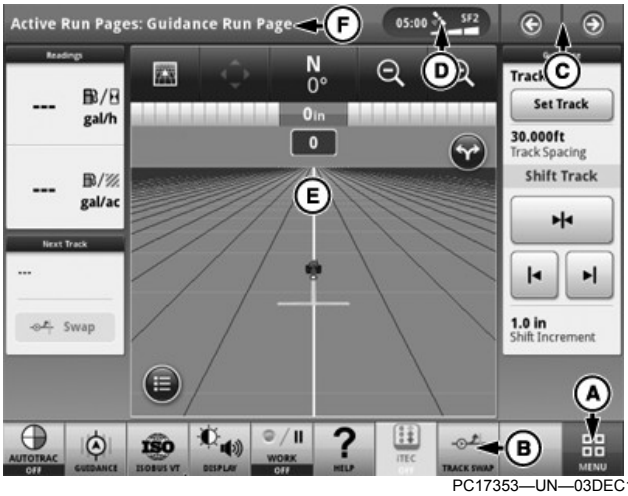
RF Exposure Guidance: This equipment complies with FCC and Industry Canada radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 2.5 cm (1 in.) between the radiator and persons. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter, except in accordance with FCC and Industry Canada multi-transmitter product procedures.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

RF Exposure orientation: Cet équipement est conforme aux normes FCC et les limites d'exposition aux rayonnements Industrie Canada énoncées pour un environnement non contrôlé. Cet équipement doit être installé et utilisé à une distance minimale de 2,5 cm (1 in.) entre le radiateur et les personnes. Cet émetteur ne doit pas être co-localisées ou opérant en conjonction avec une autre antenne ou un autre émetteur, sauf en conformité avec la FCC et Industrie Canada Procédures de produits multi-émetteurs.

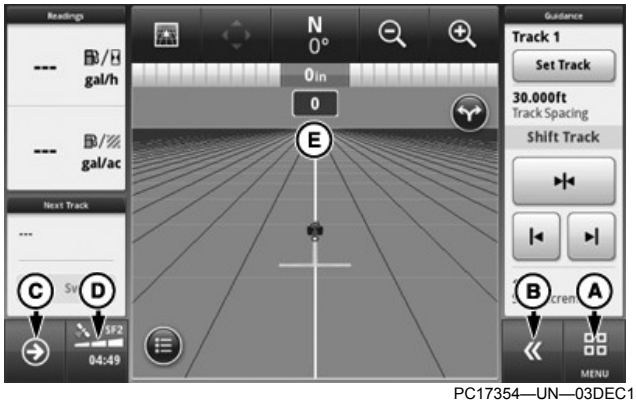
PC17329—UN—24OCT13
DX,PC,INTRO,FCC-19-17DEC15

Run Page Structure



PC17353—UN—03DEC13

10 Inch Display Run Page



PC17354—UN—03DEC13

7 Inch Display Run Page

A—Menu
B—Shortcut Softkeys
C—Next or Previous Run Page Buttons
D—Status Center
E—Run Page
F—Title Bar/Run Page Selection

Menu (A) lists all applications installed on display and machine.

Shortcut softkeys (B) provide quick access to frequently used applications and functions. On 7 in. display, select expand button to display shortcut softkeys.

Next and Previous Run Page buttons (C) cycle through multiple run pages.

Select the area indicated (D) to display **Status Center**. Important information for display functions is highlighted, such as GPS signal strength and available data storage.

Run page (E) is configured using Layout Manager application.

Only on 10 in. display, press **title bar** (F) to display **Run Page Selection** page. Choose desired run page from list of available pages.

(Refer to Layout Manager application for information about customizing the run page.)

DX,PC,INTRO,RUNPAGE-19-17DEC15

Menu



PC17269—UN—15JUL13

Menu Button

Selecting Menu button lists all applications installed on display and machine. Select left-hand tabs to view different groups of applications.

NOTE: Available applications vary depending on machine configuration.

DX,PC,INTRO,MENU-19-21DEC15

Machine Settings Overview



RXA0147924—UN—13APR15

Machine Settings tab allows selection of application main pages. Available applications vary depending on tractor configuration.



RXA0134978—UN—07AUG13

Audio

Audio

- Use Audio application to adjust audio settings.
- For more information, see Radio Operation section of this Operator's Manual.



RXA0134955—UN—07AUG13

Engine

Engine

- Use engine application to adjust exhaust filter system settings, Maximum Set Speed settings, or engine rpm.
- For more information, see Engine Operation and Transmission - General Information sections of this Operator's Manual.



RXA0134979—UN—07AUG13

HVAC (Heating Ventilation and Air Conditioning)

HVAC

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



RXA0134980—UN—07AUG13

iTEC™

iTEC™

- Use iTEC™ application to program and repeat common tasks.
- For more information, see Intelligent Total Equipment Control (iTEC™) section of this Operator's Manual.



RXA0134956—UN—07AUG13

Lights

Lights

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

iTEC is a trademark of Deere & Company



RXA0134981—UN—07AUG13

Maintenance and Calibrations

Maintenance and Calibrations

- Use Maintenance and Calibrations application to add/edit service intervals and perform ground radar and wheel slip calibrations.



RXA0134982—UN—07AUG13

Phone

Phone

- Use Phone application to make/receive calls through CommandCenter™.
- For more information, see Radio Operation section of this Operator's Manual.



RXA0134957—UN—07AUG13

PTO

PTO

- Use PTO application to adjust PTO settings.
- For more information, see PTO sections of this Operator's Manual.



RXA0134958—UN—07AUG13

Rear Hitch

Rear Hitch

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



RXA0134983—UN—07AUG13

SCV

SCV

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



RXA0152447—UN—27JUN16

Steering

Steering

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



RXA0152439—UN—20JUN16

Trailer Brake

Trailer Brake

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



RXA0134984—UN—07AUG13

Transmission

Transmission

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

KT81203,0000058-19-11AUG17

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Operating System Applications Overview



PC15302—UN—19MAR13

Operating System Applications Package

Operating System applications package is installed at the factory, and is updated with periodic software updates from John Deere. These applications are used for basic functions of display.

Calculator



PC23955—UN—24MAR17

Calculator

- Use Calculator application for quick mathematical calculations.
- It is found on Applications tab of the display menu.

Controls Setup



PC15326—UN—08JUL13

Controls Setup

- Configures an ISOBUS or machine joystick to control machine or implement functions.
- It is found on Applications tab of the display menu.

Date and Time



PC16674—UN—18MAR13

Date and Time

- Information from Date and Time application is used for several important functions on system. These include error logging, activations, and data recording.
- Date and time are set automatically if a GPS receiver is connected and receiving valid signal. In this case, only set time zone.
- It is found on System tab of the display menu.

Diagnostics Center



PC17272—UN—17JUL13

Diagnostics Center

- Diagnostics Center is the one place to find diagnostics for the entire system.
- It is found on System tab of the display menu.

Display and Sound



PC16685—UN—18MAR13

Display and Sound

- Along with display brightness and volume, Display and Sound is used to calibrate display and configure multiple displays.
- It is found on System tab of the display menu.

Equipment Manager



PC20410—UN—22MAY15

Equipment Manager

- The Machine Profile allows operator to configure GPS offsets and machine dimensions.
- The Implement Profile allows operator to configure Implement Connection Type, Working Width, Dimensions, and Recording Triggers.
- It is found on Applications tab of the display menu.

Fields and Boundaries



PC17260—UN—11JUL13

Fields and Boundaries

- Field names are used to organize information so it is easier to find and use data, such as guidance lines.
- Use Fields and Boundaries application to set up clients, farms, and fields.
- Select client, farm, and field to set current location.
- It is found on Applications tab of the display menu.

File Manager



PC16671—UN—18MAR13

File Manager

- Data and setup information can be transferred between displays or compatible desktop software.
- Perform a Factory Data Reset to clear display of user data.
- It is found on System tab of the display menu.

Help Center



PC16684—UN—18MAR13

Help Center

- Onscreen Help about each application and more is available in Help Center.
- Not all Help languages are installed at the factory. Update display software to install Help for all supported languages.
- It is found on Applications tab of the display menu.

ISOBUS Tasks



PC23093—UN—26SEP16

ISOBUS Tasks

- ISOBUS Tasks records ISOBUS totals provided by TC-BAS (task controller basic) AEF (Agricultural Industry Electronics Foundation) certified implements and John Deere pull-type sprayers. All totals provided by the ISOBUS implement, such as time, area, mass, and volume, are recorded in the task.
- It is found on Applications tab of the display menu.

ISOBUS VT



PC16682—UN—18MAR13

ISOBUS VT



PC15293—UN—18MAR13

ISOBUS VT Menu

- Monitor and control ISOBUS 11783 compatible controllers and implements.
- It is found on Applications tab of the display menu.

NOTE: Only one ISOBUS controller can be viewed at a time. If more than one controller is connected, select Menu button within ISOBUS VT to view a list of controllers to choose from.

Language and Units



PC16677—UN—18MAR13

Language and Units

- Use Language and Units application to change Language, Number Format, and Units of Measurement.
- It is found on System tab of the display menu.

Layout Manager



PC16678—UN—18MAR13

Layout Manager

- Use Layout Manager to create and modify run pages and shortcut bar so important information and functions can be accessed from the main page.
- It is found on Applications tab of the display menu.

Machine Monitor



PC15318—UN—16MAY13

Machine Monitor

- Machine Monitor displays machine-specific performance values.
- It is found on Applications tab of the display menu.

Mapping



PC20413—UN—11MAY15

Mapping

- Mapping application is used to view spatial features, such as guidance, coverage, work data, and map based prescriptions. (Prescriptions require a CommandCenter™ Premium activation.)
- It is found on Applications tab of the display menu.

Remote Display Access



PC17363—UN—16DEC13

Remote Display Access

- Remote Display Access (RDA) allows someone from a remote location to view an operating display.
- It is found on Applications tab of the display menu.

Settings Manager



PC22543—UN—22APR16

Settings Manager

- Use Settings Manager to load, edit, or save configurations of machine and implement settings.
- It is found on Applications tab of the display menu.

Sharing



PC24722—UN—18SEP17

Sharing

- Use Sharing application to view infield data sharing settings.
- It is found on Applications tab of the display menu.

Software Manager



PC15346—UN—11JUL13

Software Manager

- Use Software Manager to update software, activate features, and install onscreen help packages.
- It is found on System tab of the display menu.

StarFire™



PC17388—UN—15MAY14

StarFire

- The StarFire™ application is used to view StarFire™ Receivers. If more than one receiver is connected, select the desired receiver using the application.
- It is found on Applications tab of the display menu.

Users and Access



PC17262—UN—12JUL13

Users and Access

- Users and Access manages user profiles and locks users out of certain settings.
- It is found on System tab of the display menu.

Video



PC23956—UN—24MAR17

Video

- Use Video application to observe areas around the machine that are difficult to see from the operator's station.
- Video can be displayed when certain machine functions are performed, such as reversing.
- It is found on Applications tab of the display menu.

Wireless Settings

CommandCenter is a trademark of Deere & Company

StarFire is a trademark of Deere & Company



PC23092—UN—26SEP16

Wireless Settings

- Access wireless networks to connect to the internet, or create a wireless network to connect mobile devices to the machine.
- It is found on System tab of the display menu.

Work Monitor



PC15317—UN—16MAY13

Work Monitor

- Work Monitor displays averaged and totaled machine and operation-specific values.
- It is found on Applications tab of the display menu.

Work Setup



PC20415—UN—11MAY15

Work Setup

- Use Work Setup to set up operations when changing implements, fields, or applying a different product.
- It is found on Applications tab of the display menu.

DX,PC,INTRO,OSAPPS-19-25OCT17

AMS Applications Overview



PC15301—UN—19MAR13

AMS Applications Package

AMS Applications package is installed at factory, but requires an activation to enable functionality. These applications are installed and updated in packages separate from the Generation 4 Operating System.

AutoTrac™ Guidance



PC16676—UN—18MAR13

AutoTrac™ Guidance

- The AutoTrac™ Guidance application is used for steering machines through the field along guidance tracks. Steering can be done manually or automatically using AutoTrac™.
- It is found on Applications tab of the display menu.

AutoTrac™ Turn Automation



PC24721—UN—14SEP17

AutoTrac™ Turn Automation

- AutoTrac™ Turn Automation is a system which coordinates machine and implement functions during end turns.
- It is found on Applications tab of the display menu.

Overlap Control



PC20399—UN—16FEB15

Overlap Control

- Overlap Control automatically adjusts the header width setting as the combine moves over areas that have already been harvested.
- Overlap Control is only available on combines.
- It is found on Applications tab of the display menu.

Section Control



PC20399—UN—16FEB15

Section Control

- Section Control turns work point sections on and off automatically to reduce overlap and improve input management.

AutoTrac is a trademark of Deere & Company

- Section Control is only available with compatible machines and implements.
- Section Control application requires a 4600 processor with a CommandCenter™ Premium activation.
- It is found on Applications tab of the display menu.

Work Totals



PC21878—UN—24NOV15

Work Totals

- Work Totals records work data, including acres worked, average product rate, and total product applied.
- Work Totals application requires a 4600 processor with a CommandCenter™ Premium activation.
- It is found on Applications tab of the display menu.

DX,PC,INTRO,AMSAPPS-19-25OCT17

CommandCenter™ Activations

A CommandCenter™ Premium activation or a CommandCenter™ Automation activation is required to operate certain features, such as documenting work data and utilizing Section Control. It is also required to enable certain functions within applications, such as exporting work data in the File Manager application.

CommandCenter™ Premium and CommandCenter™ Automation activations are not listed in the Software Manager application. The individual activations that are included within the CommandCenter™ Premium and CommandCenter™ Automation activations can be found by selecting Menu button > System tab > Software Manager application > Activations tab.

Contact your John Deere dealer to purchase a CommandCenter™ Premium or a CommandCenter™ Automation activation.

DX,PC,INTRO,CCPREMIUM-19-25OCT17

Demo Activations

In Software Manager application, demo activations are available to try out features on the display. A blue light next to a feature indicates that demo is turned on.

Demo is available from the factory for 15 hr. of use. For example, AutoTrac™ demo only counts down when it is activated.

DX,PC,INTRO,DEMO-19-21DEC15

Automation Status Overview



RXA0135012—UN—12AUG13

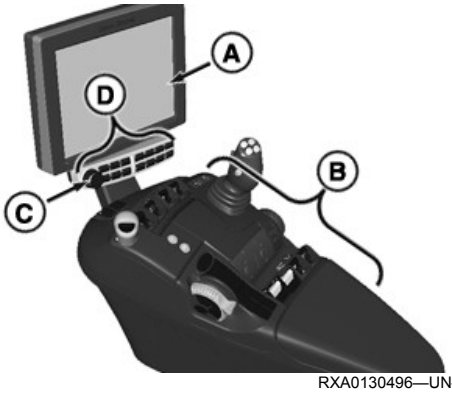
- Use Automation Status application to see which tractor functions are being controlled and their current status.
- It can be found on Applications tab of the display menu.

KT81203,00004A0-19-28NOV16

Navigate Generation 4 CommandCenter™

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

Navigating CommandCenter™ Pages



RXA0130496—UN—09APR13

CommandCenter™ and CommandARM™

Use Touch Screen CommandCenter™ buttons or icons to make selection. For input boxes use either key pad, or select input box and scroll adjustment dial (C) to desired value. Yellow highlight box appears around selected input box and indicates adjustment dial is active.

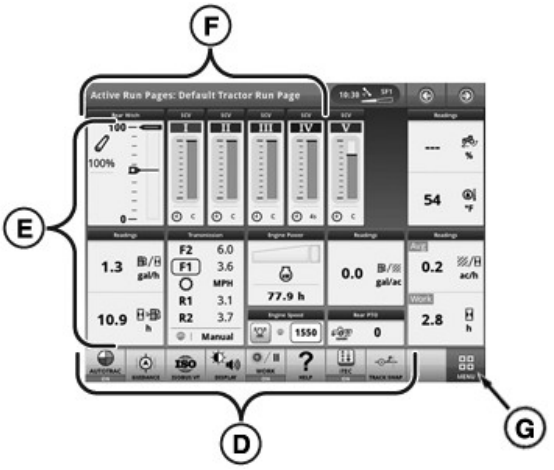
A—CommandCenter™: attached to CommandARM™ (B), allows operator to view selected pages required to operate tractor. Display is Touch Screen, allowing operator to touch options on screen to move through pages and access tractor functions.

CommandCenter is a trademark of Deere & Company

AutoTrac is a trademark of Deere & Company
CommandARM is a trademark of Deere & Company

B—CommandARM™: made up of buttons, joystick (if equipped), switches, and shortcuts allowing operator to manage tractor or implement functions.

C—Adjustment Dial/Close Window Button: allows operator to change values in input boxes. Rotating adjustment dial clockwise raises input box values. Rotating adjustment dial counterclockwise lowers input box values. Push button one time to close window. Push and hold to close all open windows.



RXA0137128—UN—19NOV13

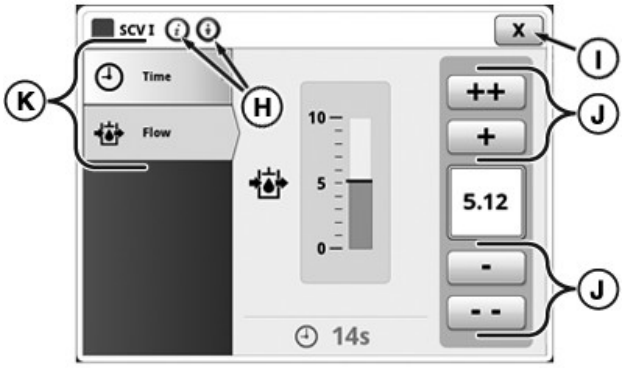
Run Page

D—Shortcut Keys/Buttons: allow operator to access specific functions without going through CommandCenter™ menu.

E—Run Page Modules: allow quick access to functions.

F—Title Bar: select on any run page for drop-down bar to change run page.

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



RXA0137084—UN—13DEC13

Module Functions

H—Help/Advanced Settings Buttons: press title bar, while in application, to view help or change settings for current page when available.

I—Close Button: press to close current page.

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

K—Tabs: allow operator to change to different section topic.

KT81203,00004A1-19-03AUG17

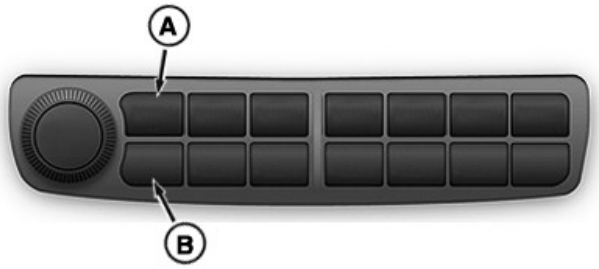
Power Display On and Off

Generation 4 CommandCenter™ display turns on and off with tractor key switch.

- **Warm boot** occurs when CommandCenter™ display has been run within last 24 hours. Display rests in hibernation state for that time. Display powers up quickly (approximately 10 seconds).
- **Cold boot** occurs if display is not operated for 24 hours or more, or if unswitched power has been disconnected. During this period, display shuts down completely to conserve battery power. Next power-up will take approximately 60 seconds.

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

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



RXA0148512—UN—25JUN15

Navigation Bar

Perform hard rest by pressing left-most upper and lower buttons (A and B), of navigation bar, simultaneously for 5 seconds. If display does not reset, pull fuse 9 located in load center fuse panel and replace after 5 seconds. For more information on load center fuse panel, see Service - Electrical section of this Operator's Manual. If problem persists, see your John Deere dealer.

KT81203,00004A2-19-31JUL17

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Navigate Run Pages on Main Page

If more than one run page is in Active Set, there are multiple ways to choose which run page is displayed on main page.

Title Bar



PC17357—UN—03DEC13

A—Title Bar

Select title bar (A) at top of main page to display a list of all run pages that are in Active Set. Choose a run page to return to main page.

Next and Previous Run Page Buttons



PC17358—UN—03DEC13

B—Next and Previous Run Page Buttons
C—Finger Swipe

Select either right or left arrows (B) to cycle through run pages.

Finger Swipe

Swipe finger (C) across display, left and right, to cycle through run pages.

Navigation Bar Shortcut Button



PC17359—UN—03DEC13

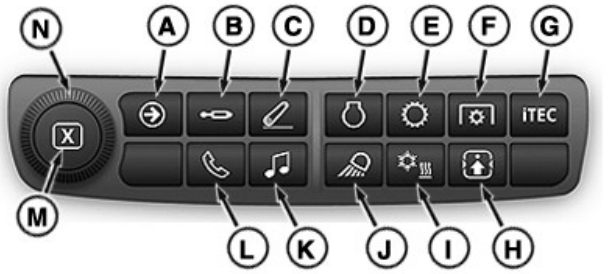
D—Navigation Bar Shortcut Button

Select right arrow (D) below display in CommandCenter™ Navigation Bar.

DX,PC,LAYOUT,NAV-19-07APR17

Shortcut Buttons

Generation 4 CommandCenter™ navigation bar shortcut buttons allow direct access to specific applications.



RXA0132501—UN—15MAY13

A—Next Run Page
B—SCV
C—Rear Hitch
D—Engine
E—Transmission
F—PTO
G—iTEC™
H—Controls Setup
I—HVAC
J—Lights
K—Audio
L—Phone
M—Close Button
N—Adjustment Dial

NOTE: If CommandCenter™ becomes unresponsive, reset by holding down Next Run Page button (A) and button below (no icon) for five seconds. If problem continues after reset, see your John Deere dealer.

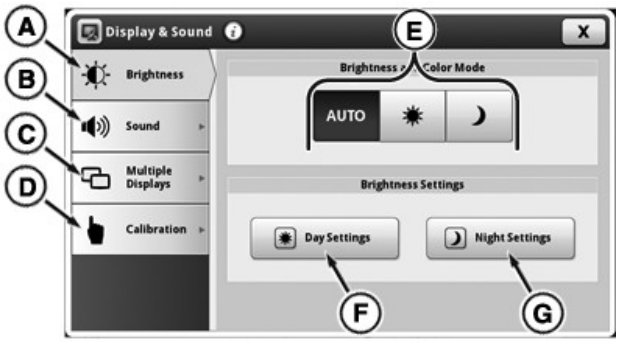
KT81203,00004A3-19-11OCT17

Navigate to Display & Sound



RXA0135345—UN—30AUG13

1. Select **Menu.**
2. Select **System tab.**
3. Select **Display & Sound icon.**



RXA0137085—UN—19NOV13

CommandCenter is a trademark of Deere & Company

A—Brightness Tab
B—Sound Tab
C—Multiple Displays Tab
D—Display Calibration Tab
E—Auto/Day/Night Mode Toggle Bar
F—Day Settings
G—Night Settings

KT81203,00004A4-19-03AUG17

Display and Sound



PC16685—UN—18MAR13

Display and Sound

Display and Sound application adjusts display brightness and volume level.

If multiple displays are connected, use this application to configure which functions appear on each display.

If screen touches do not register in correct location, use Touchscreen Calibration to realign screen.

Navigate to Display and Sound

1. Select Menu.
2. Select System tab.
3. Select Display and Sound application.

DX,PC,DISP-19-21DEC15

Brightness

Brightness and Color Mode

- ***Auto Mode***

Auto Mode is recommended setting. This synchronizes display brightness with cab light switch. If cab lights are off, display is in Day Mode. If cab lights are on, display is in Night Mode.

- ***Day and Night Modes***



PC15319—UN—20MAY13

A—Day Mode
B—Night Mode

Select either mode to prevent display brightness from synchronizing with cab light switch.

NOTE: The mode selected does not adjust brightness of a second display. Adjust brightness of that display through its settings.

Brightness Settings



PC15320—UN—20MAY13

A—Day Settings
B—Night Settings

Select either settings button to display a popup page for corresponding brightness mode.



PC15321—UN—20MAY13

C—Display Brightness
D—Cab Brightness

Depending on mode selected with settings button, adjust display and cab brightness by using plus (+) and minus (-) buttons.

DX,PC,DISP,BRIGHT-19-07APR17

Sound



PC15322—UN—20MAY13

Display Volume

Change display volume by selecting increase (+) or decrease (-) buttons.

DX,PC,DISP,SOUND-19-21DEC15

Multiple Displays



PC15323—UN—20MAY13

Multiple Displays

Generation 4 CommandCenter™ may be configured to run with the following John Deere displays connected at corner post.

CommandCenter is a trademark of Deere & Company

- GreenStar™ 2 1800 Display
- GreenStar™ 3 2630 Display

Some applications, such as AutoTrac™, cannot run on both displays at the same time.

Activations do not transfer between displays. Second display must have its own activations to run AMS applications.



PC20416—UN—12MAY15

GS3 2630 Display

Installing a GS2, GS3, or Generation 4 Display

1. Ensure that key switch and CommandCenter™ are off.
2. Attach display harness to corner post connector and 26-pin display connector to back of display.
3. Turn on the key switch.
4. CommandCenter™ display searches for second display on implement CAN bus for approximately 60 seconds. If CommandCenter™ was previously in Single Display Mode, it displays a message stating, “Multiple Displays Detected.”
5. Select a configuration preset:

   Single Display

   - Do NOT use this option in this scenario. This mode is only used if second display is not installed.

   Multiple Display – Machine Only

   - Precision Ag Applications and ISOBUS implements only appear on second display, not CommandCenter™. Use this option when connected to an ISOBUS implement with Auxiliary Reconfigurable Control.

   Multiple – Implement Viewer

   - Precision Ag Applications appear on second display.
   - ISOBUS implements appear on CommandCenter™ or second display depending on the “Next VT display” setting of implement.

   NOTE: If ISOBUS implement does not have “Next VT display” function, implement appears on display that starts up first.

   Multiple Display – Precision Ag Applications

   - Precision Ag Applications and SeedStar™ 4 HP Planter Applications appear on CommandCenter™.
   - ISOBUS implements appear on second display or CommandCenter™ depending on the "Next VT display" setting of implement.

   NOTE: If ISOBUS implement does not have “Next VT display” function, implement appears on display that starts up first.

   Advanced Setup

   - Manually set configurations.

6. Cycle key switch off and on to save settings.

   When display settings are changed, corresponding changes must be made to the other display.

   If either of these modes is selected:

   Single Display

   - Either disable GreenStar™, task controller, and implement bus virtual terminal (VT) on other display, or disconnect other display.

   Multiple Display – Precision Ag Applications

   - Disable GreenStar™ and task controller on other display.

   To access multiple display settings on other GreenStar™ displays:

   - 4640 Universal Display: Select Menu button > System tab > Display and Sound application > Multiple Display tab.
   - GreenStar™ 3 2630: Select Menu button > Display button > Diagnostics softkey > Multiple Displays tab > Change Settings button.
   - GreenStar™ 2 1800: Select Menu button > Display button > Settings softkey > Multiple Displays softkey.

Removing a GS2, GS3, or Generation 4 Display

1. Ensure that key switch and CommandCenter™ are off.

GreenStar is a trademark of Deere & Company
AutoTrac is a trademark of Deere & Company

SeedStar is a trademark of Deere & Company

2. Detach display harness from the 26-pin display connector at back of display.
3. Turn on the key switch.
4. CommandCenter™ display searches for second display on Implement CAN bus for approximately 2—3 minutes. If CommandCenter™ was previously in one of the Multiple Display Modes, it displays a message stating “Second Display Not Found.”
5. Cycle key switch off and on to save settings.

Removing a Third-Party Display

1. Ensure that key switch and CommandCenter™ are off.
2. Detach display harness from third-party display.
3. Turn on the key switch.
4. CommandCenter™ display searches for second display on Implement CAN bus for approximately 2—3 minutes. If CommandCenter™ was previously in one of the Multiple Display Modes, it displays a message stating, “Second Display Not Found.” If the “Second Display Not Found” message does not appear after 3 minutes, skip to step 5.
5. Ensure CommandCenter™ is in Single Display Mode and third-party display is unplugged.
6. Cycle key switch off and on to save settings.

Operating AutoTrac™ on CommandCenter™

NOTE: Generation 4 OS software updates 2015-1 (8.12.2500-17) and newer disable Precision Ag Applications when a secondary GreenStar™ display is detected. Disconnect GreenStar™ display inside cab to operate Precision Ag functions on Generation 4 CommandCenter™ with these software versions.

After installing a GS3 2630 Display, AutoTrac™ defaults to that display. Follow these instructions to run AutoTrac™ on CommandCenter™.

NOTE: After procedure, GS3 2630 Display will not run any GreenStar™ applications, including Section Control.

1. Ensure CommandCenter™ is in Single Display Mode and GS3 2630 Display is unplugged. Turn key switch off.
2. Plug in GS3 2630 Display and turn on the key switch.
3. When CommandCenter™ boots up, select Multiple – Compatibility Mode. Reboot display.
4. On GS3 2630 Display, select Menu button > Display button > Diagnostics softkey > Multiple Displays tab. Turn off GreenStar™ application. Depending on configuration, display may reboot.
5. On CommandCenter™, select Display and Sound application > Multiple Displays tab. Turn on Precision Ag Applications. Reboot display.

DX,PC,DISP,MULTI-19-25OCT17

Display Calibration

Touch Screen Calibration may be required if screen does not register a touch in a desired location. Touch screen is factory calibrated and should not need to be calibrated under normal service. If calibration does not resolve issue, contact a John Deere dealer.

1. Select Begin Calibration.
2. A large "X" and instructions are provided to lead operators through calibration process.
3. Each time “X” is pressed, instructions change and “X” moves to another area of screen.

NOTE: If touch screen malfunctions, a USB mouse may be used. Connect mouse to display’s USB port.

DX,PC,DISP,CAL-19-21DEC15

Navigate to Date & Time



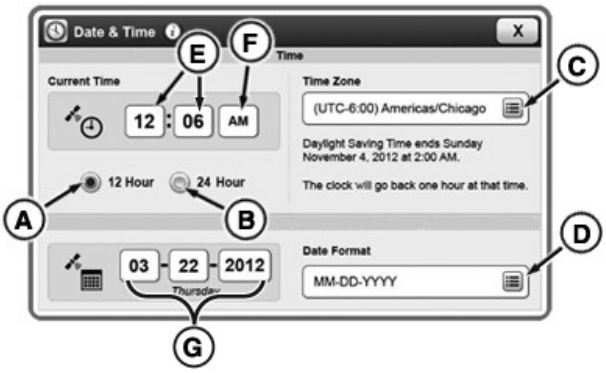
RXA0126215—UN—11JUN12

1. Select **Menu.**
2. Select **System tab.**
3. Select **Date & Time Icon.**



RXA0131038—UN—25FEB13

Date & Time Page with GPS Sync Enabled



RXA0131113—UN—01MAR13

Date & Time Page with GPS Sync Disabled

A—12 Hour Time Format Radio Button
B—24 Hour Time Format Radio Button
C—Time Zone Input Field
D—Date Format Input Field
E—Time Input Boxes
F—AM/PM Input Box
G—Date Input Boxes

KT81203,00004A5-19-03AUG17

Date and Time



PC15314—UN—15MAY13

Date and Time

Information from Date and Time application is used for several important functions on system. These include error logging, activations, and data recording.

Date and time are set automatically if a GPS receiver is connected and receiving valid signal. In this case, only set time zone.

Current date and time can be found at any time by selecting Status Center at top of main run page.

NOTE: Date and Time setting affects how Guidance and Documentation data are filtered on display and desktop software.

Navigate to Date and Time

1. Select Menu.
2. Select System tab.
3. Select Date and Time application.

DX,PC,DATE-19-21DEC15

Change Current Date



PC15315—UN—15MAY13

A—Date Set by User
B—Date Determined by GPS

Date can only be changed if GPS is not connected or GPS signal is not available. Otherwise, GPS signal determines date.

Date Format does not depend on GPS signal, and can be changed at any time.

1. Select day, month, or year.
2. Use keypad to enter correct value.
3. Select Done to apply changes or Cancel to return to previous page without applying changes.

Date Format

1. Select Date Format box.
2. Select desired date format from list.
3. Select Done to apply changes or Cancel to return to the previous page without applying changes.

DX,PC,DATE,DATE-19-21DEC15

Change Current Time



PC15316—UN—15MAY13

A—Time Set by User
B—Time Determined by GPS

Current Time can only be changed if GPS is not connected or GPS signal is not available. Otherwise, GPS signal determines time.

Time Zone and Time Format do not depend on GPS signal, and can be changed at any time.

1. Select hour or minute.
2. Use keypad to enter correct value.
3. Select Done to apply changes or Cancel to return to previous page without applying changes.

Time Zone

1. Select a continent or ocean and select Next.
2. Select a country and select Next.
3. Select a time zone and select Next.
4. Confirm selected time zone and select OK.

Time Format

Use radio button to select 12 Hour or 24 Hour time format.

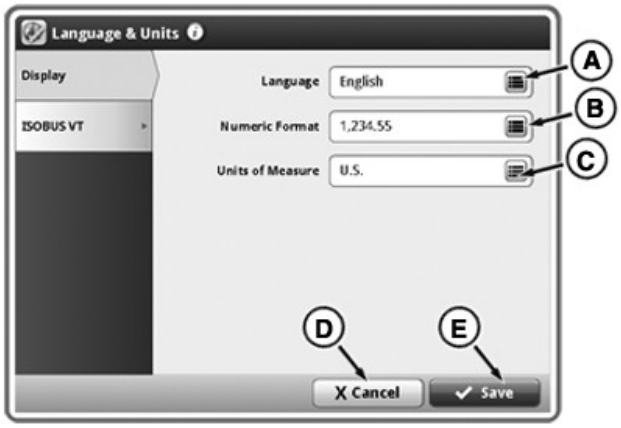
DX,PC,DATE,TIME-19-21DEC15

Navigate to Language & Units



RXA0126213—UN—17MAY12

1. Select **Menu.**
2. Select **System tab.**
3. Select **Language & Units icon.**



RXA0132009—UN—23APR13

A—Language button
B—Numeric Format button
C—Units of Measurement button
D—Cancel button
E—Save button

KT81203,00004A6-19-03AUG17

Language and Units



PC16677—UN—18MAR13

Language and Units

Language and Units is used to change Language, Number Format, and Units of Measurement.

Different settings can be created for both the display and for controllers that are displayed in ISOBUS VT. Select either tab to change settings.

Navigate to Language and Units

1. Select Menu.
2. Select System tab.
3. Select Language and Units application.

DX,PC,LANG-19-21DEC15

Language and Units Settings

Display

Select Language, Number Format, and Units of Measurement from list boxes.

ISOBUS VT

It is possible for controllers that display in ISOBUS VT to have different units of measure than rest of display. Remove check from *Use Same Units of Measure as Display* to enable list boxes for:

- Number Format
- Distance
- Area
- Volume
- Mass
- Temperature
- Pressure
- Force

Saving Settings

After new settings are selected, select Save button. Display must reboot to apply changes.

DX,PC,LANG,SETTINGS-19-21DEC15

Change Pages and Values

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



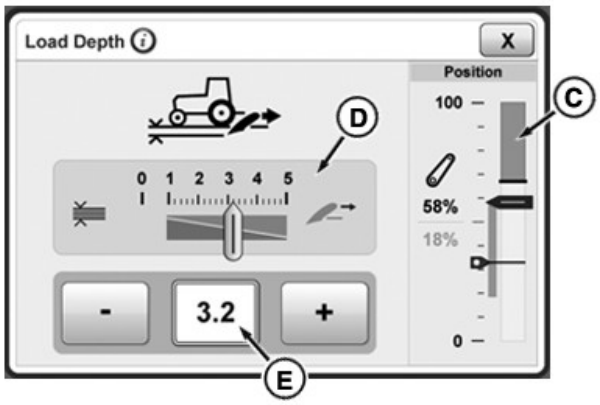
RXA0133414—UN—27JUN13

Input Fields

- **A—Section Tab:** To change to different section topic, click desired section tab.

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- **B—Icons:** Select to open application.



RXA0130123—UN—23APR13

Menu

- **C—Bar Graph:** To change value, use increase (+) or decrease (-) buttons.
- **D—Slider Bar:** To change value, select slider bar module and use increase (+) or decrease (-) button.
- **E—Input Box:** Use increase (+) or decrease (-) buttons to adjust value. To enter new values or text, select desired input box.

NOTE: When changing values using adjustment dial, increasing speed of adjustment dial rotation increases speed of value changes.

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

KT81203,00004A7-19-03AUG17

Status Center



PC17275—UN—13AUG13

A—10 inch Display Status Center
B—7 inch Display Status Center

Status Center highlights important information for display functions, such as GPS signal strength and notifications. It is located in title bar on 10 inch displays, and in lower left corner on 7 inch displays.

Select Status Center to display additional information in a drop down window. The expanded Status Center provides quick access to notifications and settings.

NOTE: Date and Time and Data Storage are always displayed in Status Center.

Additional information is displayed depending on machine configuration and notifications.

DX,PC,INTRO,STATUS-19-21DEC15

Shortcut Softkeys



PC17276—UN—13AUG13

A—Shortcut Softkeys

Shortcut softkeys (A) display status information and provide quick access to application functions.



PC17277—UN—13AUG13

B—7 Inch Display Expand Button

Softkeys are always visible along the bottom of 10 inch display. On 7 inch display, select expand button (B) to display softkeys.

(Refer to Layout Manager application for information about customizing the shortcut bar.)

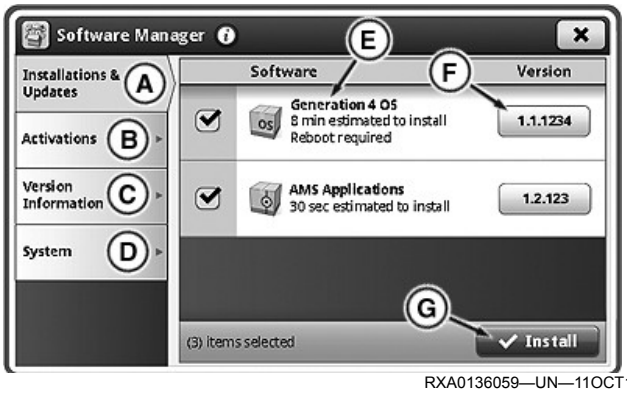
DX,PC,INTRO,SHORTCUTBAR-19-07APR17

Navigate to Software Manager



RXA0136061—UN—11OCT13

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



RXA0136059—UN—11OCT13

A—Installations & Updates Tab
B—Activations Tab
C—Version Information Tab
D—System Information Tab
E—Software Type

F—Software Version
G—Install Button

KT81203,00004A8-19-03AUG17

Software Manager



PC15346—UN—11JUL13

Software Manager

Use Software Manager to update software, activate features, and find software version details.

Navigate to Software Manager

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

Software Packages

Generation 4 display software and help files are organized into packages. Each package is listed individually on Installations and Updates tab and Version Information tab.

Generation 4 Operating System



PC23900—UN—17MAR17

- Contains display operating system and basic applications.

Generation 4 Operating System Help



PC23901—UN—17MAR17

- Contains help files for display applications.

AMS Applications



PC23902—UN—17MAR17

- Contains display software.

Machine Applications



PC23903—UN—17MAR17

- Contains Machine software. A John Deere dealer with Service ADVISOR™ is required to install package.

Machine Applications Help



PC23904—UN—17MAR17

- Contains help files for machine applications. Package may be installed without Service ADVISOR™.

NOTE: Onscreen Help packages include each language that the display supports.

DX,PC,SOFT-19-07APR17

Factory and Service ADVISOR™ Installed Onscreen Help

Tractor Application Help Package is installed at factory and with Service ADVISOR™ or Service ADVISOR™ Remote for eight languages listed below:

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

Generation 4 Operating System Help Package is installed for all languages at factory.

For instructions on how to install and update onscreen help packages, see Update Display Software in this Operator's Manual section.

KT81203,00004A9-19-08NOV17

Update Display Software

Determine Software Versions on Display

Version numbers for all installed software packages are available in Version Information tab in Software Manager.

Download Software Updates

Service ADVISOR is a trademark of Deere & Company



PC15348—UN—11JUL13

USB Drive

Software updates are available for download from:

https://my.deere.com/software-downloads/software-manager/

The following items are available:

- Software release notes
- Software Manager utility used to download software to USB drive
- Instructions for using Software Manager utility

Once USB drive has latest software, take it to machine to install update.

Install Software Updates

USB Drive

1. Insert USB drive into upper USB port next to accessory outlet.



PC23932—UN—21MAR17

A—Install Software Button

2. When "USB Drive Options" page is displayed, select Install Software button (A). This displays the Installations & Updates tab of Software Manager.
3. Only software packages that are newer than what is currently installed are displayed. All display software packages are selected by default.
4. Select Install button. If an update does not start, follow the onscreen messages to resolve conflicts.

CAUTION: During software installation:

All applications will be shut down.

No system messages will be displayed.

To prevent injury, ensure that the machine is in Park and maintain electrical power throughout the installation process.

Do not remove USB drive.



PC23933—UN—21MAR17

A—Progress Indicator
B—Install Successful

5. A progress indicator (A) displays percentage of each package that has been installed. A green check mark (B) is displayed when package installs successfully.
6. Message displays when software update is finished. Some software packages require a reboot to finish installation. Select Reboot button to restart display.
7. Remove USB drive and take back to computer. Run Software Manager Utility to upload return files.

NOTE: Return files contain software version information and are used to assist dealers with supporting display and machine.

Online Updates

1. On Installation and Updates tab, select Check for Updates Online. The display searches for available updates.
2. Only software packages that are newer than what is currently installed are displayed. All packages are selected by default.
3. Select Download button. If an update does not start, follow the onscreen messages to resolve conflicts.
4. A progress indicator (A) displays percentage of each package that is being downloaded. A green check mark (B) is displayed when package downloads successfully.
5. Select Install button to begin installation of downloaded software packages.

CAUTION: During software installation:

All applications will be shut down.

No system messages will be displayed.

To prevent injury, ensure the machine is in Park and maintain electrical power throughout the installation process.

6. Message displays when software update is finished. Some software packages require a reboot to finish installation. Select Reboot button to restart display.

Troubleshooting

When a software package fails to install, system rolls back all software to version before update started.

Record error message if software update fails. Remove files from USB drive, and reload software update to USB drive. Repeat software installation process.

If software update continues to fail, contact a John Deere dealer.

DX,PC,SOFT,UPDATE-19-25OCT17

Activations

Use this tab to manage activations on the display.



PC23905—UN—17MAR17

Details Button

StellarSupport.com requires the display serial number, challenge code, and may require a confirmation code in order to generate a code. Select Details button to find this information.

A single code may include multiple features, but it can perform only one type of action (activation or deactivation). For example, one code may activate three features, while a separate code would be needed to deactivate two features.

Enter Activation or Deactivation Code



PC23906—UN—17MAR17

Enter Code Button

1. Select Enter Code button.
2. Using keyboard, enter activation or deactivation code. Select OK button.
3. Record confirmation code, and enter code at StellarSupport.com.

Online Activations



PC24896—UN—23OCT17

Use Online Activations to view or check for available activations using a wireless connection. Activations and subscriptions are generated by StellarSupport.com. The display checks for activations automatically when powered on.

DX,PC,SOFT,ACTIVATE-19-25OCT17

Service ADVISOR™ Remote



PC16682—UN—18MAR13

ISOBUS VT

Service ADVISOR™ Remote is available in the ISOBUS VT application.



PC15293—UN—18MAR13

ISOBUS VT Menu

1. Select Menu button within ISOBUS VT.



PC17281—UN—10SEP13

Remote Software Updates

2. Select Remote Software Updates.

Theory of Operation

Service ADVISOR™ is a diagnostic tool used by John Deere dealers to perform diagnostics as well as updates to machine settings and software. Dealers can access diagnostic trouble codes and diagnostic addresses, create readings and recordings, and program controllers. This technology consists of both software and hardware. Technicians attend a minimum of 8 hours of training to become certified in utilizing this tool.

Service ADVISOR™ Remote (SAR) is a function of Service ADVISOR™ that allows the dealer technician to connect to a SAR enabled machine via the JDLink™ network to remotely access diagnostic trouble code information and record diagnostic data, as well as to remotely program controllers on SAR-enabled machines.

Similar to software (payload) updates in the computer industry, SAR enables John Deere to remotely deliver updated software via the JDLink™ hardware onboard. Remote programming gives John Deere the ability to update software to enhance the performance of the machine. This capability can be used to reprogram most machine controllers. The user actively participates with the dealer in this process by both downloading the software update and installing the software update.

Service ADVISOR is a trademark of Deere & Company
JDLink is a trademark of Deere & Company

NOTE: Some vehicle controllers may not be compatible for SAR reprogramming.

Vehicle Compatibility

NOTE: If equipped, Users and Access application provides capability to unlock, partially lock, or lock operator access to specific components. This includes the ability to download and install software updates. Please refer to Users and Access for more details.

For a current list of approved vehicles, please contact a John Deere dealer or visit StellarSupport.com.

DX,PC,SAR-19-07APR17

Vehicle Reprogramming



PC20419—UN—13NOV15

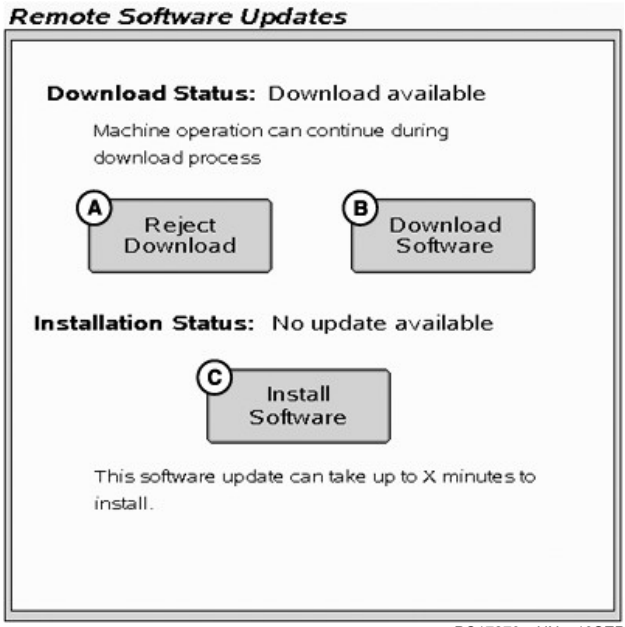
Software Update Available

A—Accept Button
B—Cancel Button

With Service Advisor Remote (SAR), dealers can send new software to a machine to update control units. Once the dealer sends the software, a message appears on the display stating that there is new software available. Press Accept button (A) to display software updates page.

If the Cancel button (B) is selected, access the page by selecting Remote Software Updates from ISOBUS VT menu.

Download Updates



PC17279—UN—10SEP13

Remote Software Updates

A—Reject Download Button
B—Download Software Button
C—Install Software Button

On the Remote Software Updates page, the operator can either reject (A) or download (B) the new software. Press the Download Software button to start the download process. This process continues in the background and normal machine operation can continue.

Install Updates



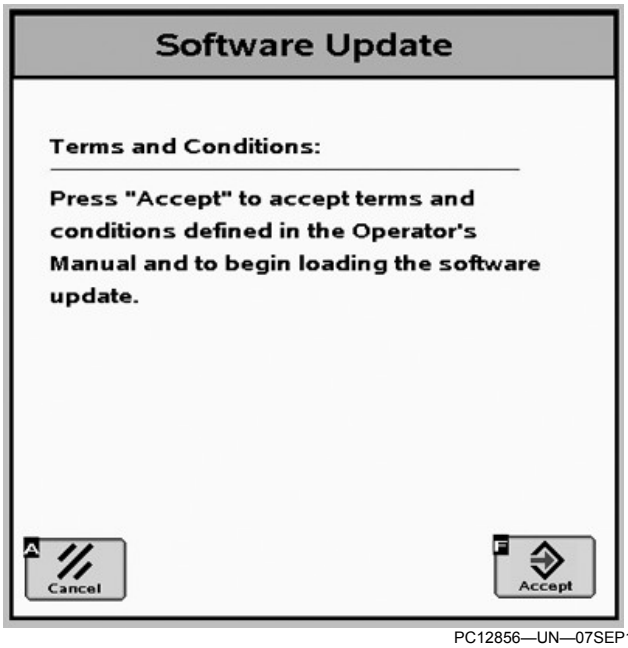
PC20420—UN—13NOV15

Update Ready for Install

A—Accept Button
B—Cancel Button

Once the software has been downloaded and it is ready for installation, a message appears on the display. Press the Accept button (A) to go to the Remote Software Updates page.

Software installation can take up to 40 minutes. Press the Cancel button (B) to update the software at a later time.



PC12856—UN—07SEP10

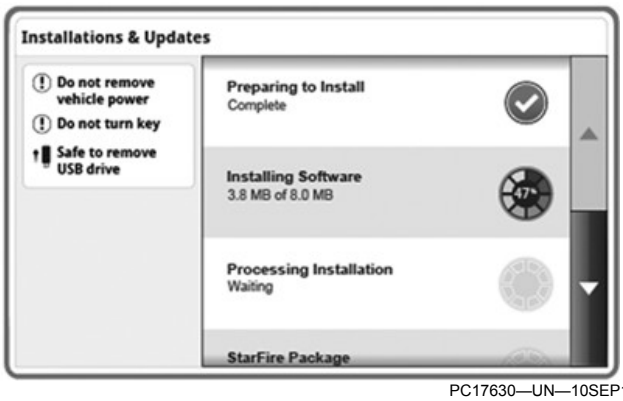


PC12672—UN—28JUN10

On the Remote Software Updates page, press the Install Software button to begin the installation process.

Once prompted, accept the terms and conditions and then follow the on-screen instructions.

CAUTION: Some vehicle functions, including lights, may become inoperable during reprogramming. To avoid injury, ensure that the vehicle is in a safe location and configuration before reprogramming. Do not reprogram near public roadways or in active work sites.



PC17630—UN—10SEP13

If a Generation 4 Display update is included with the software download, the display is updated first. When complete, a message appears stating "Software successfully installed" and the display reboots.

Once display is updated, control unit update begins.



PC12857—UN—07SEP10



PC13582—UN—09MAY11

If there is a problem during the install process, the system tries a second install. If the second attempt fails, contact your John Deere dealer.

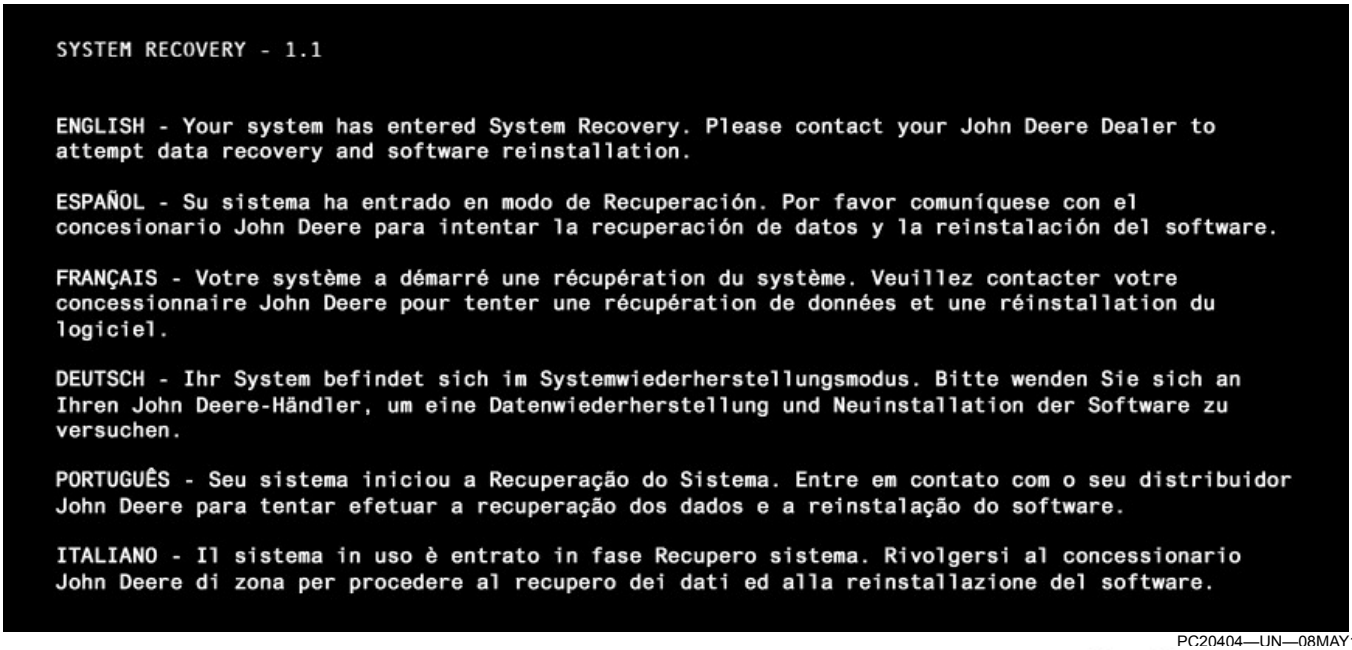
DX,PC,SAR,VEHICLE-19-23OCT17

Troubleshooting — Reprogramming

Symptom	Problem	Solution
Accessory Power Lost	Engine started or key turned off.	Do not start engine or remove power while software updates are being installed. Turn key off and return to ON position.
Voltage Low	The system voltage is too low to proceed with the software installation.	Turn off or remove accessories that are unnecessary. Check battery voltage and recharge battery if necessary.
Communication Fault	The software installation cannot be completed because of a communications fault.	Turn key off and then back to on. Then retry software installation. Contact a John Deere dealer if communication cannot be established.
Remote Software Updates button is not on display. *NOTE: Remote Software Updates should be available at all times, whether there is a payload or not.*	Cannot access Remote Software Updates page on the display.	Check harness and connections to MTG.

DX,PC,SAR,TROUBLE-19-21DEC15

System Recovery



PC20404—UN—08MAY15

Your system has entered System Recovery. Please contact your John Deere Dealer to attempt data recovery and software reinstallation.

Follow instructions if system recovery message is displayed.

System Recovery tries to protect and potentially save user data. System Recovery initiates when the system detects a conflict that might corrupt the intended functions. For more information about System Recovery, contact your John Deere dealer.

DX,PC,SYS,RECOVERY-19-21OCT16

Remote Display Access



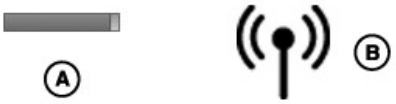
PC17363—UN—16DEC13

Remote Display Access

Use Remote Display Access (RDA) to allow someone from a remote location to view an operating display.

Navigate to Remote Display Access

1. Select Menu.
2. Select Applications tab.
3. Select Remote Access application.



PC17391—UN—16MAY14

A—Signal Strength Bar
B—MTG Connection Icon

Using Remote Display Access

From a computer or mobile device, log in to JDLink.com or MyJohnDeere.com and select the desired machine. Initiate a Remote Display Access session to send an RDA request to the operator in the cab. The request message must be accepted to start the session.

NOTE: When a Remote Display Access session is in progress, there is a blue outline around the display screen to indicate the session is active.

Once connected, the display view is sent through an Ethernet cable to the machine MTG. Using a cellular connection, information from the MTG is sent to the John Deere communications network allowing the display screen to be viewed on JDLink.com or MyJohnDeere.com.

From a remote location, the operator in the cab can be assisted with display setup, optimization, and troubleshooting.

NOTE: Images from Video application are not viewable through Remote Display Access.

Select End Session button on display to stop sharing screen with a remote user.

Troubleshooting

1. Ensure MTG has adequate cellular signal strength. Refer to Signal Strength bar (A).
2. Ensure Ethernet cable is installed correctly to display, MTG, and Ethernet switch (if installed).
3. Ensure software versions of MTG and display are compatible and up to date. Refer to MTG Connection icon (B).

See Network tab in Diagnostics Center for MTG diagnostic readings.

DX,PC,RDA-19-23DEC15

Navigate to File Manager



RXA0136064—UN—11OCT13

1. Select **Menu.**
2. Select **System tab.**
3. Select **File Manager icon.**



RXA0136062—UN—11OCT13

A—Import Data Tab
B—Export Data Tab
C—Data Type
D—Scroll Bar
E—Import Button

KT81203,00004AA-19-03AUG17

File Manager



PC16671—UN—18MAR13

File Manager

File Manager application is used to transfer data to and from the display. Data can either be transferred wirelessly with John Deere Operations Center, or use a USB drive to transfer data between displays or compatible desktop software.

It is important to back up data to a USB drive periodically.

Display internal memory is intended to have enough capacity to store all data from a machine per season. A message appears when 95% of memory is used. Data should be exported and deleted before memory used exceeds 95%.

Navigate to File Manager

1. Select Menu.
2. Select System tab.
3. Select File Manager Application.

Factory Data Reset



PC17398—UN—22OCT14

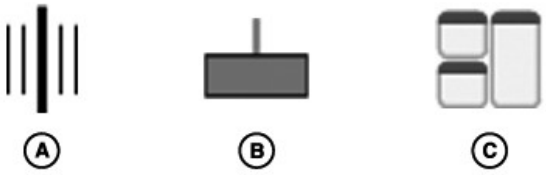
Settings

Select settings at the top of File Manager application to open Factory Data Reset.

Process removes all user data from display and cannot be undone. User data includes setup and documentation data, guidance information, totals, and custom run page layouts. Language and regional settings, and activations are not reset. A reboot is required after reset.

Perform a Factory Data Reset before selling the machine.

Data Types



PC24718—UN—14SEP17

A—Guidance Tracks
B—Implement Profiles
C—Custom Run Pages

- Guidance tracks (A) include guidance lines and associated client, farm, and field names.
- Implement profiles (B) can be transferred between Generation 4 Displays. This includes profiles saved to the display for implements without a controller.

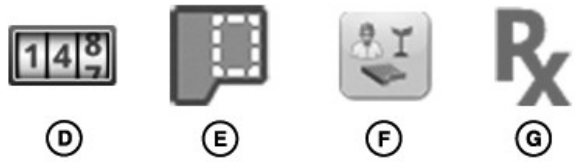
NOTE: Connection type, work recording, operation, and rate controller are not imported with implement profiles.

- Custom run pages (C) can be transferred between Generation 4 Displays that are the same size.

NOTE: Imported run pages are available on the All Run Pages tab in Layout Manager.

Some run page modules reset to default settings when imported.

Run page modules created for ISOBUS VT implement control units appear as unavailable if control unit is not connected to machine.



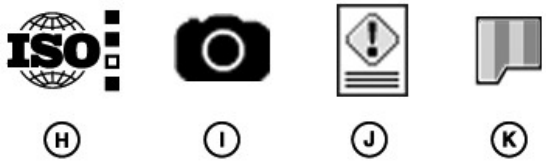
PC24719—UN—14SEP17

D—Work Data
E—Boundaries
F—Setup Data
G—Prescriptions

- Work data (D) includes mapping and totals data. It can be uploaded to John Deere Operations Center, or unloaded into compatible desktop software. When importing work data, only mapping data is transferred. Work totals cannot be imported.

NOTE: Exporting work data requires a 4600 display with a CommandCenter™ Premium or a CommandCenter™ Automation activation.

- Boundaries (E) are configured using Fields and Boundaries application.
- Setup data (F) includes client, farm, and field names, crop varieties, and products.
- Prescriptions (G) are configured using Work Setup application.



PC24720—UN—14SEP17

H—ISOBUS Tasks
I—Screenshots
J—Error Logs
K—Variety Locator

- ISOBUS tasks (H) are configured using ISOBUS Tasks application.

NOTE: ISOBUS Tasks file size limit is 10 MB.

- Screenshots (I) copy the image displayed on the screen. (Refer to Capture Screenshots for instructions.)
- Error logs (J) are automatically generated by the display and can be used by John Deere to troubleshoot issues.

CommandCenter is a trademark of Deere & Company

- Variety locator (K) files are configured using John Deere Operations Center or Apex™.

Data Sync



PC21844—UN—16NOV15

Data Sync

Data Sync is used to manually or automatically send work data directly to John Deere Operations Center. Data is transferred using cellular signal through the modular telematics gateway (MTG).

Data Sync Preference

To automatically send work data, select “Automatically Sync Work Data” checkbox. Data is sent to John Deere Operations Center when MTG is in cellular coverage. If cellular coverage is not available, work data is stored on the display. Data is sent when cellular signal is reacquired and MTG is able to make a call.

Data Triggers

Even though work data is automatically sent from the display to John Deere Operations Center periodically, files cannot be viewed in the Operations Center until one of these triggers occur:

- Start New Work, or change client, farm, or field.
- Lose cellular communication between display and John Deere Operations Center for more than 30 minutes.
- Turn key off, and then turn key on within 30 minutes.
- Turn key off for more than 30 minutes.

Import Data



PC20405—UN—30APR15

Import Data

Select import method:

- Import from USB Drive – Select folders on USB drive that contain data to be imported.
- Import Received Files – Import setup, work data, and prescription files from John Deere Operations Center.

After setup files and prescriptions are imported to the display, use Work Setup to apply the file. Reference help

Apex is a trademark of Deere & Company

files on John Deere Operations Center for how to create and send setup files to the Generation 4 Display.

Compatibility

Data can be transferred from another Generation 4 Display, GreenStar™ 3 2630 Display, compatible desktop software, or John Deere Operations Center.

John Deere Operations Center does not support the ability to view, send, or receive run pages. If a setup file only contains run pages, the file displays as invalid in John Deere Operations Center. If a setup file contains guidance lines or boundaries, and run pages, the setup file loads correctly, though run pages are not viewable.

NOTE: Update Apex™ or third-party desktop application if there are issues with transferring data.

Choose GS3 2630 card format when exporting from Apex™. To use guidance lines from other GreenStar™ displays, unload guidance lines into Apex™ and then export in GS3 2630 card format.

Data Conflicts

When necessary, imported client, farm, and field names are changed. For example, "Field1" is renamed "Field1 (1)".

If guidance lines are in the same field and created with the same tracking method, the display handles the following conflicts.

Different Name, Same Line

- If lines are the same, name of guidance line on display is replaced by name on USB drive.

Same Name, Different Line

- If there are two different lines with the same name, line on USB drive is renamed when imported. For example, "Track1" is renamed "Track1(1)".

NOTE: A file may fail to import for multiple reasons. To determine which file is causing problems, remove individual files from USB drive and attempt to import remaining files.

Export Data



PC20406—UN—30APR15

Export Data

Select export method to transfer desired data types.

- Select Custom Export to transfer run pages and field-specific work data and guidance lines.
- Select Export All Data to quickly transfer all work data, guidance lines, and run pages using default settings.
- Select Diagnostic Data to transfer screenshots and error log files.

Delete Data



PC20407—UN—30APR15

Delete Data

Delete data removes selected data types from the display.

- Select Custom Delete to remove work data, guidance lines, prescriptions, and run pages.
- Select Clear Diagnostic Data to remove screenshots and error log files.

DX,PC,FILE-19-25OCT17

USB Drive

USB Drive Requirements for John Deere Displays

- Format - Windows FAT or FAT32. This display does not recognize NTFS format.
- Capacity - Recommended capacity is 8 to 32 GB.
- Connectivity - USB 2.0
- Maximum Dimensions - 9.2 mm (3/8 in) thick by 21.7 mm (7/8 in) wide

Best Practices

- After inserting USB drive, wait 10 seconds. Large USB drives may take time to be recognized.
- Use a USB drive that is 4 GB or larger, so multiple backups can be stored.
- Clean all files off the USB drive that are not associated with John Deere displays.

Check Display Hardware tab in Diagnostics Center application to determine if display recognizes USB drive.

DX,PC,FILE,USB-19-03OCT17

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Apex is a trademark of Deere & Company

Capture Screen Shots



PC17263—UN—15JUL13

A—Screen Shot Area

Select area highlighted in top left corner of screen. Press and hold until screen flashes and display makes camera shutter sound.

Insert USB drive and select Export Data to transfer screen shots to drive.

DX,PC,FILE,SCREENSHOT-19-22DEC15

Navigate to Diagnostics Center



RXA0127110—UN—11JUL12

1. Select **Menu.**
2. Select **System tab.**
3. Select **Diagnostics Center icon.**



RXA0130617—UN—31JAN13

A—Application Diagnostics
B—Controller Diagnostics
C—Diagnostic Trouble Codes
D—Display
E—CAN Bus Info

KT81203,00004AB-19-03AUG17

Diagnostics Center



PC17272—UN—17JUL13

Diagnostics Center

Diagnostics Center is the one place to find diagnostics for the entire system. Select one of the tabs for more information.

System Diagnostics

- View diagnostics information for machine, implement, and display applications.

Controller Diagnostics

- Access diagnostic addresses, diagnostic trouble codes, and information specific to each device connected on CAN bus.

Trouble Codes

- View all active or stored diagnostic trouble codes.

Display Hardware

- View diagnostic readings for processor, monitor, and display.

CAN Bus Info

- View diagnostic information for each CAN bus.

Network

- View MTG diagnostic readings.

DataSync

- View Sharing application and data transfer diagnostic information.

Navigate to Diagnostics Center

1. Select Menu.
2. Select System tab.
3. Select Diagnostics Center application.

DX,PC,DIAG-19-25OCT17

Controller Diagnostics

Controller Diagnostics displays the following information for controllers connected on CAN Bus.

Device

- Each device in list is identified by Device ID, CAN Address, and CAN Network location.

Codes

- Indicates if device has diagnostic trouble codes.

Message Count

- Number of CAN messages display has received from controller. Use zero button at bottom of page to reset message count for all devices.

Viewing and Sorting

Select button next to **View by** to change way controllers are displayed. Available views are:

All Devices

- All controllers connected to display are shown.

Implement Bus Devices

- Only controllers on Implement CAN Bus are displayed.

Vehicle Bus Devices

- Only controllers on Vehicle CAN Bus are displayed.

Select button next to **Sort by** to arrange list according to these filters.

Device

- List sorted by device ID.

Has Codes

- List sorted by if device has diagnostic trouble codes.

DX,PC,DIAG,CONTROLLER-19-22DEC15

Diagnostic Information

Select a controller from Controller Diagnostics list for more detailed information.

NOTE: Display is set to Diagnostic Mode when a controller is selected. Diagnostic Mode is removed when controller page is closed.

Diagnostic Addresses

IMPORTANT: Changing settings in Diagnostic Addresses may damage machine or implement controllers. Follow instructions, and use caution when changing address values.

Controllers have addresses that store values for different settings. Each Address is identified by an Address Number and Type. Data addresses can only be viewed (for example, software version information) while Input addresses can be edited (for example, calibration settings).

Diagnostic Trouble Codes

Current and stored codes for the selected controller are displayed. Select a code from list to view code details.

Controller Information

Controller Information displays detailed specifications and identification information from controller. This information is useful for ISOBUS diagnostics.

DX,PC,DIAG,INFO-19-22DEC15

Hide Diagnostic Center



PC15331—UN—08JUL13

Hide Diagnostics Center

Display is set to Diagnostic Mode once a controller is selected. Select Hide Diagnostic Center to minimize application and return to main page.

Hide button is useful for accessing another part of display during a calibration procedure. To return to the same diagnostic page, select Diagnostic Center application from menu.

NOTE: Leaving display in Diagnostic Mode is not recommended, because it can negatively affect performance.

Remove Diagnostic Mode by closing controller page.

DX,PC,DIAG,HIDE-19-22DEC15

Diagnostic Trouble Codes



PC15332—UN—08JUL13

A—Refresh Button
B—Clear Codes Button

Diagnostic Trouble Codes tab displays all current and stored codes that have occurred on the system.

Select Refresh button (A) to clear, and then retrieve all codes.

Select Clear Codes button (B) to remove all codes from display.

Viewing and Sorting



PC15333—UN—09JUL13

Code Types

A—Stop Alert
B—Service Alert
C—Info Alert

Select button next to **View by** to change the way codes are displayed. Available views are:

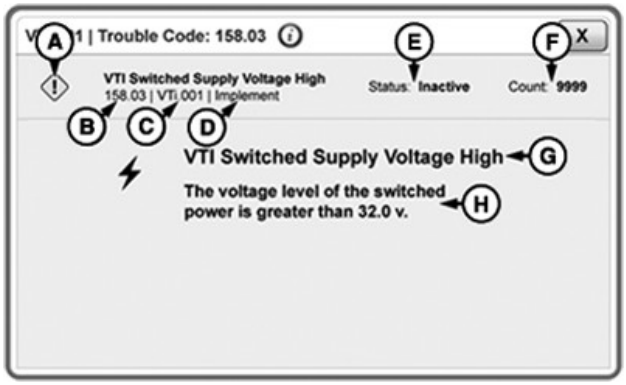
Code

- View by “Code” lists all codes on display. Code Type (A—C), Details, Status, and Count are all displayed. Select a code from list to view Code Details.

Device

- View by “Device” lists all controllers on CAN Bus. Device ID, CAN Network, and if device has codes are all displayed. Select a controller in list to view Device Codes.

Code Details



PC15334—UN—09JUL13

Code Details

A—Diagnostic Trouble Code Type
B—Diagnostic Trouble Code Number
C—Device ID
D—CAN Bus Network
E—Code Status
F—Count
G—Diagnostic Trouble Code
H—Diagnostic Trouble Code Description

Select a diagnostic trouble code to view code details.

DX,PC,DIAG,DTC-19-07APR17

Display Hardware

The following information is available in Display Hardware:

Hardware

- Displays and Processor
  - Part Numbers
  - Serial Numbers
  - Operational Hours
- USB Presence

Electrical

- Unswitched Voltage
- Switched Voltage
- Implement and Vehicle CAN
  - CAN High
  - CAN Low

NOTE: Instantaneous CAN bus voltage averaged each second.

Other

NOTE: Machine must be equipped to receive certain information.

- Radar Input Status
- Radar Frequency
- Implement Switch Status

DX,PC,DIAG,READINGS-19-07APR17

CAN Bus Information

CAN Bus Information tab displays status of communication between the controllers on CAN Bus. Vehicle CAN Bus connects controllers such as engine, hydraulics, and transmission. Implement CAN Bus connects controllers such as StarFire™ receiver, second ISOBUS display, and ISOBUS implements.



PC15335—UN—09JUL13

A—Green Indicator, Normal Range
B—Yellow Indicator, Out of Range

Some values display a green indicator or a yellow indicator with an exclamation point. Depending on machine and implement configuration, yellow might be expected.

- Green Indicator (A) — Value within normal range.
- Yellow Indicator (B) — Value out of normal range.

DX,PC,DIAG,CANINFO-19-07APR17

StarFire is a trademark of Deere & Company

CAN Bus Values

Network Status

Active

- System is working as expected. In addition to display, at least one controller is connected and communicating on CAN Bus.

Inactive

- Display is not communicating with any other controllers on CAN Bus. If display is only controller on CAN Bus, Total Message Count increases, but Network Status is inactive.

Total Message Count

Total message count is number of messages sent over CAN Bus. When machine is running, this value counts up continuously since there are always messages sent on CAN Bus.

CAN High and CAN Low Voltage

Peak voltage is highest average voltage that has occurred since last cold boot. Voltage measurements are averaged for each second. Peak CAN High and Peak CAN Low voltages normally range between 1.8 and 3.3 Volts.

NOTE: A cold boot occurs after display has been off for 24 hours or after unswitched power has been disconnected from display.

Bus Utilization

Information on CAN Bus is sent in messages between controllers. The John Deere implement CAN Bus is running at a baud rate of 250 kbd, meaning it can switch power up to 256,000 times per second to transmit messages. This is a Bus utilization of 100%.

If a controller, such as an implement, is not running as expected, a Bus utilization of 45% or higher could be a reason for the issue. Some devices cannot send and receive all necessary messages due to high Bus load.

NOTE: Some ISOBUS implements do not work with Bus loads higher than 25%.

A working StarFire™ Receiver causes a Bus load of about 5—7%.

Unplugging implements or GPS receivers can reduce Bus utilization.

Baud Rate

Baud Rate indicates how fast the Bus is working. ISOBUS and John Deere implement Bus are running at a rate of 250 kbd. Any controller connected to this system must work at 250 kbd, otherwise it will not function properly.

CAN Bus State and Error Counts

Four CAN Bus states are possible:

- Active – CAN Bus is running without any problems.
- Passive – Passive errors have occurred.
- Warn – Bus Warn errors have occurred.
- Off – Bus Off errors have occurred.

If one of these errors occurs, display records number of times it happens.

Passive Error Count

- If value counts up higher than zero, a controller on CAN Bus did not receive all messages. Important information might have been lost. This is most likely due to high CAN Bus Utilization.

BUS Warn Count

- If value counts up higher than zero, a controller on CAN Bus has issues.

BUS Off Count

- If value counts up higher than zero, a controller on CAN Bus has issues. It missed a certain number of messages and does not receive messages anymore. Important information has been lost. It most likely occurs in combination with high CAN Bus Utilization.

Overrun Error Count

- Overrun Error Count indicates that applications or controllers on CAN Bus receive messages faster than they can process them. This results in missing messages and malfunction of the system. It most likely occurs in combination with high CAN Bus Utilization.

DX,PC,DIAG,CANVALUES-19-22DEC15

Network

Network tab displays diagnostic readings for machines that have a modular telematics gateway (MTG). MTG is one of the main components that enable John Deere telematics solutions, such as JDLink™, Service ADVISOR™ Remote, and John Deere Remote Display Access (RDA).

MTG contains firmware, a cellular modem, and SIM device. It sends and receives data and messages over cellular networks.

RDA requires an uninterrupted cellular connection to

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JDLink is a trademark of Deere & Company
Service ADVISOR is a trademark of Deere & Company

function. JDLink™ does not require an uninterrupted cellular connection because the MTG can store up to 1000 hours of data.

DX,PC,DIAG,NETWORK-19-21OCT16

DataSync

DataSync tab displays diagnostics readings for the Sharing application and data transfer.

Shared Work ID is the unique number of the work group the machine is assigned to. Each member of the work group shares the work ID.

Team Client, Team Farm, and Team Field are the names of the client, farm, and field associated with the current work group. Use Sharing application to make changes to these settings.

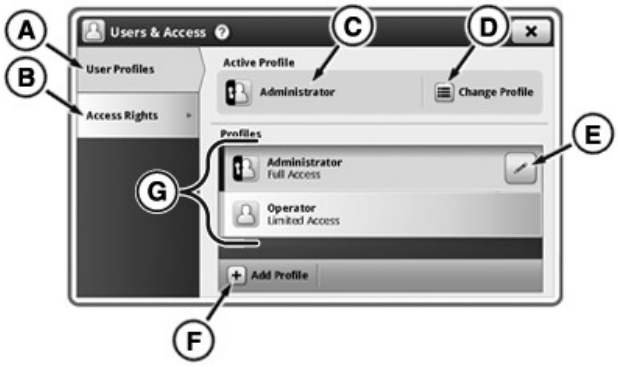
DX,PC,DIAG,DATASYNC-19-23OCT17

Navigate to Users & Access



RXA0129658—UN—16NOV12

1. Select **Menu.**
2. Select **System tab.**
3. Select **Users & Access icon.**



RXA0142766—UN—19JUN14

A—User Profiles Tab
B—Access Rights Tab
C—Active Profile
D—Change Profile Button
E—Edit Button
F—Add Profile Button
G—Profiles List

KT81203,00004AC-19-03AUG17

Users and Access



PC17262—UN—12JUL13

Users and Access

Users and Access manages user profile settings to lock users out of certain features.

User Profiles tab

- Change display profile and set PIN for administrator access.

Access Groups tab

- Store display features that are locked.

Navigate to Users and Access

1. Select Menu.
2. Select System tab.
3. Select Users and Access application.

DX,PC,USERS-19-22DEC15

User Profiles



PC17265—UN—15JUL13

A—Administrator Profile
B—Operator Profile

Display can be set to one of two profiles, Administrator or Operator. The active profile is displayed above profile list.

Administrator Profile (A)

Administrator profile always set to Full Access Group. It allows unlimited access of all features, and ability to lock and unlock features in Operator Profile. A PIN can be set to lock users out of the Administrator Profile.

Operator Profile (B)

Operator profile always set to Limited Access Group. It is restricted to only features it is given access to. Operator Profile must be active profile and Administrator Profile must have a PIN for features to be locked.

Change Active Profile



PC17266—UN—15JUL13

A—Change Profile Button
B—Edit Button
C—View Button

Select Change Profile button (A) and select profile from list.

NOTE: If a PIN has been created for the administrator profile, it must be entered when switching from Operator Profile to Administrator Profile.

Add/Change PIN

Select Edit button (B) for Administrator Profile. Select Add/Change PIN button.

DX,PC,USERS,PROFILES-19-07APR17

Access Groups

Access Groups store display features users have access to. Full Access group is able to use all features on display, while Limited Access group can be restricted to only certain features.

NOTE: Full Access Group can not be edited.

Limited Access groups can only be edited if Administrator Profile is Active Profile.



PC17267—UN—15JUL13

A—View Button
B—Edit Group Button

Select View button (A) to display Access Group Summary. Select Edit Group button (B) to make changes to Access Group.

Edit Access Group



PC17268—UN—15JUL13

A—Unlock Icon
B—Lock Icon

For each application listed, “None Locked” is displayed if no features are locked. When features are locked, they are listed under the application name and icon changes to locked.

Select an application to highlight it and select Edit button.

Edit Access Rights page displays a list of features that can be locked or unlocked by toggling lock/unlock switch. Save changes by closing page.

DX,PC,USERS,GROUPS-19-07APR17

Navigate to Layout Manager

NOTE: Layout Manager opens in last used run page.



RXA0126688—UN—07JUN12

1. Select **Menu.**
2. Select **Applications tab.**
3. Select **Layout Manager icon.**



RXA0143562—UN—10JUL14

A—Active Set Tab
B—Shortcut Bars Tab
C—All Run Pages Tab

KT81203,00004AD-19-03AUG17

Layout Manager



PC16678—UN—18MAR13

Layout Manager

Use Layout Manager to create and modify run pages

and shortcut bar so important information and functions can be accessed from the main page.

Run pages are made of "modules" or blocks that contain information and buttons. Modules can be added, removed, and rearranged on a run page.

Unlimited run pages can be created and saved. Only one Run Page Set with up to ten run pages can be created.

Custom run pages can be imported from another Generation 4 Display that is the same size. Imported run pages are available in All Run Pages.

Navigate to Layout Manager

1. Select Menu.
2. Select Applications tab.
3. Select Layout Manager application.

DX,PC,LAYOUT-19-22DEC15

Active Set



PC15336—UN—10JUL13

Active Set

Active Set is a collection of up to ten run pages that are grouped together for an operation (i.e. planting or tillage). Only pages in Active Set appear when cycling through run pages on main page.

Select Active Set to display Edit Run Page Set page.

Add Run Page to Active Set



PC15341—UN—10JUL13

Add Run Page Button

Select Add Run Page button to display a list of run pages that can be added to the set. Choose one of the run pages and select OK.

Edit Run Pages in Active Set



PC15338—UN—10JUL13

A—Edit Button
B—Duplicate Button
C—Up Button
D—Down Button
E—Remove Button

Select one of the run pages to show a row of buttons for editing that run page.

Select Edit button (A) to change the modules on run page.

Select Duplicate button (B) to create a new run page with same modules.

Select Up and Down buttons (C and D) to change order of run pages. Run page order is used when cycling through pages on main page.

Select Remove button (E) to delete run page from Active Set. Run page is still in All Run Pages list, just no longer in Active Set.

NOTE: Remove button is not shown if only one run page is in Active Set.

DX,PC,LAYOUT,ACTIVESET-19-07APR17

Shortcut Bar



PC17276—UN—13AUG13

A—Shortcut Softkeys

Shortcut bar is a collection of shortcut softkeys that display status information and provide quick access to application functions.

Select Default Shortcut Bar to Edit the Shortcut Bar.

Edit Shortcut Bar



PC17386—UN—15MAY14



PC17387—UN—15MAY14

A—Add Button
B—Move Shortcut Icon
C—Remove Shortcut Button

Shortcuts can be added, removed, and rearranged on the shortcut bar.

NOTE: The same shortcut can only be placed on the shortcut bar once.

Select Add Shortcut button (A) and choose application with appropriate content. Applications without available shortcuts are grayed out. From list, find shortcut that performs desired function and select Add button.

Once added to shortcut bar, select shortcut to highlight it. Press and slide shortcut (B) to move it to an open area.

To remove a shortcut, select shortcut to highlight it and select Remove button (C).

DX,PC,LAYOUT,SHORTCUTBAR-19-07APR17

All Run Pages

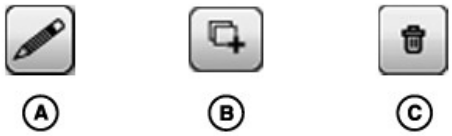


PC15340—UN—10JUL13

All Run Pages

All Run Pages tab displays every run page that has been created on display. These include current run pages that are in Active Set, as well as run pages that will be used in future operations.

Edit Run Page



PC15339—UN—10JUL13

A—Edit Button
B—Duplicate Button
C—Remove Button

Select one of the run pages to show a row of buttons for editing that run page.

Select Edit button (A) to change the modules on run page.

Select Duplicate button (B) to create a new run page with same modules.

Select Remove button (C) to delete run page from display. This permanently removes run page from display and Active Set.

NOTE: Remove button is not shown if factory default run page is selected.

Create Run Page



PC15341—UN—10JUL13

Add New Button

Select Add New button to create a new Run Page.

DX,PC,LAYOUT,ALLRUNPAGES-19-07APR17

Add, Edit, or Duplicate Run Pages

The same interface is displayed when adding, editing, or duplicating a run page. A new run page starts out blank, while duplicate or edited run pages have existing modules.

Run Page Name



PC15337—UN—10JUL13

A—Edit Button
B—Add Module Button

Every run page must have a unique name. Select Edit button (A) to either name or rename run page.

Add Module

Select Add Module button (B) and choose application with appropriate content. From list, find module with desired information and select Add button.

NOTE: The same module can only be placed on a run page once.

NOTE: Start with larger modules before adding smaller modules to fill in space.

Use grid to determine amount of space required for a module.

Rearrange Modules



PC15342—UN—10JUL13

Move Module

Once added to run page, select module to highlight it. Press and slide module to move it to an open area.

Remove Module



PC15343—UN—10JUL13

Remove Module Button

Select module to highlight it, and select Remove button.

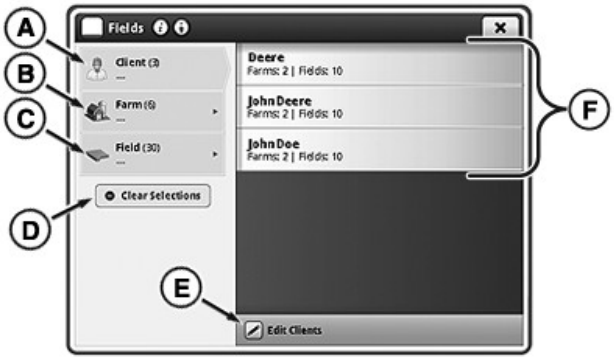
DX,PC,LAYOUT,ADDRUNPAGES-19-07APR17

Navigate to Fields



RXA0142762—UN—19JUN14

1. Select **Menu.**
2. Select **Application tab.**
3. Select **Fields icon.**



RXA0142620—UN—19JUN14

A—Client Tab
B—Farm Tab
C—Field Tab
D—Clear Selections Button
E—Edit Clients Button
F—Client/Farm/Field List

KT81203,00004AE-19-03AUG17

Fields and Boundaries



PC17260—UN—11JUL13

Fields and Boundaries Application

Field names organize information so it is easier to find and use data, such as guidance lines. Using field names is optional, and a "---" appears for undefined names.

Use Fields and Boundaries application to:

- Select field location name used for all other applications.
- Create a client, farm, or field name.
- Change the name of a client, farm, or field.
- Associate a field to a different farm or client.
- Delete a client, farm, or field.
- Create boundaries.

Select Client, Farm, and Field box to set current location and choose field name used for all other applications.

Integration with Guidance

- A field can be associated to a guidance track when the track is created, or by editing the track.
- Guidance track list can be filtered by field name.

Run Page Module

A Location module for the Fields application is available in Layout Manager application. It is available on the default Guidance Run Page, and it can be added to any run page.

Select a field in Location module to:

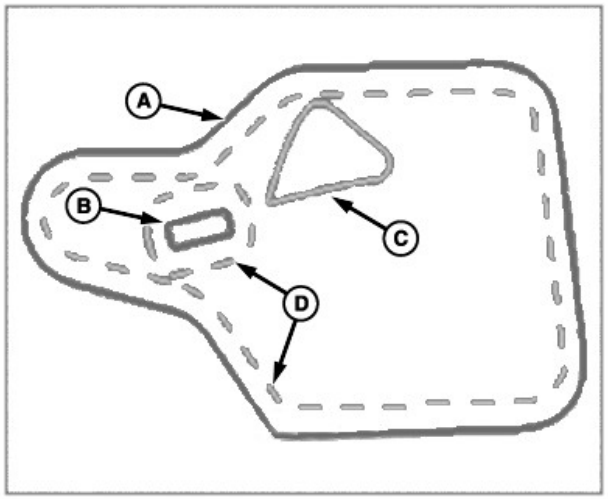
- Filter guidance track list.
- Associate new tracks to the field when they are created.
- Begin new or continue previous work data.

Navigate to Fields

1. Select Menu
2. Select Applications tab.
3. Select Fields application.

DX,PC,FIELDS-19-22DEC15

Field Boundaries



PC21838—UN—19NOV15

A—Exterior Boundary (Pink)
B—Interior Impassable Boundary (Pink)
C—Interior Passable Boundary (Yellow)
D—Headland Boundary (Yellow)

The exterior boundary (A) marks the perimeter of a field.

Interior boundaries mark important areas of field. These can either be impassable (pink) (B) or passable (yellow) (C). An example of an impassable boundary is a well, while an example of a passable boundary is a waterway.

Headland boundaries (yellow dashes) (D) mark areas in the field where there are end rows or turn rows. They are

created inside the exterior boundary and around impassable interior boundaries.

When used with Section Control, boundaries prevent application of product inside marked areas of the field and outside of the field.

Area Calculation

An estimated boundary area is calculated on a flat two-dimensional plane. All active interior boundary areas are subtracted from exterior boundary area. Elevation changes are not used in boundary area calculation.

Work Totals include elevation changes in area worked totals. Due to calculation differences, boundary and work totals vary.

Creating a boundary using a coverage map requires the following:

- Field name.
- Coverage map with no coverage gaps around the exterior of the field.

Creating a driven boundary requires the following:

- Field name.
- StarFire™ receiver with SF1 or better signal.

DX,PC,FIELDS,BOUNDARIES-19-07APR17

Manage Clients, Farms, and Fields

Field Organization



PC17389—UN—15MAY14

A—Client
B—Farm
C—Field

Use the following hierarchy to help organize data:

- Clients (A) are the highest level of organization.
- Farms (B) are the middle level of organization. A farm can be associated with a client.
- Fields (C) are the basic level of organization. A field can be associated with a farm and a client.

A strict hierarchy is not necessary, though it is possible to use only field names, and leave farm and client names blank. It is even possible not to use field names at all.

These decisions depend on amount of data being kept. More data requires structure to find fields.

NOTE: In previous John Deere displays, maps and guidance lines were saved based on field names. In the Generation 4 display, data is saved as latitude and longitude points. The field name is only needed as a way to filter data.

Select and Filter Names

In the Client, Farm, and Field hierarchy, select clients and farms to find fields.

1. Select Client tab.
2. From list, select client. Client name is displayed on Client tab.
3. Farm tab is automatically displayed. Only farms associated with the client are listed.
4. From list, select farm. Farm name is displayed on Farm tab.
5. Field tab is automatically displayed. Only fields associated with the client and farm are listed. Select field.

Remove Filter

Remove filter by selecting Clear Selections button.

Create and Edit Names

NOTE: Clients, farms, or fields should not be renamed after data is recorded. If renamed, change name in other locations, such as John Deere Operations Center.

Client, Farm, and Field names cannot be duplicated. Names associated with different clients and farms must be unique.

Client and Farm Tabs

When Client or Farm tabs are selected, select Edit button at bottom of page to display Edit Client or Edit Farm list.

On either list, select one of the client or farm names to edit it, or select New button at bottom of page to create a name.

Field Tab

When Field tab is selected, highlight field name and select edit button to edit a field. Select New button at bottom of the page to create a name.

Delete Names

To delete a name, edit the client, farm, or field, and select the delete button on the edit page.

- Deleting a client also deletes all farms, fields, and guidance tracks associated with client.
- Deleting a farm also deletes all fields and guidance tracks associated with farm.

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- Deleting a field also deletes all guidance tracks associated with field.

DX,PC,FIELDS,MANAGE-19-07APR17

AutoTrac™ Guidance



PC16676—UN—18MAR13

Guidance

Use Guidance application for steering machines through field along guidance tracks. Guidance can be done manually, or automatically using AutoTrac™.

Manual Guidance (included feature)

Manual Guidance, also known as Parallel Tracking™, enables operator to steer manually along guidance tracks using onscreen light bar, map, and audible tones. A StarFire™ receiver is required to operate Manual Guidance. Parallel Tracking™ shows the machine's position in a field relative to a track determined during the first pass through the field. Parallel Tracking™ has modes to follow a straight or curve track. Use the machine icon, lightbar, and line on the display to know which way to steer to stay on the path parallel with the last. Audible alerts allow the operator to focus on the field.

AutoTrac™ Guidance (activation required)

AutoTrac™ is an assisted steering system that automatically steers the machine through the field. AutoTrac™ requires a StarFire™ receiver and an integrated steering system on the machine to operate. After operator enters a reference path (Track 0) in AutoTrac™, machine will steer itself parallel to that track if all conditions are met.

The AutoTrac™ Guidance application provides the tools to:

- Set up a guidance track.
- Change track width.
- Adjust settings to improve guidance performance.
- Engage AutoTrac™.
- View exit codes.

DX,PC,AUTOTRAC-19-22DEC15

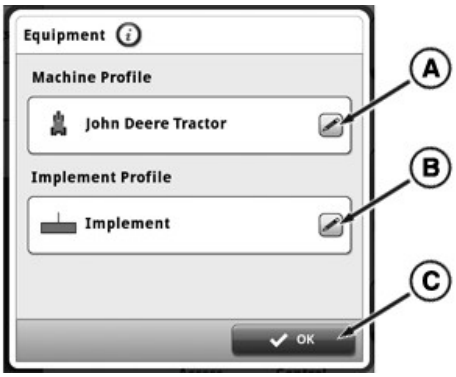
AutoTrac is a trademark of Deere & Company
Parallel Tracking is a trademark of Deere & Company
StarFire is a trademark of Deere & Company

Navigate to Equipment Manager



RXA0135344—UN—30AUG13

1. Select **Menu.**
2. Select **Applications tab.**
3. Select **Equipment Manager icon.**



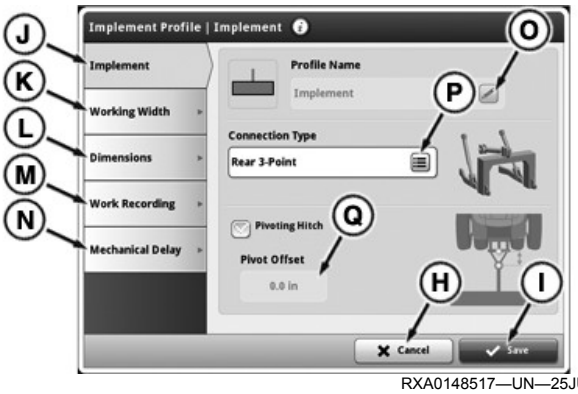
RXA0148518—UN—25JUN15

4. Press Machine Profile (A) or Implement Profile (B) Selection button.



RXA0148519—UN—25JUN15

Machine Profile Page



RXA0148517—UN—25JUN15

A—Machine Profile Selection Button
B—Implement Profile Selection Button
C—OK Button
D—General Tab
E—GPS Offsets Tab

F—Connection Offsets Tab
G—Machine Profile Name Input Field
H—Cancel Button
I—Save Button
J—Implement Tab
K—Working Width Tab
L—Dimensions Tab
M—Work Recording Tab
N—Mechanical Delay Tab
O—Implement Profile Name Input Field
P—Connection Type List
Q—Pivot Offset Input Field

KT81203,00004AF-19-03AUG17

Equipment Manager



PC20410—UN—22MAY15

Equipment Manager

Select Equipment Manager application to enter Machine and Implement Profile settings. Profile settings are important for accurate performance of John Deere Precision Agricultural applications, such as AutoTrac™, Section Control, and work data maps.

Navigate to Equipment Manager

1. Select Menu.
2. Select Applications tab.
3. Select Equipment Manager application.

DX,PC,EQUIP-19-22DEC15

Machine Profile

General Settings

If display detects machine, some information is automatically set by machine control units.

At this time, profile settings cannot be imported or exported from the display.

Settings specific to certain machine types only appear on page when applicable.

- ***Articulated Tractor Articulation Point***

  Front Axle

  - Distance from articulation point to center of the front axle. Articulation point is the pivoting point of machine when making a turn.

  Rear Axle

  - Distance from articulation point to center of rear axle. Articulation point is the pivoting point of machine when making a turn.

- ***Track Tractor Center of Rotation***

  Center of Rotation

  - Distance from pivot point of the machine to rear axle.

GPS Offsets

- ***GPS Lateral Offset***
  - Lateral distance (left or right) from the center line of the machine to center of GPS receiver. This value is usually set to 0.0 unless GPS receiver is offset left or right of the machine center line. Guidance and Mapping applications require GPS Lateral Offset settings.

- ***GPS Inline Offset***
  - Inline distance from center of the non-steering axle on the machine to center of GPS receiver. Mapping application requires GPS Inline Offset settings.

- ***GPS Height***

  - Vertical distance from GPS receiver to ground.

Connection Offsets

- Inline distance from center of rear axle to connection point. Connection point is location where implement connects to machine. Mapping application requires Connection Offset settings.

Restore Profile to Factory Defaults

NOTE: Only machines detected by the display can have profile settings restored to factory default.

Default machine profile settings are stored in machine control units. Changes to these settings are stored in the display. To reset profile to factory defaults, select settings at the top of Machine Profile page. Then, select Reset Profile button.

Use Help Center Onscreen Help for more information about Equipment Manager and the Machine Profile.

DX,PC,EQUIP,MACHINE-19-07APR17

Implement Profile

Profile name is set automatically based on implement that is auto-detected and cannot be saved. On implements without a control unit, profile name is set by the operator.

At this time, profile settings cannot be imported or exported from the display.

Saving Profile Settings

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Select Save button to store settings from all tabs and close Implement Profile application. Selecting Save is not required when switching between tabs.

Implement Profile settings are saved in the display according to the following factors:

- Profile Name
- ISO name of the detected implement control unit

NOTE: Set up pre-operation settings in the implement control unit, such as drive configuration, before configuring Implement Profile settings.

ISO name changes when some implement control unit settings change. This includes changing control unit setup between fertilizer and seeding.

Automatic Detection of Profile Settings

NOTE: Section Control must be OFF to detect SeedStar™ 2 or SeedStar™ XP planters when first connected to tractor. After first connection, planter is detected whether Section Control is ON or OFF.

If an implement control unit is connected, some Implement Profile settings are automatically set by the implement control unit.

An alert stating "Implement Profile Created" is displayed the first time the control unit is connected. When the implement is reconnected in the future, it is identified by its ISO name and Implement Profile settings that are saved in the display are loaded.

NOTE: The alert continues to appear if "Setup Later" is selected.

When an implement is connected that is not recognized, a profile must be created for that implement. Select Add Implement button in Equipment Manager to create an implement profile.

To view currently detected ISO Name, select Diagnostics Center > Controller Diagnostics tab > choose implement control unit > Controller Info tab.

Verify all required settings before operation. Work point is not set automatically.

Connection Types

- Connection type, or hitch, describes how implement is attached to machine and controls how display determines implement movement behind machine.

  Coverage map, documentation, and Section Control require Connection Type settings.

- ***Pivoting Offset***

  - Some implements have a pivoting hitch that connects to machine's rear 3-point hitch. The offset for this pivoting location is required for display to determine implement movement behind the machine. Option is available when rear 3-point is selected as the connection type.

Working Width

- Working Width is the width of the area tilled, planted, sprayed, or harvested on each pass through the field. It is used to create work data maps and calculate area worked. Guidance, Mapping, and Area Totals applications require Working Width.

Dimensions

- ***Lateral Offset***
  - Lateral distance from center point of the machine to center point of working width of implement. Guidance and Mapping applications require Lateral Offset setting.

- ***Center of Rotation***
  - Inline distance from connection point to the implement's center of rotation while in working position. Usually, this is where load bearing parts of implement make contact with ground. Center of Rotation offset is important to accurately model trailing action of implement around curves. Mapping application requires Center of Rotation setting.

- ***Work Point***
  - Inline distance from connection point to point where the operation occurs. For example, where seed or product is dropped, a crop is harvested, or ground is tilled. Mapping application requires Work Point setting.

- ***Section Offset (ISOBUS Implements)***

  - Inline distance from center of rotation to point where the operation occurs. For example, where seed or product is dropped, a crop is harvested, or ground is tilled. Mapping application requires Section Offset setting.

Work Recording

- Recording Triggers determine when map recording and Work Monitor totals are turned ON and OFF. Not all recording triggers are available for all machine types.

NOTE: In Manual mode, operator must push Record or Pause button to turn work data map recording ON or OFF.

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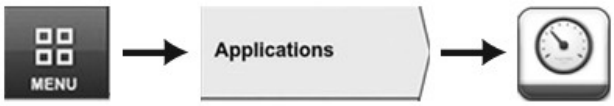
Mechanical Delay

- Mechanical delay is the average time for the product to reach the ground after an ON or OFF command. It may need to change with each machine, implement, and display combination. Mapping application requires Mechanical Delay settings. Settings are critical for Section Control performance.

Use Help Center Onscreen Help for more information about Equipment Manager and the Implement Profile.

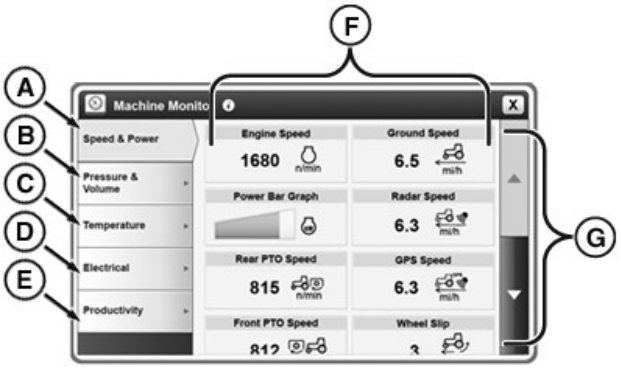
DX,PC,EQUIP,IMPLEMENT-19-07APR17

Navigate to Machine Monitor



RXA0126813—UN—12JUN12

1. Select **Menu.**
2. Select **Applications tab.**
3. Select **Machine Monitor icon.**



RXA0126814—UN—12JUN12

A—Speed & Power Tab
B—Pressure & Volume Tab
C—Temperature Tab
D—Electrical Tab
E—Productivity Tab
F—Machine Monitor Measurement Display
G—Scroll Bar

KT81203,00004B0-19-03AUG17

Machine Monitor



PC15318—UN—16MAY13

Machine Monitor

Machine Monitor displays machine-specific performance values. Groupings of values include:

- Speed and Power
- Fuel and Pressure
- Temperature
- Electrical
- Hours

NOTE: Values available in each group depend on machine model.

Select tabs on left-hand side of the page to switch between groups. Select a value to view a popup of just that value.

If a value is not available, dashes will be shown.

Navigate to Machine Monitor

1. Select Menu.
2. Select Applications tab.
3. Select Machine Monitor application.

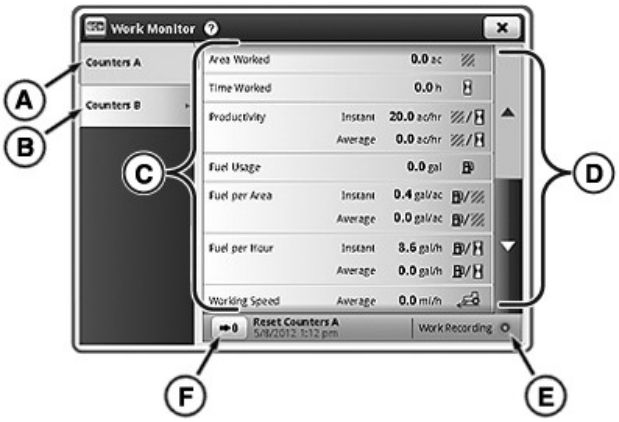
KT81203,00004B1-19-28NOV16

Navigate to Work Monitor



RXA0135359—UN—03SEP13

1. Select **Menu.**
2. Select **Applications tab.**
3. Select **Work Monitor icon.**



RXA0142764—UN—19JUN14

A—Counters A Tab
B—Counters B Tab
C—Work Monitor List
D—Scroll Bar
E—Work Recording Light
F—Reset Counters Button

KT81203,00004B2-19-03AUG17

Work Monitor



PC15317—UN—16MAY13

Work Monitor

Work Monitor displays averaged and totaled machine and operation-specific values. Select a value on the page to view a popup window of just that value. Every one of these values can be placed on the main run page.

Use the Reset button at the bottom of the page to clear all values, except instant values. Date and time of the last reset will be indicated next to the button.

To the right of the Reset button, Work Recording indicates whether the Work Monitor is active and currently counting. A pulsing light shows it is active.

Navigate to Work Monitor

1. Select Menu.
2. Select Applications tab.
3. Select Work Monitor application.

DX,PC,WORKMON-19-23DEC15

Work Recording

When Work Recording is ON, map recording and counters that require a recording trigger accumulate. Counters requiring Work Recording include:

- Area Worked
- Time Worked
- Productivity
- Average Fuel Per Area
- Average Working Speed

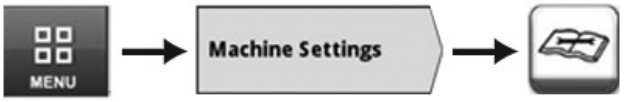
Select Work Recording in the bottom right hand corner to view a popup window with recording settings.

Recording status is based on the current recording trigger selected in Implement Profile. If the recording trigger does not fit the current operations, press Edit button to change the selected recording trigger. For more information, see Implement Profile section.

NOTE: If recording trigger is set to manual, work recording can be switched on or off by pressing the recording button.

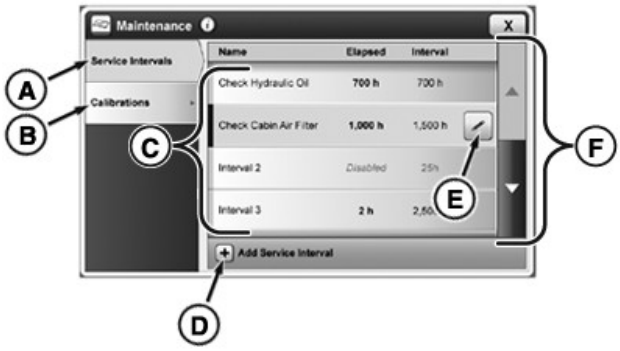
DX,PC,WORKMON,REC-19-23DEC15

Navigate to Maintenance & Calibrations



RXA0147925—UN—13APR15

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



RXA0135274—UN—26AUG13

A—Service Intervals Tab
B—Calibrations Tab
C—Service Intervals List
D—Add Service Interval Button
E—Edit Service Interval Button
F—Scroll Bar

KT81203,00004B3-19-03AUG17

Maintenance and Calibrations



PC15324—UN—21MAY13

Maintenance and Calibrations

Maintenance and Calibrations application allows the operator to set up service intervals and perform calibrations on machine components.

Navigate to Maintenance and Calibrations

1. Select Menu.
2. Select Tractor Settings tab.
3. Select Maintenance and Calibrations application.

DX,PC,MAINT-19-23DEC15

Calibrations

Use this application to perform wheel slip calibration and radar calibration.

Radar Calibration



PC23946—UN—22MAR17

Radar Calibration

A radar device needs to be calibrated when it is first installed on the machine or if there is a difference between radar speed and actual ground speed when operating unloaded on a hard surface.

NOTE: In windy conditions, moving parts such as leaves, dust, or gravel can cause inaccurate radar speed.

Wheel Slip Calibration



PC23947—UN—22MAR17

Wheel Slip Calibration

Calibrate wheel slip if there is a mismatch between radar speed and wheel speed when operating unloaded on a hard surface. For more information, see Machine Monitor.

Perform calibration while driving with an unloaded machine on a hard, dry, clean, and level surface.

NOTE: Wheel slip calibration is only available on a connected and calibrated radar device.

Make sure that radar speed is accurate before performing wheel slip calibration.

DX,PC,MAINT,CAL-19-07APR17

Radar Calibration

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

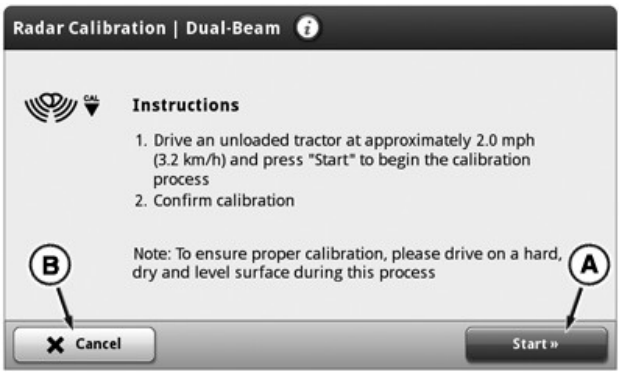
Perform radar calibration if:

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



RXA0147926—UN—13APR15

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



RXA0147580—UN—10MAR15

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

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



RXA0147581—UN—10MAR15

8. Select OK button (C) to confirm radar calibration.

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

KT81203,000020E-19-22JUN17

Slip Calibration

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

Perform slip calibration if:

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

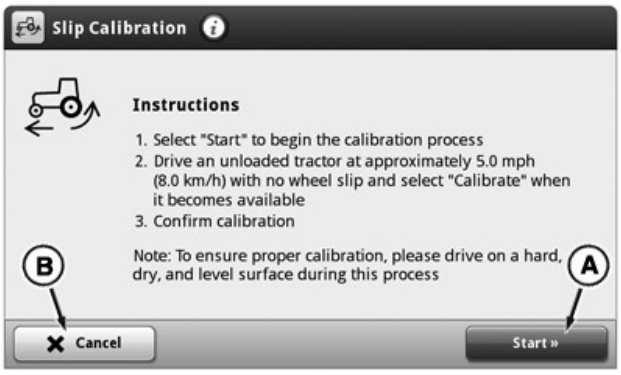


RXA0147928—UN—13APR15

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

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

5. Select **Slip Calibration icon.**



RXA0147582—UN—10MAR15

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

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



RXA0147583—UN—10MAR15

8. Select Calibrate button (C).



RXA0147584—UN—10MAR15

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

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

KT81203,000020F-19-22JUN17

Service Intervals

Service Intervals are reminders of when regular maintenance needs to be performed on a machine.

Select Add Service Interval button to create a new service interval. An unlimited number of service intervals can be added.

Once a service interval is created, it is added to the list and displayed with the name, elapsed time, and interval amount.

- The operator selects the name to identify the specific service interval.
- Elapsed indicates the number of hours since the service interval was reset.
- Interval is the number of hours between each service.

The intervals are sorted from least amount of time due to the most amount of time due. They are then sorted by name, in alpha-numerical order, with priority given to numbers.

Twenty hours before the service interval is due, the system will inform the operator that the machine will

need to be serviced soon. Once the message has been acknowledged, the system will inform the operator about the upcoming service at every startup until service interval is reset.

DX,PC,MAINT,SERVINTERVAL-19-23DEC15

Service Checks

NOTE: Availability of the Service Checks feature depends on purchase options.

Perform service checks with machine on level ground and engine off. For accurate readings, wait at least 40 minutes after engine shut down before checking fluid levels.

A light indicates the status of a machine service checkpoint.

- Green light — Normal level
- Red light — High level or low level

The following checkpoints are available:



PC17385—UN—15MAY14

A—Engine Oil Level
B—Engine Coolant Level

- Engine Oil Level (A)
- Engine Coolant Level (B)

DX,PC,MAINT,SERVCHECK-19-07APR17

Steering



RXA0152447—UN—27JUN16

Steering

Steering application allows operator to access and adjust steering settings.

Navigate to Steering

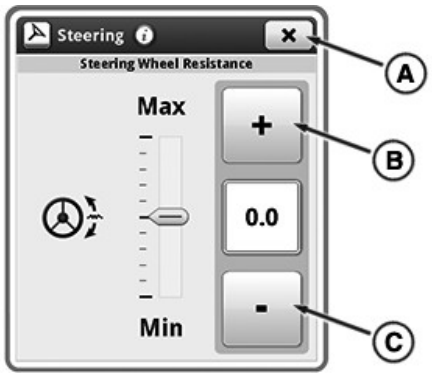
1. Select Menu.
2. Select Machine Settings tab.
3. Select Steering application.

KT81203,00004B8-19-28NOV16

Steering Settings

ACS Steering Settings allows operator to modify force required to turn steering wheel.

1. Access steering application to modify resistance.



RXA0152446—UN—27JUN16

Steering Main Page

2. Select +/- (B or C) to increase or decrease value
3. Select the close button (A) to exit.

KT81203,00004B9-19-03AUG17

Controls Setup



PC15326—UN—08JUL13

Controls Setup configures integrated tractor joystick, CommandARM™ levers, iTEC™ buttons, and third-party devices to control tractor or implement functions. ISO Aux implements configures to tractor joystick or third-party device.

Set up assignments:

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

NOTE: Unlock tractor joystick to activate default and custom (manually set) assignments. See CommandARM™ Joystick-Custom Setup in Selective Control Valves section of this Operator's Manual.

- **Integrated Tractor Joystick:** assign to control tractor and implement functions (e.g. front hitch).
- **CommandARM™ Levers and iTEC™ Buttons:** assign to control tractor and implement functions (e.g. rear hitch)

CommandARM is a trademark of Deere & Company
iTEC is a trademark of Deere & Company

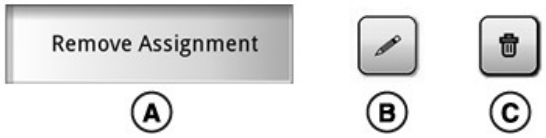
- **Third-Party Devices:** any mechanism, John Deere or non-John Deere, attached to ISOBUS. Once attached, assign control to tractor and implement functions (e.g. wagon).
- **ISO Aux implements:** assign implement (e.g. wagon) function to a specific button on tractor joystick.

5. Select reconfigurable assignment module.

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

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

Manage Assignments:

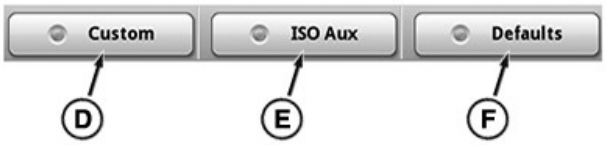


RXA0156706—UN—11JAN17

To edit assignments for tractor joystick, CommandARM™ levers, or iTEC™ buttons, select desired reconfigurable assignment module. To remove assignment, select remove button (A) (in source overlay).

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

ISO Aux, Custom, and Defaults:



RXA0156710—UN—12JAN17

NOTE: Select ISO Aux and Custom buttons to enable custom assignments for ISO Aux implements.

ISO Aux (D): determines if messages from tractor joystick are sent to ISO Aux implement. Select to enable implement functions. Select again to disable. Functions are stored until operator edits corresponding assignment.

Custom (E): enables all customized assignments across all groups.

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

KT81203,00005B2-19-11JAN17

Settings Manager



PC22543—UN—22APR16

Settings Manager

Use Settings Manager to load, edit, or save configurations of machine and implement settings. Saved configurations are used to easily restore the settings that a machine and implement use during an operation.

Navigate to Settings Manager

1. Select Menu.
2. Select Applications tab.
3. Select Settings Manager application.

DX,PC,SETTINGS-19-10MAY16

Automation Status

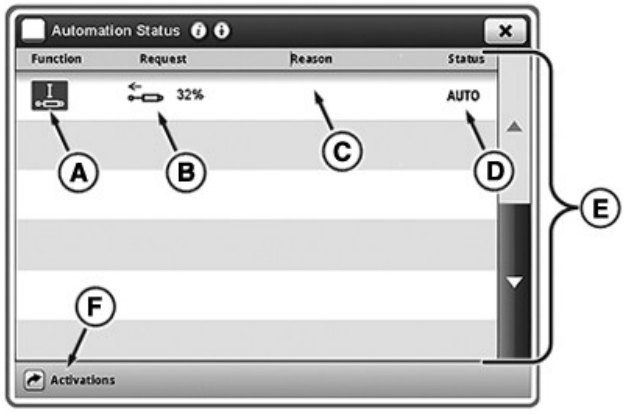
Automation Status allows control of various tractor functions. Automation Status displays which tractor functions are being controlled and their current status.

SCV Function Example: SCV status set to AUTO. Implement actively controls SCV 1. Implement requests SCV flow to be set at 32% in extend direction.



RXA0135014—UN—12AUG13

1. Select **Menu.**
2. Select **Applications tab.**
3. Select **Automation Status icon.**



RXA0135016—UN—12AUG13

Automation Status Page

A—Function
B—Request
C—Reason
D—Status
E—Scroll Bar
F—Activations button

Press Activations button (F) to navigate to Software Manager application.

KT81203,00004BB-19-26JUL17

Read ISOBUS Controller's Operator's Manual

CAUTION: ISOBUS Controller detected

Improper operation can cause unintended machine movement.

To avoid death or serious injury to a bystander, understand how this display operates the functions of the machine.

Read the ISOBUS controller's operator's manual.

Message shown above displays when system detects ISOBUS control unit. For more information, read the ISOBUS controller's operator's manual.

Generation 4 CommandCenter™ display can be used as display device for any control unit meeting ISO 11783 (ISOBUS) standard. This includes capability to control ISOBUS control units. When used in this manner, information and control unit functions placed on the display are provided by control unit and are responsibility of control unit manufacturer. Some of these control unit functions could provide hazard either to operator or bystander. Read operator manual provided by control unit manufacturer and observe all safety messages in manual and on control unit prior to use.

KT81203,00004BC-19-28NOV16

ISOBUS VT



PC16682—UN—18MAR13

ISOBUS VT

This John Deere display supports ISOBUS compatible controllers according to ISO 11783. These controllers can be viewed and operated within the ISOBUS Virtual Terminal (VT).

When an ISOBUS controller is connected, graphic files for the user interface are loaded into ISOBUS VT. Then ISOBUS VT provides a means for the operator to navigate through and operate all available functions of ISOBUS controller.

Navigate to ISOBUS VT

1. Select Menu.
2. Select Applications tab.
3. Select ISOBUS VT application.

Connected ISOBUS Implements and Controllers

The Generation 4 display loads and communicates with different ISOBUS controllers at the same time. A list of all connected ISOBUS controllers is displayed after selecting menu button.

Select desired ISOBUS controller and press OK button to view the user interface.

Troubleshooting

If the interface for an ISOBUS controller does not display correctly:

- View the ISOBUS controller in Status Center, and follow troubleshooting steps for the status indicated. For more information, view ISOBUS controllers in Diagnostic Center.

If the interface still does not display correctly:

1. Select settings at the top of ISOBUS VT application.
2. Select Clean Up ISOBUS VT in advanced settings to clear stored ISOBUS controller user interface files.

The user interface is reloaded the next time the controller is connected.

Run Page Module

ISOBUS VT modules can be added to a run page using the Layout Manager application.

Modules are loaded from implement controller and are only available while controller is connected. The types of modules available are dependent on controller manufacturer. This display is capable of displaying ISOBUS VT version 3.

DX,PC,ISOBUSVT-19-07APR17

StarFire™ GPS Receiver



PC17388—UN—15MAY14

StarFire Receiver

CommandCenter is a trademark of Deere & Company

The StarFire™ GPS receiver acquires global positioning and differential correction signal through a single receiver.

A Terrain Compensation Module (TCM) is integrated into the receiver and corrects for machine dynamics, such as roll and pitch on side-slopes, rough terrain, or varying soil conditions. An accurate TCM calibration is necessary for proper operation.

See the StarFire™ Receiver operator's manual for setup and calibration instructions.

Navigate to StarFire™ GPS Receiver

1. Select Menu.
2. Select Applications tab.
3. Select StarFire™ application.

DX,PC,STARFIRE-19-07APR17

Use Video Display Capability Properly

Avoid Backover Accidents



RXA0109491—UN—05AUG10

Avoid Backover Accidents

CAUTION: Before moving machine, be sure that all persons are clear of machine path. Give audible warning by sounding horn. Turn around and look directly for best visibility. Use mirrors to assist in checking all around machine. Keep windows and mirrors clean, adjusted, and in good condition. 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.

CAUTION: Do not rely on a camera for collision avoidance or bystander detection. To avoid possible injury or death to operator or others, always remain alert and aware of surroundings when operating the machine. Read and understand AVOID BACKOVER ACCIDENTS in this section.

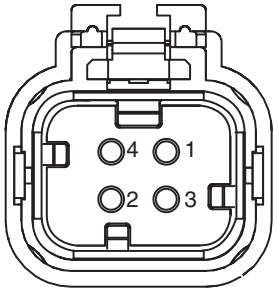
IMPORTANT: Avoid damage to equipment. Correctly understand whether the camera is "mirrored" and whether the video application is mirrored.

- **Mount camera in a sturdy and secure location.**
- **Understand camera's field of view.**
- **Keep camera properly serviced.**
- **Keep camera lens clean.**

KT81203,00004BD-19-28NOV16

Install Video Display Camera

IMPORTANT: Avoid damaging camera by mounting camera securely to equipment and in location where camera will not be pinched, crushed, kicked, or knocked off.



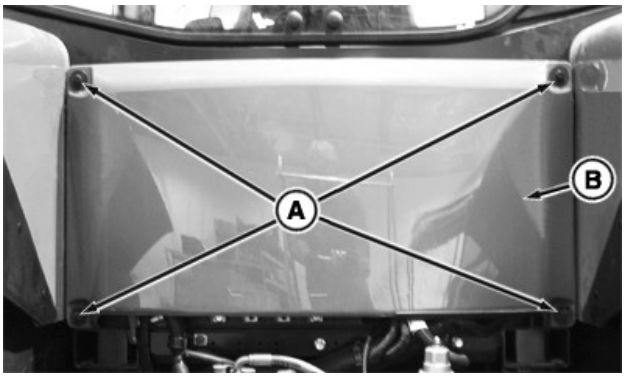
RXA0107925—UN—28MAY10

Video Connector Pin Identification

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

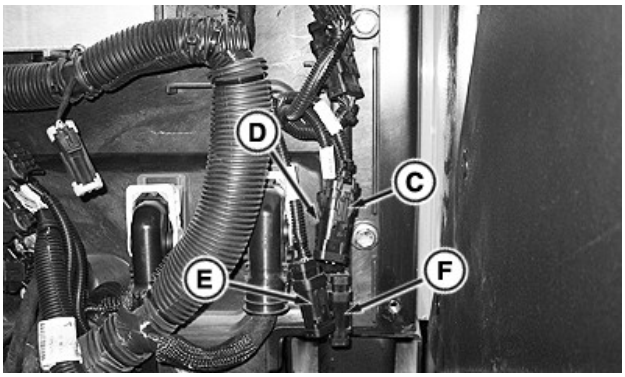
Tractors equipped with 4100 processor will have one camera input connector and 4600 processor will have four camera input connectors.

StarFire is a trademark of Deere & Company



RXA0132177—UN—23APR13

Remove Rear Panel



RXA0132178—UN—23APR13

Video Connectors Location (Equipped with 4600 Processor)

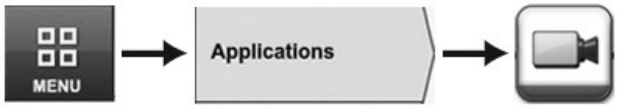
1. Tractors are equipped with one or four, 4-pin video connector(s) to attach camera(s). Remove rear cab panel cap screws (A). Remove cab rear panel (B) to access each marked video camera connector(s) (C, D, E or F). Chart shows connector pin/function information.

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

2. Connect camera cable into 4-pin connectors, route cable and mount camera at desired location.
3. Install rear panel on cab and tighten screws.
4. Proceed to Video Triggers in this section of this Operator's Manual to select camera settings.

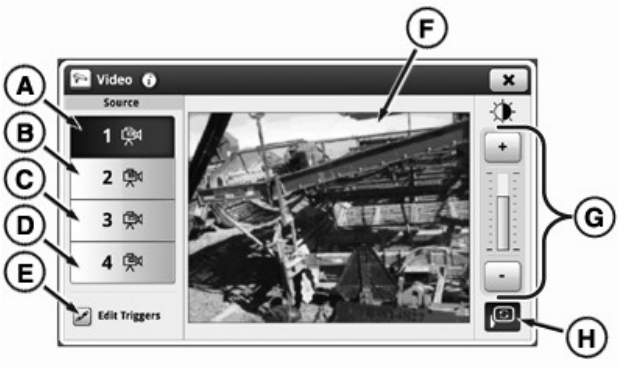
KT81203,00004BE-19-26JUL17

Navigate to Video Application



RXA0144375—UN—06AUG14

1. Select **Menu.**
2. Select **Applications tab.**
3. Select **Video icon.**



RXA0131114—UN—03SEP13

Video Applications Settings Page

A—Input 1 button
B—Input 2 button
C—Input 3 button
D—Input 4 button
E—Edit Triggers Button
F—Video Display Screen
G—Brightness Adjustment Bar
H—Mirror Image Button

KT81203,00004BF-19-03AUG17

Video



PC15312—UN—15MAY13

Video

CAUTION: Do not rely on a camera for collision avoidance or bystander detection. To avoid possible injury or death to operator or others, always remain alert and aware of surroundings when operating the machine. Read and understand AVOID BACKOVER ACCIDENTS in the safety section.

The Video application is used to observe areas around the machine. Only one video can be viewed at a time.

4600 processor can support up to four camera inputs,

while 4100 processor can support only one camera input.

For more information about the different types of displays, see Display Introduction section.

Navigate to Video

1. Select Menu.
2. Select Applications tab.
3. Select Video application.

Switching Cameras



PC23948—UN—22MAR17

Camera Icon

If more than one camera is connected, choose between video inputs by selecting different camera numbers.

Mirror Video



PC23949—UN—22MAR17

Mirror Video Button

Select Mirror Video button to simulate a rear view mirror. This swaps left and right sides of video image.

Contrast



PC23950—UN—22MAR17

Video Contrast Icon

Adjust video contrast using plus (+) and minus (-) buttons. Brighten video by selecting the plus button, and darken video by selecting minus button.

IMPORTANT: Determine if camera image or video application is mirrored before using Video application.

DX,PC,VIDEO-19-07APR17

Video Triggers

Video can be displayed when certain machine functions are performed (For example: Reversing, PTO engage).

1. Select Edit Triggers to configure settings.
2. Select a trigger.
3. Select camera input for the current trigger. This camera is displayed when trigger is activated.

NOTE: To prevent video from displaying for a trigger, select No Camera.

4. Enter video Timeout length. This is the amount of time video is shown after the trigger becomes inactive.

DX,PC,VIDEO,TRIGGERS-19-23DEC15

Radio Operation

Radio Faceplate Features

Radio faceplate is made up of different buttons, knobs, and switches that perform various audio functions.



RXA0160581—UN—16AUG17

Radio Features		
Features	Radio Type	
	Premium (1)	Premium with CD (2)
Radio	•	•
Connection of External Devices	—	•
CD	—	•
MP3/WMA	—	•
USB	—	•
Bluetooth®	•	•
SAT Radio	XM-ready	•

Radio Faceplate Controls

A—Volume Control Knob: Turn clockwise to increase and counterclockwise to decrease volume.

B—BND Button: Press briefly to select memory level or wave band. Press and hold to start T-STORE function. T-STORE function scans band and sets FMT or AMT station buttons 1-6 to strongest signals. Press to accept phone call when call is coming in.

C—Power Button: Press and hold for 2 seconds to turn radio on or off. Press briefly during operation to mute radio.

D—Display: Shows current audio activity/information.

E—Menu Button: Access menu for basic settings. When phone is in use, press to end call

F—Multi-Function Rocker Switch: Use to navigate within display and switch functions. Press left or right to seek up or down to next available station. Press up or down to manually tune frequency, change category when using XM (when CAT mode is active), and browse folders when using MP3, CD, or USB.

G—AUD Button: Press briefly to access audio menu to adjust treble, middle, bass, balance and fade. Press and hold to restore treble, bass and middle back to factory sound setting for currently used audio source. Press and hold to restore balance and fade back to factory sound setting for all audio sources.

H—Station Buttons Save as presets. Press and hold to save current station (beep will sound). Press again to bring radio back to saved station. Depending on radio type, station buttons may have these specialized functions:

- **Station Button 1/Play or Pause Button:** When CD, MP3, or USB is in use, press to pause current track. Press again to play.
- **Station Button 2/RPT:** When CD is in use, press to repeat current track until pressed again. When MP3 or USB is in use, press to repeat track. Press again to

repeat all tracks in current playlist. Press a third time to turn off.

- **Station Button 3/MIX:** When CD is in use, press to play songs at random until pressed again. When MP3 or USB is in use, press to play songs in current playlist at random. Press again to play all songs at random. Press a third time to turn off.
- **Station Button 4/SCAN:** When CD, MP3, or USB is in use, press to play all tracks for approximately 10 seconds each until pressed again.
- **Station Button 5/SCRL:** When CD, MP3, or USB is in use, press to turn scrolling track information on display on or off.
- **Station Button 6:** When CD, MP3, or USB is in use, press to switch between display of elapsed and remaining playing time of current track.

I—TA Button: Press to switch from user/audio menus to current source or exit radio scan functions. When MP3, CD or USB is in use, press and hold to activate playlist mode.

J—SRC Button: Source selection between radio and AUX (also CD, USB, Bluetooth® and XM depending on model) provided medium is inserted or device is connected and turned on.

K—CD Eject Button: Press to eject CD.

L—CD Slot

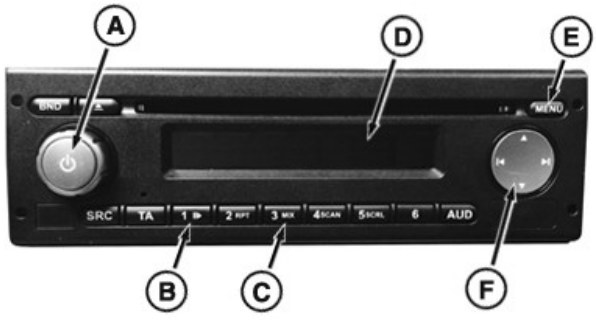
*NOTE: Playlist must be created on computer and saved as *.m3u or *.pls.*

KT81203,0000580-19-16AUG17

Select Radio Receiver Wave Band

Radio stations cannot be received if correct country-specific wave band is not selected for radio receiver. Select correct wave band:

1. Move key switch into ACC position.



RXA0141571—UN—13MAY14

2. Turn radio off with ON/OFF button (A).
3. Press and hold ON/OFF button, station button 1 (B) and station button 3 (C) until SETUP appears on display (D).
4. Press menu button (E) until current wave band (e.g. EUROPE, NAFTA, etc) is shown on display. Countries and their associated wave bands are shown in chart.
5. If wave band shown on display is not correct, press multi-function rocker switch (F) left or right until correct wave band is shown.

NOTE: If radio will not store selected wave band, radio may be CommandCenter™ controlled. See your John Deere dealer.

6. Without changing selected wave band, turn radio off.

Wave Band	Country	
EUROPE	Austria Belgium Bulgaria Croatia Denmark United Kingdom Estonia Finland France Hungary Italy Kazakhstan Lithuania Luxemburg	Latvia Netherlands Poland Portugal Romania Russia Serbia Slovakia Spain Sweden Switzerland Turkey Ukraine
NAFTA	Canada Dominican Republic	Mexico United States (USA)
SOTHAMRCA	Argentina Bolivia Brazil Guyana	Nicaragua Uruguay Venezuela
MESTAFRC	Armenia Ethiopia Israel	Oman South Africa Zambia
APAC	China Japan	Korea
AUSTRLNZ	Australia	New Zealand
TAIWAN	Taiwan	
PHILIPIN	Philippines	

KT81203,00004C1-19-14SEP17

Federal Communications Commission (FCC) Bluetooth® Information

FCC ID: YBN-JD-BASE4

IC: 9595A-JD-BASE4

FCC Section 15.19, Labelling Requirements

This device complies with part 15 of the FCC[1] Rules and Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

CommandCenter is a trademark of Deere & Company

Bluetooth is a trademark of Bluetooth SIG

[1] FCC = Federal Communications Commission

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

FCC Section 15.21, Information to User

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

KT81203,0000581-19-05JAN17

Set Clock

Set Clock Time

The radio will default to the TIMESET mode when connected to power for the first time or after a period of battery disconnect from radio (not the same as the battery disconnect on vehicles). The time can also be modified through the radio's user menu. The radio will sync it's time if the Time/Date message is received over CAN.

Set Time Manually:

NOTE: v14.00 and v16.00 will not allow the time to be manually set if the Time/Date message is being received on CAN. To work around this, turn the vehicle off. With the key off, turn the radio on and set the time as described above

1. Upon initial connection: TIMESET will start automatically.
2. Through the radio user menu – press the MENU button until TIMESET is displayed.
3. TIMESET will display for 2 seconds. Time will be displayed with the hour's digits flashing.
4. Use volume knob to change hour's value.
5. Press the left/right rocker button to move the cursor to the minute's digits. The radio will change AM/PM automatically if time format is 12H.
6. When the time is correct, press the SRC button to save and return to normal radio functions.

Time Format

The radio can display the clock time in 12H or 24H format.

Set Clock Format:

1. Press the MENU button until MODE 12H or 24H is displayed.
2. Use the volume knob to between 12H and 24H time format. Setting will be saved after 2 seconds.

Clock Mode

The radio can display the clock time by default (ALWAYS) or on request (TEMP).

- ALWAYS – The time will be displayed on the radio faceplate unless a change in radio information is detected. Radio information will be displayed on change for 5 seconds. Changes that will prompt the radio information to be displayed include, source change, channel change, volume change, preset change, etc.
- TEMP – The time will be displayed when requested by the operator. Press and hold the MENU button for 3 seconds. Time will be displayed for 5 seconds and then will revert back to displaying radio information.

Set Clock Mode:

1. Press the MENU button until CLKMODE is displayed.
2. CLKMODE will display for 2 seconds. ALWAYS or TEMP will be displayed.
3. Use the volume knob to switch between ALWAYS and TEMP clock mode. Setting will be saved after 2 seconds.

KT81203,0000967-19-01SEP17

Reset Clock

If vehicle battery or radio itself is disconnected, rest clock and push SRC button to operate radio.

Vehicles with CommandCenter™ only:

1. Start ignition.
2. Turn on radio.
3. The radio display shows "TIMESET". Clock displays after two seconds.
4. If time is available on CAN bus (via GPS) this time is displayed and must be confirmed by pressing the SRC button.

Manually adjusting time:

1. The hours will flash after first start.
2. Set hours with volume control knob.
3. Confirm with SRC button.
4. Minutes are flashing. Set minutes with volume control knob.
5. Confirm and save with SRC button.

KT81203,00009B1-19-18DEC17

Turn Confirmation Beep On/Off (BEEP)

After certain actions (e.g. pressing and holding button) confirmation beep sounds. Confirmation beep can be turned on or off.

1. Press MENU button, on radio faceplate, until BEEP and current setting ON or OFF are displayed.
2. Turn volume control knob counterclockwise or clockwise to change from ON to OFF or vice versa.
3. Press MENU button several times to exit menu.

KT81203,00004C2-19-28NOV16

Adjust Maximum Volume at Power-On (ONVOL)

Maximum volume when turning radio system on can be adjusted in ONVOL menu. Previously selected volume is used at power-on unless it is above setting for maximum volume at power-on. In this case, maximum volume setting is used.

1. Press MENU button, on radio faceplate, until ONVOL and current setting are displayed.
2. Turn volume control knob counterclockwise or clockwise to adjust maximum volume at power-on from 5 to 25.
3. Press MENU button several times to exit menu.

KT81203,00004C3-19-28NOV16

Program Type (PTY)

Besides station name, some FM stations also transmit information on program type. Program types examples include:

- CULTURE
- TRAVEL
- WEATHER
- JAZZ MUSIC
- NEWS
- POP MUSIC

With this function only stations of specific program type can be selected.

When PTY is turned on and PTY scan has been started, the radio automatically changes from current station or from another mode to station of selected program type.

Turn PTY On/Off

1. Select radio mode.
2. Press MENU button, on radio faceplate, until PTY ON or PTY OFF is displayed.
3. Turn volume control knob counterclockwise or clockwise to turn PTY on or off.
4. Press MENU button several times to exit menu.

Select program type

NOTE: PTY must be turned on.

1. Select radio mode.
2. Press MENU button, on radio faceplate, several times until **PTYTYPE** is displayed.
3. Turn volume control knob counterclockwise or clockwise to select program type.
4. Press MENU button several times to exit menu.

Start PTY scan

NOTE: PTY scan is only available if PTY is turned on and AUTOSEEK or BANDSCAN is selected for ◄ and ► keys in KEY PRG menu. See Set Key Function (KEY PRG) in this Operator's Manual section.

1. Press ◄ or ► button, on radio faceplate, to start scanning.
2. If station of currently selected program type is found, it will be tuned to station.
3. If no station of this program type is found, previously selected station remains on.

KT81203,00004C4-19-08NOV17

Treble Reduction During Interference (HCUT)

HCUT function improves sound when radio reception is poor. If interference with reception is present, level of interference noise is automatically reduced.

1. Select radio mode.
2. Press MENU button, on radio faceplate, until HCUT and current setting OFF, 1 or 2 are displayed.
3. Turn volume control knob counterclockwise or clockwise to adjust or turn off HCUT.
4. Press MENU button several times to exit menu.

KT81203,00004C5-19-28NOV16

Set Key Function (KEY PRG)

Functions can be assigned to ◄ and ► buttons.

Possible key functions	Description
AUTOSEEK	Automatic search for next receivable station
MANSEEK	Manual frequency change in increments
PRSTSCAN	Scanning of stations stored on currently selected memory level
BANDSCAN	Scanning of stations receivable in currently selected wave band

Set key function

1. Select radio mode.

2. Press MENU button, on radio faceplate, until KEY PRG is displayed.
3. Turn volume control knob counterclockwise or clockwise to change between different settings (see table).
4. Press MENU button several times to exit menu.

KT81203,00004C6-19-28NOV16

SiriusXM® Radio—General Information

Service will automatically renew and bill at then-current rates until you call us at 1-866-635-2349 to cancel. See our Customer Agreement for complete terms at www.siriusxm.com. Other fees and taxes apply. All fees and programming are subject to change. XL may include frequent explicit language or mature programming. Call SiriusXM® Listener Care at 1-800-967-2346 and ask about our Family Friendly packages; in Canada call 1-877-438-9677. XM satellite service is available only to those at least 18 and older in the 48 contiguous USA and D.C. For more information about program schedules or subscriptions, please visit www.siriusxm.com; in Canada visit www. siriusxm.ca. You may also call to subscribe. USA customers: 1-800-967-2346; Canadian customers: 1-877-438-9677.

NOTE: It is prohibited to copy, decompile, disassemble, reverse engineer, hack, manipulate, or otherwise make available any technology or software incorporated in receivers compatible with the SiriusXM® Satellite Radio System or that support the SiriusXM® website, the Online Service or any of its content. Furthermore, the AMBE® voice compression software included in this product is protected by intellectual property rights including patent rights, copyrights, and trade secrets of Digital Voice Systems, Inc.

Canada: Some deterioration of service may occur in extreme northern latitudes. This is beyond the control of SiriusXM® Satellite Radio.

KT81203,000058B-19-05JAN17

Display XM Serial Number

XM serial number and serial number of radio system are identical. Serial number is briefly displayed after XM receiver has been selected. Serial number is required to subscribe to satellite radio service.

1. Have note pad and pen ready.
2. Press SRC button, on radio faceplate, until XM is displayed.
3. After 2 seconds channel CHN 0 will display.
4. Then RADIO ID is displays. After another 2 seconds eight-digit XM serial number (similar to 1A2B3C4D) will display.
5. Record number. Serial number displays for 10 seconds.

KT81203,000058C-19-05JAN17

External Sources (Premium Radio)

External audio sources can be connected using convenience port located on right-hand console/storage tray. Sources can also be connected using Bluetooth® functions. Use ports to charge certain external audio sources. Examples of external audio sources include portable CD player, MiniDisc player, or MP3 player.

NOTE: Charging some external audio sources, such as smart phones and tablets, via audio USB port is not supported. Attempting to charge device that is not supported may shut off USB port. Device must be removed and cycle radio power to recover.

Activate AUX Input

NOTE: External audio source can only be selected if audio device is connected to external AUX input.



RXA0143013—UN—03JUL14
Auxiliary and USB Input

Connect external audio source using Auxiliary Input (A) and press SRC button several times until AUX is displayed on radio.

Activate USB Input

NOTE: USB audio source can only be selected if USB device is connected to external USB input.

Connect USB audio source using USB Input (B) and press SRC button several times until USB is displayed on radio.

Adjust AUX Input Volume

Volume for connected external audio source can be adjusted using radio volume knob after input is selected as audio source using SRC button.

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1. Press SRC button several times until installed audio source is displayed.
2. Press MENU button. GAIN and current setting is displayed.
3. Turn volume control knob counterclockwise or clockwise to adjust value from -9 to +9.
4. Press the MENU button several times to exit the menu.

Set Up Bluetooth®

Following steps must be performed before Bluetooth® can be used:

NOTE: Bluetooth® connection only relevant to devices/ external audio sources which are Bluetooth® enabled.

NOTE: While pairing Bluetooth® device to radio, pairing process cancels if changes are made to radio (ex: changing source or frequency).

1. Enable Bluetooth® on device.
2. Press MENU button, on radio faceplate until BT MODE displays.
3. Wait 2 seconds until BT ON or BT OFF. Turn volume control knob clockwise or counterclockwise to turn Bluetooth® on or off. Display window may take up to 5 seconds to change.
4. Press MENU button until display shows CON-TYPE. Select connection type phone/audio (default).
5. To pair device, press MENU button until BT Pair displays.
6. Enter pin provided into device.

Pairing process may take up to 5 minutes to complete. Bluetooth® symbol flashes while pairing takes place. When device/external audio source is successfully paired, phone calls and audio streaming can be received and placed via radio system. Device information (contact information, call history, music, etc) does not transfer to CommandCenter™.

For further instructions on how to pair device/external audio source, select source for connection, and transfer data, see Pair Bluetooth® Device to Generation 4 CommandCenter™ in this Operator's Manual section.

KT81203,00004C8-19-08NOV17

Select Radio Source with Generation 4 CommandCenter™

Use radio source tabs on Generation 4 CommandCenter™ to select radio source.

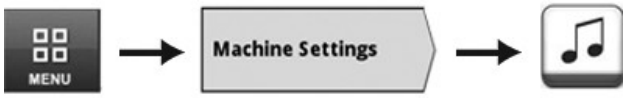
When radio is on, radio page navigates to home page of current source selected. When radio is off, content blocker displays.

NOTE: Selecting radio source will not turn radio on. Turn radio ON by pressing ON/OFF button on radio faceplate.



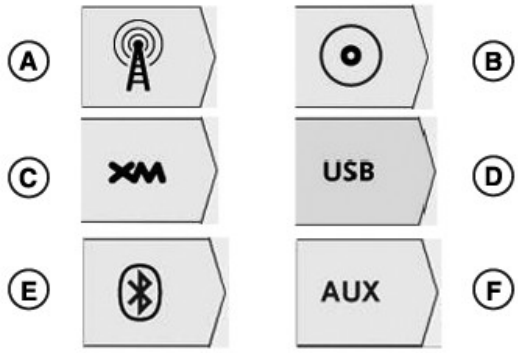
RXA0133718—UN—16JUL13

To access audio main page, use Audio Shortcut Button on Navigation Bar or follow alternative path:



RXA0147929—UN—13APR15

1. Select **Menu.**
2. Select **Machine Settings tab.**
3. Select **Audio icon.**
4. Select desired radio source tab:



RXA0132517—UN—15MAY13

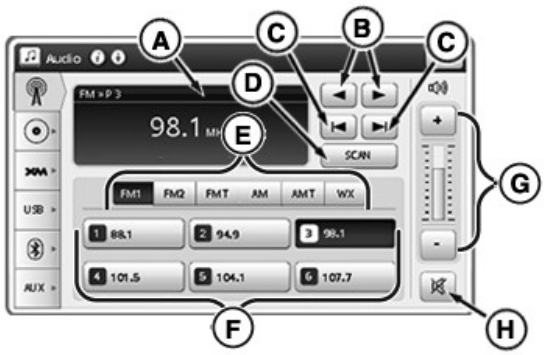
A—FM, AM, and Weather
B—CD/MP3 (Premium Radio)
C—XM (Premium Radio)
D—USB (Premium Radio)
E—Bluetooth® Audio (Premium Radio)
F—Auxiliary

KT81203,0000582-19-05JAN17

AM, FM, Weather Channel Home Page

Navigate to AM, FM, Weather Channel home page. See Select Radio Source with Generation 4 CommandCenter™ in this Operator's Manual section.

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CommandCenter is a trademark of Deere & Company



RXA0150912—UN—08JAN16

A—Display Area: Displays current radio activity/information.

B—Manually Tune Forward/Back: Use left or right button to manually tune in desired station. Each time button is pressed, radio frequency increases or decreases by standard increment.

C—Next/Previous Station: Select to seek next available station before or after current station.

D—Scan Button: Select to cycle through available stations. Each station broadcasts for 5 seconds before moving to next station. Cycle will end if returns to original station or by selecting button again.

E—AM/FM/Weather Button Bar: Cycle through channel presets using toggle bar (FM1, FM2, FMT, AM, AMT, WX).

F—Presets: Six presets can be programmed to FM1, FM2, FMT, AM and AMT banks. To change presets, press preset for 3 seconds, while on desired station, until “beep” sounds. Press again to tune radio to saved station. Six presets are pre-programed into WX bank and cannot be changed. FMT and AMT banks can be set automatically using T-STORE function. For more information, see Use Premium Radio in this Operator’s Manual section.

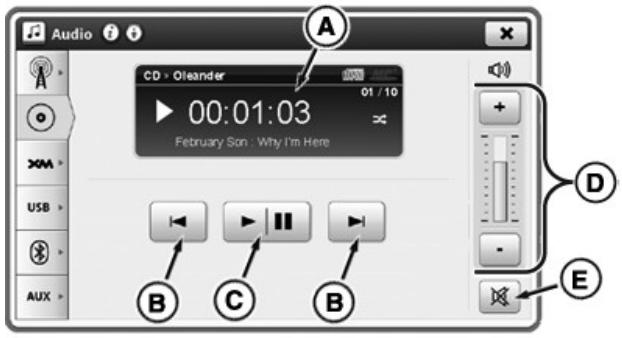
G—Volume Adjustment: Adjust volume.

H—Mute: Silence sound.

KT81203,0000583-19-08NOV17

Premium Radio CD Home Page

Navigate to CD home page. See Select Radio Source with Generation 4 CommandCenter™ in this Operator’s Manual section.



RXA0132505—UN—28JUN13

A—Display Area: Displays current CD activity/information.

B—Next/Previous Track: Select to skip back to beginning of current track or ahead to beginning of next track. Press previous button twice to skip to previous track

C—Play/Pause: Play or pause track.

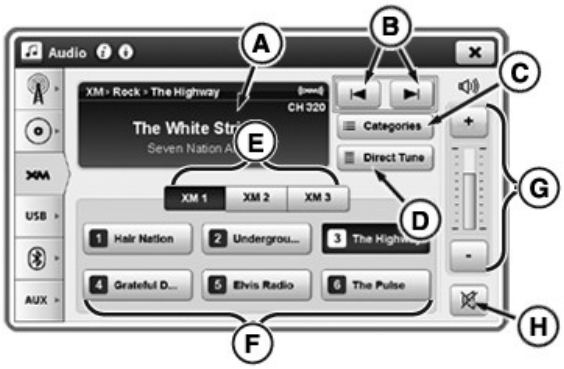
D—Volume Control: Adjust volume.

E—Mute: Silence sound.

KT81203,0000584-19-08NOV17

Premium Radio XM Home Page

Navigate to XM home page. See Select Radio Source with Generation 4 CommandCenter™ in this Operator’s Manual section.



RXA0132502—UN—28JUN13

A—Display Area: Displays XM activity/information.

B—Next/Previous Station: Select to seek next available station before or after current station.

C—(CAT) Category Mode: Select to launch category search mode. Scroll up or down through categories and select station within category.

D—Direct Tune: Select to enter desired channel with keypad.

E—XM Channel Bank: Toggle through banks using buttons (XM1, XM2, XM3).

F—Presets: Six presets can be programmed per bank.

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To set, press and hold desired preset for at least three seconds.

G—Volume Adjustment: Adjust volume.

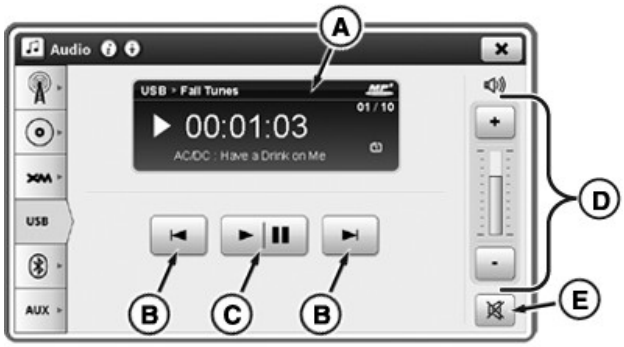
H—Mute: Silence sound.

KT81203,0000585-19-08NOV17

Premium Radio USB Home Page

Navigate to USB home page. See Select Radio Source with Generation 4 CommandCenter™ in this Operator's Manual section.

Connect USB using USB input, located on right-hand console/storage tray, to play stored music. See External Sources (Premium Radio) page in this Operator's Manual section.



RXA0132516—UN—28JUN13

A—Display Area: Displays current USB activity/ information.

B—Next/Previous Track: Select to skip back to beginning of current track or ahead to beginning of next track. Press previous button twice to skip to previous track.

C—Play/Pause: Play or pause track.

D—Volume Controls: Adjust volume.

E—Mute: Silence sound.

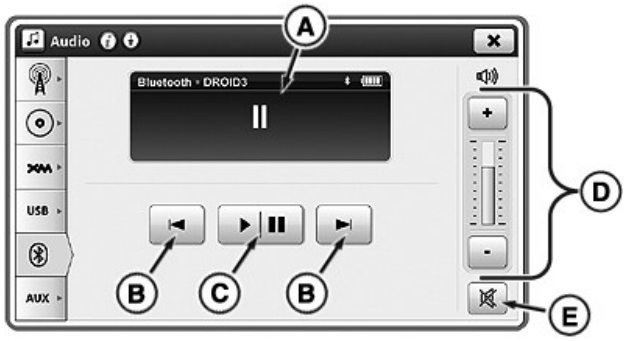
KT81203,0000586-19-08NOV17

Premium Radio Bluetooth® Home Page (If Equipped)

Navigate to Bluetooth® home page. See Select Radio Source with Generation 4 CommandCenter™ in this Operator's Manual section.

Connect Bluetooth® enabled device to play stored music.

Radio system is equipped with Bluetooth®, which allows data transfer between radio system and paired close-range Bluetooth® device such as cell phone. Music stored on device does not transfer to CommandCenter™



RXA0132504—UN—28JUN13

A—Display Area: Displays current Bluetooth® activity/ information.

B—Next/Previous Track: Skip back to beginning or ahead to beginning of next track. Press previous button twice to skip to previous track.

NOTE: Not all devices support pause function. Devices may mute sound, but not pause play.

C—Play/Pause: Play or pause track.

D—Volume Adjustment: Adjust volume.

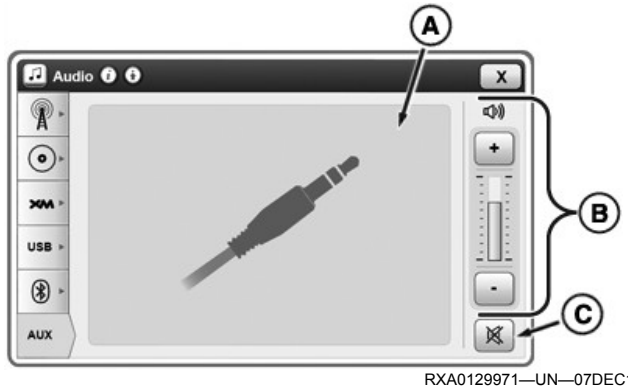
E—Mute: Silence sound.

KT81203,0000587-19-08NOV17

Auxiliary Home Page

Navigate to Auxiliary home page. See Select Radio Source with Generation 4 CommandCenter™ in this Operator's Manual section.

Connect external audio source to listen to stored music. See External Sources (Premium Radio) in this Operator's Manual section.



RXA0129971—UN—07DEC12

A—Display Area: Displays image shown. Activity or information displays on external device only, not on CommandCenter™ display.

B—Volume Adjustment: Adjust volume.

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Bluetooth is a trademark of Bluetooth SIG

C—Mute: Silence sound.

KT81203,0000588-19-08NOV17

Pair Bluetooth® Device to Generation 4 CommandCenter™

Radio system is equipped with integrated Bluetooth®, which allows data transfer between radio system and paired close-range Bluetooth® device such as cell phone. Up to five device pairings can be stored in radio's Bluetooth® feature. See Manage Paired Bluetooth® Devices in this Operator's Manual section.

Phone book does not appear on CommandCenter™ display.



RXA0133719—UN—16JUL13

To access phone main page, use Phone Shortcut Button on Navigation Bar or follow alternative path:



RXA0147930—UN—13APR15

1. Select **Menu.**
2. Select **Machine Settings tab.**
3. Select **Phone icon.**

NOTE: Not ALL devices are able to use Bluetooth® feature on radio.

4. Enable Bluetooth® mode on device.



RXA0132157—UN—28JUN13

5. Select Pair Device button (A) to start pairing process.

NOTE: Once Bluetooth® pairing process is initiated, changes to radio - such as changing source or frequency - cancels pairing.



RXA0137741—UN—13DEC13

6. Enter pairing code displayed in Pairing Code box (B) into device. Pairing process begins immediately.
7. Once device is connected successfully, **"Pairing Complete"** is displayed.

KT81203,00004CF-19-08NOV17

Manage Paired Bluetooth® Devices

Up to five device pairings can be stored in radio's Bluetooth® feature. See Pair Bluetooth® Device to Generation 4 CommandCenter™ in this Operator's Manual section.



RXA0133719—UN—16JUL13

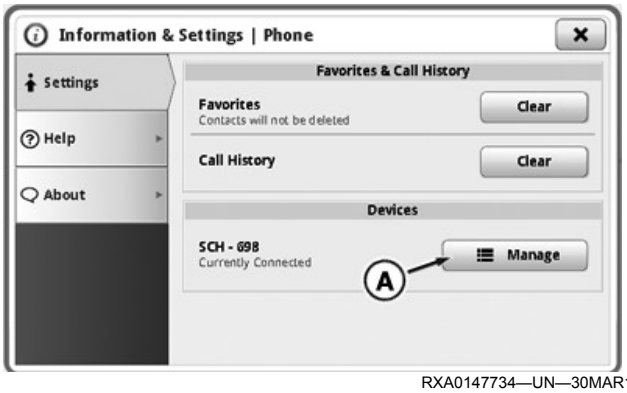
Use phone advanced settings to connect devices paired to radio or add new devices to paired list.



RXA0147944—UN—13APR15

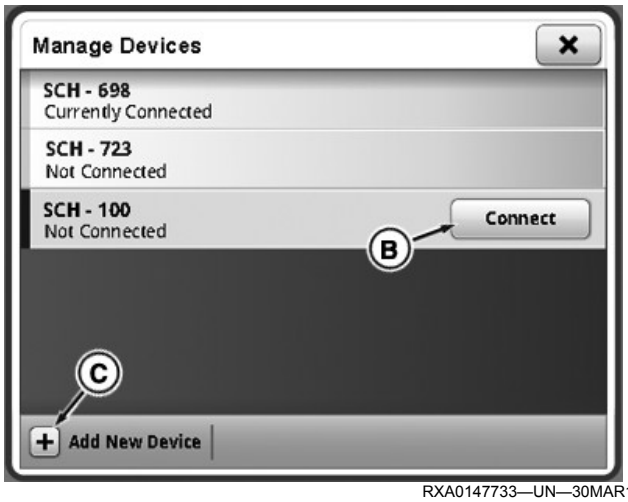
1. Select **Phone Shortcut button on Navigation Bar.**
2. Select **Advanced Settings icon.**
3. Select **Settings tab.**
4. Information & Settings / Phone page appears.

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CommandCenter is a trademark of Deere & Company



RXA0147734—UN—30MAR15

5. Select Manage Devices button (A).



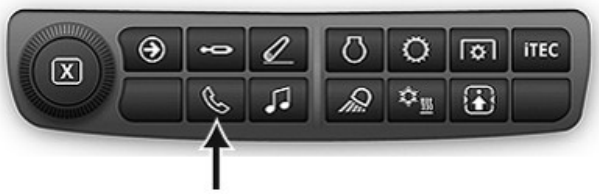
RXA0147733—UN—30MAR15

6. Choose desired device from list of paired devices and select Connect Device button (B).
7. Select Add New Device button (C) to pair new Bluetooth® device.

KT81203,00004D0-19-08NOV17

Phone Operation

Use Bluetooth® capability to make or receive phone calls from paired Bluetooth® enabled cell phone. See Pair Bluetooth® Device to Generation 4 CommandCenter™ in this Operator's Manual section.



RXA0133719—UN—16JUL13

Press Phone Shortcut button on Navigation Bar or follow alternative path:



RXA0147930—UN—13APR15

1. Select **Menu.**
2. Select **Machine Settings tab.**
3. Select **Phone icon.**
4. Phone home page appears.



RXA0137742—UN—11DEC13

NOTE: Phone options A, B, C and E are not available during call. Use cell phone if another number is needed.

Phone controls on this page are disabled while device is syncing with radio.

A—Input Box: Displays typed digits.

B—Backspace Button: Cancel typed digit. Press and hold to cancel multiple digits.

C—Dial Pad: Enter phone number using number buttons.

D—Dial Pad Tab: Press to display dial pad during phone call.

NOTE: Favorites are stored permanently and can be viewed by any operator. Clear favorites before leaving tractor, if desired. See Clear Favorites and Call History in this Operator's Manual section.

E—Favorites Button: View/edit favorites contacts.

F—Recent Button: Review previous missed calls, incoming calls or outgoing calls.

G—Volume Control: Adjust volume.

H—Mute Button: Mutes microphone.

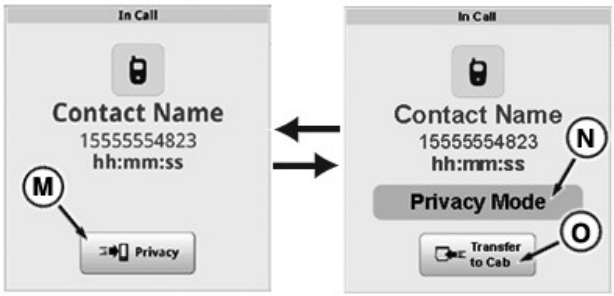
I—Battery Icon: Displays battery life.

J—Signal Icon: Displays current phone signal strength.

K—Bluetooth® Icon: If blue, Bluetooth® device is connected. If grayed out, Bluetooth® device is not connected.

Bluetooth is a trademark of Bluetooth SIG
CommandCenter is a trademark of Deere & Company

L—Call Button: After dialing or selecting number, press to begin call.



RXA0147774—UN—30MAR15

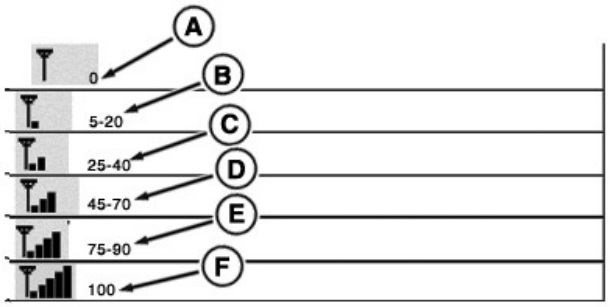
M—Privacy Mode Button: Transfers phone audio from cab speakers to phone speakers during call.

N—Privacy Mode Message: Displays when call has entered privacy mode.

O—Transfer to Cab Button: Exits privacy mode and transfers phone audio from phone speakers to cab speakers

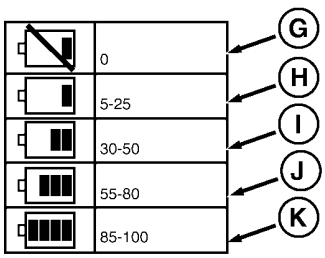
KT81203,00004D1-19-08NOV17

Phone Signal Strength and Battery Charge



RXA0121552—UN—31OCT11

Cell phone signal strength is represented by phone signal strength bars (A-F). Signal strength ranges from no signal (A) to 100 percent signal strength (F).



RXA0121554—UN—31OCT11

Cell phone battery charge is represented by phone battery charge bars (G-K). Battery charge ranges from no battery charge (G) to 85-100 percent battery charge (K)

KT81203,00004D2-19-28NOV16

Contact List

Device's phone book synchronizes with radio, not CommandCenter™. Contacts must be added and edited manually on display.

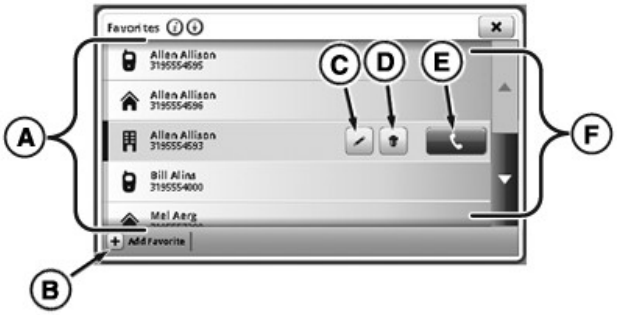
Maximum number of phone numbers that can be stored in CommandCenter™ is 25. Maximum number of characters in phone number is 21.

Favorites are stored permanently and can be viewed by any operator. Clear favorites before leaving tractor, if desired. See Clear Favorites and Call History in this Operator's Manual section.



RXA0147931—UN—13APR15

1. Select **Menu.**
2. Select **Machine Settings tab.**
3. Select **Phone icon.**
4. Select **Favorites button.**
5. Favorites page appears.



RXA0132498—UN—28JUN13

6. To edit favorites, press Add (B), Edit (C), or Delete (D) Favorite button.
7. Edit Favorite page appears.

A—Favorite List: List of available contacts.

B—Add Favorite Button: Select to add contact manually

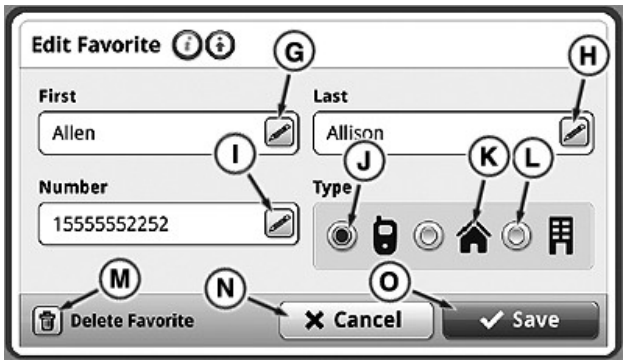
C—Edit Favorite Button: Select to edit current contact.

D—Delete Button: Select to delete contact from favorites.

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E—Call Button: Select to call currently selected contact.

F—Scroll Bar: Select to scroll up or down.



RXA0132499—UN—28JUN13

G—Edit Favorite First Name: Select to edit first name.

H—Edit Favorite Last Name: Select to edit last name.

I—Edit Favorite Phone Number: Select to edit phone number.

J—Mobile Phone Button: Select to list contact information under mobile phone.

K—Home Phone Button: Select to list contact information under home phone.

L—Work Phone Button: Select to list contact information under work phone.

M—Delete Favorite Button: Select to delete contact.

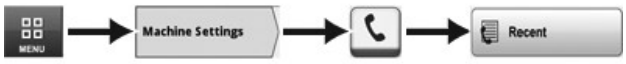
N—Cancel Button: Select to cancel edits.

O—Save Button: Select to save edits.

KT81203,00004D3-19-08NOV17

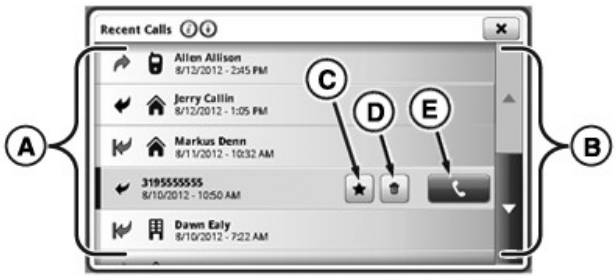
Recent Calls

Review previous missed, incoming or outgoing calls placed or received through CommandCenter™.



RXA0147933—UN—13APR15

1. Select **Menu.**
2. Select **Machine Settings tab.**
3. Select **Phone icon.**
4. Select **Recent button.**
5. Recent Calls page appears.



RXA0132556—UN—28JUN13

A—Recent Calls Contact List: List of recently called contacts.

B—Scroll Bars: Use to scroll up or down through recent calls contact list.

C—Add Favorite Button: Select to add contact to favorites.

D—Delete Button: Select to delete contact from favorites.

E—Call Button: Select to call currently selected contact.

KT81203,00004D4-19-28NOV16

Clear Favorites and Call History

Use phone advanced settings to clear favorites and call history. Contacts will be cleared on CommandCenter™ display only, not on phone.



RXA0133719—UN—16JUL13

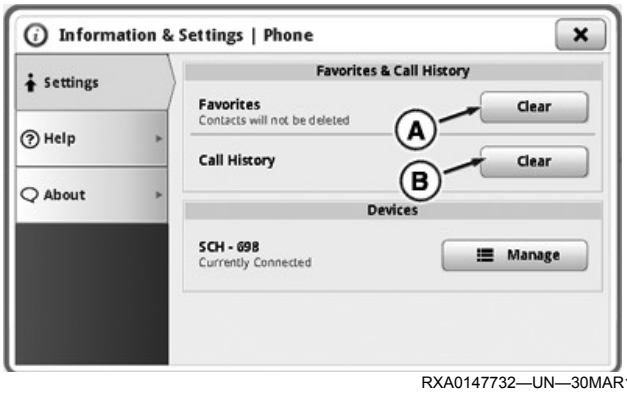
1. Select **Phone Shortcut button on Navigation Bar.**



RXA0147944—UN—13APR15

2. Select **Advanced Settings icon.**
3. Select **Settings tab.**
4. Information & Settings / Phone page appears.

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RXA0147732—UN—30MAR15

5. Press clear favorites button (A) to erase favorites. Phone contacts will not be deleted.
6. Press clear call history button (B) to erase call history.

KT81203,00004D5-19-28NOV16

Machine Sync

Machine Sync controls synchronized movements between tractor and combine. It guides tractor and grain cart to preset position for unloading relative to specific combine.

Machine Sync utilizes AutoTrac™ and its advanced settings to control tractor. Machine Sync system maintains in line and lateral offset between the combine and tractor using information via the machine and StarFire™ 6000 receiver that is transmitted between machines using the Machine Communication Radio.

Machine Sync system contains three important entities:

- **Operational zone:** area that allows for automation to take over.
- **Calibration zone:** area that allows for calibration of home point.
- **Home point:** in line and lateral offset location relative to combine that tractor will return to every time it syncs with specific combine.

Machine Sync, when engaged, guides tractor and grain cart to home point position set in relation to each specific combine. Tractor and grain cart will maintain that position during operation.

For more information on Machine Sync, see John Deere Machine Sync operator's manual.

TS36762,0000193-19-18NOV16

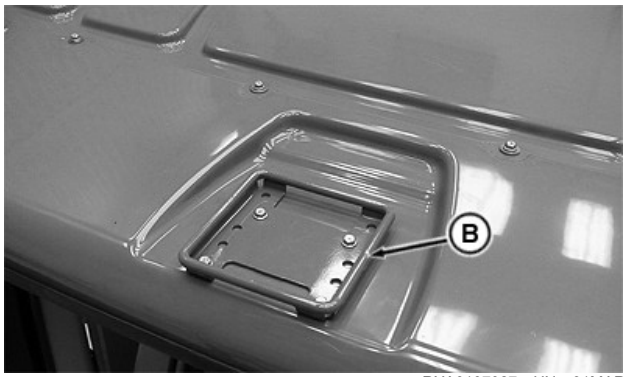
Mount StarFire™ Receiver

CAUTION: Falling while installing or removing global positioning receiver can cause serious injury. Use ladder or platform to easily reach mounting location.

Use sturdy and secure footholds and hand holds. Do not install or remove receiver in wet or icy conditions.



RXA0153451—UN—18AUG16



RXA0107027—UN—31MAR10

Mount StarFire™ receiver (A) on StarFire™ receiver bracket (B).

NOTE: Refer to your John Deere dealer or to StarFire™ receiver installation instructions for compatibility.

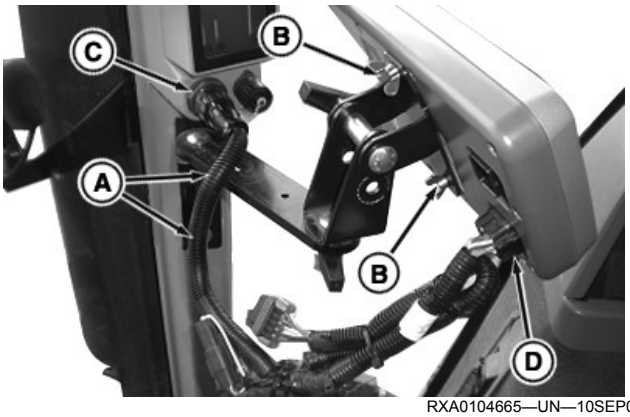
See your John Deere dealer for compatible adapter harnesses.

TS36762,0000194-19-18NOV16

Install GreenStar™ System Components

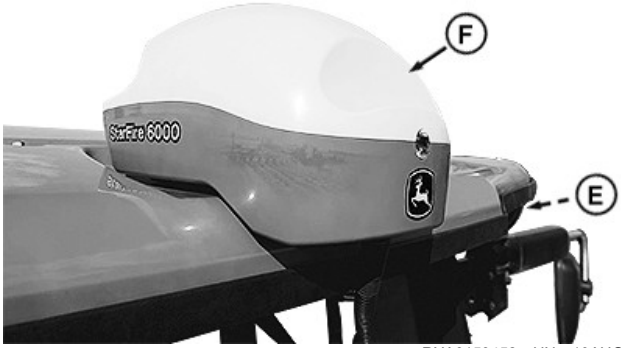
IMPORTANT: This vehicle employs one or more CAN bus networks. Connecting unapproved devices to vehicle network(s) may cause machine to degrade in performance or fail to perform properly. Further, unapproved devices that attempt control of tractor functions should not be connected to implement network (ISOBUS).

AutoTrac is a trademark of Deere & Company



RXA0104665—UN—10SEP09

1. Attach bracket to corner post mounts (A).
2. Attach display to bracket using wing nuts (B) (provided with display).
3. Attach harness to corner post connector (C) and lower GreenStar™ display connector (D) on back of display.
4. Position display so it is comfortable to reach and does not obstruct operator view.



RXA0153452—UN—19AUG16

5. Connect StarFire™ receiver connector (E) to Starfire™ receiver (F).

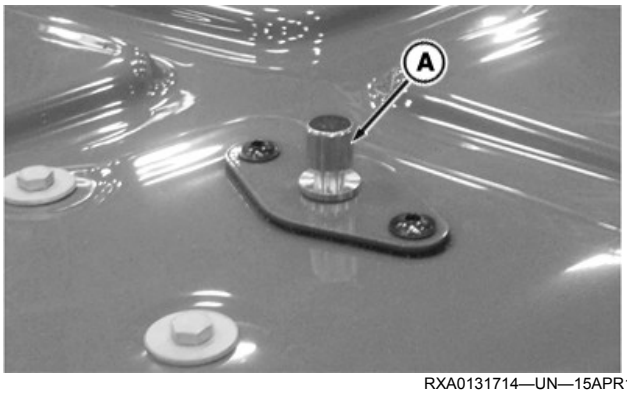
NOTE: See your John Deere dealer for compatible adapter harnesses.

TS36762,0000195-19-18NOV16

Install Machine Communications Radio (MCR) Antenna

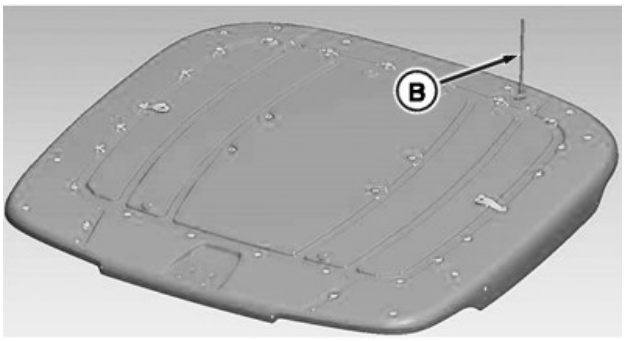
NOTE: This antenna is only available for machines that have a factory installed Machine Communications Radio. Refer to John Deere Machine Communications Radio operator's manual for more information.

1. Remove antenna from storage under instructional seat.



RXA0131714—UN—15APR13

2. Remove cap from MCR antenna post (A) from rear left roof.



RXA0131715—UN—15APR13

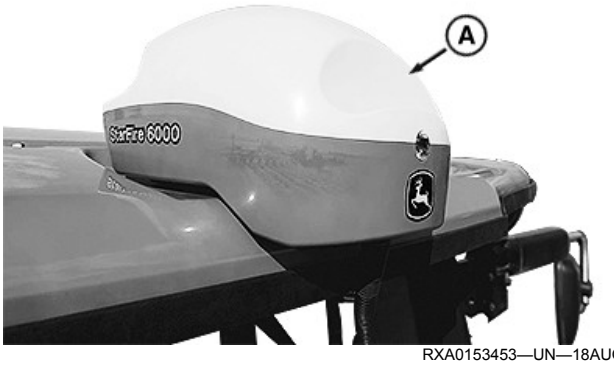
3. Screw MCR antenna (B) onto MCR antenna post.

TS36762,0000196-19-18NOV16

Connect AutoTrac™ Assisted Steering System

NOTE: Electro-hydraulic steering is required for AutoTrac™ to function.

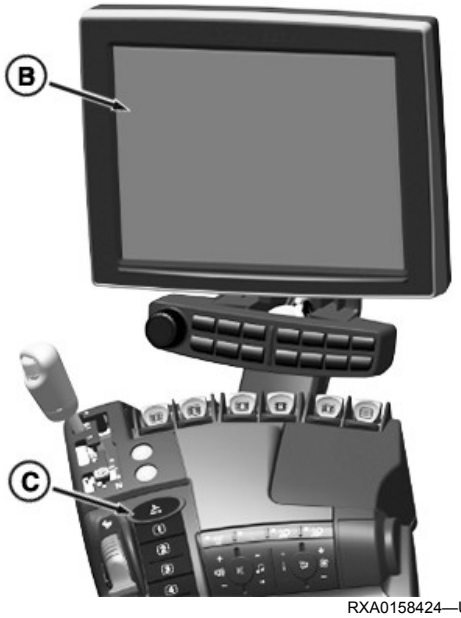
Refer to Generation 4 Applications operator's manual for detailed instructions.



RXA0153453—UN—18AUG16

StarFire is a trademark of Deere & Company

AutoTrac is a trademark of Deere & Company



RXA0158424—UN—28MAR17

- AutoTrac™ system utilizes StarFire™ position receiver (A) and Generation 4 CommandCenter™ Display (B) to assist operator in steering tractor. Other displays are used as well. See Multiple Displays in CommandCenter™ section of this Operator's Manual.
- Operator must take manual control at end of each pass and when field obstacles are encountered. Regain steering control by turning steering wheel. After turn is made, press AutoTrac™ Resume button (C) to engage AutoTrac™.

NOTE: See your John Deere dealer for compatible adapter harnesses.

TS36762,0000197-19-06NOV17

StarFire is a trademark of Deere & Company
CommandCenter is a trademark of Deere & Company
AutoTrac is a trademark of Deere & Company

Intelligent Total Equipment Control (iTEC™)

CommandARM™ Control Functions

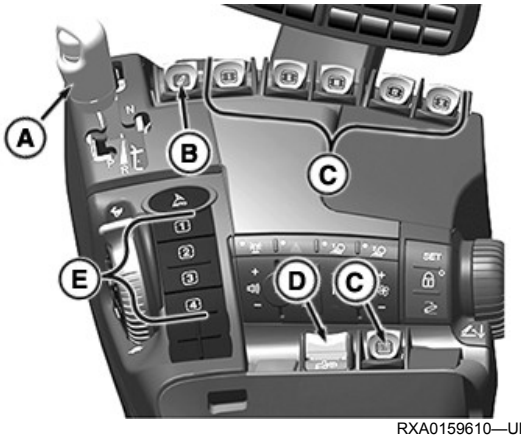
Intelligent Total Equipment Control, iTEC™ , allows multiple reoccurring tasks to be performed with touch of one button, up to four sequences.

One sequence made up of series of functions, operations, and distances used at start of field. A second sequence used at water way in center of field. Sequences remain in memory until deleted or overwritten, even if electrical current is switched off.

Each sequence can include up to 20 functions.

A sequence is a course of events from start of first function to completion of last function that the operator can start by pressing an iTEC™ button.

iTEC™ pages are accessed through Generation 4 CommandCenter™ .



RXA0159610—UN—02JUN17

Chart below describes item and function from CommandARM™ image.

iTEC™ Functionality		
	Item	**Function(s)**
A	IVT™ /AutoPowr™ Set Speed Forward (IVT™/ AutoPowr™ Only)	Change Set Speed
	e23™ Transmission	Upshift or Downshift in Forward Gear
B	Rear Hitch	Raise Detent and Lower Detent
C	SCVs (CommandARM™)	Extend, Retract, Float, and Cancel
D	Rear PTO	On/Off
E	iTEC™ Buttons	1/2/3/4

IVT is a trademark of Deere & Company
AutoPowr is a trademark of Deere & Company
e23is a trademark of Deere & Company

SV81855,0000260-19-02JUN17

CommandCenter™ Pages Descriptions and Functions

iTEC™ Main Page



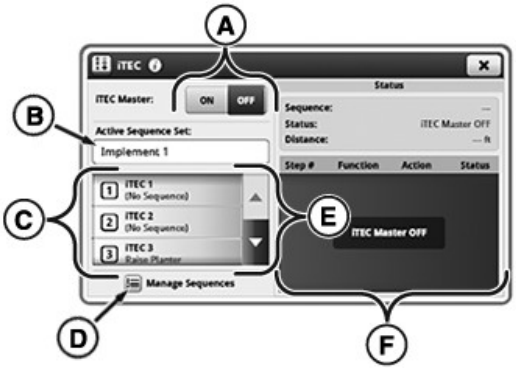
RXA0133714—UN—16JUL13

Use shortcut button or follow alternative path:



RXA0145566—UN—01OCT14

1. Select **Menu.**
2. Select **Machine Settings tab.**
3. Select **iTEC™ Icon.**



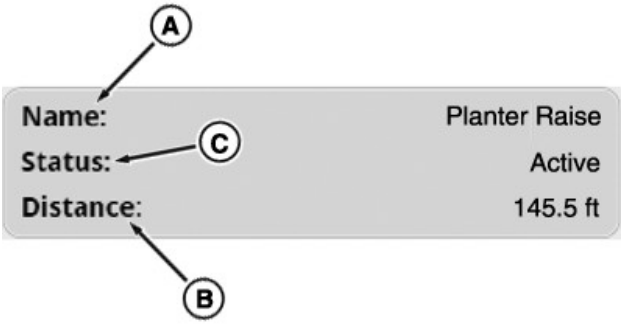
RXA0158043—UN—02MAR17

- **A — iTEC™ Master Toggle:** Toggle iTEC™ ON/ OFF.
- **B — Active Assignment Set Button:** Select or create an assignment set.
- **C — Assignments List:** List of sequences assigned to iTEC™ buttons.
- **D — Manage Sequences Button:** Edit sequence and assign buttons.
- **E — Scroll Bar:** Scroll up or down.
- **F — Status List:** Shows status of each iTEC™ sequence step as sequence progresses.

KT81203,00004D7-19-10MAY17

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CommandCenter is a trademark of Deere & Company

Status Area



RXA0131243—UN—08MAR13

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

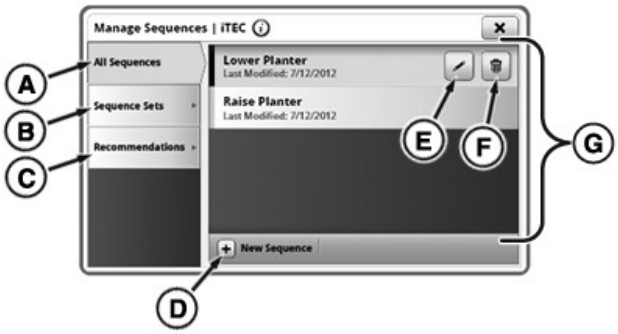
KT81203,00004D8-19-02DEC16

All Sequence Page



RXA0129723—UN—06MAR13

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



RXA0158044—UN—02MAR17

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

DB71512,000013B-19-22AUG17

Add New Sequence

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

From iTEC™ main page, follow steps listed below:



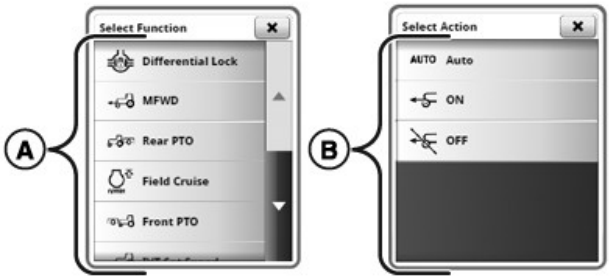
RXA0158059—UN—02MAR17

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

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

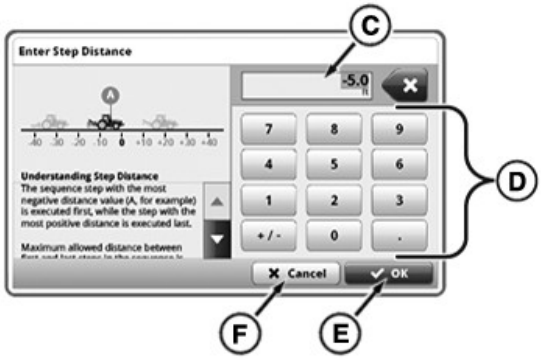
iTEC is a trademark of Deere & Company

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



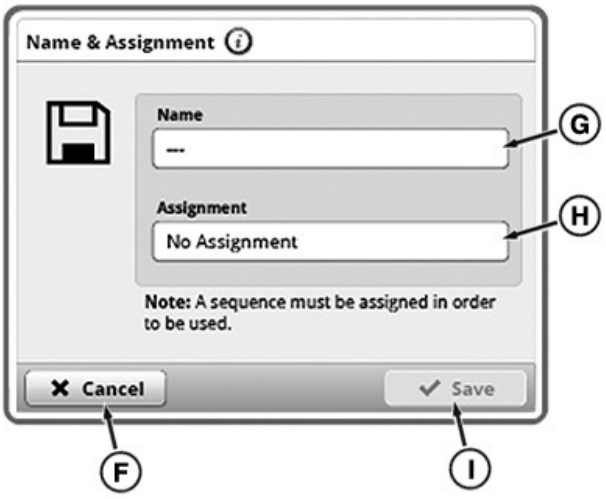
RXA0158057—UN—02MAR17

5. Select from list of functions (A).
6. Select from list of actions (B).



RXA0158047—UN—02MAR17

7. On Step Distance page, use keypad (D) to enter distance into step distance box (C).
8. Select OK Button (E).
9. Repeat steps 4-8 to add steps to sequence.
10. Press **Next button** to continue.



RXA0158048—UN—02MAR17

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

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

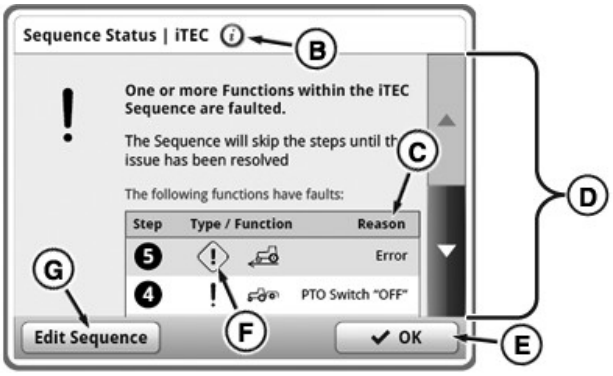
12. Select Sequence Assignment box (H). Select assignment, if desired, and select **Save/OK button** when complete.
13. Select **Save button (I)** to save sequence.

KT81203,00004D9-19-08NOV17

Sequence Step Status



RXA0131170—UN—05MAR13



RXA0131609—UN—25JUL13

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

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

KT81203,00004DA-19-28AUG17

Edit or Remove Sequence

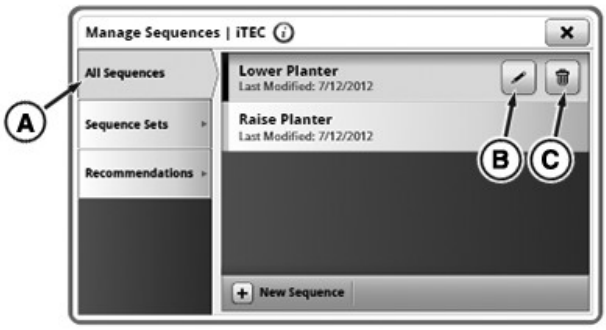
From iTEC™ main page:



RXA0129723—UN—06MAR13

1. Select **Manage Sequences button.**

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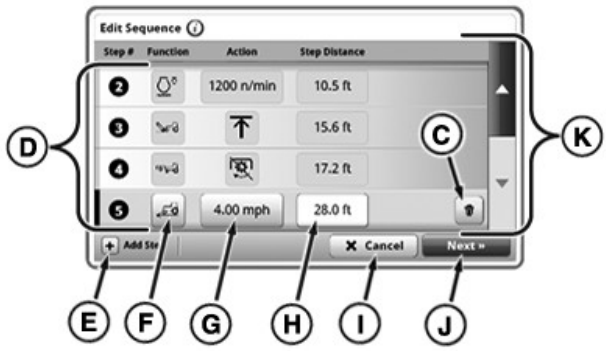


RXA0158049—UN—02MAR17

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

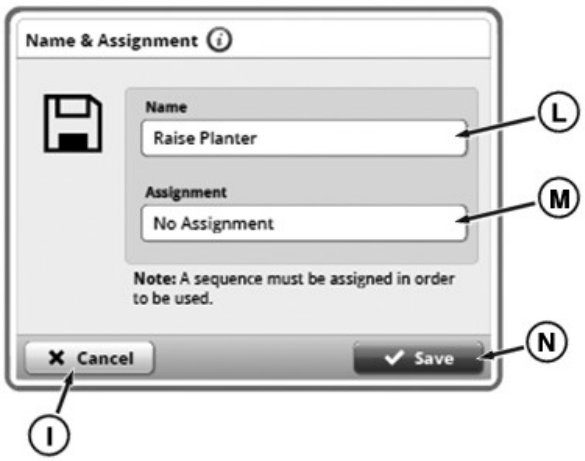
NOTE: Trash button (C) removes sequence or step within sequence.

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



RXA0158050—UN—02MAR17

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



RXA0158051—UN—02MAR17

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

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

KT81203,00004DB-19-11AUG17

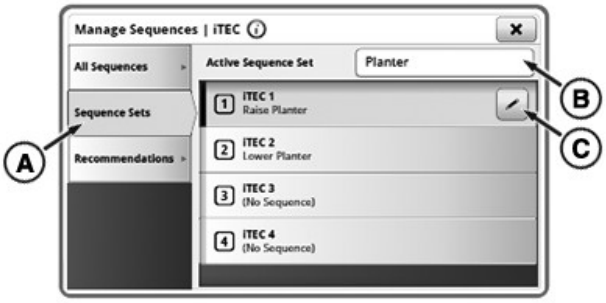
Sequence Sets Page

From iTEC™ main page, use following steps:



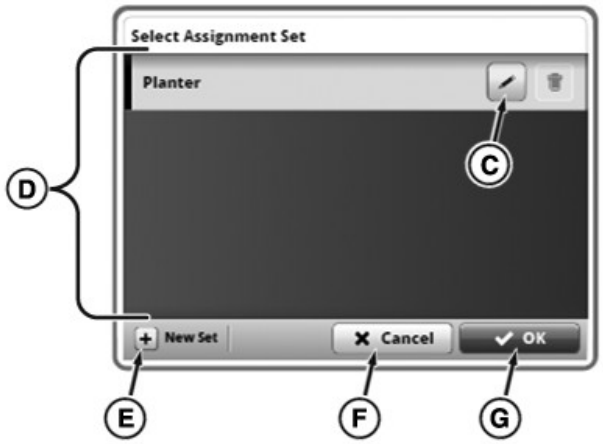
RXA0129723—UN—06MAR13

1. Select **Manage Sequences button.**



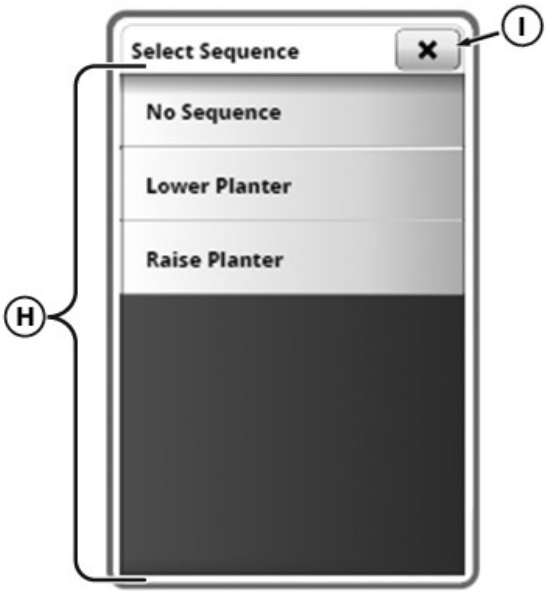
RXA0158311—UN—15MAR17

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



RXA0158312—UN—15MAR17

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RXA0158313—UN—15MAR17

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

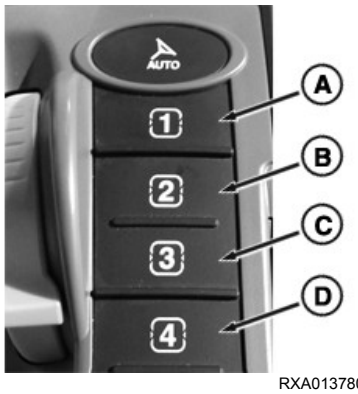
4. Select sequence set from Sequence Set list (D).
5. If needed, select Edit (C) or New Set (E) button.
6. Select OK button (G).
7. Select desired iTEC™ button to assign.
8. Select Edit button (C).
9. Select sequence from Sequence list (H).

KT81203,00004DD-19-01SEP17

Perform Sequence

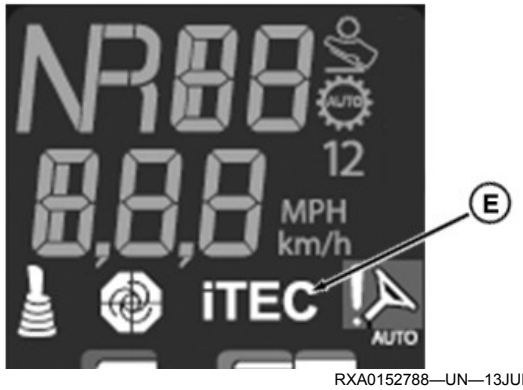
iTEC™ sequence execution requires certain tractor controls be operated in a particular way. Sequence will NOT execute with tractor in PARK position. Transmission shift lever must be in forward position when executing set speeds, gears, or Automatic Gear Shift. Tractor ground speed must be at least 0.5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

If a PTO function is included in sequence, PTO must be engaged manually, using PTO switch, for initial engagement. Before performing sequence using SCV functions, relevant SCV levers must be in neutral position.



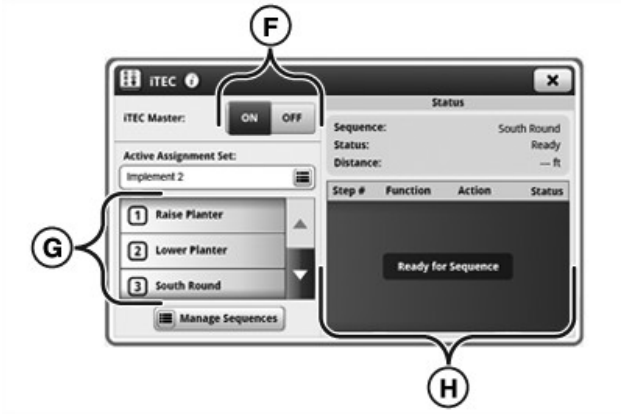
RXA0137808—UN—22JAN14

Abort current sequence at any time by again pressing same **iTEC™ Sequence Button (A-D)** used for starting sequence. Currently active commanded functions will be canceled (for example, hitch motion or SCV flow will stop if previously initiated as part of sequence).



RXA0152788—UN—13JUL16

iTEC™ Indicator (E) is illuminated when active.



RXA0131608—UN—26MAR13

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

1. Turn **iTEC™ Master Toggle (F)** to ON position.
2. Select **iTEC™ Sequence button (A-D)** on CommandARM™ for desired sequence.

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CommandARM is a trademark of Deere & Company

3. Sequence steps appear in **Status Area (H)** and shows progression of steps.

DB71512,000004E-19-02JUN17

Recommendations (AutoLearn)

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

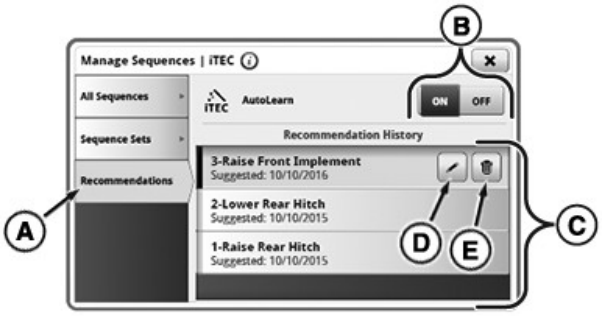
If no longer necessary, sequences can be completely deleted. When a sequence is deleted, all button assignments clear and sequence is no longer available for use.

From iTEC™ main page, use following steps:



RXA0129723—UN—06MAR13

1. Select **Manage Sequences button.**



RXA0158056—UN—02MAR17

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

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

KT81203,00004E0-19-28AUG17

iTEC Functions—IVT™/AutoPowr™ Transmission

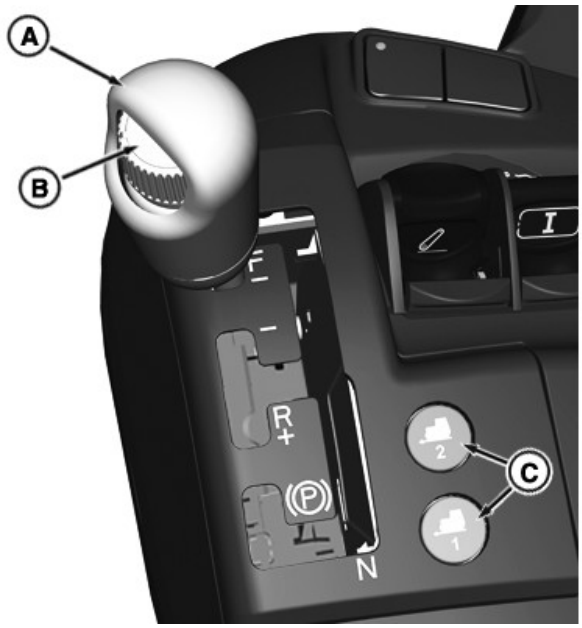
iTEC™ allows set speeds for IVT™/AutoPowr™ transmission to be preset. Minimum set speed can be saved is 0.8 km/h (0.5 mph).

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

If iTEC™ sequence commanded set speed exceeds maximum allowable speed in range selected, set speeds change, but are restricted to highest or lowest allowable set speed in current range. For example, tractor reaches maximum allowable set speed if transmission is in speed range F1 and operator executes 50 km/h (31 mph) command. When set speed is changed by iTEC™, control unit reacts as if operator changed set speed, pushing other set speeds up or down as result.

KT81203,00004E1-19-28NOV16

iTEC™ Functions—Efficiency Manager™ Powershift Transmission



RXA0139446—UN—17MAR14

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

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

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

KT81203,00004E2-19-06DEC16

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IVT is a trademark of Deere & Company
AutoPowr is a trademark of Deere & Company

Efficiency Manager is a trademark of Deere & Company

Tractor-Implement Automation™ (TIA™)

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

Tractor Implement Automation™ must not be put in operation when driving on public roads or when other persons are close by.

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

KT81203,00004E3-19-28AUG17

Activate Tractor-Implement Automation™ Equipment

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

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

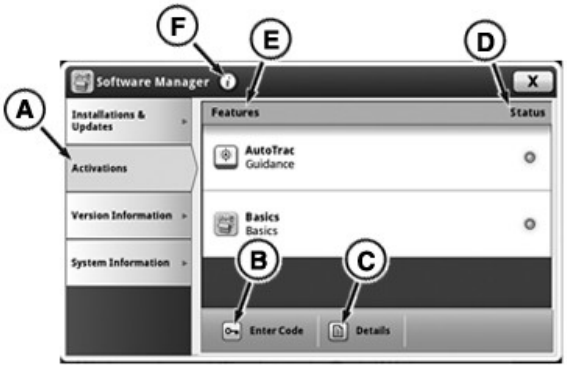
An activation code is required to allow TIA™ to function. Contact your John Deere dealer with tractor serial number and implement make, model, and serial number. Dealer obtains activation code through John Deere StellarSupport™.



RXA0131994—UN—22APR13

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Tractor Implement Automation a trademark of Deere & Company
StellarSupport is a trademark of Deere & Company

1. Select **Menu**
2. Select **System Tab**
3. Select **Software Manager Icon**



RXA0143147—UN—07JUL14

4. Select **Activations Tab (A)**
5. When Activations page displays, press Enter Code button (B). Keyboard will appear.

NOTE: Some Tractor Automation Activation page keyboard characters are grayed out and are not used in activation codes. If provided activation code includes any characters that are grayed out on Tractor Automation Activation page keyboard, request dealer reconfirm activation code.

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

Up to twenty implement names can be viewed on Tractor Automation Activation page at any given time. When a new entry shows up in Feature List (E), that entry is labeled “Unknown Implement”. The text “Unknown Implement” should change to a real name after first time connecting the implement.

KT81203,00004E4-19-10JUL17

Tractor-Implement Automation™ — Status Page



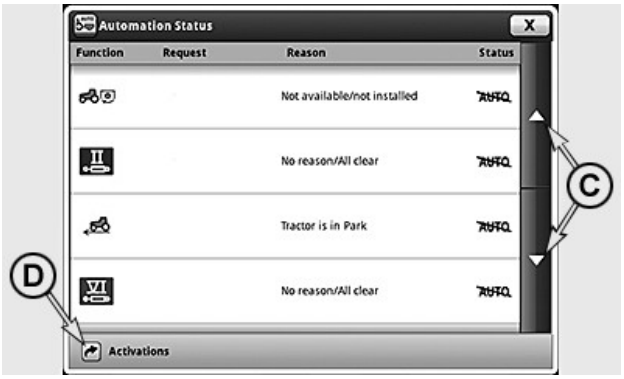
LX1057101—UN—23JUL13

Access CommandCenter™ Menu and select tab (A).

Press Automation Status icon (B) and access automation status page.

On the status page, the status of all the functions available for TIA™ are displayed.

If no TIA™-capable implement is connected, only a text message appears on the display.



LX1057102—UN—23JUL13

If there are too many functions to display on one status page, use scroll bar (C) to move to next or previous pages.

To activate the implements, press activating TIA™ button (D) and access the page for activating the implements. See also Activate Tractor-Implement Automation™ Equipment in this section of this Operator's Manual.

The status page has four columns:

Function	Auto/Command	Cause	Status
All functions available for TIA™ displayed	•**Current command** from implement appears on display if function is in auto mode and implement is commanding function.	•**No Reason/All clear** - function is fault-free and can be automated by implement. •**Brief text** - function is not ready to perform commands from implement.	•**AUTO** -function is currently commanded and has no threshold. •~~AUTO~~ -function is currently not controlled by implement or cannot be controlled by it. Operator has control, or must enable function. •**!AUTO!** -function currently has a fault. Cause is displayed in a brief text in second column. •**AUTO**↑ -function has an upper threshold. Command from implement is too high. •**AUTO**↓ -function has a lower threshold. Command from implement is too low.

KT81203,00004E5-19-28SEP17

Operate Tractor-Implement Automation™

IMPORTANT: Various requirements must be met by tractor and implements to allow TIA™ to function correctly. See information in this Operator's Manual sections and implement operator's manual sections.

1. Connect TIA™ equipment to tractor using ISO connection, see Connecting Compatible Electronic Equipment in Accessories section of this Operator's Manual.

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RXA0135370—UN—25SEP13

2. Select AutoTrac™ Resume Button (A) on CommandARM™ .
3. Follow implement operator's manual instructions to operate implement.

KT81203,00004E6-19-08NOV17

PTO Requirements

Before transferring control to implement, prepare implement as indicated in implement Operator's Manual. Transfer control using AutoTrac™ resume button as described in implement Operator's Manual.

Following conditions must be met before transferring control to implement:

- Operator in seat.
- Functional PTO system.
- PTO remote control off.
- PTO engaged (PTO switch On).

NOTE: Implement cannot engage PTO when tractor is stopped unless it is authorized to do so. However, implement can disengage PTO at any time including when tractor is stopped.

While operating and depending on PTO system capabilities, implement has ability to engage/disengage PTO, change PTO gear or adjust PTO speed.

To disengage control, turn PTO switch off.

KT81203,00004E7-19-27SEP17

SCV Requirements

Before transferring control to implement, prepare implement as indicated in implement operator's manual. Transfer control using AutoTrac™ resume button as described in implement operator's manual.

Following conditions must be met before transferring control to implement:

- Operator in seat.
- SCVs are functional.
- SCV control levers in neutral position.
- SCV levers are not locked.

NOTE: Set maximum SCV flow limit which cannot be exceeded by implement.

NOTE: Implement cannot adjust SCV flow when tractor is stopped unless it is authorized to do so. However, implement can stop SCV flow at any time including when tractor is stopped.

While operating, implement has ability to:

- Control SCVs during operations.
- Change SCV flow rate up to set limit.

To disengage control, perform any of the following:

- Actuate specific SCV lever
- Lock SCV lever
- Actuate remote control switch on fender.

KT81203,00004E8-19-06NOV17

IVT™/AutoPowr™ Requirements

Before transferring control to implement, prepare implement as indicated in implement operator's manual. Transfer control using AutoTrac™ resume switch as presented in implement operator's manual.

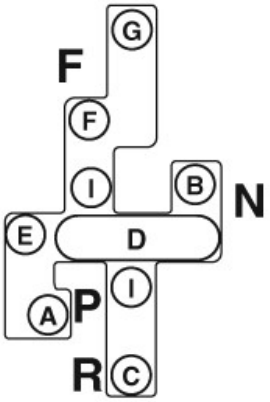
NOTE: The implement cannot exceed ground speed set by the operator.

Following conditions must be met before transferring control to implement:

- Operator in seat.
- No malfunctions present in IVT™/AutoPowr™ transmission.

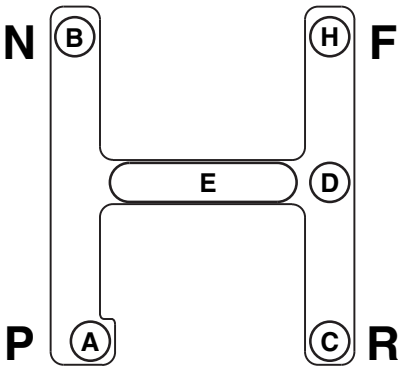
AutoTrac is a trademark of Deere & Company
CommandARM is a trademark of Deere & Company

IVT is a trademark of Deere & Company
AutoPowr is a trademark of Deere & Company



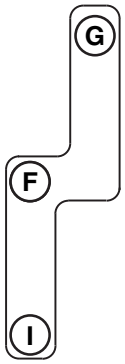
RXA0133408—UN—09DEC13

Right-Hand Reverser



RXA0100319—UN—26JAN09

Left-Hand Reverser



RXA0077571—UN—10JUN05

Left-Hand Reverser Speed Lever

- Reverser lever must be in scroll (E), Power Zero™ (D), or forward position (F or G) for left-hand, right-hand reverser, forward position (H) for left-hand reverser.

While operating, implement has ability to:

- Adjust speed up to operator set limit.
- Stop tractor.
- Drive tractor again after stopping; with operator's confirmation.

Power Zero is a trademark of Deere & Company

Operator's approval to start or restart motion:

- Cycle reverser lever. Move lever from forward to scroll to forward position again.

  Cycle reverser lever when a round baler stops tractor to eject full bale.
- Depress clutch or brake pedal while tractor rolls to stop. Hold pedal down while tractor is stopped. Tractor starts moving when pedal is released, if implement requests speed.

To disengage control using reverser lever:

- When driving: Move lever out of forward position.
- When stopped: Move lever to reverse, NEUTRAL or PARK.

To disengage control using speed control lever or speed adjusting dial:

NOTE: Speed may always be reduced.

Set speed limit may be increased within 2 seconds after engaging travel speed auto mode. Current travel speed can be limited by other processes (e.g. iTEC™). This limit will be observed; however, the limit will not be considered as an intervention by operator.

- If implement commands stopping tractor and speed is increased, ground speed auto mode will be ended.
- Increasing speed will end auto mode. Implement has all information to inform operator that this interaction will end ground speed auto mode (see implement operator's manual).

KT81203,00004E9-19-01SEP17

Powershift Transmission Requirements

Before transferring control to implement, prepare implement as indicated in implement operator's manual. Transfer control using AutoTrac™ resume button as presented in the implement operator's manual.

NOTE: The implement cannot exceed ground speed set by the operator.

Following conditions must be met before transferring control to implement:

- Operator in seat.
- No malfunctions present in transmission.
- Shift lever in forward.

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NOTE: When transferring control to the implement, Efficiency Manager™ mode will engage.

Speed may always be reduced.

Set speed limit may be increased within 2 seconds after engaging travel speed auto mode. Current travel speed can be limited by other processes (e.g. iTEC™). This limit will be observed; however, the limit will not be considered as an intervention by operator.

To disengage control using the shift lever:

- During driving: Shift up or down manually.
- Increasing the speed will end the auto mode. The implement has all information to inform the operator that this intervention will end the travel speed auto mode. See implement operator's manual.

KT81203,00004EA-19-06NOV17

AutoTrac™ Guidance Requirements

Before transferring control to implement, prepare implement as indicated in implement operator's manual. Transfer control using AutoTrac™ resume button as presented in implement operator's manual.

Following guidelines must be met before transferring control to implement.

- Operator in seat.
- Steering system functional.
- AutoTrac™ is off.
- Steering wheel stationary.
- Vehicle speed below maximum automated speed.
- Transmission not in PARK.

While operating, implement has ability to automatically steer tractor.

To disengage control:

- Turn steering wheel.
- Place tractor in PARK.

KT81203,00004EB-19-06NOV17

Rear Hitch Requirements

Before transferring control to implement, prepare implement as indicated in implement operator's manual. Transfer control using AutoTrac™ resume button as presented in implement operator's manual.

Implement can automatically control hitch depth.

Set raise limit using CommandCenter™.

IMPORTANT: Implement cannot exceed limit.

Following guidelines must be met before transferring control to implement:

- Operator in seat.
- Functional hitch system.
- Hitch control lever in neutral position.
- Hitch unlocked.

NOTE: Unless implement is authorized to adjust hitch depth when tractor is at a standstill, tractor will prevent hitch depth adjustments when at a standstill.

To disengage control:

- Move hitch control lever.
- Lock hitch.
- Activate fender mounted hitch switch (if equipped).

KT81203,00004EC-19-27SEP17

Drive Strategy Requirements

While operating, implement has ability to change drive strategy mode. See IVT™/AutoPowr™ Custom Mode Settings in IVT™/AutoPowr™ Transmission section of this Operator's Manual.

Before transferring control to implement, prepare implement as indicated in implement operator's manual. Transfer control using AutoTrac™ resume button as presented in implement operator's manual.

Following guidelines must be met before transferring control to implement:

- Operator in seat.
- No malfunctions present in transmission.
- Transmission not in PARK.

To disengage control:

- Manually select a drive strategy.
- Place transmission in PARK.

KT81203,00004ED-19-25JUL17

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AutoTrac is a trademark of Deere & Company

CommandCenter is a trademark of Deere & Company
IVT is a trademark of Deere & Company
AutoPowr is a trademark of Deere & Company

Drivetrain Overview

Tractor drivetrain consists of:

- Transmission: e23™ or IVT™ /AutoPowr™
- Brakes: Rear
- Mechanical, electronic, and hydraulic control systems

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AutoPowr is a trademark of Deere & Company

Brakes

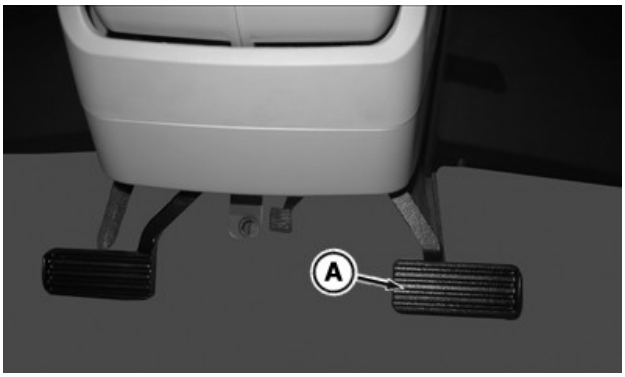
Brake Use

CAUTION: Avoid possible injury from losing control of tractor:

- **Reduce speed if towed load weighs more than tractor or when transporting loads under adverse conditions. Avoid hard braking applications. See Towing Loads in Transport section of this Operator's Manual.)**
- **Tracks will skid on slippery downhill slopes. ForIVT™/AutoPowr™ tractors, see Downhill Operation and Slippery Conditions, in the IVT™/AutoPowr™ Transmission section.**

IMPORTANT: Avoid unnecessary wear on brakes and increased fuel consumption. DO NOT rest feet on brake pedal during tractor operation.

Test brakes with engine stopped to be sure manual brake system is functioning (see Service - Check section of this Operator's Manual).



RXA0135769—UN—26SEP13

Depress brake pedal (A) to stop tractor while disengaging clutch pedal.

Brake pedal can assist with slow speed off road turning, such as when hooking up implements.

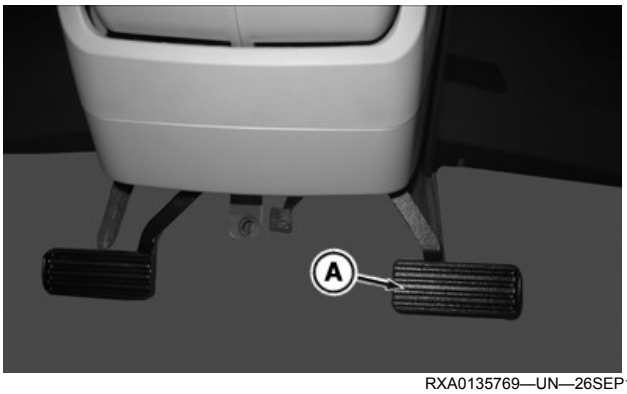
For IVT™/AutoPowr™ Tractors Only

When operating at slow idle, brake pedal stops tractor without use of clutch pedal. Returning engine speed to slow idle while continuing to depress brake pedal will slow tractor to stop.

Brake Use with AutoClutch (If Equipped)

CAUTION: Avoid possible injury. Braking tractor while commanding high engine speed requires higher brake pedal force.

Avoid possible injury due to sudden or unexpected acceleration. When brake pedal is released, tractor automatically accelerates to speed currently commanded by throttle and speed control levers.



RXA0135769—UN—26SEP13

IVT™/AutoPowr™ Tractors Only: Brake pedal (A) can assist with slow speed off-road turning, such as hooking up to implements. At low idle, AutoClutch feature stops tractor if operator depresses brake pedal. IT IS NOT NECESSARY TO DEPRESS CLUTCH PEDAL.

To assist in hooking up implement, depress brake pedal while slowly increasing engine speed until desired turn is achieved. Returning engine speed to low idle while continuing to depress brake pedal slows tractor to stop.

Parking Tractor with AutoClutch

1. Depress brake pedal. Brakes activate AutoClutch (automatic clutch function within transmission) to stop tractor. **It is not necessary to depress clutch, reduce throttle, or move speed control lever.**
2. Move speed control lever to slowest position and stop tractor.

CAUTION: Always place reverser lever in PARK position before dismounting tractor.

3. Shift reverser or shift lever to PARK position. Transmission PARK position holds tractor stationary.
4. Lower implements and shut off PTO.
5. Shut engine off and remove key.

RD47322,00002A3-19-05JUN17

Brake Warning Indicators

Brake warning indicators illuminate when a fault in the brake system occurs.

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RXA0155981—UN—30NOV16

Brake Warning Indicator (Red) (A)

NOTE: Brake Warning Indicator (Red) illuminates while trailer air brakes reach operating pressure, indicator will turn off once operating pressure is reached.

If indicator is solid red, a serious fault has been detected that affects brake system performance:

- Immediately stop tractor.
- Park tractor on level ground and prevent tractor from rolling away.
- Diagnostic Trouble Code (DTC) will display on CommandCenter™, follow instructions to fix the fault.
- If fault cannot be fixed, see your John Deere dealer.

If indicator is flashing red, park lock cannot engage:

- Park tractor on level ground and prevent tractor from rolling away.
- DTC will display on CommandCenter™, follow instructions to fix the fault.
- If fault cannot be fixed, see your John Deere dealer.

Brake Warning Indicator (Yellow) (B)

Yellow indicates an electrical fault has been detected that affects the ability to detect additional faults:

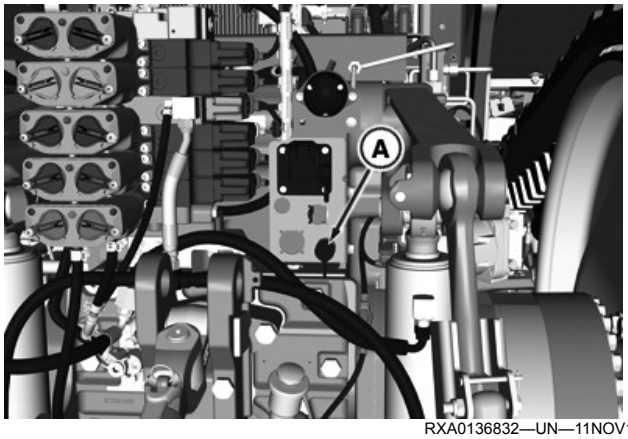
- Park tractor on level ground and prevent tractor from rolling away.
- DTC will display on CommandCenter™, follow instructions to fix the fault.
- If fault cannot be fixed, see your John Deere dealer.

DB71512,0000139-19-01DEC16

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IVT is a trademark of Deere & Company

Hydraulic Trailer Brakes

CAUTION: Avoid possible injury from losing control of tractor equipped with IVT™ /AutoPowr™ transmission operating on downhill slopes. Tracks will skid on slippery downhill slopes (see Downhill Operation in Slippery Conditions in IVT™/AutoPowr™ Transmission section of this Operator's Manual).



RXA0136832—UN—11NOV13

Shift transmission to PARK and turn tractor OFF. Remove dust cover from hydraulic trailer brake coupler (A). Clean connections before attaching pressure hose to brake coupler. Seal connections with dust cover whenever hose is disconnected.

IMPORTANT: To reduce brake wear, make sure pressure hose is connected, select same gear for both downhill and uphill driving, and check hydraulic trailer brake regularly for correct functionality.

Depress brake pedal to operate hydraulic trailer brake.

Bring tractor-trailer to complete stop, shift transmission to PARK and turn tractor OFF before dismounting tractor and disconnecting hydraulic lines from couplers. Seal connections with dust covers whenever hoses are disconnected.

KT81203,00000BA-19-27JUN17

Trailer Brake Settings

NOTE: If equipped. If brake adjustability screen is not displayed, see John Deere dealer to adjust brake settings.

Trailer Brake application allows operator to adjust brake and pre-brake settings, as well as testing the trailer brakes.

Navigate to Trailer Brake

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1. Select Menu.
2. Select Machine Settings tab.
3. Select Trailer Brake application.

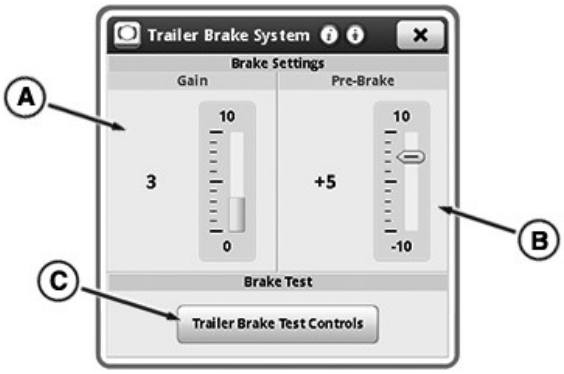
Brake Gain

Brake Gain allows operator to adjust brake to be more aggressive to match trailer requirements.

Modify when:

- Trailer is slow to stop.
- Trailer wheels lock up when brakes applied.

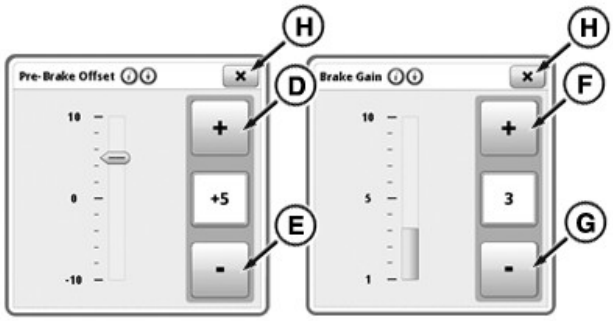
Procedure to modify:



RXA0152440—UN—20JUN16

Trailer Brake Main Page

1. Select Brake Gain (A) module to modify value.



RXA0152444—UN—20JUN16

Brake Gain and Pre-Brake Overlays

2. Select +/- (F or G) to increase or decrease value
3. Select the close button (H) to exit.

Pre-Brake

Pre-Brake allows operator to change timing of trailer brake initiation. Trailer brake initiation may need to be adjusted to avoid the trailer “pushing” the tractor.

Modify when:

- After connecting trailer to tractor.

Procedure to modify:

1. Select Pre-Brake (B) module to modify value.
2. Select +/- (D or E) to increase or decrease value
3. Select the close button (H) to exit.

Trailer Brake Test

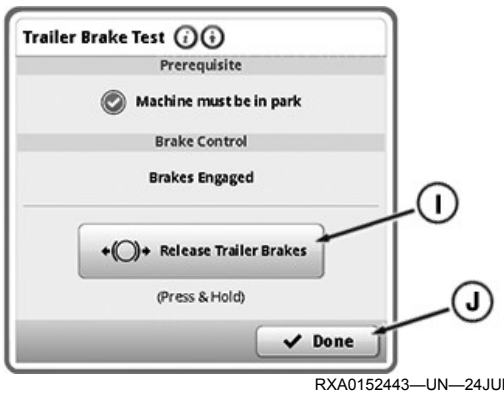
Use Trailer Brake Test to confirm tractor's park brake will hold both tractor and trailer if the trailer brakes are released when parked. The Trailer Brake Test overrides the default park state of the braking system and forces brakes to release.

Modify when:

- Verifying park brake performance.
- Attaching different trailer.

Procedure to modify:

1. Place tractor in PARK.
2. Press trailer brake test controls button (C) to access trailer brake test.



RXA0152443—UN—24JUN16

Trailer Brake Test Overlay

3. Press and hold release trailer brakes button (I) to bleed brakes.
4. Press done button (J) when finished.

KT81203,0000519-19-18AUG17

Use AutoClutch (If Equipped)

IVT™/AutoPowr™ and e23™ transmissions are equipped with an AutoClutch feature. With AutoClutch, when the operator presses the brake pedal, clutch begins disengaging, pressing brake pedal further then applies the rear brakes (Front brakes as well - if equipped).

IVT is a trademark of Deere & Company
AutoPowr is a trademark of Deere & Company
e23 is a trademark of Deere & Company

NOTE: To keep AutoClutch from disengaging before trailer brakes are applied, AutoClutch Sensitivity options allow operator to adjust AutoClutch settings to load requirements. Larger trailers take lower AutoClutch Sensitivity settings. ***AutoClutch Sensitivity factory default setting is set to High, which will support most operations.***



RXA0133712—UN—16JUL13

To access transmission main page, use Transmission Shortcut Button on Navigation Bar or follow alternative path:



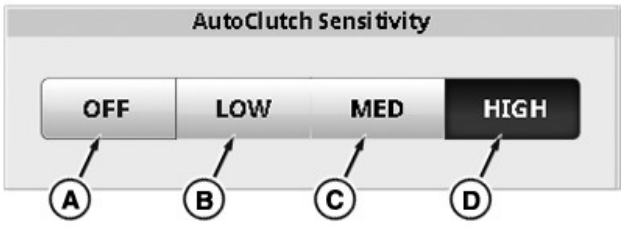
RXA0147943—UN—13APR15

1. Select **Menu.**
2. Select **Machine Settings tab.**
3. Select **Transmission icon.**



RXA0130326—UN—11JAN13

4. Select **Advanced Settings icon.**
5. Select **Settings tab.**



RXA0137943—UN—17DEC13

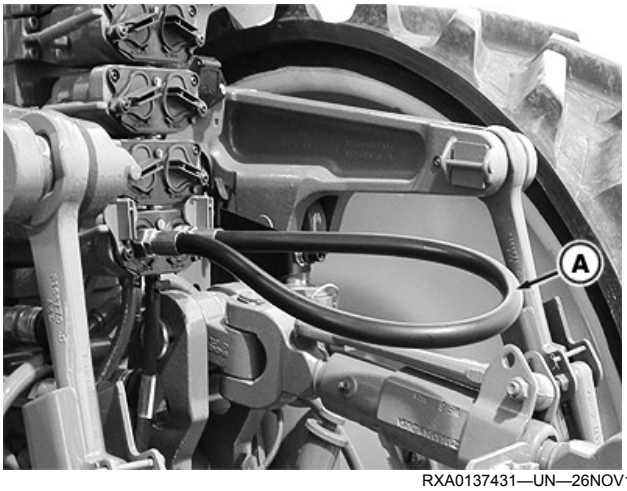
6. Select appropriate AutoClutch setting.
   - ON/OFF (A) disables or enables AutoClutch.
   - Low (B) is for heavy trailers (load).
   - Medium (C) is for medium trailers (load).
   - High (Factory Default) (D) is for light or no trailer (load).

RD47322,0000366-19-27JUN17

Warm-Up Transmission-Hydraulic System

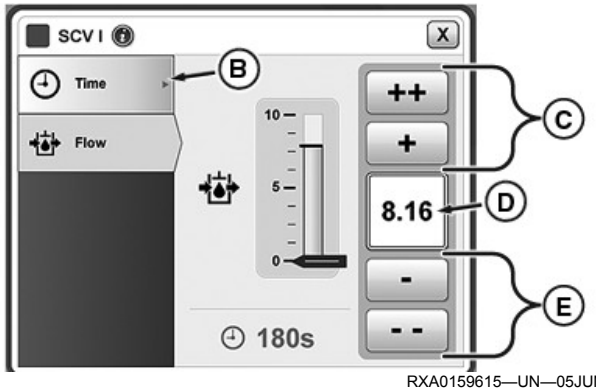
Set Detent Time

IMPORTANT: Avoid operating tractor under load until transmission-hydraulic system has warmed up. Tractor-hydraulic warm-up procedure is recommended at temperatures at or below -5 °C (23 °F).



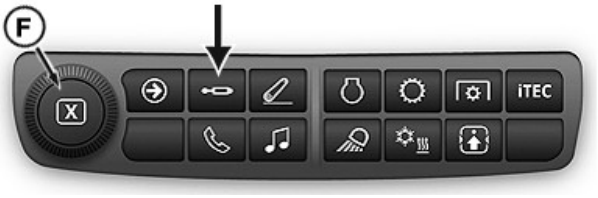
RXA0137431—UN—26NOV13

1. Install jumper hose (A) into SCV I couplers.
2. Place transmission lever in PARK position before starting tractor.
3. Turn key switch to START position.
4. Press SCV Shortcut Button on Navigation Bar.
5. Select SCV I module.



RXA0159615—UN—05JUN17

6. Select SCV I Time tab (B).

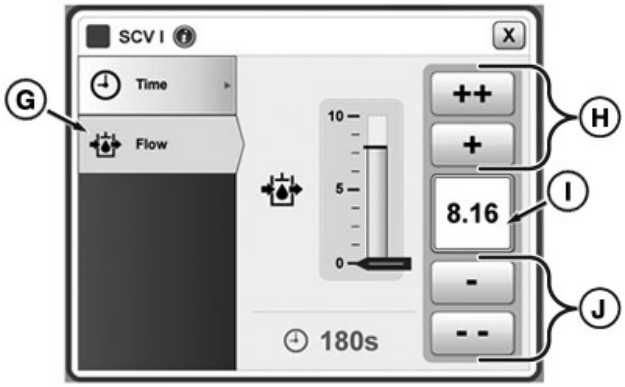


RXA0159616—UN—05JUN17

7. Select increase (+) button (C) to extend flow time to C (continuous) in input box (D). Decrease (-) button (E) will decrease detent time setting. Adjustment dial (F) can also be used to increase or decrease desired detent time setting.
8. Set SCV II to C using steps 5 through 7.

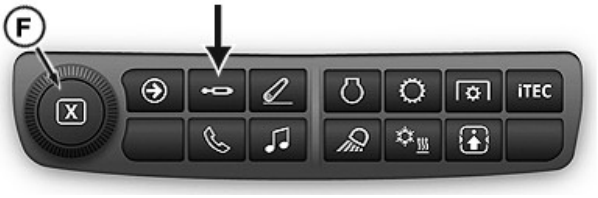
Set Detent Flow

NOTE: Flow is displayed in increments of 0.04 beginning at 0.04 through 10 located in input box (C). Pushing (+) increases flow by 0.04, pushing (+ +) increases flow by 1.00, and by pushing (-) and (- -) decreases flow setting by same increments.



RXA0159617—UN—05JUN17

1. Select SCV I flow tab (G).



RXA0159616—UN—05JUN17

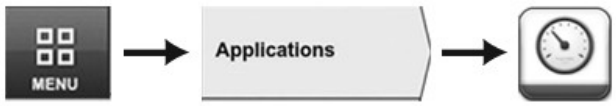
2. Set SCV I flow to 8.00 or above (I) by pressing buttons (H) to increase flow or buttons (J) to decrease flow setting. Adjustment dial (F) can be used to increase or decrease desired detent flow setting.



RXA0159618—UN—08JUN17

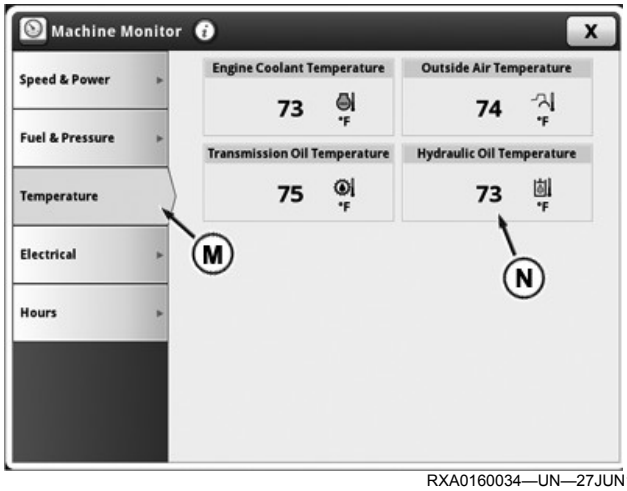
3. Pull SCV I (K) and SCV II (L) levers to extend detent.
4. Operate engine at 1400 rpm.

Monitor Hydraulic Oil Temperature



RXA0126813—UN—12JUN12

1. Select **Menu.**
2. Select **Applications tab.**
3. Select **Machine Monitor icon.**

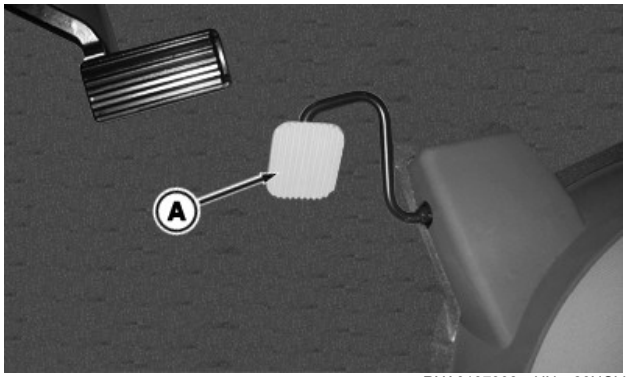


RXA0160034—UN—27JUN17

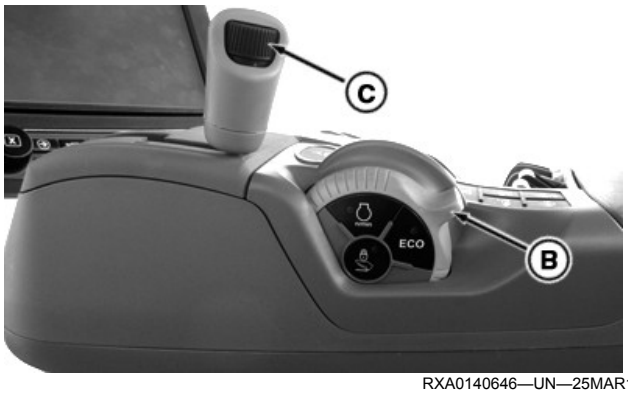
4. Select Temperature tab (M).
5. Select hydraulic oil temperature reading (N) and monitor until temperature reaches 38 °C (100 °F).
6. Return SCV I and SCV II lever to neutral position.
7. Disconnect jumper hose and return to normal operation.

KT81203,0000170-19-27JUN17

Foot Pedal Mode (If Equipped)



RXA0137398—UN—26NOV13



RXA0140646—UN—25MAR14

Foot pedal mode is a function that allows the operator to control wheel speed independently of engine speed by using foot pedal (A) while using hand throttle (B) to keep engine at a constant speed.

When the foot pedal is released, vehicle decelerates to a minimum travel speed of 0.5 – 2 km/h (0.3 - 1.2 mph). To come to a complete stop, brake pedal with AutoClutch function must be used.

To cover transport applications with foot pedal only, leave hand throttle in lowest position; engine speed is increased or decreased from drive strategy based on fuel economy settings. When hand throttle is not at its lowest position, engine speed is controlled directly by hand throttle while foot pedal controls wheel speed only.

If engine speed is being held at low rpm via hand throttle, vehicle may not reach wheel speed commanded by set speed adjuster dial (C).

Foot pedal mode is intended for applications where it is important to keep engine speed at a constant rpm independent from wheel speed (mowing for example).



RXA0152782—UN—13JUL16

NOTE: Foot pedal mode indicator (D) is on when foot pedal mode enabled. Indicator goes out when foot pedal mode is disabled.

Enable the foot pedal mode

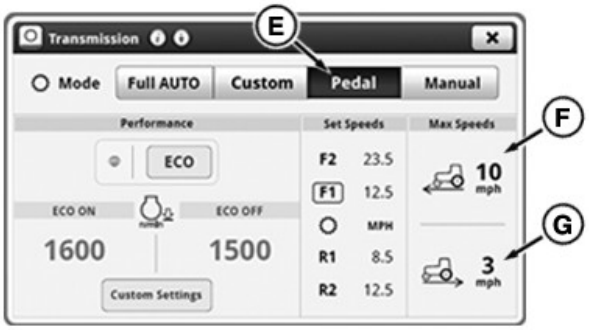
Fuel economy settings and automatic mode functions become active when foot pedal mode is enabled.

1. Place transmission shift lever in PARK position.



RXA0133712—UN—16JUL13

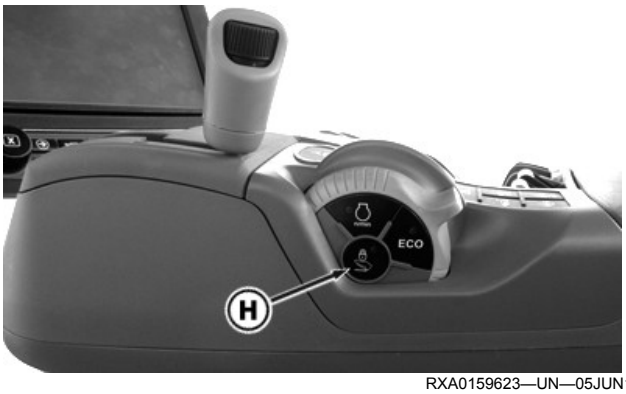
2. Press Transmission shortcut button on Navigation Bar.



RXA0159622—UN—05JUN17

3. Press Foot Pedal Mode button (E)

Maximum forward and reverse speeds are adjusted using maximum forward (F) and reverse (G) speed module. For more information see IVT™/AutoPowr™ Modes and Setting Maximum Speeds in IVT™/ AutoPowr™ Transmission section of this Operator's Manual.



RXA0159623—UN—05JUN17

Lock or unlock foot pedal settings using foot pedal lock/ unlock button (H).

NOTE: Foot pedal will not lock if foot pedal lock button is held more than 1 second.

Following are ways to unlock foot pedal:

- Depressing foot pedal a second time.
- Depressing brake pedal.
- Pressing foot pedal set lock/unlock button.
- Moving speed control lever or left-hand reverser to PARK position.

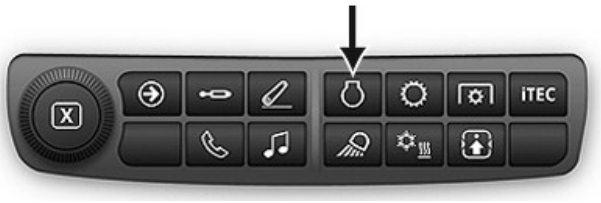
KT81203,00000BE-19-27JUN17

Activate and Set Maximum Set Speed

Maximum Set Speed utilizes a constant speed governor curve, providing instant response to varying loads. Limiting engine speed in light load situations may improve fuel economy. Two different Maximum Set Speed speeds can be set, enabling operator to toggle quickly from one to the other.

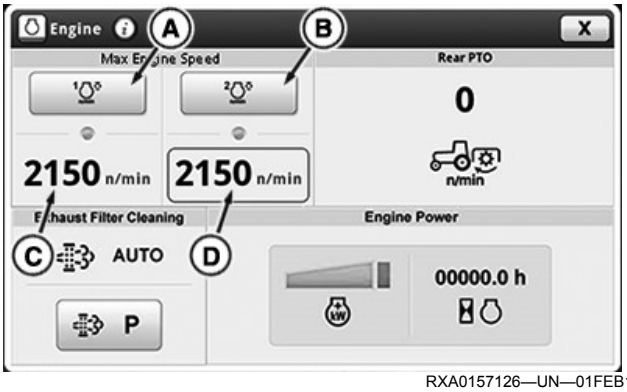
Activate Maximum Set Speed

Engine must be running for Maximum Set Speed adjustment to operate.



RXA0133711—UN—16JUL13

1. Select Engine Shortcut Button on Navigation Bar



RXA0157126—UN—01FEB17

2. When engine page appears, select Maximum Set Speed 1 (A) or 2 (B) On/Off toggle button.



RXA0137795—UN—12DEC13

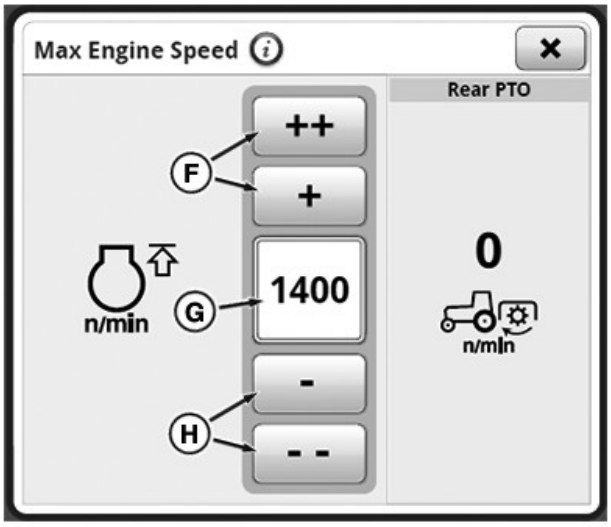
IVT is a trademark of Deere & Company
AutoPowr is a trademark of Deere & Company

NOTE: Maximum Set Speed can also be activated using Maximum Set Speed ON/OFF button (E) on CommandARM™. When CommandARM™ Maximum Set Speed ON/OFF button is pressed, last Maximum Set Speed mode selected with CommandCenter™ will be activated.

Adjust Maximum Set Speed

Maximum Set Speed is an upper limit to engine speed. Engine speed limit can be adjusted from 1100 to 2150 RPM. Changes to Maximum Set Speed take place immediately.

1. Select Maximum Set Speed 1 (C) or 2 (D) input module.



RXA0161048—UN—11OCT17

2. When Maximum Set Speed 1 or 2 page appears, select desired speed by using Maximum Set Speed increase (F) or decrease (H) button. “++” and “- -” buttons increase or decrease values at higher rate than “+” and “-” buttons. Maximum Set Speed value appears in Maximum Set Speed input box (G).

KT81203,00000FC-19-11OCT17

Use Maximum Set Speed with Different Transmission Modes

Change transmission mode by using Transmission Page on CommandCenter™ display. Following is how Maximum Set Speed works with different transmission modes:

Full Auto: At full throttle, minimum engine speed is 1200 rpm with PTO off. Transmission downshifts and engine speeds up to Maximum Set Speed, to compensate for increasing workloads. Available engine speed range is 1200 rpm to Maximum Set Speed.

Custom: Minimum engine speed depends on ECO engine speed setting on transmission page. Transmission downshifts and engine speeds up to Maximum Set Speed, to compensate for increasing workloads. Available engine speed range is ECO engine speed setting to Maximum Set Speed.

Foot Pedal (If Equipped): Maximum Set Speed function is replaced by Engine Set Speed function. Engine speed stays constant at engine speed selected. Hand throttle will take over control of engine speed if moved out of position.

Manual: Operator sets engine speed using hand throttle. Engine speed stays constant, but limited by Maximum Set Speed.

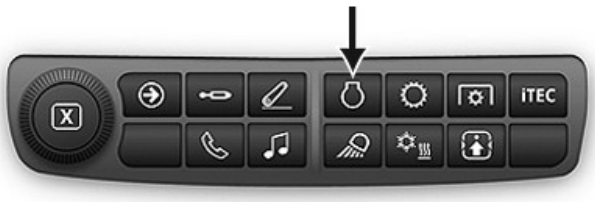
TS36762,00001A6-19-18NOV16

Intelligent Power Management

Intelligent Power Management (IPM) is available as factory or field installed option. IPM provides controlled power boost of up to 26kW (35hp) to tractor when:

- Accelerating at transport speeds, power boost occurs in steps through range of 23-28 km/h (14.3-17.4 mph).
- Decelerating at transport speeds, power boost ramps down in equal steps in range of 23-18 km/h (14.3-11.2 mph).
- PTO is under load and consuming moderate power and tractor is moving at 0.5 km/h (0.3 mph) or more.
- With tractor moving and rear PTO under load or in transport above 23 km/h (14.3 mph), power increase indicator will appear on display and IPM level is displayed on CommandCenter™

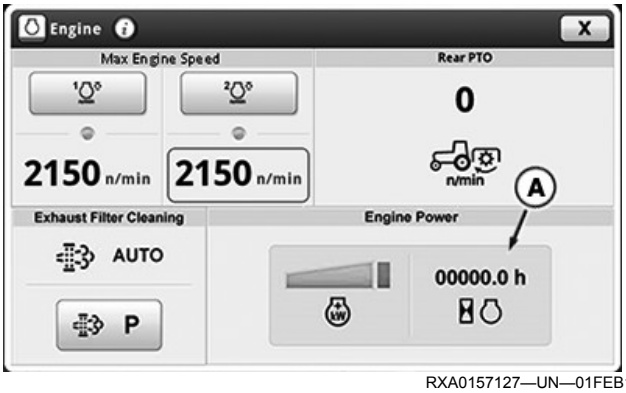
Power increase is not provided under draft applications or non-loaded rear PTO applications. Power increase is only provided when required.



RXA0133711—UN—16JUL13

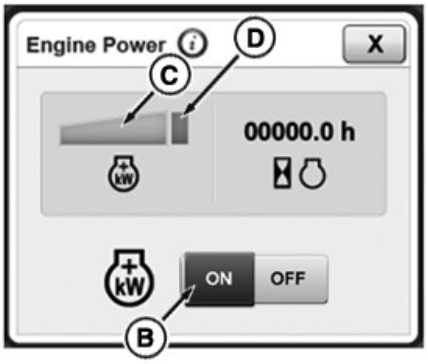
1. Press **Engine Shortcut Button on Navigation Bar.**

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CommandCenter is a trademark of Deere & Company



RXA0157127—UN—01FEB17

2. Select IPM module (A) to activate IPM.
3. IPM On/Off toggle appears.



RXA0159653—UN—05JUN17

4. Toggle ON IPM (B).
5. IPM engaged icon (D) appears.

   When IPM is engaged, IPM level is identified by solid portion displayed in IPM Graph (C). Segments to right of solid portion indicate additional engine power above rated.

KT81203,000019A-19-05JUN17

Backup Alarm

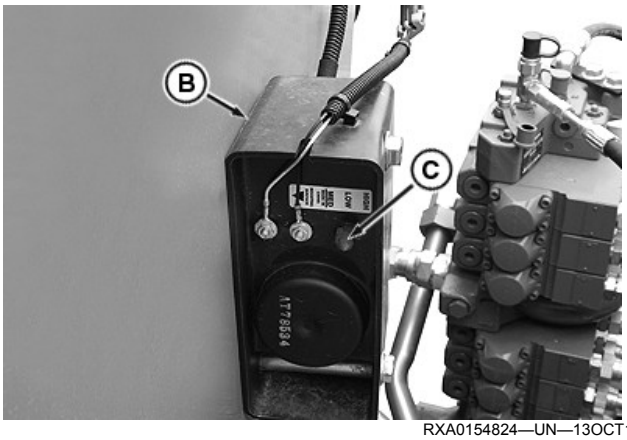
CAUTION: Backup alarm emits an audible sound to alert anyone near by. Tractor will be traveling in a reverse direction.



RXA0142551—UN—13JUN14

Backup alarm will sound when key switch is ON and transmission shift lever (A) is in reverse gear.

Alarm can be set at three different volume levels.



RXA0154824—UN—13OCT16

Backup alarm (B) is located on rear cross member. Turn volume control knob (C), on back of alarm, to desired setting.

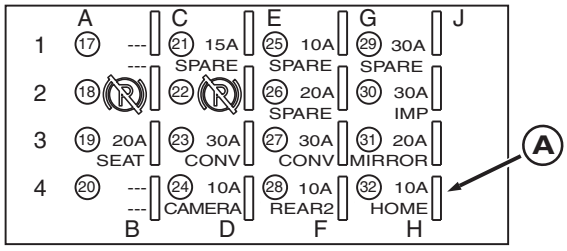
TS36762,00001A3-19-27JUN17

Come Home Mode

CAUTION: When driving tractor in come home mode, do not exceed tractor limited capability.

Come home mode may be used if tractor becomes inoperable due to failures and must be moved. In come-home mode, tractor can be moved short distances at reduced speeds and with limits on function:

- e23™ transmission — engine speed is limited to 1500 rpm and Efficiency Manager™ is disabled.
- For IVT™/AutoPowr™ transmission — maximum tractor speed is limited to 5 km/h (3.1 mph).



RXA0154827—UN—13OCT16

When fuse #32 (A) is removed and tractor is placed in gear, back-up pump will provide pressure oil for brake and steering functions.

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Efficiency Manager is a trademark of Deere & Company
IVT is a trademark of Deere & Company
AutoPowr is a trademark of Deere & Company

1. Remove fuse #32 (A) and retain. See Load Center Fuses in Service - Electrical section of this Operator's Manual.
2. "Transmission come home mode active" displays on CommandCenter™.
3. Turn key switch to START position.
4. Step on brake pedal momentarily.

CAUTION: Before operating tractor, verify correct operation of steering and brakes. In some situations braking may require additional force due to lower hydraulic pressure.

5. Depress clutch pedal.
6. Shift tractor into Forward or Reverse direction.
7. Release clutch pedal to put tractor in motion.
8. When destination is reached, put transmission shift lever in PARK position.
9. Turn key switch to OFF position.
10. Replace fuse #32.

TS36762,00001A4-19-12JAN17

CommandCenter is a trademark of Deere & Company

Operate e23™ Transmission with Right-Hand Reverser

CAUTION: Avoid personal injury or damage to tractor. If engine starts with right-hand reverser lever in forward or reverse positions, there is a malfunction in starting circuit. Repair immediately. See your John Deere dealer.

IMPORTANT: Prevent transmission or clutch damage:

- **Never depress clutch pedal while tractor is rolling downhill or coasting as transmission can over-speed and cause serious damage to the transmission.**
- **Never attempt to start tractor by towing or pushing.**
- **Operator can always move shift lever to PARK Position; however, park brake does not engage until ground speed is below 1.75 km/h (1.0 mph).**
- **Avoid excessive ballast.**
- **Avoid continuous operation under full throttle and full load conditions below 1800 rpm.**



RXA0130275—UN—19AUG13

Shift transmission using lever (A) on CommandARM™.

Transmission can be shifted, without use of clutch pedal, into forward or reverse.

If precise speed control is necessary, transmission control with clutch pedal for ease of connecting implements, operating in confined areas, or slow movement of tractor during precise maneuvers. Depress clutch pedal to preselect forward or reverse commanded gear from park.

CommandARM is a trademark of Deere & Company



RXA0159652—UN—05JUN17

When shift lever is moved from PARK to NEUTRAL position, park brake releases and corner post display (B) shows pre-selected forward or reverse gear and letter “N” for NEUTRAL. When lever is in forward or reverse, display shows “F” or an “R” along with commanded gear.

Engine only starts with shift lever in PARK or NEUTRAL.

Bump shift lever forward or rearward to shift transmission up or down. Multiple bumps or holding shift lever forward or rearward quickly shifts transmission through multiple gears, some gears may be skipped to make appropriate speed change

NOTE: The seat assembly contains an operator presence sensor to prevent initiation of movement of tractor without operator sitting in the seat.

When tractor is loaded to below low idle speed, transmission can default to NEUTRAL for powertrain protection. Park brake engages once the wheel speed drops below 1.75 km/h (1.0 mph).

To re-engage transmission, move shift lever to PARK, reduce load, and shift into desired operating gear.

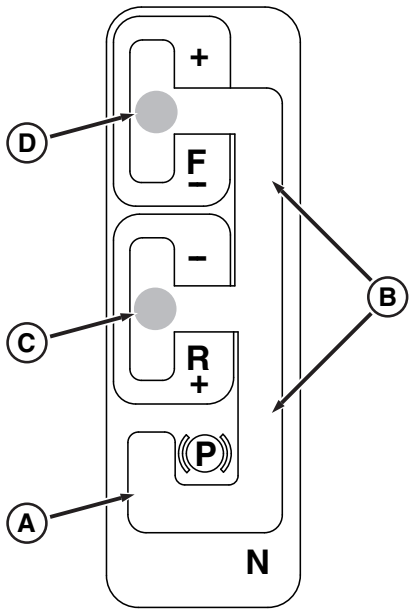
A diagnostic trouble code is stored and displayed when this condition occurs.

DB71512,000004C-19-27JUN17

Shift e23™ Transmission with Right-Hand Reverser

Shift Lever Positions

IMPORTANT: Operator can always move shift lever to PARK Position; however, park brake will not engage until ground speed is below 1.75 km/h (1.0 mph). Repeated engagement of the park brake, while the tractor is moving, may damage the park brake.



RXA0107694—UN—18MAY10

PARK (A) — Park brake is applied when lever is fully forward in rear slot.

NEUTRAL (B) — Park brake is released when lever is moved to anywhere in right slot.

Reverse (C) — Tractor begins moving rearward when the lever enters this slot. Push lever forward for downshifts and pull rearward for upshifts.

Forward (D) — Tractor begins moving forward when lever enters this slot. Push lever forward for upshifts and pull rearward for downshifts.

NOTE: Transmission is in NEUTRAL position whenever shift lever is not in PARK, forward, or reverse positions.

Command Gears

NOTE: Optimum engine speed is 1800 — 2200 rpm in full load conditions. Using higher gear and lower engine speed for light load operation saves fuel and reduces wear. Under full load conditions, use full throttle engine speed.

Each time transmission enters forward or reverse slots, transmission starts in command gear, shown on corner post display.

If no other command gears have been selected, transmission starts out in either 8F or 4R after engine is started. These are default command gears. Startup default command gears can be changed from F1 - F15 in forward and R1 - R6 in reverse (see Set Startup Gears in this section of this Operator's Manual).

Command gear temporarily changes to the last gear used when shuttling between forward and reverse, or shift from gear to neutral.

Transmission starts in the preselected forward or reverse gear when clutch pedal is released.

Forward Gear— Gears between F1 and F15 can be preselected by depressing clutch pedal, putting the shift lever in forward slot, and bumping the shift lever up or down until the desired command gear is displayed.

Reverse Gear— Gears between R1 and R6 can be preselected by depressing clutch pedal, putting the shift lever in reverse slot, and bumping the shift lever up or down until the desired command gear is displayed.

Cold Weather Starting

When temperature is -10°C (14°F) or lower, it can take one minute to release the park brake with operator in the seat and shift transmission lever in gear. Several shifts between PARK and NEUTRAL can be required to release park in extremely cold conditions.

When temperature is -10°C (14°F) or above, it can take 3 seconds to release park brake with operator in seat.

When shift lever is moved to NEUTRAL, corner post display shows "N" for three seconds. If park brake does not release, "N" changes back to "P". Move shift lever back to PARK then back to NEUTRAL until "N" displays more than three seconds.

Delayed shift, slow hydraulic operation, hard steering, and limited engine rpm can also be noticeable until operating temperature is obtained.

Shift Without Using Clutch Pedal

Gear to Gear — Hold shift lever forward or rearward in slot until desired gear is reached. Transmission shifts one gear at a time until lever is released.

Gear to Gear — Quickly bump shift lever forward or rearward in slot to desired gear. Transmission can skip gears if lever is moved faster than transmission can shift.

Shift Using Clutch Pedal

IMPORTANT: Clutch pedal must be fully depressed to completely disengage clutch for correct operation.

Gear to Gear — Depress clutch pedal and hold or bump lever to shift forward or rearward in slot until desired gear is displayed. Transmission goes into commanded gear when clutch pedal is released.

Transport Shift

When tractor is in light load condition, transmission can shift faster by rapidly bumping shift lever until desired transport speed is reached. To reach transport speed quickly from a stop, depress clutch and bump shift lever to F15. Transmission shifts directly to F15 when clutch pedal is released. If direct shift to F15 is not desired, bump shift lever to shift rapidly to reach desired gear and speed.

Press and Hold Shift

Hold shift lever forward or rearward, transmission shifts through gears one at a time until shift lever is released.

Double Shift

Double bump shift lever forward or rearward to shift transmission up or down two gears at a time.

Shuttle Shift (Direction Change)

Moving shift lever between forward and reverse slots causes transmission to modulate directly to opposite direction of travel without clutching or braking. Shuttle shift occurs between last commanded forward and reverse gears.

Ground Speed Matching

CAUTION: Avoid possible accident and injury from loss of vehicle control. Never coast downhill.

Transmission shifts gears to match ground speed if clutch pedal is pressed.

Transmission shifts up to prevent engine overspeed if vehicle accelerates. The transmission also shifts down to F15 or the startup gear as the vehicle decelerates.

If Efficiency Manager™ is engaged, transmission returns to original set speed once the clutch pedal is released.

When the clutch is released in manual mode, transmission does not return to same gear it was in prior to pressing the clutch pedal.

TS36762,00001A8-19-01JUN17

Operate e23™ Transmission with Left-Hand Reverser

CAUTION: Avoid personal injury or damage to tractor. If engine starts with left-hand reverser lever in forward or reverse positions, there is a malfunction in starting circuit. Repair immediately. See your John Deere™ dealer.

IMPORTANT: Prevent transmission or clutch damage:

- **Never depress the clutch pedal while tractor is rolling downhill or coasting as transmission can overspeed and cause serious damage to the transmission.**
- **Never attempt to start tractor by towing or pushing.**
- **Operator can always move shift lever to PARK Position; however, park brake does not engage until ground speed is below 1.75 km/h (1.0 mph).**
- **Avoid excessive ballast.**
- **Avoid continuous operation under full throttle and full load conditions below 1800 rpm.**



RXA0130273—UN—11JAN13

To select direction of travel, move left-hand reverser lever (A) to either forward or reverse position in directional slot.



RXA0157128—UN—01FEB17

Shift transmission using lever (B) on CommandARM™.

The transmission can be shifted, without use of clutch pedal, into forward or reverse.

The clutch pedal allows operator maximum manual control of modulation for ease in connecting implements, operating in confined areas, or slow movement of tractor during precise maneuvers.

Depress clutch pedal to preselect forward or reverse direction from park.

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CommandARM is a trademark of Deere & Company



RXA0159655—UN—05JUN17

When left-hand lever is moved from PARK to NEUTRAL position, park brake releases and corner post display (C) shows pre-selected forward or reverse gear and letter “N” for NEUTRAL. When lever is in forward or reverse, display shows “F” or an “R” along with commanded gear.

Engine only starts with left-hand reverser lever in PARK or NEUTRAL. Shifts are made one at a time by bumping lever. Multiple bumps or pushing and holding lever forward or pulling and holding lever rearward can result in skip shifts.

NOTE: The seat assembly contains an operator presence sensor to prevent initiation of movement of tractor without operator sitting in seat.

When the tractor is loaded to very low engine speed, the transmission can default to NEUTRAL for powertrain protection. Park brake engages once the wheel speed drops below 1.75 km/h (1.0 mph).

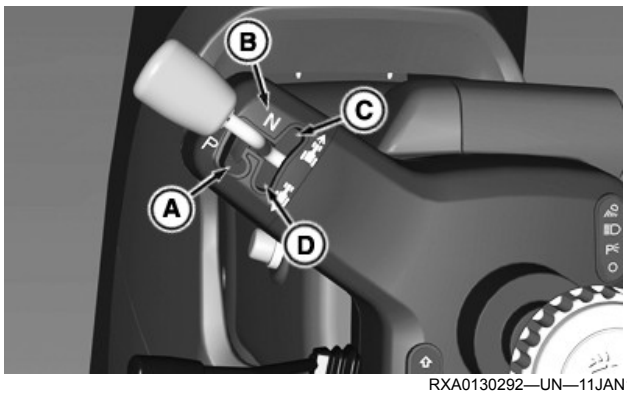
To re-engage transmission, move shift lever to PARK, reduce load, and shift into desired operating gear.

A diagnostic trouble code is stored and displayed when this condition occurs.

DB71512,000004D-19-05JUN17

Shift e23™ Transmission with Left-Hand Reverser

Shift Lever Positions



RXA0130292—UN—11JAN13

PARK (A) — Park brake is applied when lever is fully inward in slot.

NEUTRAL (B) — Park brake is released when lever is moved to this slot.

Forward (C) — Tractor begins moving forward when lever enters this slot.

Reverse (D) — Tractor begins moving rearward when lever enters this slot.



RXA0157129—UN—01FEB17

Shift Lever (E) — After direction is selected, push shift lever forward (+) for upshifts or pull rearward (-) for downshifts.

IMPORTANT: Operator can always move shift lever to PARK Position; however, park brake does not engage until ground speed is below 1.75 km/h (1.0 mph).

Command Gears

NOTE: Optimum engine speed is 1800 — 2200 rpm in full load conditions. Using higher gear and lower engine speed for light load operation saves fuel and reduces wear. Under full load conditions, use full throttle engine speed.

Each time transmission enters forward or reverse shift pattern, transmission starts in command gear, shown on corner post display.

Transmission starts out in F8 and R4 after engine is started. These are default command gears. Startup default command gears can be changed from F1 - F15 in forward and R1 - R6 in reverse (see Set Startup Gears in this section of this Operator’s Manual).

Command gear temporarily changes to the last gear used when shuttling between forward and reverse, or Shift from gear to neutral.

Initial command gear can be changed before initiating motion to match operation.

Forward Gear—Gears between F1 and F15 are preselected by depressing clutch pedal and pushing or pulling shift lever until desired command gear is displayed.

Reverse Gear—Gears between R1 and R6 are preselected by depressing clutch pedal and pushing or pulling shift lever until desired command gear is displayed.

The transmission starts in the preselected forward or reverse gear when clutch pedal is released.

Cold Weather Starting

When temperature is -10°C (14°F) or lower, it can take one minute to release park brake with operator in the seat and the transmission shifted into gear. Several shifts between PARK and NEUTRAL can be required to release park in extremely cold conditions.

When temperature is -10°C (14°F) or above, it can take 3 seconds to release park brake with operator in the seat.

When left-hand reverser lever is moved to NEUTRAL, corner post display shows “N” for three seconds. If park brake does not release, “N” changes back to “P”. Move left-hand reverser lever back to PARK then back to NEUTRAL until “N” displays more than three seconds.

Delayed Shift, slow hydraulic operation, hard steering, and limited engine rpm can also be noticeable until operating temperature is obtained.

Shift Without Using Clutch Pedal

Gear to Gear — Hold lever to shift forward or backward in slot until desired gear is reached. The transmission shifts one gear at a time until lever is released.

Gear to Gear — Quickly bump lever to shift up or down to desired gear. The transmission can skip gears if lever is moved faster than transmission can shift.

Shift Using Clutch Pedal

IMPORTANT: Clutch pedal must be fully depressed to completely disengage clutch for correct operation.

Gear to Gear — Depress clutch pedal and hold or bump shift lever forward or rearward until desired gear is displayed. Transmission goes into displayed gear when clutch pedal is released.

Transport Shift

When tractor is in a light load condition, transmission can shift faster by rapidly bumping shift lever until desired speed is reached. To reach transport speed quickly from a stop, depress clutch pedal and bump shift lever to F15. Transmission shifts directly to F15 when clutch pedal is released. If direct shift to F15 is not desired, bump shift lever to shift rapidly to reach desired gear and speed.

Press and Hold Shift

Hold shift lever forward or rearward to continuously shift transmission through gears until desired gear is reached then release shift lever.

Double Shift

Transmission shifts up or down two gears when shift lever is double bumped forward or backward. A double bump down shift is useful in field operations when hitting tough spots. Double bumping can also be useful in making headland turns.

Shuttle Shift (Direction Change)

Moving shift lever between forward and reverse slots causes transmission to modulate directly to opposite direction of travel without clutching or braking. Shuttle shift occurs between last commanded forward and reverse gears.

Ground Speed Matching

CAUTION: Avoid possible accident and injury from loss of vehicle control. Never coast downhill.

Transmission shifts gears to match ground speed if clutch pedal is pressed.

Transmission shifts up to prevent engine overspeed if tractor accelerates. Transmission shifts down to F15 or the startup gear as tractor decelerates.

If Efficiency Manager™ is engaged, transmission returns to original set speed once clutch pedal is released

In manual mode, transmission does not return to the gear it was in prior to pressing clutch pedal when clutch is released.

RD47322,000052F-19-05JUN17

Set Startup Gears

NOTE: Up to one reverse and two forward startup gears may be set.



RXA0133712—UN—16JUL13

Press **Transmission Shortcut Button on Navigation Bar.**

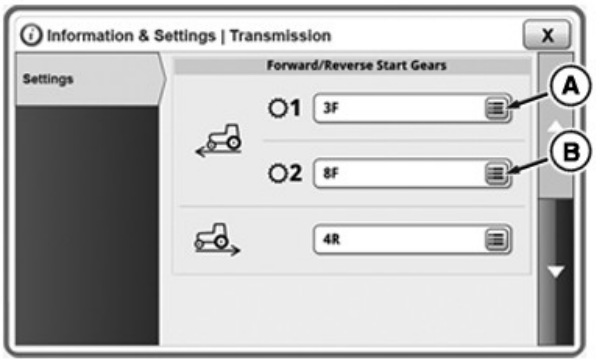


RXA0130326—UN—11JAN13

1. Press **Advanced Settings icon.**

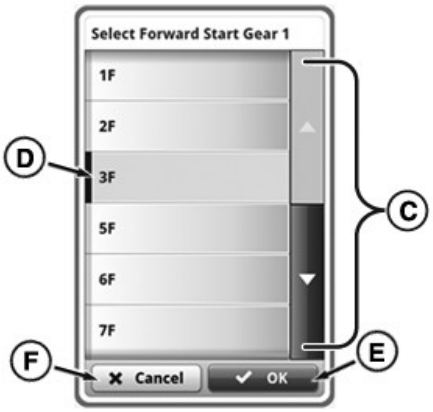
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2. Press **Settings tab.**



RXA0155805—UN—17NOV16

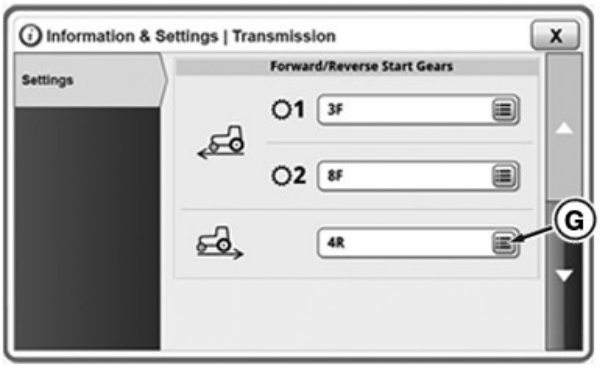
3. Press Forward Start Gear 1 button (A). List of forward gears appears.



RXA0155806—UN—17NOV16

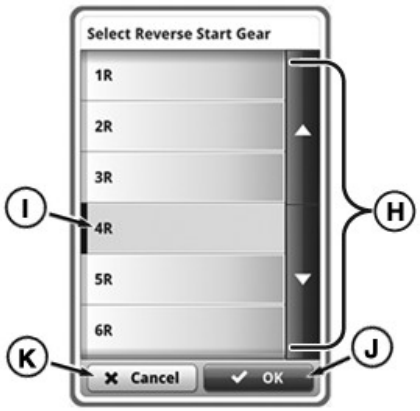
4. Scroll through list of gears (C).
5. Select desired gear (D) and press OK button (E) to finish selection or (F) to cancel.
6. Press Forward Start Gear 2 button (B). List of forward gears appears.
7. Repeat step 4 and 5 to select Forward Start Gear 2.

Select Reverse Start Gear



RXA0155807—UN—17NOV16

1. Press Reverse Start Gear button (G). List of forward gears appears.



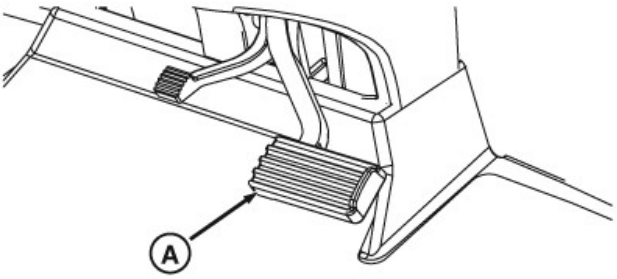
RXA0155829—UN—17NOV16

2. Scroll through list of gears (H).
3. Select desired gear (I) and press OK button (J) to finish selection or (K) to cancel.

TS36762,00001AB-19-18NOV16

Stop and Park Tractor

1. Reduce throttle to low idle.



RXA0134404—UN—01AUG13

2. Depress brake pedal (A). Brakes activate AutoClutch (automatic clutch function within transmission) to stop tractor. It is not necessary to depress clutch. See Use AutoClutch (If Equipped) in Brakes section of this Operator's Manual.
3. Move speed control lever to slowest position.

CAUTION: Always place reverser lever in PARK position before dismounting tractor.

4. Shift reverser to PARK position.
5. Lower implements and shut off PTO.
6. Shut off engine and remove key.

Stopping Tractor using AutoClutch

CAUTION: Avoid possible injury. Braking tractor while commanding a high engine speed requires higher brake pedal force.

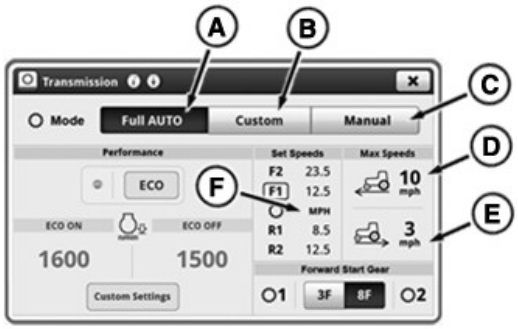
Avoid possible injury due to sudden or unexpected acceleration. When brake pedal is released, tractor automatically accelerates to speed currently commanded by throttle and speed control lever.

Depress brake pedal. Brakes will activate AutoClutch. When brakes are released, tractor accelerates to currentl commanded speed. **It is not necessary to depress clutch, reduce throttle, or move speed control lever.**

KT81203,0000266-19-27JUN17

CommandCenter™ Transmission Main Page

e23™ transmission offers three modes of operation to optimize fuel efficiency and load control of the tractor. These modes are selected from the CommandCenter™ transmission main page.



RXA0154273—UN—03OCT16

Full AUTO (A) — Automatically adjusts engine speed and gear selection to optimize fuel economy and performance. This mode automatically responds to loads created by the hitch or SCVs. During PTO use, engine speed is automatically controlled to provide appropriate PTO speed.

Custom (B) — Similar to Full AUTO mode except the operator can modify some of the limits and parameters used in Full AUTO mode. See custom transmission settings in this section.

Manual (C) — Operator selects engine throttle position and gear.

Maximum Ground Speed

Set maximum ground speed using transmission main page. Main page displays maximum forward (D) and reverse (E) speed.

Changing Maximum Ground Speed



RXA0133712—UN—16JUL13

Press **Transmission Shortcut Button on Navigation Bar.**

1. Press appropriate speed limit (D or E) on the Transmission Main page. The value adjustment page appears.



RXA0131233—UN—09MAY13

2. Adjust the ground speed to the desired value by using increase (+) and decrease (-) buttons. Also turning adjusting dial (G) can be used to increase or decrease ground speed settings.

NOTE: If operator changes maximum forward or reverse speed below current speed, the set speed (F) decreases to the maximum speed and the vehicle speed will decrease.

Efficiency Manager™ Set Speed

There are two programmable set speeds for each direction used in Efficiency Manager™. They are activated by pushing the set speed buttons on CommandARM™. Once activated, Efficiency Manager™ will shift gears and change engine speed so that the ground speed will match the set speed. The set speeds are changed through the set speed adjusting wheel. (See Efficiency Manager™ on the e23™ Transmission in this section in the Operator's Manual.)

TS36762,00001AD-19-18NOV16

Efficiency Manager™ on the e23™ Transmission

Efficiency Manager™ controls transmission gear, shift, and engine speed to maintain the desired ground speed (set speed). Shift decisions are based on load conditions, throttle command, and operator settings.

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Efficiency Manager is a trademark of Deere & Company
CommandARM is a trademark of Deere & Company

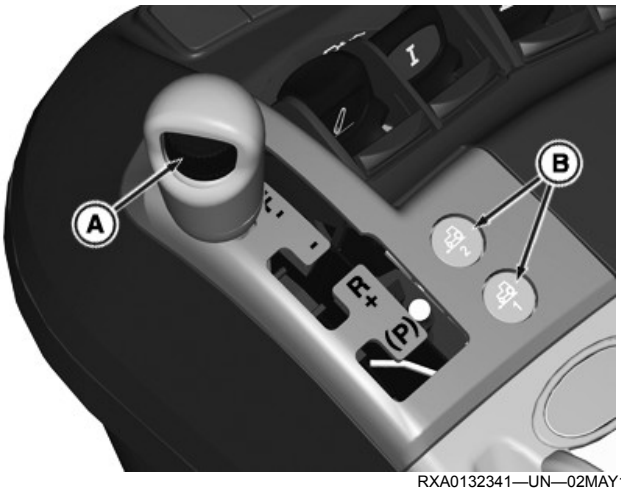
- Efficiency Manager™ is always running in Full AUTO and Custom modes.
- Efficiency Manager™ runs in Manual Mode when the set speed buttons are active.

Using Efficiency Manager™



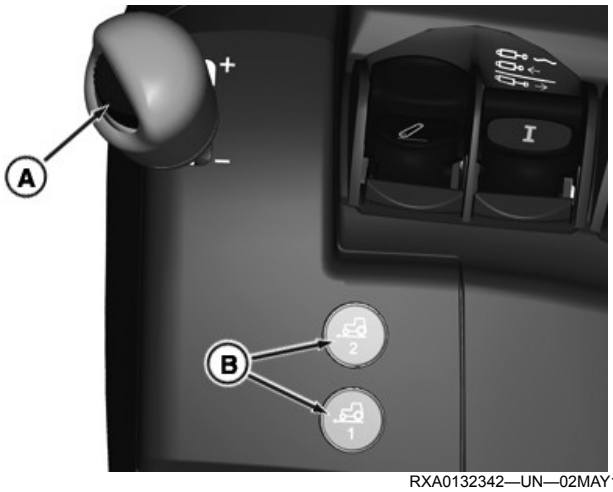
RXA0159656—UN—08JUN17

- The Efficiency Manager™ indicator light (C) is on the corner post display and illuminated when active.
- The tractor will only reach the set speed if throttle is set to maximum engine rpm.
- In high load applications, the throttle should be set to maximum rpm.
- The transmission may shift gears if either the hand throttle or foot throttle position is changed.
- The operator has a choice of setting two separate set speeds.



RXA0132341—UN—02MAY13

Set Speed Buttons with Right-Hand Reverser



RXA0132342—UN—02MAY13

Set Speed Buttons with Left-Hand Reverser

- Adjust set speed for each set speed button (B) with set speed adjusting wheel (A). Move shift lever to NEUTRAL. Press either set speed button 1 or 2. Rotate set speed adjusting knob clockwise to increase or counterclockwise to decrease set speed. Adjust other set speed if desired. When tractor is put into motion, transmission may shift gears to adjust to new set speed selected.
- Bumping the shift lever when in Full AUTO or Custom modes, temporarily makes a large change in the set speed. The transmission may shift gears and the engine speed may change. The speeds stored in the set speed buttons do not change.
- Efficiency Manager™ may not shift gears if the clutch pedal is partially depressed.
- If the clutch pedal is fully depressed and the tractor is stationary, Efficiency Manager™ selects the start-up gear and may reduce the engine speed.
- Efficiency Manager™ will select the start-up gear when Shift from NEUTRAL or PARK to gear.
- If the clutch pedal is fully depressed and tractor is moving above the start-up gear speed, Efficiency Manager™ selects a gear and engine speed to match the ground speed.
- If the clutch pedal is fully depressed and tractor is moving below the start-up gear speed, Efficiency Manager™ selects the start-up gear.

NOTE: Efficiency Manager™ set speeds can be programmed into iTEC™. See Set Up A Sequence in Intelligent Total Equipment Control (iTEC™) section of this Operator's Manual.

DB71512,0000073-19-08JUN17

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Efficiency Manager™ on e23™ Transmission in Manual Mode



RXA0154275—UN—03OCT16

Right-Hand Reverser



RXA0154274—UN—03OCT16

Left-Hand Reverser

- Press either set speed button (A) to activate Efficiency Manager™ in Manual Mode.

IMPORTANT: When Efficiency Manager™ is disabled, the engine rpm changes and tractor may accelerate or decelerate to appropriate speed commanded by current throttle position.

- Press same set speed button a second time in Manual Mode to disengage Efficiency Manager™.
- Bump shift lever forward or rearward in Manual Mode to disengage Efficiency Manager™. Transmission changes engine speed and shift gears to match throttle position.

All other features and functions of Efficiency Manager™ are the same whether in Full AUTO Mode or Custom Mode.

TS36762,00001AF-19-18NOV16

e23™ Custom Mode Settings

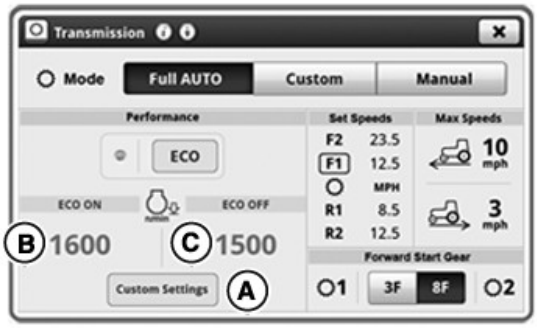
NOTE: Settings discussed can only be modified when Efficiency Manager™ is in Custom or Manual Mode.



RXA0133712—UN—16JUL13

Press **Transmission Shortcut Button on Navigation Bar.**

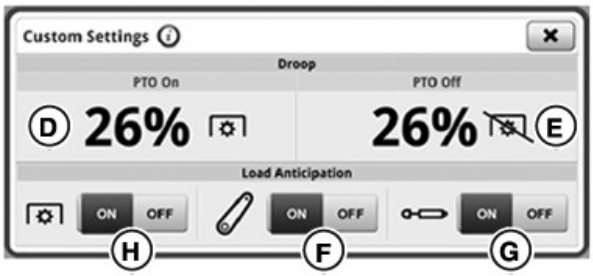
On Mode bar, select Custom Mode.



RXA0143050—UN—07OCT14

Select Custom Settings button (A).

Set Auto Shift Engine Droop



RXA0130327—UN—07OCT14

Under full load, Auto Shift Engine Speed Droop PTO On (D) and Auto Shift Engine Speed Droop PTO Off (E) limits the engine speed droop before Efficiency Manager™ automatically downshifts. A lower percentage means less droop is allowed before downshift.

1. Select Auto Shift Engine Speed Droop PTO On. Value adjustment page appears.

NOTE: Different values can be entered for operation with or without the PTO:

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- *Auto Shift Engine Speed Droop PTO On can be set from 6% —26%.*
- *Auto Shift Engine Speed Droop PTO Off can be set from 14% — 26%.*

2. Adjust value to desired percentage by using increase (+) and decrease (-) buttons.
3. Select Auto Shift Engine Speed Droop PTO Off. Repeat step 2.

Minimum Engine Speed

ECO ON (B) and ECO Off (C) limits how much Efficiency Manager™ shifts up and throttles engine speed back to save fuel under light loads.

1. Select ECO ON. Value adjustment page appears.
2. Adjust value to desired engine speed by using increase (+) and decrease (-) buttons.
3. Select ECO OFF. Repeat step 2 to select desired engine speed.

Load Anticipation

Engine speed is adjusted and transmission shifts gears to maintain wheel speed, while SCV, PTO, or hitch are in use. Select appropriate toggles to activate or deactivate Load Anticipation for:

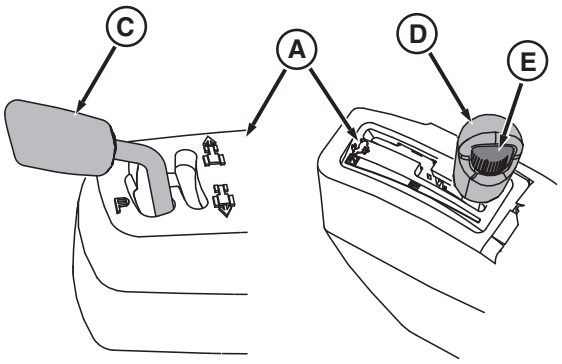
- PTO (H)
- Use Hitch (F)
- SCV (G)

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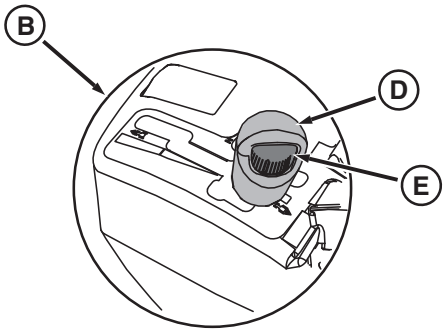
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Controls Identification

IVT™/AutoPowr™ transmission provides infinite ground speeds in forward mode from 50 meters per hour (164 feet per hour) to 50 km/h (31 mph) depending on tractor specifications. Reverse mode provides infinite ground speeds from 50 meters per hour (164 feet per hour) to 20 km/h (12.4 mph). Maximum speeds can vary slightly due to tire size.



RXA0155008—UN—17OCT16



RXA0155009—UN—17OCT16

IVT™/AutoPowr™ tractors are equipped with either left-hand reverser (A) or right-hand reverser (B). Transmission is controlled by two levers in the left-hand configuration. Left-hand reverser lever (C) controls tractor direction, park, and neutral. Second lever, speed control lever (D), is located on CommandARM™ and controls ground speed.

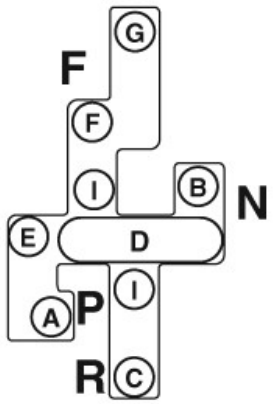
Right-hand reverser option consists of right-hand reverser lever on CommandARM™ and controls tractor direction, park, neutral, and ground speed.

There are two variable speed bands in forward direction on all tractors. Tractors equipped with left-hand reverser have two-speed bands in reverse. Tractors equipped with right-hand reverser have single reverse band.

Set speeds are maximum ground speeds in each speed band. Speed control lever must be pushed to end of slot to achieve set speeds. Set speed adjusting dial (E) on speed control lever rotates to adjust set speeds (See Adjust Set Speeds in this section of this Operator's Manual).

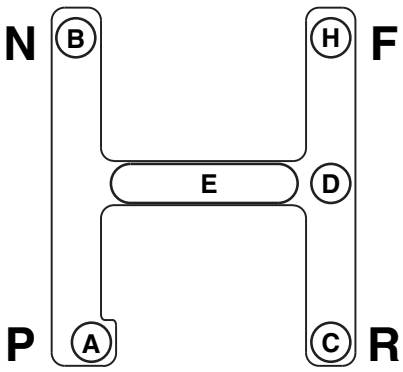
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Left-hand and Right-hand Reverser Shift Patterns



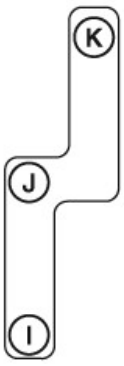
RXA0133408—UN—09DEC13

Right-Hand Reverser Speed Lever



RXA0100319—UN—26JAN09

Left-Hand Reverser



RXA0137698—UN—09DEC13

Left-Hand Reverser Speed Lever

(A) Park: Engages park brake to hold tractor stationary preventing tractor from rolling; "P" appears on corner post display.

(B) Neutral: Disengages park brake, allowing tractor to

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CommandARM is a trademark of Deere & Company

roll, but does not transmit power to wheels; "N" appears on corner post display.

(C) Reverse: Transmits power to wheels for rearward travel; "R" appears on corner post display.

(D) PowerZero™: Hand-held position temporarily holds tractor stationary on relatively flat surface.

(E) Scroll Position: Scrolls through set speeds on corner post display continuously while tractor is not moving.

(F) Forward Speed Band 1: Transmits power to wheels for forward travel; "F1" appears on corner post display.

(G) Forward Speed Band 2: Transmits power to wheels for forward travel; "F2" appears on corner post display.

(H) Forward: Transmits power to wheels for forward travel; "F" appears on corner post display.

(I) Minimum Speed: Transmits power to wheels in direction selected.

(J) Maximum Forward and Reverse Set Speed 1: Transmits power to wheels in direction selected.

(K) Maximum Forward and Reverse Set Speed 2: Transmits power to wheels in direction selected.

TS36762,00001B2-19-01SEP17

Operate the Transmission

Start Engine

CAUTION: Avoid personal injury or damage to tractor. If engine starts with left-hand reverser lever in forward or reverse positions, there is a malfunction in starting circuit. Repair immediately. See your John Deere dealer.

Tractors with right-hand reverser cannot start in neutral. If tractor does start in neutral, repair immediately, see your John Deere dealer.

IMPORTANT: Tractor with left-hand reverser can start in neutral.

Prevent transmission or clutch damage:

- **Never depress clutch pedal while tractor is rolling downhill or coasting, as serious transmission damage can result.**
- **Never attempt to start tractor by towing or pushing.**
- **Transmission can be placed in PARK at any time; however, park brake does not engage until ground speed is below 1.75 km/h (1.0 mph).**
- **Avoid excessive ballast.**
- **Clutch pedal must be fully depressed to completely disengage clutch. Never rest foot on clutch pedal while tractor is moving.**

NOTE: Operator presence sensor is built into seat to prevent movement of tractor while in gear without operator sitting in seat.

Place transmission into PARK position. Corner post display shows “P”. Start engine.

Stop Engine

CAUTION: Always place reverser lever in PARK position before dismounting tractor.

For tractors with left-hand reverser, reduce engine speed to low rpm, pull speed control lever back to slowest setting, and depress brake pedal until travel stops. Move left-hand reverser lever to PARK position. Slowly release brakes and shut off engine.

For tractors with right-hand reverser, reduce engine speed to low rpm, pull speed control lever back to slowest setting, and depress brake pedal until travel stops. Move right-hand reverser lever to PARK position. Slowly release brakes and shut off engine.

Shuttle Shift (Direction Change)

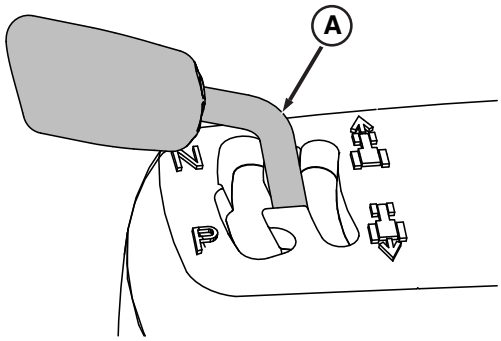
Moving shift lever between forward and reverse slots causes transmission to modulate directly to opposite direction of travel without clutching or braking. Shuttle shift occurs between last commanded forward and reverse gears.

RD47322,000054C-19-09JUN17

Adjust Set Speeds

CAUTION: Avoid unexpected rapid acceleration. Check and adjust set speeds before putting tractor in motion.

Turn key switch to RUN position (for tractors with right-hand reverser, engine must be running to change set speeds).



RXA0068281—UN—27AUG03

Left-Hand Reverser

Move lever (A) to Scroll position. Forward and reverse set speeds scroll on corner post display pausing at each speed for 2 seconds.



RXA0157130—UN—01FEB17

Adjust each speed when displayed by rotating set speed adjuster (C) on speed control lever (D) clockwise to increase set speed value or counterclockwise to decrease it.

NOTE: Set speed adjustments can affect corresponding set speed of opposite direction, see Adjust Reverse/Forward Set Speed Ratio in this section of this Operator's Manual.



RXA0159755—UN—09JUN17

On corner post display, set speed of selected speed band displays in orange and ground speed of tractor displays in white letters (B). Set speed can be adjusted while tractor is moving by rotating set speed adjuster. Increasing set speed value increases ground speed. Decreasing set speed value decreases ground speed. New set speed shows on display.

Select set speed approximately 3.2 km/h (2 mph) higher than desired working speed to obtain maximum productivity where precise forward speed is not critical (such as plowing). Tractor reaches higher set speed value during no load or light load condition.

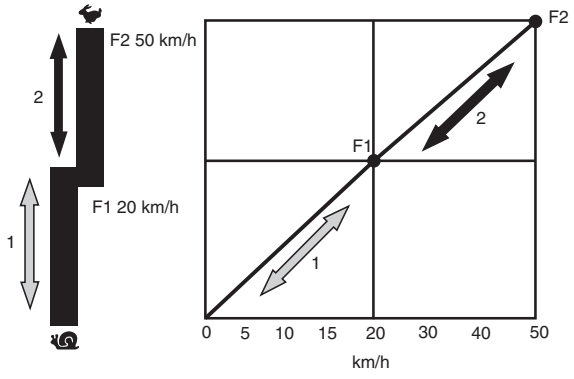
Maximum ground speed of selected speed band is attained at full throttle when speed control lever is pushed fully forward to end of slot in respective speed band.

DB71512,0000074-19-09JUN17

Set Speeds—Guidelines and Examples

Value of Set Speed 1 is always at least 10% less than value of Set Speed 2. This ensures smooth transition between speed bands and is illustrated in following examples.

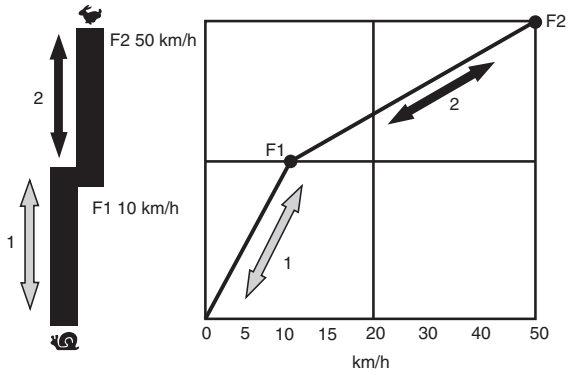
NOTE: F1 refers to Forward mode for Set Speed in speed band 1. F2 refers to Forward mode for Set Speed in speed band 2.



RXA0053043—UN—26APR01

Example 1

Example 1: Maximum Forward Set Speeds are selected for each speed band.

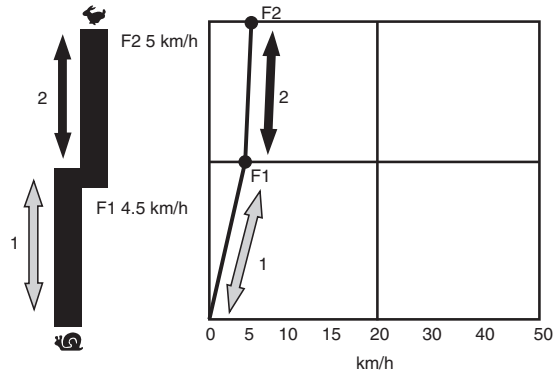


RXA0053045—UN—26APR01

Example 2

Example 2: Value of Set Speed 1 is reduced to 10 km/h (6 mph). Set Speed 2 value is not changed, but lower portion of speed band 2 has automatically decreased to meet top end of speed band 1.

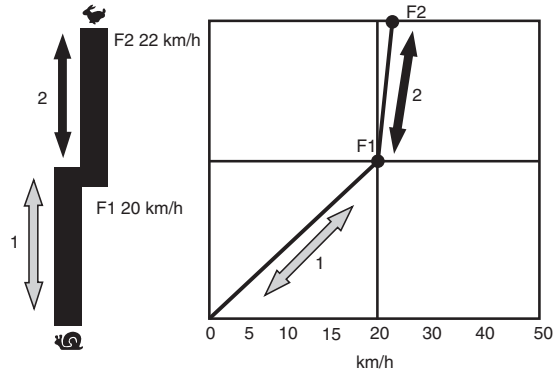
NOTE: Actual set speed increases or decreases at least 10% of adjusted speed band and ranges up to 12.5%. 10% is used in illustrations of Examples 3 and 4, and can differ by 2.5% of speeds shown.



RXA0053049—UN—26APR01

Example 3

Example 3: Set Speed 2 is reduced to 5 km/h (3 mph). Set Speed 1 automatically decreases to 4.5—4.3 km/h (2.8—2.7 mph), 10—12.5% below new value of Set Speed 2.



RXA0053047—UN—26APR01

Example 4

Example 4: Set Speed 1 is increased to 20 km/h (12.4 mph), which is higher than value of Set Speed 2. Set Speed 2 automatically increases to 22—22.5 km/h (13.7—14.0 mph), 10—12.5% above new value of Set Speed 1.

TS36762,00001B5-19-18NOV16

IVT™/AutoPowr™ Modes and Set Maximum Speed



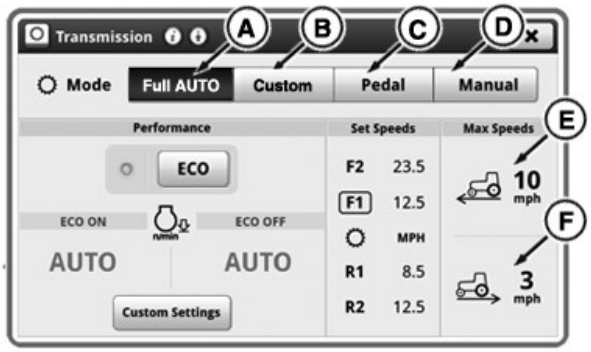
RXA0133712—UN—16JUL13

Press **Transmission Shortcut Button on Navigation Bar or follow alternative path:**



RXA0160859—UN—31AUG17

1. Press **Menu button.**
2. Press **Machine Settings button.**
3. Press **Transmission button.**
4. Transmission home page appears



RXA0130021—UN—05JUN13

Forward maximum speed (E) or reverse maximum speed (F) are displayed. To change maximum speed, select module (E or F), use increase (+) or decrease (-) buttons to change value. If operator changes maximum forward or reverse speed below current set speed, set speed decreases to maximum speed and vehicle speed decreases.

IVT™/AutoPowr™ offers four modes for fuel efficiency and load control from tractor:

- **Full AUTO Mode (A)**

  Automatically adjusts Minimum Engine Speed allowing tractor to use most fuel efficient engine speed under light load. Automatically adjusts Auto Shift Engine Speed Droop allowing tractor to use peak power under full load.

- **Custom Mode (B)**

  Operator can customize settings for Performance, Minimum Engine Speed, Auto Shift Engine Speed Droop, and Load Anticipation reaction.

- **Foot Pedal Mode (C)**

  Operator can control wheel speed independently of engine speed by using the accelerator pedal. Operator can only choose Pedal Mode when the tractor is stopped and park brake is applied.

- **Manual Mode (D)**

  Tractor performs as if equipped with normal transmission and reacts to controls. No Fuel Economy or Load Control functions active.

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Full AUTO Mode (A)	Custom Mode (B)	Pedal Mode (C)	Manual Mode (D)
• Auto Shift (or Load Control) ON. • Load Anticipation for Hitch ON. • Load Anticipation for SCVs ON. • Auto Shift Engine Speed Droop maintained at maximum tractor power. • Maximum engine speed limit adjusted according to PTO rated speed.	• Auto Shift (or Load Control) ON. • Auto Shift Engine Speed Droop with PTO On is Adjustable. • Auto Shift Engine Speed Droop with PTO Off is Adjustable. • Performance and Minimum Engine Speed with ECO ON is Adjustable. • Performance and Minimum Engine Speed with ECO OFF is Adjustable. • Load Anticipation for Hitch is Adjustable. • Load Anticipation for SCVs is Adjustable.	When hand throttle control is pulled all the way to the rearward position: • Auto Shift (or Load Control) ON. • Load Anticipation for Hitch ON. • Load Anticipation for SCVs ON. • Auto Shift Engine Speed Droop maintained at maximum tractor power. • Maximum engine speed limit adjusted according to PTO rated speed. When hand throttle control is at any other position: • Constant engine speed corresponding to the throttle position is commanded. • Auto Shift (or Load Control) ON. • Activating Engine Set Speed Button would engage constant engine speed functionality.	• Auto Shift (or Load Control) OFF. • Use when application is causing undesired automatic shifting. • Use when operating on steep and/or slippery downhill slopes.[a]

[a] *(See Downhill Operation in Slippery Conditions in this section.)*

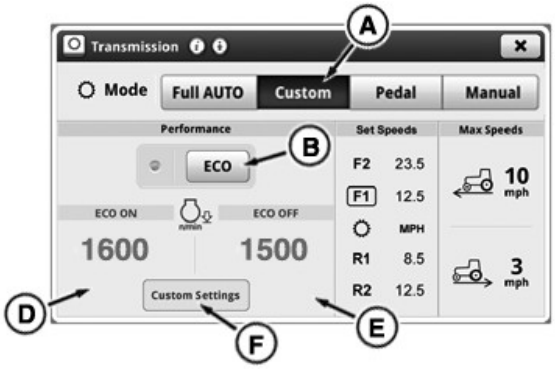
TS36762,00001B6-19-31AUG17

IVT™/AutoPowr™ Custom Mode Settings

NOTE: Settings apply only when IVT™/AutoPowr™ transmission is in Custom Mode.

Transmission is equipped with two ECO settings:

- ECO ON — Transmission minimizes engine speeds, to reduce acceleration aggressiveness and fuel consumption in lighter steady loads.
- ECO OFF — Transmission does not limit engine speed, acceleration, or fuel consumption to allow tractor maximum productivity and response.



RXA0130022—UN—16DEC13



RXA0137863—UN—21MAR14

Operators can set a minimum engine speed for both ECO ON and ECO OFF. ECO is turned ON/OFF by pressing button (B) on the transmission main page or corresponding ECO button (C) on hand throttle control. When ECO mode is active, light on CommandARM™ and transmission home page are illuminated.



RXA0133712—UN—16JUL13

Press **Transmission Shortcut Button on Navigation Bar.**

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CommandARM is a trademark of Deere & Company

Press **Custom Mode toggle (A).**

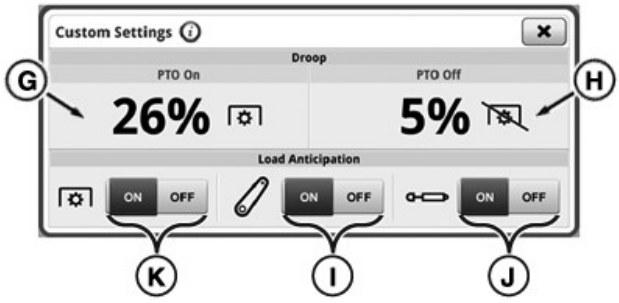
Set Engine Speed ECO ON

- Press ECO ON Engine Speed module (D).
- Adjust percentage value using increase (+) or decrease (-) to set desired value.

Set Engine Speed ECO OFF

- Press ECO OFF Engine Speed module (E).
- Adjust percentage value using increase (+) or decrease (-) to set desired value.

Auto Shift Engine Speed Droop



RXA0155830—UN—17NOV16

Transmission Custom Settings Page

Can be set for both PTO On (G) and PTO Off (H) when engine operates at full load condition before Custom Mode automatically downshifts. Lower percent causes transmission downshifts earlier, higher percent causes transmission downshifts later.

NOTE: Auto Shift Engine Speed Droop PTO On or Off can be set from 2% —26%.

Set Auto Shift Engine Speed Droop PTO On

- Press PTO On to set Auto Shift Engine Speed Droop.
- Adjust percentage value using increase (+) or decrease (-) to set desired value.

Set Auto Shift Engine Speed Droop PTO Off

- Press PTO Off to set Auto Shift Engine Speed Droop.
- Adjust percentage value using increase (+) or decrease (-) to set desired value.

Load Anticipation

Load Anticipation – IVT™/AutoPowr™ transmission adjusts engine speed to maintain wheel speed, while SCV, PTO, or hitch are in use. Toggle load anticipation functions ON or OFF for SCV (J), PTO (K), or hitch (I).

NOTE: Load anticipation functions are always active while in Full AUTO mode.

Load anticipation functions are engaged when:

- SCV – Flow rate is 25% or greater, and/or SCV is set to continuous time detent.
- PTO – Transmission automatically downshifts to maintain wheel and PTO speed.
- Hitch – While hitch is being raised or lowered.

TS36762,00001B7-19-01SEP17

Adjust Reverse/Forward Set Speed Ratio

Reverse/Forward Ratio can be set to operate independently of each other or from 0.3 to 1.3 times as fast (in 0.1 increments). Forward and Reverse Set Speeds are same at 1.0 setting (1 to 1 ratio).

Maximum reverse speed is 20 km/h (12 mph) regardless of ratio.



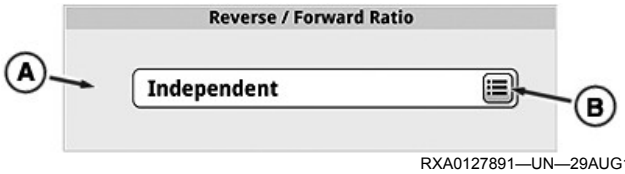
RXA0133712—UN—16JUL13

Press **Transmission Shortcut Button on Navigation Bar.**



RXA0130326—UN—11JAN13

1. Press **Advanced Settings icon.**
2. Press **Settings tab.**



RXA0127891—UN—29AUG12

3. Scroll to Reverse/Forward module (A).
4. Press Reverse/Forward Ratio button (B) to access list of reverse/forward ratio options.

Forward Set Speed is 4 km/h (2.5 mph) and Ratio is:	Reverse Set Speed km/h (mph) is:
0.3	1.2 (0.4)
0.4	1.6 (0.8)
0.5	2.0 (1.2)
0.6	2.4 (1.5)

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Forward Set Speed is 4 km/h (2.5 mph) and Ratio is:	Reverse Set Speed km/h (mph) is:
0.7	2.8 (1.75)
0.8	3.2 (2.0)
0.9	3.6 (2.2)
1.0	4.0 (2.5)
1.1	4.4 (2.7)
1.2	4.8 (3.0)
1.3	5.2 (3.2)
Independent	No ratio because reverse and forward set speeds function independent of each other. Reverse Set Speed is limited to be no more than 5 km/h (3 mph) faster than Forward Set Speed.

TS36762,00001B8-19-14NOV17

Put Tractor in Motion

CAUTION: Avoid possible injury due to sudden or unexpected acceleration. Be aware of set speeds and throttle position before putting tractor in motion.

If operator is not seated, transmission will not engage gears. Information indicator lights and corresponding message appears on CommandCenter™ display when Forward, Reverse, or NEUTRAL positions are selected and operator is not in seat.

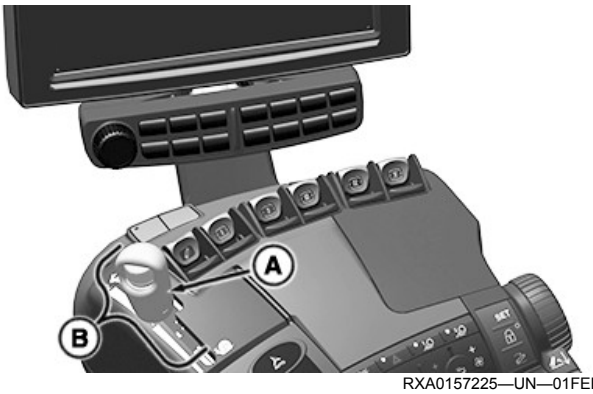
To initiate motion, move reverser lever from PARK position to either Forward or Reverse position with operator seated.

NOTE: Cold conditions can affect IVT™/AutoPowr™ tractor performance:

- *Engine speed is limited to 1500 rpm if transmission oil temperature is less than -5 °C (23 °F).*
- *Wheel speed is limited to 5 km/h (3 mph) if transmission oil temperature is less than -15 °C (5 °F).*

Using clutch to put tractor in motion is not necessary.

NOTE: In event of seat switch failure, tractor can still be put into motion by cycling (depress/release) clutch or brake pedals.



RXA0157225—UN—01FEB17

Left-Hand Reverser Shift Lever

Adjust throttle to desired engine speed. Adjust speed control lever (A) within speed band (B) to obtain desired speed.

RD47322,0000552-19-27JUN17

Use Creeper Mode

Creeper Mode is entered automatically when a set speed of less than 2 km/h (1 mph) is selected in speed band 1.

To eliminate rapid acceleration when lever is moved from speed band 1 to speed band 2, a ratio of 2.5:1 is set between maximum speed of band 2 and band 1. For example, if speed band 1 is set at 100 m/h (328.1 ft/h), corresponding maximum speed in band 2 is 250 m/h (820.2 ft/h).

Standard ratio can be temporarily overridden (such as when making headland turns) by increasing speed band 2 to a maximum of 10 km/h (6 mph). Moving lever back to band 1 restores previous working speeds.

In creeper mode, reverse set speed can be set to less than forward set speed. Reverse set speed limit can be temporarily overridden by moving Right-Hand Reverser Lever into Reverse Speed Band and increasing reverse set speed. Moving Right-Hand Reverse Lever from Reverse Speed Band to Forward Speed Band 1 and not changing Forward Set Speed 1 resets Reverse Set Speed to less than Forward Set Speed.

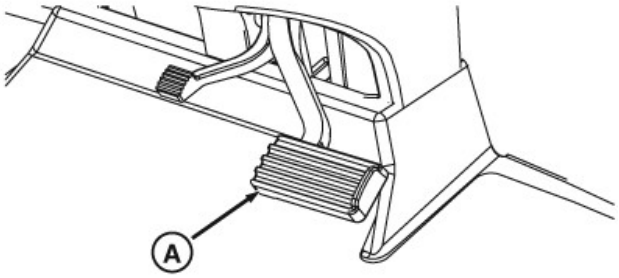
Creeper mode is exited when Set Speed 1 is adjusted above 2 km/h (1 mph) or Set Speed 2 is adjusted above 10 km/h (6 mph).

TS36762,00001BA-19-18NOV16

Stop and Park Tractor

1. Reduce throttle to low idle.

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RXA0134404—UN—01AUG13

2. Depress brake pedal (A). Brakes activate AutoClutch (automatic clutch function within transmission) to stop tractor. It is not necessary to depress clutch. See Use AutoClutch (If Equipped) in Brakes section of this Operator's Manual.
3. Move speed control lever to slowest position.

CAUTION: Always place reverser lever in PARK position before dismounting tractor.

4. Shift reverser to PARK position.
5. Lower implements and shut off PTO.
6. Shut off engine and remove key.

Use AutoClutch

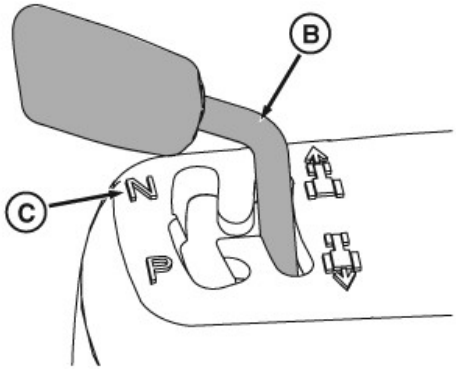
CAUTION: Avoid possible injury. Braking tractor while commanding a high engine speed requires higher brake pedal force.

Avoid possible injury due to sudden or unexpected acceleration. When brake pedal is released, tractor automatically accelerates to speed currently commanded by throttle and speed control lever.

Depress brake to activate AutoClutch and tractor slows and stops without depressing clutch pedal. When brakes are released, tractor accelerates to currently commanded speed. It is not necessary to depress clutch, reduce throttle, or move speed control lever.

Use PowerZero™ Position

CAUTION: Depending on speed and load, PowerZero™ cannot bring tractor to stop if already in motion.



RXA0130864—UN—06FEB13

Left-hand Reverser

Hold reverser lever in Power Zero™ position (B) to temporarily hold tractor stationary. Move lever to direction desired to resume motion.

Use NEUTRAL Position

Move shift lever to NEUTRAL (C) to stop transmission from powering wheels. Tractor rolls freely with transmission in NEUTRAL whether engine is running or not.

RD47322,00005B4-19-09JUN17

Downhill Operation in Slippery Conditions

CAUTION: Avoid possible injury from losing control of tractor while operating on a downhill slope. Tractor wheels can lock and skid on slippery downhill slopes. Observe following precautions:



RXA0133712—UN—16JUL13

1. Press **Transmission Shortcut Button on Navigation Bar.**
2. When transmission page displays, select Manual toggle.
3. Adjust set speed value to a safe downhill operating speed.
4. Do not make major speed reductions with speed control lever.
5. Turn MFWD on.

TS36762,00001BC-19-18NOV16

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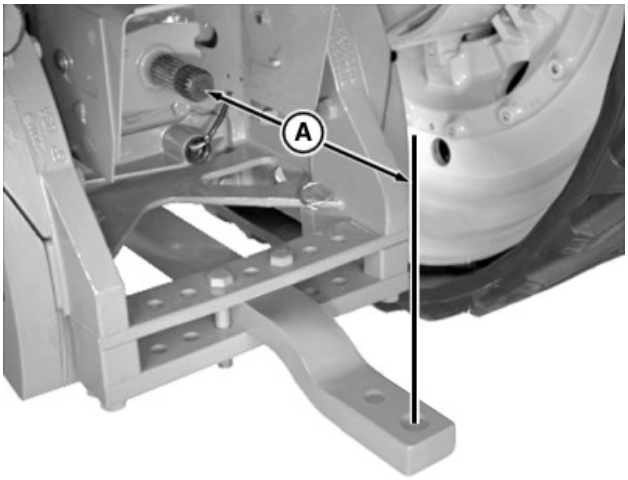
Attaching PTO-Driven Implement



TS1644—UN—22AUG95

CAUTION: Avoid serious injury or death due to entanglement in rotating driveline. Stop the engine and telescoping driveline before adjustments or connections are made, or before cleaning PTO-driven equipment.

Keep PTO shield and drive line shields in place at all times. Make sure rotating shields turn freely. Wear close-fitting clothing.



RXA0058478—UN—08NOV01

PTO Shaft	Distance from PTO Shaft End to Hitch Pin Hole (A) mm (in)
1000 rpm - 20 Splines[a]	508 (20)

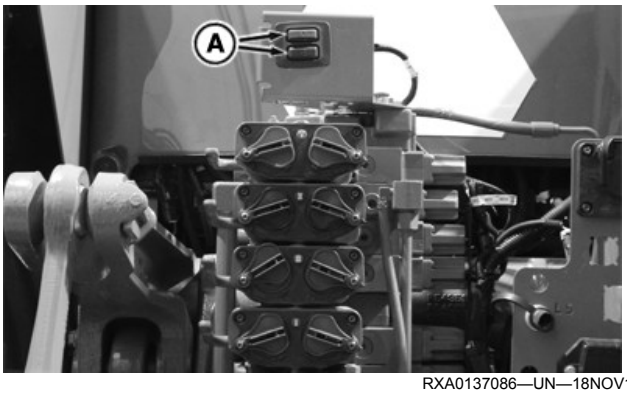
[a] 45 mm (1-3/4 in) Shaft Diameter

1. Lock drawbar in center, no sway position.
2. Remove clevis assembly.
3. Attach implement to drawbar before connecting telescoping driveline. If implement is connected to quick coupler, be sure drawbar does not interfere.
4. Connect driveline to PTO shaft. Hand-turn shaft slightly to line up splines. Correctly position and firmly lock yoke.
5. Move PTO shield into position. See Using PTO Shield in Rear PTO section of this Operator's Manual.

RW29387,0000300-19-09JUN17

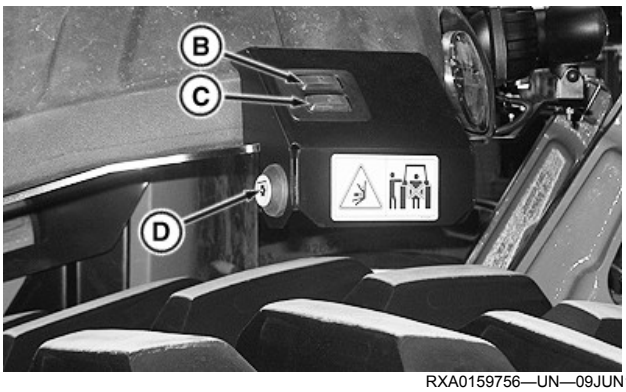
Hitch, SCV and PTO External Switches

CAUTION: Prevent injury or damage caused by inadvertent tractor movement. Place transmission in PARK position before using external raise/lower switches. Stay clear of interference points when using external raise/lower switches.



RXA0137086—UN—18NOV13

Tractors without fender extensions have external hitch raise and lower switches (A) mounted on valve stack.



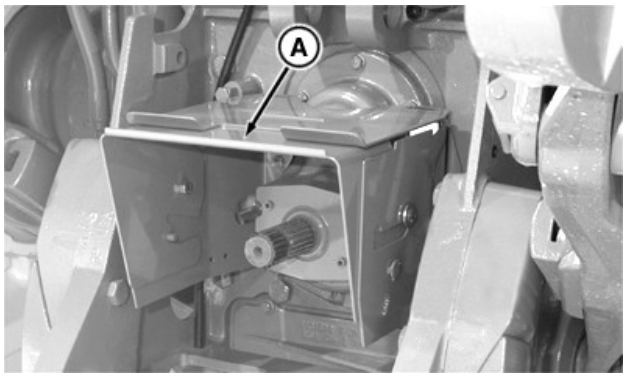
RXA0159756—UN—09JUN17

Tractors with optional fenders may have optional raise (B) and lower (C) switches on rear fenders. External rear PTO switch (D) is also available.

TO84419,00003CF-19-09JUN17

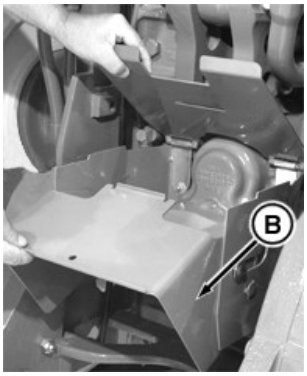
Using PTO Shield

CAUTION: Avoid personal injury. Put the PTO shield in correct position at all times. Do not use shield as a step.

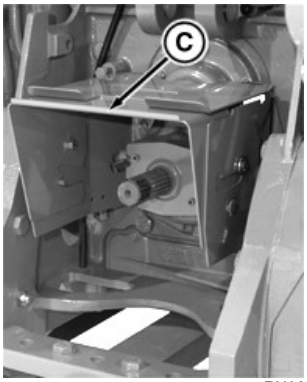


RXA0057319—UN—26SEP01

Move PTO shield (A) into correct position.

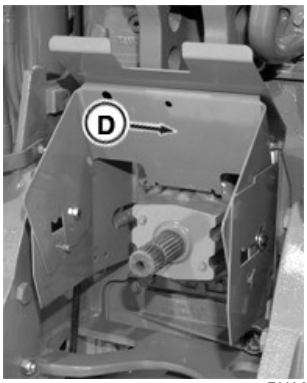


RXA0057317—UN—26SEP01



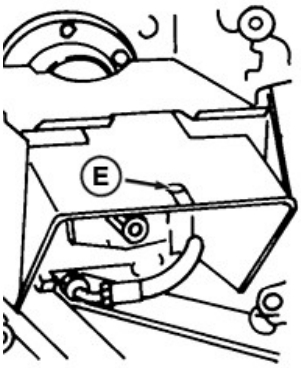
RXA0056529—UN—18OCT01

To extend shield, lift up rear portion of shield and tilt front portion of shield (B) down. Slide front portion of shield (C) forward and pull up to locked position.



RXA0159760—UN—09JUN17

Lift shield to raised position (D) to provide clearance while connecting implement driveline to PTO shaft.



RXA0159761—UN—09JUN17

Slot (E) must be cut in PTO shield to connect an implement with an old-style tunnel shield. Cut from edge of shield to small hole.

RW29387,0000301-19-09JUN17

Operate PTO

CAUTION: Avoid personal injury. Stop engine and PTO driveline before adjustment or connections are made, or cleaning PTO-driven equipment.

Always disengage PTO when not in use.

PTO can be engaged or disengaged without operating clutch.

NOTE: Service alert indicator light will flash, a message appears on CommandCenter™ display, and an audible warning sounds as operator leaves seat with PTO engaged. PTO does not disengage when operator is off seat.

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RXA0159757—UN—09JUN17

Extend PTO switch (A) to engage PTO. PTO indicator on corner post display will light.

IMPORTANT: If PTO disengages during startup in cold weather operation, wait 5 minutes before reengaging PTO to avoid damage.

If PTO speed drops below 100 rpm for more than 1 second during normal operation, rear PTO will be turned off. Information indicator will be activated.

If engine speed drops below 500 rpm while PTO is running or being engaged, rear PTO will be shut off to keep engine from stalling.

Raise PTO switch to disengage clutch and PTO brake will engage automatically.

NOTE: If engine is stopped and then restarted while PTO is running, PTO will not operate. Disengage PTO switch and engage PTO again.

If remote PTO switch enable is selected in CommandCenter, but a rear PTO fender switch is not installed, console rear PTO switch will not function until remote is deselected in CommandCenter.

GH15097,00008F0-19-09JUN17

PTO Engagement Rate



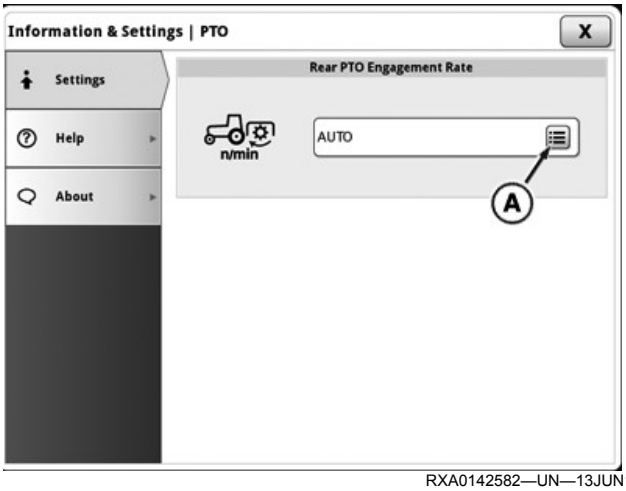
RXA0133713—UN—16JUL13

Use shortcut buttons or follow alternative path:



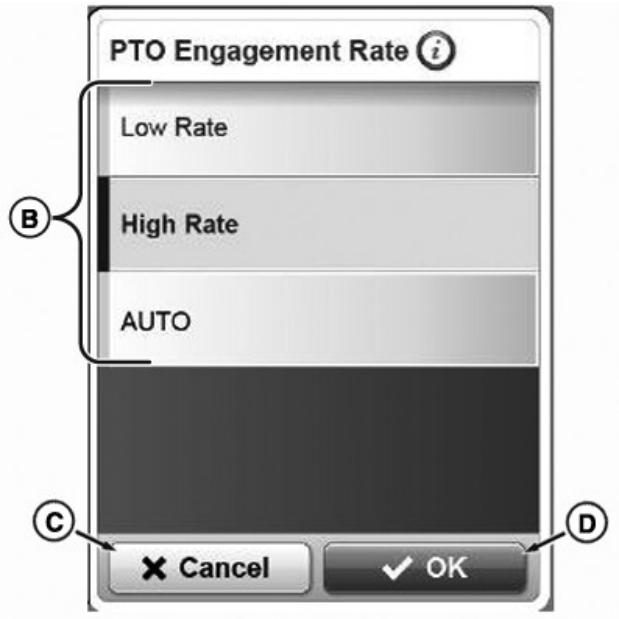
RXA0148323—UN—05JUN15

1. Select **Menu.**
2. Select **Tractor Settings tab.**
3. Select **PTO icon.**
4. Select **Information and Settings icon.**
5. Select **Settings tab.**



RXA0142582—UN—13JUN14

6. Select rear PTO engagement Rrate (A).



RXA0159759—UN—09JUN17

7. Select PTO Engagement Rate (B):
   - **Low Rate:** Can be used where gradual PTO startup is required, or if Auto engagement is too aggressive or inconsistent.

- **High Rate:** Can be used for applications where PTO clutch engagement needs to be aggressive.

IMPORTANT: If operator is experiencing problems with PTO clutch engagement in Auto setting, change PTO engagement setting in CommandCenter™ from Auto to High Rate to prevent power train damage.

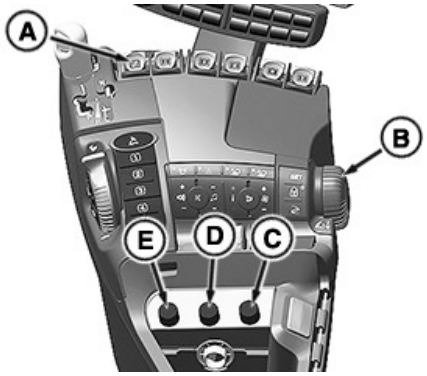
- **AUTO:** Used for most implements, and is the factory setting in CommandCenter™. This setting provides software logic to determine engagement rate for PTO clutch, based on PTO speed sensor feedback. If PTO does not turn fast enough during initial PTO clutch engagement, engagement rate is automatically increased to avoid clutch slip and PTO shutdown.

8. Press OK button (D) to accept settings, or Cancel button (C) to decline settings.

RW29387,0000303-19-09JUN17

CommandCenter is a trademark of Deere & Company

Rear Hitch



RXA0159762—UN—12JUN17

Controls:

Control rear hitch functions with:

- Rear Hitch Control Lever (A)
- Depth Adjust Hitch Dial (B)

Settings:

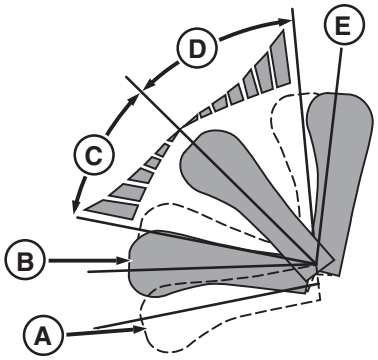
Adjust rear hitch settings with:

- Drop Rate Hitch Dial (C)
- Upper Limit Hitch Dial (D)
- Load Depth Hitch Dial (E)

Settings may also be adjusted with CommandCenter™ .

GH15097,0000866-19-09JUN17

Hitch Control Lever



RXA0143179—UN—07JUL14

Lever Positions

Proportional

Moving hitch control lever within proportional regions (C and D), changes raise or lower rate depending on how far lever is moved from center position.

Hitch control lever does not raise above upper limit, but can lower below set point.

Detents

When the hitch control lever is pulled into detent position, raise (E) and released, hitch raises to upper limit. When pushed into detent position, lower (B) and released, hitch moves to set point.

Float

Float position (A) allows for freedom of motion for hitch and is useful when detaching implement. See Float Operation in this section of this Operator's Manual for proper setup if implement requires hitch to float during field operation.

Hitch Depth Adjust Dial



RXA0158410—UN—28MAR17

Hitch depth adjust dial (G) can also be used to adjust hitch position. Like hitch control lever, it will not raise hitch above upper limit, but can lower hitch below set point.

Setting Depth

Use hitch control lever or depth adjust dial to move hitch to desired position, press set point button (F) to store operating depth.

Return to Stored Operating Depth

Press resume button (H) or push control lever into detent position, lower (B) and release to return to set point.

If hitch is lower than set point, returning to set point is only allowed when tractor is moving.

Resume button (H) does not lower hitch if tractor is stationary with transmission in Park or Neutral.

BH38674,0000BD8-19-21JUN17

Lock and Damping

CAUTION: To prevent possible injury and equipment damage, lock hitch before transporting.

Hitch Lock

Before transport, or when hitch-mounted implement is not in use, engage rear hitch lock/damping

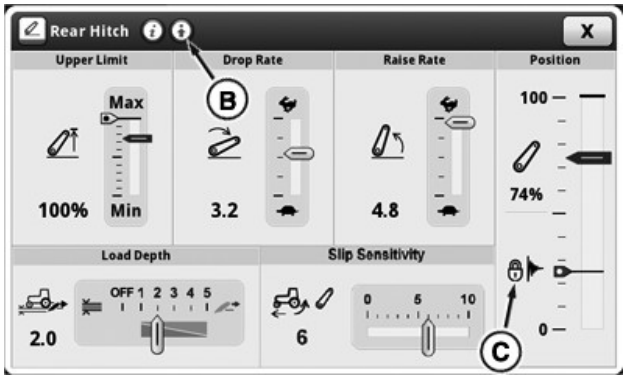
CommandCenter is a trademark of Deere & Company

1. Raise hitch with control lever or hitch depth adjust dial.



RXA0157224—UN—01FEB17

2. Press lock button (A).



RXA0149592—UN—07AUG15

When hitch lock damping indicator (C) is visible, hitch will not respond to hitch depth adjust dial and hitch control lever cannot lower hitch.

Hitch control lever can raise hitch back up to locked position with lever held in detent position.

If hitch leaks down while tractor is stopped, hitch returns to locked height when tractor begins moving.

To unlock hitch, press lock button (A) again.

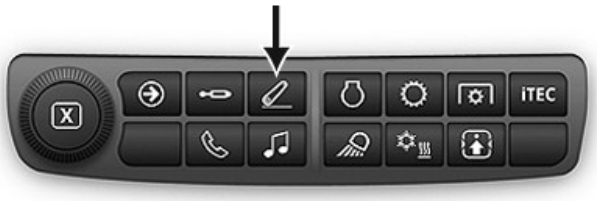
Hitch Damping

Lock button also turns transport damping ON/OFF when enabled. Hitch damping can be enabled or disabled in advanced hitch settings page (B).

BH38674,0000BD9-19-21JUN17

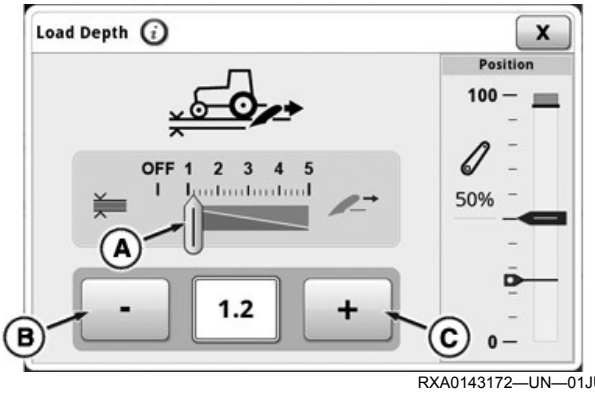
Adjust Load/Depth Control (Draft Response)

Load/depth control allows control of movement of hitch while working. Correct adjustment provides better control of implement depth and operating efficiency. Examples of results obtained using various settings are shown below.

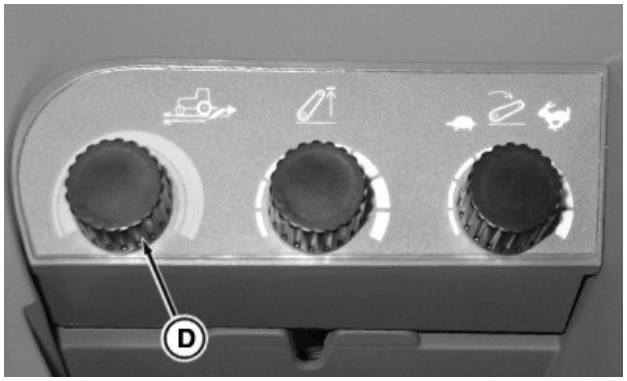


RXA0133710—UN—16JUL13

1. Press rear hitch shortcut button on navigation bar.
2. Select load depth module.



RXA0143172—UN—01JUL14



RXA0140227—UN—31MAR14

3. Set load depth value (A) with decrease (B) and increase (C) value buttons or load depth hitch dial (D).
   - For position only control, turn load depth setting to OFF. See Using Position Control in this section of this Operator's Manual.
   - Higher settings are used for draft control. See Using Draft Control in this section of this Operator's Manual.

BH38674,0000BDA-19-27JUN17

Using Position Control



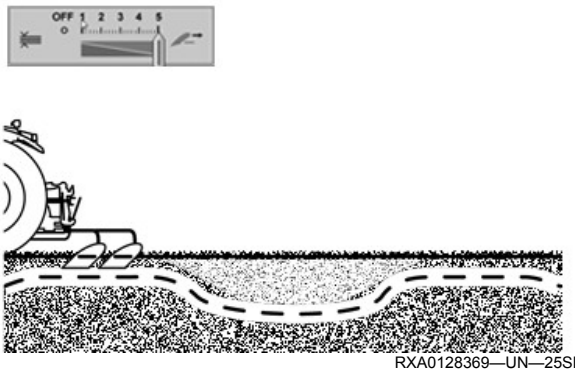
RXA0128370—UN—25SEP12

Hitch Held at Selected Position

Use position control to operate non-ground engaging implements and implements that fully rest on gauge wheels for depth control.

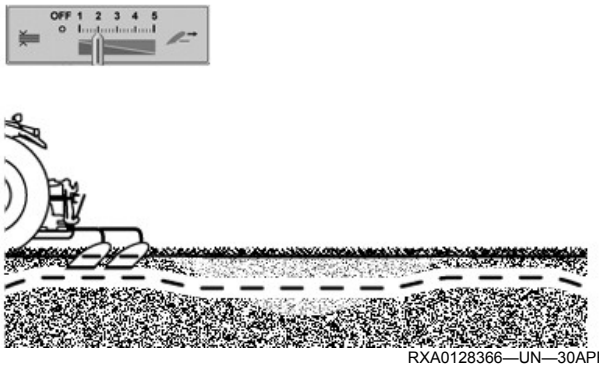
TS36762,00001D5-19-21NOV16

Using Draft Control



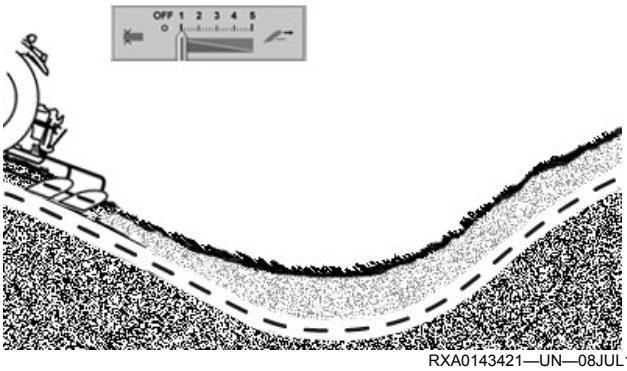
RXA0128369—UN—25SEP12

High Response Causes More Depth Variation If Soil Varies



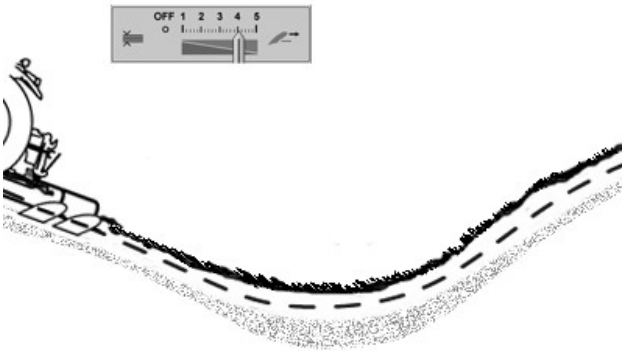
RXA0128366—UN—30APR13

Middle Response Controls Depth Better If Soil Varies



RXA0143421—UN—08JUL14

Low Response Causes More Depth Variation In Rolling Terrain



RXA0143422—UN—08JUL14

Higher Response Causes Better Depth Control In Rolling Terrain

Use draft control to help maintain operating depth of non floating tillage equipment in rolling terrain, or if tractor altitude/pitch and rear wheel sinkage force implement deeper than desired. If soil density/resistance varies, higher response setting causes more depth variation. Best setting depends on implement type and field conditions.

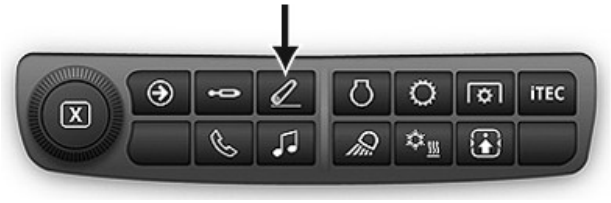
Higher values provide more/faster draft response. Lower values provide less/slower draft response.

Suggested Settings by Implement Type	
Implement Type	**Setting**
Integral Field Cultivator	4—5
Integral Moldboard Plow	3—5
Semi-Integral Moldboard Plow	2—4
Integral Chisel Plow	2—4
Integral Ripper/Subsoiler	1—3

Use rear hitch control lever or load depth hitch dial to control or change operating depth. For more information, see Adjust Load Depth Control (Draft Response) in this section of this Operator's Manual.

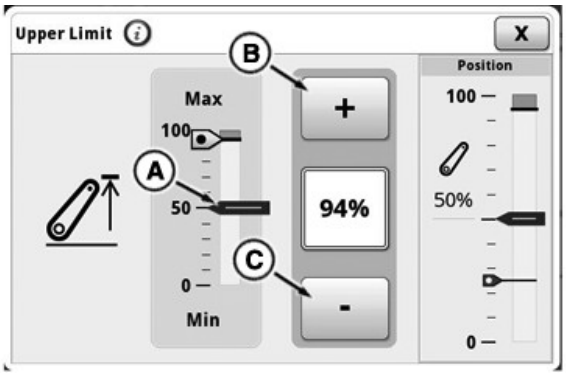
TS36762,00001D6-19-08NOV17

Adjust Upper Limit

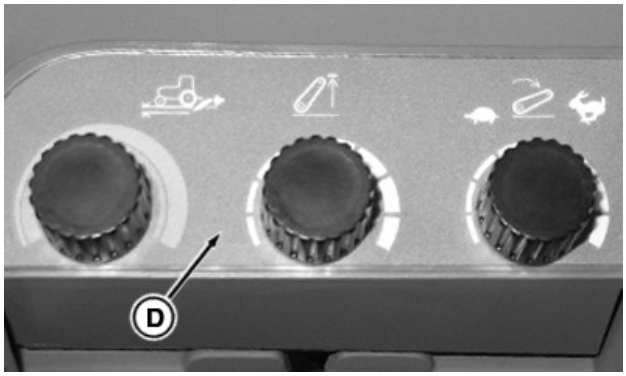


RXA0133710—UN—16JUL13

1. Press rear hitch shortcut button on navigation bar.
2. Select rear hitch upper limit module.



RXA0143173—UN—01JUL14



RXA0143175—UN—01JUL14

3. Adjust rear hitch upper limit (A) with increase (B) and decrease (C) value buttons or rear hitch upper limit dial (D).

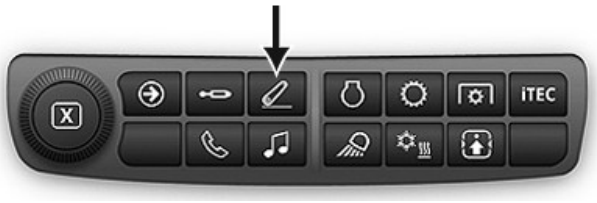
   Changes to upper limit are immediate.

   When the upper limit is the same as the hitch position, hitch follows upper limit.

TS36762,00001D7-19-01SEP17

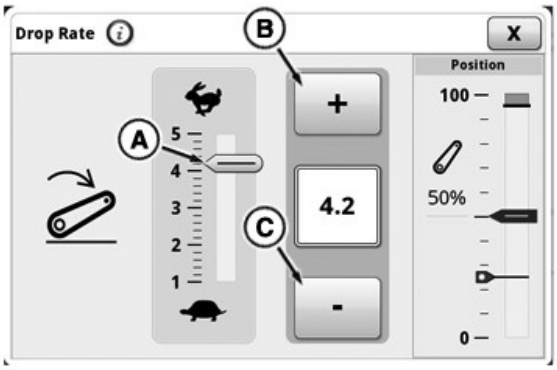
Adjust Drop Rate

CAUTION: Avoid physical injury or machine damage due to excessive drop speed. Fully lowering implement should take a minimum of 2 seconds.

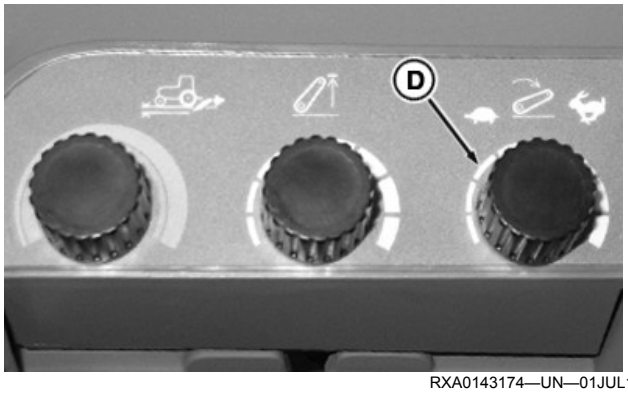


RXA0133710—UN—16JUL13

1. Press rear hitch shortcut button on navigation bar.
2. Select rear hitch drop rate module.



RXA0143171—UN—01JUL14



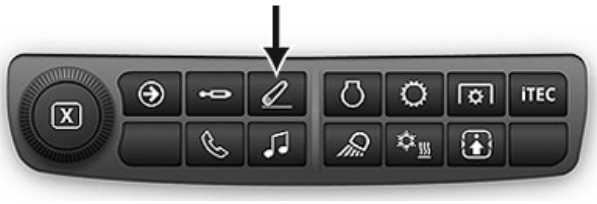
RXA0143174—UN—01JUL14

3. Adjust rear hitch drop rate (A) with increase (B) and decrease (C) value buttons or rear hitch drop rate dial (D).

   Changes to drop rate are immediate.

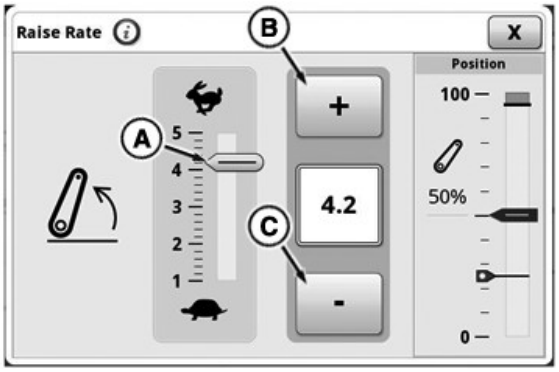
TS36762,00001D8-19-01SEP17

Adjust Raise Rate



RXA0133710—UN—16JUL13

1. Press rear hitch shortcut button on navigation bar.
2. Select rear hitch raise rate module.



RXA0143170—UN—01JUL14

3. Adjust rear hitch raise rate (A) with increase (B) and decrease (C) value buttons.

   Changes to raise rate are immediate.

TS36762,00001D9-19-21NOV16

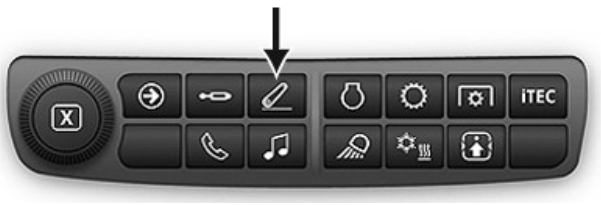
Slip Sensitivity

NOTE: Hitch slip operates only in tractors equipped with radar, and load depth control set to draft control mode. See Using Draft Control in this section of this Operator's Manual.

Operate hitch with draft sensing only, or with draft sensing and hitch slip. Hitch slip adjustment is independent from draft response.

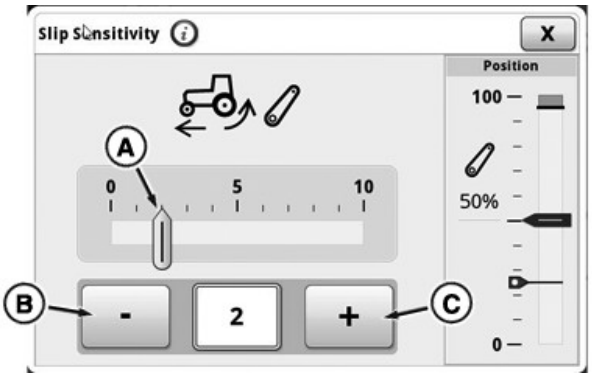
Response Setting Guidelines[a]	
Chisel Plow	2—4
Subsoiler	5—7
Moldboard Plow	7—9
V-Ripper	8—10

[a] *Appropriate setting depends on implement type, soil conditions, and tractor setup*



RXA0133710—UN—16JUL13

1. Press rear hitch shortcut button on navigation bar.
2. Select rear hitch slip sensitivity module.



RXA0143178—UN—03JUL14

3. Adjust slip sensitivity (A) with decrease (B) and increase (C) value buttons. Higher values provide more/quicker response to slip variation. Lower values provide less/slower response to slip variation.

Changes to slip sensitivity are immediate. Changing rear hitch slip response can affect operation when wheel slip is above 10%. Rear hitch slip response automatically returns to zero during transport [speed above 20 km/h (12.4 mph)].

TS36762,00001DA-19-21NOV16

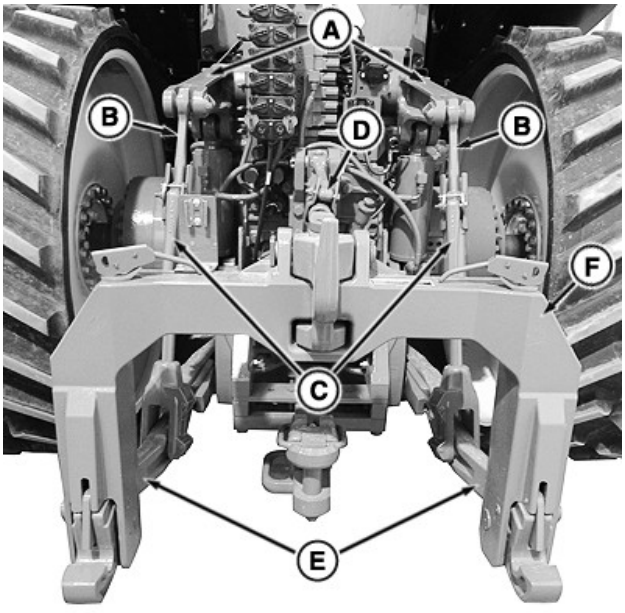
Float Operation

Implements that fully rest on gauge wheels for depth control require hitch to float following ground contour.

Put hitch control lever in float position.Lift links can be adjusted for lateral float. See Lateral Float in this section of this Operator's Manual.

TS36762,00001DB-19-25AUG17

Hitch Components



RXA0159763—UN—12JUN17

A—Lift Arms
B—Lift Cylinders
C—Lift Links
D—Center Link
E—Draft Links
F—Quick Coupler

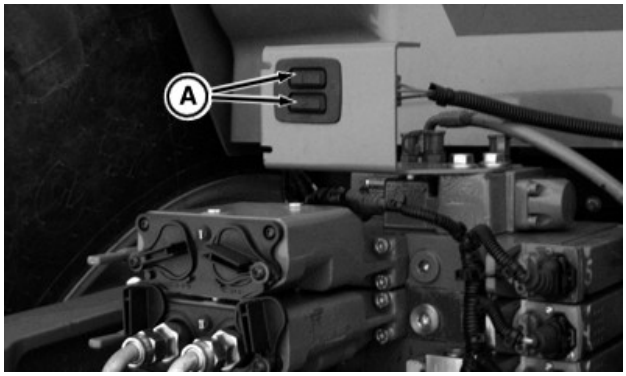
GH15097,0000849-19-12JUN17

Rear Hitch Remote Switches

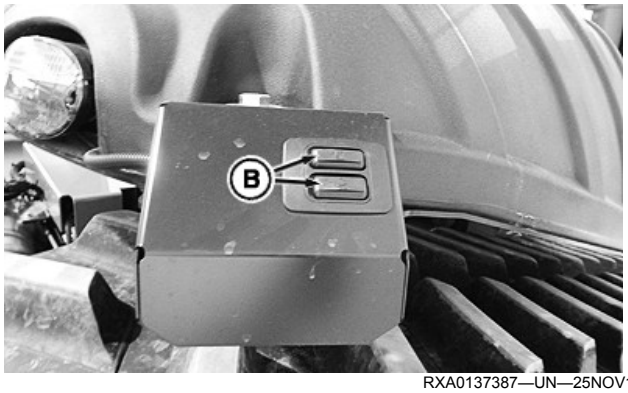
CAUTION: To prevent injury or damage caused by tractor movement, be sure transmission is in PARK position before using remote raise and lower switches. Stay clear of interference points when using remote raise and lower switches.

Avoid injury when using remote switches, stay clear of moving hitch components.

Hitch movement speed increases as switch is pressed.



RXA0097037—UN—19MAR09



RXA0137387—UN—25NOV13

Press and hold valve stack mounted (A) or fender mounted (B) remote switches to raise or lower hitch. When switches are pressed, hitch initially moves slowly, but increases speed the longer switch is held.

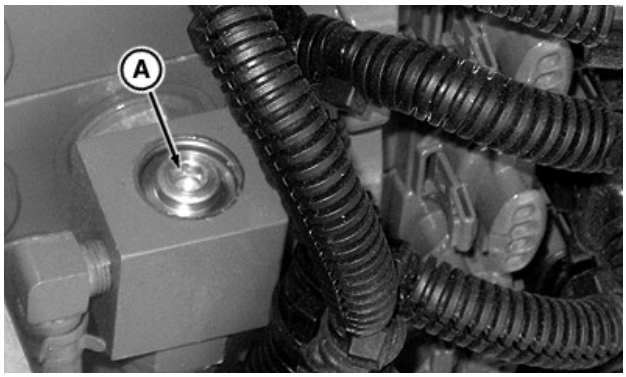
Hitch control lever cannot be used simultaneously with remote raise/lower switch.

RW29387,00002CA-19-12JUN17

Hitch Manual Lowering

CAUTION: Avoid personal injury or death. Do not disconnect any hitch sensors, solenoids, or connectors from the hitch control valve when engine is operating or key switch is ON. Unexpected hitch movement may occur. Stay clear of hitch area when starting engine or manually lowering hitch.

Hitch manual lowering is possible when hydraulic pressure and/or electrical power is not available.



RXA0160054—UN—29JUN17

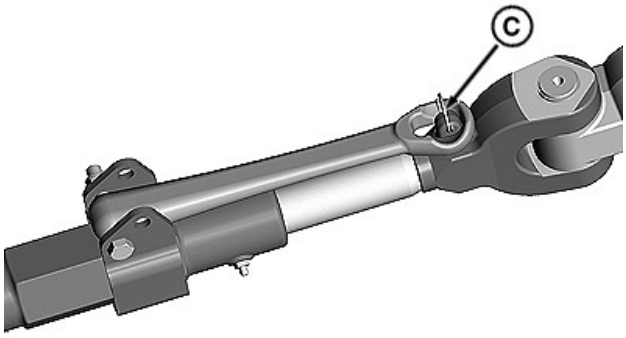
Remove plug to access manual lowering screw (A). Turn screw counterclockwise to lower the hitch.

NOTE: The hitch cannot be raised mechanically. Both hydraulic and electrical power are required to raise the hitch.

Turn screw clockwise and install plug after hitch has been lowered.

BH38674,0000BE4-19-29JUN17

Correct Center Link Position

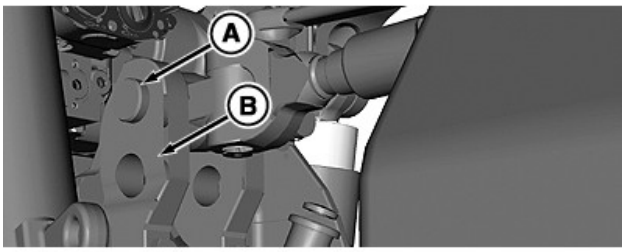


RXA0097299—UN—19FEB08

IMPORTANT: Excessive power can damage an implement, and large implement can damage tractor.

This tractor requires center link with recessed retaining mount (C) to prevent interference with SCV valve stack. Using center link without recessed retaining mounts may result in damage to SCV stack.

NOTE: Upper hole offers greater lift capacity. Lower hole offers greater ground clearance.



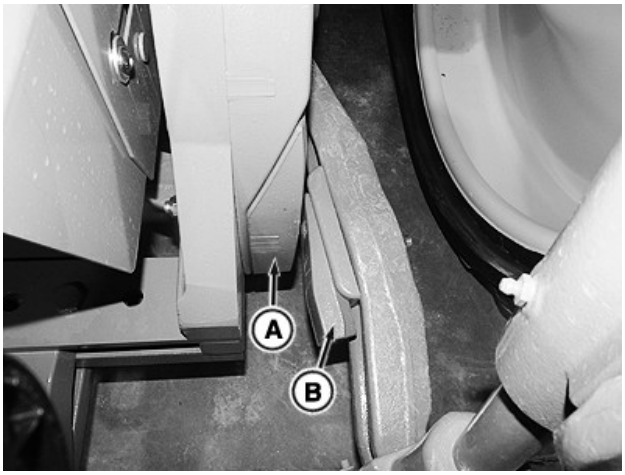
RXA0147836—UN—26MAR15

Attach center link to lower hole (B) for standard implements. Use upper hole (A) when implements require higher lift capacity. See implement Operator's Manual for recommendations.

For lift capacities see Hitch, Drawbar, and PTO in Specifications section in this Operator's Manual.

RW29387,00002CC-19-12JUN17

Using Sway Blocks



RXA0137388—UN—25NOV13

Install sway blocks (A) in lower position to minimize side sway of hitch.

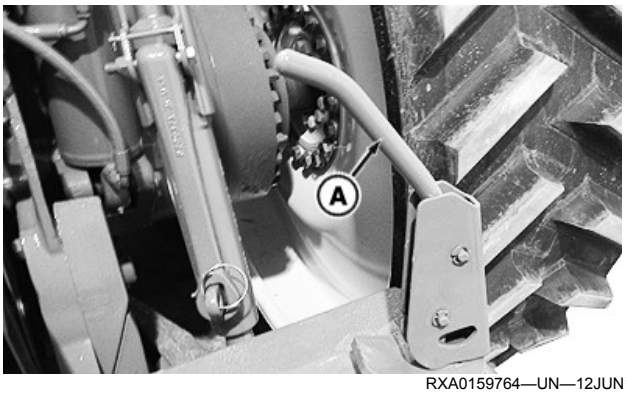
Adjust bumper (B) to limit the amount of sway.

RW29387,00002CD-19-23JUN17

Attach Implement to Quick Coupler

CAUTION: Avoid bodily injury or machine damage:

- **Put transmission in PARK position and check the full range of hitch for interference, binding, or PTO separation whenever an implement is attached.**
- **Make sure implement is correctly attached. Incorrect attachment can allow implement to be pulled over the tractor wheel and onto the operator station.**
- **Do not stand between tractor and implement.**



RXA0159764—UN—12JUN17

1. Pull coupler latch handles (A) up.
2. Lower hitch until quick coupler hooks are lower than implement hitch pins.
3. Back up tractor to implement.
4. Raise hitch enough to engage implement pins in hooks.
5. Push coupler latch handles down to lock implement to quick coupler.
6. Connect hydraulic hoses and electrical connections.

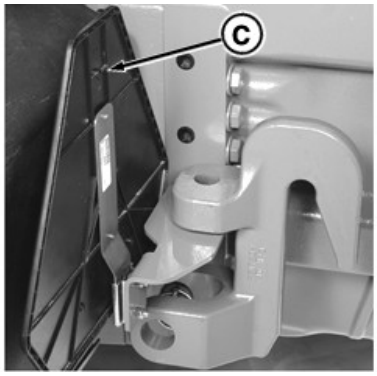
IMPORTANT: Check for implement interference. Drawbar removal may be necessary.



RXA0157227—UN—01FEB17

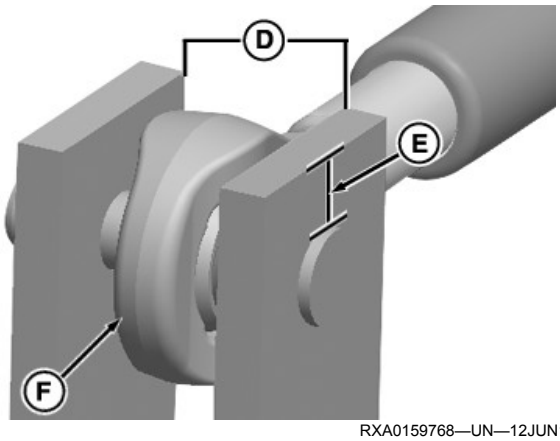
7. Slowly pull rear hitch control lever (B) to raise implement.

8. If necessary, lower implement to ground and adjust upper height limit control.



RXA0159766—UN—12JUN17

9. Check to see if SMV emblem (C) is visible from behind. If SMV emblem is visible, procedure is complete. If not, go to step 10.
10. Go to right-hand side of transmission case to access second SMV emblem.
11. Mount SMV emblem on quick coupler mounting bracket provided.



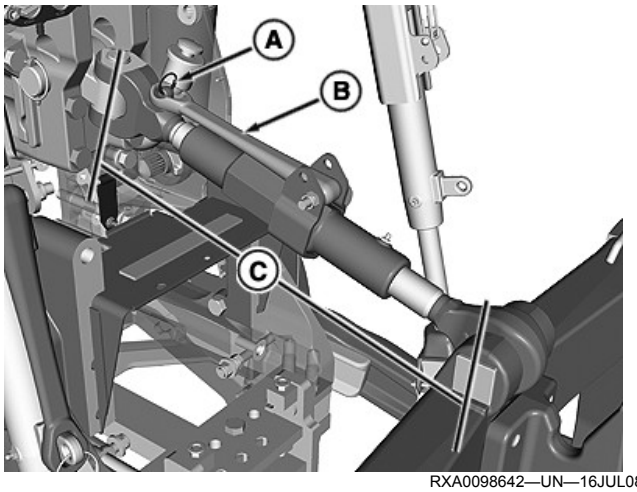
RXA0159768—UN—12JUN17

If center link is attached directly to implement, measure upper mast opening (D) and height above pin (E). If upper mast opening is greater than 70 mm (2.8 in) or height above pin is less than 14 mm (0.6 in), use shims to limit/restrict swiveling of yoke (F).

RW29387,00002CE-19-13JUN17

Adjusting Implement Level

1. Adjust center link to level implement front-to-rear.



RXA0098642—UN—16JUL08

- Remove Locking Ring (A).
- Lift Handle (B).
- Rotate center portion of center link to desired position.

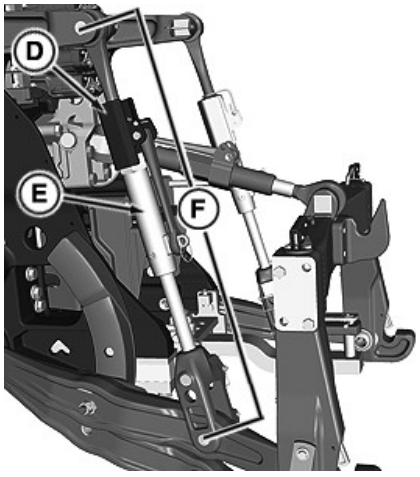
2. Secure handle with locking ring.
3. Check distance between the center of pins which is the center link adjustment length (C).

Category 3 Hitch Length Adjustment — Specification

With Quick Coupler. . . . . 627—790 mm (24.7—31.1 in)
Without Quick Coupler. . . . . 698—861 mm (27.5—33.9 in)

Category 4 Hitch Length Adjustment — Specification

With Quick Coupler. . . . . 681—814 mm (26.8—32.0 in)
Without Quick Coupler. . . . . 735—897 mm (28.9—35.3 in)



RXA0159769—UN—12JUN17

4. Adjust lift links to level implement side-to-side. Slide collar (D) upward. Rotate center portion (E) of lift link to desired position.
5. Check distance between the center of pins which is the lift link adjustment length (F).

Length Adjustment (With or Without Quick Coupler) — Specification

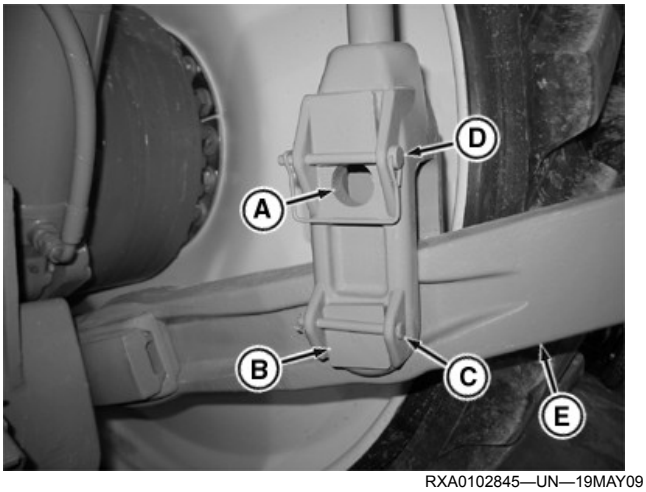
Category 3 Hitch. . . . . 966—1135 mm (38.0— 44.7 in)

Category 4 Hitch. . . . . 966—1135 mm (38.0— 44.7 in)

6. Lock out lateral float.
7. Secure collar in position.

RW29387,00002CF-19-17NOV17

Changing Lateral Float



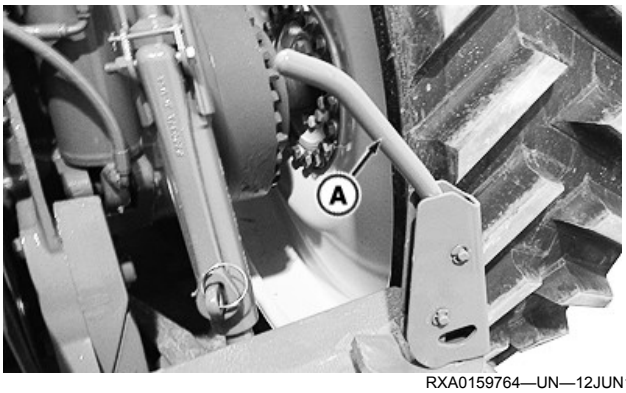
RXA0102845—UN—19MAY09

Upper holes (A) hold implement rigid, but lower hole in lift arm allows draft link (E) to raise slightly as implement follows ground surface.

To hold implement rigid, remove upper hole retaining pin (D), remove lower hole retaining pin (C), remove lateral float pin (B), then raise draft link (E) to align with upper hole. Install later float pin in upper hole, replace both upper and lower hole retaining pins.

RW29387,00002D0-19-23JUN17

Detaching Implement from Quick Coupler



RXA0159764—UN—12JUN17

1. Raise both latch levers (A) with implement raised.
2. Disconnect hydraulic hoses and electrical connections.
3. Lower implement to ground. Continue lowering quick coupler until hooks clear implement hitch pins.

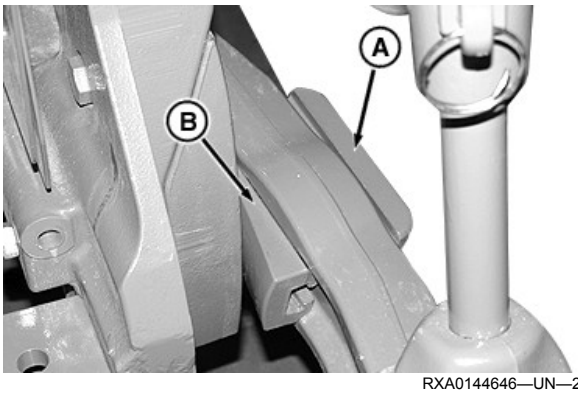
NOTE: For tractors equipped with WalkingBeam Suspension induce tractor leveling with engine operating:

- *Depress clutch*
- *Put transmission shift lever in gear for four seconds*
- *Move shift lever to NEUTRAL position*
- *Repeat until suspension is level*

4. Carefully drive tractor away from implement.

RW29387,00002D1-19-23JUN17

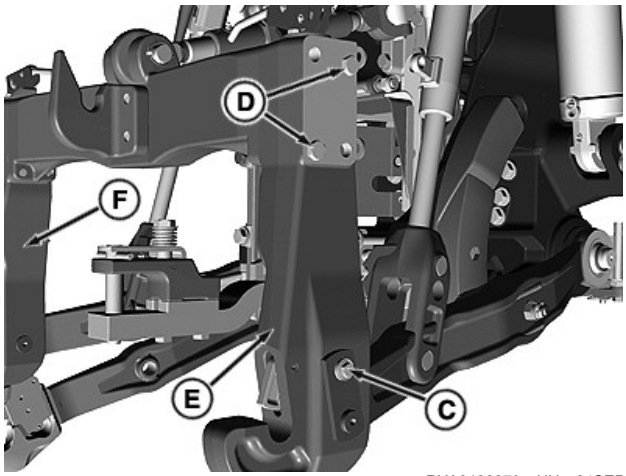
Hitch Conversion—Convertible Quick Coupler



RXA0144646—UN—22AUG14

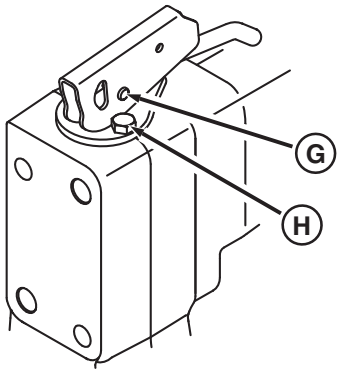
IMPORTANT: If coupler is converted to category 3N, sway block spacer (A) must be mounted on outside of draft link to avoid damaging equipment.

1. Converting to category 3N is necessary for narrow row/tread spacing operations. Quick coupler is convertible to Category 3 or Category 3N. Use Category 3 whenever possible, especially for heavy loads. Install spacer (A) on outside of draft link for Category 3N.
2. Adjust bumper block (B) to minimize clearance.
3. Tighten nut securely.



RXA0128279—UN—24SEP12

4. Support center of quick coupler. Remove pin retaining bolts (C) and pins from draft link. Remove side member cap screws (D).
5. Swap quick coupler side members, left- hand side member (F) to right end and right-hand side member (E) to left. Tighten cap screws to 320 N·m (236 lb·ft).



RXA0128278—UN—24SEP12

6. Disconnect latch levers by removing C-clip and pin (G).
7. Remove cap screw (H) from wear plate and turn tab inward.
8. Install cap screws and tighten securely.
9. Reconnect levers.

BH38674,0000BEB-19-23JUN17

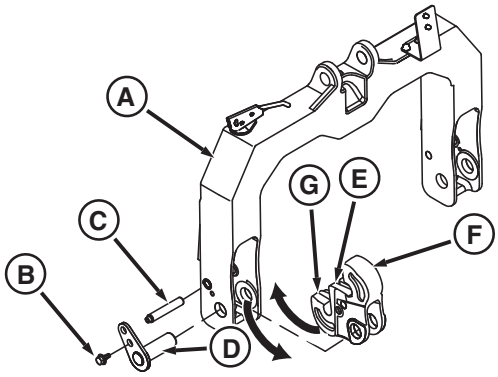
Converting Category 4 Convertible Quick Coupler Lower Hooks

⚠ CAUTION: Use proper lifting device when converting coupler. Failure to do so can result in personal injury.

NOTE: A second person is recommended to align components during conversion.

If category 4 lower hooks are to be used on category 3 implements, bushings are needed over the category 3 pins; these bushings can be purchased through your John Deere dealer.

Lower hooks are not marked for left-hand or right-hand side. Do not move lower hooks from one side to the other.



RXA0085785—UN—10JAN06

1. Support quick coupler frame (A).
2. Remove cap screw (B).
3. Remove retainer (C), then pin (D).

NOTE: Because lower hook (E) has a category 3 hook (F) on one end and a category 4N hook (G) on the opposite end, it is used for both category 3 and 4N simply by turning it end for end.

4. Remove lower hook by rotating it down and to the rear of the coupler, then sliding it out at the front of the coupler.
5. Install lower hook, with desired end facing out. Using a reverse motion of removal, rotate it up and in.
6. Install pin, retainer and cap screw. Tighten to 100 N·m (74 lb·ft).

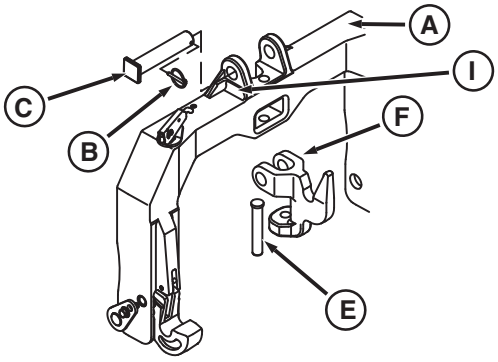
BH38674,0000BEC-19-14NOV17

Converting Category 3/4 Convertible Quick Coupler Upper Hook

⚠ CAUTION: Use proper lifting device when converting coupler. Failure to do so can result in personal injury.

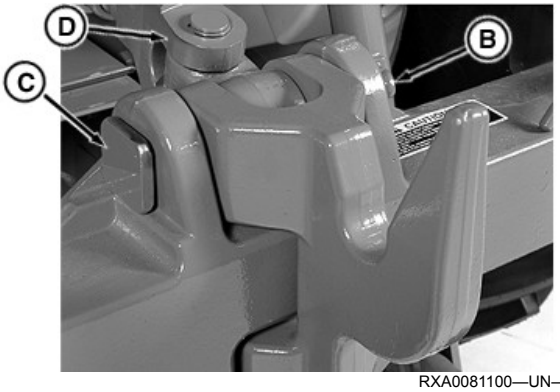
NOTE: A second person is recommended to align components during conversion.

When full power is to be used on 8320RT and 8345RT tractors with ground engaging implements it is recommended to use CAT 4 upper hook if implement set up allows. The CAT 3 upper hook may be overloaded with very high draft loads.



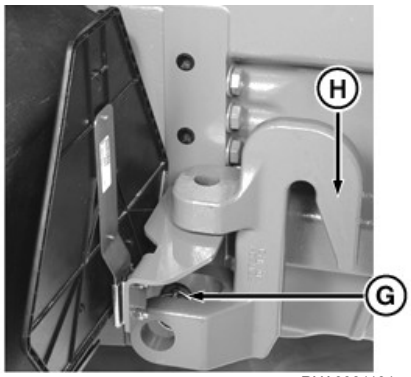
RXA0087383—UN—02MAR06

1. Support quick coupler frame (A).



RXA0081100—UN—02JUN05

2. Remove quick lock pin (B) and pin (C) to release center link (D).
3. Remove pin (E) and upper hook (F).



RXA0081101—UN—09AUG05

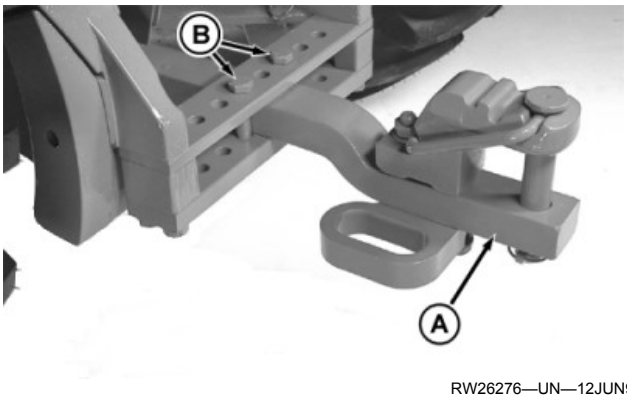
4. Remove pin (G) to remove stored upper hook (H) and replace with upper hook previously removed from quick coupler.

NOTE: Install pin left to right. Pin shoulder (I) will prevent quick lock pin installation if pin is incorrectly installed.

5. Reverse steps to remove upper hook from quick coupler. Install previously stored upper hook into quick coupler.

RW29387,00002D4-19-23JUN17

Drawbar Options and Load Limits



RW26276—UN—12JUN99

IMPORTANT: Certain heavy implements can place excessive strain on drawbar (A). Strain increased by speed and rough terrain. Do not exceed maximum static vertical load on drawbar.

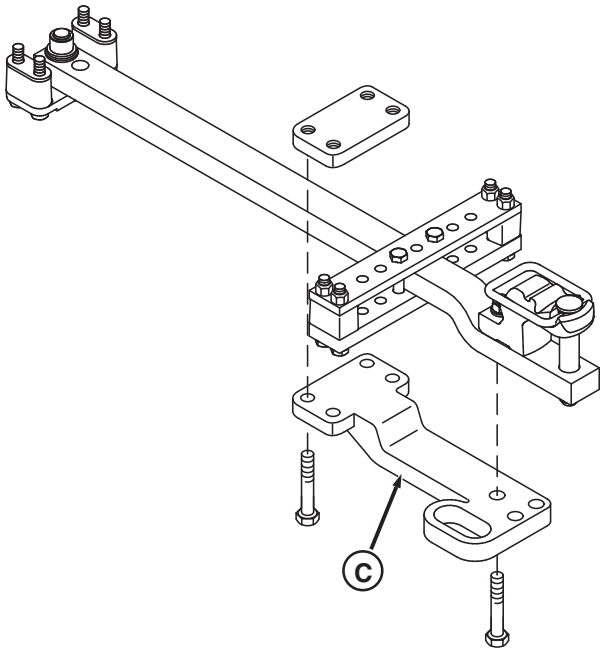
Tractor Model and Drawbar Category	Maximum Static Vertical Drawbar Load kg (lb)
8320RT, 8345RT, and 8370RT with Cat 3 Drawbar[a]	1770 (3900)
8370RT with Cat 4 Drawbar[b]	2245 (4950)
8320RT, 8345RT, and 8370RT with Cat 4 Drawbar[b] and Heavy Duty Drawbar Support	4990 (11000)

[a]Category 3 drawbar uses a 38 mm (1.5 in) draw pin.
[b]Category 4 drawbar uses a 51 mm (2 in) draw pin.

Tighten drawbar locking bolts (B) to 435 N·m (322 lb·ft).

IMPORTANT: Heavy duty drawbar support must be used when maximum static vertical load exceeds 2245 kg (4950 lb).

NOTE: Category 4 drawbar uses special cap screws. Use original cap screws or see your John Deere dealer.



RXA0159772—UN—12JUN17

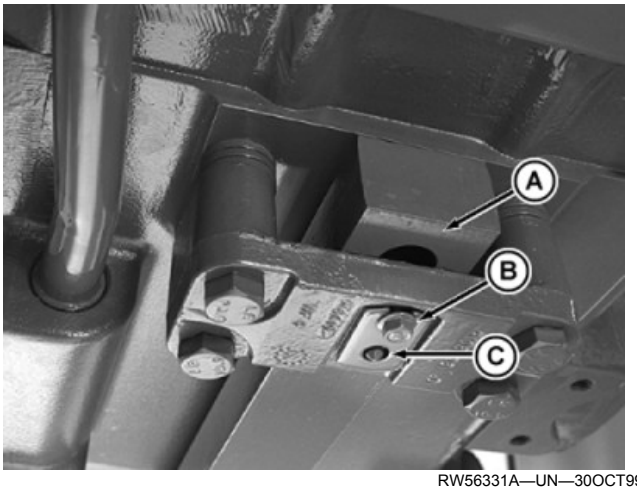
Attach heavy duty support (C) on Category 4 drawbar when vertical load exceeds 2222 kg (4900 lb).

Tighten special cap screws to 430 N·m (318 lb·ft).

RW29387,00002FB-19-21NOV17

Adjusting Drawbar Length

IMPORTANT: For PTO-driven implement, drawbar must be positioned as instructed in Attaching PTO Driven Implement in this section.



RW56331A—UN—30OCT99

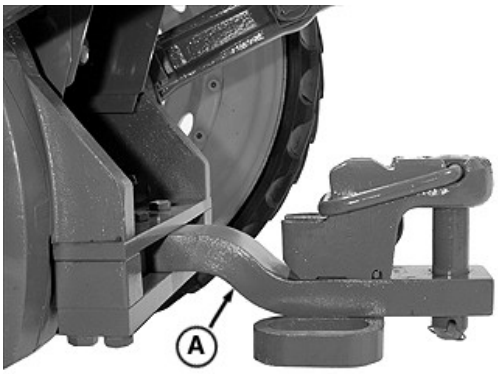
Drawbar (A) length can be extended:

1. Loosen drawbar locking bolts.
2. Remove cap screw (B), retaining pin (C), and retaining strap.
3. Slide drawbar to desired position.

4. Install drawbar retaining strap and pin. Tighten cap screws to 70 N·m (50 lb·ft).
5. Tighten drawbar locking bolts to 435 N·m (322 lb·ft).

RW29387,00002FC-19-17NOV17

Adjusting Drawbar Height



RXA0053181—UN—18MAY01

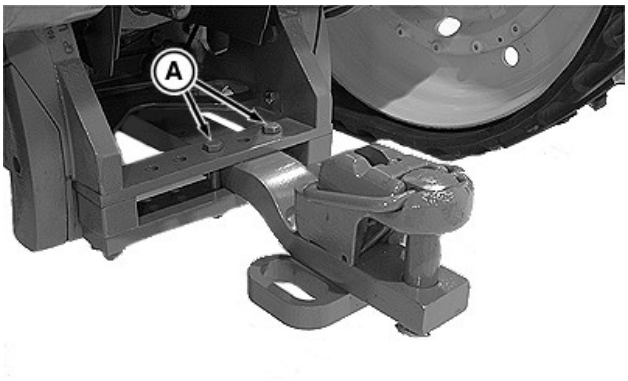
Height of drawbar is adjustable by turning offset (A) up or down. Proceed as in length adjustment. Slide drawbar out and turn drawbar over.

IMPORTANT: Clevis assembly must always be on top of drawbar if used.

Heavy duty support cannot be used with drawbar offset positioned upward.

RW29387,00002FD-19-23JUN17

Adjusting Drawbar Side-to-Side



RXA0053182—UN—18MAY01

Remove drawbar locking bolts (A).

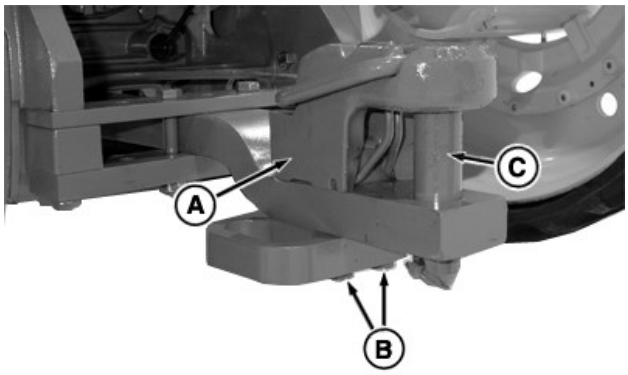
Slide drawbar to desired position.

Install a locking bolt against each side of drawbar. Tighten bolts to 435 N·m (322 lb·ft).

RW29387,00002FE-19-17NOV17

Installing and Using Clevis Assembly

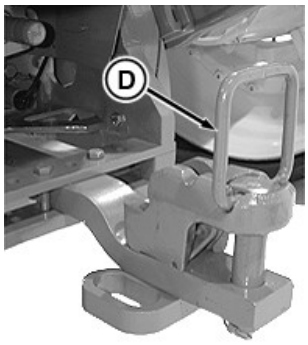
IMPORTANT: Remove clevis assembly before using PTO shaft, or whenever PTO shaft can cause interference.



RXA0159773—UN—12JUN17

Clevis assembly (A) must be attached ONLY to top of drawbar.

Install clevis assembly and tighten cap screws (B) to 610 N·m (450 lb·ft) for category 3 and 430 N·m (320 lb·ft) for category 4.



RXA0159775—UN—14JUN17

Remove lock pin (C). Lift pin with handle (D) and position in notch of clevis assembly.

Attach implement.

IMPORTANT: Insert pin only through drawbar, not through clevis assembly, if towed implement also has a clevis assembly. DO NOT insert pin through all four members.

RW29387,00002FF-19-17NOV17

Hydraulics - General Information

Hydraulic System Overview

Hydraulics system provides lubrication, power and control to many tractor subsystems. Transmission, steering, brakes, and hitch are covered in other sections of this Operator's Manual. The next several sections deal with selective control valves, including adjustment, function, and connections as well as special control systems.

KD34109,000023C-19-18APR17

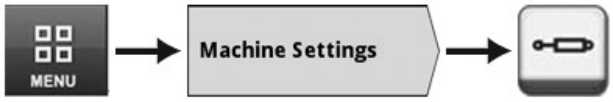
Configure SCV Modes

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



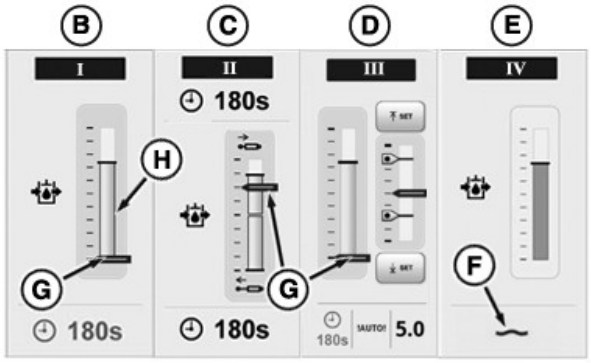
RXA0151873—UN—15APR16

Press SCV shortcut button (A) on Navigation Bar or follow alternative path:



RXA0148320—UN—05JUN15

1. Select **Menu.**
2. Select **Machine Settings tab.**
3. Select **SCV icon.**



RXA0151890—UN—15APR16

4. SCV Main Page appears.

NOTE: Flow indicators (G) on SCV Main Page example are shown for reference only. Flow Indicators will appear while SCV is activated and hydraulic oil is flowing. Flow display (H) appears whenever SCV is activated and hydraulic oil is flowing.

Each SCV can be configured in one of three different operating modes:

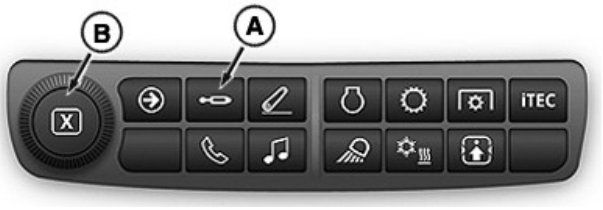
- Standard mode - SCV I (B)
- Independent mode - SCV II (C)
- Feature mode - SCV III (D)

Float symbol (F) appears when an SCV is set to float (SCV IV (E)).

TS36762,00001EB-19-23JUN17

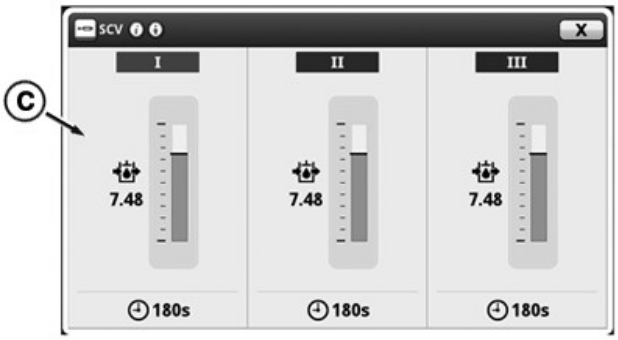
Configure SCV - Standard Mode

In standard mode, an SCV can have one time detent setting and one flow detent setting which apply to both extend and retract.



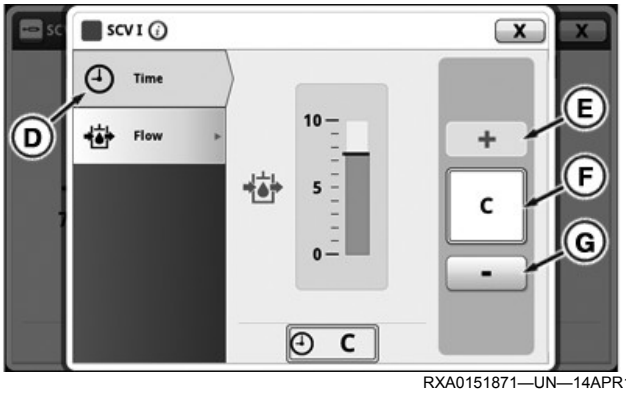
RXA0151869—UN—14APR16

Press **SCV shortcut button on Navigation Bar** (A).



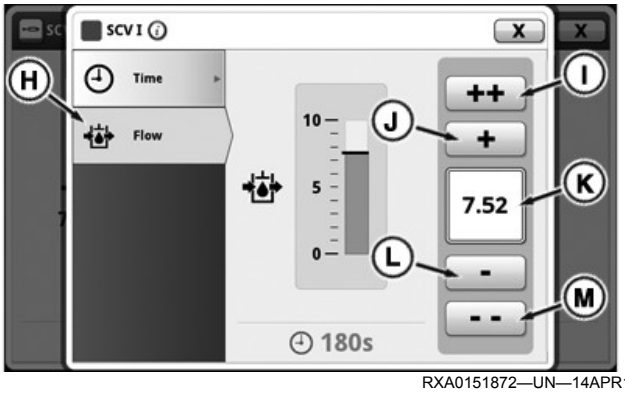
RXA0151870—UN—14APR16

1. Select an individual SCVs (C) to access Standard Mode.



RXA0151871—UN—14APR16

2. Select Time tab (D).
3. Input box (F) displays detent time set. Press increase button (+) (E) to increase time in 1 second increments up to 10 seconds, then in 2 second increments up to 20, then 5 seconds to 30, then by 30 seconds up to C for continuous flow. Pressing button (-) (G) decreases time by same increments. Adjustment dial (B) can also be used.



RXA0151872—UN—14APR16

4. Select Flow tab (H).
5. Input box (K) displays flow rate set. Flow is shown in increments of 0.04 beginning at 0.04 and increasing to 10. Press increase button (+) (J) will increase flow by 0.04 with each press. Press fast increase button (+ +) (I) to increase flow by units of 1.00. Pressing decrease button (-) (L) or fast decrease button (--) (M) reduces flow by same increments. Adjustment dial (B) can also be used to change flow rate.

TS36762,00001EC-19-21NOV16

Activate Independent Mode



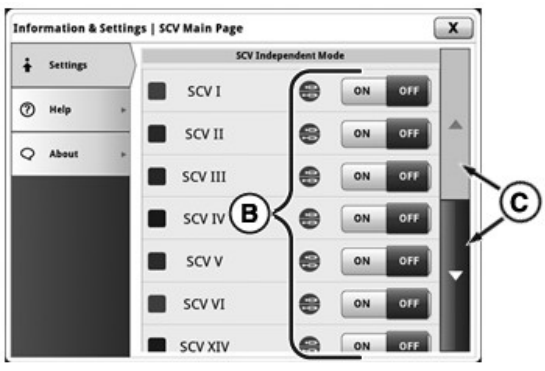
RXA0151873—UN—15APR16

1. Press **SCV shortcut button on Navigation Bar** (A).



RXA0130326—UN—11JAN13

2. Press **Advanced Settings Icon.**
3. Press **Settings tab.**



RXA0151874—UN—15APR16

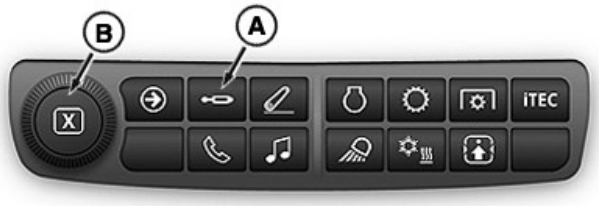
Use toggles (B) to switch Independent Mode on or off for each SCV.

When Independent Mode is off, SCV is in Standard Mode. Access any additional SCVs using scroll bar (C).

TS36762,00001ED-19-21NOV16

Configure SCV - Independent Mode

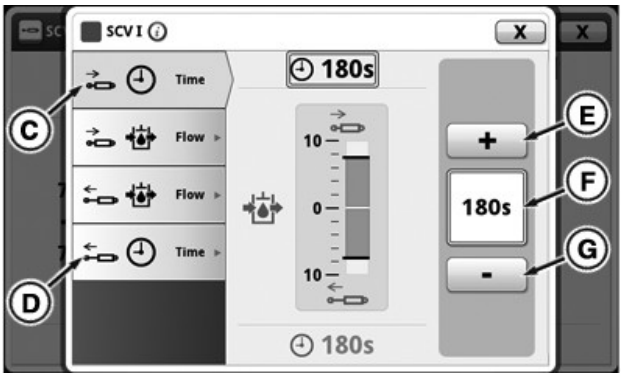
Some implements require different extend and retract times and flow detents to function correctly. SCVs in Independent Mode have two detent flow and two detent time settings, one for extend and one for retract.



RXA0151869—UN—14APR16

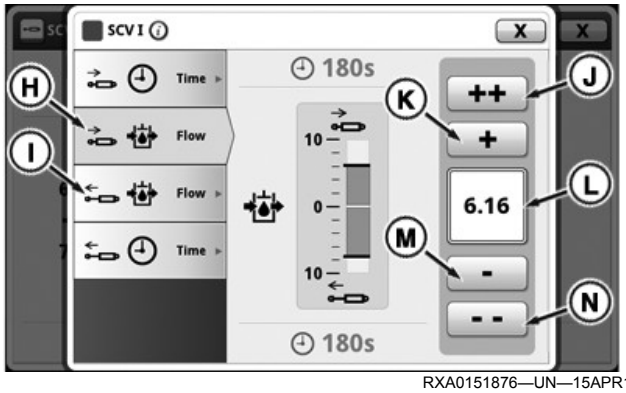
Press **SCV shortcut button on Navigation Bar** (A).

1. Select an SCV that is in Independent Mode.



RXA0151875—UN—15APR16

2. Select Detent Time Retract tab (C) or Detent Time Extend tab (D).
3. Input box (F) displays detent time set. Press increase button (+) (E) to increase time in 1 second increments up to 10 seconds, then in 2 second increments up to 20, then 5 seconds to 30, then by 30 seconds up to C for continuous flow. Pressing button (-) (G) decreases time by same increments. Adjustment dial (B) can also be used to change flow rate.



RXA0151876—UN—15APR16

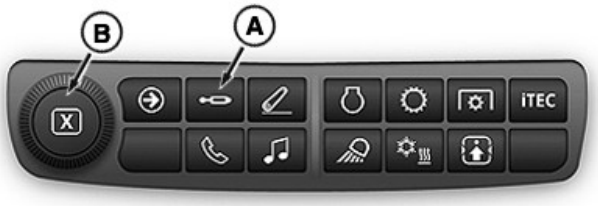
4. Select Detent Flow Retract tab (H) or Detent Flow Extend tab (I).
5. Input box (L) displays flow rate set. Flow is shown in increments of 0.04 beginning at 0.04 and increasing to 10. Press increase button (+) (K) will increase flow by 0.04 with each press. Press fast increase button (+ +) (J) to increase flow by units of 1.00. Pressing decrease button (-) (M) or fast decrease button (--) (N) reduces flow by same increments. Adjustment dial (B) can also be used to change flow rate.

TS36762,00001EE-19-05JUL17

Configure SCV - Feature Mode

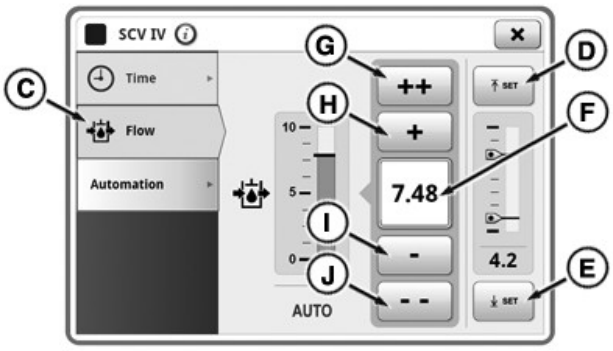
Feature mode requires an optional connector. To use feature mode, connect implement to tractor before turning key switch to ON. When connected through ISO Bus or implement connector, SCVs automatically enter feature mode. SCV page with feature option is displayed for selected SCVs.

1. Connect tractor to implement.



RXA0151869—UN—14APR16

2. Select **SCV Shortcut Button (A) on Navigation Bar**.
3. Select appropriate SCV to adjust feature mode settings.



RXA0151877—UN—15APR16

4. Select Detent Flow tab (C).
5. Input box (F) displays flow rate set. Flow is shown in increments of 0.04 beginning at 0.04 and increasing to 10. Press increase button (+) (H) will increase flow by 0.04 with each press. Press fast increase button (+ +) (G) to increase flow by units of 1.00. Pressing decrease button (-) (I) or fast decrease button (--) (J) reduces flow by same increments. Adjustment dial (B) can also be used to change flow rate.

NOTE: Detent time is controlled by the implement.

Only TouchSet™ Depth Control and Laser Scraper Control uses upper and lower setpoint buttons (D) and (E). See Set TouchSet™ Depth Controls in TouchSet™ Depth Control section of this Operator's Manual

TS36762,00001EF-19-01AUG17

Total SCV Flow

1. Check flow setting for each function independently (see implement operator's manual Specifications section to determine correct motor flow settings).

   Following may cause pump to operate at high pressure:

   - Down pressure systems (drills, air seeders, disks) can be considered to be zero flow demand after completion of raise or lower cycle (see Implement Connection examples in Hydraulic Connections section).
   - Auxiliary flow control valves (vacuum flow control) - Open implement flow control valve and adjust tractor flow rate to desired setting (see Implement Connection examples in Hydraulic Connections section).
   - Cylinder functions where line or orifice restrictions control flow - Adjust tractor flow control to point where function speed begins to decrease.
   - Auxiliary control valves (implement stack valves, row guidance) adjust tractor flow control to lowest setting resulting in correct operation.

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2. Determine total flow demand by adding flow requirements for each SCV using settings determined in Step 1. Include hitch and power beyond flow requirements, if applicable (refer to chart for correct settings).
3. Determine if flow demand exceeds available pump flow (refer to chart for available pump flow):
   - Flow demand is less than available pump flow but has performance concern (see your John Deere dealer).
   - Flow demand exceeds pump flow:
     - Increase engine RPM if possible.
     - Decrease flow setting on noncritical functions.
     - Convert implement open center valves to closed center operation, if equipped.

NOTE: Flow measurements made without steering or hitch being used.

SCV FLOW (Approximate)	
Engine rpm	**Pump Flow (85 cm^3 Pump) L/min (gpm).**
800	86 (23)
1500	162 (43)
1700	184 (49)
1900	206 (54)
2100	227 (60)

SCV FLOW OUTPUT (Approximate)[a]		
SCV Flow Settings	**1/2" Coupler L/min (gpm)**	**3/4" Coupler High Flow L/min (gpm)[b]**
0.1[c]	—	—
1.0	1.9 (0.5)[d]	4.3 (1.1) [d]
2.0	6.1 (1.6)	11.3 (3.0)
3.0	13.6 (3.6)	19.4 (5.1)
4.0	20.4 (5.4)	27.6 (7.3)
5.0	28.0 (7.4)	35.2 (9.3)
6.0	40.9 (10.8)	49.9 (12.4)
7.0	62.1 (16.4)	72.0 (19.0)
8.0	81.4 (21.5)	95.3 (25.2)
9.0	107.1 (28.3)	118.6 (31.4)
10.0	132 (35)	153 (40.5)

[a]At 2000 rpm and 454 kg (1000 lbs) of load at point of use.
[b]Only available with 3/4" coupler option. The 3/4" coupler is only available for SCV I
[c]0.1 = Minimum Flow Setting
[d]Observed under no load.

Hitch Flow		
Hitch Cylinder	**Flow**	
Diameter (mm)	L/min	gpm
100/100	88	23.2

Hitch Flow		
Hitch Cylinder	**Flow**	
115/115	116	31

RD47322,0000889-19-23JUN17

Six Position SCV Control Levers

CAUTION: Avoid personal injury, confirm hoses are not reversed. If hoses are reversed, cylinder extends when it should retract.

Prevent possible personal injury and unintentional implement movement. Move SCV levers to neutral position and shut off engine before connecting or disconnecting hydraulic hoses and attaching or detaching implements.

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

CommandARM™ configuration may vary depending on options.

Neutral and Float are positions SCV lever remains in without being held.

Basic information provided here. See specific control information in this section of this Operator's Manual for details on each lever position function and limitations.



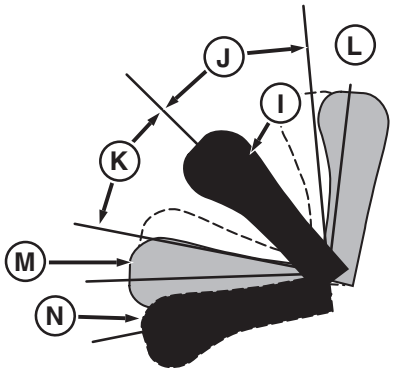
RXA0157228—UN—01FEB17

- **SCV Control Lever Lock (H):** Locks out control inputs for SCV levers (A-F) and front hitch lever.

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While lever lock is engaged, SCV and front hitch external switches, and joystick will still function.

- **SCV lever cover (G):**Push forward when SCV is not in use.



RXA0157229—UN—01FEB17

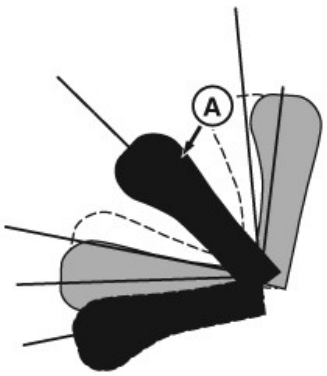
- **Neutral (I):** SCV flow is stopped.
- **Extend (J):** Operator controlled variable flow to extend cylinder.
- **Retract (K):** Operator controlled variable flow to retract cylinder.
- **Extend Detent Position (L):** Timed flow to extend cylinder, based on time and flow detent settings.
- **Retract Detent Position (M):** Timed flow to retract cylinder, based on time and flow detent settings.

NOTE: To relieve hydraulic pressure in implement cylinder, move SCV lever to float position (P), while engine is running.

- **Float (N):** SCV opens to allow free flow of oil from head to rod end of implement hydraulic cylinder.

KT81203,0000637-19-23JUN17

SCV Control Lever—Neutral Position



RXA0135070—UN—20AUG13

Neutral position (A) allows flow to continue until timed detent expires. If no timed detent is commanded, then flow is turned off.

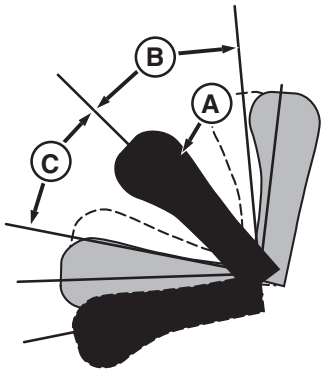
Levers in extend or retract positions automatically return to neutral when released. Float position remains detented.

NOTE: SCV control lever should be in neutral position at tractor startup.

At tractor startup, lever positions are ignored until lever is cycled to neutral.

RD47322,000087D-19-23JUN17

SCV Control Lever—Extend and Retract Position



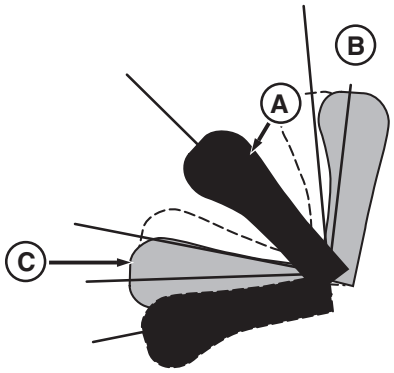
RXA0151813—UN—13APR16

Pull SCV lever (A) rearward (B) to extend. Push lever forward (C) to retract. Oil flows to extend or retract cylinder at a rate that varies depending on how far lever is moved. Slowest oil flow is when lever is closest to neutral position.

When lever is released it returns to neutral and flow is stopped. Maximum desired flow can be set with CommandCenter™ See Configure SCV - Standard Mode and Configure SCV - Independent Mode in this Operator's Manual section. Time detent settings are not active in extend or retract flow positions.

TS36762,00001F4-19-08NOV17

SCV Control Lever—Extend Detent and Retract Detent Position



RXA0151814—UN—13APR16

Move SCV control lever (A) rearward into extend detent

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(B) or forward into retract detent (C) to “click” detent position and release.

Lever returns to Neutral position, but flow continues at flow detent setting rate until detent time setting has elapsed. See Configure SCV - Standard Mode and Configure SCV - Independent Mode in this Operator's Manual section.

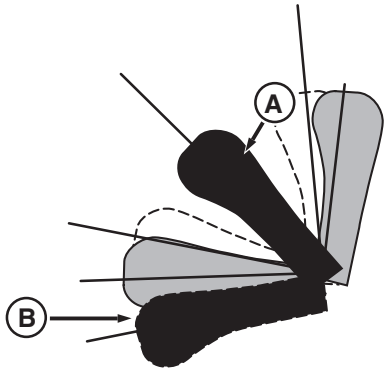
Flow timing begins when the lever returns to neutral after being in the extend or retract detent position for less than 0.8 seconds.

Adjust flow time setting so cylinder is fully extended when time has elapsed.

Cancel detent by moving SCV lever slightly forward or rearward from neutral into extend or retract position for more than 0.8 seconds.

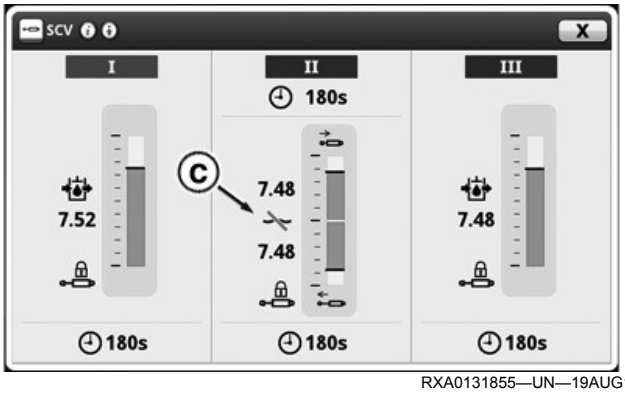
TS36762,00001F3-19-08NOV17

SCV Control Lever—Float Position



RXA0151815—UN—13APR16

Push SCV control lever (A) all the way forward (B) to lock the lever in float position. Lever and SCV remain in float position until lever is manually returned to neutral. Cylinder is free to extend or retract, letting implement follow ground contour. Set maximum desired flow rate with CommandCenter™. See Configure SCV – Standard Mode or Configure SCV – Independent Mode in this Operator’s Manual section. Time detent setting is not active in float positions



RXA0131855—UN—19AUG13

If lever is in float position at engine start up, float function will be disabled (C) until lever is cycled to neutral.

Cycle cylinder fully in both directions after being used in the float position to ensure cylinder is filled with oil.

TS36762,00001F6-19-08NOV17

Operator Presence Sensor

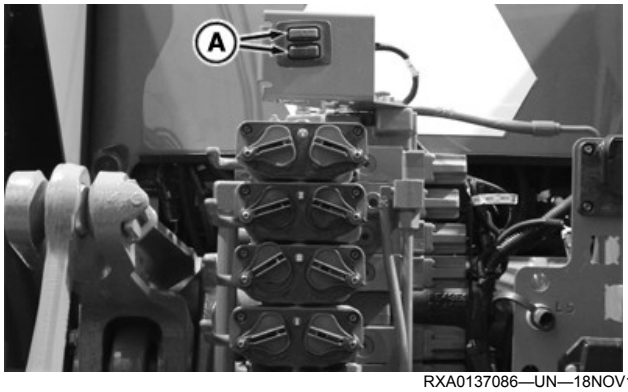
CAUTION: SCV does not disengage when operator leaves seat.

An audible warning sounds if operator leaves the seat with transmission in NEUTRAL, PTO engaged, or SCV operating in continuous or detent flow position. After 5 seconds, the audible warning stops.

TS36762,00001F7-19-21NOV16

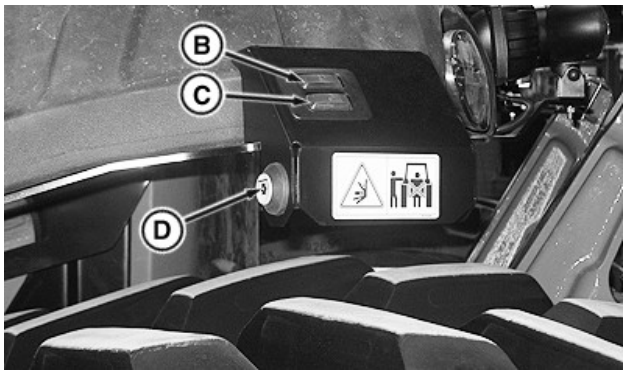
Hitch, SCV and PTO External Switches

CAUTION: Prevent injury or damage caused by inadvertent tractor movement. Place transmission in PARK position before using external raise/lower switches. Stay clear of interference points when using external raise/ lower switches.



RXA0137086—UN—18NOV13

Tractors without fender extensions have external hitch raise and lower switches (A) mounted on valve stack.



RXA0159756—UN—09JUN17

Tractors with optional fenders may have optional raise

(B) and lower (C) switches on rear fenders. External rear PTO switch (D) is also available.

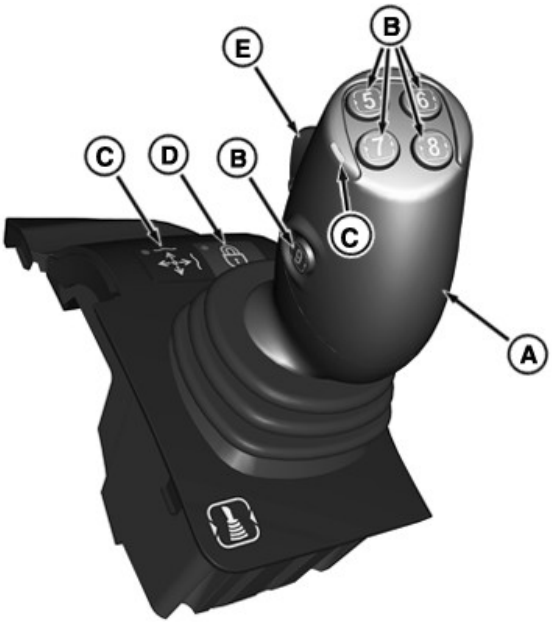
TO84419,00003CF-19-09JUN17

CommandARM™ Joystick (If Equipped)



RXA0133735—UN—17JUL13

- The Control Setup Icon appears around Controls that may be setup to control other functions. Review the Controls Setup page to verify the function of each control.



RXA0133920—UN—11NOV13

- The axes of the joystick (A) operates combinations of programmed front or rear SCV(s) functions.
- Tractors equipped with the e23™ transmission can select gear upshift (button 5) (B) and downshift (button 7) (B) for their joystick buttons located on top of the lever.
- Joystick activation indicator light (C) is ON when Joystick is active.
- Joystick lock (D) is used to lock out electro-hydraulic functions for SCV(s) assigned to Joystick.
- Rocker switch (E) operates combinations of programmed SCV(s) functions.
- Push the joystick all the way forward and engage in detent to activate the float position. The joystick lever remains in the detent until it is pulled back.

RD47322,0000890-19-23JUN17

CommandARM™ Joystick (If Equipped) - Custom Setup



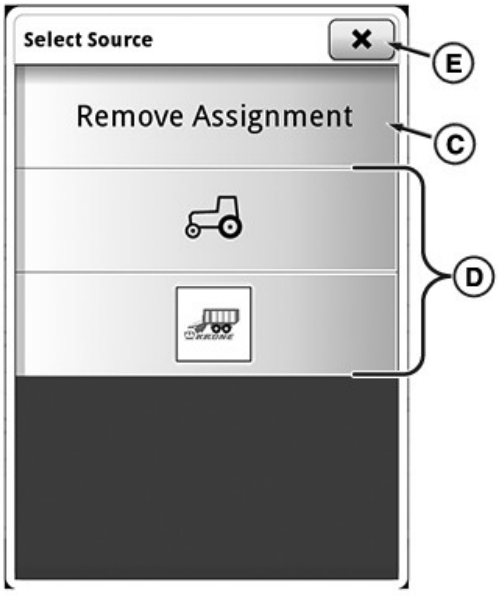
RXA0138550—UN—23JAN14

1. Press **Controls Setup Shortcut Button on Navigation Bar**.



RXA0156213—UN—16DEC16

2. Select Joystick (A).
3. Select desired reconfigurable assignment (B)

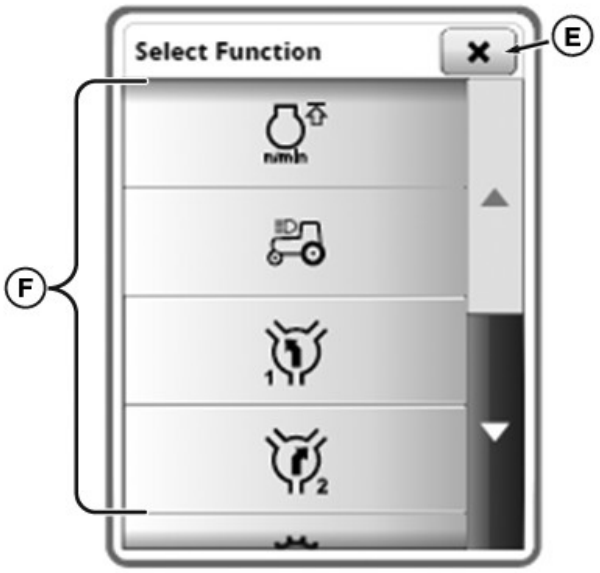


RXA0156214—UN—16DEC16

4. Select Source (D).

   To remove assignment, select Remove Assignment button (C).

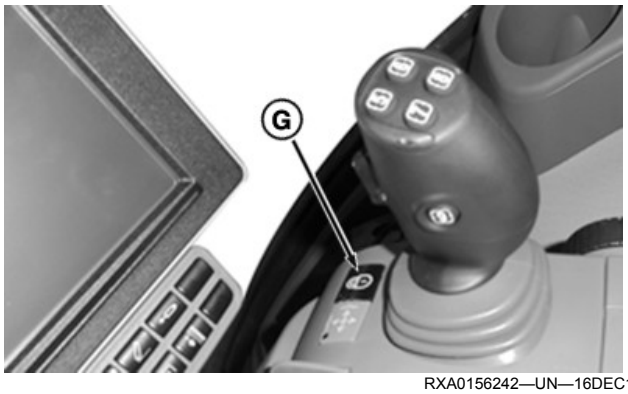
To cancel assignment process, selecting close button (E).



RXA0156215—UN—16DEC16

5. Select Function (F).

   To cancel assignment process, selecting close button (E).



RXA0156242—UN—16DEC16

6. Unlock Joystick with Joystick Unlock/Lock button (G).

   Default assignments will activate automatically.



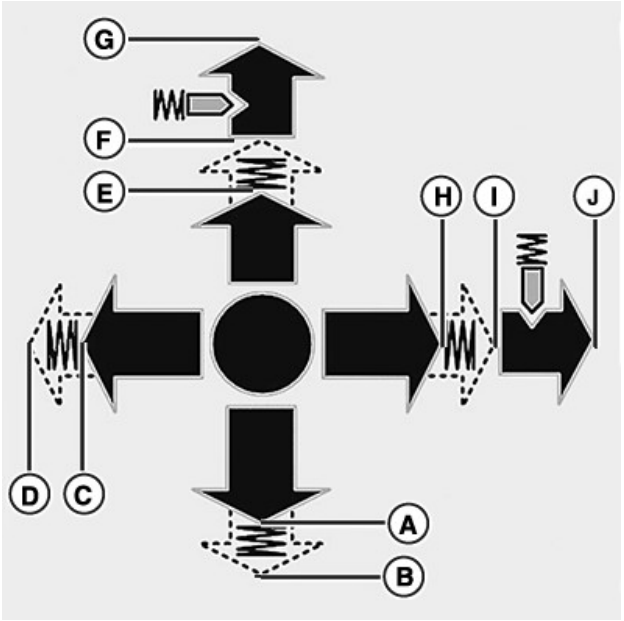
RXA0156241—UN—16DEC16

7. Select custom button (H) button to activate manually set assignments.

KD34109,00006AB-19-11AUG17

CommandARM™ Joystick (If Equipped) - Layout and Joystick Lever Functions

NOTE: The description of the joystick movements are made with the assumption that the hoses are connected so that extend is pulling the joystick back, retract is pushing the joystick forward. Moving the joystick to the left is extend and retract is to the right.



RXA0155031—UN—18OCT16



RXA0155032—UN—18OCT16

A Pull joystick back to extend.

B Pull joystick back **beyond** the point of detectable resistance to extend detent.

C Move joystick to the left to extend.

D Move joystick to the left **beyond** the point of detectable resistance to extend detent.

E Push joystick forward to retract.

F Push joystick forward **beyond** the point of detectable resistance to retract detent.

G Push joystick all the way forward and engage in detent to activate the float position.

H Move joystick to the right to retract.

I Move joystick to the right **beyond** the point of detectable resistance to retract detent.
Move the multi-function lever to the right twice in brief succession beyond the point of resistance and hold it there. This activates the bucket shake function.

J Move joystick all the way to the right and engage in detent to activate the float position.

K Move rocker switch up **beyond** the point of detectable resistance for extend detent.

L Move rocker switch down **beyond** the point of detectable resistance for retract detent.

Operator can set any SCV on any axis or rocker switch of the joystick.

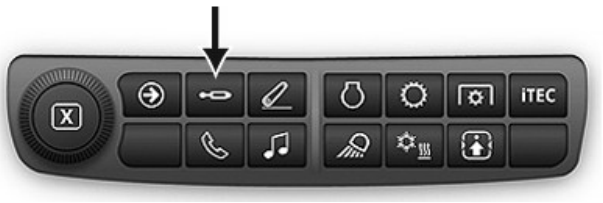
NOTE: Some functions shown may not be available depending upon what options the tractor is equipped with.

KD34109,00006AC-19-25JUL17

SCV and Joystick Flow Response Setting

SCV and Joystick response can be set to three different response curves: Linear, Progressive and Combination.

- **Linear** means that the flow rate of the SCV corresponds to the distance traveled by the SCV control lever/joystick lever.
- **Progressive** means that initially the flow rate of the SCV is less than that traveled by the SCV control lever/joystick lever (giving a more sensitive start to the movement).
- **Combination** is an intermediate stage between the two settings described above.



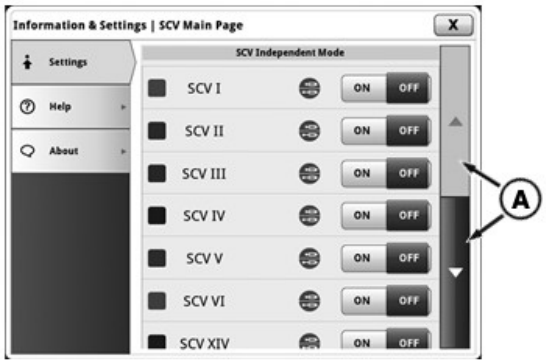
RXA0133709—UN—16JUL13

1. Press **SCV Shortcut Button on Navigation Bar.**

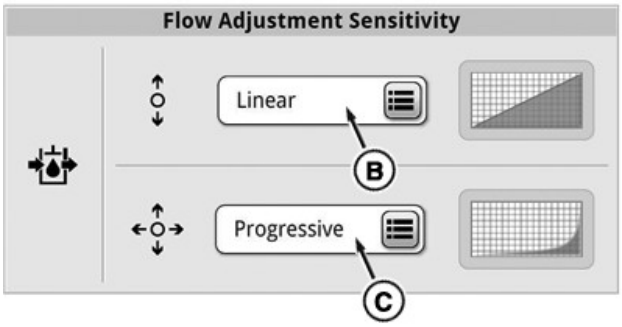


RXA0130326—UN—11JAN13

2. Press **Advanced Settings Icon.**
3. Press **Settings Tab.**

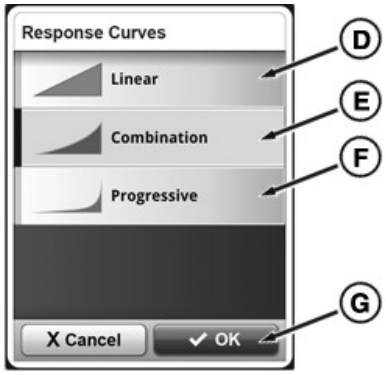


RXA0137874—UN—18DEC13



RXA0137875—UN—18DEC13

4. Using scroll bar (A), scroll down to flow adjustment sensitivity and press either SCV control lever (B) or joystick response (C) to adjust SCV response or joystick response.



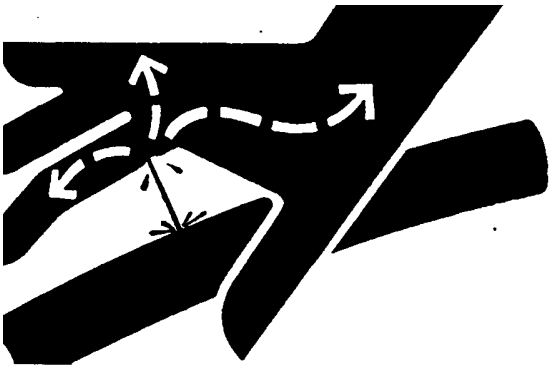
RXA0137876—UN—18DEC13

5. Then choose either Linear (D), Combination (E) or Progressive (F), then confirm using the OK button (G).

TS36762,00002A1-19-23NOV16

Hydraulic Connections

Connect Rear Hydraulic 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.

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.

CAUTION: Prevent possible personal injury. Shut off engine, move SCV lever to neutral position and lock out SCV controls before attaching implements to prevent unintentional implement movement.

CAUTION: Engage Joystick Lock (A) (If Equipped) or SCV Control Lever Lock (B) before attaching or detaching hydraulic hoses to prevent equipment and possible personal injury.

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

Any dirt, dust, or other foreign material can damage hydraulic system. Thoroughly clean hydraulic hoses and SCVs before connecting implement to tractor.

IMPORTANT: Steam cleaning or using a high pressure washer in the area around the SCV connections and electronics may damage equipment. Any pressure washer exceeding 6895 kPa (69 bar) (1000 psi) should be kept a minimum of 200 mm (8 in.) away from connections.

NOTE: See Attach Implement in TouchSet™ Depth Control Section of this Operator's Manual.

1. Lock out SCV controls:



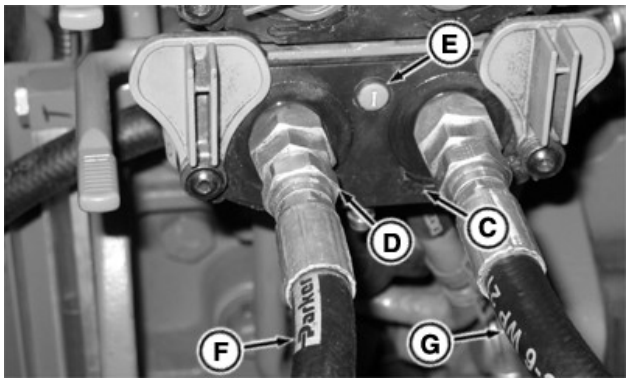
RXA0157230—UN—01FEB17

- Joystick — Press Joystick Lock (A).
- CommandARM™ — Press SCV Control Lever Lock (B).

2. Clean dust covers. Rotate dust covers up to expose receptacles.

IMPORTANT: Be sure to correctly connect remote hydraulic hoses to couplers. If hose connections are reversed, machine will not respond to system controls as expected.

Rear SCV
Extend= Left Port
Retract= Right Port



RXA0122134—UN—09NOV11

NOTE: Remote cylinder receptacles are designated I through VI (E) with I being the bottom receptacle.

3. Check if symbols on receptacle identification plate (C) or (D), indicating cylinder movement, match cylinder travel direction.
4. When using SCV with single-acting cylinders, plug hose into extend side of receptacle (F). When connecting double-acting cylinders, extend side will be left side and retract is right side (G).
5. Push hose(s) firmly into receptacle(s).

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NOTE: SCVs are color coded for easier identification. Hose identification kits are available from your John Deere™ dealer.

SCV Numbers And Corresponding Colors	
SCV Number	**Color**
SCV I	Green
SCV II	Blue
SCV III	Brown
SCV IV	Black
SCV V	Violet
SCV VI	Gray

RD47322,000082C-19-23JUN17

Disconnect Rear Hydraulic Hoses

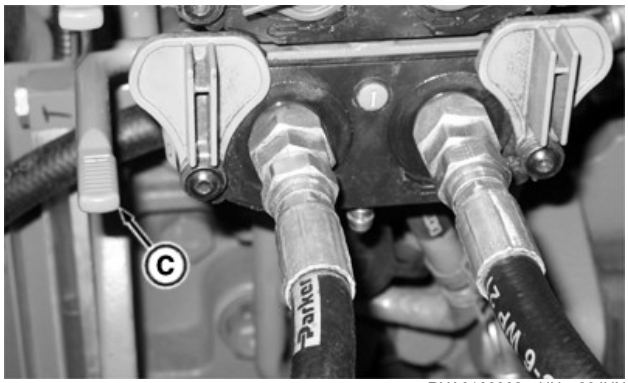
CAUTION: Prevent possible personal injury and unintentional implement movement. Move SCV levers to neutral position and shut off engine before connecting or disconnecting hydraulic hoses and attaching or detaching implements.

1. Lower implement to ground before disconnecting hydraulic hoses.
2. Relieve hydraulic pressure in hoses by moving SCV control lever or joystick (If Equipped) to float position for a few seconds while engine is running.
3. Lock out SCV controls. On:



RXA0159776—UN—14JUN17

- Joystick, press joystick lock (A).
- CommandARM™, press SCV control lever lock (B).



RXA0160002—UN—26JUN17

Couplers with Release Levers

IMPORTANT: Forcing or jerking SCV hoses when disconnecting can damage hose ends and SCV couplers. If hoses cannot be removed easily, relieve pressure in hydraulic system by moving SCV lever to float position for a few seconds with engine running and using release lever (C) to extract hoses.

4. Push SCV hose release lever down slightly to relieve any pressure buildup of trapped oil before removing hoses.
5. Pull hoses straight out from couplers.
6. Clean coupler area before closing dust cover.
7. Rotate dust covers down to cover couplers.

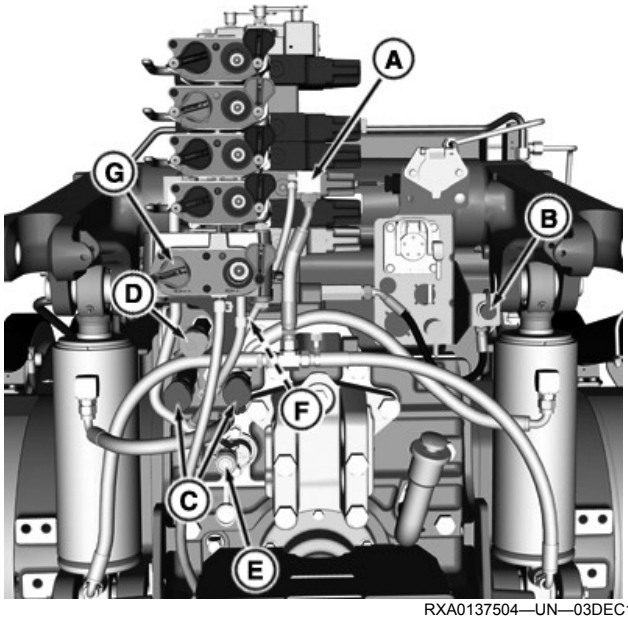
RD47322,000082D-19-26JUL17

Hydraulic Component Identification

IMPORTANT: On 8R Wheel Series Tractors, the top SCV and the hitch valve return oil is sent back to sump. The SCV's below the hitch valve are directed back to charge pump. For implements requiring less back pressure use the SCV's above the hitch valve.

NOTE: Connecting hydraulic motors to the uppermost SCV can result in reduced tractor hydraulic performance and higher oil temperature causing excessive wear to the charge pump.

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CommandARM is a trademark of Deere & Company



RXA0137504—UN—03DEC13

Rear Hydraulic Component Identification

A— Rear Hitch Valve
B— Power Beyond Load-Sense Coupler (Optional)
C— Return Ports
D— Pressure Port (Primary)
E— Motor Case Drain (To Sump)
F— Pressure Port (Limited Access)
G— Hi-Flow 3/4” Coupler (Optional)

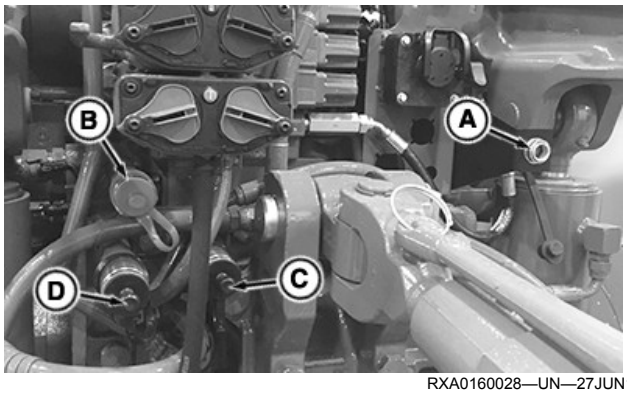
RD47322,000082E-19-27JAN15

Using Load-Sensing Hydraulic System—*Power-Beyond*

Power beyond is used as a pressure/flow source for auxiliary functions equipped with independent flow control valves. Use power beyond when:

- Tractor SCV control is not needed
- When Implement control valve generates an external load sense signal to communicate flow demand to the pump.
- No other SCV outlet is available

Power beyond functions require a load sense signal to regulate pump pressure, therefore, a load sense hydraulic line is needed. Certain equipment can require modification. Special hydraulic couplers are available from your John Deere dealer.



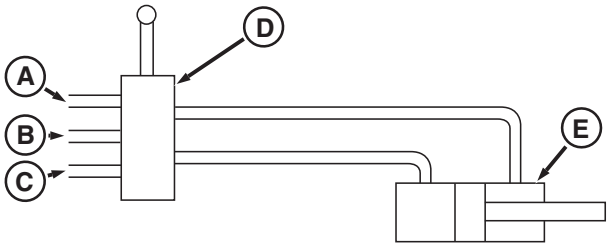
RXA0160028—UN—27JUN17

IMPORTANT: Motors without over-running check valves should be connected to motor return coupler (C, D) to prevent return line pressurization when SCV is returned to neutral.

Connect hoses to load sense coupler (A), pressure coupler (B), and return coupler (C or D).

RD47322,000082F-19-27JUN17

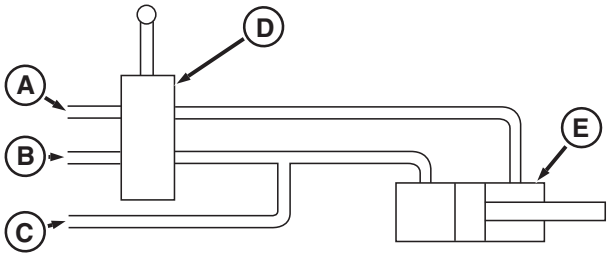
Examples Using Load-Sensing Hydraulic System—Power-Beyond



RXA0138783—UN—28JAN14

***Example 1* —Control valves with a load-sense provide a load-sense signal to hydraulic system and can be operated manually or by solenoids.**

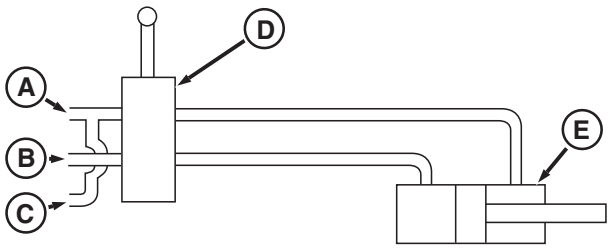
NOTE: Example 1 is the preferred practice.



RXA0138782—UN—28JAN14

***Example 2*—Control valve directs oil into extend or retract circuits. Connect load-sense line to circuit requiring pressure. An example is a wagon lift cylinder with load supported by mechanical stops in full down position. Load-sense signals pump when increased pressure is needed. Pressure remains low when load is supported by mechanical stops.**

IMPORTANT: Circuit allows cylinder "leak-down" through load-sense line (C). If leakage is not acceptable for operation, use Example 3.

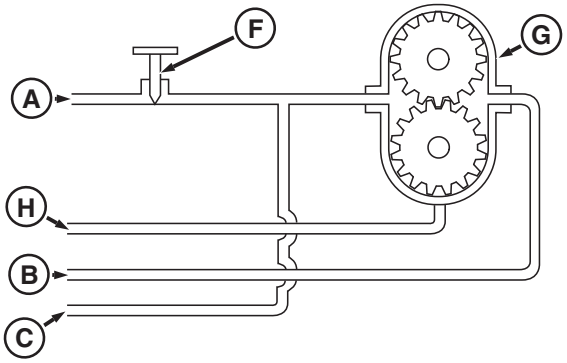


RXA0138269—UN—17JAN14

***Example 3*—Control valve directs oil into extend or retract circuits, either requiring high pressure. Connect load-sense line to pressure line before control valve.**

IMPORTANT: System will maintain a maximum pressure of 20000 kPa (200 bar) (2900 psi) as long as power-beyond hoses are connected.

An example is a folding implement, where pressure is needed to extend or retract cylinders.



RXA0138270—UN—17JAN14

A— Pressure Line
B— Return Line
C— Load-Sense Line
D— Control Valve
E— Cylinder
F— Pressure-Compensated Flow Valve
G— Hydraulic Motor
H— Motor Case Drain (Sump Line)

***Example 4*—Pressure-compensated flow control valve is used to regulate hydraulic motor speed. Connect load-sense line to pressure line after control valve.**

NOTE: Motor speed can fluctuate when other functions cause system pressure change. Minimize fluctuations by installing a pressure-compensated flow control valve.

NOTE: For Ag high flow, it is recommended that the hydraulic motor be connected to the top SCVs (85 cc high flow pump).

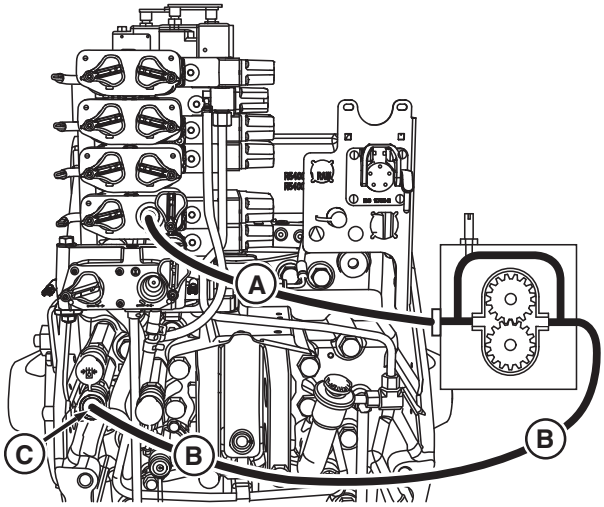
High flow scraper hydraulics is not recommended for motor application.

RD47322,00002D5-19-20FEB18

Using Hydraulic Spray Pumps

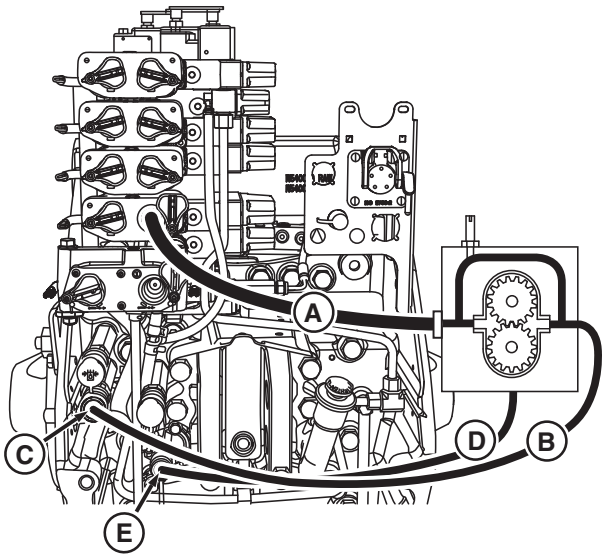
1. Follow spray pump manufacturers recommendations for pump model selection, setup and operation.

NOTE: Select the smallest displacement motor recommended for multiple hydraulic function operation. The smaller displacement will lower total hydraulic flow demand and improve overall system performance.



RXA0159777—UN—14JUN17

Spray Pump



RXA0159778—UN—14JUN17

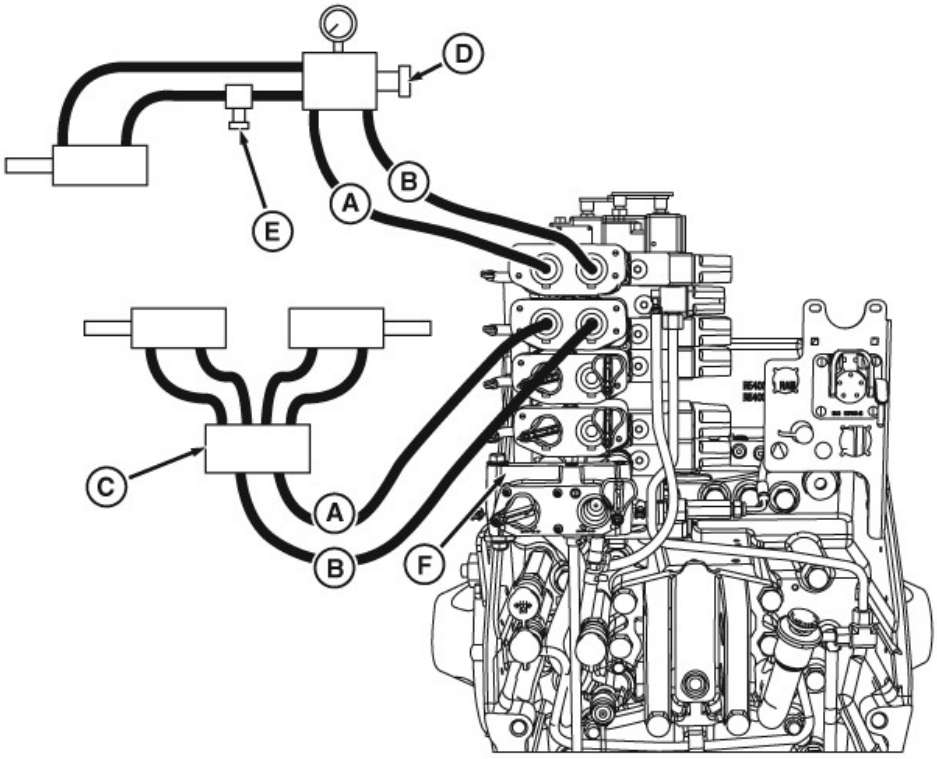
Spray Pump with Drain Directly to Sump (Zero Back Pressure)

2. Connect motor pressure line (A) to retract port of SCV (right-hand side).
3. Connect return line (B) to power beyond return coupler (C).
4. Some hydraulic motors have a separate case drain line for internal leakage. The case drain line (D) must be routed to the hitch frame drain port (E) to direct oil to sump (zero back pressure.)
5. Activate SCV by moving lever forward to retract detent position and adjust hydraulic flow rate per pump manufacturers guidelines.
6. Shut off spray pump by moving SCV control lever to float position (full forward and down). Stopping spray pump by moving SCV to neutral position will cause high pressure oil to be trapped between SCV and pump. This may cause damage to spray pump seals. This also applies to other motors using the SCV pressure and return couplers.

IMPORTANT: Some motors are not equipped with over-speed protection. Extended operation above recommended speed can cause failure.

RD47322,0000831-19-26JUN17

Implement Connection, Example 1—Pressure Control Valve Applications (Grain Drills or Air Seeders with Constant Down-Pressure System)



RXA0129057—UN—23OCT12

A— Extend Coupler Line
B— Retract Coupler Line
C— Selector Valve
D— Pressure Control Valve

E— Implement Transport Lock Valve

For implements using active down force set flow control to continuous and move lever to retract detent position.

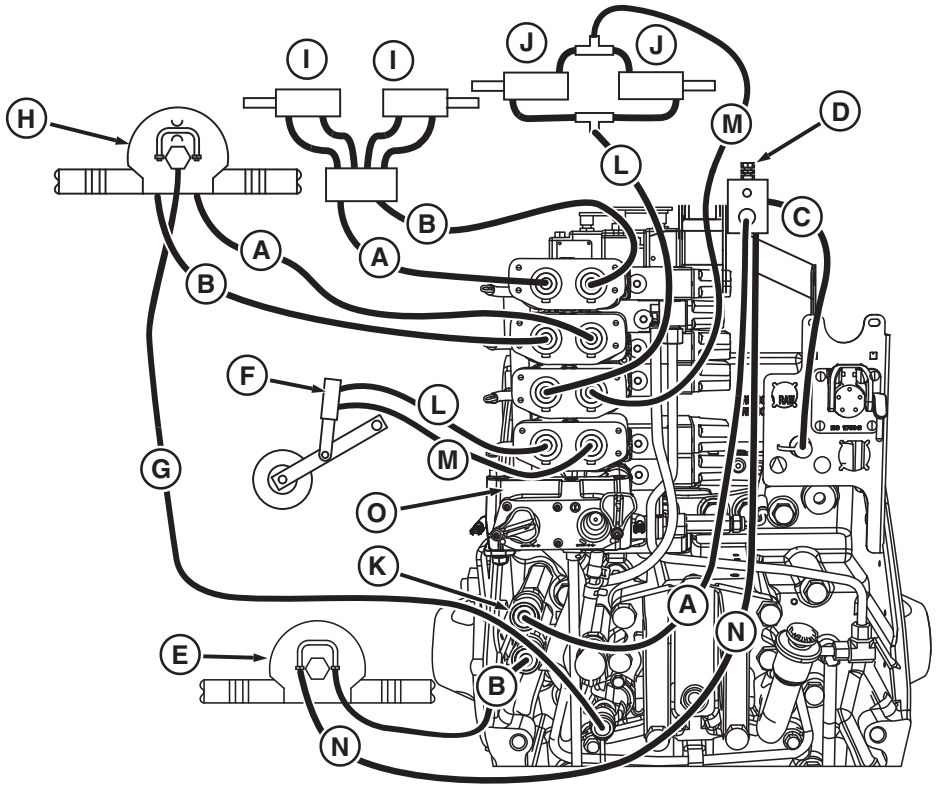
This will cause hydraulic pump to operate at maximum pressure which may cause overheating of hydraulic oil if operating hydraulic motors on other SCV's at same time outside air temperature is high. To avoid this problem, keep the number of motors to a minimum when active down force is being used.

F— High Flow 3/4” Hydraulic Coupler (Optional)

NOTE: Connecting hydraulic motors to the uppermost SCV can result in reduced tractor hydraulic performance and higher oil temperature causing excessive wear to the charge pump.

RD47322,0000832-19-27JAN15

Implement Connection, Example 2—Motor Application Using Motor Case Drain



RXA0129047—UN—08MAY13

A— Pressure Line
B— Return Line
C— Load Sense Line
D— Control Valve
E— Vacuum Motor
F— Raise/Lower Cylinder
G— Motor Seal Drain Line
H— Second Motor
I— Marker
J— Fold
K— Power Beyond Return Port
L— Extend Coupler Line
M— Retract Coupler Line
N— Controlled Flow Line
O— High Flow 3/4" Hydraulic Coupler (Optional)

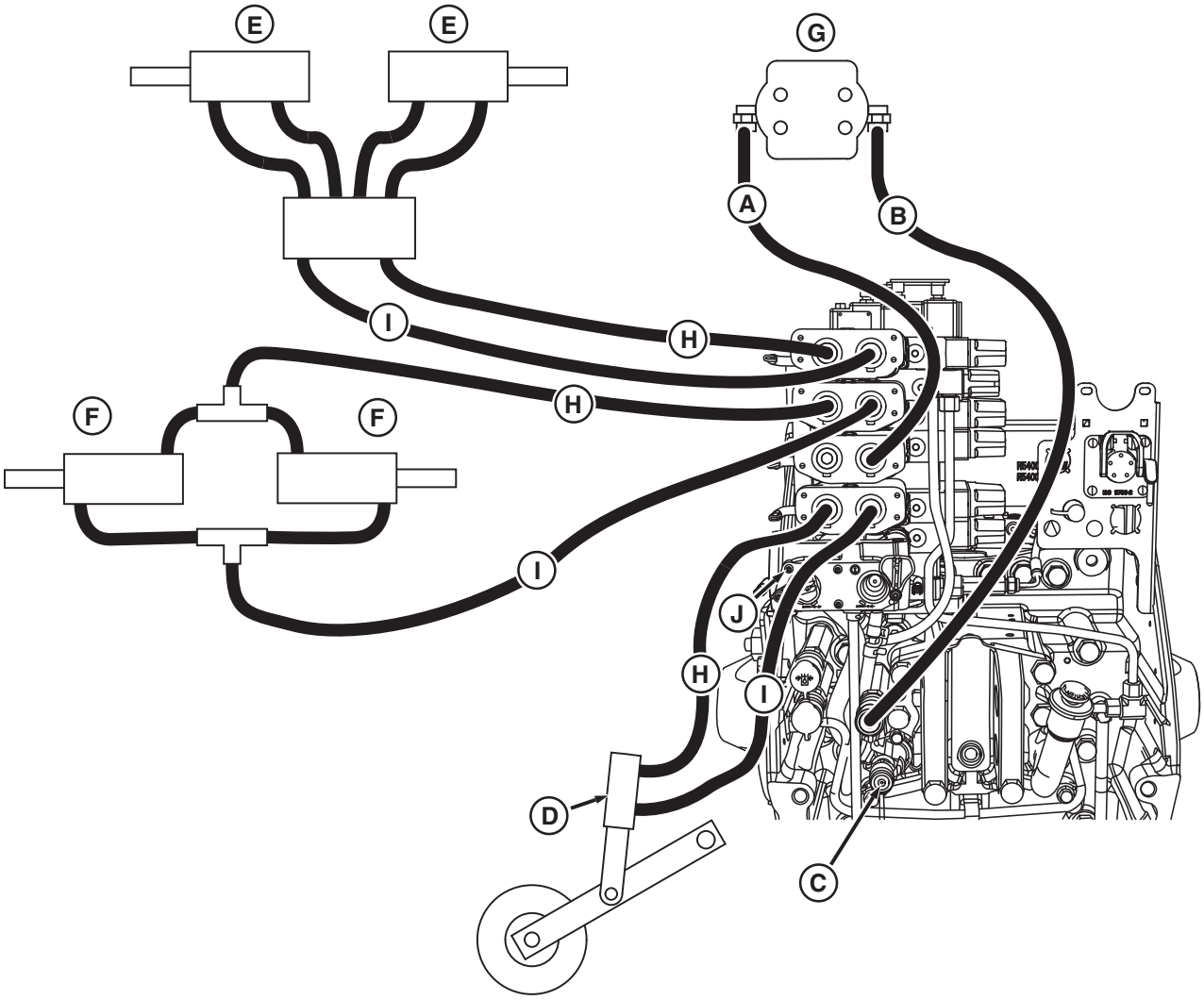
In this application, vacuum motor (E) is being operated from power beyond which requires a load sense connection (C) to signal hydraulic pump for operation.

The second motor (H) is equipped with motor case drain line (G). Pressure oil comes from the retract port on the SCV and return oil is routed to the extend port. When motor return oil is routed to an SCV, a special return hose tip with check valve is required to prevent high pressure oil from moving back toward the motor and possibly damaging the seals. When the motor is shut off, the SCV lever is moved to float position to allow motor to coast to a stop. Moving lever to neutral will cause motor to stop abruptly and may damage seals.

NOTE: Connecting hydraulic motors to the uppermost SCV can result in reduced tractor hydraulic performance and higher oil temperature causing excessive wear to the charge pump.

RD47322,0000833-19-27JAN15

Implement Connection, Example 3—Motor Application Using SCV Retract and Auxiliary Motor Return



RXA0129048—UN—08MAY13

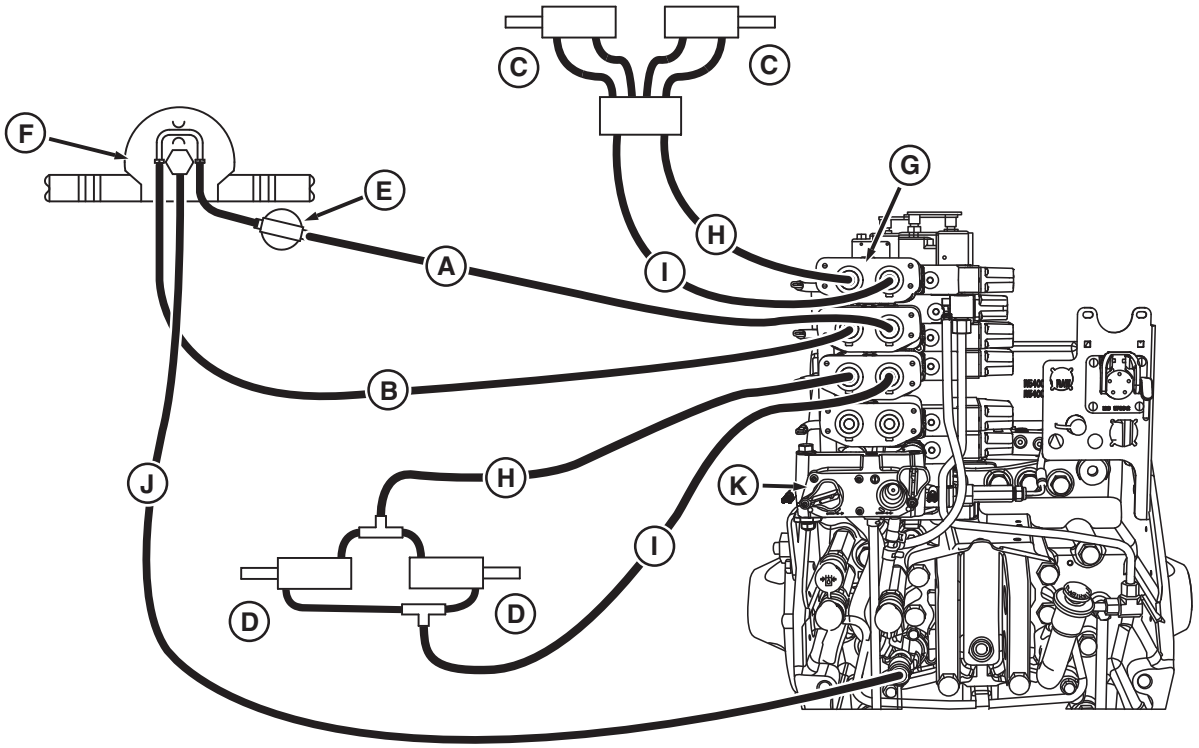
A— Pressure Line
B— Return Line
C— Motor Case Drain (To Sump)
D— Raise/Lower cylinder
E— Markers
F— Fold
G— Hydraulic Motor
H— Extend Coupler Line
I— Retract Coupler Line
J— 3/4” Hydraulic Coupler (Optional)

In this application motor (G) receives pressure oil from the retract port on SCV. Return oil is routed to power beyond return port. When the motor is shut off, the SCV lever is moved to float position to allow motor to coast to a stop. Moving lever to neutral can cause motor to stop abruptly and may damage seals. Since return oil is routed to power beyond return port, no special hose tip is required.

NOTE: Connecting hydraulic motors to the uppermost SCV can result in reduced tractor hydraulic performance and higher oil temperature causing excessive wear to the charge pump.

RD47322,0000834-19-27JAN15

Implement Connection, Example 4—Planter with Vacuum Motor and Return Line to SCV Using Motor Return Tip



RXA0129051—UN—08MAY13

A— Pressure Line
B— Return Line
C— Marker
D— Fold
E— Flow Control Valve (Wide Open)
F— Vacuum Motor
G— Special Return Hose Tip
H— Extend Coupler Line
I— Retract Coupler Line
J— Case Drain Line - (For motor returns equipped with case drain only)
K— 3/4” Hydraulic Coupler (Optional)

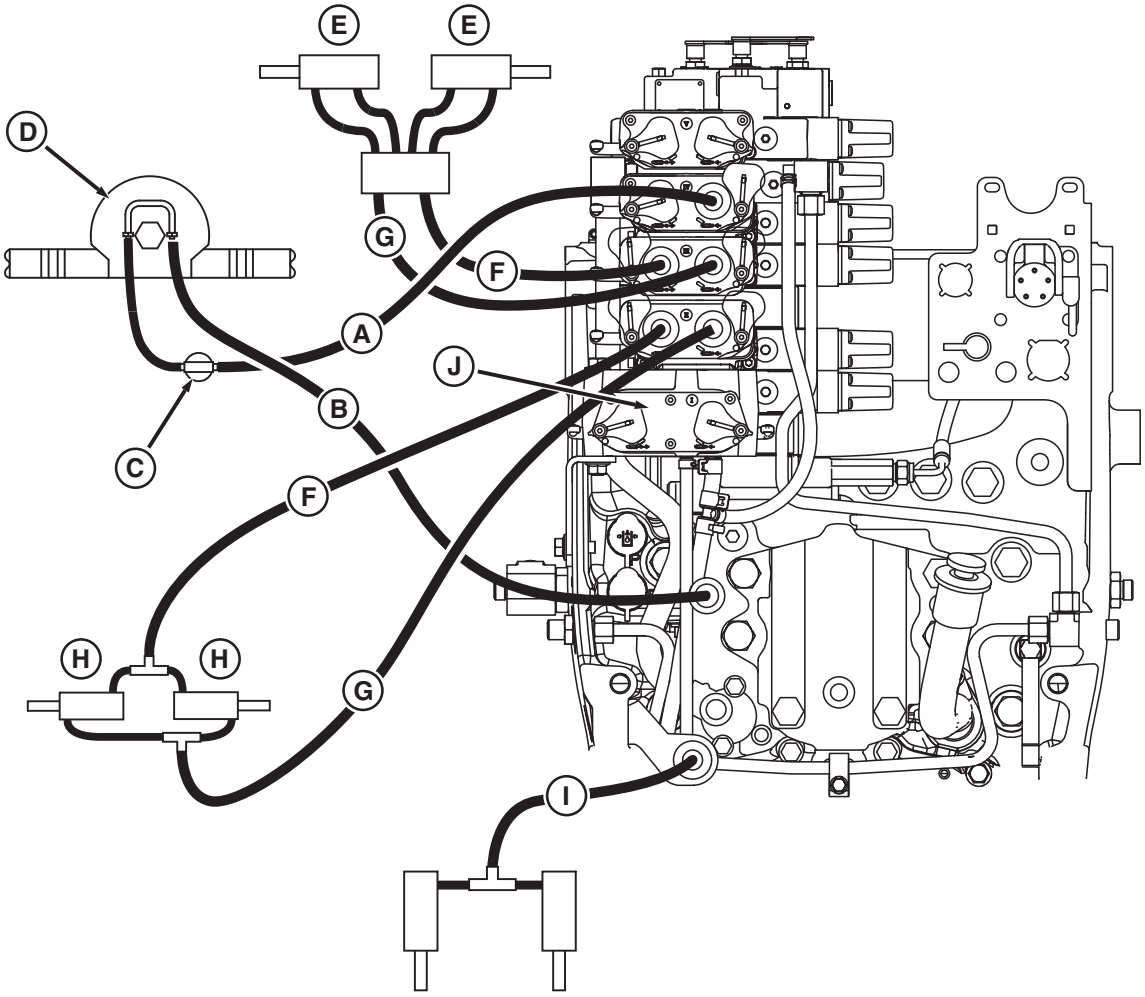
In this application vacuum motor (F), similar to a planter blower, receives pressure oil from the retract port on SCV. Since return oil is routed to an SCV, a special return hose tip (G) with check valve is required to prevent high pressure oil from moving back toward the motor and possibly damaging the seals. When motor is shut off, the SCV lever is moved to float position to allow motor to coast to a stop. Moving lever to neutral will cause motor to stop abruptly and may damage seals.

Flow control valve (E) should be wide open and flow controlled by SCV setup panel. If flow is controlled by flow control valve, it will cause hydraulic pump to operate at maximum pressure which may cause overheating of hydraulic oil if operating at same time outside air temperature is high.

NOTE: Connecting hydraulic motors to the uppermost SCV can result in reduced tractor hydraulic performance and higher oil temperature causing excessive wear to the charge pump.

RD47322,0000835-19-27JAN15

Implement Connection, Example 5—Planter with Vacuum Motor, Return Line to Motor Return and Lift Assist



RXA0129153—UN—12NOV12

A— Pressure Line
B— Return Line
C— Flow Control Valve (Wide Open)
D— Vacuum Motor
E— Fold
F— Extend Coupler Line
G— Retract Coupler Line
H— Markers
I— Lift Assist
J— High Flow 3/4” Hydraulic Couplers (Optional)

In this application vacuum motor (D) receives pressure oil from the SCV retract port. Return oil is routed to power beyond return port. If return hose is equipped with special return hose tip, it can be connected directly to SCV #3 extend port. When the motor is shut off, the SCV lever is moved to float position to allow motor to coast to a stop. Moving lever to neutral will cause motor to stop abruptly and may damage seals.

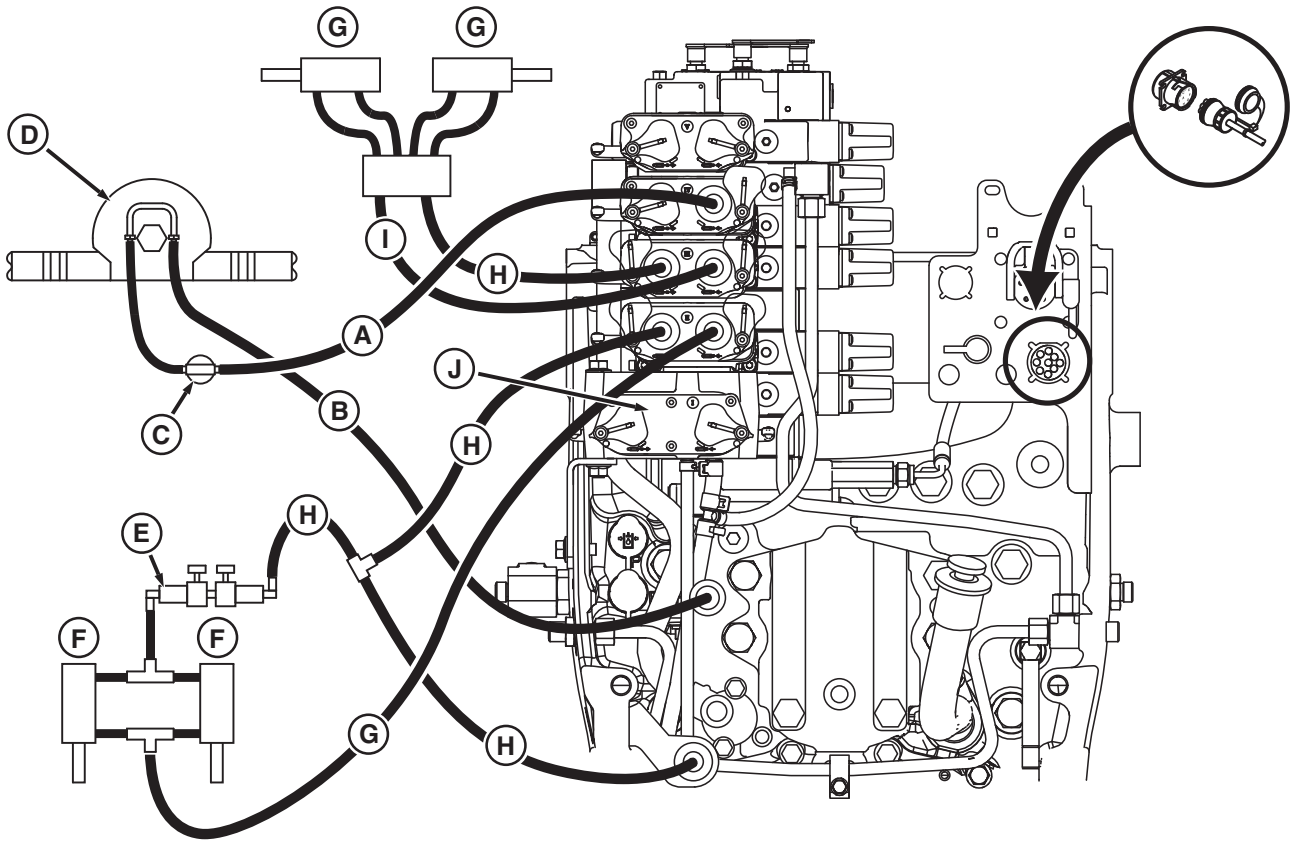
Control valve (C) is wide open and flow is controlled by tractor control panel. If valve is used to control oil flow, pump will operate at maximum pressure which may cause overheating of hydraulic oil if operating at same time outside air temperature is high.

Lift assist cylinder oil is connected to auxiliary hitch valve port which is controlled by hitch command lever settings in the cab.

NOTE: Connecting hydraulic motors to the uppermost SCV can result in reduced tractor hydraulic performance and higher oil temperature causing excessive wear to the charge pump.

RD47322,0000836-19-27JAN15

Implement Connection, Example 6—Planter with Vacuum Motor and Return Line to Motor Return



RXA0129162—UN—12NOV12

A— Pressure Line
B— Return Line
C— Flow Control Valve (Wide Open)
D— Vacuum Motor
E— Control Valve
F— Lift Assist
G— Markers
H— Extend Coupler Line
I— Retract Coupler Line
J— 3/4" Hydraulic Coupler (Optional)

In this application vacuum motor (D) receives pressure oil from the retract port of SCV. Return oil is routed to power beyond return port. If return hose is equipped with special planter return hose tip, it can be connected directly to SCV #3 extend port. When the motor is shut off, the SCV lever is moved to float position to allow motor to coast to a stop. Moving lever to neutral will cause motor to stop abruptly and may damage seals.

Control valve (C) is wide open and flow is controlled by tractor control panel. If valve is used to control oil flow, pump will operate at maximum pressure which may cause overheating of hydraulic oil if operating at same time outside air temperature is high.

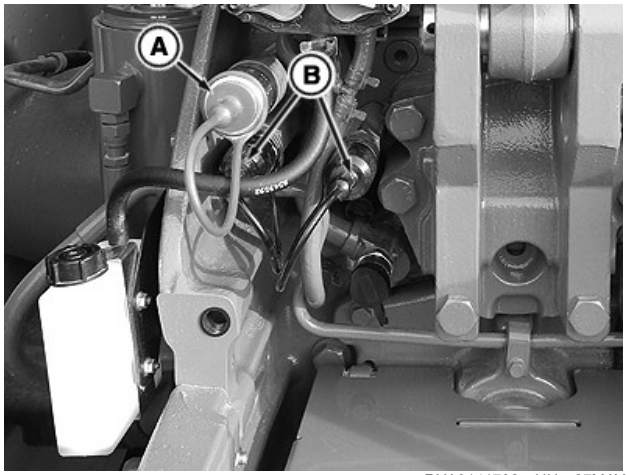
In this configuration, SCV #1 is being used to control both the hitch valve and lift assist. The special 9-pin harness contains a loop circuit that disables tractor hitch control unit when it is connected to 9-pin connector that is wired into tractor main electrical harness.

NOTE: Connecting hydraulic motors to the uppermost SCV can result in reduced tractor hydraulic performance and higher oil temperature causing excessive wear to the charge pump.

RD47322,0000837-19-27JAN15

Using Hydraulic Motor Return

Hydraulic motor return kit provides a convenient port to access the tractor low pressure return circuit.



RXA0141702—UN—27MAY14

NOTE: Pressure port coupler (A) is used for supply lines only. Do not attempt to attach with return line.

Remove return port plug and install hydraulic motor return coupler (B). Connect return hose to coupler, making sure hose end and coupler are clean.

Using the motor return coupler will prevent:

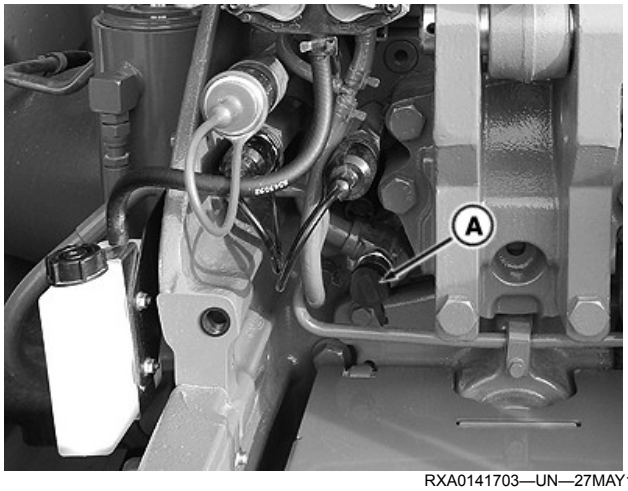
- Inadvertent reverse operation
- Pressurization of auxiliary function return line
- Potential flow checking of the return-side SCV coupling

NOTE: Motors without overrunning check valves should be connected to the motor return coupler to prevent return line pressurization when SCV is returned to neutral.

Combining of return flows through a single coupler may result in excessive return line pressure. Use the multiple return couplers if additional return circuit connections are required.

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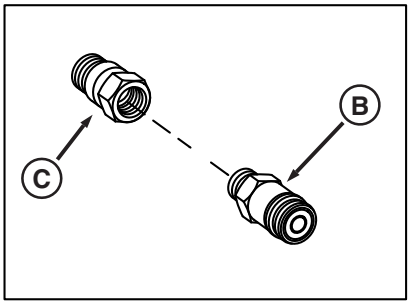
Using Hydraulic Motor Case Drain



RXA0141703—UN—27MAY14

Remove motor case drain plug (A) and install a hydraulic sump coupler available from your John Deere dealer. Connect motor case or seal drain hose to coupler, making sure hose end and coupler are clean.

This allows oil to drain directly to reservoir (differential case) from hydraulic motor, by-passing remote coupler, SCV, and filter.



RXA0159779—UN—14JUN17

NOTE: Couplers may vary depending on equipment. Early seeding equipment uses a standard coupler. Newer seeding equipment may require a flush face coupler (B) and adapter (C).

RD47322,0000839-19-26JUN17

Using Implements Requiring Large Volumes of Oil

IMPORTANT: Removing too much oil can result in malfunction when raising hitch or using extend function of SCVs.

Do not add oil to hydraulic system with engine running.

If more oil capacity is needed for large one-way

cylinders, an optional field installed auxiliary reservoir is available. See your John Deere dealer.

To determine if sufficient oil is available for implement being used:

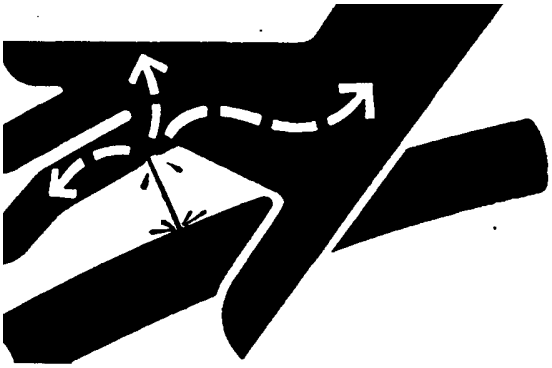
- Cycle all implement cylinders after starting tractor.
- Check transmission-hydraulic oil level. See Transmission-Hydraulic Oil Level in Service - Check section of this Operator's Manual
- Add oil if necessary.
- Lower implement to return oil to reservoir.
- Recheck oil level when implement is removed.
- Drain excess oil if necessary.

TS36762,00001FF-19-14DEC16

Attaching Implement and Control System

IMPORTANT: Hydraulic Option Connector Reset Procedure:

1. **With the Ignition key in the STOP (off) position, disconnect hydraulic option connector harness from tractor.**
2. **Start tractor, wait until display comes up, stop tractor.**
3. **Connect hydraulic option connector harness to tractor.**
4. **Start tractor, optional hydraulic function should now be available.**



X9811—UN—23AUG88

CAUTION: Escaping fluid under pressure can penetrate skin causing serious injury. Avoid hazard by relieving pressure before disconnecting hydraulic or other lines.

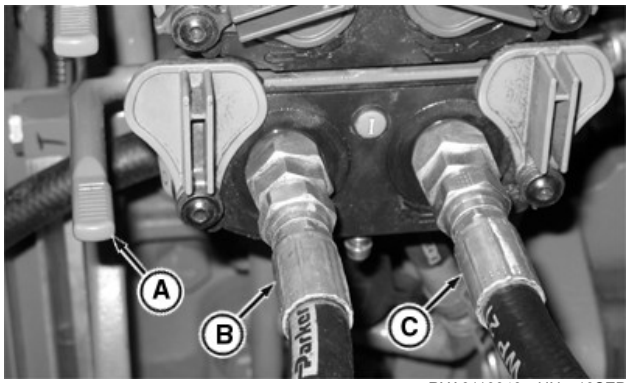
If an accident occurs, see a doctor immediately. Any fluid injected into skin must be surgically removed within a few hours or gangrene can result.

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

Any dirt, dust, or other foreign material can damage hydraulic system. Thoroughly clean hydraulic hoses and SCVs before connecting implement to tractor.

Steam cleaning or using a high pressure washer in the area around the SCV connections and electronics can damage equipment. Any pressure washer exceeding 6895 kPa (69 bar) (1000 psi) should be kept a minimum of 200 mm (8 in) away from connections.

NOTE: Hose identification kits are available from your John Deere dealer.



RXA0110340—UN—13SEP10

1. Identify extend (B) and retract hose (C).
2. If using drawn implement, back tractor into position and attach implement to drawbar. Be sure that hitch pin is locked into position.

CAUTION: Prevent possible personal injury. Shut off engine, move SCV lever to neutral position and lock out SCV controls before attaching implements to prevent implement movement.

IMPORTANT: Always shut off engine before connecting/disconnecting implement position sensor. Connect/disconnect with engine running can cause system faults. Shut off engine and restart to restore correct function.

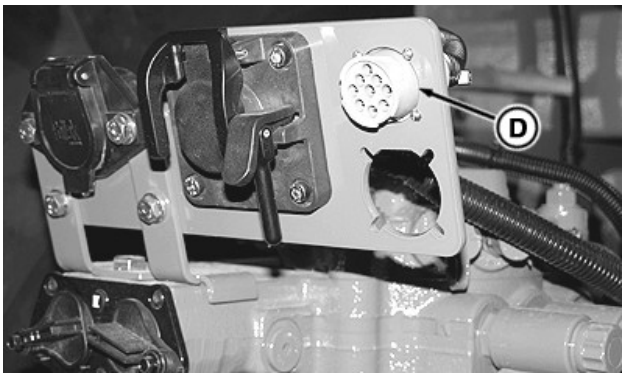
3. Shut off engine.

IMPORTANT: Be sure to correctly connect remote hydraulic hoses to couplers. If hose connections are reversed, implement will not respond to system controls as expected.

SCV		
Location	Action	
	Left Port	Right Port
Rear	Extend	Retract

NOTE: Coupler Lever (A) is used only to disconnect hoses from couplers.

Connect implement hydraulic hoses. Push hose tips into couplers to connect implement hoses. See Hydraulic Connections section of this Operator's Manual.



RXA0155869—UN—18NOV16

Install implement position connector to tractor wiring harness connector (D).

TS36762,0000202-19-30AUG17

Reset Implement Connector

If implement is not responding to commands or Diagnostic Trouble Code (DTC) is present implement may require reset, to reset implement:

1. Shut off tractor and allow system to fully shut down.
2. Disconnect implement harness from implement connector.
3. Start tractor and allow operating system to fully load.
4. Shut off tractor and allow operating system to fully shut down.
5. Connect implement harness to implement connector.
6. Start tractor and allow operating system to fully load, if implement fails to respond, see your John Deere dealer.

DB71512,0000002-19-26JUN17

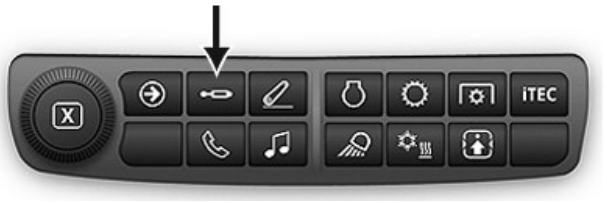
Set TouchSet™ Depth Controls

CAUTION: Avoid personal injury or death. Do not attempt to install depth control sensors on implements not intended for this system. See implement Operator's Manual.

Moving implement control unit, sensor, connectors, or linkages, when engine is running, can cause unexpected movement. Stay clear of implement when starting engine.

Tractor selective control valve (SCV I) is used to electronically control raising, lowering, and setting of implement depth, without leaving cab.

1. Connect implement to tractor.



RXA0133709—UN—16JUL13

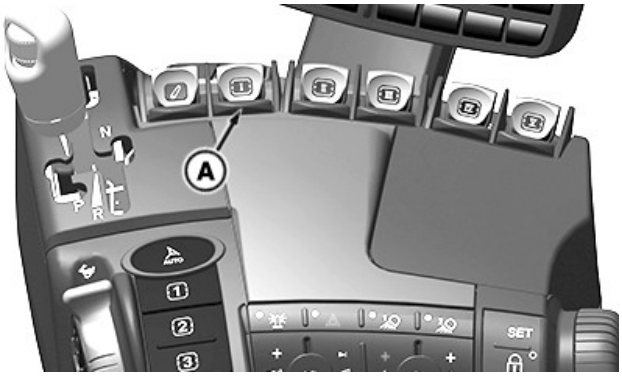
2. Press **SCV shortcut button on Navigation Bar or follow alternative path.**



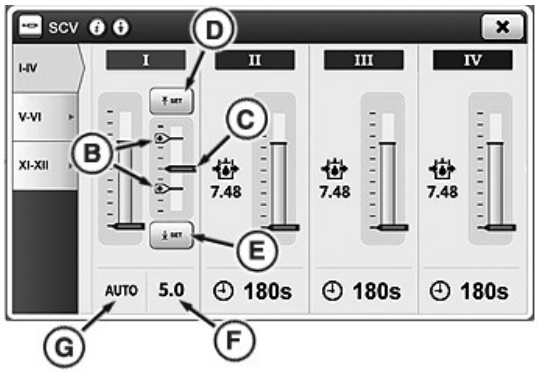
RXA0127933—UN—04SEP12

3. Select **Menu.**
4. Select **SCV Icon.**

NOTE: When using TouchSet™, SCV must be set for feature mode. See Configure SCV - Feature Mode in Selective Control Valves (SCV) section of this Owner's Manual.



RXA0159781—UN—14JUN17



RXA0131879—UN—10APR13

Implement range of travel (B) indicates set upper and lower limits of implement travel. Implement indicator (C) indicates actual position of implement.

With TouchSet™ system in Auto (G): Moving SCV I lever (A) into extend or retract detent will command implement to move to upper or lower set point.

TouchSet is a trademark of Deere & Company

Rapidly moving SCV I lever into extend or retract region and quickly returning it to center position with TouchSet™ in AUTO adjusts implement's position up or down by a fixed amount. Each bump moves implement from previous position.

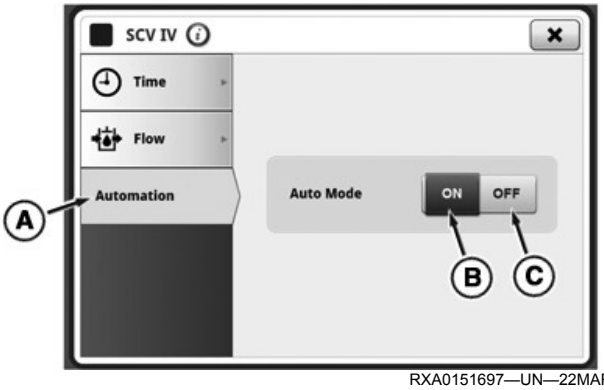
5. Using SCV I lever, lower implement to desired depth while watching implement and CommandCenter™ Implement Position (F).
6. When implement is at desired depth, press button (E).
7. Using SCV I lever, raise implement to desired height while watching implement and CommandCenter™ Implement Range.
8. When implement is at desired height, press button (D).

RD47322,0000576-19-26JUN17

Use TouchSet™ Depth Controls

Activate TouchSet™ Automation Mode

During field use, activate automation mode.



RXA0151697—UN—22MAR16

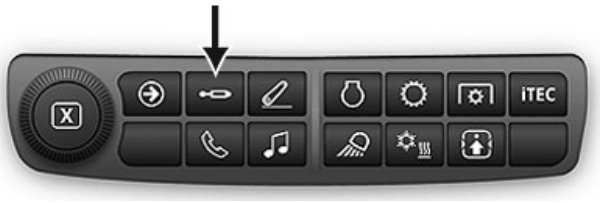
1. Press Automation tab (A).
2. Select ON button (B). While Automation is on:
   - Briefly hold SCV lever in extend detent or retract detent position to move implement to established lower or upper setpoint.
   - Tap SCV lever into extend or retract position adjusts implement position up or down by a fixed amount.

Select OFF button (C) at any time to end Automation mode.

DB71512,0000001-19-26JUN17

Laser Scraper—for Scrapers Equipped with Scraper Control Unit

NOTE: Used primarily in areas requiring automated laser guidance system for scraper applications.



RXA0133709—UN—16JUL13

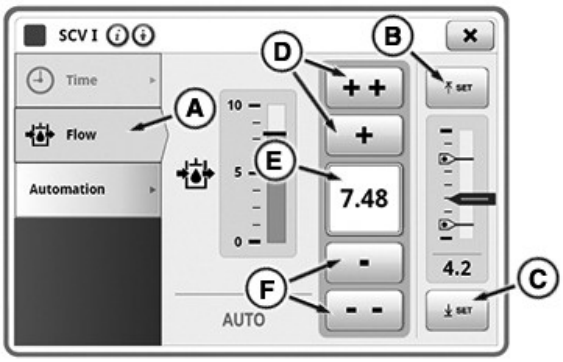
Press SCV shortcut button on Navigation Bar or follow alternative path:

1. Connect tractor to implement.



RXA0148320—UN—05JUN15

2. Select **Menu.**
3. Select **Machine Settings tab.**
4. Select **SCV Button.**



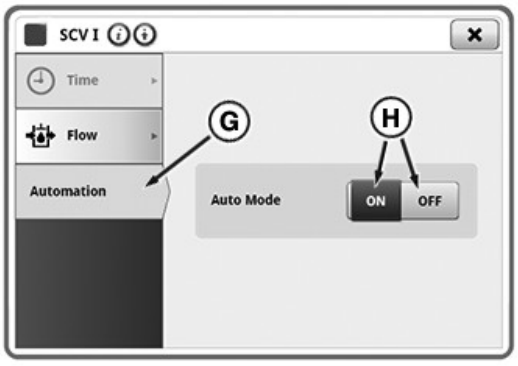
RXA0159782—UN—13JUN17

5. Select Detent Flow tab (A).
6. Select Feature SCV Mode.



RXA0159784—UN—13JUN17

7. To increase flow press button (D) or to decrease press button (F). Also turning adjusting wheel (I) can be used to obtain desired flow setting. Input box (E) displays actual flow setting.
8. Select Upper Setpoint button (B) to set upper setpoint to current position.
9. Select Lower Setpoint button (C) to set lower setpoint to current position.



RXA0159783—UN—13JUN17

To activate the Automation feature, press Automation tab (G) then ON or OFF toggle button (H).

In Auto Mode, the scraper's blade position is initiated by moving SCV levers into extend or retract detent positions.

Any movement of the SCV control lever after automation is started will cancel the automation. Moving a SCV control back into detent will reactivate the automation.

CAUTION: Avoid personal injury or death. Moving scraper control unit, connectors, or linkages, when engine is running, may cause unexpected movement. Stay clear of implement when starting engine.

Tractor selective control valves (SCV I and/or SCV III) are used to electronically control raising, lowering, and setting of implement depth, without leaving the cab.



RXA0159786—UN—13JUN17

Control lever (J) is used to manually control SCV I and activate an automatic scraper control system.

Control lever (K) is used to manually control SCV III and activate a second automatic scraper control system.

RD47322,00002A6-19-25JUL17

Tracks - General Information

General Track Use Guidelines

IMPORTANT: Avoid track and track system component damage, pre-condition tracks.

- **Before driving tractor on road for first time, pre-condition tracks. See Perform Track Systems Break-In in Service-Break-In (100 Hours or Less) section in this Operator's Manual.**
- **Avoid traveling at high speeds with new set of tracks and wheels, especially during the first 50-100 hours.**

To extend drivetrain and track life, avoid excessive soil compaction, and reduce rolling resistance: avoid adding excessive ballast. Never add ballast that results in operating with heavy loads and with continuous full-power below 6.6 km/h (4.1 mph).

Trash build-up can cause fire from increased friction. Remove trash from trash build-up points between track and tractor frame.

Avoid operating track in grease, oil, or other petroleum chemicals. Avoid spilling these materials on track and wheels during service.

Maximizing Track Life

Track carcasses are designed to exceed tread wear out, so long as integrity of carcass is maintained. It is critical to keep moisture out of the steel carcass and to avoid situations where localized cable overloading could occur. Track machine owners are advised to follow these guidelines to achieve maximum track life and avoid operational problems, all of which results in lower cost per operating hour:

- **Minimize roading. Excessive roading can increase track wear up to 15 times field wear rates**
  - Minimize transport weight during road transport.
  - Reduce maximum travel speed especially during high ambient conditions.
- **Use correct operational techniques**
  - Avoid skidding and tread bar scrubbing on hard surfaces to reduce track wear.
  - Use care when crossing ditches or transitions while making turns. Diagonal crossing of ditches causes track to become unsupported in the center and with idler hitting opposite embankment, can cause momentary loss of tension that can drop center section down and outside drive or idler wheels, making derailing a much higher risk if in a turn.
  - Use ratchet-turn or bump steer technique. When turning at end of field, steering performance can be gained by turning in several small turns, returning to neutral position between each ratchet steer. This helps gain more traction and complete turn more efficiently and with less ground disturbance than by attempting to power and spin through turn.
- **Maintain correct track tension**
  - Under-tension causes rapid wear on tracks and inside surface of belt due to slippage and potentially cause material buildup.
  - Over-tension adds extra load and stress to undercarriage bearings, internal track cables, and track frame.
- **Keep irregular material out of tracks**

  Sharp hard material inside the track is primary reason for localized track tears and subsequent entry points for moisture into track carcass.

EC82310,000056C-19-19APR17

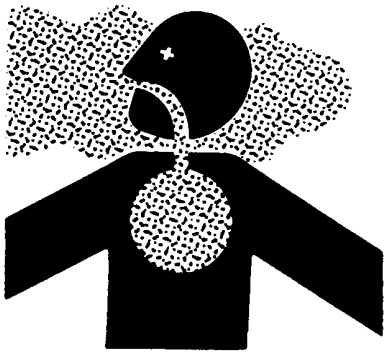
Tracks Service

Service information for track system is located in Service sections of this OM.

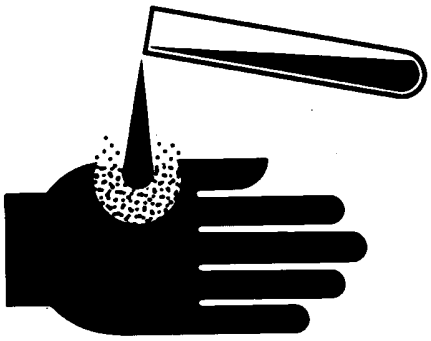
Service Task	See
Track Wear	Service — Check
Track Alignment	
Track Tension	
Drive and Idler Wheels, and Mid-Rollers	
Track Trash Buildup	
Mid-Rollers Oil Level	
Idler Wheel Hub Oil Level	
Drive Wheel, Idler Wheel, and Mid-Roller Cap Screws	Service — Tighten
Walking Beam Stop Bumpers	Service — Change
Track Tension Cylinder	Service — Lubricate

EC82310,000056D-19-19APR17

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

Clean Vehicle of Hazardous Pesticides

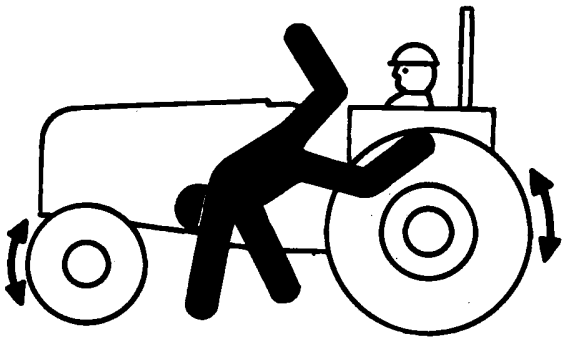
CAUTION: During application of hazardous pesticides, pesticide residue can build up on the inside or outside of the vehicle. Clean vehicle according to use instructions of hazardous pesticides.

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

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

DX,CABS2-19-24JUL01

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

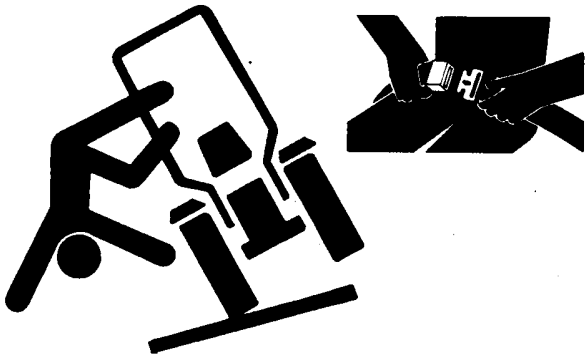
Keep Operator Station Window and Door Closed

CAUTION: Avoid undue exposure to noise and debris. Keep window and door closed during machine operation.

Properly close and latch door and rear window to prevent noise and debris from entering operator station.

RW29387,000004F-19-24FEB15

Use Seat Belts



TS205—UN—23AUG88



RXA0129149—UN—30OCT12

CAUTION: Minimize chance of possible injury from accident. Use seat belts (A) when operating tractor.

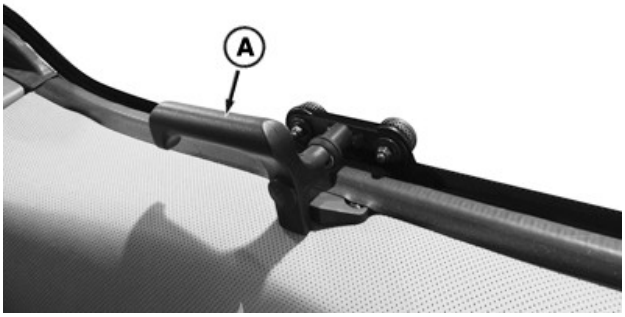
Instructional seat is provided only for training operators or diagnosing machine problems. Keep all other riders off tractor and equipment. Always wear seat belt.

Inspect seat belts and mounting hardware annually, see Seat Belts in Service - Check section of this Operator's Manual.

TS36762,0000235-19-06SEP17

Use Emergency Exit

Removable rear cab window provides large exit path if cab door is blocked in emergency situation.



RXA0148319—UN—04JUN15

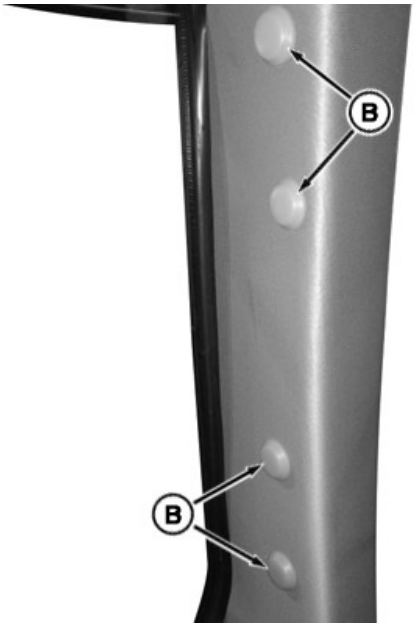
To open window, lift lever (A) and push out glass.

KT81203,000057F-19-27JUN17

Monitor Bracket Mounts



RXA0147009—UN—10MAR15

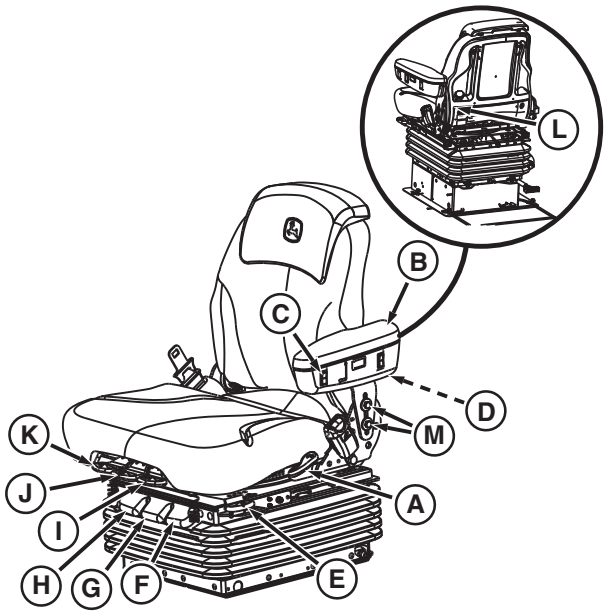


RXA0147010—UN—10MAR15

Front corner post mounting points (A) and rear corner post mounting points (B) are used to connect implement monitors to cab using M10 cap screws. See your John Deere dealer for brackets that utilize these mounting points.

TS36762,0000237-19-01SEP17

Adjust ComfortCommand™ Seat



RXA0151480—UN—17FEB16

A—Backrest Tilt Handle - Allows seat back to tilt.

B—Flip Up Armrest - Can be flipped up out of the way.

C—Height Adjustment Switch - Turn key to “ON”. Press lower portion of switch to lower seat or press upper portion of switch to raise seat.

D—Armrest Tilt Adjustment Knob - Turn knob to adjust armrest angle.

E—Fore/Aft Seat Adjustment Handle - Lift up on handle, move seat forward or backward, press handle back down to lock into place.

F—Fore/Aft Isolation Handle - Adjust lever to back setting, lock into place with locking lever. Seat will absorb shock impacts while tractor is in motion. Seat won’t move farther than 25 mm (1 in) in any direction.

G—Lateral Isolation Handle - Allows side to side movement of seat. Push down on handle to unlock lateral seat suspension. Pull up on handle to lock seat in position (seat must be centered).

H—Adjustment Damper Handle - Air suspension seat only. Controls amount of bounce operator feels while driving. Can be adjusted firmer to reduce amount of bounce.

I—Cushion Height Adjustment - Pull to adjust height of cushion up or down.

J—Seat Swivel Handle - Lift on handle to allow seat to swivel. Push down on handle to lock seat in position.

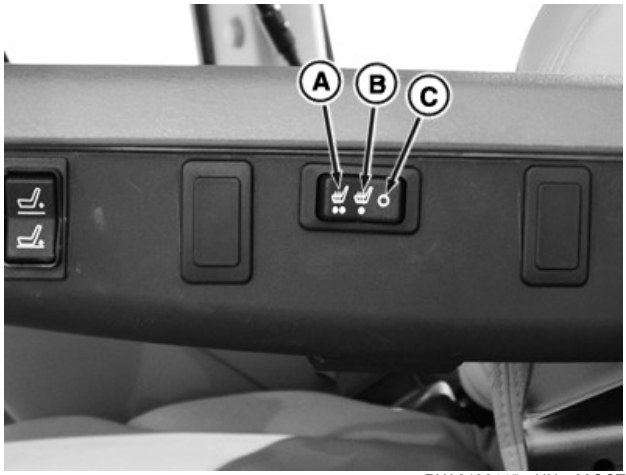
K—Fore/Aft Cushion Adjustment - Pull to adjust cushion forwards or backwards.

L—Lumbar Adjustment Knob - Turn knob clockwise to add support to lower back. Turn counterclockwise to lessen resistance to lower back.

M—Arm Rest Adjustment Cap Screws - Loosen cap screws to slide arm rest up or down. Retighten cap screws.

TS36762,0000238-19-21NOV16

Adjust Heated Leather Seat

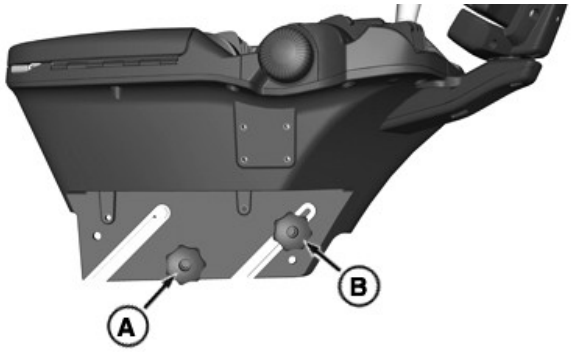


RXA0136445—UN—30OCT13

Heated seat provides increased comfort during cold days. Heat is controlled by left armrest switch. Three settings are available: Off (C), High (A), and Low (B). When tractor is shut off, seat also turns off, or after one hour of use heater automatically turns off.

TS36762,0000239-19-05JUL17

Adjust CommandARM™ Position



RXA0137805—UN—08JAN14

1. Turn CommandARM™ Height Adjustment Knob (A) and CommandArm™ Tilt and Height Adjustment Knob (B).

NOTE: Loosen both CommandARM™ Adjustment Knobs (A and B) to adjust height of CommandARM™.

2. By turning both knobs, CommandARM™ can slide at an angle to desired position.

CommandARM is a trademark of Deere & Company

3. Once proper position is attained, turn CommandARM™ Height Adjustment Knob to original position to lock.
4. Turn CommandARM™ Tilt Adjustment Knob (B) to adjust the angle of CommandARM™.
5. Once proper angle is attained, turn CommandARM™ Tilt Adjustment Knob to original position to lock.

TS36762,000023C-19-21NOV16

Operator Presence Sensor

CAUTION: Neither PTO nor SCV automatically disengage when system senses operator is out of seat.

Audible warning sounds if operator leaves seat with transmission in NEUTRAL position, PTO engaged or SCV left in detent flow position. After 5 seconds, audible warning sound will stop.

TS36762,000023D-19-21NOV16

Use Instructional Seat



RXA0107055—UN—01APR10

CAUTION: Instructional seat is provided only for training operators or diagnosing machine problems. Keep all other riders off tractor and equipment. Always wear seat belt (A).



RXA0107057—UN—03JUN10



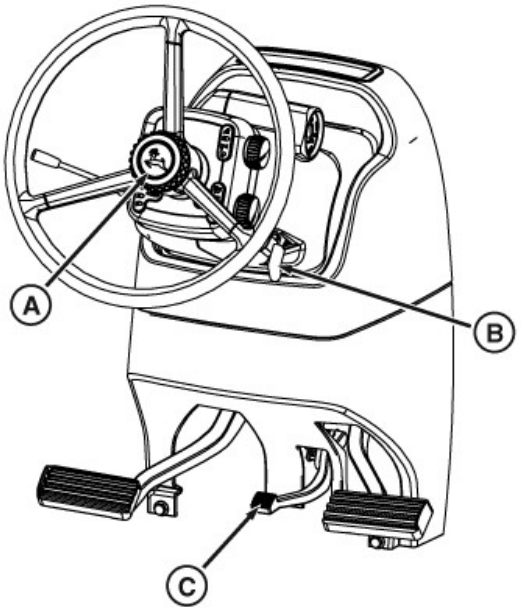
RXA0107061—UN—01APR10

Instructional seat back tilts forward to be used as writing surface (B). Seat flips up (C) to allow easier entrance and egress.

KT81203,000058D-19-06SEP17

Adjust Steering Wheel and Column

Steering wheel can be adjusted in or out, up or down to provide comfortable driving position. For improved entry or egress, entire steering column can be pivoted up, then returned to previously set position with single control.



RXA0133769—UN—29JUL13

Telescope: Rotate telescope knob (A) counterclockwise. Extend or retract steering wheel to desired position. Rotate knob clockwise to lock.

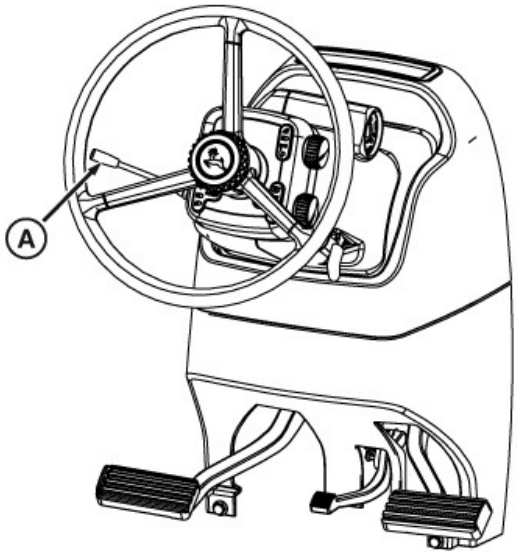
Memory: Push down on column pedal (C). Fully raise steering column. Release pedal to latch column at top of travel.

Push down on column pedal, latch releases. Lower steering wheel to previous tilt setting.

Tilt: Pull up on tilt lever (B) and move steering column to desired position. Release lever to lock.

LT63082,00000D4-19-26JUN17

Operate Horn

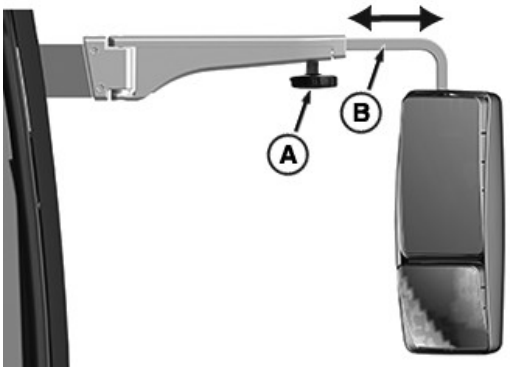


RXA0134346—UN—29JUL13

Push in on end of turn signal lever (A) to sound horn.

TO84419,000000D-19-26JUN17

Manual Mirror



RXA0156208—UN—15DEC16

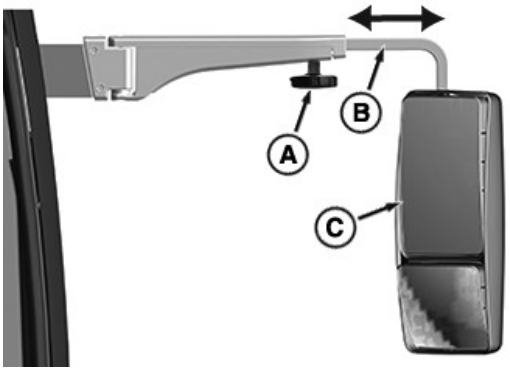
Right-Hand Manual Mirror

Loosen mirror arm locking knob (A) and slide mirror arm (B) to desired position. Securely tighten locking knob when adjustment is complete. Push on mirror to move surface into desired position.

After adjustment, use soft cloth to wipe any smudges off mirror face.

TS36762,0000241-19-26JUN17

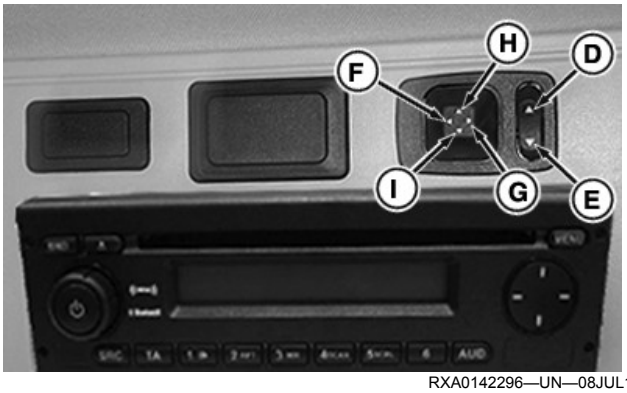
Electric Mirror



RXA0156209—UN—15DEC16

Right-Hand Electric Rear-view Mirror

1. Loosen mirror arm adjustment knob (A).
2. Slide mirror arm (B) to desired position.
3. Tighten mirror arm adjustment knob.

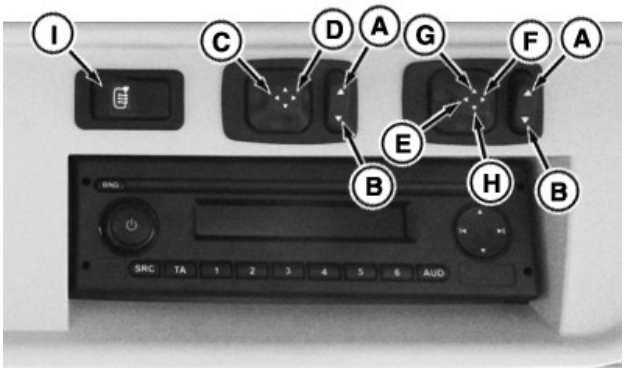


RXA0142296—UN—08JUL14

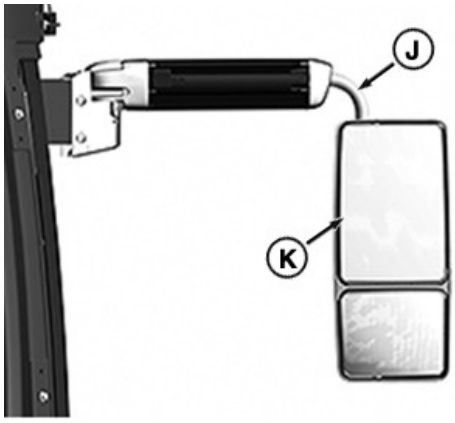
4. Select right (D) or left (E) mirror.
5. Push adjustment switch to angle mirror (C) left (F) or right (G).
6. Push adjustment switch to tilt mirror up (H) or down (I).

TS36762,0000242-19-26JUN17

Telescoping Heated Electric Mirror



RXA0142300—UN—09JUN14



RXA0156210—UN—15DEC16

Right-Hand Telescoping Electric Rear-view Mirror

1. Select right (A) or left (B) mirror (K).
2. Push adjustment switch to extend (C) or retract (D) telescoping arm (J).
3. Push adjustment switch to tilt mirror up (G) or down (H).

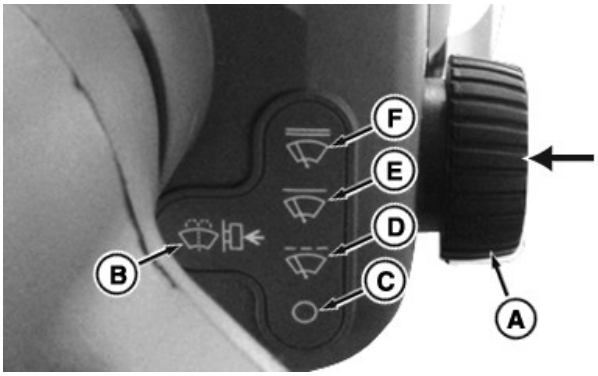
4. Push adjustment switch to angle mirror left (E) or right (F)

Press heating switch (I) to turn mirror heating on or off. When heat is on, switch is illuminated. Heating will continue until it is switched off or key switch is turned OFF. If heating switch is not manually turned off, mirror heating will restart when key switch is turned to accessory or ON position.

TS36762,0000243-19-05JUL17

Wiper Washer

Operate Front Wiper and Washer



RXA0142299—UN—09JUN14

Wiper/washer knob (A) has four positions:

- OFF (C)
- Intermittent Operation (D)
- Slow Speed (E)
- Fast Speed (F)

Push knob in towards steering column to operate front washer (B).

NOTE: Front washer reservoir also supplies rear and right-hand wipers and washers (if equipped).

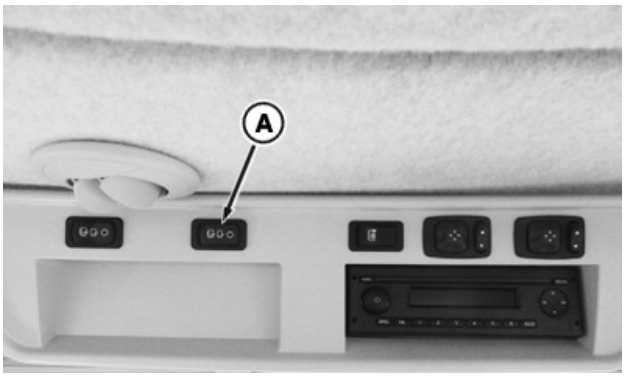


RXA0135724—UN—25SEP13

Front washer reservoir (G) is attached to inside of step platform. Fill reservoir with washer fluid. In cold climates fill with non-freezing windshield washer fluid.

GH15097,00003CA-19-26JUN17

Operate Rear Wiper and Washer



RXA0142297—UN—09JUN14

Switch (A) has three positions:

Right—OFF position.

Center—ON position. Rear wiper is activated.

Left—Rear window washer ON when switch is held. Release switch to turn OFF rear window washer.

TS36762,0000247-19-22NOV16

Operate Right-Hand Wiper and Washer



RXA0142353—UN—09JUN14

Switch (A) has three positions:

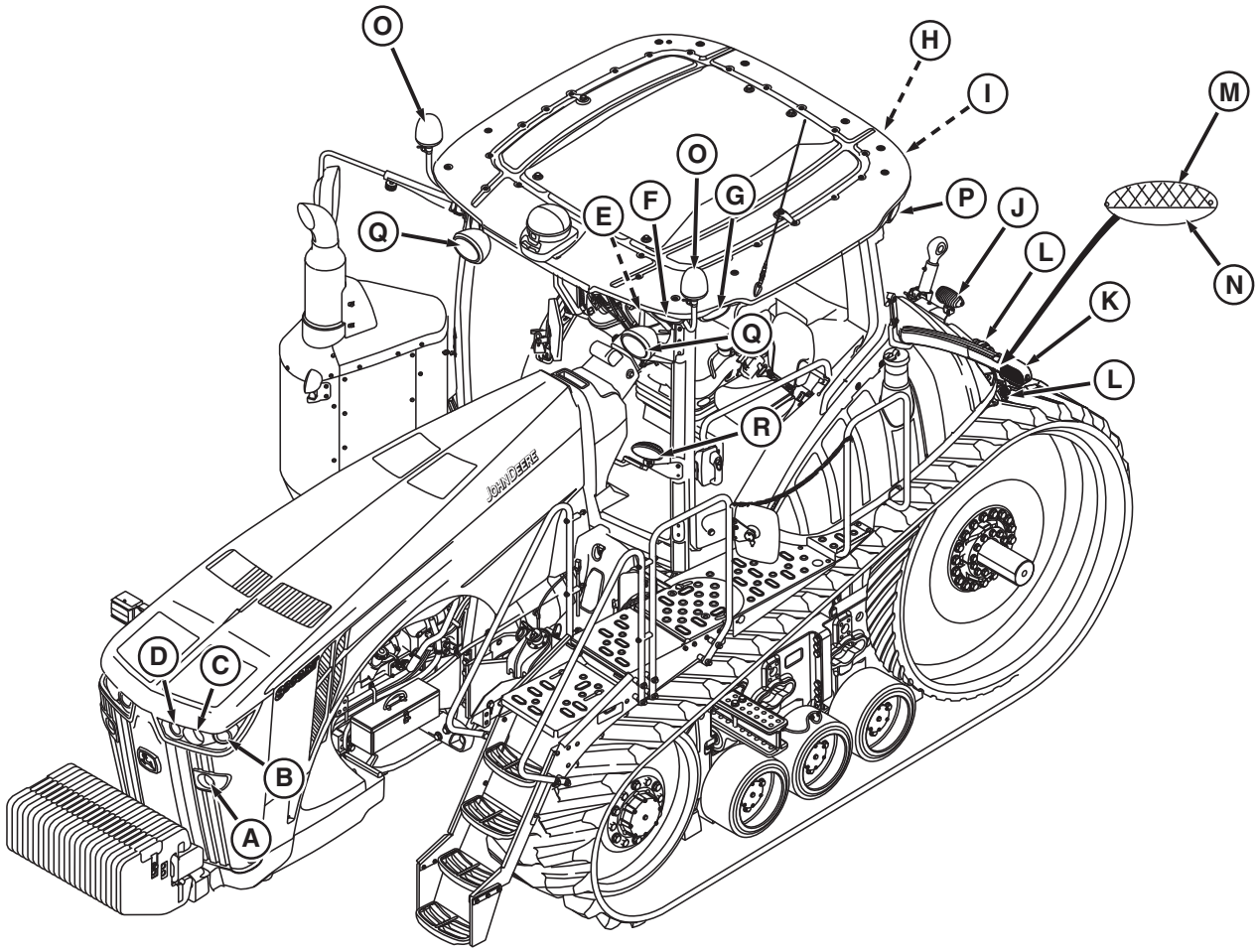
Right—OFF position.

Center—ON position. Right-hand wiper is activated.

Left—Right-hand window washer ON when switch is held. Release switch to turn OFF right-hand window washer.

TS36762,0000248-19-22NOV16

Light Identification



RXA0132439—UN—22SEP15

A— Road Lights (Low Beam)
B— Outer Hood Lights
C— Road Lights (High Beam)
D— Inner Hood Lights (If Equipped)
E— Front Inner Roof Lights
F— Front Outer Roof Indicator Lights (Amber)
G— Front Side Roof Lights
H— Rear Inner Roof Light
I— Rear Outer Roof Indicator Lights (Amber)
J— Rear Fender Lights
K— Extremity Indicator Lights
L— Rear Fender Tail/Brake/Indicator Lights
M— Amber Lens
N— Red Lens
O— Rotary Beacon Lights (If Equipped)
P— Rear Side Roof Lights
Q— Loader/Road Lights (Low and High Beam)
R— Beltline Lights

All lights are same for left and right side of tractor.

White lights are any exterior tractor lights that do not have colored lenses/bulbs.

Lights are configured on CommandCenter™ light page. See Configurable Lights in this section of this Operator's Manual.

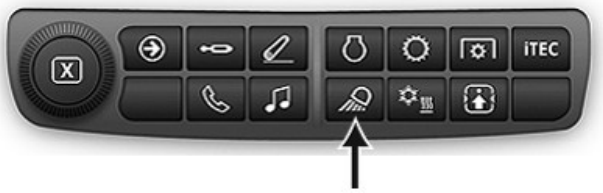
LT63082,00000C6-19-14AUG17

CommandCenter is a trademark of Deere & Company

Configurable Lights

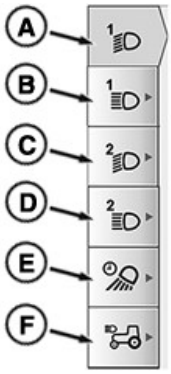
CAUTION: Avoid injury or death caused by collision with another vehicle. Follow local laws and regulations for equipment lighting and marking. Comply with all traffic regulations.

Dim road lights to low-beam for oncoming vehicles. Avoid using field lights on public roadways or highways which could temporarily blind or confuse other drivers. Promptly replace or repair damaged or lost lighting devices. See your John Deere dealer.



RXA0133717—UN—16JUL13

To access Lights page, press **Lights Shortcut Button on Navigation Bar.**



RXA0137115—UN—05DEC13

A—Field 1 Low Beam
B—Field 1 High Beam
C—Field 2 Low Beam
D—Field 2 High Beam
E—Exit Lighting
F—Hood/Belt Line Light (If Equipped)

When page is displayed, operator can select left side tabs (A-F).

NOTE: Page temporarily shows when selector knob transitions from OFF position to road lights or field lights position.



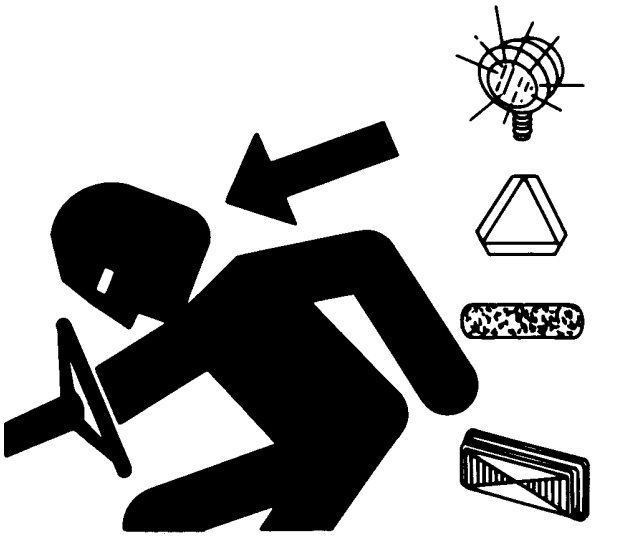
RXA0137114—UN—05DEC13

Light configuration buttons:

G—Linked Lights: Lights linked or paired together that can be unlinked.
H—Unlinked Lights: Unlinked light pair that can be linked.
I—Paired Lights: Light pair that is always linked.
J—Exit Light Timeout: Allows operator to select how long selected lights remain ON after light selector knob is turned to OFF position.
K—Link/Unlink: Press toggle to link and unlink lights on all pages.
L—Hood/Loader Road Light Toggle: Press to toggle road lights between hood and loader lights position. Feature is only available when light knob is in road mode and tractor is equipped with hood/beltline lights.
M—Implement Lights: Press to activate implement lights. Implement light button only available if there are no fender work lights. If there are fender work lights, implement lights will be controlled by fender work lights button.
N—Light with Fault: Exclamation point indicates light is in error. (i.e. light bulb is burnt out.)

TS36762,000024A-19-16MAY17

Steering Column Light Controls

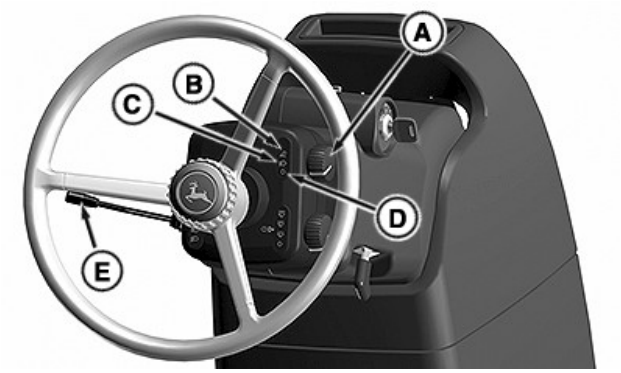


TS951—UN—12APR90

CAUTION: Avoid injury or death caused by collision with another vehicle. Follow local laws and regulations for equipment lighting and marking. Comply with all traffic regulations.

Use headlights and turn signals day and night. Dim road lights to low-beam for oncoming vehicles. Avoid using field lights on public roadways or highways which could temporarily blind or confuse other drivers. Frequently check for traffic from rear, especially in turns. Keep lighting and marking visible, clean and in good working order. Promptly replace or repair damaged or lost lighting devices. See your John Deere dealer.

Light Selector Knob



RXA0155918—UN—23NOV16

Control lights using light selector knob (A) on steering column. Display indicates selected lighting mode:

- Field Lights Position (B)
- Road Lights Position (C)
- OFF Position (D)

Turn Signal

Pull lever (E) up for right turn or down for left turn. Return lever to center position after completing turn.

A short audible chirping sound is heard when turn signal is activated.

High-Low Beam

Push lever (E) forward to activate high beam headlights; high beam indicator comes on. Dim lights to low beam for oncoming vehicles. Return lever to center position to operate low beam. Pull lever rearward and release to momentarily activate high beams.

KT81203,0000493-19-06SEP17

Exit Lights

Programming exit lighting allows operator to select which road/flood lights will remain on and for how long they will remain on after light selector knob is turned to OFF position.

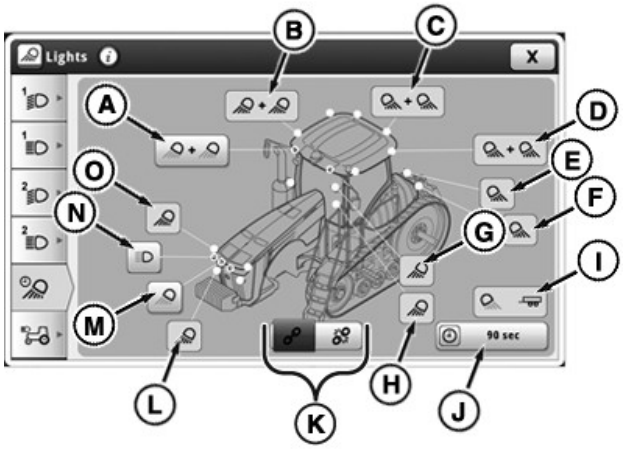
Field exit lighting is all lights chosen on exit lighting page and will be activated for time selected for Exit Timeout. Field exit lighting will be enabled when light switch has been in “Field” position for at least 10 seconds during current key switch cycle. Field exit lighting will then be activated when light switch and key switch are turned off. The order which the light switch and key switch are turned off do not matter.

Road exit lighting is the low beam road lights only and will be activated for time selected for Exit Timeout. Road exit lighting will be enabled when light switch has been in “Road” position for at least 10 seconds during the current key switch cycle. Road exit lighting will then be activated when light switch and key switch are turned off. The order which the light switch and key switch are turned off do not matter.



RXA0147935—UN—13APR15

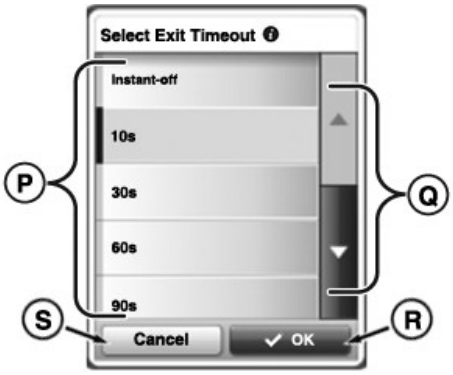
1. Select **Menu.**
2. Select **Machine Settings tab**.
3. Select **Lighting icon**
4. Select **Exit Lighting tab**



RXA0143010—UN—25JUN14

A—Front Inner Roof Lights Button
B—Front Side Roof Lights Button
C—Rear Inner Roof Lights Button
D—Rear Side Roof Lights Button
E—Rear Fender Lights Button
F—Rear Fender Tail/Brake/Indicator Lights Button
G—Loader/Road Light Button
H—Beltline Lights Button
I—Implement Lights Button
J—Exit Light Timeout Button
K—Link/Unlink Toggle
L—Low Beam Road Lights Button
M—Inner Hood Button
N—High Beam Road Lights Button
O—Outer Hood Button

5. Lights page becomes Exit Lights selection page.
6. Select desired lights and deselect unwanted lights. Use Link/Unlink Toggle (K) if operator wishes to select a set (link) or only select the right or left light in a set (unlink) where applicable. Lights E-H and L-O are always grouped with no option to select only right or left light.
7. Select Exit Light Timeout button (J).



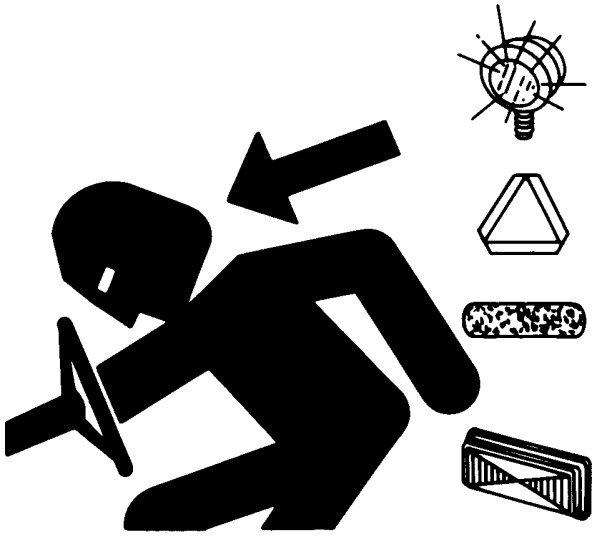
RXA0137118—UN—05DEC13

P—Time Selection Interval List
Q—Scroll Bar
R—OK Button
S—Cancel Button

8. When options appear, select desired time intervals (P) before lights automatically turn OFF and select OK Button (R).

SV81855,0000052-19-28JUN17

Operate Turn Signals and High/Low Beam



TS951—UN—12APR90

CAUTION: 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 rear, especially in turns, and use turn signal lights.

Use headlights 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. See your John Deere dealer.

NOTE: When turn signal is activated, a short audible chirping sound will be heard.

Turn Signals:



RXA0135292—UN—04SEP13

Push Turn Signal Lever (A) up for right turn, or pull down for left turn. Audible chirping sound will start. Return lever to center position after completing turn, chirping sound will stop when lever is returned to position.

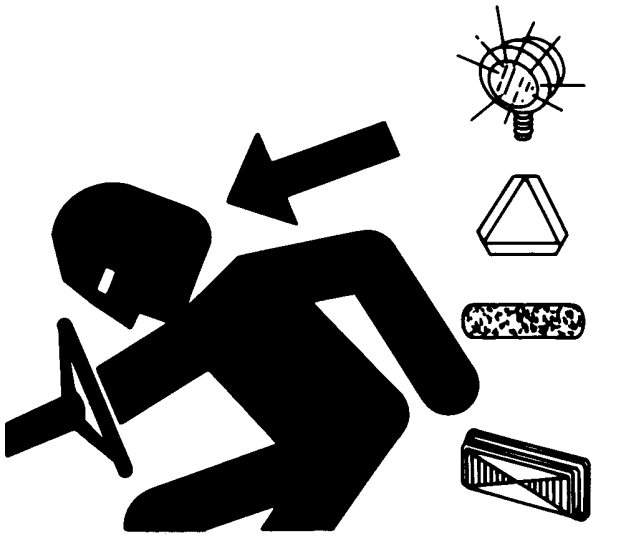
High/Low Beam:

Push lever (A) forward to activate high beam headlights; high beam indicator comes on. Pull lever into center position to operate low beam. Pull lever rearward and release to momentarily activate high beams.

Dim Road Lights to low beam for oncoming vehicles.

SV81855,0000053-19-28AUG17

Safety Lights and Devices



TS951—UN—12APR90

CAUTION: Avoid injury or death caused by collision with another vehicle, always operate flashing lights when traveling on highway or public roads, except where prohibited by law.

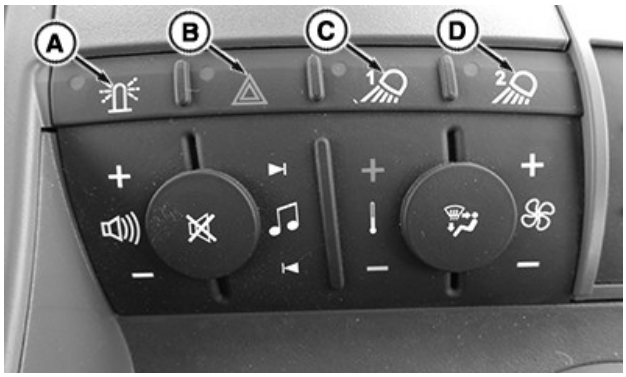
Always use road lights and transport warning lights when operating tractor on road or highway day or night. Extremity Transport Lights alert other vehicles of your extended width. Use flashing warning lights and turn signals day and night. Follow local laws and regulations for equipment lighting and marking.

While operating tractor on public roadways or highways, day or night:

- Turn on flashing warning lights, except where prohibited by law.
- Turn on headlights by selecting the Road Lights Position of the Light Selector Knob..
- Dim headlights for oncoming vehicles.
- Frequently check for traffic approaching from rear.
- Always use turn signals when turning.
- DO NOT use the Field Light Position of the Light Selector Knob. Extremely bright lights may blind or confuse other drivers.
- Make sure Slow Moving Vehicle (SMV) emblem is installed and visible.
- Make sure all lighting and marking devices are functional and clean.
- Comply with all traffic regulations.
- Promptly replace or repair damaged or lost lighting devices. Implement lighting kit is available from your John Deere dealer.

TS36762,000024E-19-06SEP17

CommandARM™ Light Buttons



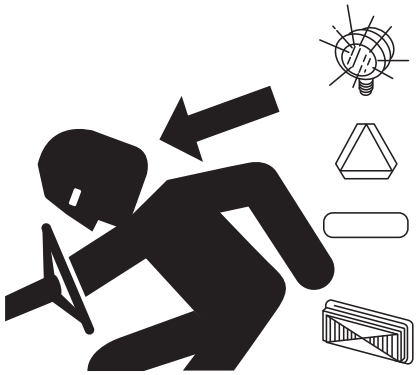
RXA0152426—UN—14JUN16

NOTE: Field Lights must be adjusted using the Generation 4 CommandCenter™ display.

Control beacon lights (A), hazard lights (B), and field lights (C or D) from the CommandARM™ rather than from display screens. When lights are on, an appropriate indicator is illuminated.

TS36762,000024F-19-22NOV16

Hazard Lights and Extremity Warning Lights



RXA0086584—UN—09FEB06

CAUTION: To prevent possible personal injury, always operate flashing lights when traveling on a highway or public roads, except where prohibited by law.

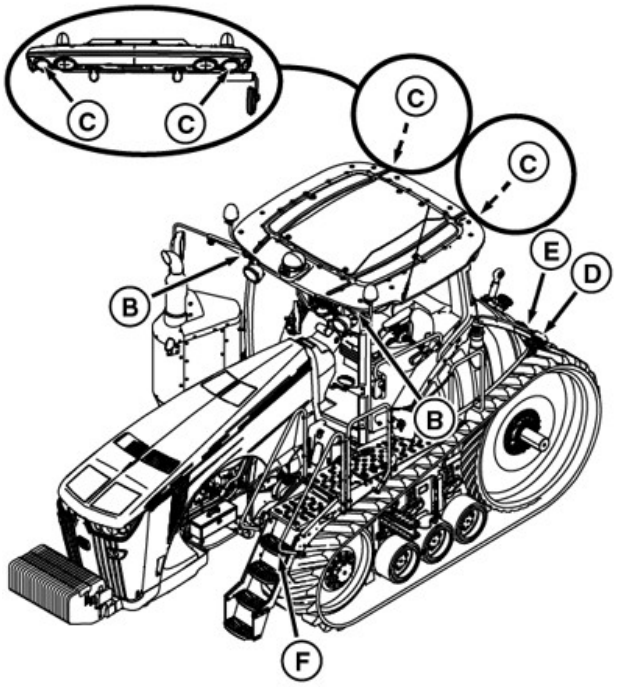
Extremity Warning lights (D) are needed when tractor width exceeds 3.7 m (12 ft). Always use road lights and extremity warning lights when operating tractor on a road or highway at night OR during the day. Extremity Warning lights alert other vehicles of your extended width. Use flashing warning lights and turn signals day and night. Follow local laws and regulations for equipment lighting and marking.

CommandCenter is a trademark of Deere & Company
CommandARM is a trademark of Deere & Company

NOTE: Depending on region and installed equipment lights (B, C, D, E and F) may not all be available as indicator lights when the Hazard Light button is activated.



RXA0156107—UN—09DEC16



RXA0143779—UN—23JUL14

B—Front Outer Roof Lights
C—Rear Roof Lights
D—Extremity Warning Lights
E—Rear Fender Indicator Lights With Amber Lens
F—Front Clearance and Indicator Lights

Push Hazard Light button (A) to activate flashing amber hazard lights (B, C, D, E and F).

IMPORTANT: To avoid damage, extremity warning lights may be retracted when parking tractor in storage building.

Extremity Warning lights operate with Hazard Light button ”ON”.

Adjust Extremity Warning lights no more than 400 mm (16 in.) from widest point of tractor.

SV81855,0000076-19-26JUN17

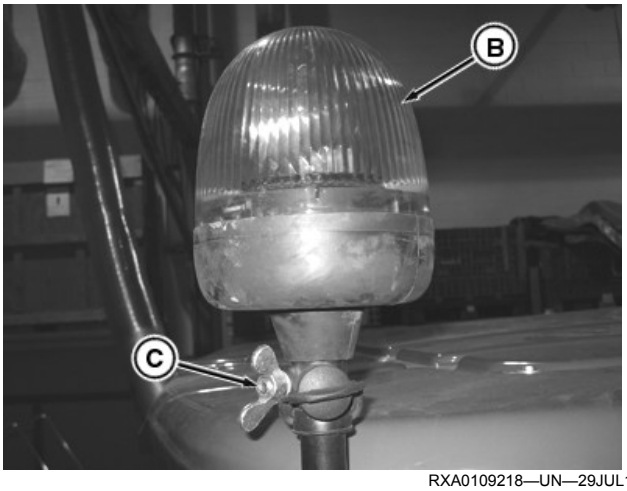
Rotary Beacon Light

NOTE: If Rotary Beacon light is not installed and Rotary Beacon switch is activated, a Rotary Beacon Diagnostic Trouble Code (DTC) will be generated.



RXA0156108—UN—09DEC16

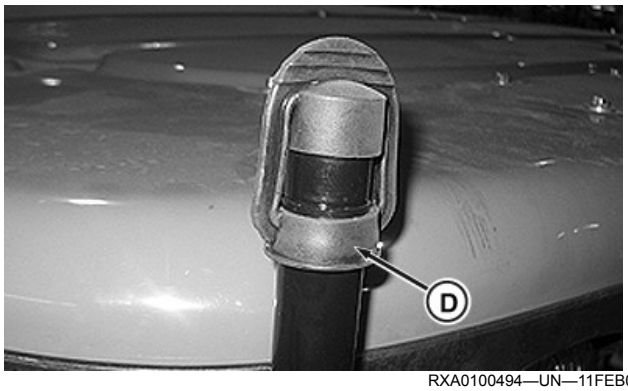
Push Rotary Beacon switch (A) to activate Rotary Beacon light.



RXA0109218—UN—29JUL10

When not used for extended periods of time, remove and safely store Rotary Beacon light (B):

1. Loosen nut (C) and remove light assembly.



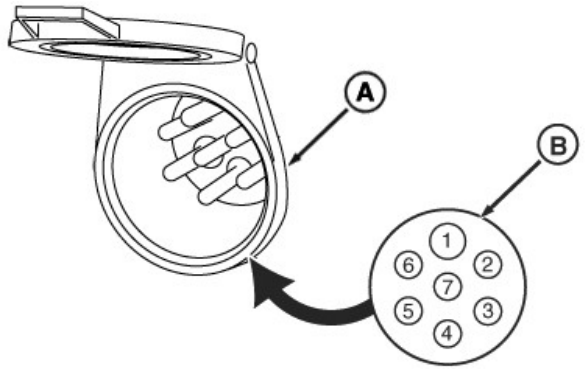
RXA0100494—UN—11FEB09

2. Install rubber protective cap (D) on connector.

TS36762,0000251-19-12DEC16

7-Pin Outlet

CAUTION: Avoid accidents. Always use auxiliary light on towed implement when tractor rear signals and other lights are obscured.



RXA0126196—UN—05JUN12

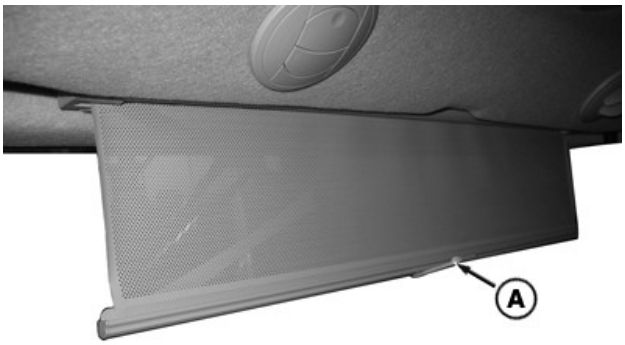
Rear-mounted 7-pin outlet (A) is used to connect lights, turn signals and other remote trailer or implement electrical equipment to tractor electrical system. Chart and image identify connector pin numbers and circuits associated with them. Matching 7-pin plug is available through your John Deere dealer.

Terminal Numbers (B)	Function	
	Rear Connection	Front Connection
1	Ground	
2	Flood (Implement Lights)	
3	Left Turn Signal	
4	Brake Lights	Not Used
5	Right Turn Signal	
6	Tail Light	
7	Accessory	Not Used

Contact your John Deere dealer for information regarding methods to connect tractor light switch with 7-pin connector accessory wires.

KT81203,000058F-19-28JUN17

Pull-Down Sunshade

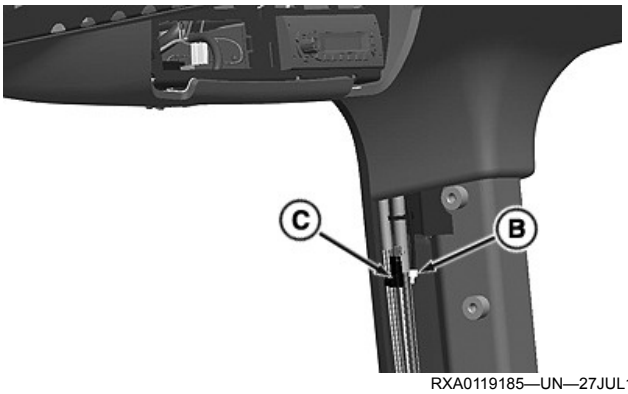


RXA0133298—UN—25JUN13

Pull-down sunshade (A) reduces glare when operating in bright sunlight. The pull-down sunshade allows operator flexibility in amount of window coverage.

TS36762,0000253-19-05SEP17

Install Business Band or Citizens Band (CB) Radio and Antenna



RXA0119185—UN—27JUL11

Antenna Coaxial Cable And Business Band Radio Power/ Ground Plug Coiled Behind Right Rear Corner Post Cover

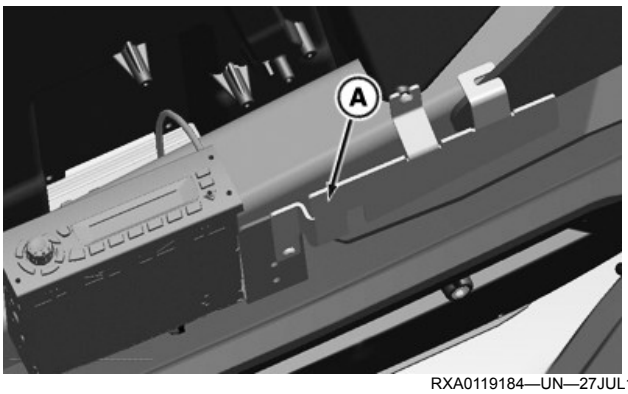
B—Antenna Coaxial Cable
C—Business Band Radio Power/Ground Cable

CAUTION: Never mount business band radio antenna to rear of cab. Never route antenna cable (B) near harness for electrical system controllers or operator controls. Failure to follow these precautions could expose operator to radio frequency energy levels higher than recommended by American National Standards Institute (ANSI) and/or could cause undesirable performance of electronically controlled systems.

Avoid personal injury. Disconnect battery ground cable before any electrical repair.

IMPORTANT: Final Tier 4/Stage IV Engines Only: To determine tractor engine type, see Engine Serial Number in Identification Numbers section of this Operator's Manual. Do not disconnect battery until Selective Catalytic Reduction (SCR) system has had enough time to automatically purge system of Diesel Exhaust Fluid (DEF). If adequate time is not allowed for system to be purged, any DEF remaining can crystallize and plug system. At temperatures below -15°C (5°F), unpurged DEF freezes and damages system components. If equipped with a battery disconnect system, a light next to the disconnect system is illuminated while auto-purge is in progress. It shuts off when complete and safe to disconnect the battery.

If tractor is not equipped with battery disconnect switch, wait at least 4 minutes after tractor stops before disconnecting battery.



RXA0119184—UN—27JUL11

Business Band Radio Bracket—Headliner Removed To Show Location

NOTE: Only tractors equipped with Business Band Radio Mounting and Wiring Option from factory have business band bracket (A) behind headliner and antenna cables behind right rear corner post cover. See your John Deere dealer for Business Band Radio and Antenna Installation Instructions.

Custom Installation

Custom CB or Business Band radio installation requires special tools and skills to tune antenna for lowest possible VSWR (Voltage Standing Wave Ratio). Qualified professional should be employed or consulted before attempting installation. Contact your John Deere dealer for recommendations. Following specifications are useful to installer.

Specifications for Factory Installed Radio Installation Kit

- Roof Antenna Mount: NMO type.
- Cable Specifications: Cable length is 3.6 m (11.8 ft) from antenna mount to PL-259 radio connector. RG-58/U cable has 50 ohms intrinsic impedance.
- Roof Ground Plane: Grounded large antenna

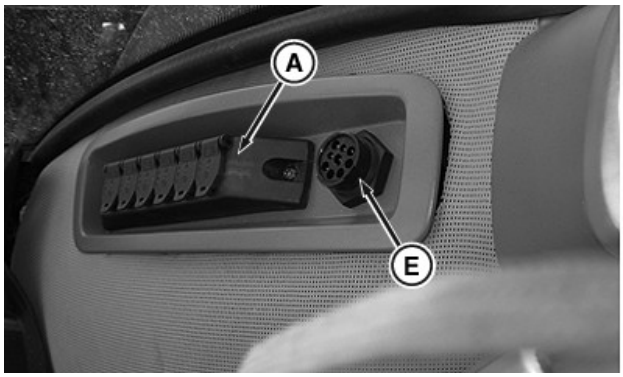
counterpoise foil under green cab roof allows installation of either 1/4 or 1/2 wave antenna.

- CB Antenna: Normal CB antenna can be attached to factory installed NMO antenna mount through use of an appropriate adapter. Special CB antenna already equipped with NMO base may alternatively be used.

TS36762,0000254-19-18DEC17

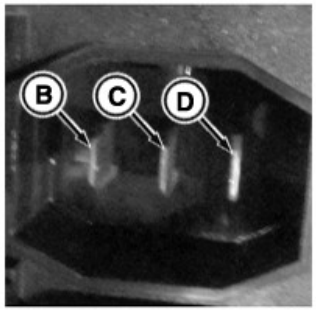
Auxiliary Power Strip Use

IMPORTANT: Power strip is not surge suppressor. Electrical equipment with program memory requires protection from damage of electrical surges and spikes.



RXA0099078—UN—25FEB09

A—Auxiliary Power Strip
E—Diagnostic Connector (DEALER USE ONLY)



RXA0131998—UN—06MAY13

B—Battery (Unswitched)
C—Ground
D—Battery (Switched)

Power strip (A) provides six 12 volt grounded power outlets for use connecting auxiliary equipment. This power is 30 amp switched and 30 amp unswitched. Outlets are protected by a 30 amp fuse.

Various adapters are available from your John Deere dealer.

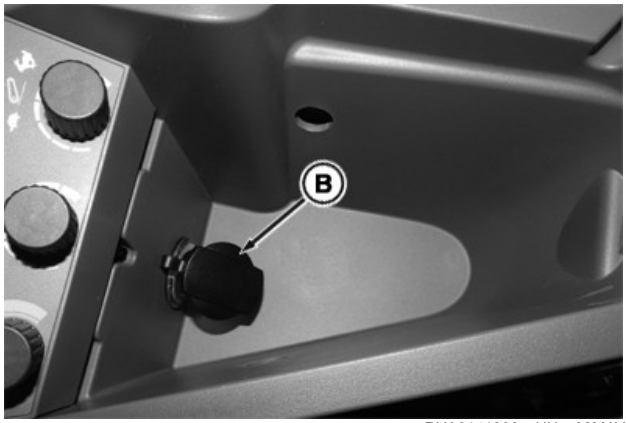
Adapters plug directly into power strip. To change to switched power on adapter, remove small tab at end of slot on plug and rotate plug 180°.

TS36762,0000255-19-29NOV16

Accessory Electrical Outlet Use

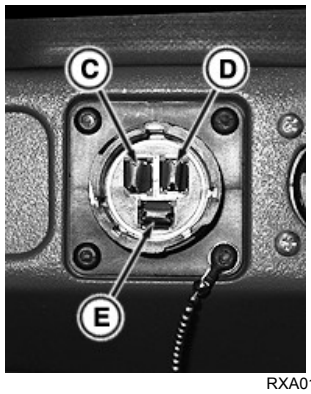


RXA0159796—UN—13JUN17



RXA0141390—UN—02MAY14

12 volt accessory outlets (A) located on right-hand console or outlet (B) in storage box are used when connecting auxiliary equipment.



RXA0141391—UN—02MAY14

Pin (D) provides battery power (hot), pin (C) provides (key) switched power and pin (E) provides ground. For additional information on connections, see appropriate auxiliary equipment installation instructions or your John Deere dealer.

KD34109,00006AD-19-06SEP17

Connect Compatible Electronic Equipment



RXA0134922—UN—06SEP13

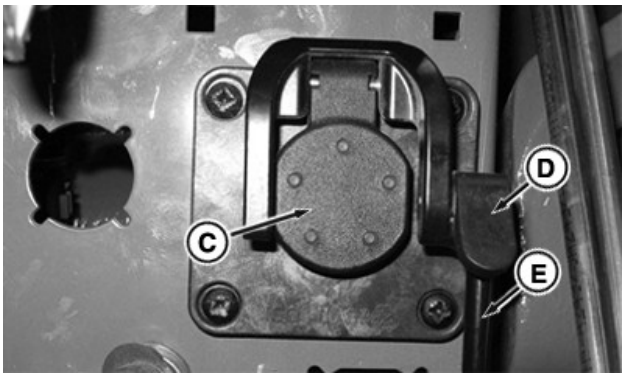


RXA0147008—UN—10MAR15

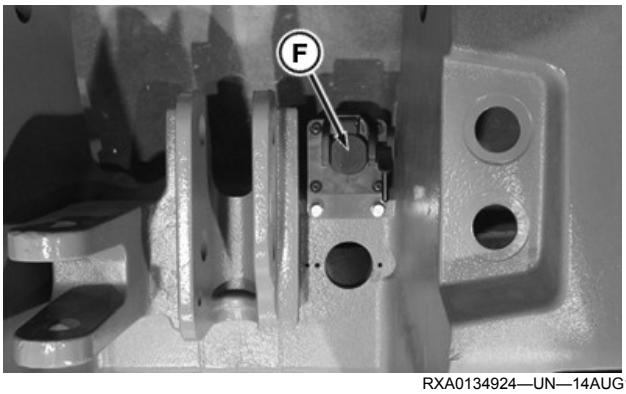
Tractor is ISOBUS ready and offer connections for implements conforming to both ISO 11786 and 11783 (G) standards. ISO 11786 connector (A) provides radar or GPS speed signal. See Configure Tractor for GPS or Radar in this Operator's Manual section.

GreenStar™ corner post connector (B) allows any GreenStar™ display connection. See your John Deere dealer for compatible adapter harnesses.

IMPORTANT: Use ISO 11783 connector only with ISO 11783 compliant components. Other uses could damage tractor electronic components.



RXA0134921—UN—07MAR14



RXA0134924—UN—14AUG13

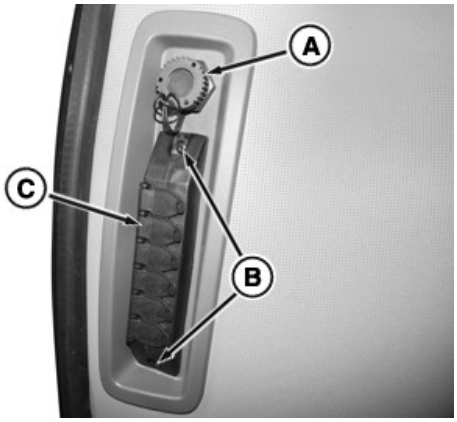
ISOBUS ready preparation includes ISO 11783 connector, on right-hand console, and implement connector (F or C) on tractor front (if equipped) or rear, facilitating tractor/implement communications.

Lift handle (E) to open cover and connect implement harness. Lift the release (D) when disconnecting implement harness from connector (C) on rear of tractor.

TS36762,0000256-19-08NOV17

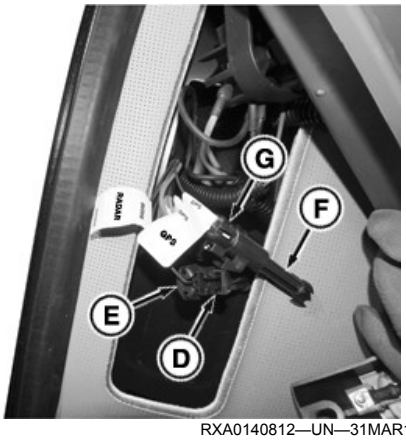
Configure Tractor for GPS or Radar

Tractor comes from factory configured to use radar as ground speed input. To reconfigure tractor to use GPS as the true ground speed input:



RXA0140811—UN—31MAR14

1. Remove diagnostic connector cap (A) and retaining nut.
2. Remove retaining screws (B) and remove auxiliary power strip (C) (if equipped) with cover plate.
3. Inside right-hand console locate one wire lead marked radar and one marked GPS.



RXA0140812—UN—31MAR14



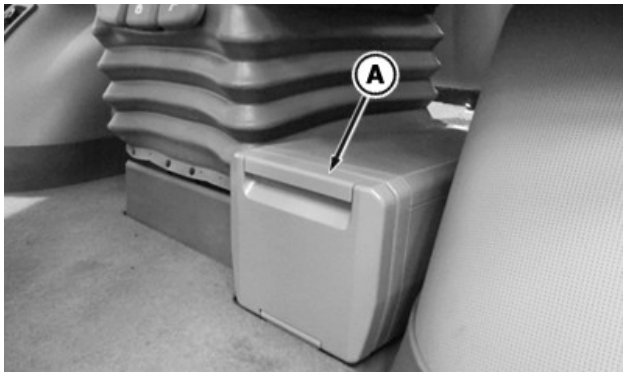
RXA0140813—UN—31MAR14

4. On tractors equipped with radar, disconnect tractor harness connector (D) from radar connector (E). Then, proceed to step 6.
5. On tractors not equipped with radar, locate wire lead marked GPS and proceed to step 6.
6. Remove dust cap (F) from GPS connector (G).
7. Attach GPS connector to tractor harness connector.
8. Install (or leave installed) dust cap on radar connector
9. Reinstall auxiliary power strip with cover plate.
10. Reinstall diagnostic connector through cover, install cap tether and tighten nut.
11. Reinstall power strip cover retaining screws and attach diagnostic connector cap.

To connect from GPS to radar input, disconnect GPS connector and reconnect radar connector. To perform radar calibration, refer to Maintenance & Calibrations in CommandCenter™ section of this Operator's Manual.

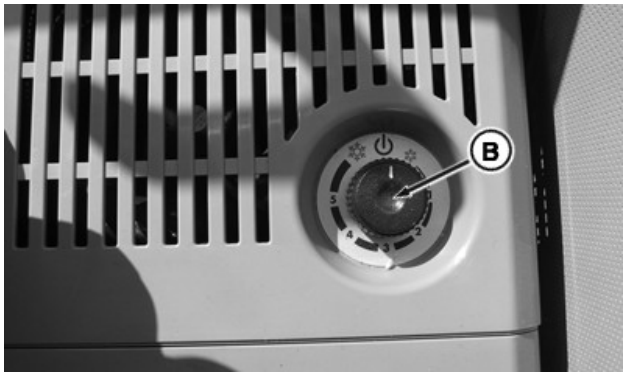
TS36762,0000257-19-02OCT17

Refrigerator or Storage Space



RXA0134926—UN—15AUG13

Refrigerator (A) only works when key switch is in RUN or accessory position.



RXA0134923—UN—14AUG13

Adjust refrigerator temperature with control knob (B). Settings are from off to 5, with 5 being the coldest temperature possible.

If refrigerator is not installed, a covered storage space is available.

TS36762,0000258-19-22NOV16

CommandCenter is a trademark of Deere & Company

Climate Controls

For more information, see CommandARM™ Climate, Radio and Lighting Controls in CommandARM™ Controls section of the Operator's Manual.

KT81203,0000515-19-30JAN17

HVAC Settings—Generation 4 CommandCenter™



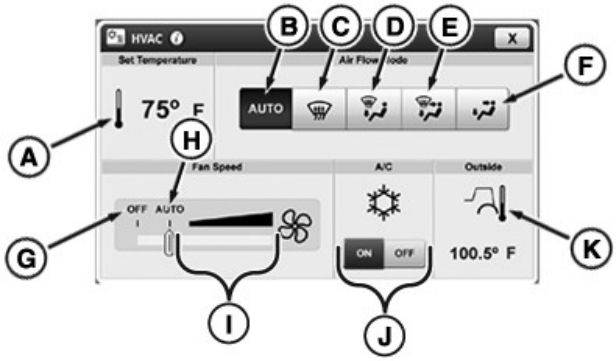
RXA0133716—UN—16JUL13

To access the main page, use HVAC Shortcut Button on Navigation Bar or follow alternative path:

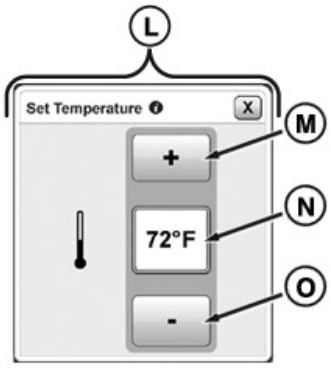


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1. Select **Menu.**
2. Select **Machine Settings tab.**
3. Select **HVAC (Heating, Ventilation, and Air Conditioning) icon.**



RXA0133683—UN—19JUL13



RXA0133684—UN—19JUL13

A—Set Temperature Module: Select to access Set Temperature page (L).
B—Auto Air Flow Toggle: Select for air flow to be automatically adjusted.
C—Defrost Toggle: Select to activate defrost.
D—Defrost and Floor Toggle: Select to activate defrost and floor vents.
E—Defrost, Floor and Cab Toggle: Select to activate defrost, floor, and cab vents.
F—Cab and Floor Toggle: Select to activate floor and cab vents.
G—Fan OFF: Move slide bar to OFF position to turn fan off.
H—Fan AUTO: Adjust slide bar to AUTO position to have fan speed automatically adjust to maintain set temperature.
I—Fan Increment Bar: Use to adjust fan speed. As slide moves right, fan speed increases. As slide moves left, fan speed decreases.

IMPORTANT: If system is not cooling properly, turn air conditioning switch off to avoid possible compressor damage.

J—A/C Toggle: Use to turn A/C ON or OFF.
K—Outside Temperature Module: Displays the temperature outside of the cab.
L—Set Temperature Page: Page used to adjust cab temperature.
M—Increase Button: Select to increase temperature in cab.
N—Display Temperature Box: Displays the temperature setting.
O—Decrease Button: Select to decrease temperature in cab.

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Performance Ballasting

General Ballasting Information

Attaining Optimum Performance

BEFORE adding ballast to your tractor, consider these important factors to attain optimum performance:

- Total tractor weight and static weight split (percent of static weight on front and rear)
- Type of operation
- Type of tractor and implement set-up

Correct Track Size

Wide tracks with wide tread settings provide the best tractor stability, steering performance, and overall tractive efficiency. Narrow tracks may be necessary for narrow row spacing, but when performing seed bed preparation and fall tillage, setting tracks out to a wider tread spacing will improve steering and tractive performance.

Selecting Ballast Carefully

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
- Track—size and tread spacing

Within reason pulling a lighter load at a higher speed is typically more economical and more efficient than pulling heavier loads at a lower speed.

Too Little Ballast	Too Much Ballast
Excessive slip	Soil compaction
Track wear	Power loss
Fuel waste	Increased load
Lower productivity	Fuel waste
	Lower productivity

Ballast Limitations

IMPORTANT: Tractor weight exceeding heavy ballast limits should be avoided and may void the warranty due to ”overload” conditions.

Machine weight should be limited to a maximum tractor weight, including added ballast, of 17690 kg (39000 lb.). This should be based on recommended maximum of 105 lb. per engine horse power for satisfactory power train life and minimal ground compaction.

Recommended Weight Split

Tractor should be weighed to accurately determine amount and type of ballast. Weight should be distributed depending on type of operation and conditions in which it will be operated.

NOTE: Ideal weight split is 60 percent front, 40 percent rear, of total tractor weight for heavy loads on hitch or drawbar.

Correct Ballast

Use no more ballast than necessary, and adjust ballast as tractor use changes.

For correct ballast, measure amount of travel reduction (% slip) of track. Under normal field conditions, travel reduction should be 2—5 percent. Add more weight to tractor if slip is excessive. If there is less than minimum percent slip, ballast should be removed, unless needed for stability.

Correct ballast allows most efficient use of tractor's available power but will not make up for an implement which is too big for tractor. Adding ballast will not improve performance if engine speed falls below rated speed and/or track slip is not beyond recommended range.

A guide in ballasting tractors is to use kind of ballast needed for a particular job—light, medium or heavy ballast. Start process of ballasting with lightest ballast that may do job. Then add ballast as needed to get performance desired.

NOTE: Correct weight balance must be maintained when adding or removing ballast for best tractive performance.

More or less weight will be needed, if different travel speeds are used. Higher speeds do not require as much weight. Final indication of correct ballast is slip measured in field.

NOTE: Radar is recommended to continually monitor slip. Checking slip manually is possible but will only show slip in one area of the field. Field conditions vary from one area to another and it is necessary to maintain correct average slip to maintain optimum tractive performance.

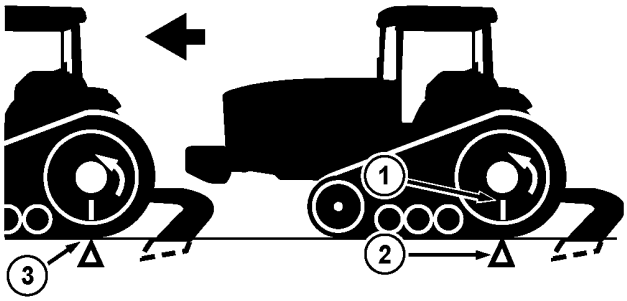
Optimum tractive performance of 2—5 percent slip is recommended.

If implement pull speed at full load is 8.7 km/h (5.4 mph) or more, tractor may operate unballasted. Medium ballast is a better choice, if operating at full load between 7.7 and 8.7 km/h (4.8 and 5.4 mph). Heavy ballast should only be used for few implements (such as deep rippers) which require full-load traction below 7.2 km/h (4.5 mph).

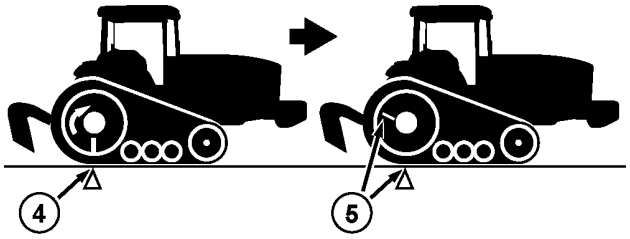
IMPORTANT: To extend power train life, while reducing soil compaction and rolling resistance, avoid adding too much ballast. Never add ballast that results in continuous full-power loads below 7.2 km/h (4.5 mph).

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Measure Track Slip—*Manually*



RW26708—UN—08NOV99



RW26709—UN—08NOV99

1. Mark drive wheel.
2. With tractor working, mark a starting point on ground.
3. Follow tractor and mark ground where drive wheel completes 10 full revolutions.
4. At same working speed, go back with implement raised. Line up drive wheel mark with ground mark, or make a new mark on drive wheel.
5. With tractor proceeding in a straight line with implement raised, count drive wheel revolutions between the two marks on the ground to nearest 1/4 wheel revolution.
6. Use second count and chart to determine slippage.
7. Adjust ballast to give 2 to 5 percent slippage.

Track Slippage Chart		
Drive Wheel Revolutions (Step 5)	**Slip (%)**	**Recommendation**
10	0	Remove Ballast
9.9	1	
9.75	2	No Adjustment Necessary
9.50	3	
9.25	7	Add Ballast
9.0	10	

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Ballast Suggestions for Specific Types of Implements

CAUTION: Avoid personal injury and equipment damage. Never exceed 17690 kg (39000 lb) total ballasted weight.

Recommendations are offered as starting points when ballasting for operations with several common types of implements. Some deviations may be needed for specific circumstances. Track tread setting should be set wide for improved handling, tractive efficiency, and stability.

Light and Medium Implements

Implements that provide light to medium draft loads such as drawn planters, disks, chisel plows and field cultivators.

Ballast	8320RT	8345RT	8370RT
QuikTatch™ Weights	0 - 8	8 - 12	12 or more[a]

QuikTatch is a trademark of Deere & Company
[a]Never exceed 17690 kg (39000 lb) total ballasted weight.

Heavy Implements

Heavy implements that place large loads on hitch and drawbar such as rippers and hitch mounted planters.

Ballast	8320RT	8345RT	8370RT
QuikTatch™ Weights	22[a]		

QuikTatch is a trademark of Deere & Company
[a]Never exceed 17690 kg (39000 lb) total ballasted weight.

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Determine Ballasted Tractor Weight, Weight Split and Axle Loads

IMPORTANT: Install additional weight as necessary, but never exceed total tractor ballasted weight of 17690 kg (39000 lb).

NOTE: A minimum of 8 Quik-Tatch™ weights on front support is recommended for ride quality.

Ballasted weights are calculated by averaging and are computed based upon typical tractors with 24 inch standard belts, narrow drive wheels and 4 SCVs, but without drawbar or hitch. Base tractor weight assumes a half full fuel tank, full hydraulic and coolant systems, full engine oil, and no fluid in tires. If more accurate weights are needed, see your John Deere dealer.

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Ballast Level	Weights		Weight Split %	Total Weight kg (lb)	kg/PTO kW (lb/PTO hp)			
	Front[a]	Front Idler kg (lb)	Front (Front Idlers)/Rear (Drive Wheels)		8320RT	8345RT	8370RT	8400RT
None	0	0	55 / 45	15185 (33477)	47 (105)	44 (97)	41 (90)	
Light	8	0	59 / 41	15702 (34617)	49 (108)	46 (100)	42 (94)	
Medium	16	0	60 / 40	16046 (35375)	50 (111)	47 (103)	43 (96)	
Heavy	22	439 (968)	64 / 36	16753 (36935)	52 (115)	49 (107)	45 (100)	

[a]*Front weight support required to install front weights..*

Adjust number of Quik-Tatch™ front weights shown in table above based on type of belt and drive components installed on tractor.

Adjust Ballast		
Belt (inch)	30	Remove 6 weights
	25	Remove 4 weights
	24	No adjustment necessary
	18	Add 4 weights
	16	Add 6 weights
Wide mid-rollers		Remove 4 additional weights
Wide drive wheels		Remove 2 additional weights

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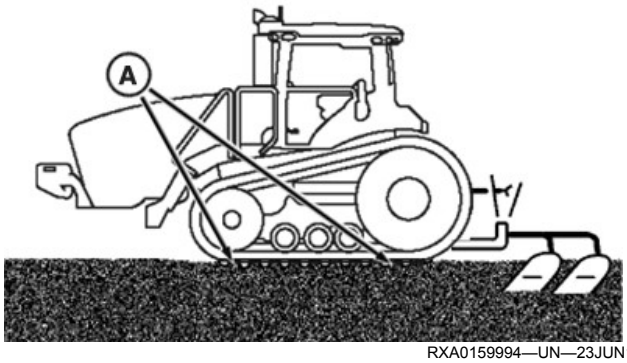
Determine Maximum Ballast

IMPORTANT: Do not overload tractor. If maximum recommended weight of 17690 kg (39000 lb) is not enough, reduce load.

Use appropriate front ballast for a particular operating condition. Tractors should have only enough ballast to maintain steering control.

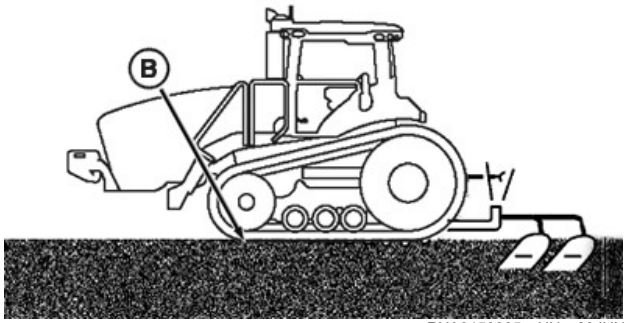
Adjust ballast as tractor use changes. For example, adjust ballast when changing from mounted to towed implements.

Remove ballast if tractor engine labors when pulling heavy loads in gears slower than 7.2 km/h (4.5 mph).



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Check front-to-rear balance. Correct front-to-rear balance should be maintained whenever ballast is added or removed. A good way to check for correct balance is driving or walking along side of tractor during operation and visually checking to ensure entire contact area of track (A) is in contact with soil surface at all times with implement engaged.



RXA0159995—UN—23JUN17

Adjustments need to be made to implement gauge wheels or more front weight may have to be added if the front of tractor pitches upward and daylight can be seen between front idler wheel (B) and soil surface.

Ballast Types

Quik-Tatch™weights on front support are preferred form of ballast, then engine side weights. Other forms of ballast include front idler wheel weights.

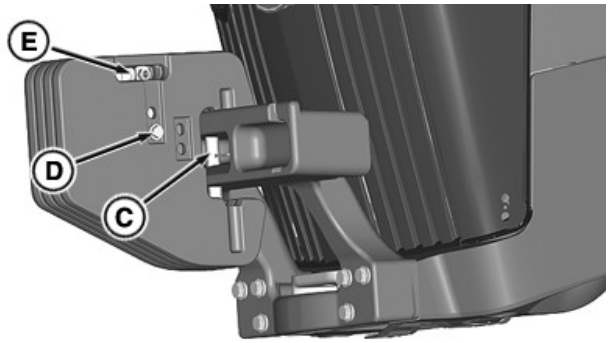
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In some cases, it can be necessary or desirable to remove ballast. Preferred location of additional ballast is in front of the tractor center of gravity. A Quik-Tatch™ weight facilitates this for front ballast.

Standard Front Weight Support

Standard front weight support weighs 170 kg (375 lb).

Quik-Tatch™ Weights on Front Weight Support



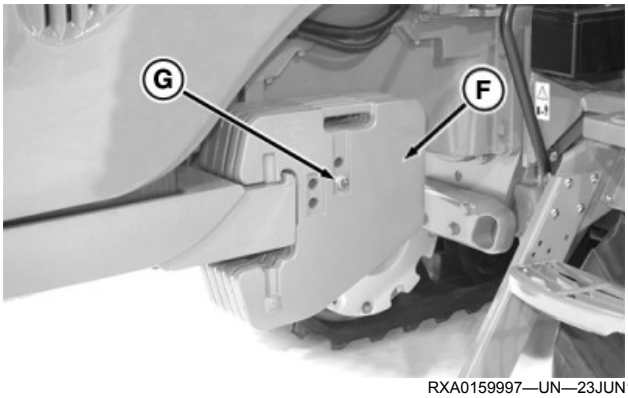
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Quik-Tatch™front weights weigh 43 kg (95 lb) each. Up to 22 weights can be installed on front weight support. First two weights must be installed as a pair at the center (A) of the weight support.

Run retaining bolts (B) through holes and secure with a nut to hold six weights or fewer in position.

Insert retainers between weights, one with threaded hole upward (C) and other with threaded hole downward. When eight or more weights are installed, tighten bolt to 230 N·m (170 lb·ft).

Quik-Tatch™ Side Weights



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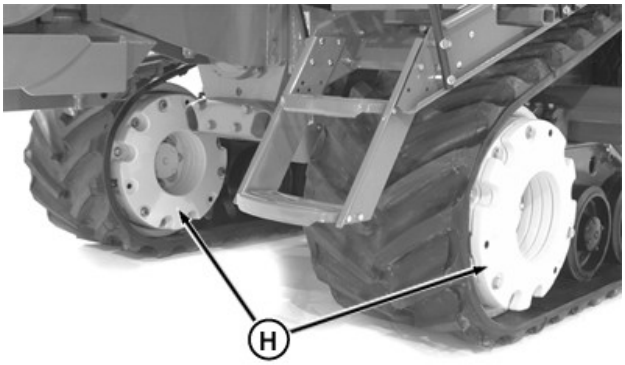
Up to five 43 kg (95 lb) each Quik-Tatch™ weights (A) can be added on each side of engine (Ten weights total).

Install an equal number of weights (A) on each side of tractor.

Install retaining bolts (B) through hole and secure with nut to hold five weights or fewer in position. Tighten to 230 N·m (170 lb·ft).

Front Idler Wheel Weights

NOTE: It is not recommended to use front idler weights since front Quik-Tatch™ weights provide better for-aft weight distribution . If for other reasons front Quik-Tatch™ weights cannot be used, idler weights can be installed instead.



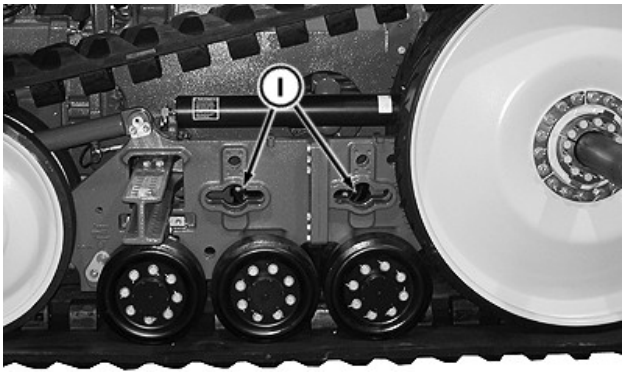
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Tractor front idlers are compatible with current wheel tractor weights. A starter weight must be installed on the front idler wheel before installing cast wheel weights. Fully ballasted tractor can accommodate one 36 kg (80 lb) starter weight, one 72 kg (159 lb) cast wheel weight, and one 205 kg (452 lb) cast wheel weight on both inside and outside of each front idler. The same weight configuration must be used on inside and outside (A) of each front idler.

Front Idler Configurations			
Weights			Total Ballast Added kg (lb)
Starter	Cast		
36 kg (80 lb) each	72 kg (159 lb) each	205 kg (452 lb) each	
4			146 (323)
4	4		434 (957)
4		4	966 (2130)
4	4	4	1254 (2765)

Using Mounted Spray Tanks

Use following guidelines when attaching and using tractor-mounted spray tanks:



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Use holes (A) not being used to support track frame. Do

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NOT remove any cap screws used to mount track frame to walking beam.

Tanks must be limited to 1894 L (500 gal) per side, to limit maximum vehicle laden weight to 19958 kg (44000 lb).

Front mounted spray tanks are NOT recommended. However, if a front mounted tank must be used, remove front weights. Filled front mounted tank cannot add more than the equivalent of 22 front weights and support or 1210 kg (2660 lb).

UNDER NO CIRCUMSTANCES SHOULD A FRONT SPRAY TANK BE USED IN CONJUNCTION WITH FRONT WEIGHTS.

Contact your John Deere™ dealer for additional spray tank mounting guidelines for complete tank mounting instructions.

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Implement Guidelines

IMPORTANT: To avoid damaging equipment and improve stability when transporting, lock drawbar in a fixed position.

NOTE: The following implements should NOT be used:

- *Loaders*
- *Dozer blades*
- *Front hitch*
- *Front-mounted spray tanks*

Use following guidelines with accompanying chart:

Drawbar Implements

Swinging drawbar is not recommended unless an operation requires implement to be left in the ground during turns. Some implements may have hydraulically-controlled drawbar angling to assist in turning.

Semi-Integral Implements

Partial hitch sway may be necessary to make minor steering corrections. For precise operation, such as cultivating, full sway is not recommended.

Integral Implements

Partial hitch sway is required to make minor steering corrections. For precise operation, such as cultivating, full sway is not recommended.

Implement must use gauge wheels and tractor lift arms should be allowed to float.

NOTE: MOST heavy draft implements use full hitch sway and have gauge wheels on the implement. Mounted rippers should use full hitch sway.

GUIDELINES

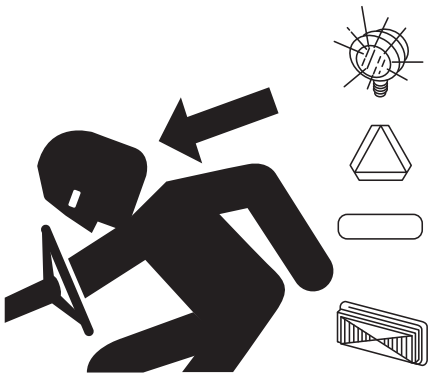
IMPLEMENT	IMPLEMENT SET-UP
TILLAGE:	
. Chisel Plow:	
.. Integral	Gauge Wheels-Full Sway
.. Towed	Fixed Position Drawbar *
. Disks:	
.. Regular	Fixed Position Drawbar *
.. Offset	Swinging Drawbar
. Field Cultivators:	
.. Integral	Gauge Wheels-Full Sway
.. Towed	Fixed Position Drawbar *
. Plows:	
.. Rigid	Gauge Wheels-No Sway
.. In-furrow Reversible	Gauge Wheels-Full Sway
.. On-land Reversible	Gauge Wheels-Full Sway
. Mulch Finisher	Fixed Position Drawbar *
. Mulch Tiller	Fixed Position Drawbar *
. Disk Ripper	Fixed Position Drawbar *
. Mounted Ripper	Gauge Wheels-Full Sway
PLANTING/SEEDING:	
. Air Seeders:	
.. Integral	Full Sway
.. Towed	Fixed Position Drawbar *
. Planters	No Sway
CULTIVATING:	
. Rotary Hoe	Full Sway
. Row Crop:	
.. 856	No Sway
.. 886	Full Sway
.. 825	No Sway
.. 845	No Sway
.. 875	No Sway
.. 885	Full Sway

** A fixed position drawbar is normally recommended. If the operation requires the implement to remain in the ground during turns, allowing the drawbar to swing will improve steering.*

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Driving Tractor on Roads





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CAUTION: Avoid personal injury or death from losing control of tractor. When driving tractor on roads:

- **Wear belts**
- **If equipped, use foot throttle instead of hand throttle**
- **Reduce speed when driving on icy, wet, or graveled surfaces**
- **Ballast tractor correctly (See Performance Ballasting section)**
- **Prevent tracks from locking and skidding (See Downhill Operation In Slippery Conditions.**
- **Avoid holes, ditches, sharp turns, hill sides and obstructions which may cause tractor to roll over.**
- **Frequently check for traffic from the rear, especially in turns, and use turn signal lights.**
- **Always operate flashing lights when traveling on a highway or public roads, except where prohibited by law.**

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

Remote Cylinders—Position transport lock switch(es) to eliminate possibility of lowering an implement during transport by inadvertently bumping the extend/retract lever(s). (See procedure in Hydraulics and Selective Control Valves or TouchSet™ Depth Control section.)

Hitch—Position or lock hitch in transport position to eliminate possibility of lowering an implement during transport by inadvertently bumping the raise/lower lever. (See procedure in Hitch section.)

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TouchSet is a trademark of Deere & Company

Tracks —Roading of tracks can increase tread wear up to 15 times the field wear rates. To reduce wear:

- Lower maximum travel speed especially during high ambient temperature conditions.
- Minimize both transport weight and turning on hard surfaces.
- Use proper amounts of ballast and in correct locations. Both “front heavy” and “rear heavy” configurations increase amount of treadbar compression and wear as the tread respectively contacts or leaves the ground.

RW29387,0000311-19-26JUN17

Transporting

CAUTION: Guide lug surface may come hot enough to cause injury. Allow time to cool before adjusting track.

IMPORTANT: Transporting tractor with narrow mid-rollers for more than a short period of time at or near maximum ballasted weight may damage mid-rollers.

Transport regulations vary - contact your local transportation officials for your local transportation requirements.

Before Transport

- Check track alignment.
- Use implement code in implement operator's manual to determine the minimum number of front weights required. Heavy pulling and heavy rear-mounted implements tend to lift tractor front. If needed, add weight to front to maintain stability and steering control.
- Adjust weight distribution — do not transport nose heavy or rear heavy tractors for extended distances without adjusting ballast. An unbalanced tractor can cause:
  - Increased tread scrubbing and wear.

  - Heat generation in tread.
  - Damage to mid-rollers (especially if track is misaligned).
  - Rough ride.
- Reduce tractor total weight. Consider:
  - Implement weight transferred to tractor during transport.
  - Chemical tanks and their supports. It is not recommended to transport tractor with fluid in chemical tanks.

During Transport

- Drive slowly over rough ground, regardless of how much ballast is used.
- Reducing travel speed will reduce operating temperatures and extend belt life.
- Stop periodically and check guide lugs and mid-rollers for elevated temperatures. Uneven mid-roller temperature may indicate an unbalanced tractor.
- Extended roading may reduce overall mid-roller life.

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Towing Loads

CAUTION: Reduce speed to avoid possible injury from losing control while towing loads or transporting heavy hitch mounted equipment. Speed and weight increase Stopping distance.

Tractor tracks may lock and skid on slippery downhill slopes on tractors equipped with IVT™/AutoPowr™ (See Downhill Operation In Slippery Conditions, in IVT™/AutoPowr™ Transmission section of this Operator's Manual).

Never transport at speeds exceeding implement's maximum transport speed. Before transporting a towed implement, refer to implement operator's manual and implement decals to determine maximum transport speed. This tractor is capable of operating at transport speeds exceeding maximum allowable transport speed for most towed implements. Use implement code in implement operator's manual to determine minimum number of front weights required. Failure to adhere to implement's maximum transport speed or to have correct ballast can result in:

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

Guidelines for Towing Equipment without Brakes:

- **Do not transport at speeds greater than 32 km/h (20 mph).**
- **Must weigh less than 1.5 times ballasted tractor weight.**

Guidelines for Towing Equipment with Brakes:

- **If manufacturer does not specify a maximum transport speed, do not transport at speeds above 40 km/h (25 mph).**
- **When transporting at speeds up to 40 km/h (25 mph) fully loaded implement must weigh less than 4.5 times tractor weight.**
- **When transporting at speeds between 40 km/h (25 mph) to 50 km/h (31 mph), the fully loaded implement must weigh less than 3 times tractor weight.**

Tractor must be heavy and powerful enough with adequate braking power for towed load. Add ballast to tractor or lighten implement load.

Drive slowly enough to maintain safe control. Be alert for skids. Shift to a lower gear for hillsides, rough ground, and sharp turns, especially when transporting heavy equipment.

Never operate with transmission in neutral position or with clutch disengaged.

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Tow Mode

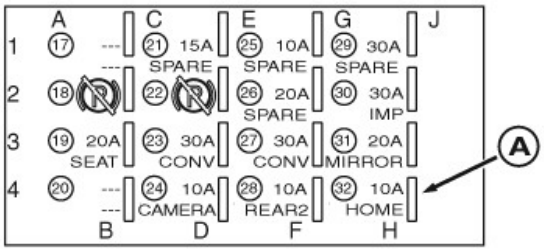
NOTE: If tractor must be moved immediately, pulling tractor a short distance while tractor is in PARK will not damage brake system.

Before tractor can be towed, park brake must be released, if possible.

Activating backup mode allows tractor to be operated at a maximum of 8 km/h (5 mph) in forward position and 3 km/h (1.8 mph) in reverse.

If tractor loses electrical power, park brake can re-engage. If tractor has no electrical power, a 100 Amp electrical source must be connected. See Use Battery Booster Or Charger in Engine Operation Section of this Operator's Manual.

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AutoPowr is a trademark of Deere & Company



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NOTE: Removing # 32 fuse (A) diverts hydraulic oil through backup pump which supplies hydraulic oil to brakes and steering. Tractor can safely be moved short distances at lower speeds.

Fold seat backrest down to allow easier access and allow cab lighting to shine on load center when fuses are being inspected, replaced, or removed.

1. Remove fuse # 32 (A) and retain.
2. Turn key switch to RUN position.

NOTE: When tractor is placed in neutral, operator will hear backup pump start. As long as tractor is in Neutral any movement of brake pedals or steering wheel will engage backup pump to supply hydraulic oil as needed.

3. Place tractor in Neutral.

NOTE: When tractor is in park, P is displayed on corner post display. When placed in Neutral, corner post display will show "N", tractor is ready to tow.

4. Verify transmission is in Neutral by looking at corner post display.

NOTE: If after placing tractor in Neutral, corner post display still displays "P", contact your John Deere dealer for assistance.

5. Steering and braking are supplied by backup pump.
6. When destination is reached, put transmission shift lever in PARK position.
7. Turn key switch to OFF position.
8. Replace removed fuse # 32 to original location.

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Towing Tractor

IMPORTANT: Avoid transmission and drive train component damage:

- **Never attempt to start tractor by towing. Engine will not start.**
- **If possible, operate engine above 1250 rpm to provide lubrication, power steering, and power brakes.**
- **Do not tow a tractor faster than 8 km/h (5 mph). Do not exceed 3 km/h (2 mph) for first ten minutes in below freezing temperatures.**

CAUTION: If hydraulic oil temperature is less than -10° C (14° F), backup pump will not turn on. Tractor will not have brakes or steering. If tractor still must be moved, contact your John Deere™ dealer.

When tractor must be towed:

- Follow steps outlined in Tow Mode located in this section of this Operator's Manual.
- Use a second operator to operate brakes and steer vehicle.

RW29387,0000314-19-05MAY15

Emergency Brake Steering

IMPORTANT: Prolonged use of emergency brake steering will damage the service brakes. If emergency brake steering has been activated, see your John Deere dealer.

NOTE: When emergency brake steering is engaged, vehicle will have restricted function. Steer to a safe location, stop tractor, and place transmission in PARK as soon as possible.

If primary steering system is lost, emergency system operates. Operator steering wheel inputs control individual service brakes to steer tractor. Emergency steering system can be manually activates when towing tractor.

When emergency brake steering is active:

A diagnostic trouble code is displayed until key switch is cycled.

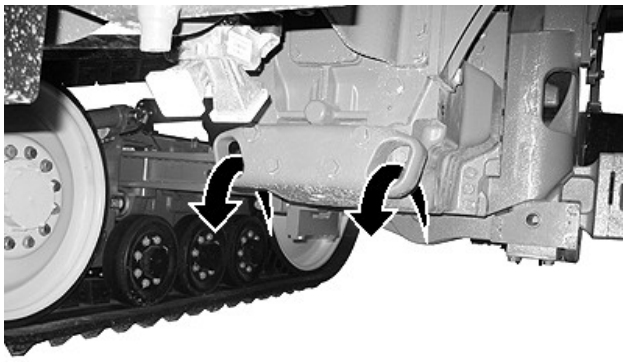
Ground speed is limited to 5 km/h (3.1 mph). If traveling faster when emergency brake steering is activated, tractor will automatically slow down.

Steering performance is reduced. Vehicle will not have ability to counter rotate. Use small steering commands until tractor and implement responds to steering commands.

RW29387,0000316-19-26JUN17

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Freeing a Mired Machine



RXA0099709—UN—05NOV08

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

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

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

Always hitch to drawbar of towing unit. Before moving, clear area of people. Apply power smoothly to take up slack: a sudden pull could snap any towing device causing it to whip or recoil dangerously.

IMPORTANT: Use tie down loops to attach chain. Pull tractor straight forward. Use drawbar to tow tractor out of mired condition if pulling tractor from rear.

Attach chain to tie down loops. Pull tractor straight forward.

RW29387,0000318-19-10JAN17

Carrier Transport

CAUTION: Avoid accident or injury, use tie-down devices to secure tractor to carrier. Drive carefully.

Transport regulations vary - contact your local transportation officials for your local transportation requirements.

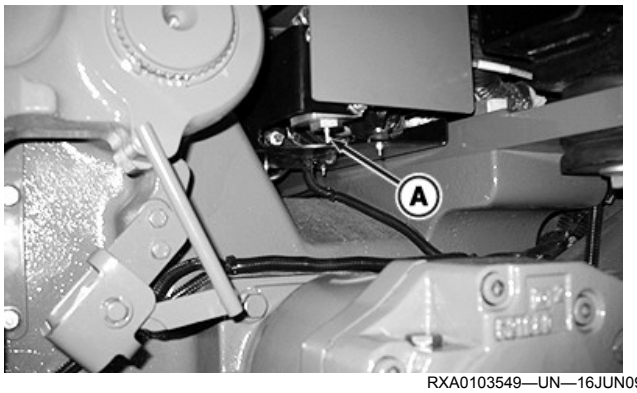
Loading Tractor

1. Position ramps to flat bed carrier.

CAUTION: A second person is required to guide driver onto flat bed carrier, make sure tractor is centered on carrier, and watch for potential hazards that may cause injury but are not apparent to driver.

2. Drive tractor onto carrier.
3. Place transmission in PARK position.

CAUTION: To avoid accident or injury, stay clear of moving suspension components when releasing air from vent valve.

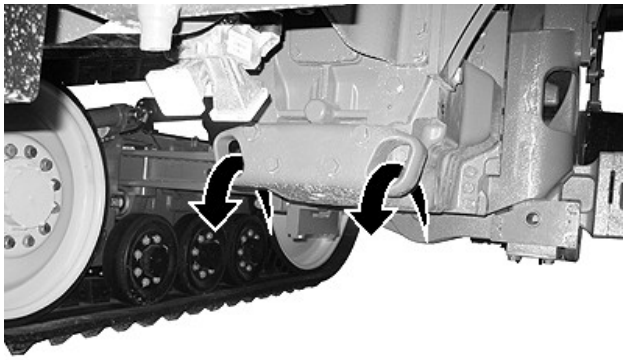


RXA0103549—UN—16JUN09

4. Press in on manual vent valve (A), located between rock shaft and cab, to lower track suspension system.

CAUTION: To avoid accident or injury, securely chain the tractor to carrier. Drive carefully.

NOTE: When tying tractor to carrier, use protective material to prevent paint damage.



RXA0099709—UN—05NOV08

5. Insert chain or cable through loops at the front of transmission and secure to flat bed carrier.
6. Insert chain or cable through draw bar support and secure to flat bed carrier.

Unloading Tractor

1. Position ramps to flat bed carrier.
2. Remove all attached tractor tie downs.

CAUTION: A second person is required to guide driver off of flat bed carrier make sure that tractor is centered on carrier and watch for potential hazards that may cause injury but are not apparent to driver.

IMPORTANT: Allow three minutes for tractor to inflate suspension. Although provided there is adequate ground and trailer clearance tractor can be driven off truck before reinflating suspension, it is not recommended and should be avoided if at all possible.

3. Start engine and depress brake pedal to apply brakes.

IMPORTANT: Remain in operator's seat holding brake pedal depressed with tractor shift lever in neutral until suspension is fully inflated.

4. Shift transmission into **Neutral,** and allow three minutes for air compressor to inflate suspension.
5. After three minutes, tractor may be driven normally.

RW29387,0000319-19-15AUG17

Determine Tractor Engine Type

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

Correct engine oil specification and oil change interval is determined by a number of factors. One important consideration is type of engine aftertreatment installed. To determine engine type, see Engine Serial Number in Identification Numbers section of this Operator's Manual.

RX32825,0001798-19-14DEC16

Minimizing the Effect of Cold Weather on Diesel Engines

John Deere diesel engines are designed to operate effectively in cold weather.

However, for effective starting and cold-weather operation, a little extra care is necessary. The following information outlines steps that can minimize the effect that cold weather may have on starting and operation of your engine. See your John Deere dealer for additional information and local availability of cold-weather aids.

Use Winter Grade Fuel

When temperatures fall below 0 °C (32 °F), winter grade fuel (No. 1-D in North America) is best suited for cold-weather operation. Winter grade fuel has a lower cloud point and a lower pour point.

Cloud point is the temperature at which wax begins to form in the fuel. This wax causes fuel filters to plug. **Pour point** is the lowest temperature at which movement of the fuel is observed.

NOTE: On average, winter grade diesel fuel has a lower Btu (heat content) rating. Using winter grade fuel may reduce power and fuel efficiency, but should not cause any other engine performance effects. Check the grade of fuel being used before troubleshooting for low-power complaints in cold-weather operation.

Air Intake Heater

An air intake heater is an available option for some engines to aid cold weather starting.

Ether

An ether port on the intake is available to aid cold weather starting.

CAUTION: Ether is highly flammable. Do not use ether when starting an engine equipped with glow plugs or an air intake heater.

Coolant Heater

An engine block heater (coolant heater) is an available option to aid cold weather starting.

Seasonal Viscosity Oil and Proper Coolant Concentration

Use seasonal grade viscosity engine oil based on the expected air temperature range between oil changes and a proper concentration of low silicate antifreeze as recommended. (See DIESEL ENGINE OIL and ENGINE COOLANT requirements in this section.)

Diesel Fuel 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) 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,FUEL10-19-15MAY13

Oil Filters

Filtration of oils is critically important for proper operation and lubrication. John Deere brand oil filters have been designed and produced specifically for John Deere applications.

John Deere filters adhere to engineering specifications for quality of the filter media, filter efficiency rating, strength of the bond between the filter media and the element end cap, fatigue life of the canister (if applicable), and pressure capability of the filter seal. Non-John Deere branded oil filters might not meet these key John Deere specifications.

Always change oil filters regularly as specified in this manual.

DX,FILT1-19-11APR11

Diesel Fuel

Consult your local fuel distributor for properties of the diesel fuel available in your area.

In general, diesel fuels are blended to satisfy the low temperature requirements of the geographical area in which they are marketed.

Diesel fuels specified to EN 590 or ASTM D975 are recommended. Renewable diesel fuel produced by hydrotreating animal fats and vegetable oils is basically identical to petroleum diesel fuel. Renewable diesel that meets EN 590, ASTM D975, or EN 15940 is acceptable for use at all percentage mixture levels.

Required Fuel Properties

In all cases, the fuel shall meet the following properties:

Cetane number of 40 minimum. Cetane number greater than 47 is preferred, especially for temperatures below –20 °C (–4 °F) or elevations above 1675 m (5500 ft.).

Cold Filter Plugging Point (CFPP) should be at least 5 °C (9 °F) below the expected lowest temperature or **Cloud Point** below the expected lowest ambient temperature.

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).

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, and Stage IV 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.
- 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,FUEL1-19-13JAN16

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

BioDiesel Fuel

BioDiesel fuel is comprised of mono-alkyl esters of long chain fatty acids derived from vegetable oils or animal

fats. BioDiesel blends are BioDiesel mixed with petroleum diesel fuel on a volume basis.

Before using fuel containing BioDiesel, review the BioDiesel Use Requirements and Recommendations in this Operator's Manual.

Environmental laws and regulations can encourage or prohibit the use of biofuels. Operators should consult with appropriate governmental authorities prior to using biofuels.

All John Deere Engines with Exhaust Filter (Released 2011 and After)

While 5% blends (B5) are preferred, BioDiesel concentrations up to a 20% blend (B20) in petroleum diesel fuel can be used. BioDiesel blends up to B20 can be used ONLY if the BioDiesel (100% BioDiesel or B100) meets ASTM D6751, EN 14214, or equivalent specification. Expect a 2% reduction in power and a 3% reduction in fuel economy when using B20.

BioDiesel concentrations above B20 can harm the engine's emission control systems and should not be used. Risks include, but are not limited to, more frequent stationary regeneration, soot accumulation, and increased intervals for ash removal.

John Deere approved fuel conditioners, which contain detergent and dispersant additives, are required when using BioDiesel blends from B10—B20, and are recommended when using lower BioDiesel blends.

All John Deere Engines Excluding Exhaust Filter (Primarily Released Prior to 2012)

While 5% blends (B5) are preferred, BioDiesel concentrations up to a 20% blend (B20) in petroleum diesel fuel can be used. BioDiesel blends up to B20 can be used ONLY if the BioDiesel (100% BioDiesel or B100) meets ASTM D6751, EN 14214, or equivalent specification. Expect a 2% reduction in power and a 3% reduction in fuel economy when using B20.

These John Deere engines can operate on BioDiesel blends above B20 (up to 100% BioDiesel). Operate at levels above B20 ONLY if the BioDiesel is permitted by law and meets the EN 14214 specification (primarily available in Europe). Engines operating on BioDiesel blends above B20 might not fully comply with or be permitted by all applicable emissions regulations. Expect up to a 12% reduction in power and an 18% reduction in fuel economy when using 100% BioDiesel.

John Deere approved fuel conditioners, which contain detergent and dispersant additives, are required when using BioDiesel blends from B10—B20, and are recommended when using lower BioDiesel blends.

BioDiesel Use Requirements and Recommendations

The petroleum diesel portion of all BioDiesel blends must meet the requirements of ASTM D975 (US) or EN 590 (EU) commercial standard.

BioDiesel users in the U.S. are strongly encouraged to purchase BioDiesel blends from a BQ-9000 Certified Marketer and sourced from a BQ-9000 Accredited Producer (as certified by the National BioDiesel Board). Certified Marketers and Accredited Producers can be found at the following website: http://www.bq9000.org.

BioDiesel contains residual ash. Ash levels exceeding the maximums allowed in either ASTM D6751 or EN14214 can result in more rapid ash loading and require more frequent cleaning of the Exhaust Filter (if present).

The fuel filter can require more frequent replacement, when using BioDiesel fuel, particularly if switching from diesel. Check engine oil level daily prior to starting engine. A rising oil level can indicate fuel dilution of the engine oil. BioDiesel blends up to B20 must be used within 90 days of the date of BioDiesel manufacture. BioDiesel blends above B20 must be used within 45 days from the date of BioDiesel manufacture.

When using BioDiesel blends up to B20, the following must be considered:

- Cold-weather flow degradation
- Stability and storage issues (moisture absorption, microbial growth)
- Possible filter restriction and plugging (usually a problem when first switching to BioDiesel on used engines)
- Possible fuel leakage through seals and hoses (primarily an issue with older engines)
- Possible reduction of service life of engine components

Request a certificate of analysis from your fuel distributor to ensure that the fuel is compliant with the specifications provided in this Operator's Manual.

Consult your John Deere dealer for approved fuel conditioners to improve storage and performance with BioDiesel fuels.

The following must also be considered if using BioDiesel blends above B20:

- Possible coking or blocked injector nozzles, resulting in power loss and engine misfire if John Deere approved fuel conditioners are not used
- Possible crankcase oil dilution (requiring more frequent oil changes)
- Possible lacquering or seizure of internal components
- Possible formation of sludge and sediments
- Possible thermal oxidation of fuel at elevated temperatures
- Possible compatibility issues with other materials (including copper, lead, zinc, tin, brass, and bronze) used in fuel handling equipment
- Possible reduction in water separator efficiency
- Possible damage to paint if exposed to BioDiesel

- Possible corrosion of fuel injection equipment
- Possible elastomeric seal and gasket material degradation (primarily an issue with older engines)
- Possible high acid levels within fuel system
- Because BioDiesel blends above B20 contain more ash, using blends above B20 can result in more rapid ash loading and require more frequent cleaning of the Exhaust Filter (if present)

IMPORTANT: Raw pressed vegetable oils are NOT acceptable for use as fuel in any concentration in John Deere engines. Their use could cause engine failure.

DX,FUEL7-19-15MAY13

Lubricity of Diesel Fuel

Most diesel fuels manufactured in the United States, Canada, and the European Union have adequate lubricity to ensure proper operation and durability of fuel injection system components. However, diesel fuels manufactured in some areas of the world may lack the necessary lubricity.

IMPORTANT: Make sure the diesel fuel used in your machine demonstrates good lubricity characteristics.

Fuel lubricity should pass a maximum scar diameter of 0.52 mm as measured by ASTM D6079 or ISO 12156-1. A maximum scar diameter of 0.45 mm is preferred.

If fuel of low or unknown lubricity is used, add John Deere Fuel-Protect Diesel Fuel Conditioner (or equivalent) at the specified concentration.

Lubricity of BioDiesel Fuel

Fuel lubricity can improve significantly with BioDiesel blends up to B20 (20% BioDiesel). Further increase in lubricity is limited for BioDiesel blends greater than B20.

DX,FUEL5-19-07FEB14

Handling and Storing Diesel Fuel

CAUTION: Reduce the risk of fire. Handle fuel carefully. DO NOT fill the fuel tank when engine is running. DO NOT smoke while you fill the fuel tank or service the fuel system.

Fill the fuel tank at the end of each day's operation to prevent water condensation and freezing during cold weather.

Keep all storage tanks as full as practical to minimize condensation.

Ensure that all fuel tank caps and covers are installed properly to prevent moisture from entering. Monitor water content of the fuel regularly.

When using biodiesel fuel, the fuel filter may require more frequent replacement due to premature plugging.

Check engine oil level daily prior to starting engine. A rising oil level may indicate fuel dilution of the engine oil.

IMPORTANT: The fuel tank is vented through the filler cap. If a new filler cap is required, always replace it with an original vented cap.

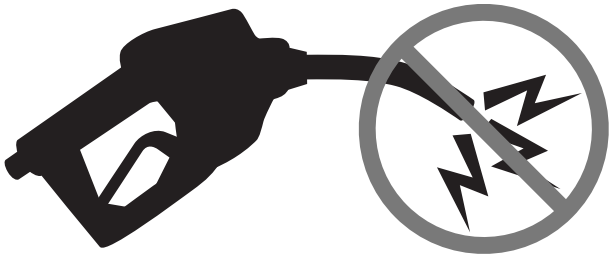
When fuel is stored for an extended period or if there is a slow turnover of fuel, add a fuel conditioner to stabilize the fuel and prevent water condensation. Contact your fuel supplier or John Deere dealer for recommendations.

DX,FUEL4-19-15FEB13

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

Fill Fuel Tank



TS202—UN—23AUG88

CAUTION: Avoid possible personal injury or fire:

- **Fuel is highly flammable, handle it with care.**
- **Do not refuel while smoking or when near open flame or sparks.**
- **Stop engine when refueling.**
- **Clean up spilled fuel.**
- **Fill fuel tank outdoors.**
- **Keep machine clean of accumulated trash, grease, and debris.**

IMPORTANT: Prevent damage to tractor fuel injection system, emissions system, and other components. Never put Diesel Exhaust Fluid (DEF) into fuel tank or fuel system. If DEF is introduced into the fuel tank, see your John Deere dealer.

IMPORTANT: Prevent damage to engine and emissions system components. If tractor is equipped with Final Tier 4/Stage IV engine, use only ultra low sulfur fuel. Tractors with other emissions specifications may use other fuels. See Diesel Fuel in this Operator's Manual section.

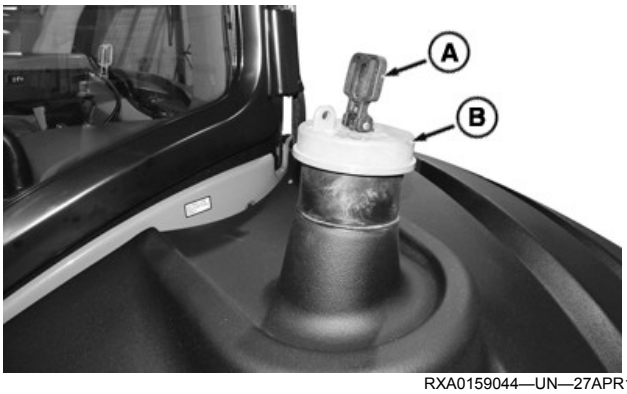
To determine which engine your tractor is equipped with, see Record Engine Serial Number in Identification Numbers section of this Operator's Manual.

NOTE: Final Tier 4/Stage IV engine equipped tractors require DEF to operate. It is suggested that DEF tank be filled each time tractor is refueled. See Fill Diesel Exhaust Fluid (DEF) Tank in Diesel Exhaust Fluid (DEF) section of this Operator's Manual.

If possible, fill fuel tanks at the end of each day to limit condensation as moist air remaining in tank cools overnight.

When CommandCenter™ fuel level display flashes, approximately 20 to 25 gallons of usable fuel remains in tank.

1. Stand on platform.



RXA0159044—UN—27APR17

2. Raise fuel cap lever lock (A).
3. Rotate cap counterclockwise.
4. Remove cap (B).

EC82310,00000BA-19-22NOV17

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 cetane number, fuel type, sulfur content, water content, appearance, suitability for cold weather operations, bacteria, cloud point, acid number, particulate contamination, and whether the fuel meets specification.

Contact your John Deere dealer for more information on diesel fuel analysis.

DX,FUEL6-19-14APR11

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

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manufacturing tolerances have significantly reduced capacities for debris and water.

John Deere brand fuel filters have been designed and produced specifically for John Deere engines.

To protect the engine from debris and water, always change engine fuel filters as specified in this manual.

DX,FILT2-19-14APR11

Diesel Exhaust Fluid (DEF)

Diesel Exhaust Fluid (DEF) — Use in Selective Catalytic Reduction (SCR) Equipped Engines

In order to maintain the emissions performance of the engine, it is essential to use and refill DEF in accordance with the specification.

Diesel exhaust fluid (DEF) is a high purity liquid that is injected into the exhaust system of engines equipped with selective catalytic reduction (SCR) systems. Maintaining the purity of DEF is important to avoid malfunctions in the SCR system. Engines requiring DEF shall use a product that meets the requirements for aqueous urea solution 32 (AUS 32) according to ISO 22241-1.

The use of John Deere Diesel Exhaust Fluid is recommended. John Deere Diesel Exhaust Fluid is available at your John Deere dealer in a variety of package sizes to suit your operational needs.

If John Deere Diesel Exhaust Fluid is not available, use DEF that is certified by the American Petroleum Institute (API) Diesel Exhaust Fluid Certification Program or by the AdBlue™ Diesel Exhaust Fluid Certification Program. Look for the API certification symbol or the AdBlue™ name on the container.



RG30211—UN—08MAR18

In some cases, DEF is referred to by one or more of these names:

- Urea
- Aqueous Urea Solution 32
- AUS 32
- AdBlue™
- NOx Reduction Agent
- Catalyst Solution

DX,DEF-19-13JAN18

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.

The following storage information is provided 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.

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).

AdBlue is a trademark of VDA, the German Association of the Automotive Industry.

It is recommended to purchase DEF in quantities that will be consumed within 12 months.

DX,DEF,STORE-19-13JUN13

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. A typical engine with EGR will consume approximately 40:1 Fuel:DEF and without EGR 15:1 Fuel:DEF (by volume). The filling port is identified by a blue colored cap embossed with the DEF symbol, shown.

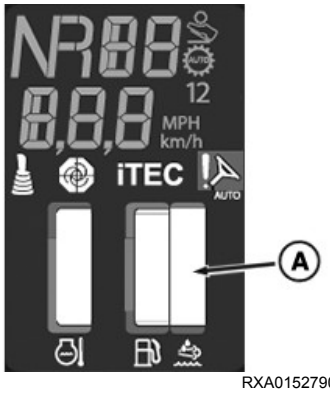
DX,DEF,REFILL-19-13JAN18

Fill DEF Tank

CAUTION: DEF contains urea. Do not get the substance in eyes. In case of contact, immediately flush eyes with large amounts of water for a minimum of 15 minutes. Do not take internally. In event DEF is ingested, contact a physician immediately. Reference Materials Safety Data Sheet (MSDS) for additional information.

IMPORTANT: Never put DEF in diesel fuel tank, or diesel fuel in DEF tank.

If an unapproved fluid, such as diesel fuel, or engine coolant is added to vehicle DEF tank, drain and clean tank, see Cleaning Diesel Exhaust Fluid (DEF) Tank in Service - Clean section of this Operator's Manual.



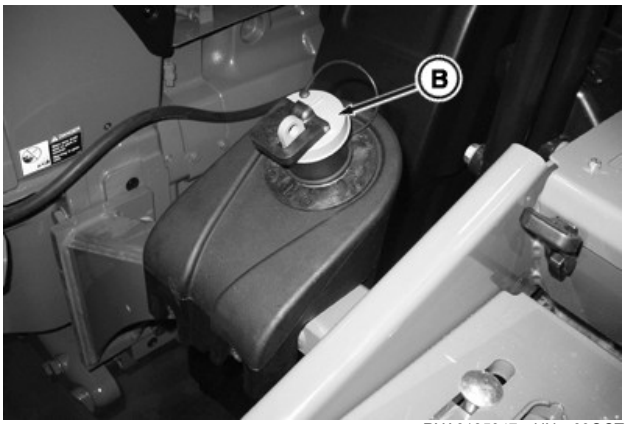
RXA0152790—UN—13JUL16

To avoid drastic changes in tractor performance, always keep DEF level above topmost red mark on cornerpost

display (A). Monitor DEF level on cornerpost display and refill as necessary. Refill DEF tank every time tractor is refueled. See Selective Catalytic Reduction (SCR) System in Emissions Equipment section of this Operator's Manual.

To fill DEF tank:

1. Before using containers, funnels, etc. to dispense DEF, wash and rinse items thoroughly with distilled water to remove contaminants.



RXA0135947—UN—09OCT13

2. Wipe DEF tank filler cap (B), area around cap and filler neck to reduce chance of contaminating DEF.
3. Lift DEF tank cap latch lever and turn 90° counterclockwise.
4. Lift cap from filler neck.

IMPORTANT: Avoid overfilling DEF tank. Carefully observe DEF level indicators on tank while filling.

Completely filling DEF tank at lower temperatures can cause a blockage in filler neck, preventing further addition of DEF. Observe temperature guidelines to assure ability to refill tank.

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 may distort some plastic and rubber components.

5. Using funnel, carefully fill DEF tank. **DO NOT** over fill DEF tank. Best final fill level is determined by ambient air temperature guide:
   - **Ambient air temperature at or above -15°C (5° F):** Completely fill tank. Filling tank completely will provide an additional 10L (2.6 gal) of DEF, increasing operating time between refills.
   - **Ambient air temperature below -15°C (5°F):** Fill tank only to bottom filler neck. Although main portion of DEF tank is heated to keep DEF liquid - regardless of temperature - filler neck is not. Filling above lower indicator will also fill filler neck. Fluid in neck may freeze, blocking DEF tank refill until fluid melts.
6. Replace and securely latch DEF tank cap.
7. Carefully clean any spills, using clean (preferably distilled) water.

TS36762,0000354-19-14NOV17

Testing Diesel Exhaust Fluid (DEF)

IMPORTANT: Using DEF with the correct concentration is critical to engine and aftertreatment system performance. Extended storage and other conditions can adversely alter the DEF concentration.

If DEF quality is questionable, draw a sample out of the DEF tank or storage tank into a clear container. DEF must be crystal clear with a light ammonia smell. If DEF appears cloudy, has a colored tint, or has a profound ammonia smell, it is likely not within specification. DEF in this condition should not be used. Drain tank, flush with distilled water and refill with new or good DEF. After refilling the tank, check the DEF concentration.

If the DEF passes the visual and smell test, check the DEF concentration with a handheld refractometer calibrated to measure DEF.

DEF concentration should be checked when the engine has been stored for extended periods, or if there is suspicion the engine or packaged DEF fluid has been contaminated with water.

Two approved tools are available through your John Deere dealer:

- JDG11594 Digital DEF Refractometer—A digital tool providing an easy to read concentration measurement
- JDG11684 DEF Refractometer—Low-cost alternative tool providing an analog reading

Follow instructions included with either tool to obtain the measurement.

The correct DEF concentration is 31.8—33.2% urea. If the DEF concentration is not within specification, drain the DEF tank, flush with distilled water and fill with new or good DEF. If packaged DEF is not within specification, dispose of DEF packages and replace with new or good DEF.

DX,DEF,TEST-19-13JUN13

Disposal of Diesel Exhaust Fluid (DEF)

Although there is little issue with minor spillage of DEF on the ground, large amounts of DEF should be contained. If large spills occur, contact local environmental authorities for assistance with clean-up.

If a substantial quantity of DEF is not within specification, contact the DEF supplier for assistance with disposal. Do not dump substantial quantities of DEF onto the ground or send DEF to wastewater treatment facilities.

DX,DEF,DISPOSE-19-13JUN13

Diesel Engine Oil Service Interval for Operation at High Altitude

To avoid excessive oil degradation and potential engine damage, reduce oil and filter service intervals to 50% of the original recommended values when operating engines at altitudes above **1675 m (5500 ft)**.

Oil analysis may allow longer service intervals.

Use only approved oil types.

Example of Original Hours	Corresponding High Altitude Hours
125	60
150	75
175	85
200	100
250	125
275	135
300	150
350	175
375	185
400	200
500	250

DX,ENOIL,SERV,HIALT-19-11NOV14

John Deere Break-In Plus™ Engine Oil — Interim Tier 4, Final Tier 4, Stage IIIB, and Stage IV

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.

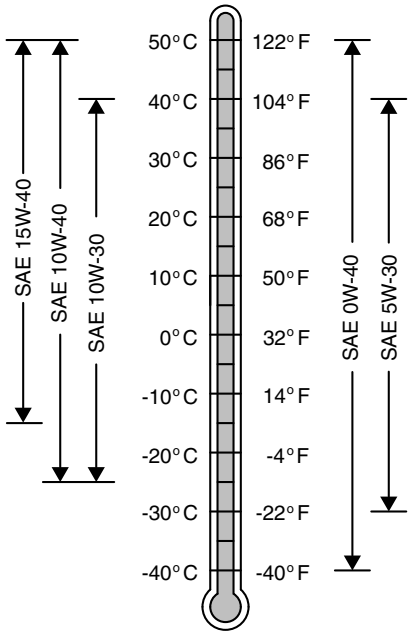
IMPORTANT: Do not use any other engine oils during the initial break-in of a new or rebuilt engine.

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,ENOIL16-19-02NOV16

Diesel Engine Oil — Interim Tier 4, Final Tier 4, Stage IIIB, and Stage IV



TS1691—UN—18JUL07

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,

Break-In Plus is a trademark of Deere & Company

Plus-50 is a trademark of Deere & Company.

engine oil meeting one or more of the following may be used:

- API Service Category CK-4
- API Service Category CJ-4
- ACEA Oil Sequence E9
- ACEA Oil Sequence E6

DO NOT use engine oil containing more than 1.0% sulfated ash, 0.12% phosphorus, or 0.4% sulfur.

Multi-viscosity diesel engine oils are preferred.

Diesel fuel quality and fuel sulfur content must comply with all existing emissions regulations for the area in which the engine operates.

IMPORTANT: Use only ultra low sulfur diesel (ULSD) fuel with a maximum sulfur content of 15 mg/kg (15 ppm).

DX,ENOIL14-19-13JAN18

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
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

Plus-50 is a trademark of Deere & Company

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

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.

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
- Are nitrite-free
- 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
- 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,COOL3-19-13JAN18

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.

COOL-GARD is a trademark of Deere & Company

[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.

IMPORTANT: Water may be used as coolant *in emergency situations only.*

Foaming, hot surface aluminum and iron corrosion, scaling, and cavitation occur when water is used as the coolant, even when coolant conditioners are added.

Drain cooling system and refill with recommended engine coolant as soon as possible.

DX,COOL6-19-15MAY13

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.

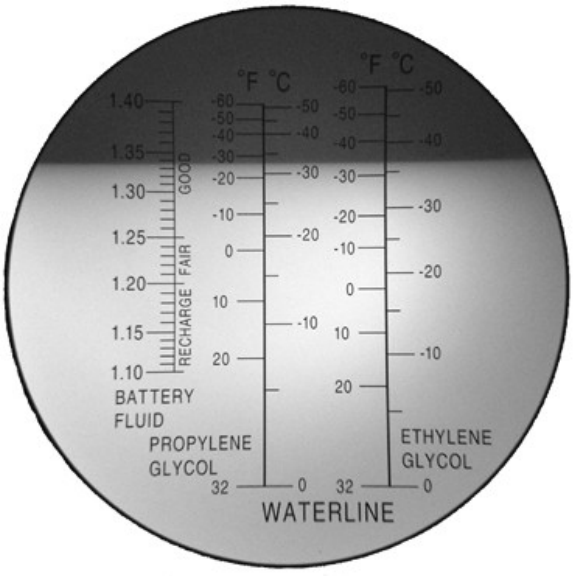
DX,COOL19-19-13JAN18

Testing Coolant Freeze Point



TS1732—UN—04SEP13

SERVICEGARD™ Part Number 75240



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:

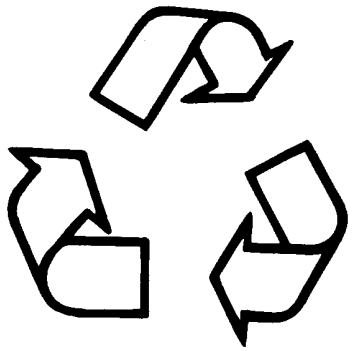
1. Allow cooling system to cool to ambient temperatures.
2. Open radiator cap to expose coolant.

SERVICEGARD is a trademark of Deere & Company

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

Disposing of Coolant



TS1133—UN—15APR13

Recycle Waste

Improperly disposing of engine coolant can threaten the environment and ecology.

Use leakproof containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.

Do not pour waste onto the ground, down a drain, or into any water source.

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

RG,RG34710,7543-19-09JAN07

Other Lubricants

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

Alternative and Synthetic Lubricants

Conditions in certain geographical areas may require lubricant recommendations different from those printed in this manual.

Some John Deere brand coolants and lubricants may not be available in your location.

Consult your John Deere dealer to obtain information and recommendations.

Synthetic lubricants may be used if they meet the performance requirements as shown in this manual.

The temperature limits and service intervals shown in this manual apply to both conventional and synthetic lubricants.

Re-refined base stock products may be used if the finished lubricant meets the performance requirements.

DX,ALTER-19-11APR11

Lubricant Storage

Your equipment can operate at top efficiency only when clean lubricants are used.

Use clean containers to handle all lubricants.

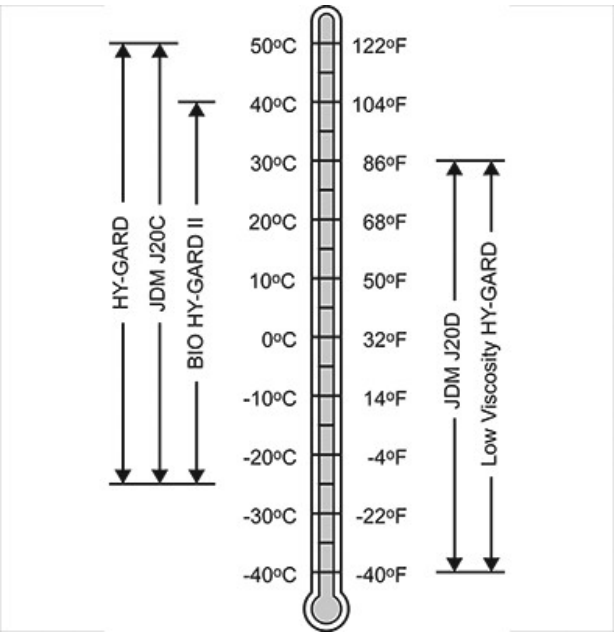
Store lubricants and containers in an area protected from dust, moisture, and other contamination. Store containers on their side to avoid water and dirt accumulation.

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 and Hydraulic Oil



RG30204—UN—08MAR18

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

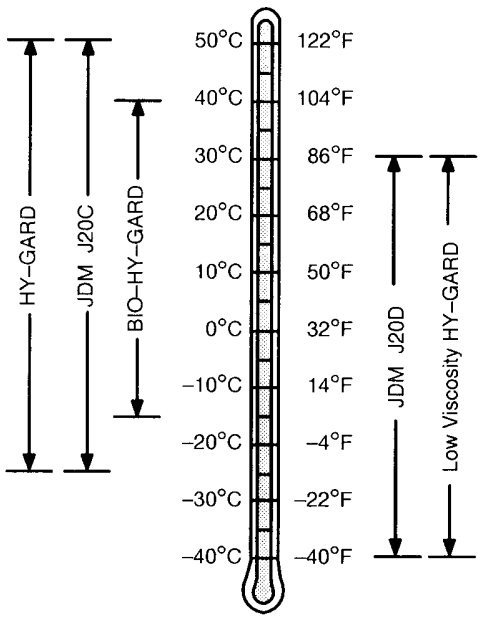
Use John Deere Bio Hy-Gard™ II oil when a biodegradable fluid is required.[1]

DX,ANTI-19-01JAN18

Hy-Gard is a trademark of Deere & Company
Bio Hy-Gard is a trademark of Deere & Company

[1] *Bio Hy-Gard II meets or exceeds the minimum biodegradability of 80% within 21 days according to CEC-L-33-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.*

Mid-Frame Roller Oil



TS1651—UN—14MAR96

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:

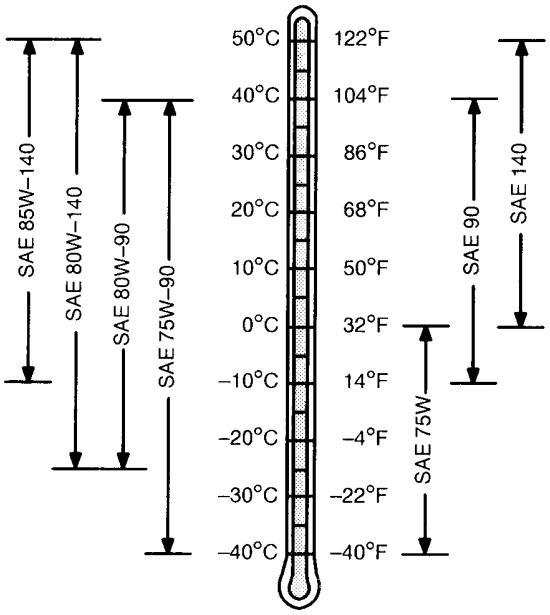
- John Deere Standard JDM J20C
- John Deere Standard JDM J20D

Use the following oil when a biodegradable fluid is required:

John Deere BIO-HY-GARD™[2]

RX32825,0000435-19-10JUL12

Gear Oil



TS1653—UN—14MAR96

Oil Viscosities 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 GL-5 Gear Lubricant
- John Deere EXTREME-GARD™

Other oils may be used if they meet the following:

- API Service Category GL-5

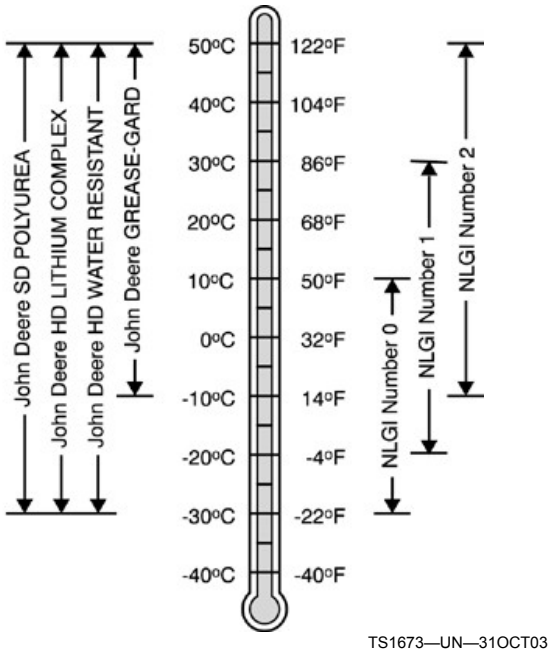
DX,GEOIL-19-14APR11

HY-GARD is a trademark of Deere & Company
BIO-HY-GARD is a trademark of Deere & Company

[2] BIO-HY-GARD meets or exceeds the minimum biodegradability of 80% within 21 days according to CEC-L-33-T-82 test method. BIO-HY-GARD should not be mixed with mineral oils because this reduces the biodegradability and makes proper oil recycling impossible

EXTREME-GARD is a trademark of Deere & Company

Grease



TS1673—UN—31OCT03

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 HD Water Resistant Grease
- John Deere GREASE-GARD™

Other greases may be used if they meet the following:

- NLGI Performance Classification GC-LB

IMPORTANT: Some types of grease thickeners are not compatible with others. Consult your grease supplier before mixing different types of grease.

DX,GREA1-19-14APR11

Corn Head Grease

John Deere Corn Head Grease is recommended.

You may also use SAE Multipurpose Grease with Extreme Pressure (EP) Performance and meeting NLGI Consistency Number 0.

DX,CORN-19-11APR11

GREASE-GARD is a trademark of Deere & Company

Service Sections Overview

CAUTION: Avoid personal injury. After completing any service procedure, reinstall any shields or covers that have been removed and close and securely latch hood.

IMPORTANT: This publication is not a detailed service manual. Procedures shown cover routine maintenance and service. For more detailed service information, purchase a Technical Manual through your John Deere dealer.

IMPORTANT: Recommended service intervals are for average conditions. Service more often if tractor is operated under adverse conditions.

Service sections provide information on service processes and procedures.

Fuel, Lubrication, and Coolants Sections: Information on approved fluids for operation and service. Also included are guides to selection of correct service intervals for such procedures as engine oil refill.

Break-In Service: Perform listed services during first 100 hours of operation.

Engine Oil and Filter Change: Acceptable engine oils based on emissions configuration of tractor engine. Indicate which oil was used for refill and complete data block at each service.

Annual Service: Services listed are performed annually or at some multiple of years. Complete service and data block.

As Required Service: Complete records for services and repairs that are performed at other than regular service intervals.

Daily or 10 Hour and 50 Hour Services: Perform these services every day or every 10 hours and every 50 hours. Forms do not include check boxes. All services listed for these intervals are included on hourly service interval charts.

Hourly Interval Services: Charts are provided based on standard service intervals. Tasks on charts match organization of service procedure sections (example: Service – Clean). Individual service procedures are grouped within these sections (example: Dual Beam Radar Sensor).

When listed operating hours have elapsed, stop tractor as soon as practical and complete all listed services. Check off services as completed.

Engine hour meter can be used to signal time to perform these services. Meter operates whenever engine is running and shows actual accumulated hours of engine operation. Engine hour meter is factory set to 250 hours, but can be reset to any desired elapsed time. See Service Intervals in CommandCenter™ section of this Operator's Manual.

Master charts are provided for service interval of up to 6000 hours. An additional set of charts allow recording services beyond 6000 hours.

Service Procedure Sections: Various scheduled and unscheduled service procedures are organized by procedure type within six sections. Appropriate Service sections and task names are referenced in Service Record Charts (example: Change: Engine Oil and Filter). Electrical section includes all service information for lighting, fuses, and relays.

Troubleshooting Sections: Procedural troubleshooting is provided, as well as information on dealing with Diagnostic Trouble Codes (DTCs) that may display on the CommandCenter™ .

RX32825,0001756-19-14JUN17

Service Tasks Performed As Required

IMPORTANT: Perform service tasks when instruments or tractor function indicates they are required, even if at a time other than specified in Service Interval charts.

Occasionally, operating conditions may require a scheduled service to be performed sooner than indicated on Service Interval charts (for example, air filters). When such a task is performed, record its completion in an As Required Service chart.

RX32825,00017C6-19-04JAN17

Identify Tractor Engine Emissions Status

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

Some service procedures differ depending upon emissions equipment with which tractor engine is equipped.

RX32825,0001764-19-14DEC16

Open Hood

CAUTION: Avoid injury. Close and latch hood securely before starting engine.

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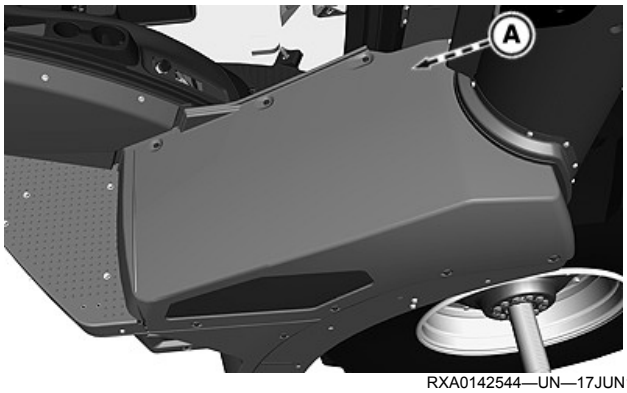
RXA0141758—UN—30MAY14

Pull hood release (A) and raise hood.

KT81203,0000927-19-15JUN17

Diesel Particulate Filter Service

IMPORTANT: Using incorrect or unapproved aftertreatment components can cause damage to vehicle's aftertreatment system and reduce ability of aftertreatment system to function correctly. Never interchange aftertreatment components between Interim Tier 4/Stage III B and vehicles equipped with other aftertreatment systems.



RXA0142544—UN—17JUN14

DPF Filter At Base Of Exhaust Pipe

Exhaust Filter includes Diesel Oxidation Catalyst (DOC) and Diesel Particulate Filter (DPF) (A). DPF is designed to retain residual ash, which is a noncombustible result of additives used in crankcase lubrication oils and the fuel. DPF provides many hours of maintenance free operation. At some point DPF will require professional service to remove accumulated ash. The exact number of hours of operation before service is required will vary depending upon engine's power category, duty cycle and operating conditions, engine oil ash content, and fuel quality. Adhering to John Deere's recommended oil and fuel specifications will maximize the hours of operation before professional DPF service is required.

As engine owner, you are responsible for performing the required maintenance described in your Operator's Manual. During normal equipment operation DPF maintenance requirements will depend on rate at which ash accumulates in it. As ash levels rise in DPF capacity for soot storage is reduced and the back pressure of the exhaust system will rise more frequently. The dash lamp indicator or diagnostic gauge will indicate when the DPF needs servicing.

Removal of DPF ash must be done by removing DPF from machine and placing it into specialized equipment. Do not remove ash by using water or other chemicals. Removing ash by these methods may damage the material securing the DPF in its canister, resulting in the loosening of the DPF element in the canister and subjecting it to damage from vibration.

Failure to follow approved ash removal methods may violate U.S. federal, state and local hazardous waste laws, along with damage to DPF resulting in potential denial of the emissions warranty. It is strongly recommended you take the DPF to an authorized John Deere service location or other qualified service provider for servicing.

CAUTION: Avoid fire or injury. Disable exhaust filter cleaning in conditions where it may be unsafe for elevated exhaust temperatures.

Disable automatic exhaust filter cleaning only when necessary.

SV81855,0000165-19-08AUG17

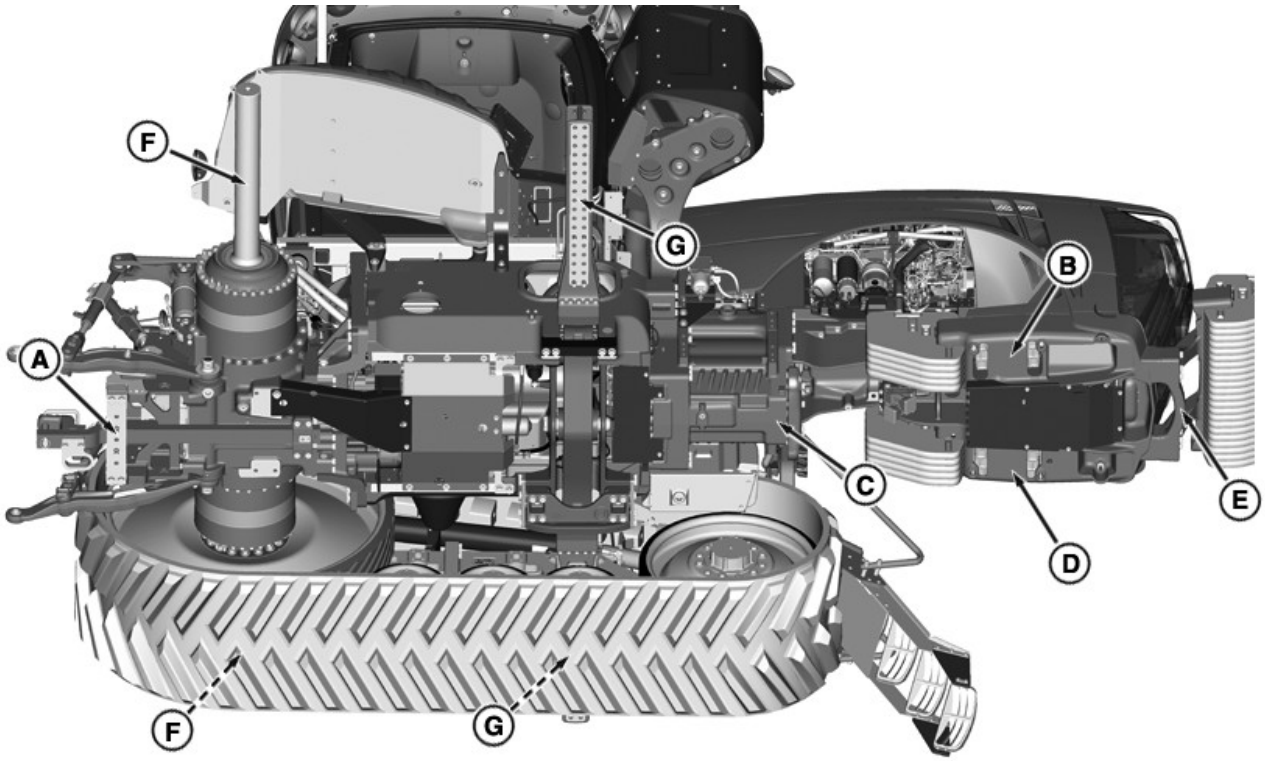
Jack Up Tractor - Lifting Points and Support Stand Placement (2010-52-EU)

CAUTION: Use approved lifting equipment only.

Jack up tractor on firm, level ground only. Before doing any further work on tractor, secure it using suitable support stands.

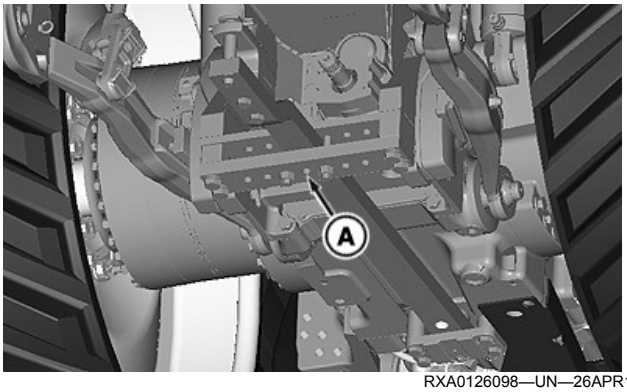
Special John Deere tools shown can be used for this purpose. Support stands are available from your John Deere dealer.

Recommended lifting points for jacking up tractor. Use appropriate and suitable lifting device.



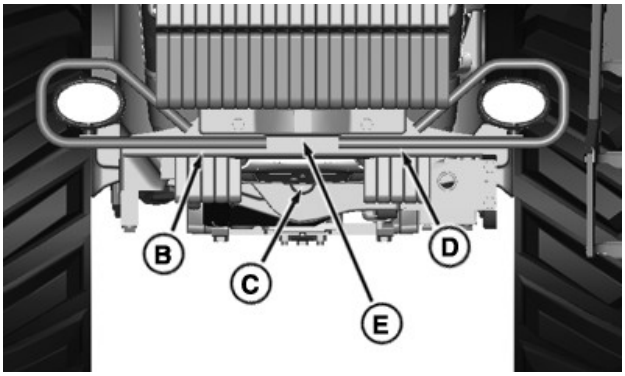
RXA0144015—UN—29JUL14

Underside View, Lift Points/Support Stand Placement



RXA0126098—UN—26APR12

Rear Lift Point



RXA0126096—UN—26APR12

Front Lift Points

A— Raise rear of tractor (example: to remove or adjust tracks)

B— Raise right-hand side of front support frame (example: to remove or adjust right-hand track)

C— Raise transmission case (example: to lift center of tractor for installing support stands)

D— Raise left-hand side of front support frame (example: to remove or adjust left-hand track)

E— Raise center of front weight support (example: to lift front end of tractor)

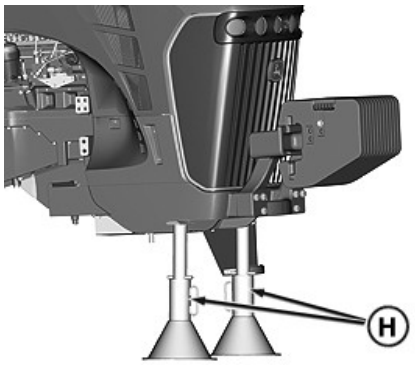
F— Rear axle support stand placement

G— Front axle support beam support stand placement

1. Disconnect battery ground cable. See Service Batteries and Connectors in Service - Electrical section of this Operator's Manual.

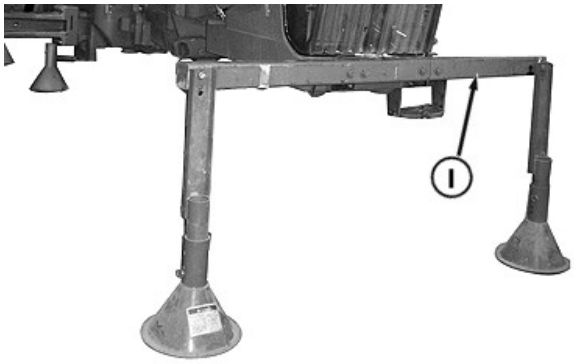
CAUTION: Avoid personal injury. Always use appropriate equipment to install, change, or uninstall weights. If appropriate equipment is not available, have job performed by your John Deere dealer.

2. Remove front weights.
3. Keeping tractor level, lift tractor until approximately 76 mm (3 in) clearance exists between belt tread and ground.



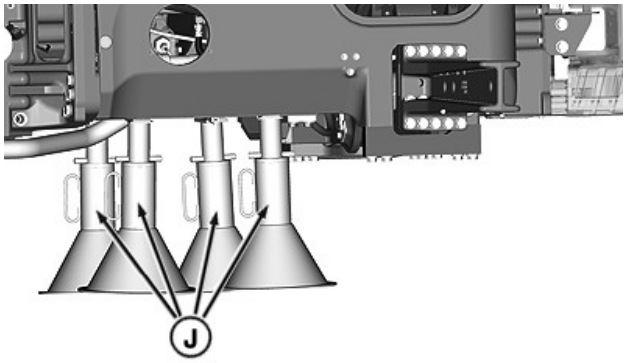
RXA0162393—UN—01MAR18

4. Install JT02044 Support Stands (H) to front frame support.



RXA0162394—UN—01MAR18

NOTE: DFRW233—Support Bar (I) installed on JDG1076A Cone Stand and Adapters. JT07211 Rear Differential Support Stands may be used for extra stability if desired.



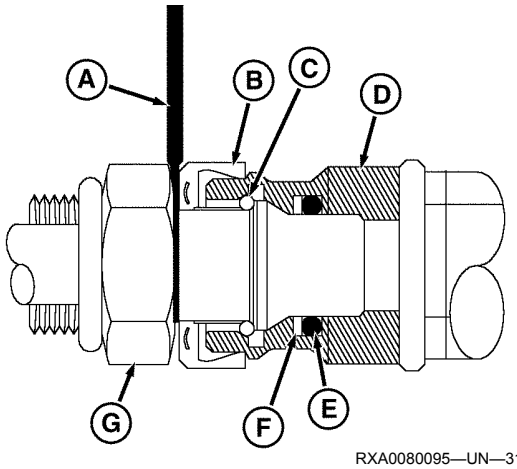
RXA0162395—UN—01MAR18

5. Install JT02043 Support Stands (J) to mid frame.

RD47322,0000210-19-08MAR18

Service and Connect STC® (Snap-to-Connect) Fittings

CAUTION: Do not disconnect STC® (Snap-to-Connect) fitting when under pressure. Failure to relieve pressure before disconnecting fitting may result in personal injury, damage to equipment or both.



RXA0080095—UN—31MAR05

STC® fittings are used on steel lines, hose connections and come in a variety of sizes. JDG1885 STC® tool (A) is designed as a spacer to move release ring (B) inward which releases retaining ring (C). Purchase tool from your John Deere dealer.

IMPORTANT: Do not use tool to pry fittings apart. Prying with tool may damage fitting and tool.

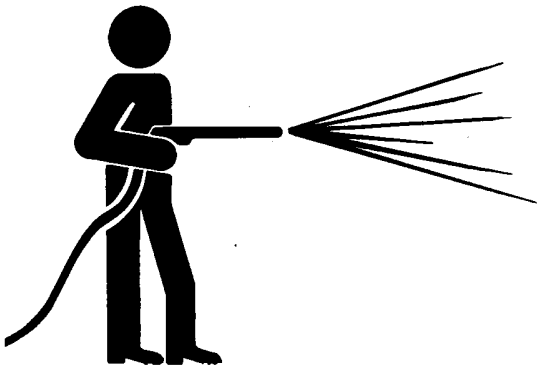
NOTE: If retaining ring, backup ring (F) or O-ring (E) are damaged, see your John Deere dealer for replacement kit and replace all three parts.

1. Insert correct STC® tool between release ring and fitting.
2. Remove hose or line from connector.
3. Before connecting STC® fitting, check mating surfaces for nicks, scratches or flat spots.
4. Check O-ring, backup ring and retaining ring for wear or damage.
5. Check that female end (D) and male end (G) are clean and free of contaminates.
6. Place release ring on male end fitting.
7. Push fitting halves together until a definite snap and solid stop is felt.
8. Pull back on hose to make sure that fitting halves are locked together.

RX32825,000175C-19-16JUN17

STC is a trademark of Eaton Corporation

High-Pressure Washer Use



T6642EJ—UN—18OCT88

IMPORTANT: Avoid damage to components. Never aim pressurized water spray directly at electronic/electrical components or connectors, bearings and hydraulic seals, fuel injection pumps, exhaust outlet, tank fill openings, or other sensitive parts and components. Reduce pressure and spray at a 45 to 90 degree angle.

RX32825,000175D-19-01NOV16

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

Do Not Modify Fuel System

IMPORTANT: Increasing horsepower, or altering any aspect of fuel and air delivery on emissions certified engines beyond factory rating, will cause emission levels beyond what is approved by United States Environmental Protection Agency (EPA) or equivalent agency. Violations of regulations may result in substantial fines to persons or companies committing such violations.

Tractor warranty is void if power level is changed from factory specifications.

Do not attempt to service injection pump or fuel injectors. Special training and special tools are required. See your John Deere dealer.

RX32825,000175E-19-01AUG17

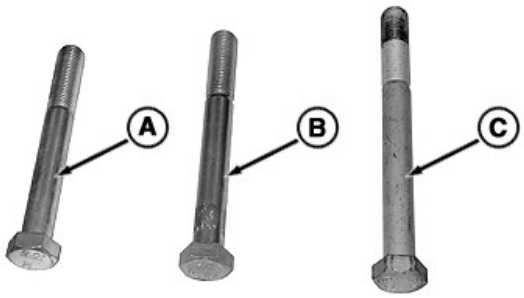
Bleed Fuel System

If Diagnostic Trouble Code (DTC) indicates fuel system problem, and fuel system and filters are found to be correct - or if (even without a DTC present) tractor does not run correctly or fails to start, fuel injection system may need to be bled of air.

Turn key switch to run position. Electric fuel pump will start and bleed air from fuel system. Allow pump to run for 30 seconds to 1 minute before attempting an engine restart. If problem persists, see your John Deere dealer.

SV81855,00001F2-19-21JUL17

Identify Zinc-Flake Coated Fasteners



RXA0073812—UN—03MAR04

Standard cap screws (A) are of a reflective silver color.

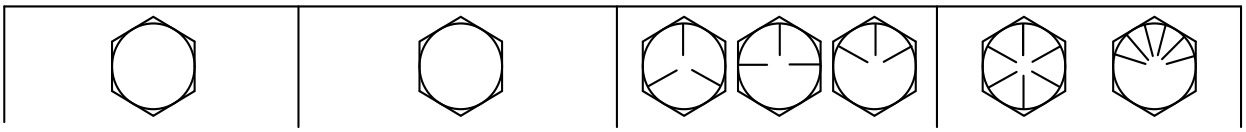
Zinc Plated cap screws (B) are of a reflective bright silver or gold color.

Zinc-Flake Coated cap screws (C) are of a dull silver or gold color.

NOTE: Zinc-Flake Coated fasteners are tightened to lubricated specifications, unless otherwise noted. See Torque Value Charts in this Operator's Manual section.

RX32825,0001761-19-08NOV17

Unified Inch Bolt and Screw Torque Values



TS1671—UN—01MAY03

Bolt or Screw Size	SAE Grade 1				SAE Grade 2[a]				SAE Grade 5, 5.1 or 5.2				SAE Grade 8 or 8.2			
	Lubricated[b]		Dry[c]		Lubricated[b]		Dry[c]		Lubricated[b]		Dry[c]		Lubricated[b]		Dry[c]	
	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	3.7	33	4.7	42	6	53	7.5	66	9.5	84	12	106	13.5	120	17	150
													N·m	lb.-ft.	N·m	lb.-ft.
5/16	7.7	68	9.8	86	12	106	15.5	137	19.5	172	25	221	28	20.5	35	26
									N·m	lb.-ft.	N·m	lb.-ft.				
3/8	13.5	120	17.5	155	22	194	27	240	35	26	44	32.5	49	36	63	46
			N·m	lb.-ft.	N·m	lb.-ft.	N·m	lb.-ft.								
7/16	22	194	28	20.5	35	26	44	32.5	56	41	70	52	80	59	100	74
	N·m	lb.-ft.														
1/2	34	25	42	31	53	39	67	49	85	63	110	80	120	88	155	115
9/16	48	35.5	60	45	76	56	95	70	125	92	155	115	175	130	220	165
5/8	67	49	85	63	105	77	135	100	170	125	215	160	240	175	305	225
3/4	120	88	150	110	190	140	240	175	300	220	380	280	425	315	540	400
7/8	190	140	240	175	190	140	240	175	490	360	615	455	690	510	870	640
1	285	210	360	265	285	210	360	265	730	540	920	680	1030	760	1300	960
1-1/8	400	300	510	375	400	300	510	375	910	670	1150	850	1450	1075	1850	1350
1-1/4	570	420	725	535	570	420	725	535	1280	945	1630	1200	2050	1500	2600	1920
1-3/8	750	550	950	700	750	550	950	700	1700	1250	2140	1580	2700	2000	3400	2500
1-1/2	990	730	1250	930	990	730	1250	930	2250	1650	2850	2100	3600	2650	4550	3350

Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For plastic insert or crimped steel type lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application. Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.

Replace fasteners with the same or higher grade. If higher grade fasteners are used, tighten these to the strength of the original. Make sure fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts or wheel nuts, unless different instructions are given for the specific application.

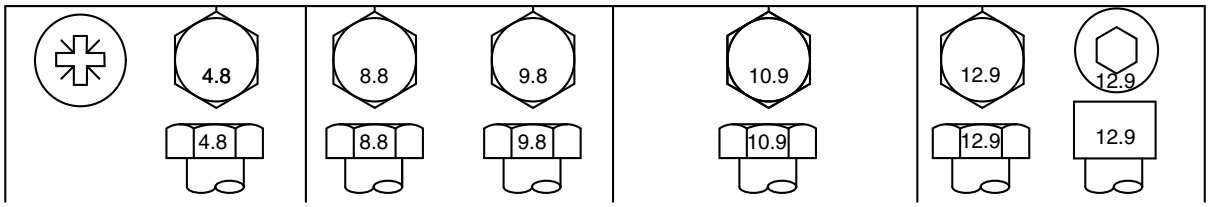
[a] Grade 2 applies for hex cap screws (not hex bolts) up to 6 in. (152 mm) long. Grade 1 applies for hex cap screws over 6 in. (152 mm) long, and for all other types of bolts and screws of any length.

[b] "Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or 7/8 in. and larger fasteners with JDM F13C, F13F or F13J zinc flake coating.

[c] "Dry" means plain or zinc plated without any lubrication, or 1/4 to 3/4 in. fasteners with JDM F13B, F13E or F13H zinc flake coating.

DX,TORQ1-19-12JAN11

Metric Bolt and Screw Torque Values



TS1670—UN—01MAY03

Bolt or Screw Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Lubricated[a]		Dry[b]		Lubricated[a]		Dry[b]		Lubricated[a]		Dry[b]		Lubricated[a]		Dry[b]	
	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.
M6	4.7	42	6	53	8.9	79	11.3	100	13	115	16.5	146	15.5	137	19.5	172
									N·m	lb.-ft.	N·m	lb.-ft.	N·m	lb.-ft.	N·m	lb.-ft.
M8	11.5	102	14.5	128	22	194	27.5	243	32	23.5	40	29.5	37	27.5	47	35
			N·m	lb.-ft.	N·m	lb.-ft.	N·m	lb.-ft.								
M10	23	204	29	21	43	32	55	40	63	46	80	59	75	55	95	70
	N·m	lb.-ft.														
M12	40	29.5	50	37	75	55	95	70	110	80	140	105	130	95	165	120
M14	63	46	80	59	120	88	150	110	175	130	220	165	205	150	260	190
M16	100	74	125	92	190	140	240	175	275	200	350	255	320	235	400	300
M18	135	100	170	125	265	195	330	245	375	275	475	350	440	325	560	410
M20	190	140	245	180	375	275	475	350	530	390	675	500	625	460	790	580
M22	265	195	330	245	510	375	650	480	725	535	920	680	850	625	1080	800
M24	330	245	425	315	650	480	820	600	920	680	1150	850	1080	800	1350	1000
M27	490	360	625	460	950	700	1200	885	1350	1000	1700	1250	1580	1160	2000	1475
M30	660	490	850	625	1290	950	1630	1200	1850	1350	2300	1700	2140	1580	2700	2000
M33	900	665	1150	850	1750	1300	2200	1625	2500	1850	3150	2325	2900	2150	3700	2730
M36	1150	850	1450	1075	2250	1650	2850	2100	3200	2350	4050	3000	3750	2770	4750	3500

Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For stainless steel fasteners or for nuts on U-bolts, see the tightening instructions for the specific application. Tighten plastic insert or crimped steel type lock nuts by turning the nut to the dry torque shown in the chart, unless different instructions are given for the specific application.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical property class. Replace fasteners with the same or higher property class. If higher property class fasteners are used, tighten these to the strength of the original. Make sure fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts or wheel nuts, unless different instructions are given for the specific application.

[a] *"Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or M20 and larger fasteners with JDM F13C, F13F or F13J zinc flake coating.*

[b] *"Dry" means plain or zinc plated without any lubrication, or M6 to M18 fasteners with JDM F13B, F13E or F13H zinc flake coating.*

DX,TORQ2-19-12JAN11

Service - Predelivery Checklist

Predelivery Checklist

NOTE: Make a copy of this checklist and complete while performing.

NOTE: Tractor may not be equipped with some options listed.

The following inspection, adjustment and service work was performed prior to delivery of this machine.

Perform following checks before operating tractor:

☐ 1. Engine oil level is between low and full marks.
☐ 2. Coolant level is correct.
☐ 3. Air cleaner elements are installed correctly.
☐ 4. Air intake system clamps are tight.
☐ 5. Transmission-hydraulic and axle oil levels are correct.
☐ 6. Lubrication fittings are greased.
☐ 7. Shields, guards, handrails and steps are installed correctly.
☐ 8. Exterior and interior labels are smooth and neat.

Tractor is free of:

☐ 9. Coolant leaks.
☐ 10. Engine oil leaks.
☐ 11. Fuel leaks.
☐ 12. Transmission, hydraulic and axle oil leaks.
☐ 13. Paint defects.

Perform checks inside cab:

☐ 1. Check for diagnostic trouble codes. If codes are present, record codes and see Service ADVISOR™ to resolve and repair as needed. Clear all codes.
☐ 2. All brake systems operate correctly.
- Service brakes
- Parking brake
- Hydraulic or air trailer brake (if equipped)
- Secondary brake (If equipped)

☐ 3. Transmission operates correctly (including PARK position).
☐ 4. Neutral start switch operates correctly.
☐ 5. SCVs operate correctly.
☐ 6. Rear and front hitches operate correctly.
☐ 7. Rear and front PTOs operate correctly.
☐ 8. Warning system lights and instrument displays and gauges operate correctly.
☐ 9. All lights operate correctly in all switch positions.
☐ 10. Engine fast and slow idle are set correctly.
☐ 11. Seat can be adjusted properly.
☐ 12. Check seat belt integrity. Seat belt latches function correctly.
☐ 13. Doors operate correctly.
☐ 14. Cab is clean and upholstery appearance neat.
☐ 15. Premium radio region code set for location.
☐ 16. Radio operates correctly.
☐ 17. Washers and wipers operate correctly.
☐ 18. Heater, ventilation and air conditioning system operates correctly. For details see separate information leaflet in tractor cab.
☐ 19. All optional equipment is installed and operates correctly.

Dealer Services:

☐ 1. Thoroughly wash tractor.
☐ 2. Charge battery and set battery date code.
☐ 3. Replace transport rain cap with muffler extension.
☐ 4. Check and adjust tire pressure.
☐ 5. Adjust wheel spacing for customer needs.
☐ 6. Check track tread settings and track alignment.
☐ 7. Check and adjust toe-in, pivoting fenders and steering stops.

IMPORTANT: Failure to follow track tractor road transport recommendations may void tractor warranty. See Transport section and General Track Use Guidelines in Tracks – General Information section of this Operator's Manual.

☐ 8. Perform track system break-in procedure. See Perform Track Systems Break-In in Break-In Service (100 Hours or Less) section of this Operator's Manual.

IMPORTANT: Retighten wheel bolts after working 3 hours and again after 10 hours. Continue to tighten to specified torque daily during first week of operation.

☐ 9. Tighten wheels and weights to specifications (even if no adjustments are made).
☐ 10. Tighten track drive wheel, drive wheel sleeve, idler wheel and mid-roller cap screws to specifications (even if no adjustments are made).
☐ 11. Tighten loader bracket hardware to specifications.
☐ 12. Reposition all components from shipping to operating positions (for example, mirrors.)
☐ 13. Adjust all lights, including extremity transport warning lights and beacon light. Check all lights for compliance with local regulations.
☐ 14. Adjust hitch components and lock in position.
☐ 15. Install Slow Moving Vehicle emblem (if required).

- ☐ 16. Check optional trailer hitches for proper operation.
- ☐ 17. If a loader is installed and tractor is equipped with TouchSet™ hydraulic control, ensure that detent times are set to 0. Recalibrate joystick (if required).
- ☐ 18. Set up CommandCenter™ display to customer preference.
- ☐ 19. Activate Automatic Exhaust Cleaning Mode in CommandCenter™.
- ☐ 20. Install StarFire™ receiver.
- ☐ 21. Set up JDLink™ customer account.
- ☐ 22. Perform test drive. Verify correct function of all systems, including transmission, brakes, and steering.
- ☐ 23. Calibrate radar.
- ☐ 24. Check for diagnostic trouble codes. If codes are present, record codes and see Service ADVISOR™ to resolve and repair as needed. Clear all codes.

Date and signature of dealer/service technician:

KT81203,0000634-19-31OCT17

TouchSet is a trademark of Deere & Company
CommandCenter is a trademark of Deere & Company
StarFire is a trademark of Deere & Company
JDLink is a trademark of Deere & Company
Service ADVISOR is a trademark of Deere & Company

Service - Delivery Checklist and Certificate

Delivery Checklist and Certificate

Make two copies of this form. Complete one copy for customer and retain a second copy for dealer records.
☐ Customer Copy ☐ Dealer Copy

Delivery Checklist

At the Dealer:
□ Predelivery inspection completed
□ All necessary forms and literature available
□ Labels installed
□ Customer specified attachments and options are installed or available

IMPORTANT: Retighten wheel bolts after working *3 hours* and again after *10 hours*. Continue to tighten to specified torque *daily* during first week of operation.
□ **Check hardware is tight on frame, drawbar support, wheels, and wheel weights or track system components**

At Delivery Area with Customer:
(shown and explained)
□ All warning labels on machine
□ Location of all serial numbers on machine
□ Operator's Manual
□ Help Text access and function
□ Lubrication and service points on machine and attachments
□ Tire or track maintenance and care
□ Use of lubrication and maintenance schedules
□ Break-in service procedures
□ Warranty coverage and procedure

Demonstrated operating procedures:
□ Engine—throttle, starting and stopping
□ Transmission
□ Steering
□ Brakes
□ Hitch and SCVs
□ Differential lock
□ PTO
□ Three-point hitch adjustment
□ iTEC™ system
□ Lights
□ Wipers
□ Heater
□ Air conditioning
□ CommandCenter™ display and controls
□ Operator's seat

iTEC is a trademark of Deere & Company
CommandCenter is a trademark of Deere & Company

Delivery Certificate

Serial number:

Vehicle Model:

OM Number:

Issue:

Registration No.:

Engine No.:

Delivery Date:

Owner's Name:

Delivery Hours:

Street Address:

Dealership:

City/State:

Dealer's Stamp:

ZIP/Postal Code/Country:

I hereby confirm receiving the tractor in good condition complete with Operator's Manual. I have received the Operator's Manual. All necessary work upon delivery has been carried out and I have been informed of the safe method of operation and the mandatory daily maintenance work as per the Delivery Checklist.

Customer's Signature: _____ Dealership Instructor's Signature: _____

Date: _____ Date: _____

KT81203,0000635-19-03MAY17

Service - Break In (100 Hours or Less)

Perform Break-In Services

IMPORTANT: Initial break-in service interval of a new or rebuilt wet sleeve engine with John Deere™ John Deere™ oil must last at least 100 hours to assure surface mating of rings and liners has had an opportunity to occur. 100 hour minimum interval applies to all new or rebuilt engines. Maximum service interval is the same as service interval recommended for your engine in Engine Oil and Filter Service Intervals of Fuel, Lubricants and Coolant section of this Operator Manual. To confirm which engine your tractor is equipped with, see Engine Serial Number in Identification Numbers section of this Operator's Manual.

For subsequent oil changes, see Engine Oil and Filter Service Intervals for your engine located in Engine Oil Section of this Operator's Manual.

Engine is ready for normal operation. During first 100 hour of operation:

- Operate engine at heavy loads without reaching sustained maximum load
- Avoid idling engine longer than 5 minutes. If engine will idle longer than 5 minutes, stop engine
- Check for fluid leaks
- Closely observe coolant temperature during operation
- Check engine air intake system hoses and clamps. See Service - Check section in this Operator's Manual.
- After service is performed, reset appropriate service interval hours display to zero. See Service Intervals in CommandCenter™ section of this Operator's Manual.

IMPORTANT: New tracks require specific initial break-in procedures to provide best operation and longest service life. See Perform Track Systems Break-In - in this section of this Operator's Manual - during initial track use, and whenever new tracks are installed.

Daily or Every 10 Hours

IMPORTANT: If engine oil must be added prior to first normal oil change, use John Deere™ Break-In Plus™ engine oil.

Perform normal daily or 10 hour services. See 10 Hour or Daily Service in Service - Record Charts section of this Operator's Manual.

For first 100 hours or tractor operation, also perform these additional services daily or every 10 hours:

John Deere is a trademark of Deere & Company
CommandCenter is a trademark of Deere & Company

- Drain water separator. See Water Separator in Service - Check section of this Operator's Manual.
- Check coolant level. See Service - Check section of this Operator's Manual.
- Lubricate rear hitch components. See Service - Lubricate section of this Operator's Manual.

RX32825,000075D-19-10FEB17

Perform Track Systems Break-In

Break-In Overview

IMPORTANT: Avoid roading at high speeds with a new set of tracks and wheels, especially during first 50-100 operating hours. Damage to drive lugs and wheels may result.

Track systems break-in takes place during first season of use. Correct break-in helps reduce amount of initial drive lug wear. During break-in, drive lugs and idlers undergo a “polishing in” process which:

- Scours out excess rubber flash inside drive wheels.
- Embeds fine dust particles in rubber surfaces to remove tackiness of new rubber.

Surface polishing reduces frictional heating in tracks system. During break-in, new rubber surfaces require contact with a dry lubricant such as soil. Avoid high speed operation (roading or higher speed tillage) where track system is run in absence of dust generated by dry soil contact (wet conditions or paved roads). Operating in these conditions for lengthy periods may cause excessive early hour drive lug wear.

Perform initial break-in and alignment before any high-speed tractor operation. Excessively clean frictional track components (belts, drive wheels, front idlers and mid-rollers) can generate significant heat if run unlubricated. This heat is capable of damaging components. Break in and align new components as outlined.

Initial Break-In

IMPORTANT: Avoid track and track system component damage. Before driving tractor on road for first time, pre-condition tracks with loose soil or clay based lubricant. Repeat application of lubricant or soil at least every 50 miles until destination is reached.

After installation of new or cleaned track belts or other frictional components, expose clean components to materials to lubricate and break them in.

- Work tractor in field in loose soil for at least 15 minutes.
- If tractor cannot be exposed to loose soil, use a “clay based” granular material (clay based lubricant, kitty

litter, oil-dry absorbent or talc powder) to introduce a “joint” area between drive wheels and belts continuously for at least 15 minutes.

After Break-In

IMPORTANT: After initial 100 hour break-in and alignment, long-term break-in process (up to 400 hours) will likely occur. During this period, maximize exposure of tracks to soft soil and minimize high speed, heavily loaded transport operation.

TS36762,000034B-19-29SEP17

Service - Record Charts

Engine Oil and Filter Change

IMPORTANT: Engine oil change intervals can vary depending upon operating conditions. Use only oil approved for your engine emissions type. See Engine Oil section in this Operator's Manual. Record completed service in chart.

Date	Hours of Operation	Engine Oil Used	Signature	Dealer's Stamp

Date	Hours of Operation	Engine Oil Used	Signature	Dealer's Stamp

RX32825,000177D-19-13SEP17

As Required Service

IMPORTANT: Some service tasks do not have scheduled requirements. Occasionally, normally scheduled services must be performed outside of their scheduled interval. Completion of these services is necessary when tractor performance or instruments indicate that they are required. See appropriate Service section for information. Record completed service in chart.

Date	Service Completed	Signature	Dealer's Stamp

Date	Service Completed	Signature	Dealer's Stamp

Date	Service Completed	Signature	Dealer's Stamp

RX32825,0001747-19-12SEP17

Annual Service

IMPORTANT: Not all of these services must be performed each year. Perform services based on number of years of tractor operation completed, regardless of accumulated hours of operation. Record completed service in chart.

Check:

• Seat belts[a]	• Engine coolant freeze point[a]	• Vari-Cool™ fan drive and belt—Final Tier 4/ Stage IV engine[b]

Vari-Cool is a trademark of Deere & Company
[a]Check annually or every 1000 operating hours, whichever occurs first.
[b]Check annually or every 500 operating hours, whichever occurs first.

Change:

• Engine oil and filter[ab] • Cab recirculation and fresh air filters[c] • Engine primary and secondary air filters[c]	• Engine coolant[d] • DEF tank vent filter—Final Tier 4/Stage IV engine[e]	• DEF dosing unit filter—Final Tier 4/Stage IV engine[f] • Front suspension air compressor inlet filter

[a]Service in accordance with information in appropriate Diesel Oil and Filter Service Intervals topic in Engine Oil section of this Operator's Manual. Record oil used in Service - Record Charts - Engine Oil and Filter.
[b]Change at least once per year.
[c]Change annually or every 1000 operating hours, whichever occurs first.
[d]INITIAL change interval is 6 years or 6000 operating hours, provided cooling system is topped off using only John Deere Cool-Gard™ II and premix. SCHEDULED interval (2 years or 2000 operating hours) can be extended up to 6 years and 6000 operating hours, depending upon coolant being used. See Drain Intervals for Diesel Engine Coolant in Engine Coolant section of this Operator's Manual.
[e]Change after first year or first 1500 operating hours, whichever occurs first. After initial service, change every 3 years or 4500 operating hours, whichever occurs first.
[f]Change every 4500 operating hours or 3 years, whichever occurs first.

Lubricate:

• Vari-Cool™fan drive—Final Tier 4/Stage IV engine[a]		

Vari-Cool is a trademark of Deere & Company
[a]Lubricate annually or every 500 operating hours, whichever occurs first. No service if grease fitting is not present.

Electrical:

• Service batteries and connectors[a]		

[a] *Service annually.*

Year	Date	Signature	Dealer's Stamp
1			
2			
3			
4			
5			
6			
7			
8			
9			

RX32825,00017EA-19-14FEB18

10 Hour or Daily Service

IMPORTANT: Perform these services every 10 hours or daily, whichever occurs first.

Check:

• Engine oil level • Transmission-hydraulic oil level	• Track alignment • Track wear	• Mid-rollers, drive, and idler wheels • Track trash buildup

RX32825,00017EB-19-21APR17

50 Hour Service

IMPORTANT: Perform these services every 50 hours.

Check:

• Engine oil level • Transmission-hydraulic oil level	• Track alignment • Track wear	• Mid-rollers, drive, and idler wheels • Track trash buildup

Lubricate:

• Rear hitch[a]		

[a]*Normal lubrication is every 250 operating hours. If used daily, lubricate every 50 operating hours.*

RX32825,00017EC-19-17AUG17

250 Hour Service

Clean:

☐ Suspension compressor filter, compressor, and air bag		

Check:

☐ Engine oil level	☐ Track wear	☐ NEUTRAL start system
☐ Transmission-hydraulic oil level	☐ Mid-rollers, drive, and idler wheels	☐ Transmission PARK system
☐ Track alignment	☐ Track trash buildup	☐ Walking beam air suspension system

Lubricate:

☐ Rear hitch[a]	☐ Track tension cylinders	

[a]*Normal lubrication is every 250 operating hours. If used daily, lubricate every 50 operating hours.*

Service Completed Date: _____ Signature: _____ Dealer Stamp:

Comments:

KD34109,0000595-19-17AUG17

500 Hour Service

Clean:

☐ Suspension compressor filter, compressor, and air bag	☐ Dual beam radar sensor	☐ Optional fuel water separator and filter element

Check:

☐ Engine oil level	☐ Mid-rollers, drive, and idler wheels	☐ Walking beam air suspension system
☐ Transmission-hydraulic oil level	☐ Track trash buildup	☐ Engine air intake system
☐ Track alignment	☐ NEUTRAL start system	☐ Vari-Cool™ fan drive and belt—Final Tier 4/ Stage IV engine[a]
☐ Track wear	☐ Transmission PARK system	

Vari-Cool is a trademark of Deere & Company
[a]*Check annually or every 500 operating hours, whichever occurs first.*

Tighten:

☐ Drive wheel, drive wheel sleeve, wedges, idler, and mid-roller cap screws		

Change:

☐ Engine oil and filter[ab]	☐ Fuel filters[c]	

[a]Service in accordance with information in appropriate Diesel Oil and Filter Service Intervals topic in Engine Oil section of this Operator's Manual. Record oil used in Service - Record Charts - Engine Oil and Filter.
[b]Change at least once per year.
[c]Change every 500 operating hours or as indicated, whichever occurs first.

Lubricate:

☐ Rear hitch[a]	☐ Track tension cylinders	☐ Vari-Cool™fan drive—Final Tier 4/Stage IV engine[b]

Vari-Cool is a trademark of Deere & Company
[a]Normal lubrication is every 250 operating hours. If used daily, lubricate every 50 operating hours.
[b]Lubricate annually or every 500 operating hours, whichever occurs first. No service if grease fitting is not present.

Service Completed Date: _____ Signature: _____ Dealer Stamp:

Comments:

KD34109,0000596-19-14FEB18

750 Hour Service

Clean:

☐ Suspension compressor filter, compressor, and air bag		

Check:

☐ Engine oil level	☐ Track wear	☐ NEUTRAL start system
☐ Transmission-hydraulic oil level	☐ Mid-rollers, drive, and idler wheels	☐ Transmission PARK system
☐ Track alignment	☐ Track trash buildup	☐ Walking beam air suspension system

Lubricate:

☐ Rear hitch[a]	☐ Track tension cylinders	

[a]Normal lubrication is every 250 operating hours. If used daily, lubricate every 50 operating hours.

Service Completed Date: _____ Signature: _____ Dealer Stamp:

Comments:

KD34109,0000597-19-17AUG17

1000 Hour Service

Clean:

☐ Suspension compressor filter, compressor, and air bag	☐ Dual beam radar sensor	☐ Optional fuel water separator and filter element

Check:

☐ Engine oil level ☐ Transmission-hydraulic oil level ☐ Track alignment ☐ Track wear ☐ Mid-rollers, drive, and idler wheels	☐ Track trash buildup ☐ NEUTRAL start system ☐ Transmission PARK system ☐ Walking beam air suspension system	☐ Engine air intake system ☐ Vari-Cool™ fan drive and belt—Final Tier 4/ Stage IV engine[a] ☐ Engine coolant freeze point[b] ☐ Walking beam bumper stops

Vari-Cool is a trademark of Deere & Company
[a]Check annually or every 500 operating hours, whichever occurs first.
[b]Check annually or every 1000 operating hours, whichever occurs first.

Tighten:

☐ Drive wheel, drive wheel sleeve, wedges, idler, and mid-roller cap screws		

Change:

☐ Engine oil and filter[ab] ☐ Fuel filters[c]	☐ Cab recirculation and fresh air filters[d]	☐ Engine primary and secondary air filters[d]

[a]Service in accordance with information in appropriate Diesel Oil and Filter Service Intervals topic in Engine Oil section of this Operator's Manual. Record oil used in Service - Record Charts - Engine Oil and Filter.
[b]Change at least once per year.
[c]Change every 500 operating hours or as indicated, whichever occurs first.
[d]Change annually or every 1000 operating hours, whichever occurs first.

Lubricate:

☐ Rear hitch[a]	☐ Track tension cylinders	☐ Vari-Cool™fan drive—Final Tier 4/Stage IV engine[b]

Vari-Cool is a trademark of Deere & Company
[a]Normal lubrication is every 250 operating hours. If used daily, lubricate every 50 operating hours.
[b]Lubricate annually or every 500 operating hours, whichever occurs first. No service if grease fitting is not present.

Service Completed Date: _____ Signature: _____ Dealer Stamp:

Comments:

KD34109,0000598-19-14FEB18

1250 Hour Service

Clean:

☐ Suspension compressor filter, compressor, and air bag		

Check:

☐ Engine oil level	☐ Track wear	☐ NEUTRAL start system
☐ Transmission-hydraulic oil level	☐ Mid-rollers, drive, and idler wheels	☐ Transmission PARK system
☐ Track alignment	☐ Track trash buildup	☐ Walking beam air suspension system

Lubricate:

☐ Rear hitch[a]	☐ Track tension cylinders	

[a]Normal lubrication is every 250 operating hours. If used daily, lubricate every 50 operating hours.

Service Completed Date: _____ Signature: _____ Dealer Stamp:

Comments:

KD34109,0000599-19-17AUG17

1500 Hour Service

Clean:

☐ Suspension compressor filter, compressor, and air bag	☐ Optional fuel water separator and filter element	☐ Hydraulic oil suction screen
☐ Dual beam radar sensor		

Check:

☐ Engine oil level	☐ Track trash buildup	☐ Engine air intake system
☐ Transmission-hydraulic oil level	☐ NEUTRAL start system	☐ Vari-Cool™ fan drive and belt—Final Tier 4/ Stage IV engine[a]
☐ Track alignment	☐ Transmission PARK system	☐ Auxiliary drive belt and drive belt tensioner
☐ Track wear	☐ Walking beam air suspension system	☐ Drive wheel and idler hub and mid-roller oil level
☐ Mid-rollers, drive, and idler wheels		

Vari-Cool is a trademark of Deere & Company
[a]Check annually or every 500 operating hours, whichever occurs first.

Tighten:

☐ Drive wheel, drive wheel sleeve, wedges, idler, and mid-roller cap screws		

Change:

☐ Engine oil and filter[ab]	☐ Fuel tank vent filter	☐ Front suspension air compressor inlet filter
☐ Fuel filters[c]	☐ SCV pilot valve filter	☐ Steering filter
☐ Transmission-hydraulic oil and filters[d]	☐ DEF tank vent filter—Final Tier 4/Stage IV engine[e]	☐ Differential oil

[a]Service in accordance with information in appropriate Diesel Oil and Filter Service Intervals topic in Engine Oil section of this Operator's Manual. Record oil used in Service - Record Charts - Engine Oil and Filter.
[b]Change at least once per year.
[c]Change every 500 operating hours or as indicated, whichever occurs first.
[d]Completion of this service requires performance of tasks specific to each transmission type. See appropriate content in Service - Change section of this Operator's Manual.
[e]Change after first year or first 1500 operating hours, whichever occurs first. After initial service, change every 3 years or 4500 operating hours, whichever occurs first.

Lubricate:

☐ Rear hitch[a] ☐ Track tension cylinders	☐ Vari-Cool™fan drive—Final Tier 4/Stage IV engine[b]	☐ Draft link support shaft bushing

Vari-Cool is a trademark of Deere & Company
[a]Normal lubrication is every 250 operating hours. If used daily, lubricate every 50 operating hours.
[b]Lubricate annually or every 500 operating hours, whichever occurs first. No service if grease fitting is not present.

Service Completed Date: _____ Signature: _____ Dealer Stamp:

Comments:

KD34109,000059A-19-14FEB18

1750 Hour Service

Clean:

☐ Suspension compressor filter, compressor, and air bag		

Check:

☐ Engine oil level	☐ Track wear	☐ NEUTRAL start system
☐ Transmission-hydraulic oil level	☐ Mid-rollers, drive, and idler wheels	☐ Transmission PARK system
☐ Track alignment	☐ Track trash buildup	☐ Walking beam air suspension system

Lubricate:

☐ Rear hitch[a]	☐ Track tension cylinders	

[a]Normal lubrication is every 250 operating hours. If used daily, lubricate every 50 operating hours.

Service Completed Date: _____ Signature: _____ Dealer Stamp:

Comments:

KD34109,000059B-19-17AUG17

2000 Hour Service

Clean:

☐ Suspension compressor filter, compressor, and air bag	☐ Dual beam radar sensor	☐ Optional fuel water separator and filter element

Check:

☐ Engine oil level ☐ Transmission-hydraulic oil level ☐ Track alignment ☐ Track wear ☐ Mid-rollers, drive, and idler wheels	☐ Track trash buildup ☐ NEUTRAL start system ☐ Transmission PARK system ☐ Walking beam air suspension system	☐ Engine air intake system ☐ Vari-Cool™ fan drive and belt—Final Tier 4/ Stage IV engine[a] ☐ Engine coolant freeze point[b] ☐ Walking beam bumper stops

Vari-Cool is a trademark of Deere & Company
[a]Check annually or every 500 operating hours, whichever occurs first.
[b]Check annually or every 1000 operating hours, whichever occurs first.

Tighten:

☐ Drive wheel, drive wheel sleeve, wedges, idler, and mid-roller cap screws		

Change:

☐ Engine oil and filter[ab] ☐ Fuel filters[c]	☐ Cab recirculation and fresh air filters[d] ☐ Vari-Cool™ Fan Drive bushings, seals, and wear pads—Final Tier 4/Stage IV engine[ef]	☐ Engine primary and secondary air filters[d]

[a]Service in accordance with information in appropriate Diesel Oil and Filter Service Intervals topic in Engine Oil section of this Operator's Manual. Record oil used in Service - Record Charts - Engine Oil and Filter.
[b]Change at least once per year.
[c]Change every 500 operating hours or as indicated, whichever occurs first.
[d]Change annually or every 1000 operating hours, whichever occurs first.
[e]9.0 L engine.
[f]In extreme conditions. Change every 4500 hours in normal conditions.

Lubricate:

☐ Rear hitch[a]	☐ Track tension cylinders	☐ Vari-Cool™fan drive—Final Tier 4/Stage IV engine[b]

Vari-Cool is a trademark of Deere & Company
[a]Normal lubrication is every 250 operating hours. If used daily, lubricate every 50 operating hours.
[b]Lubricate annually or every 500 operating hours, whichever occurs first. No service if grease fitting is not present.

Service Completed Date: _____ Signature: _____ Dealer Stamp:

Comments:

KD34109,000059C-19-23FEB18

2250 Hour Service

Clean:

☐ Suspension compressor filter, compressor, and air bag		

Check:

☐ Engine oil level	☐ Track wear	☐ NEUTRAL start system
☐ Transmission-hydraulic oil level	☐ Mid-rollers, drive, and idler wheels	☐ Transmission PARK system
☐ Track alignment	☐ Track trash buildup	☐ Walking beam air suspension system

Lubricate:

☐ Rear hitch[a]	☐ Track tension cylinders	

[a]Normal lubrication is every 250 operating hours. If used daily, lubricate every 50 operating hours.

Service Completed Date: _____ Signature: _____ Dealer Stamp:

Comments:

KD34109,000059D-19-17AUG17

2500 Hour Service

Clean:

☐ Suspension compressor filter, compressor, and air bag	☐ Dual beam radar sensor	☐ Optional fuel water separator and filter element

Check:

☐ Engine oil level	☐ Mid-rollers, drive, and idler wheels	☐ Walking beam air suspension system
☐ Transmission-hydraulic oil level	☐ Track trash buildup	☐ Engine air intake system
☐ Track alignment	☐ NEUTRAL start system	☐ Vari-Cool™ fan drive and belt—Final Tier 4/ Stage IV engine[a]
☐ Track wear	☐ Transmission PARK system	

Vari-Cool is a trademark of Deere & Company
[a]Check annually or every 500 operating hours, whichever occurs first.

Tighten:

☐ Drive wheel, drive wheel sleeve, wedges, idler, and mid-roller cap screws		

Change:

☐ Engine oil and filter[ab]	☐ Fuel filters[c]	

[a]Service in accordance with information in appropriate Diesel Oil and Filter Service Intervals topic in Engine Oil section of this Operator's Manual. Record oil used in Service - Record Charts - Engine Oil and Filter.
[b]Change at least once per year.
[c]Change every 500 operating hours or as indicated, whichever occurs first.

Lubricate:

☐ Rear hitch[a]	☐ Track tension cylinders	☐ Vari-Cool™fan drive—Final Tier 4/Stage IV engine[b]

Vari-Cool is a trademark of Deere & Company
[a]Normal lubrication is every 250 operating hours. If used daily, lubricate every 50 operating hours.
[b]Lubricate annually or every 500 operating hours, whichever occurs first. No service if grease fitting is not present.

Service Completed Date: _____ Signature: _____ Dealer Stamp:

Comments:

KD34109,000059E-19-14FEB18

2750 Hour Service

Clean:

☐ Suspension compressor filter, compressor, and air bag		

Check:

☐ Engine oil level	☐ Track wear	☐ NEUTRAL start system
☐ Transmission-hydraulic oil level	☐ Mid-rollers, drive, and idler wheels	☐ Transmission PARK system
☐ Track alignment	☐ Track trash buildup	☐ Walking beam air suspension system

Lubricate:

☐ Rear hitch[a]	☐ Track tension cylinders	

[a]Normal lubrication is every 250 operating hours. If used daily, lubricate every 50 operating hours.

Service Completed Date: _____ Signature: _____ Dealer Stamp:

Comments:

KD34109,000059F-19-17AUG17

3000 Hour Service

Clean:

☐ Suspension compressor filter, compressor, and air bag ☐ Dual beam radar sensor	☐ Optional fuel water separator and filter element	☐ Hydraulic oil suction screen

Check:

☐ Engine oil level ☐ Transmission-hydraulic oil level ☐ Track alignment ☐ Track wear ☐ Mid-rollers, drive, and idler wheels ☐ Track trash buildup	☐ NEUTRAL start system ☐ Transmission PARK system ☐ Walking beam air suspension system ☐ Engine air intake system ☐ Vari-Cool™ fan drive and belt—Final Tier 4/Stage IV engine[a]	☐ Auxiliary drive belt and drive belt tensioner ☐ Drive wheel and idler hub and mid-roller oil level ☐ Engine coolant freeze point[b] ☐ Engine valve clearence—Final Tier 4/Stage IV engine[c] ☐ Walking beam bumper stops

Vari-Cool is a trademark of Deere & Company
[a]Check annually or every 500 operating hours, whichever occurs first.
[b]Check annually or every 1000 operating hours, whichever occurs first.
[c]See your John Deere dealer.

Tighten:

☐ Drive wheel, drive wheel sleeve, wedges, idler, and mid-roller cap screws		

Change:

☐ Engine oil and filter[ab] ☐ Fuel filters[c] ☐ Transmission-hydraulic oil and filters[d] ☐ Cab recirculation and fresh air filters[e]	☐ Engine primary and secondary air filters[e] ☐ Fuel tank vent filter ☐ SCV pilot valve filter ☐ DEF tank vent filter—Final Tier 4/Stage IV engine[f]	☐ Front suspension air compressor inlet filter ☐ Steering filter ☐ Differential oil

[a]Service in accordance with information in appropriate Diesel Oil and Filter Service Intervals topic in Engine Oil section of this Operator's Manual. Record oil used in Service - Record Charts - Engine Oil and Filter.
[b]Change at least once per year.
[c]Change every 500 operating hours or as indicated, whichever occurs first.
[d]Completion of this service requires performance of tasks specific to each transmission type. See appropriate content in Service - Change section of this Operator's Manual.
[e]Change annually or every 1000 operating hours, whichever occurs first.
[f]Change after first year or first 1500 operating hours, whichever occurs first. After initial service, change every 3 years or 4500 operating hours, whichever occurs first.

Lubricate:

☐ Rear hitch[a] ☐ Track tension cylinders	☐ Vari-Cool™fan drive—Final Tier 4/Stage IV engine[b]	☐ Draft link support shaft bushing

Vari-Cool is a trademark of Deere & Company
[a]Normal lubrication is every 250 operating hours. If used daily, lubricate every 50 operating hours.
[b]Lubricate annually or every 500 operating hours, whichever occurs first. No service if grease fitting is not present.

Service Completed Date: _____ Signature: _____ Dealer Stamp:

Comments:

KD34109,00005A0-19-23FEB18

3250 Hour Service

Clean:

☐ Suspension compressor filter, compressor, and air bag		

Check:

☐ Engine oil level	☐ Track wear	☐ NEUTRAL start system
☐ Transmission-hydraulic oil level	☐ Mid-rollers, drive, and idler wheels	☐ Transmission PARK system
☐ Track alignment	☐ Track trash buildup	☐ Walking beam air suspension system

Lubricate:

☐ Rear hitch[a]	☐ Track tension cylinders	

[a]*Normal lubrication is every 250 operating hours. If used daily, lubricate every 50 operating hours.*

Service Completed Date: _____ Signature: _____ Dealer Stamp:

Comments:

KD34109,00005A1-19-17AUG17

3500 Hour Service

Clean:

☐ Suspension compressor filter, compressor, and air bag	☐ Dual beam radar sensor	☐ Optional fuel water separator and filter element

Check:

☐ Engine oil level	☐ Mid-rollers, drive, and idler wheels	☐ Walking beam air suspension system
☐ Transmission-hydraulic oil level	☐ Track trash buildup	☐ Engine air intake system
☐ Track alignment	☐ NEUTRAL start system	☐ Vari-Cool™ fan drive and belt—Final Tier 4/ Stage IV engine[a]
☐ Track wear	☐ Transmission PARK system	

Vari-Cool is a trademark of Deere & Company
[a]*Check annually or every 500 operating hours, whichever occurs first.*

Tighten:

☐ Drive wheel, drive wheel sleeve, wedges, idler, and mid-roller cap screws		

Change:

☐ Engine oil and filter[ab]	☐ Fuel filters[c]	

[a]Service in accordance with information in appropriate Diesel Oil and Filter Service Intervals topic in Engine Oil section of this Operator's Manual. Record oil used in Service - Record Charts - Engine Oil and Filter.
[b]Change at least once per year.
[c]Change every 500 operating hours or as indicated, whichever occurs first.

Lubricate:

☐ Rear hitch[a]	☐ Track tension cylinders	☐ Vari-Cool™fan drive—Final Tier 4/Stage IV engine[b]

Vari-Cool is a trademark of Deere & Company
[a]Normal lubrication is every 250 operating hours. If used daily, lubricate every 50 operating hours.
[b]Lubricate annually or every 500 operating hours, whichever occurs first. No service if grease fitting is not present.

Service Completed Date: _____ Signature: _____ Dealer Stamp:

Comments:

KD34109,00005A2-19-14FEB18

3750 Hour Service

Clean:

☐ Suspension compressor filter, compressor, and air bag		

Check:

☐ Engine oil level	☐ Track wear	☐ NEUTRAL start system
☐ Transmission-hydraulic oil level	☐ Mid-rollers, drive, and idler wheels	☐ Transmission PARK system
☐ Track alignment	☐ Track trash buildup	☐ Walking beam air suspension system

Lubricate:

☐ Rear hitch[a]	☐ Track tension cylinders	

[a]Normal lubrication is every 250 operating hours. If used daily, lubricate every 50 operating hours.

Service Completed Date: _____ Signature: _____ Dealer Stamp:

Comments:

KD34109,00005A3-19-17AUG17

4000 Hour Service

Clean:

☐ Suspension compressor filter, compressor, and air bag	☐ Dual beam radar sensor	☐ Optional fuel water separator and filter element

Check:

☐ Engine oil level ☐ Transmission-hydraulic oil level ☐ Track alignment ☐ Track wear ☐ Mid-rollers, drive, and idler wheels	☐ Track trash buildup ☐ NEUTRAL start system ☐ Transmission PARK system ☐ Walking beam air suspension system	☐ Engine air intake system ☐ Vari-Cool™ fan drive and belt—Final Tier 4/ Stage IV engine[a] ☐ Engine coolant freeze point[b] ☐ Walking beam bumper stops

Vari-Cool is a trademark of Deere & Company
[a]Check annually or every 500 operating hours, whichever occurs first.
[b]Check annually or every 1000 operating hours, whichever occurs first.

Tighten:

☐ Drive wheel, drive wheel sleeve, wedges, idler, and mid-roller cap screws		

Change:

☐ Engine oil and filter[ab] ☐ Fuel filters[c]	☐ Cab recirculation and fresh air filters[d]	☐ Engine primary and secondary air filters[d]

[a]Service in accordance with information in appropriate Diesel Oil and Filter Service Intervals topic in Engine Oil section of this Operator's Manual. Record oil used in Service - Record Charts - Engine Oil and Filter.
[b]Change at least once per year.
[c]Change every 500 operating hours or as indicated, whichever occurs first.
[d]Change annually or every 1000 operating hours, whichever occurs first.

Lubricate:

☐ Rear hitch[a]	☐ Track tension cylinders	☐ Vari-Cool™fan drive—Final Tier 4/Stage IV engine[b]

Vari-Cool is a trademark of Deere & Company
[a]Normal lubrication is every 250 operating hours. If used daily, lubricate every 50 operating hours.
[b]Lubricate annually or every 500 operating hours, whichever occurs first. No service if grease fitting is not present.

Service Completed Date: _____ Signature: _____ Dealer Stamp:

Comments:

KD34109,00005A4-19-14FEB18

4250 Hour Service

Clean:

☐ Suspension compressor filter, compressor, and air bag		

Check:

☐ Engine oil level	☐ Track wear	☐ NEUTRAL start system
☐ Transmission-hydraulic oil level	☐ Mid-rollers, drive, and idler wheels	☐ Transmission PARK system
☐ Track alignment	☐ Track trash buildup	☐ Walking beam air suspension system

Lubricate:

☐ Rear hitch[a]	☐ Track tension cylinders	

[a]Normal lubrication is every 250 operating hours. If used daily, lubricate every 50 operating hours.

Service Completed Date: _____ Signature: _____ Dealer Stamp:

Comments:

KD34109,00005A5-19-17AUG17

4500 Hour Service

Clean:

☐ Suspension compressor filter, compressor, and air bag	☐ Optional fuel water separator and filter element	☐ Hydraulic oil suction screen
☐ Dual beam radar sensor		

Check:

☐ Engine oil level	☐ Track trash buildup	☐ Engine air intake system
☐ Transmission-hydraulic oil level	☐ NEUTRAL start system	☐ Vari-Cool™ fan drive and belt—Final Tier 4/ Stage IV engine[a]
☐ Track alignment	☐ Transmission PARK system	☐ Auxiliary drive belt and drive belt tensioner
☐ Track wear	☐ Walking beam air suspension system	☐ Drive wheel and idler hub and mid-roller oil level
☐ Mid-rollers, drive, and idler wheels		

Vari-Cool is a trademark of Deere & Company
[a]Check annually or every 500 operating hours, whichever occurs first.

Tighten:

☐ Drive wheel, drive wheel sleeve, wedges, idler, and mid-roller cap screws		

Change:

☐ Engine oil and filter[ab] ☐ Fuel filters[c] ☐ Transmission-hydraulic oil and filters[d] ☐ Fuel tank vent filter ☐ SCV pilot valve filter	☐ DEF tank vent filter—Final Tier 4/Stage IV engine[e] ☐ Front suspension air compressor inlet filter ☐ Steering filter ☐ DEF dosing unit filter—Final Tier 4/Stage IV engine[f]	☐ Vari-Cool™ fan drive bushings, seals, and wear pads—Final Tier 4/Stage IV engine[gh] ☐ Engine crankshaft damper ☐ Transmission torsional damper[i] ☐ Differential oil

Vari-Cool is a trademark of Deere & Company
[a]Service in accordance with information in appropriate Diesel Oil and Filter Service Intervals topic in Engine Oil section of this Operator's Manual. Record oil used in Service - Record Charts - Engine Oil and Filter.
[b]Change at least once per year.
[c]Change every 500 operating hours or as indicated, whichever occurs first.
[d]Completion of this service requires performance of tasks specific to each transmission type. See appropriate content in Service - Change section of this Operator's Manual.
[e]Change after first year or first 1500 operating hours, whichever occurs first. After initial service, change every 3 years or 4500 operating hours, whichever occurs first.
[f]Change every 4500 operating hours or 3 years, whichever occurs first.
[g]9.0 L engine.
[h]In normal conditions. Change every 2000 hours in extreme conditions.
[i]Service not required on 8400R tractor.

Lubricate:

☐ Rear hitch[a] ☐ Track tension cylinders	☐ Vari-Cool™fan drive—Final Tier 4/Stage IV engine[b]	☐ Draft link support shaft bushing

Vari-Cool is a trademark of Deere & Company
[a]Normal lubrication is every 250 operating hours. If used daily, lubricate every 50 operating hours.
[b]Lubricate annually or every 500 operating hours, whichever occurs first. If no grease fitting is present see your John Deere Dealer.

Service Completed Date: _____ Signature: _____ Dealer Stamp:

Comments:

KD34109,00005A6-19-23FEB18

4750 Hour Service

Clean:

☐ Suspension compressor filter, compressor, and air bag		

Check:

☐ Engine oil level ☐ Transmission-hydraulic oil level ☐ Track alignment	☐ Track wear ☐ Mid-rollers, drive, and idler wheels ☐ Track trash buildup	☐ NEUTRAL start system ☐ Transmission PARK system ☐ Walking beam air suspension system

Lubricate:

☐ Rear hitch[a]	☐ Track tension cylinders	

[a]Normal lubrication is every 250 operating hours. If used daily, lubricate every 50 operating hours.

Service Completed Date: _____ Signature: _____ Dealer Stamp:

Comments:

KD34109,00005A7-19-17AUG17

5000 Hour Service

Clean:

☐ Suspension compressor filter, compressor, and air bag	☐ Dual beam radar sensor	☐ Optional fuel water separator and filter element

Check:

☐ Engine oil level ☐ Transmission-hydraulic oil level ☐ Track alignment ☐ Track wear ☐ Mid-rollers, drive, and idler wheels	☐ Track trash buildup ☐ NEUTRAL start system ☐ Transmission PARK system ☐ Walking beam air suspension system	☐ Engine air intake system ☐ Vari-Cool™ fan drive and belt—Final Tier 4/ Stage IV engine[a] ☐ Engine coolant freeze point[b] ☐ Walking beam bumper stops

Vari-Cool is a trademark of Deere & Company
[a]Check annually or every 500 operating hours, whichever occurs first.
[b]Check annually or every 1000 operating hours, whichever occurs first.

Tighten:

☐ Drive wheel, drive wheel sleeve, wedges, idler, and mid-roller cap screws		

Change:

☐ Engine oil and filter[ab] ☐ Fuel filters[c]	☐ Cab recirculation and fresh air filters[d]	☐ Engine primary and secondary air filters[d]

[a]Service in accordance with information in appropriate Diesel Oil and Filter Service Intervals topic in Engine Oil section of this Operator's Manual. Record oil used in Service - Record Charts - Engine Oil and Filter.
[b]Change at least once per year.
[c]Change every 500 operating hours or as indicated, whichever occurs first.
[d]Change annually or every 1000 operating hours, whichever occurs first.

Lubricate:

☐ Rear hitch[a]	☐ Track tension cylinders	☐ Vari-Cool™fan drive—Final Tier 4/Stage IV engine[b]

Vari-Cool is a trademark of Deere & Company
[a]Normal lubrication is every 250 operating hours. If used daily, lubricate every 50 operating hours.
[b]Lubricate annually or every 500 operating hours, whichever occurs first. No service if grease fitting is not present.

Service Completed Date: _____ Signature: _____ Dealer Stamp:

Comments:

KD34109,00005A8-19-14FEB18

5250 Hour Service

Clean:

☐ Suspension compressor filter, compressor, and air bag		

Check:

☐ Engine oil level	☐ Track wear	☐ NEUTRAL start system
☐ Transmission-hydraulic oil level	☐ Mid-rollers, drive, and idler wheels	☐ Transmission PARK system
☐ Track alignment	☐ Track trash buildup	☐ Walking beam air suspension system

Lubricate:

☐ Rear hitch[a]	☐ Track tension cylinders	

[a] *Normal lubrication is every 250 operating hours. If used daily, lubricate every 50 operating hours.*

Service Completed Date: _____ Signature: _____ Dealer Stamp:

Comments:

KD34109,00005A9-19-17AUG17

5500 Hour Service

Clean:

☐ Suspension compressor filter, compressor, and air bag	☐ Dual beam radar sensor	☐ Optional fuel water separator and filter element

Check:

☐ Engine oil level	☐ Mid-rollers, drive, and idler wheels	☐ Walking beam air suspension system
☐ Transmission-hydraulic oil level	☐ Track trash buildup	☐ Engine air intake system
☐ Track alignment	☐ NEUTRAL start system	☐ Vari-Cool™ fan drive and belt—Final Tier 4/ Stage IV engine[a]
☐ Track wear	☐ Transmission PARK system	

Vari-Cool is a trademark of Deere & Company

[a] *Check annually or every 500 operating hours, whichever occurs first.*

Tighten:

☐ Drive wheel, drive wheel sleeve, wedges, idler, and mid-roller cap screws		

Change:

☐ Engine oil and filter[ab]	☐ Fuel filters[c]	

[a]Service in accordance with information in appropriate Diesel Oil and Filter Service Intervals topic in Engine Oil section of this Operator's Manual. Record oil used in Service - Record Charts - Engine Oil and Filter.
[b]Change at least once per year.
[c]Change every 500 operating hours or as indicated, whichever occurs first.

Lubricate:

☐ Rear hitch[a]	☐ Track tension cylinders	☐ Vari-Cool™ fan drive—Final Tier 4/Stage IV engine[b]

Vari-Cool is a trademark of Deere & Company
[a]Normal lubrication is every 250 operating hours. If used daily, lubricate every 50 operating hours.
[b]Lubricate annually or every 500 operating hours, whichever occurs first. No service if grease fitting is not present.

Service Completed Date: _____ Signature: _____ Dealer Stamp:

Comments:

KD34109,00005AA-19-14FEB18

5750 Hour Service

Clean:

☐ Suspension compressor filter, compressor, and air bag		

Check:

☐ Engine oil level	☐ Track wear	☐ NEUTRAL start system
☐ Transmission-hydraulic oil level	☐ Mid-rollers, drive, and idler wheels	☐ Transmission PARK system
☐ Track alignment	☐ Track trash buildup	☐ Walking beam air suspension system

Lubricate:

☐ Rear hitch[a]	☐ Track tension cylinders	

[a]Normal lubrication is every 250 operating hours. If used daily, lubricate every 50 operating hours.

Service Completed Date: _____ Signature: _____ Dealer Stamp:

Comments:

KD34109,00005AB-19-17AUG17

6000 Hour Service

Clean:

☐ Suspension compressor filter, compressor, and air bag ☐ Dual beam radar sensor	☐ Optional fuel water separator and filter element	☐ Hydraulic oil suction screen

Check:

☐ Engine oil level ☐ Transmission-hydraulic oil level ☐ Track alignment ☐ Track wear ☐ Mid-rollers, drive, and idler wheels ☐ Track trash buildup	☐ NEUTRAL start system ☐ Transmission PARK system ☐ Walking beam air suspension system ☐ Engine air intake system ☐ Vari-Cool™ fan drive and belt—Final Tier 4/Stage IV engine[a]	☐ Auxiliary drive belt and drive belt tensioner ☐ Drive wheel and idler hub and mid-roller oil level ☐ Engine coolant freeze point[b] ☐ Engine valve clearence[c] ☐ Walking beam bumper stops

Vari-Cool is a trademark of Deere & Company
[a]Check annually or every 500 operating hours, whichever occurs first.
[b]Check annually or every 1000 operating hours, whichever occurs first.
[c]See your John Deere dealer.

Tighten:

☐ Drive wheel, drive wheel sleeve, wedges, idler, and mid-roller cap screws		

Change:

☐ Engine oil and filter[ab] ☐ Fuel filters[c] ☐ Transmission-hydraulic oil and filters[d] ☐ Cab recirculation and fresh air filters[e]	☐ Engine primary and secondary air filters[e] ☐ Fuel tank vent filter ☐ SCV pilot valve filter ☐ DEF tank vent filter—Final Tier 4/Stage IV engine[f] ☐ Front suspension air compressor inlet filter	☐ Vari-Cool™ Fan Drive bushings, seals, and wear pads—Final Tier 4/Stage IV engine[gh] ☐ Steering filter ☐ Engine coolant[i] ☐ Differential oil

[a]Service in accordance with information in appropriate Diesel Oil and Filter Service Intervals topic in Engine Oil section of this Operator's Manual. Record oil used in Service - Record Charts - Engine Oil and Filter.
[b]Change at least once per year.
[c]Change every 500 operating hours or as indicated, whichever occurs first.
[d]Completion of this service requires performance of tasks specific to each transmission type. See appropriate content in Service - Change section of this Operator's Manual.
[e]Change annually or every 1000 operating hours, whichever occurs first.
[f]Change after first year or first 1500 operating hours, whichever occurs first. After initial service, change every 3 years or 4500 operating hours, whichever occurs first.
[g]9.0 L engine.
[h]In extreme conditions. Change every 4500 hours in normal conditions.
[i]INITIAL change interval is 6 years or 6000 operating hours, provided cooling system is topped off using only John Deere Cool-Gard™ II and premix. SCHEDULED interval (2 years or 2000 operating hours) can be extended up to 6 years and 6000 operating hours, depending upon coolant being used. See Drain Intervals for Diesel Engine Coolant in Engine Coolant section of this Operator's Manual.

Lubricate:

☐ Rear hitch[a] ☐ Track tension cylinders	☐ Vari-Cool™fan drive—Final Tier 4/Stage IV engine[b]	☐ Draft link support shaft bushing

Vari-Cool is a trademark of Deere & Company
[a]Normal lubrication is every 250 operating hours. If used daily, lubricate every 50 operating hours.
[b]Lubricate annually or every 500 operating hours, whichever occurs first. No service if grease fitting is not present.

Service Completed Date: _____ Signature: _____ Dealer Stamp:

Comments:

KD34109,00005AC-19-14FEB18

Services Beyond 6000 Hours

Record completion of scheduled services beyond 6000 hours of operation. Use listed equivalent hourly service charts to determine which tasks to perform.

Hour	Charts	Date	Signature	Dealer's Stamp
6250	250			
6500	500			
6750	250			
7000	1000			
7250	250			
7500	1500			
7750	250			
8000	1000			
8250	250			
8500	500			
8750	250			
9000	3000 and 4500			
9250	250			
9500	500			
9750	250			

Hour	Charts	Date	Signature	Dealer's Stamp
10000	5000			
10250	250			
10500	500			
10750	250			
11000	1000			
11250	250			
11500	500			
11750	250			
12000	6000			
12250	250			
12500	500			
12750	250			
13000	1000			
13250	250			
13500	4500			

RX32825,00017B3-19-13SEP17

Diesel Particulate Filter (DPF)—Final Tier 4/ Stage IV Engine

CAUTION: Service beyond automated exhaust filter cleaning requires special tools and procedures. See appropriate additional information in this Operator's Manual section.

Automatic DPF cleaning generates very high temperatures. Disable exhaust filter cleaning in conditions where it may be unsafe for elevated exhaust temperatures.

When exhaust filter and warning light indicators are illuminated:

- Ensure exhaust filter cleaning is set to Auto. See Exhaust Filter System Overview—Final Tier 4/Stage IV Engine and Auto Exhaust Filter Cleaning Mode—Final Tier 4/Stage IV Engine in Emissions Equipment section of this Operator's Manual.
- Perform parked exhaust filter cleaning (if system allows). See Parked Exhaust Filter Cleaning—Final Tier 4/Stage IV Engine in Emissions Equipment section of this Operator's Manual.

If exhaust filter cleaning is set to auto, parked exhaust filter cleaning has been performed and exhaust filter and warning light indicators are still illuminated, contact your John Deere dealer.

RX32825,0001778-19-19JUN17

Exhaust Filter/Diesel Particulate Filter (DPF) Ash Handling and Disposal

CAUTION: Under federal, state, and/or local laws or regulations, Diesel ash may be classified as a hazardous waste. Hazardous wastes must be disposed of in accordance with all applicable federal, state and local laws or regulations governing hazardous waste disposal. Only a qualified service provider should remove ash from the DPF. Personal protective equipment and clothing, maintained in a sanitary and reliable condition, should be used when handling and cleaning a DPF. See your John Deere dealer or qualified service provider for assistance.

RX32825,000177A-19-15JUN17

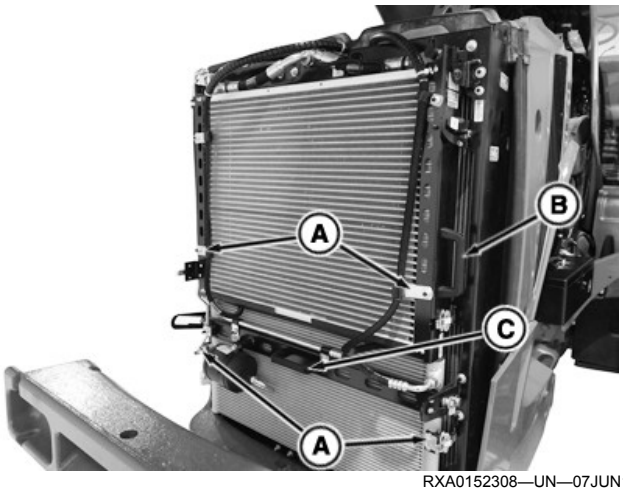
Exhaust Filter Disposal

CAUTION: Proper management of an exhaust filter that has reached the end of its useful life is required, since the ash or catalyst material in the device may be classified as hazardous waste under federal, state, and/or local laws or regulations. Used exhaust filters, which include the diesel particulate filter, may be exchanged at any John Deere dealer or qualified service provider.

RX32825,000177B-19-15JUN17

Engine Cooling System

1. Open hood, see Open Hood in Service - General Information section of this Operator's Manual.

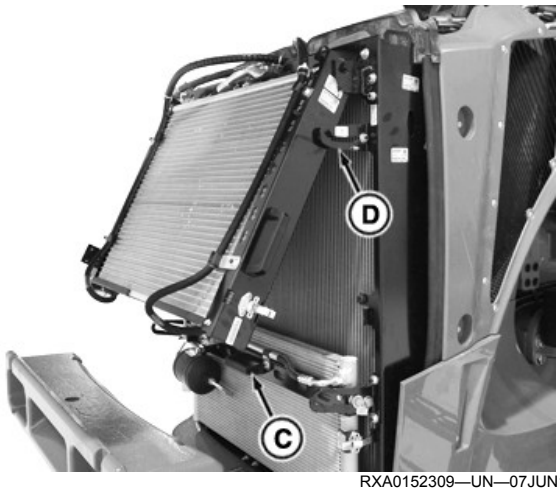


RXA0152308—UN—07JUN16

2. Release two spring latches (A) per side on hydraulic oil cooler and A/C condenser.

NOTE: Using an air hose, clean radiator and cooler units by blowing out any foreign material from back to front.

3. Swing hydraulic oil cooler and fuel cooler forward using handle (B) until locked in place.

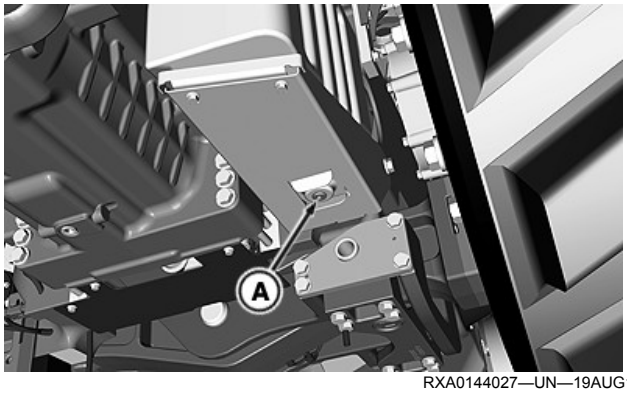


RXA0152309—UN—07JUN16

4. Pull A/C condenser handle (C) forward to access front of radiator.
5. Thoroughly clean, blow air through fuel, hydraulic coolers and air conditioning condenser from back to front.
6. When finished cleaning components, push A/C condenser back into place and close spring latches.
7. Pull up slightly on A/C condenser handle and release oil cooler lock (D), swing hydraulic oil cooler back to original position, latch in place.

DB71512,0000021-19-16JUN17

Access DEF Tank Drain Plug



RXA0144027—UN—19AUG14

Remove drain plug (A) and drain DEF from tank.

Check O-ring for defects. Replace if needed.

Clean DEF Tank. See Cleaning Diesel Exhaust Fluid (DEF) Tank in this section of this Operator's Manual.

Clean out any DEF crystallization in threads.

IMPORTANT: Do not over torque drain plug. Over torquing can cause plug to spin in tank and lead to leaks.

Install drain plug and tighten to 25 N·m (18 lb·ft).

SV81855,00002F4-19-22NOV17

DEF Tank

CAUTION: Avoid contact with eyes. In case of contact, immediately flush eyes with large amounts of water for a minimum of 15 minutes. Reference the Materials Safety Data Sheet (MSDS) for additional information.

IMPORTANT: If DEF is spilled or contacts any surface other than the storage tank, immediately clean the surface with clear water. DEF is corrosive to painted and unpainted metallic surfaces and can distort some plastic and rubber components.

Spilled DEF, if left to dry or if only wiped away with a cloth, leaves a white residue. Improperly cleaned DEF spill can interfere with diagnosis of Selective Catalytic Reduction (SCR) system leakage problems.

If foreign material or fluid has been added to the DEF tank, drain the DEF tank, flush, and fill with new DEF.

If DEF quality is in question, pull a sample out of the DEF tank and place into a clear container. DEF should be crystal clear with a light ammonia smell. If DEF appears cloudy, has a colored tint or has a profound ammonia smell, it is likely not within specification. DEF in this condition should not be used.

1. Remove drain plug (if equipped), and drain or siphon bad DEF from DEF tank.

NOTE: Cleaning can take place with DEF tank installed or removed.

2. Clean DEF tank with new DEF.

   DEF must pass visual, smell, and concentration checks before the engine can be ran. See Diesel Exhaust Fluid (DEF) – For Use In Selective Catalytic Reduction (SCR) Equipped Engines in the Fuels, Lubricants, and Coolants section for more information.

3. Drain or siphon DEF tank.

NOTE: Repeat steps 2—3 until DEF tank has been cleaned.

4. Change DEF dosing unit filter and header filter.
5. Install drain plug in DEF tank, if removed. Install DEF tank, if removed.
6. Fill DEF tank with new DEF.
7. Check DEF concentration with DEF refractometer, such as JDG11594 or JDG11684. The correct DEF concentration is 31.8% — 33.2%. See your authorized dealer for more information.
8. If DEF is not within specification, does not appear

clear, or does not have a slight ammonia smell, contact your authorized dealer.

BH38674,0000BF9-19-14NOV17

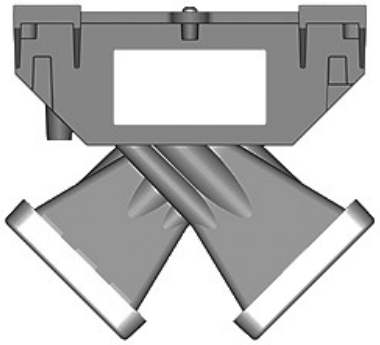
Clean Display

IMPORTANT: Always clean display screen with power off. Cleaning screen while operating could result in unintended button selections.

To clean display, power down and wipe screen with a soft cloth sprayed with a non-ammonia based cleaner, such as John Deere glass or multipurpose cleaner.

DX,PC,CLEAN,DISP-19-21OCT16

Dual Beam Radar Sensor



RXA0136860—UN—20NOV13

Dual Beam Radar

Check and clean radar sensor depending on operating conditions.

IMPORTANT: Inspect radar sensor horns for dirt or debris build up, which may affect accuracy performance.

Avoid use of high pressure washer nozzle pointed directly at radar.

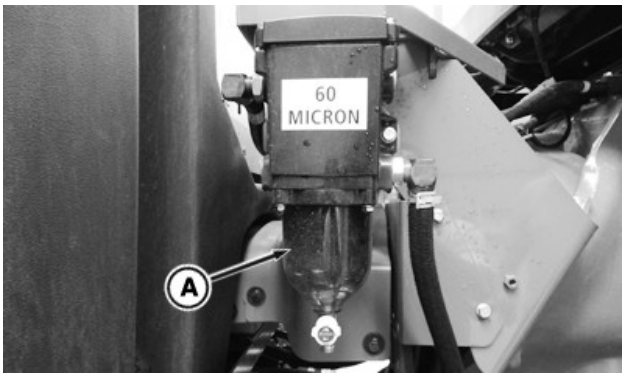
Avoid damage to radar and wiring harness when using sharp tools to remove dirt or packed mud around radar.

Clean radar sensor horns with warm water and mild soap.

Dry with clean soft cloth.

RX32825,00005D0-19-18JAN17

Optional Fuel Water Separator

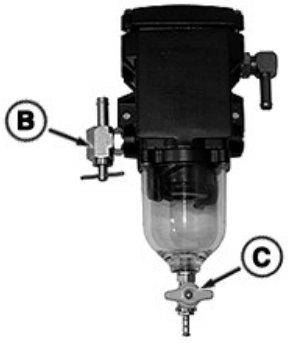


RXA0148376—UN—15JUN15

IMPORTANT: Back flush optional fuel water separator (A) whenever bowl is half full of water or when diagnostic trouble code appears. If, after flushing, trouble code is still displayed, wash filter element. See Optional Fuel Water Separator Filter Element in this Operator's Manual section. If code persists, change primary and secondary fuel filters.

NOTE: Filter element in water separator can be back flushed up to five times before being cleaned. See Optional Fuel Water Separator Filter Element in this Operator's Manual section.

1. Shut off engine.



RXA0159880—UN—19JUN17

2. Close fuel shut-off valve (B).



RXA0159881—UN—19JUN17

3. Open bleed screw (D) on top of water separator

cover. Allow water and dirt to be released from filter element and settle in bottom of bowl.

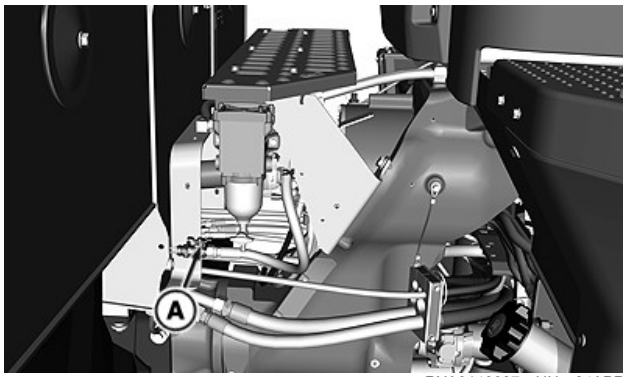
NOTE: Drain fuel into appropriate container and dispose of in accordance with local laws and ordinances.

As fuel, water, and dirt is drained from bowl in step 4, more water and dirt may be flushed from filter element and collect in bottom of bowl.

4. Push IN on drain valve (C) and turn COUNTERCLOCKWISE to drain water and dirt from bowl.
5. Close drain valve and allow water and dirt to settle again.
6. When all dirt and water have been drained, proceed to step 7.
7. Close bleed screw and open fuel shut-off valve.
8. Start and run engine at high idle for at least 2 minutes. If engine will not start or starts and dies, see Fuel Filters in Service - Change section of this Operator's Manual.

TS36762,0000128-19-08NOV17

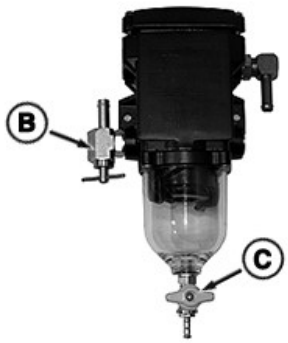
Optional Fuel Water Separator Filter Element



RXA0148087—UN—24APR15

IMPORTANT: Clean optional fuel water separator (A) filter element after each fifth back flushing of water separator assembly. Filter element can be cleaned as often as necessary for an indefinite number of times. Replace element if damaged or if cleaning becomes impossible.

1. Shut off engine.



RXA0159880—UN—19JUN17

2. Close fuel shut-off valve (B).

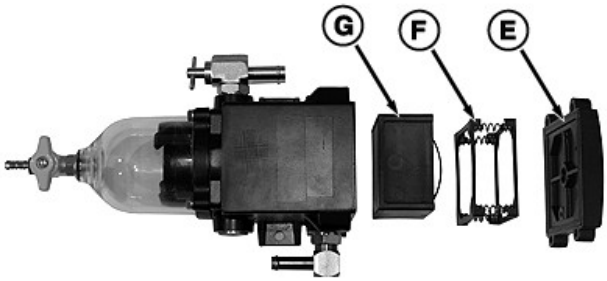
NOTE: Drain fuel into appropriate container and dispose of it in accordance with local laws and ordinances.

3. Open drain valve (C) and drain fuel from bowl.



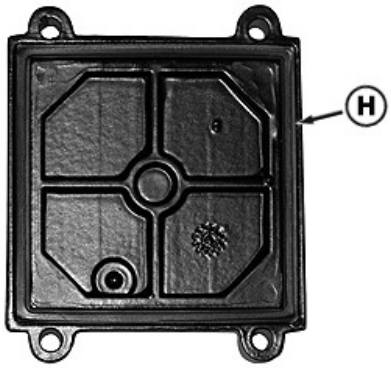
RXA0159882—UN—20JUN17

Loosen lid cap screws (D) evenly in sequence shown.



RXA0159883—UN—19JUN17

5. Remove lid (E), spring cassette (F). Lift filter element (G) from housing using attached handle.
6. Wash filter element in clean diesel fuel or mineral spirits.
7. Carefully inspect filter element for damage. If damaged, or if filter cannot be cleaned, replace filter element.
8. Install cleaned or new filter element and spring cassette.

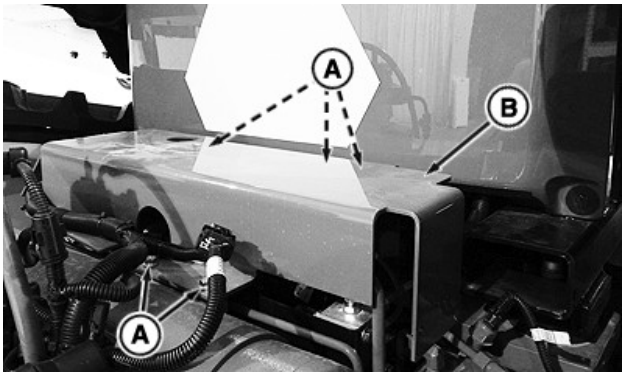


RXA0159884—UN—19JUN17

9. Inspect lid gasket (H) condition and replace if necessary.
10. Install lid. Tighten cap screws in sequence as removed.
11. Open fuel shut-off valve.
12. Start and run engine at high idle for at least 2 minutes. If engine will not start or starts and dies, see Fuel Filters in Service - Change section of this Operator's Manual.
13. Shut off engine and check for fuel leaks.

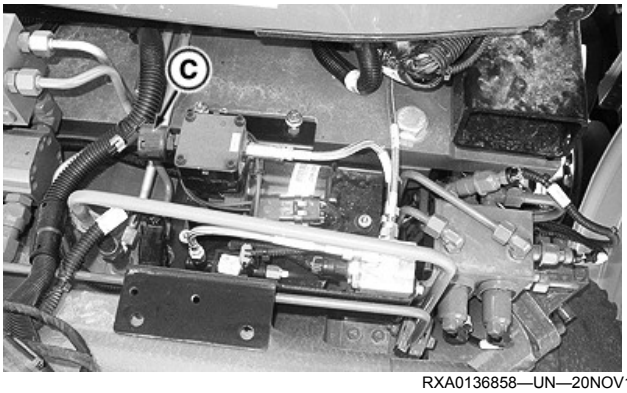
TS36762,0000171-19-05SEP17

Suspension Compressor Filter, Compressor, and Air Bag



RXA0136857—UN—02DEC13

1. Remove cap screws (A) and cover (B).



RXA0136858—UN—20NOV13

2. Remove filter (C).

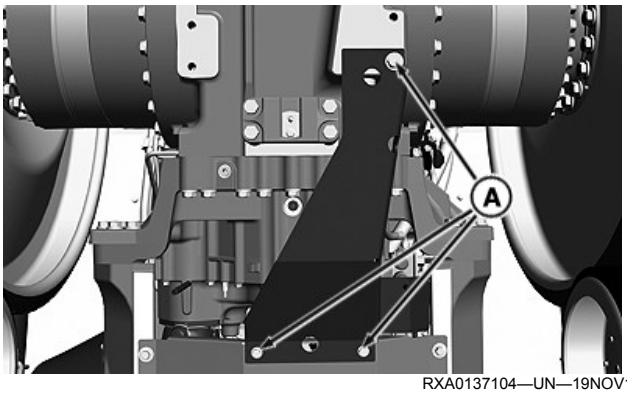
IMPORTANT: Compressed air pressure should not exceed 75 psi (500 kPa) (5 bar) when used for cleaning.

3. Using compressed air, clean filter.
4. Remove all debris around compressor.
5. Reinstall filter, cover, and cap screws.
6. Clean area around suspension air bag.

RX32825,00005C8-19-19JUN17

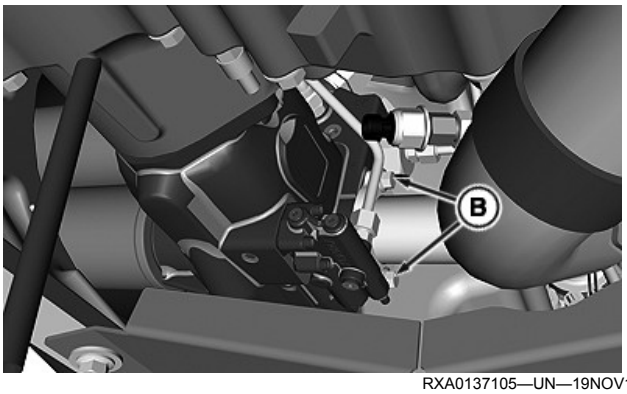
Hydraulic Oil Suction Screen

1. Place drain pans under both ends of oil suction tube.



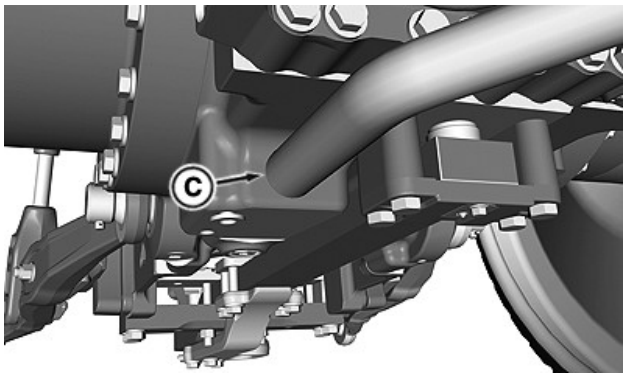
RXA0137104—UN—19NOV13

2. Remove shield cap screws (A).



RXA0137105—UN—19NOV13

3. Remove suction screen cover cap screws (B) on differential case front left-hand side.



RXA0137106—UN—19NOV13

4. Remove suction screen cover (C).
5. Remove suction screen and wash carefully in solvent, then blow dry screen with compressed air.
6. Reinstall suction screen.
7. Install tube.
8. Tighten cap screws to 73 N·m (54 lb·ft).
9. Dispose of used oil in accordance with local laws and ordinances.
10. Go to Transmission-Hydraulic and Steering Filters And Refill Transmission-Hydraulic Oil in Service - Change section of this Operator's Manual.

SV81855,0000161-19-20NOV17

Engine and Exhaust Compartments

IMPORTANT: Accumulated crop residue inside engine compartment can reduce engine and cooling system performance. If tractor has been operated in field conditions which might have caused debris accumulation, inspect and clean engine compartment as necessary.

Directing pressurized water at electronic/electrical components, connectors, bearings and hydraulic seals, fuel injection pump or other sensitive parts and components may cause product malfunctions. Reduce pressure, and spray at a 45° to 90° angle.

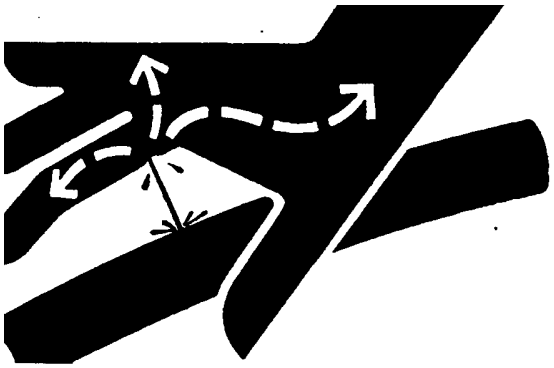
Directing pressurized air at electronic/electrical components or connectors, may cause buildup of static electricity and product malfunctions.

Never steam clean or pour cold water on an injection pump that is operating or hot. Pump could seize.

1. Shut engine off and allow time for engine to cool.
2. Open hood, see Open Hood in Service-General Information section of this Operator's Manual.
3. Remove any crop or debris within engine and exhaust compartments, especially around turbocharger, exhaust manifold, and exhaust aftertreatment system.
4. Reinstall all shields. Close and securely latch hood.

TS36762,000012C-19-29NOV16

Air Conditioning System



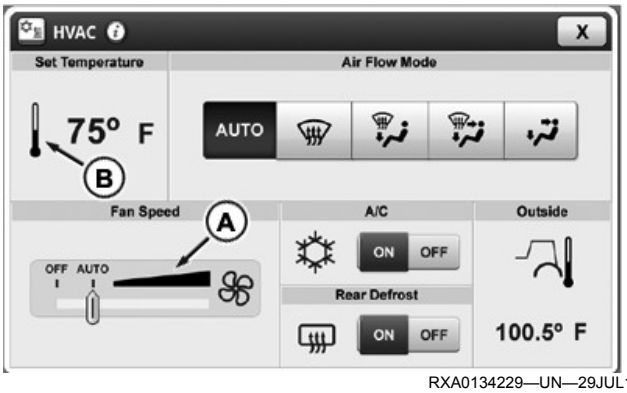
X9811—UN—23AUG88

CAUTION: Avoid possible injury. Improper servicing may cause refrigerant to penetrate eyes and skin or cause burns.

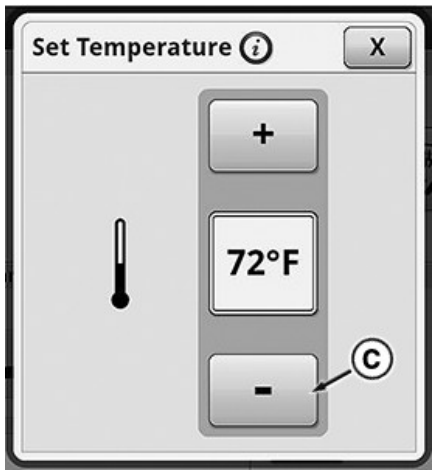
IMPORTANT: R-134a refrigerant must be used in air conditioning system. Service requires special equipment and procedures. See your John Deere dealer.

NOTE: Some oil seepage from compressor shaft seal is normal.

Perform following checks if air conditioning system will not cool, or cooling is intermittent:



RXA0134229—UN—29JUL13



RXA0155935—UN—23NOV16

- Confirm system does not function correctly. Access HVAC page on CommandCenter™ (see HVAC Settings--Generation 4 CommandCenter™ in HVAC section of this Operator's Manual). Set fan increment bar (A) to highest speed. Access Set Temperature page (B) and set temperature to coldest setting (C). Operate engine at 2000 rpm. Check air vents to confirm cold air is not present.
- Inspect and clean cab air filters. Replace filters if necessary. See Cab Recirculation Air Filter in Service - Change section of this Operator's Manual.
- Clean grille and radiator. See Engine Cooling System in Service - Clean section of this Operator's Manual.
- Check air vents for cold air flow.

If problems persist, see your John Deere dealer.

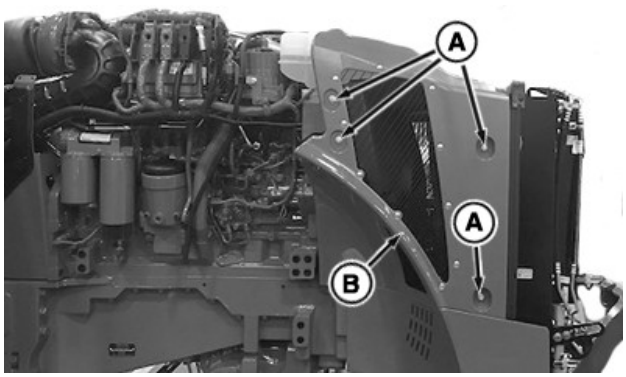
TS36762,000012D-19-05SEP17

CommandCenter is a trademark of Deere & Company

Engine Water Pump Weep Hole - Final Tier 4/Stage IV Engine

1. Open hood, see Open Hood in Service - General Information section of this Operator's Manual.

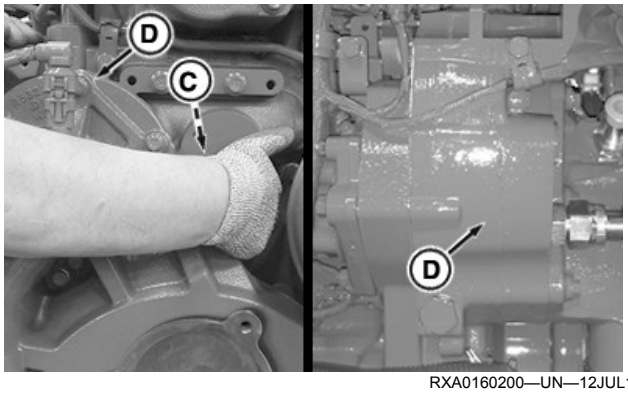
CAUTION: Avoid injury. Allow engine sufficient time to cool before checking weep hole.



RXA0160246—UN—19JUL17

2. Remove right-hand finger guard cap screws (A) to remove finger guard (B).

NOTE: Components removed to allow unobstructed view of inspection.



RXA0160200—UN—12JUL17

3. Weep hole (C) is located in a square recess on the drive gear housing, behind left-hand side of water pump (D).
4. Inspect weep hole and surrounding area for oil or coolant leakage.
   - Oil leakage indicates a damaged rear seal.
   - Coolant leakage indicates a damaged front seal.

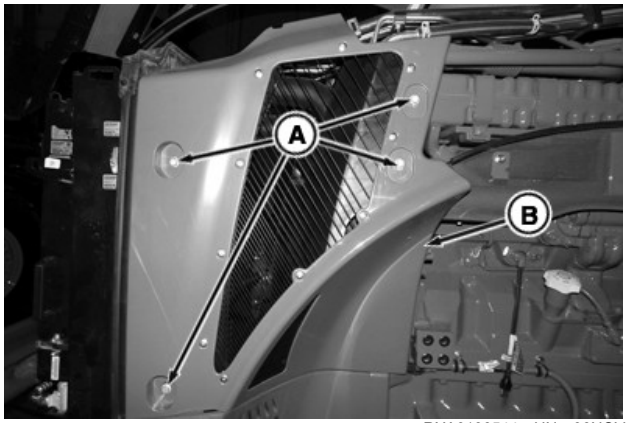
   If leakage is detected, see your John Deere dealer.
5. Reinstall finger guard and tighten cap screws.
6. Close and secure hood.

DB71512,0000037-19-20JUL17

Vari-Cool™ Fan Drive and Belt—Final Tier 4/Stage IV Engine

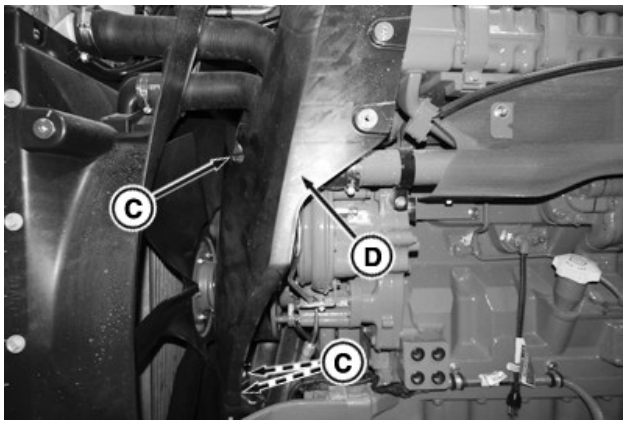
IMPORTANT: Avoid damage to Vari-Cool fan drive. Check drive assembly and belt every 500 hours or annually, whichever occurs first.

1. Raise engine hood. See Open Hood in Service - General Information section of this Operator's Manual.



RXA0136544—UN—06NOV13

2. Remove cap screws (A) and left-hand engine finger guard (B).

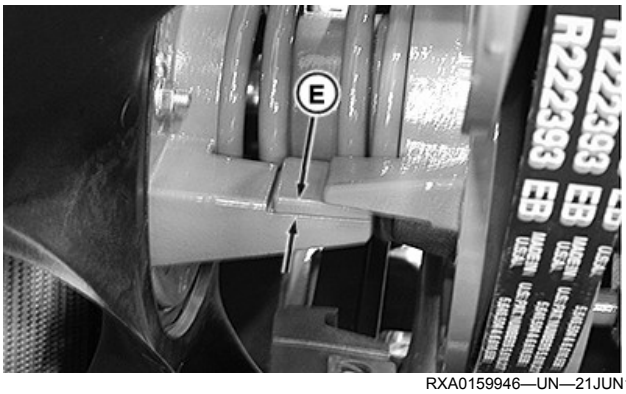


RXA0136549—UN—07NOV13

3. Remove cap screws (C) and left-hand diverter panel (D).
4. Check fan drive assembly for leaking grease or hydraulic oil. If leakage is found, see your John Deere dealer

IMPORTANT: Damaged Vari-Cool™ components may generate a Diagnostic Trouble Code (DTC).

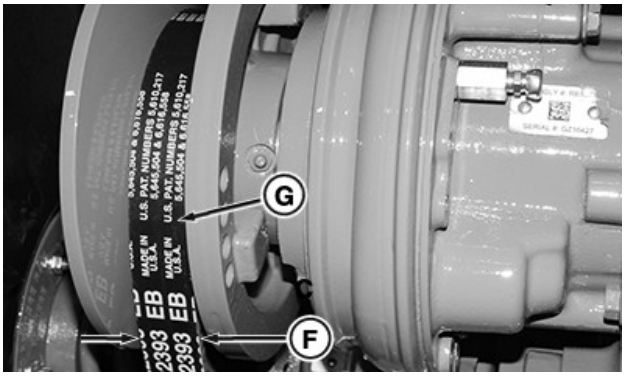
5. If Diagnostic Trouble Codes for Vari-Cool™ fan drive are displayed, see your John Deere dealer.



RXA0159946—UN—21JUN17

Measure drive unit wear pad thickness (E). If thickness of any one pad is 1.00 mm (0.04 in) or less, replace all pads. If any pad is damaged or appears excessively worn, replace all pads. See your John Deere dealer

NOTE: Operating with fan belt less than specified width may generate Diagnostic Trouble Code (DTC)



RXA0159947—UN—21JUN17

7. Measure width of fan belt (F). Replace belt when width is 29 mm (1.1 in) or less. See Vari-Cool Fan Belt in Service - Change section of this Operator's Manual.
8. Check fan belt (G) and replace if damaged or excessively worn. See Vari-Cool™ Fan Belt in Service - Change section of this Operator's Manual.

NOTE: While Vari-Cool™ fan drive is accessible, perform fan drive lubrication. See Vari-Cool™ Fan Drive in Service - Lubricate section of this Operator's Manual.

9. Reinstall diverter panel and tighten cap screws to 20 N·m (14 lb·ft).
10. Reinstall finger panel and tighten cap screws.
11. Close and secure hood.

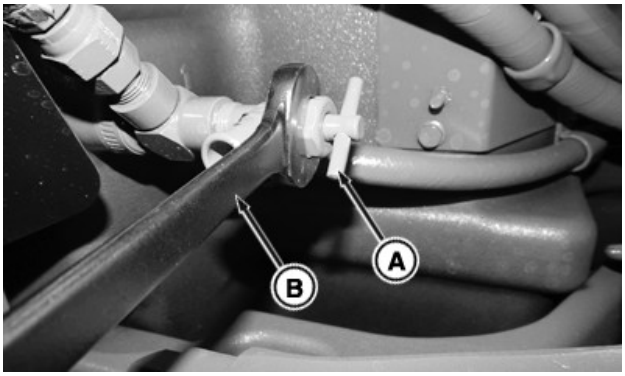
TS36762,00002E9-19-20FEB18

Fuel Tank Sump

NOTE: Drain fuel tank sump if fuel filters are replaced frequently or water is in the fuel tank. Service may be required more often under some conditions.

1. Place a catch pan under the drain tee.

IMPORTANT: Use wrench to hold drain fitting while opening or closing tee or damage to tank threads can occur.



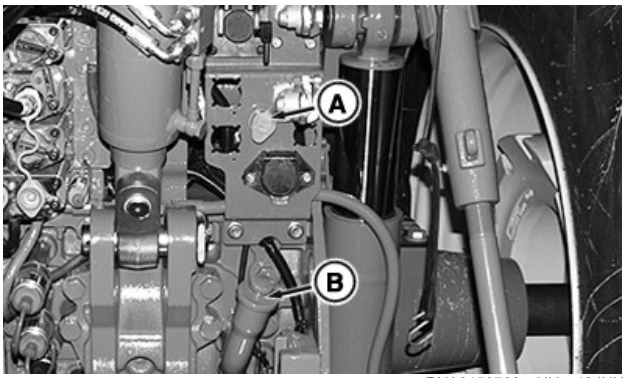
RXA0136865—UN—14NOV13

2. Hold drain fitting with wrench (B) while opening drain tee (A).
3. Drain fuel until clean, water free fuel appears.
4. Hold fitting with wrench to close drain tee. Tighten to 23 N·m (17 lb·ft).

SV81855,0000169-19-17NOV17

Hydraulic Trailer Brakes

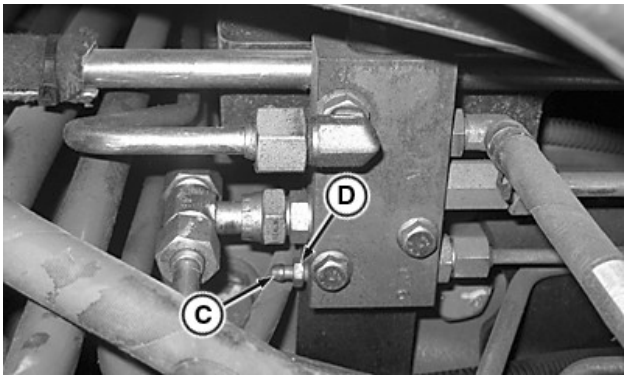
NOTE: An assistant is needed to perform this procedure.



RXA0159799—UN—13JUN17

1. Remove cap and connect a hose to hydraulic trailer brake connection (A). Place other end of hose into hydraulic oil filler tube (B).
2. Loosen bleed valve nut (D).

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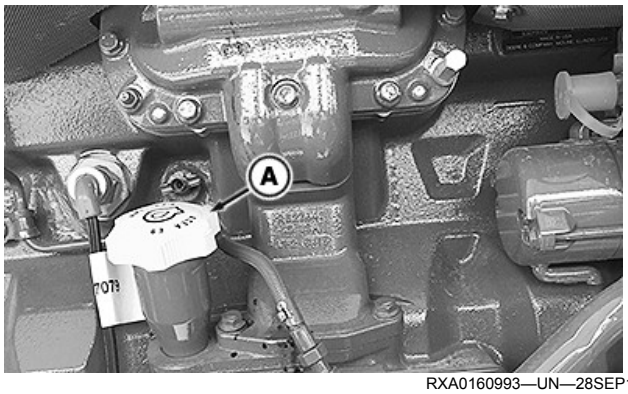
RXA0111305—UN—14OCT10

3. Connect a hose over bleed valve connection (C). Place other end of hose into hydraulic oil filler tube.
4. Start engine.
5. At slow idle, depress brake pedals for approximately 2 minutes.
6. Tighten bleed valve nut with brake pedals depressed.
7. Shut off engine and remove key.
8. Remove hoses and install hydraulic oil filler tube cap.

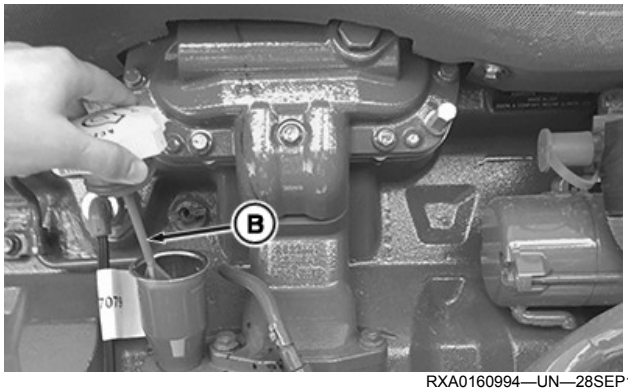
RX32825,0000520-19-21JUN17

Engine Oil Level

1. Park tractor on level ground. Stop engine and remove key.



RXA0160993—UN—28SEP17



RXA0160994—UN—28SEP17

2. Loosen filler cap (A) to remove attached dipstick (B).

IMPORTANT: Never operate engine with oil level above top or below bottom of rectangle on dipstick. Oil levels anywhere within rectangle are considered in acceptable operating range.

NOTE: Fully tighten filler cap to check oil. Oil level at top of crosshatch area on dipstick is considered FULL.



RXA0136132—UN—01NOV13

3. Remove cap and clean dipstick. Retighten cap, then remove and check oil level on dipstick. Oil level should be in cross-hatched area (C) on dipstick. Oil level should be between “ADD” mark and top of crosshatch area on dipstick.
4. If needed, remove cap and add oil recommended in Engine Oil section of this Operator’s Manual.
5. Reinstall and tighten filler cap before starting engine.

SV81855,0000159-19-27FEB18

Transmission-Hydraulic Oil Level

IMPORTANT: Hydraulic oil level sensor detects a low oil level or hydraulic oil loss. DTC appears on display. Check hydraulic oil level and fill to normal operating range.

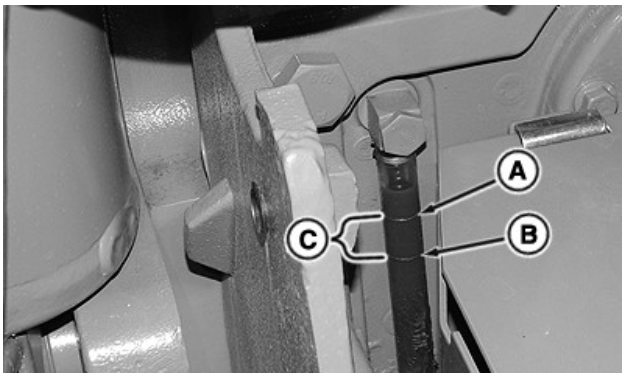
1. Operate engine at approximately 1200 rpm for at least one minute.
2. Park tractor on level ground and fully lower hitch.
3. Verify oil temperature is between 20°C - 45°C (68°F - 113°F). See Machine Monitor in CommandCenter™ section of this Operator’s Manual. Sight gauge observations will be incorrect when oil temperature is outside of specified range.
4. Stop engine and wait five minutes until oil level stabilizes in differential case.

IMPORTANT: Overfilling transmission-hydraulic oil can result in decreased operating efficiency, power loss, and heat generation during transport.

Except when operating in side-hill or high volume applications, keep oil level at or slightly below top of normal operating range. Never fill system above maximum operating level. Drain oil if necessary.

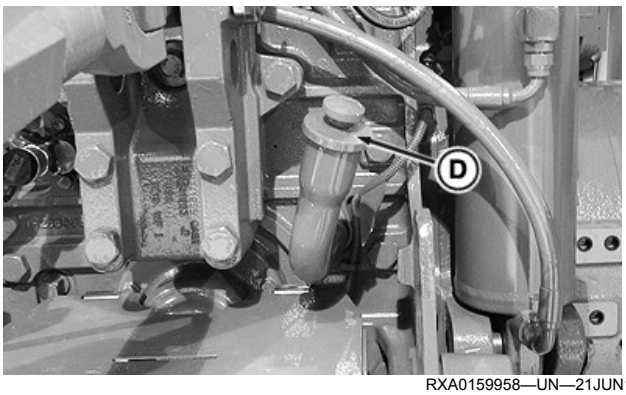
CommandCenter is a trademark of Deere & Company

If oil appears milky or foamy, oil may be contaminated with water, change oil immediately. If oil is discolored or smells burned, oil may be overheating. See your John Deere dealer.



RXA0159957—UN—21JUN17

5. Oil level should be between FULL (A) and ADD (B) marks on sight glass. Optimum level is FULL mark or between Safe Operating Area (C) marks.



RXA0159958—UN—21JUN17

6. If oil level is below lower mark, remove filler cap (D) and add hydraulic oil. See Transmission and Hydraulic Oil in Other Lubricants section of this Operator's Manual.

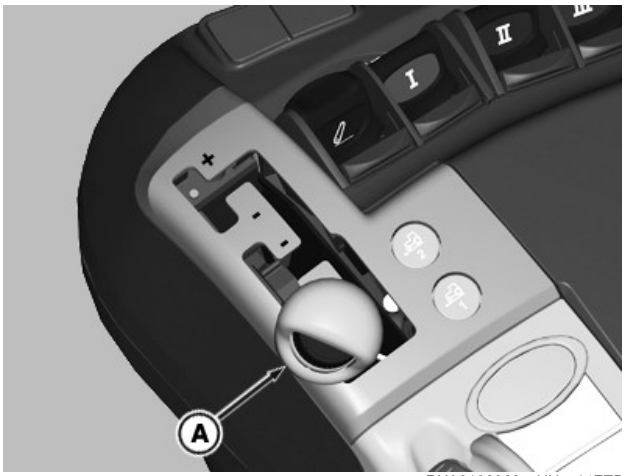
RX32825,00005BE-19-28JUN17

NEUTRAL Start System

CAUTION: Avoid personal injury or damage to tractor. If engine starts with left-hand or right-hand reverser lever in forward or reverse positions, there is a malfunction in starting circuit. Repair immediately. See your John Deere dealer.

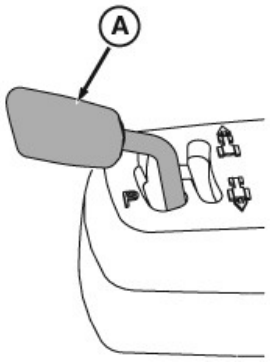
Avoid personal injury. Make sure that everyone is clear of tractor.

1. Park tractor on level ground.
2. Fully depress clutch and brake pedals.
3. Shut off tractor.



RXA0130963—UN—14FEB13

e23



RXA0130964—UN—14FEB13

IVT



RXA0130965—UN—14FEB13

IVT™/AutoPowr™ Transmission Right-hand Reverser

4. Move reverser lever (A) to any position **except** NEUTRAL or PARK position.

NOTE: Engine should start in NEUTRAL or PARK position only (depending upon transmission type).

5. Attempt to start engine. If engine starts in any position other than NEUTRAL or PARK (depending upon transmission type), neutral start system should be repaired. See your John Deere dealer **immediately**.

Transmission and Reverser Lever Options	Tractor Starts In
e23™ Transmission Left-Hand Reverser	PARK Only
e23™ Transmission Right-Hand Reverser	PARK Only
IVT™/AutoPowr™ Transmission Left-Hand Reverser	PARK or NEUTRAL Only
IVT™/AutoPowr™ Transmission Right-Hand Reverser	PARK Only

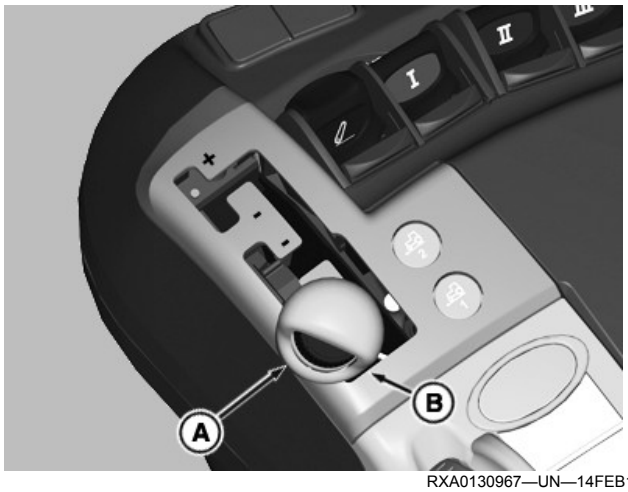
TS36762,0000137-19-05OCT17

Transmission PARK System

CAUTION: Avoid personal injury or damage to tractor. If engine starts with left-hand or right-hand reverser lever in forward or reverse positions, there is a malfunction in starting circuit. Repair immediately. See your John Deere dealer.

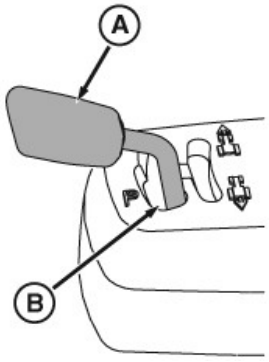
Avoid personal injury. Make sure that everyone is clear of tractor.

1. Position tractor on a 30% incline [1 m (3.3 ft) vertically for every 3 m (9.8 ft) horizontally] with front of tractor facing downward.



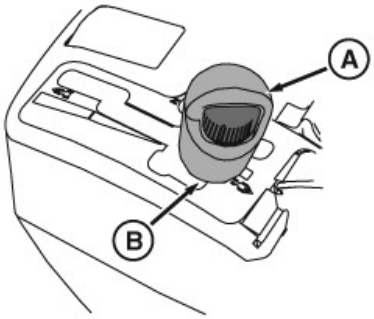
RXA0130967—UN—14FEB13

e23



RXA0130968—UN—14FEB13

IVT



RXA0130969—UN—14FEB13

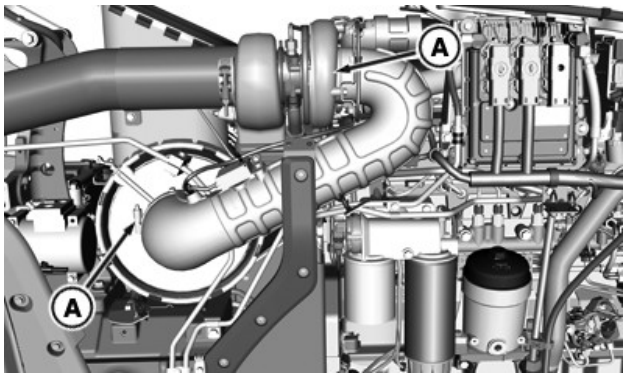
IVT™/AutoPowr™ Right-hand Reverser

2. Move reverser lever (A) to PARK position (B).
3. If tractor does not hold stationary on incline with reverser lever in PARK position, transmission should be repaired **immediately** by your John Deere dealer.

TS36762,0000138-19-05OCT17

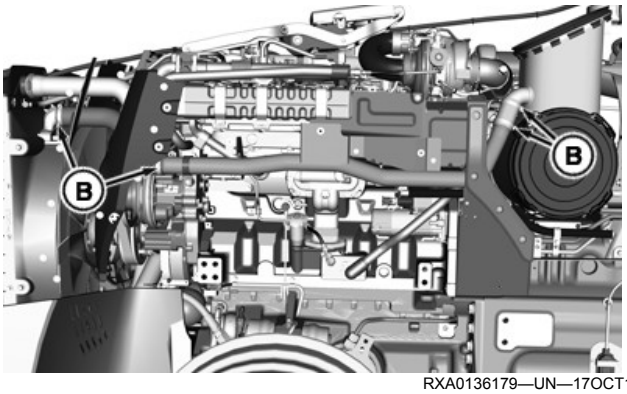
Engine Air Intake System

Check all air intake system joints for damage and leak-free tight connections.

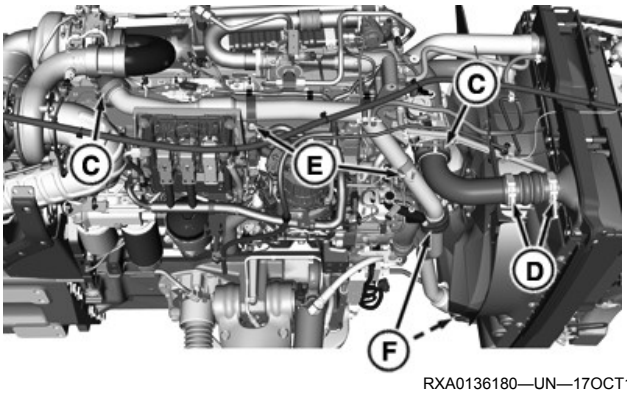


RXA0136178—UN—18OCT13

Tighten Air Cleaner Pipe, Constant Hose Clamps (A) to 8 N·m (6 lb·ft).



RXA0136179—UN—17OCT13

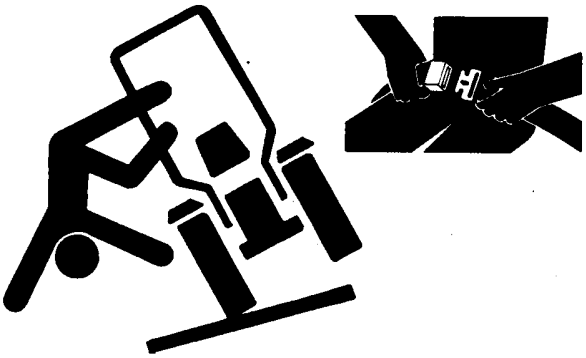


RXA0136180—UN—17OCT13

Tighten aspirator hose clamps (B), band clamps (C), hose clamps (D), charge air pipe hose (E), and flange (F) clamps to 10 N·m (7 lb·ft).

EC82310,00000BD-19-17NOV17

Seat Belts



TS205—UN—23AUG88

CAUTION: If seat belt system, including mounting hardware, buckle, belt, or retractor shows any sign of damage such as cuts, fraying, extreme or unusual wear, discoloration or abrasion, the entire seat belt system should be replaced immediately. Replace belt system only with replacement parts approved for your machine.



RXA0136864—UN—14NOV13

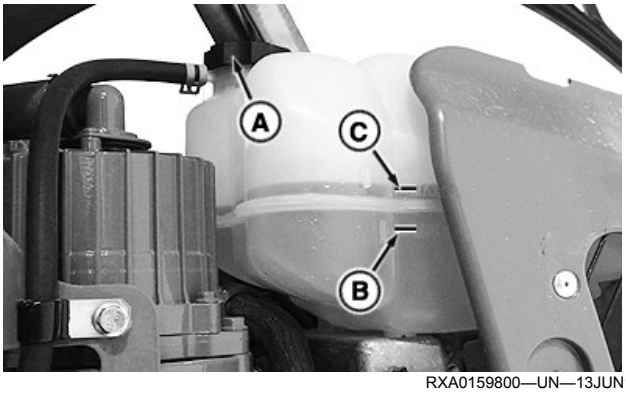
Inspect seat belts (A) and mounting hardware. If seat belts need to be replaced, see your John Deere dealer.

TS36762,0000146-19-05SEP17

Engine Coolant Level

Coolant level is monitored electrically. When coolant is low a diagnostic trouble code will appear on CommandCenter.

1. Open hood, see Open Hood in Service - General Information section of this Operator's Manual.



RXA0159800—UN—13JUN17

2. Check coolant level on side of front de-aeration tank. (6.8 L engine de-aeration tank shown.) Level should be at or above Min Cold line (B). If level is low, before adding coolant check for any signs of leakage. Repair if necessary.

IMPORTANT: Do not open de-aeration tank cap (A) when engine is warm. Doing so will add air to coolant system.

NOTE: If coolant level is low, but there is no sign of an external leak, there may be an internal coolant leak. Contact your John Deere™ dealer.

3. Wait until engine is cool. Remove de-aeration tank cap (A) and add coolant as specified in Fuel, Lubricants and Coolant section. Do not fill above Max Cold line (C). Reinstall de-aeration tank cap.

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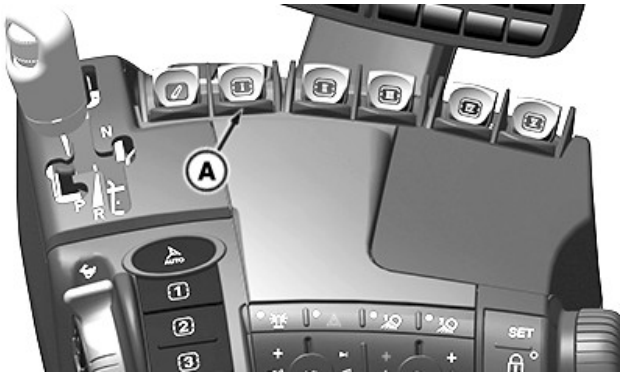
4. Securely close hood.

DB71512,000001F-19-29JUN17

Track Tension

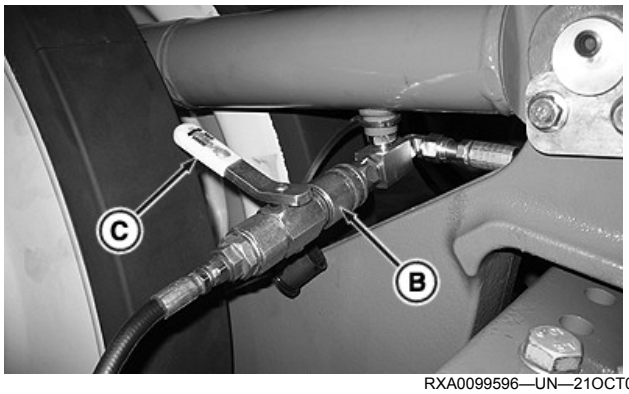
Tension:

1. Start engine.



RXA0159781—UN—14JUN17

2. **Pull** SCV I lever (A) back to the detent position to **extend** the tension cylinder. Allow oil to flow into the system for at least **6** minutes.



RXA0099596—UN—21OCT08

3. Close valve handle (C) on hose.



RXA0099656—UN—30OCT08

4. Stop engine and remove tension hose valve end (B) and tension hose male end (D).

5. Clean up any oil that spilled or leaked during de-tension or tensioning process.

De-tension:

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

Avoid 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 should reference a knowledgeable medical source. Such information is available from Deere & Company Medical Department in Moline, Illinois, U.S.A.

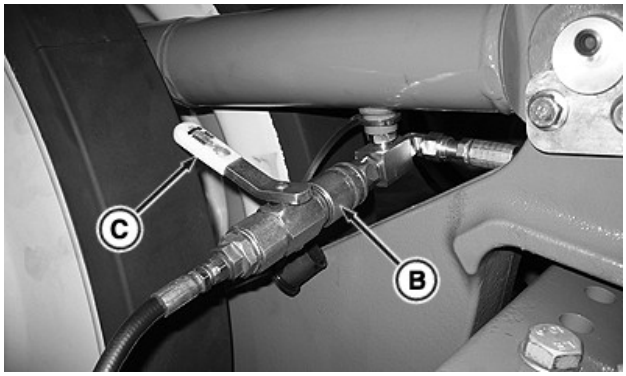
CAUTION: Avoid possible personal injury. Tension kit valve should be in closed position when attaching either end of the hose.

IMPORTANT: Foreign material can damage the hydraulic system. Keep hydraulic couplers free from debris.

Track tensioning is best performed when hydraulic oil in reservoir is less than 38 °C (100 ° F), and track tensioning components are at least 4.5 °C (40 °F).



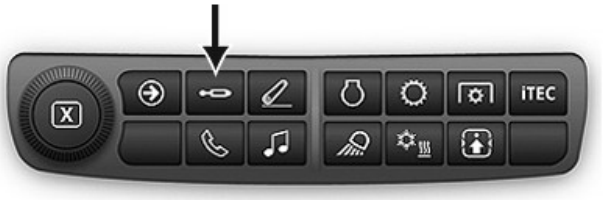
RXA0099595—UN—21OCT08



RXA0099596—UN—21OCT08

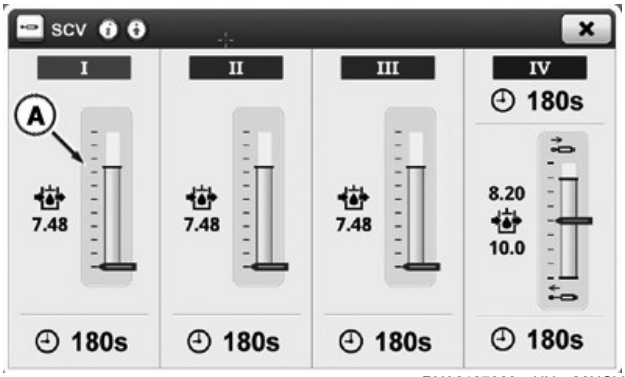
1. With valve handle (C) closed, plug tension hose male end (A) into extend side of SCV I coupler.

2. Remove cap from tension receptacle and attach tension hose valve end (B).
3. Start engine.



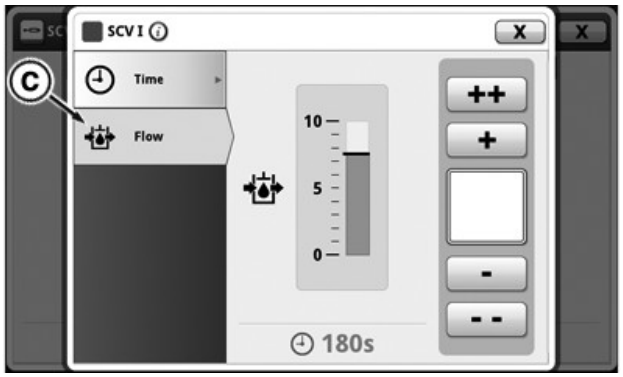
RXA0133709—UN—16JUL13

4. Press SCV shortcut button on Navigation bar.



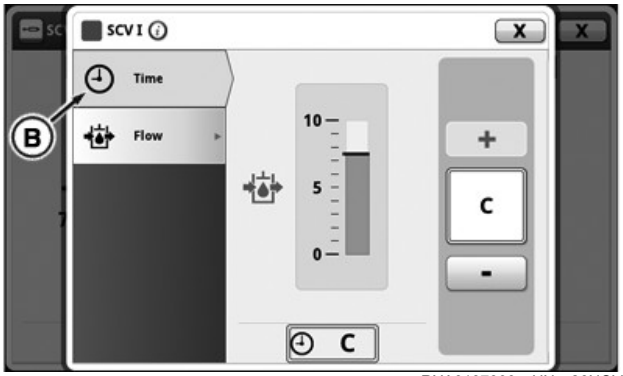
RXA0137389—UN—26NOV13

5. On SCV main page, select (A)



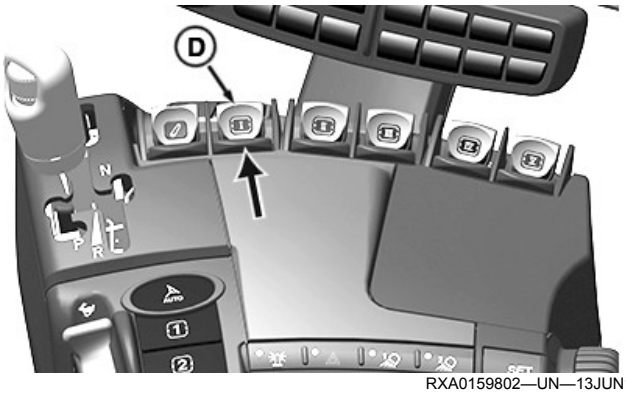
RXA0137419—UN—26NOV13

6. Select SCV I detent flow tab (C).



RXA0137390—UN—26NOV13

7. Select SCV I detent time tab (B).
8. Select arrows in SCV I time box to confirm preferred detent time.

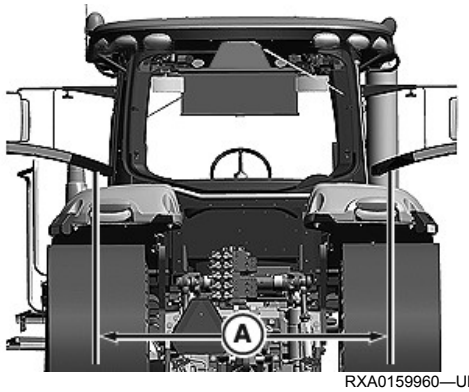


RXA0159802—UN—13JUN17

9. **Push** SCV I lever (D) forward to **retract** position.
10. Exit tractor and open valve handle on tension hose.
11. Allow track to de-tension for five minutes.
12. Stop engine.

RW29387,000030F-19-22JUN17

Tread Settings



RXA0159960—UN—21JUN17

Tread setting is measured between center of tracks (A). Tread spacing can be adjusted by 102 mm (4 in) increments (51 mm (2 in) per side).

IMPORTANT: Avoid damage to tracks. With narrow or standard axle options, 25 or 30 inch tracks are limited to a minimum tread setting of 1930 mm (76 in).

Axle Option	Track Size (inch)	Tread Range mm (in)
Narrow	16, 18, or 24	1829—2337 (72—92)
	25 or 30	1930—2337 (76—92)
Standard	16, 18, or 24	1829—3048 (72—120)
	25 or 30	1930—3048 (76—120)
Wide	16, 18, 24, 25, or 30	2845—4064 (112—160)

RW29387,0000607-19-22JUN17

Track Adjustment

See Tread Settings Table in Drive Wheel and Walking Beam Settings in this section of this Operator's Manual.

NOTE: It is not necessary to detention track belts before performing tread adjustments.

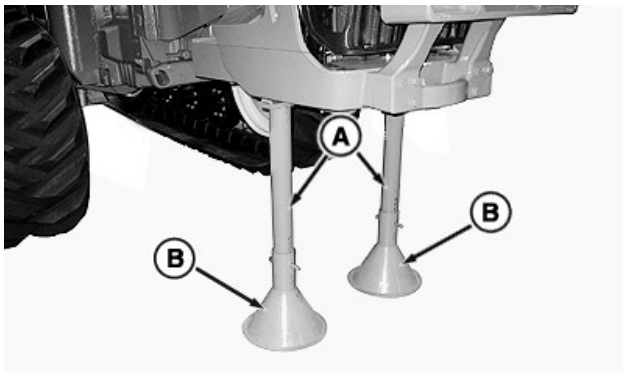
Surfaces between walking beam and track frame must be clean of debris when adjusting tread settings.



RXA0099679—UN—31OCT08

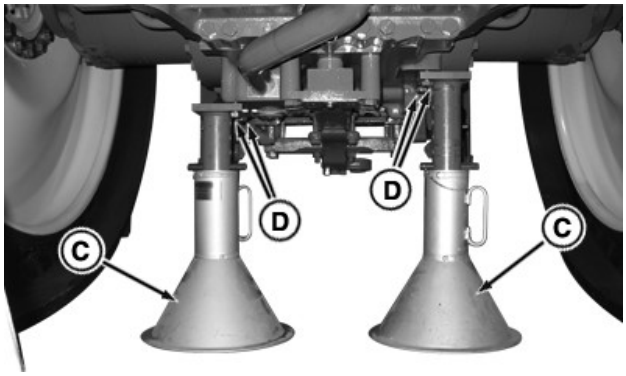
1. Park tractor on firm level surface rotating tractor drive wheels until drive wheel sleeve recess's (E) are straight up in the 12 O clock position. This will place wheel sleeve flanges in correct position.
2. Keeping tractor level front and back, raise entire tractor until approximately 76 mm (3 in.) clearance exist between belt tread and ground.

CAUTION: Avoid possible personal injury. Ensure that tractor is fully supported and stable using support stands with sufficient capacity before removing or adjusting tread settings.



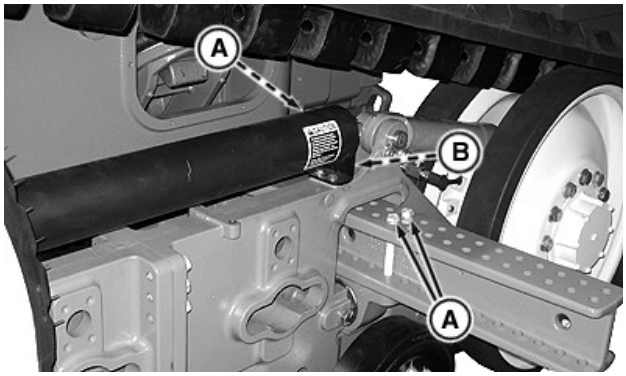
RXA0100722—UN—19FEB09

3. Install JDG1566 Front Supports (A) with cones from JDG1076 Cone Stand Base (B) to front frame support.



RXA0099664—UN—31OCT08

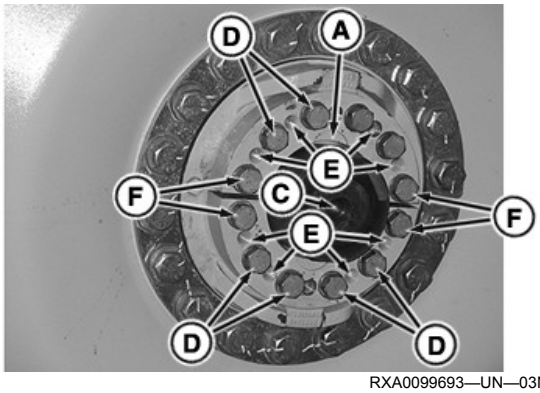
4. Install JT07211 Rear Support Stands (C) to differential case with cap screws (D).



RXA0099538—UN—24FEB09

5. Disconnect track tension pressure sensor harness connector (B).
6. Remove two inner (A) and two outer (A) M20 walking beam cap screws.

IMPORTANT: The four cap screws (F) must be left in place to ensure the edges of wheel sleeves (G) remain flush.



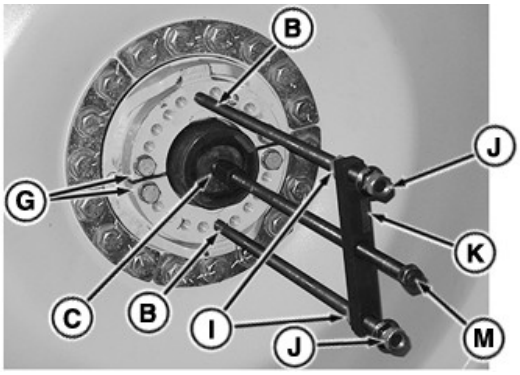
RXA0099693—UN—03NOV08

7. Remove eight rear wheel cap screws (D).
8. Loosen, but do not remove cap screws (F).

NOTE: Because walking beam cap screws are longer than drive wheel cap screws, as they are tightened, they push axle sleeves from drive wheel.

An audible “pop” noise will be heard as wheel hub sleeves release and gap will be noticeable as sleeves release.

9. Install the four previously removed walking beam cap screws, two in each sleeve half, in sleeve jacking holes (E) and tighten as required to loosen wheel sleeves.



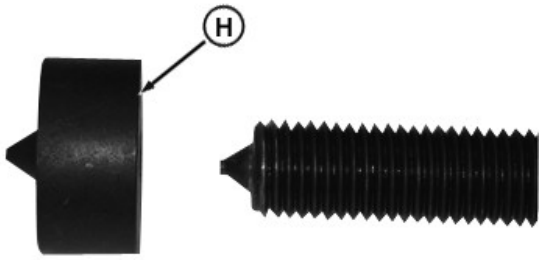
RXA0099603—UN—12DEC08

IMPORTANT: JDG10929 Track Adjustment Tool must be installed in holes (B) and hole at the end of axle (C).

10. **To slide drive wheel in follow steps 11 through 15, then proceed with step 22.**

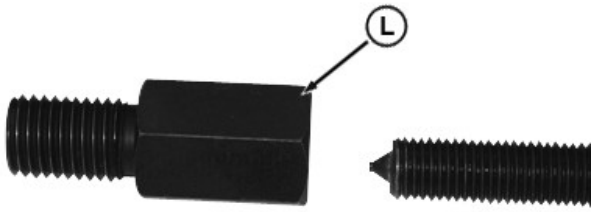
    To slide drive wheel out, skip to step 16 before proceeding through procedure.

11. When sleeves are loosened, remove cap screws (F).
12. Install JDG10929 Track Adjustment Tool in cap screw holes (B).



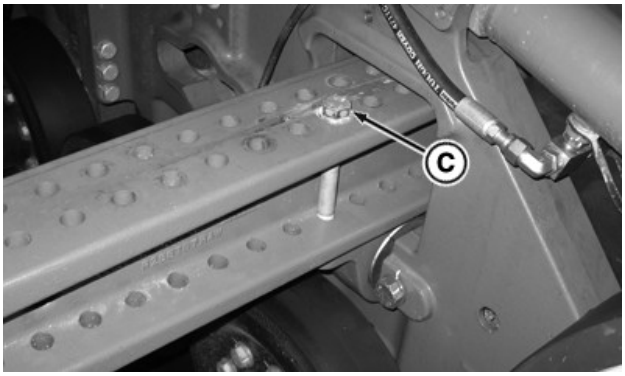
RXA0099582—UN—24OCT08

13. Hold adapter (H) to center cap screw while tightening center cap screw so that adapter is held in place at rear axle hole (C).
14. Tighten inner and outer nuts to JDG10929 Track Adjustment Tool cross member (K).
15. Tighten center cap screw (M) pulling wheel to desired position.



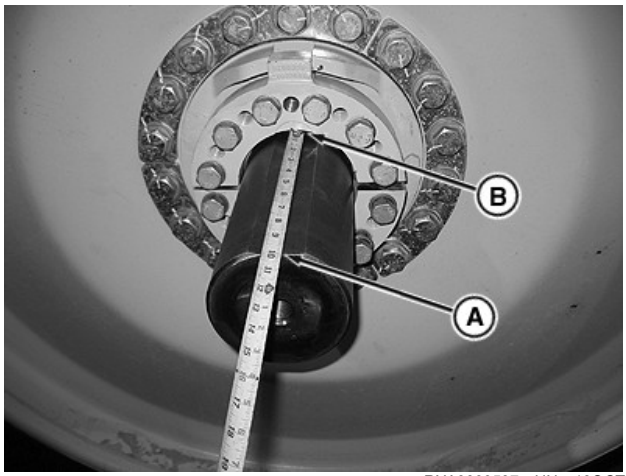
RXA0099584—UN—24OCT08

16. Install JDG10929 Track Adjustment Tool in cap screw holes (B), then install step plate (L) to center cap screw.
17. Install opposite end into rear axle shaft hole (C).
18. Tighten inner nuts against JDG10929 Track Adjustment Tool cross member, snug outer nuts against cross member.
19. Alternate tightening each JDG10929 Track Adjustment Tool inner cap screw two turns at a time. Make sure outer cap screws remain even.
20. Measure distance from rear axle sleeve recess to end of drive axle.
21. Using track adjustment tool JDG10929 as previously described, position drive wheel in or out to reach required tread setting.
22. Install drive wheel cap screws in original drive wheel holes. Tighten, but do not torque cap screws.
23. Using the table in Drive Wheel And Walking Beam Settings, make sure holes in walking beam are correctly aligned to achieve required tread setting.



RXA0099677—UN—31OCT08

24. Install one inner walking beam cap screw (C) and leave loose.

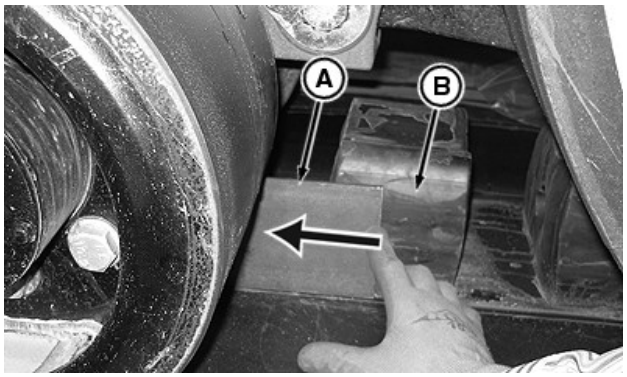


RXA0099537—UN—13OCT08

25. Before tightening drive wheel cap screws, place tape measure against drive wheel sleeve access (B) and re-measure distance to end of axle (A).
26. After tread setting has been verified, using a crisscross pattern, tighten Drive Wheel Cap Screws to 330 N·m (245 lb·ft).
27. Install remaining three walking beam cap screws and using a crisscross pattern, tighten to 430 N·m (320 lb·ft).
28. Make sure distance from drive wheel half moon cut out to end of axle has not changed.
29. Using a crisscross pattern, tighten Drive Wheel Cap Screws to 430 N·m (320 lb·ft).
30. Using a crisscross pattern, tighten Drive Wheel Cap Screws to 430 N·m (320 lb·ft) again.
31. Raise tractor and remove jack stands, lower tractor to ground and remove lifting jacks.
32. Install track pressure sensor wiring connector.
33. Drive track approximately 50 m (150 ft.)
34. Using a crisscross pattern, tighten Drive Wheel Cap Screws to 430 N·m (320 lb·ft) again.
35. See your John Deere dealer to recalibrate tracks steering valve and change address TSA 183 to new track width.
36. Drive wheels cap screws should be retightened after working 3 hours, again after 10 hours, daily for first week of operation or until bolts do not move when retorqued and after significant change in operation such as changing from disks to ripper.

RW29387,000030C-19-17NOV17

Track Alignment



RXA0100963—UN—11MAR09

CAUTION: Guide lug (B) surface may be hot enough to cause injury. Allow time to cool before checking alignment.

IMPORTANT: Tractor must be on ground during alignment procedure. Any adjustment made while tractor is on stands will be incorrect.

1. Drive tractor forward on level ground in a straight line with no steering or braking input at 5 km/h (3 mph) to 8 km/h (5 mph) for 50 meters (150 ft).
2. Place tractor in park and turn key switch off .
3. Use fabricated 102 mm (4 in.) X 204 mm (8 in.) X 6.35 mm (1/4 in.) shim (A) to check alignment between front mid-roller and guide lug (B).

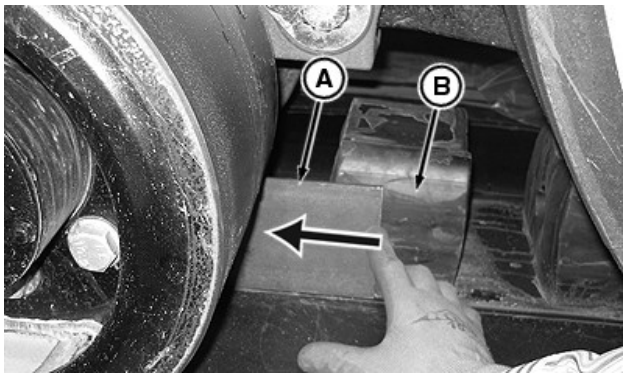
   Slide shim in between mid-roller guide lugs so that it bridges two guide lugs.

   If the shim fits freely on both sides of guide lug, alignment is correct.

   If shim does not fit on one side, adjustment is necessary.
4. Follow track alignment procedure in Aligning Track in this Operator's Manual section.

RX32825,00005BF-19-22JUN17

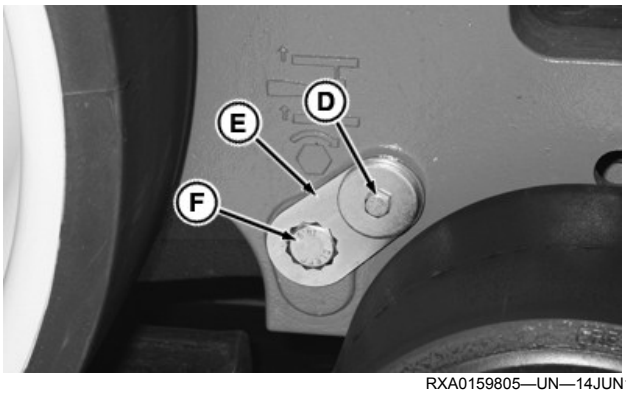
Aligning Track



RXA0100963—UN—11MAR09

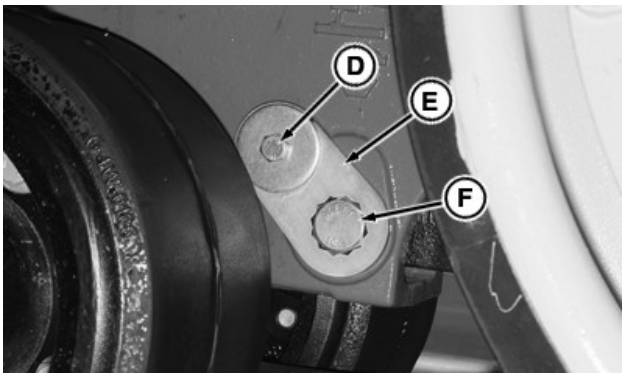
6.35 mm (1/4 in.) Shim

1. Using fabricated shim (A), check track alignment. If the shim fits freely on both sides of guide lug (B), alignment is correct. If shim does not fit on one side, adjustment is necessary.



RXA0159805—UN—14JUN17

Outside Track Frame



RXA0159806—UN—14JUN17

Inside Track Frame

2. Remove retainer lock plate cap screws (D) and lock plates (E) from inboard and outboard sides of track to be adjusted.



RXA0159803—UN—13JUN17

CAUTION: Guide lug (C) surface may be hot enough to cause injury. Allow time to cool before adjusting track.

3. Loosen special cap screw (F) 1 turn on the side you want the track to move toward.

IMPORTANT: Avoid damage to special cap screws through incorrect installation and torquing procedures. Use only unpowered hand tools and ratcheting "click" type or equivalent torque wrench to tighten properly.

4. Tighten the special cap screw on the opposite side to 300 N·m (221 lb·ft).
5. Tighten the special cap screw, loosened in Step 2, to 300 N·m (221 lb·ft).

NOTE: A single full turn is the recommended increment and a 1/2 turn may be used as the final adjustment.

6. Recheck track alignment and adjust again if necessary.

NOTE: Lock plates are reversible to get double the index increments. It may be necessary to increase the torque on special cap screw slightly to advance it to a lock plate position.

7. When alignment is complete, reinstall lock plates and tighten cap screws to 130 N·m (95 lb·ft).

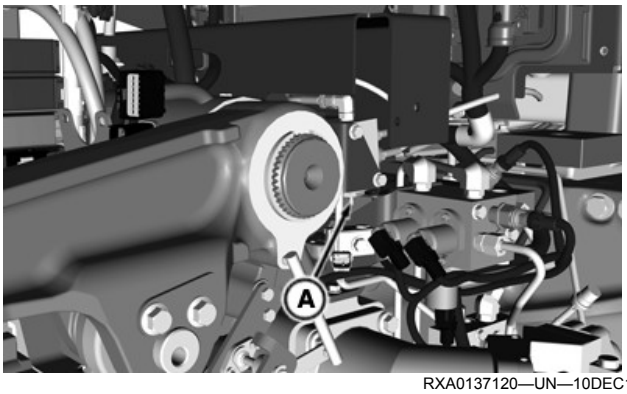
NOTE: If proper track alignment cannot be achieved after 3 turns of special cap screw, adjust drivewheel position plus or minus 3 mm (1/8 in,) from nominal to assist in achieving proper alignment. Move drivewheel in if track is running in, or move out if track is running out.

8. Check track alignment. See Checking Track Alignment in this Operator's Manual section.

RW29387,000030E-19-17NOV17

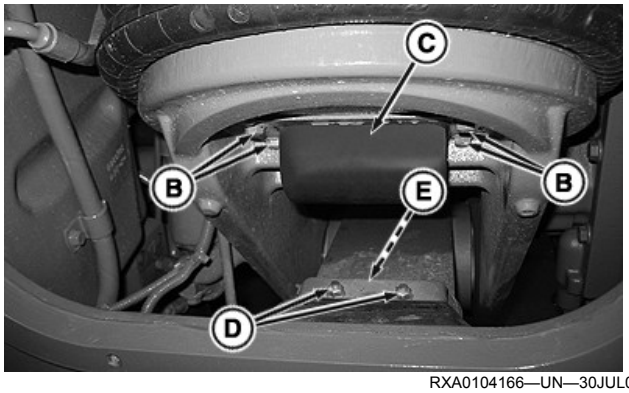
Walking Beam Bumper Stops

1. Park tractor on firm, level surface.



RXA0137120—UN—10DEC13

2. Relieve system air pressure by depressing vent valve (A).



RXA0104166—UN—30JUL09

3. Remove cap screws (B) and remove swing arm stop (C).
4. Using a hydraulic service jack, raise left-hand side of walking beam until walking beam contacts stop.
5. Remove nuts (D).
6. Remove right-hand bumper (E.)
7. Check bumper stop for degraded or missing rubber from stop. If stop is:
   - In good condition, go to step 8.
   - Damaged, replace stop assembly. See Walking Beam Bumper Stops in Service – Change section of this Operator's Manual.
8. Reinstall original stop and tighten nuts to 20 N·m (177 lb·in).
9. Lower left-hand side of walking beam.
10. Raise right-hand side of walking beam until walking beam contacts stop.
11. Lower walking beam and remove hydraulic service jack.
12. Install swing arm stop (C) and tighten cap screws (B) to 37 N·m (27 lb·ft).
13. Inflate track suspension.

RX32825,0001855-19-20NOV17

Engine Coolant Freeze Point

IMPORTANT: Perform coolant service every 1000 hours or annually, whichever comes first.



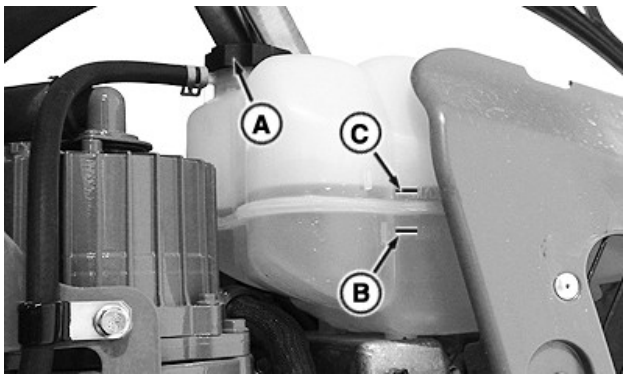
TS281—UN—15APR13

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

Shut off engine. Only remove cap when cool enough to touch with bare hands. Slowly loosen cap to release pressure before fully removing.

1. Open hood, see Open Hood in Service - General Information section of this Operator's Manual.

IMPORTANT: Do not open de-aeration tank cap when engine is warm. Doing so will add air to coolant system.



RXA0159800—UN—13JUN17

A— De-aeration Tank Cap
B— Max Cold Line
C— Min Cold Line

2. Slowly turn de-aeration tank cap (A) to relieve pressure. Remove cap.
3. Test coolant. A more precise test device is available from your John Deere™ dealer, see Testing Coolant Freeze Point in Engine Coolant section of this Operator's Manual.
4. Visually check cap O-ring for sealing effectiveness. A correctly sealing O-ring will have imprint of tank neck mating surface with no apparent scratches or leak paths. If O-ring is not sealing correctly, replace cap.
5. Install de-aeration tank cap.

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6. Close and secure hood.

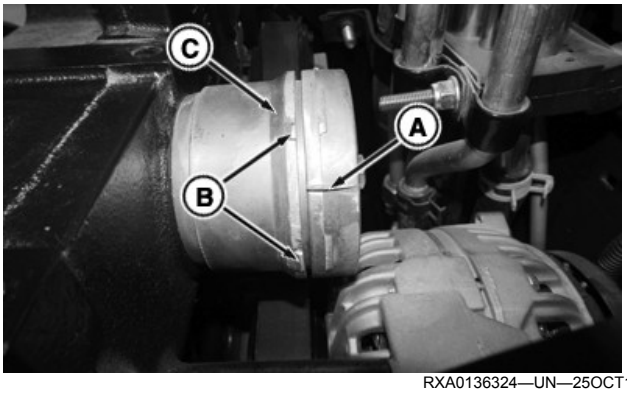
BH38674,0000BC7-19-23JUN17

Auxiliary Drive Belt and Drive Belt Tensioner

1. Open hood, see Open Hood in Service - General Information section of this Operator's Manual.
2. Remove left and right auxiliary drive belt shields at rear of engine compartment.

NOTE: If auxiliary drive belt must be replaced, see Auxiliary Drive Belt in Service - Change section of this Operator's Manual.

3. Inspect auxiliary drive belt for excessive wear, cracking or damage. Replace if necessary.
4. Release tension on drive belt. Rotate tensioner pulley to be sure that pulley turns freely, without binding, Inspect pulley for excessive damage or wear. Replace if necessary.

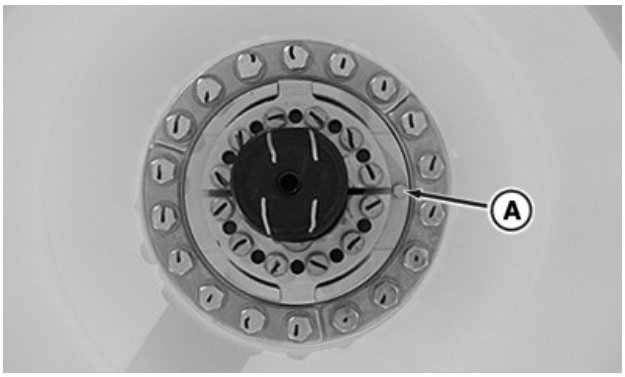


RXA0136324—UN—25OCT13

5. Check auxiliary drive belt tension indicator (A). If indicator is within normal operating band (B), belt is not excessively stretched and should not be replaced. If indicator is outside normal operating band, and within stretch indicator band (C), replace belt.
6. Reinstall drive belt shields. Close and securely latch hood.

DB71512,000002A-19-23JUN17

Drive Wheel Hub Housing Oil



RXA0160000—UN—23JUN17

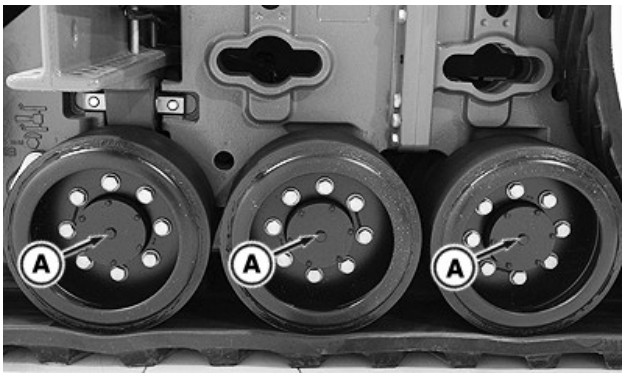
1. Park tractor on level surface with drive wheel oil fill plug (A) in three o'clock position.
2. Shut off engine.
3. Remove oil fill plug.
4. Check oil level. If level is:
   a. Level with bottom of plug hole, go to step 5.
   b. Below bottom of plug hole, go to step 7.
5. Replace plug.
6. Start tractor and repeat procedure on other side of tractor.
7. Fill with oil up to level of bottom of plug opening. See Transmission and Hydraulic Oil in Other Lubricants section of this Operator's Manual.

Specification	
Wheel Hub—Capacity (Each Side)	1.6 L (1.7 qt)

8. Go to step 6.

RX32825,00005E3-19-20NOV17

Mid-Rollers Oil Level



RXA0136875—UN—19NOV13

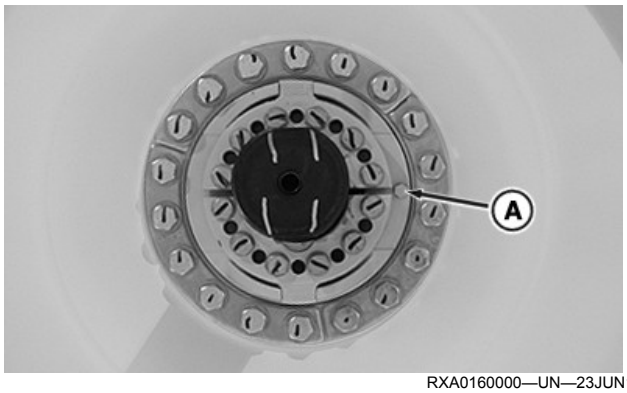
Remove plug (A) on each mid-roller. Oil should be level with plug opening.

Fill with oil as required. See Transmission and Hydraulic

Oil in Other Lubricants section of this Operator's Manual.

RX32825,00005E4-19-23JUN17

Idler Wheel Hub Oil Level



RXA0160000—UN—23JUN17

Remove oil fill plug (A) on each idler wheel. Oil should be level with plug opening.

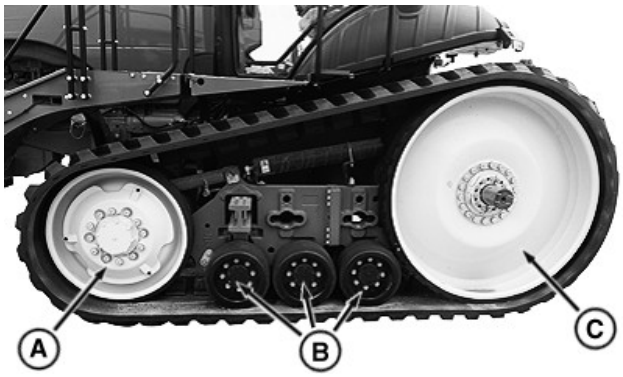
Fill with oil as required. See Transmission and Hydraulic Oil in Other Lubricants section of this Operator's Manual.

Replace plug and tighten to 34 N·m (25 lb·ft)

RX32825,00005E5-19-20NOV17

Mid-Rollers, Drive, and Idler Wheels

IMPORTANT: Avoid operating tractor in grease, oil, or other petroleum chemicals. Avoid spilling these materials on track and wheels during servicing of tractor.



RXA0144028—UN—20AUG14

Inspect rubber coating for chunking, chipping, or cracking on idler wheels (A), mid-rollers (B) and drive wheels (C). Wheels typically see rubber wear at edges. Significant edge wear may be evident, but wheel will still perform as intended. Typical wear patterns in the rubber are numerous small nicks and chunks, some small section with rubber loss, and slight amount of rubber separation at edges. Check rubberized wheels for embedded rocks, nails, or other sharp objects. Remove if found. Embedded objects can cause internal damage to track if left in place.

IMPORTANT: Inner and outer mid-rollers must be within 30 mm circumference of each other.

Do not pair worn wheels with new wheels on the same axle. Overloading of opposite side may occur (mid-roller) or track alignment may be affected (drive and idler wheels).

NOTE: Replace mid-rollers in sets if significant thickness wear is seen on an opposite side wheel.

Wheels should not be replaced unless:

- More than 1/3 of rubber width from either side is lost
- Rubber loss extends across entire wheel width in any area
- Rubberized wheel face begins to buildup with dirt due to lack of rubber thickness
- Less than 5/16" of drive wheel tread depth remains
- Mid-roller no longer turns freely

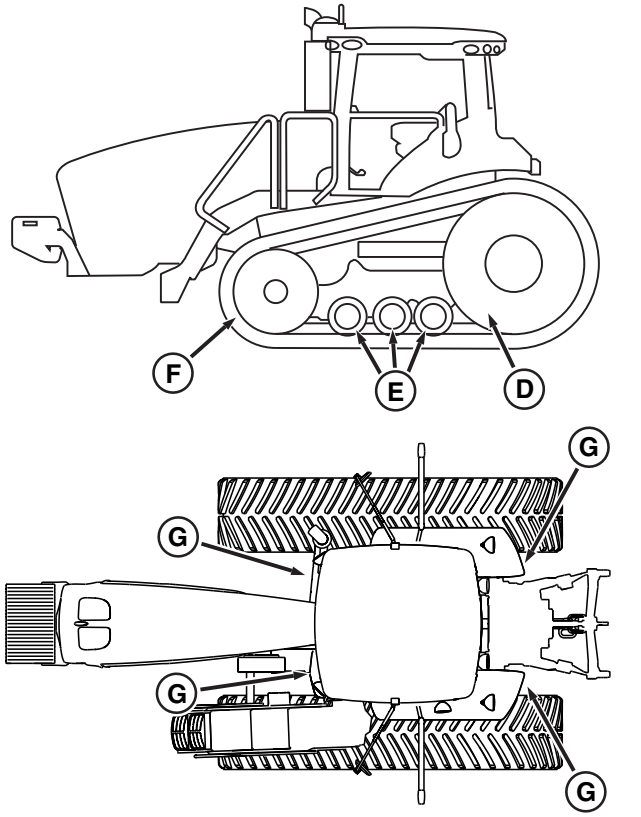
Inspect drive and idler wheels for visible cracks around bolt pattern or rim. If cracks are visible, contact your John Deere™ dealer.

BH38674,0000BCC-19-23JUN17

Track Wear and Trash Build-Up

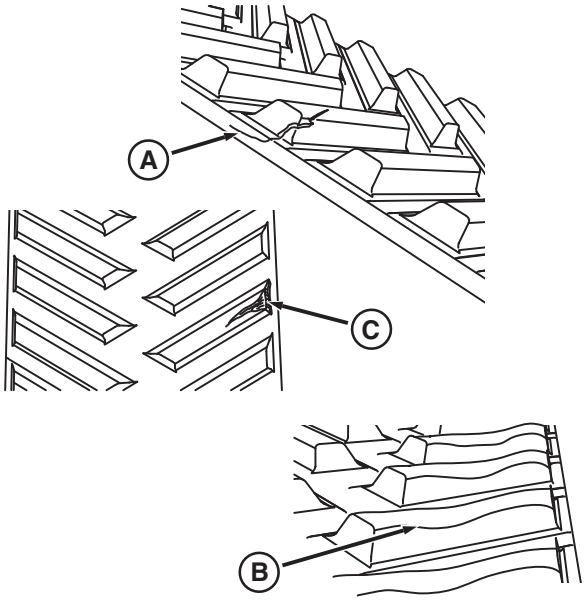
IMPORTANT: Avoid grease, oil, or other petroleum chemicals on tracks and wheels. Constant exposure to petroleum based chemicals may damage rubber surfaces.

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RXA0099665—UN—31OCT08

Trash build-up can cause fire from increased friction. Remove trash from trash build-up points (G) between track and tractor frame.



RXA0147257—UN—17JUN15

Inspect for cracking (A), uneven wear (B) and/or chipping or chunking (C) on rubber surfaces of drive wheels (D), mid-rollers (E) and idler wheels (F).

Undercarriage Inspection and Maintenance

1. Remove any debris or material buildup on top of frame reaction arms. Buildup can wear down rubber on drive wheels and reduce their ability to transfer power to track.
2. Check for material buildup between drive wheels and front idler wheels. Buildup can damage or crush guide lugs and can increase chances of derailing track. If guide lug tip damage is seen, it may be due to material buildup.
3. Look over drive wheels and idlers for visible cracks around bolt pattern or the rim. If seen, see your John Deere™ dealer for best recommendation for repair or replacement.
4. Remove any embedded rocks, nails, or other sharp object in track belt or mid-rollers.

BH38674,0000BCD-19-23JUN17

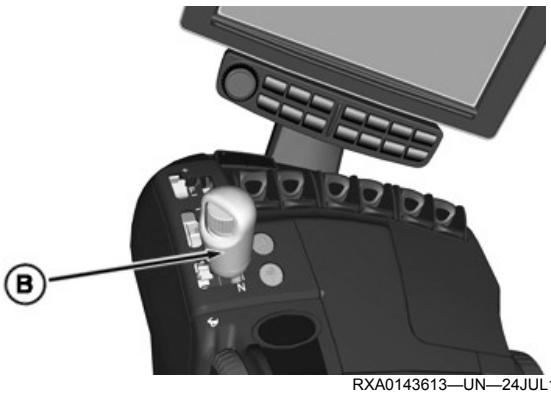
Secondary Brake

1. Park tractor on incline. Incline should be steep enough to allow tractor to roll easily when tractors is place in Neutral.



RXA0143612—UN—24JUL14

2. For IVT™ or left-hand reverser, move transmission shift lever (A) to Neutral position.



RXA0143613—UN—24JUL14

3. For e23™, move transmission lever (B) to Neutral position.
4. Engage secondary brake (C).

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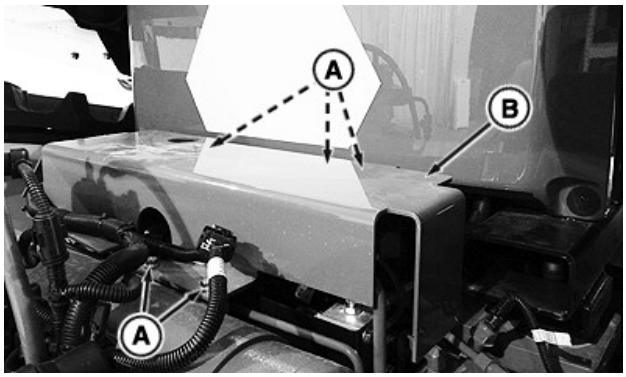
RXA0143614—UN—24JUL14

If tractor does not hold with secondary brake engaged, see your John Deere™ dealer.

SV81855,00002DE-19-23JUN17

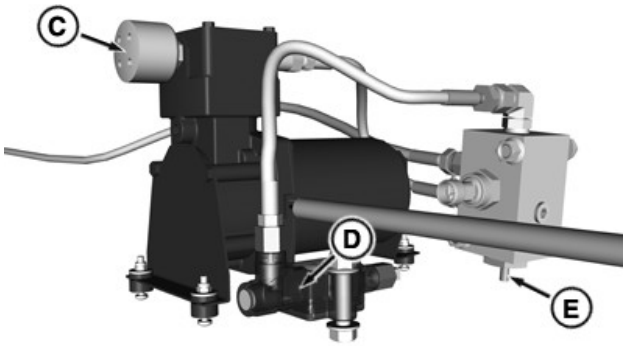
Walking Beam Air Suspension System

CAUTION: Stay clear of moving suspension parts because tractor will lower when air valve is pressed.



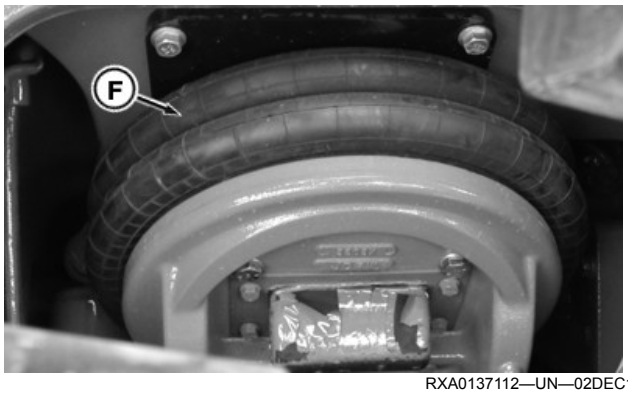
RXA0136857—UN—02DEC13

1. Remove cap screws (A) and cover (B).



RXA0137111—UN—02DEC13

2. Inspect air compressor inlet filter (C) for debris. Remove any debris found.
3. Inspect air compressor, solenoid vent valve (D) and position sensor for debris. Remove any debris found.
4. Keep debris clear from manual lowering vent valve (E).
5. **Depress** manual lowering vent valve and hold for approximately 3 seconds to allow venting of moisture that may have collected within system.



RXA0137112—UN—02DEC13

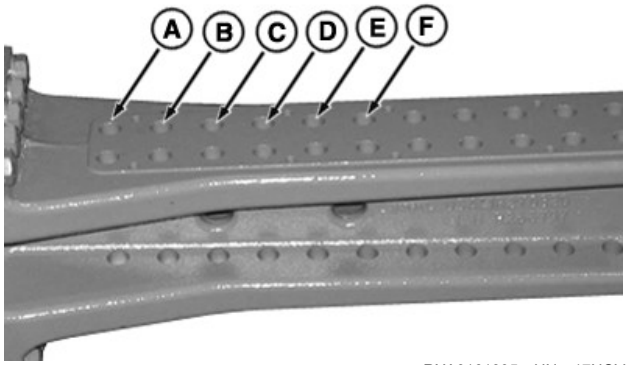
6. Visually inspect air spring (F).
7. Flush air bag with compressed air as necessary, depending on operating conditions to remove fine dirt particles and small rocks.

SV81855,0000168-19-29JUN17

Drive Wheel And Walking Beam Settings—Narrow Tread

Narrow Beam Settings 1828.8 mm (72 in) to 2336.8 mm (92 in) row spacing.

Walking beam holes refer to holes used for inside walking beam positioning screws. Allow four unused positioning holes between inside bolt and outside bolt for each tread setting position.



RXA0161395—UN—17NOV17

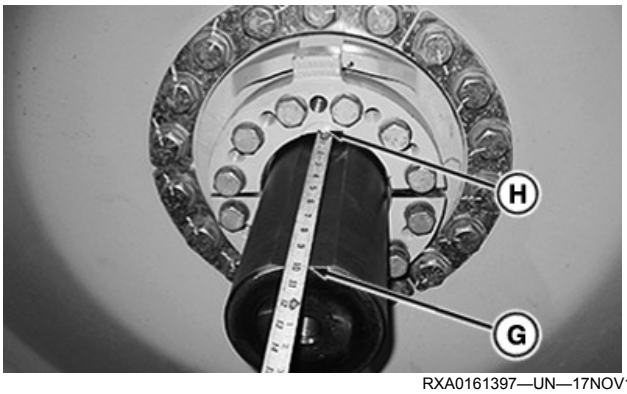
Track Tread Settings mm (in)		
Walking Beam Inner Hole	**Distance To Rear Axle End**	**Tread Setting**
A	254 (10)	1828.8 (72)
B	203.2 (8)	1930.4 (76)
C	152.4 (6)	2032 (80)
D	101.6 (4)	2133.6 (84)
E	50.8 (2)	2235.2 (88)

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Track Tread Settings mm (in)		
Walking Beam Inner Hole	Distance To Rear Axle End	Tread Setting
F	0 (0)	2336.8 (92)



RXA0161396—UN—17NOV17

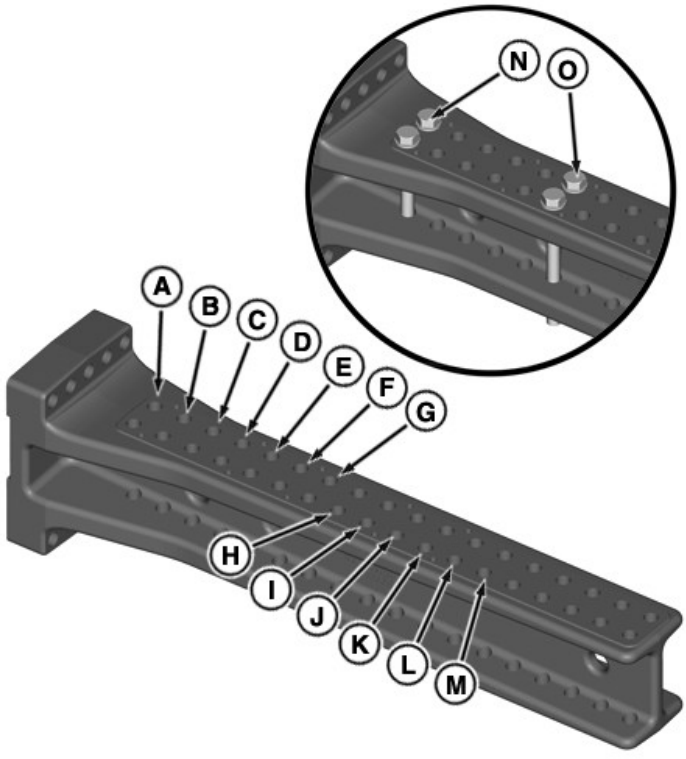


RXA0161397—UN—17NOV17

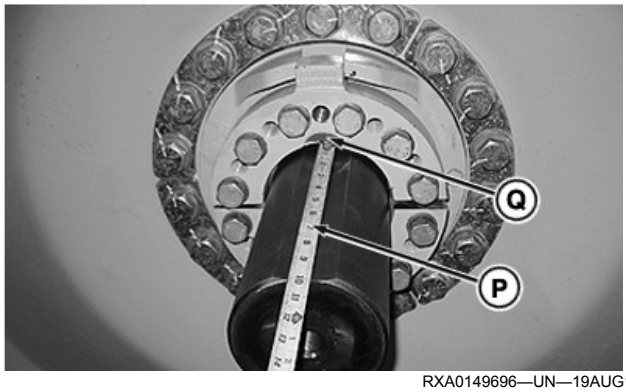
When measuring rear axle, make sure tape is against drive wheel sleeve recess (H) and measure out to end of axle (G). Making sure measurements are within 3 (1/8) will minimize tread setting alignment adjustments.

RW29387,0000608-19-16NOV17

Drive Wheel And Walking Beam Settings—Standard and Wide Tread







RXA0149696—UN—19AUG15

Standard Beam Settings 1828.8 mm (72 in) to 3048 mm (120 in) row spacing or Wide Beam 2844.8 mm (112 in) to 4064 mm (160 in) row spacing.

Walking beam holes in above table refer to holes used for inside walking beam positioning screws. Allow four unused positioning holes between inside bolt (N) and outside bolt (O) for each tread setting position.

When measuring rear axle, make sure tape is against drive wheel sleeve recess (Q) and measure out to end of axle (P). Making sure measurements are within 3 (1/8) will minimize tread setting alignment adjustments.

Track Tread Settings mm (in)				
Walking Beam Inner Hole	Standard		Wide	
	Distance To Rear Axle End	Tread Setting	Distance To Axle End	Tread Setting
A	609.6 (24)	1828.8 (72)	609.6 (24)	2844.8 (112)
B	558.8 (22)	1930.4 (76)	558.8 (22)	2946.4 (116)
C	508 (20)	2032 (80)	508 (20)	3048 (120)
D	457.2 (18)	2133.6 (84)	457.2 (18)	3149.6 (124)
E	406.4 (16)	2235.2 (88)	406.4 (16)	3251.2 (128)
F	355.6 (14)	2336.8 (92)	355.6 (14)	3352.8 (132)
G	304.8 (12)	2438.4 (96)	304.8 (12)	3454.4 (136)
H	254 (10)	2540 (100)	254 (10)	3556 (140)
I	203.2 (8)	2641.6 (104)	203.2 (8)	3657.6 (144)
J	152.4 (6)	2743.2 (108)	152.4 (6)	3759.2 (148)
K	101.6 (4)	2844.8 (112)	101.6 (4)	3860.2 (152)
L	50.8 (2)	2946.4 (116)	50.8 (2)	3962.4 (156)
M	0 (0)	3048 (120)	0 (0)	4064 (160)

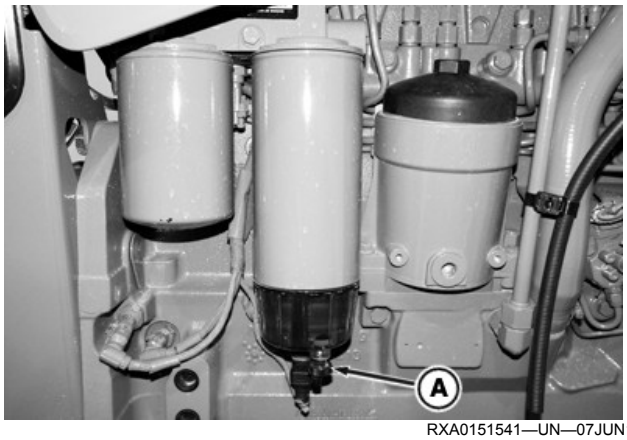
BH38674,0000BD1-19-21NOV17

Water Separator

IMPORTANT: Water can damage fuel systems. If excessive water is found, draining fuel tanks may be required. See Fuel Tank Sump in Service - Check section of this Operator's Manual.

Water in fuel collects in bottom of fuel filters. When separator sensor identifies water in fuel system, service alert indicator flashes on corner post display. Alarm sounds for five seconds and corresponding message appears on CommandCenter™ display.

1. Open hood, see Open Hood in Service - General Information section of this Operator's Manual.



RXA0151541—UN—07JUN16

2. Rotate drain valve nut (A) counterclockwise to open and drain accumulated water.
3. Close drain valve nut.
4. Securely close hood.

DB71512,0000020-19-23JUN17

Engine Valve Clearance

NOTE: To confirm which engine your tractor is equipped with, see Engine Serial Number in Identification Numbers section of this Operator's Manual.

See your John Deere dealer.

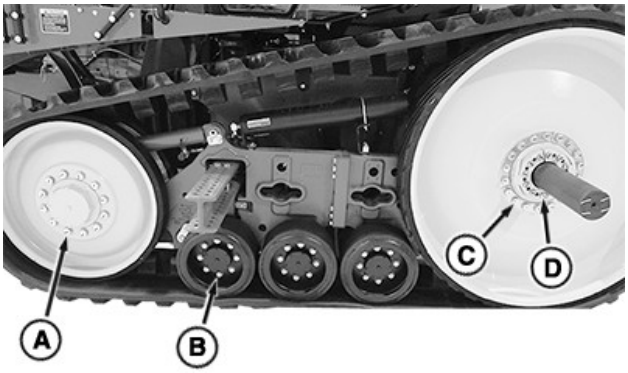
TS36762,0000148-19-14DEC16

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Drive Wheel, Drive Wheel Sleeve, Wedges, Idler, and Mid-Roller Cap Screws

IMPORTANT: If tractor is operated with loose cap screws, they may become worn and it may be necessary to replace them.

Retighten track cap screws after working 3 hours, 10 hours, and daily during the first week of operation.



RXA0160001—UN—26JUN17

Inspect and retorque idler wheel (A), mid-roller wheel (B), drive wheel (C), and drive wheel sleeve (D) cap screws .

Cap Screw Torque — Specification

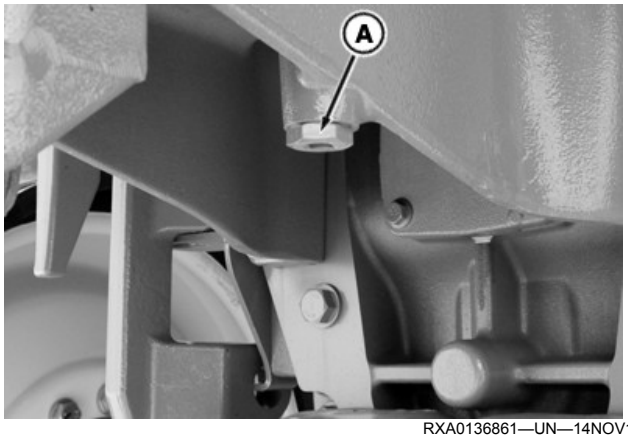
Idler Wheel	1050 N·m (774 lb·ft)
Mid-Roller Wheel	450 N·m (332 lb·ft)
Drive Wheel	1050 N·m (774 lb·ft)
Drive Wheel Sleeve	430 N·m (320 lb·ft)

RX32825,00005CE-19-20NOV17

Engine Oil and Filter

IMPORTANT: Initial break-in service interval of new or rebuilt wet sleeve engine with Break-In Plus must go at least 100 hours to assure surface mating of rings and liners has had an opportunity to occur. 100 hour minimum applies to all new or rebuilt engines. Maximum service interval is the same as service interval recommendations listed in Engine Oil and Filter Service Intervals in Engine Oil section of this Operator's Manual. Replace at 500 hours or annually whichever comes first.

1. Operate engine approximately 5 minutes to warm oil, then stop engine.
2. Remove engine fill cap at dipstick.

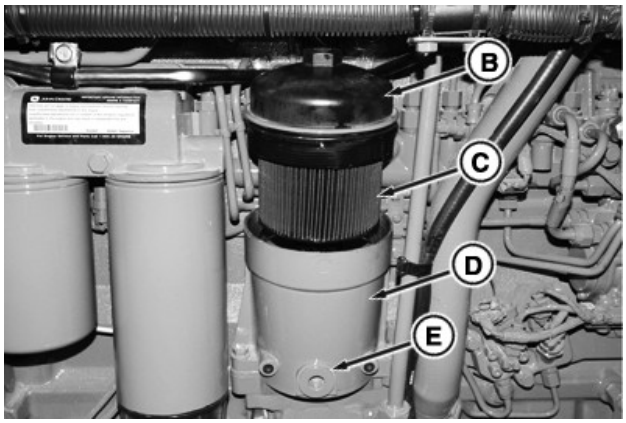


RXA0136861—UN—14NOV13

3. Place drain pan below engine oil drain plug (A).

NOTE: Drain plug location may vary slightly depending on application.

4. Remove engine oil drain plug and drain crankcase oil while engine is warm.



RXA0136206—UN—01NOV13

NOTE: Do not remove plug (E) on base of oil filter housing. Oil will automatically drain back into crankcase when filter is removed.

5. Using a 32 mm wrench, unscrew oil filter cover (B) and lift as shown to allow oil filter (C) to drain into crankcase.
6. Dispose of used oil in accordance with local laws and ordinances.
7. Remove filter cover with oil filter attached.



RXA0136207—UN—24OCT13

8. While holding cover, strike filter against solid surface to remove. Discard used filter.
9. Remove old O-ring and replace with new O-ring provided with new filter element. Lubricate new O-ring with a small amount of engine oil.
10. Press new filter into cover until it snaps into place.
11. Insert cover and filter into oil filter housing (D). Tighten cover to 40 N·m (30 lb·ft).
12. Install drain plug after oil has been drained from crankcase. Tighten to 102 N·m (75 lb·ft).

IMPORTANT: Overfilling engine oil may result in loss of engine performance or damage to engine components. Check oil level during refill to assure that correct amount of oil is added.

13. Refill crankcase with seasonal viscosity grade oil as specified in appropriate Diesel Engine Oil topic in Engine Oil section of this Operator's Manual. Check oil level during fill process to guard against overfill.
14. Start engine and check for leaks.
15. Stop engine. Recheck oil level. Add oil if necessary.

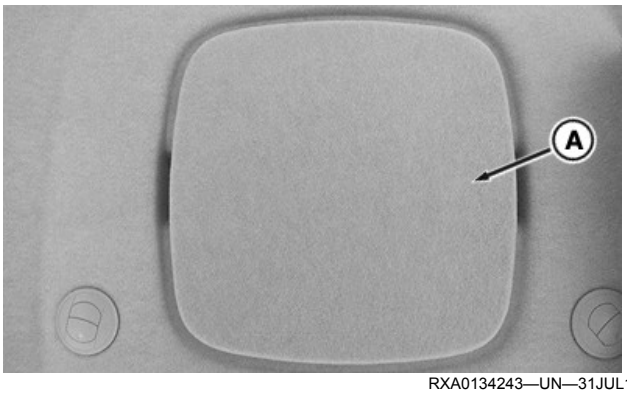
RX32825,000005B-19-21NOV17

Cab Recirculation Air Filter

CAUTION: Cab air filters are not designed to filter out harmful chemicals. Follow instructions in implement Operator's Manual and those given by chemical manufacturer when using agricultural chemicals.

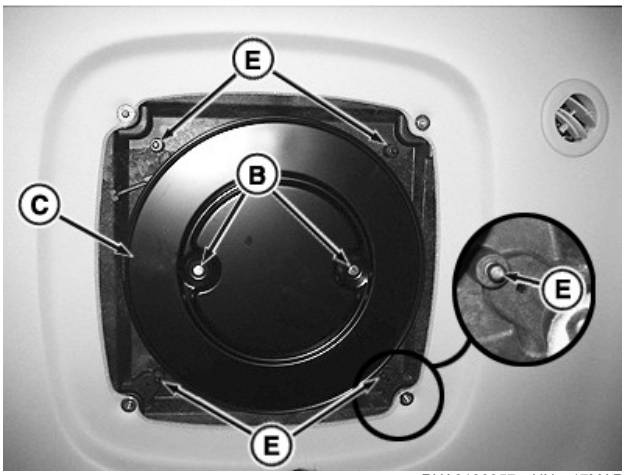
IMPORTANT: Replacement interval can vary according to operating conditions. Normal service is 1000 hours or annually, whichever occurs first.

1. Close entry door to prevent debris getting into cab.



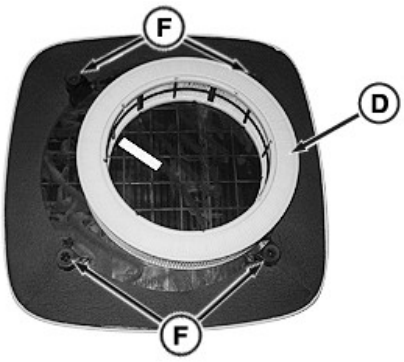
RXA0134243—UN—31JUL13

2. Remove upholstery cover (A) in headliner by grasping outer edges and pulling down.



RXA0100957—UN—17MAR09

3. While holding cover (C) in place with one hand, remove fasteners (B) allowing cover to be lowered.
4. Using a clean cloth, wipe down inside and outside of filter cover.



RXA0100959—UN—17MAR09

5. Remove and discard old recirculation filter (D).
6. Install new filter.
7. Install cover (C) and tighten fasteners (B).
8. Install upholstery cover by lining up ball studs (E) with clip nuts (F) and firmly push up.

TS36762,000014F-19-29JUN17

Cab Fresh Air Filter

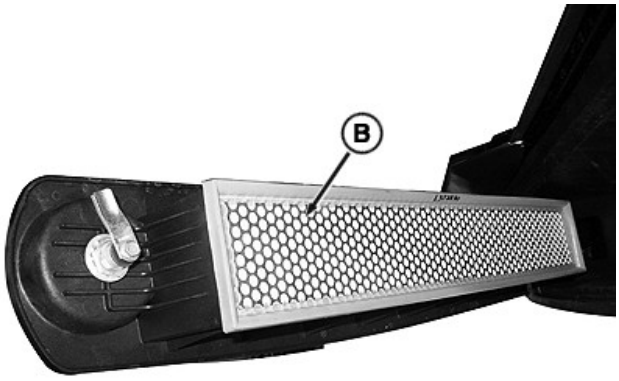
CAUTION: Cab air filters are not designed to filter out harmful chemicals. Follow instructions in implement Operator's Manual and those given by chemical manufacturer when using agricultural chemicals.

IMPORTANT: Replacement interval can vary according to operating conditions. Normal service is 1000 hours or annually, whichever occurs first.



RXA0099137—UN—19SEP08

1. Support cover, then turn knob allowing cover (A) to swing down.



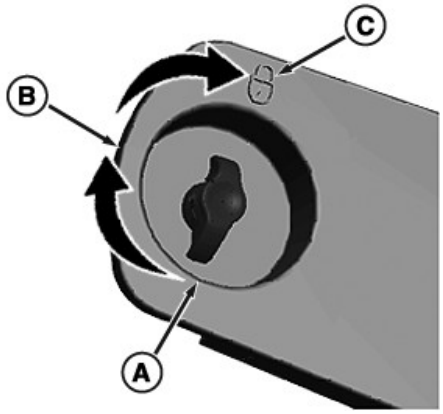
RXA0099139—UN—19SEP08

2. Remove and discard old fresh air filter (B).



RXA0099699—UN—04NOV08

3. Using a clean cloth, wipe down inside and outside of filter cover.
4. Install new filter.



RXA0099848—UN—26NOV08

NOTE: Filter cover latch has three positions; open (A), latched (B) and locked (C).

5. Close cover and turn knob 180° to securely lock latch.

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Engine Primary and Secondary Air Filters

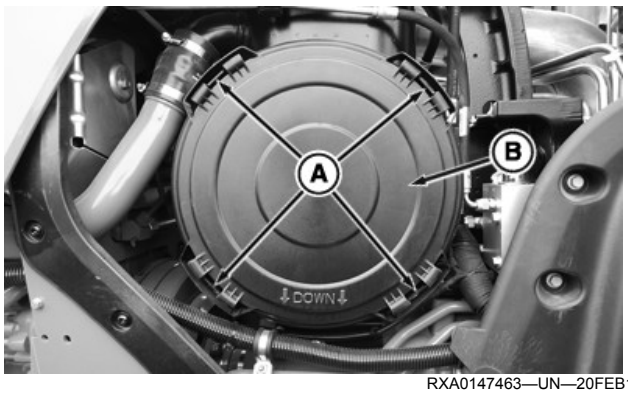
IMPORTANT: Filter service can vary depending on operating conditions.

Replace filters annually or every 1000 hours, whichever comes first. If diagnostic trouble code appears, service or replace primary engine air filter.

Replace primary filter after every six cleanings.

Replace secondary engine air filter at every second primary filter change.

1. Open hood, see Open Hood in Service - General Information section of this Operator's Manual, to access air filter housing cover on left side of engine.



RXA0147463—UN—20FEB15

2. Release plastic clips (A) and remove filter cover (B).



RXA0136203—UN—24OCT13

3. Turn and pull to remove primary filter (C).
4. Replace filter if it has been cleaned six times. Proceed to step 7.

IMPORTANT: To avoid damage, do not exceed 517 kPa (5.17 bar) (75 psi) air pressure when servicing filters.

Never wash filters under any circumstances.



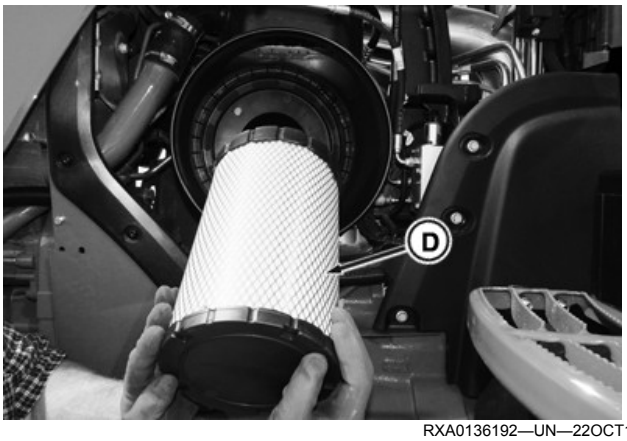
RXA0147462—UN—20FEB15

5. Clean filter using 517 kPa (5.17 bar) (75 psi) maximum pressure compressed air. Hold nozzle next to inner surface and move up and down pleats.
6. Hold bright light inside filter and carefully check for damage. Replace filter if mesh screen is damaged or filter shows slightest rupture or hole.

IMPORTANT: Never attempt to clean secondary filter.

Replace secondary air filter as specified.

Install new secondary air filter immediately to prevent dust from entering air intake system.



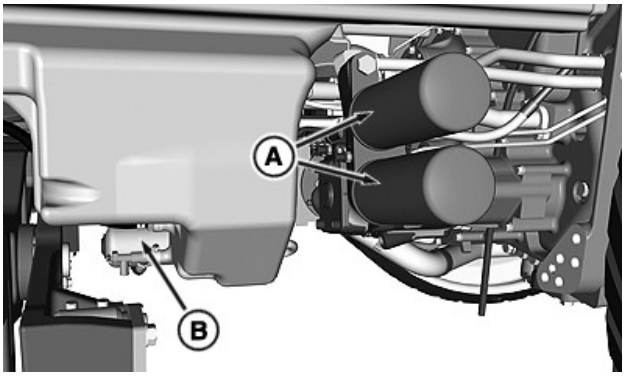
RXA0136192—UN—22OCT13

7. Remove and inspect or replace secondary filter (D). Replace filter:
   a. Annually or,
   b. Every second primary filter change or,
   c. When secondary filter is dirty.
8. Inspect primary and secondary filter gaskets. Replace filter if gaskets are in poor condition.
9. Install filter elements.
10. Install cover, positioning text with arrows pointed down to ensure proper seal.
11. Close and secure hood.

DB71512,0000030-19-20JUN17

Transmission-Hydraulic Oil and Filters

1. Place drain pan under transmission-hydraulic filters.



RXA0136872—UN—19NOV13

2. Remove both transmission-hydraulic filters (A) and steering filter (B).

IMPORTANT: Make sure old packings are removed before installing new filters.

3. Lubricate new filter packings with hydraulic oil only.
4. Install and hand tighten new filter elements.
5. Before refilling transmission-hydraulic oil, be sure all drain plugs are correctly installed.

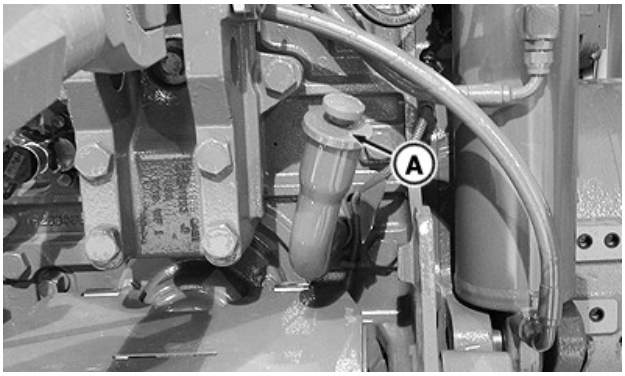
IMPORTANT: Avoid damage to transmission and hydraulic system components. Carefully follow initial oil fill procedure.

NOTE: Oil temperature should be approximately 45°C (113°F). See Machine Monitors in CommandCenter™ section of this Operator's Manual to determine oil temperature.

Sight glass observations will be higher with hotter oil temperatures and lower with colder oil or if engine has not run long enough.

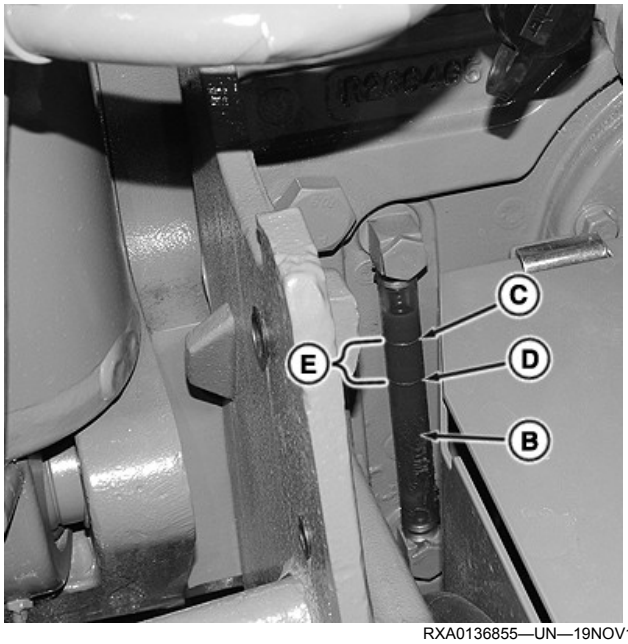
6. Fill differential housing with oil. Use oil as specified in Transmission and Hydraulic oil in Other Lubricants section of this Operator's Manual. For transmission-hydraulic oil capacity, see Capacities in Specifications section of this Operator's Manual.
7. Start engine and run at 900 rpm until clean oil reservoir level indicator light goes off (approximately 2 minutes).
8. Operate engine at approximately 1000 rpm for at least one minute.
9. Stop engine and wait at least three minutes for oil to settle back into differential case.
10. Ensure rear hitch is in lowered position.

IMPORTANT: Oil level above top mark on sight glass can result in power loss and heat generation during transport.



RXA0159788—UN—13JUN17

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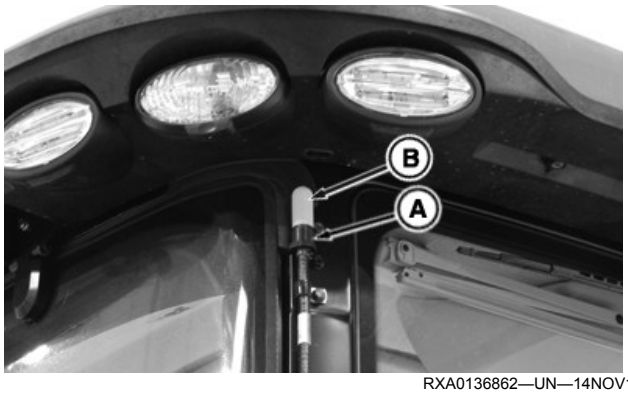
RXA0136855—UN—19NOV13

11. Observe oil level in sight glass (B). Sight glass is to left of PTO shield. Oil level should be between add mark (D) and full mark (C) on glass. Operation level is between full and add marks (E).

    If oil level is below lower mark, remove filler cap (A) and add hydraulic oil. If oil level is above top mark, drain oil to bring level into correct range.
12. Start and operate engine several minutes, then check for leaks.
13. Stop engine and recheck oil level after a minimum of five minutes.
14. Add oil as necessary.

RX32825,0000058-19-21NOV17

Fuel Tank Vent Filter

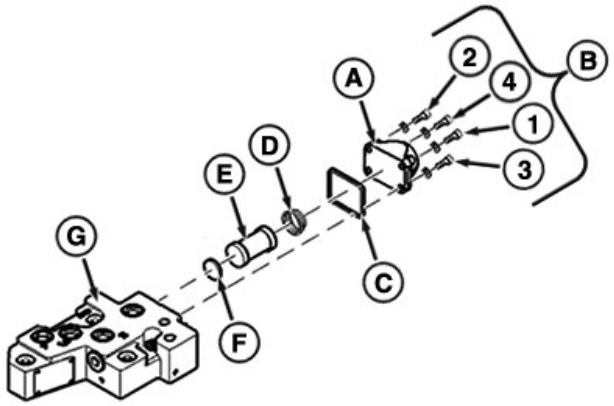


RXA0136862—UN—14NOV13

1. Loosen clamp (A) and slide fuel tank vent filter (B) from clamp.
2. Release tension hose clamp and slide down on hose to remove vent filter.
3. Replace vent filter, slide tension hose clamp up on hose and reinstall filter through clamp. Tighten clamp.

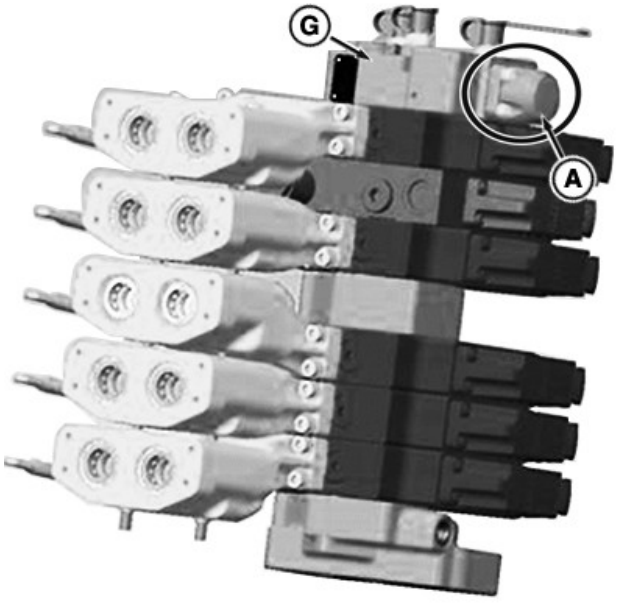
SV81855,0000166-19-26JUN17

SCV Pilot Valve Filter



RXA0152694—UN—11JUL16

1. Remove cap screws (B).



RXA0152693—UN—11JUL16

2. Remove SCV pilot filter cover (A) from SCV pilot filter housing (G).
3. Remove old spring (D), SCV pilot filter (E), and O-ring (F).
4. Install new O-ring, SCV pilot filter, and spring.
5. Replace gasket (C) and SCV pilot filter cover.
6. Install cap screws and tighten to 6 N·m (53 lb·in) in sequence (1, 4, 3, 2).

TS36762,0000157-19-08NOV17

DEF Tank Vent Filter—Final Tier 4/Stage IV Engine

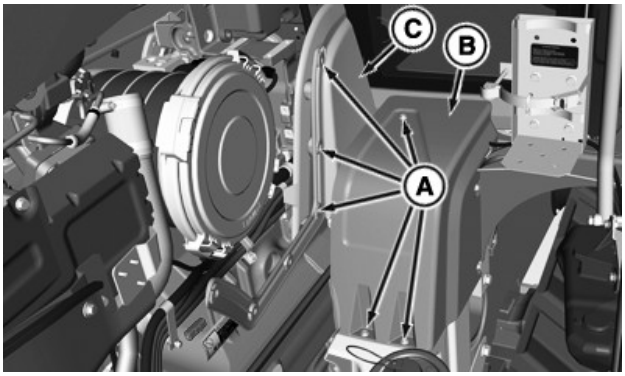
CAUTION: DEF contains urea. Do not get the substance in eyes. In case of contact, immediately flush eyes with large amounts of water for a minimum of 15 minutes. Do not take internally. In event DEF is ingested, contact a physician immediately. Reference Material Safety Data Sheet (MSDS) for additional information.

IMPORTANT: Replace filter after first year of operation or 1500 hours, whichever occurs first. Thereafter, replace every 4500 hours or 3 years, whichever occurs first.

Using incorrect or unapproved aftertreatment components can cause damage to vehicle's aftertreatment system and reduce ability of aftertreatment system to function correctly. Never interchange aftertreatment components between Interim Tier 4/Stage III B and Final Tier 4/Stage IV equipped vehicles.

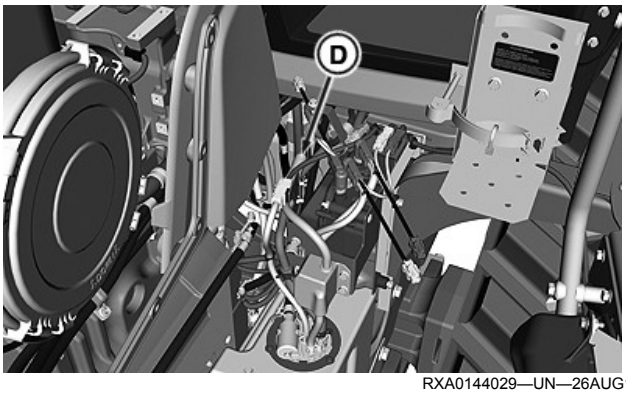
If DEF is spilled or contacts any surface other than the storage tank, immediately clean the surface with clear water. DEF is corrosive to painted and unpainted metallic surfaces and may distort some plastic and rubber components.

NOTE: Procedure is similar for tractors with battery disconnect.



RXA0137124—UN—18DEC13

1. Remove cap screws (A) and shield (B).
2. Remove side shield (C).



RXA0144029—UN—26AUG14

3. Remove DEF tank vent filter (D) located along side of frame.
4. Install new DEF tank vent filter.
5. Reinstall side shield (C), DEF tank shield (B) and DEF tank shield cap screws (A). Tighten to 37 N·m (27 lb·ft).

SV81855,0000193-19-20NOV17

DEF Header Filter—Final Tier 4/Stage IV Engine

IMPORTANT: Always use DEF as specified in Diesel Exhaust Fluid (DEF) section of this Operator's Manual.

Reduce damage and poor performance issues with DEF system. DEF header filter protects system from low quality or contaminated DEF. Replace as required.

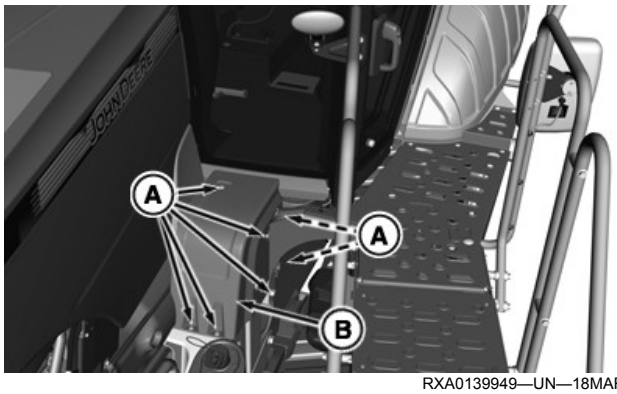
NOTE: A blocked DEF header filter is only one of the several problems which cause listed (Diagnostic Trouble Code) DTC messages to appear.

If either DTC message appears on CommandCenter™ display, replace header filter:

- ECU4334.01 - Dosing Unit Pressure Extremely Low
- ECU4334.18 - Dosing Unit Pressure Moderately Low

1. Stop tractor and place transmission into park.
2. Disconnect (—) battery cable.

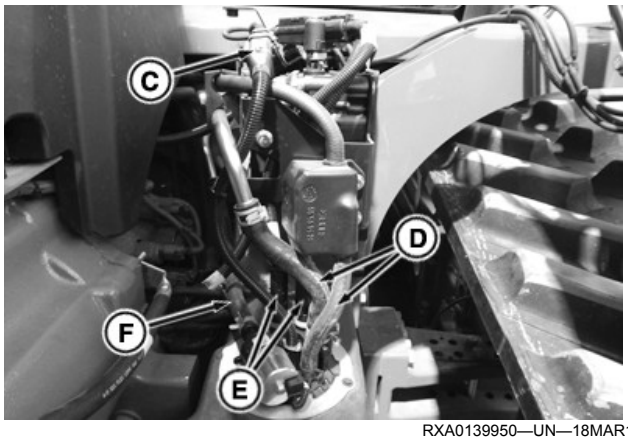
CommandCenter is a trademark of Deere & Company



RXA0139949—UN—18MAR14

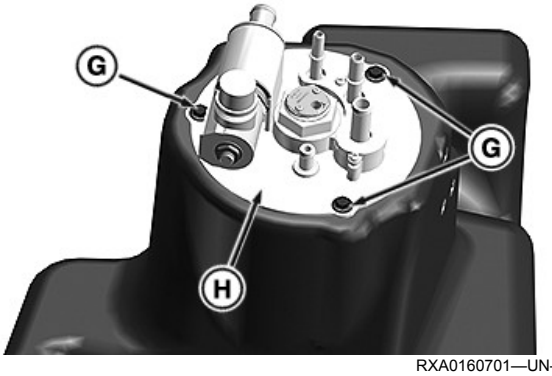
3. Remove cap screws (A) and DEF tank cover (B).

IMPORTANT: Cap and plug all lines and fittings to prevent contamination. Coolant in DEF causes Selective Catalytic Reduction (SCR) system performance issues.



RXA0139950—UN—18MAR14

4. Remove connector (C).
5. Remove lines and hoses (D—F).



RXA0160701—UN—23AUG17

6. Remove cap screws (G) and header assembly (H).

CAUTION: Avoid contact with eyes. In case of contact, immediately flush eyes with large amounts of water for a minimum of 15 minutes. Reference the Materials Safety Data Sheet (MSDS) for additional information.

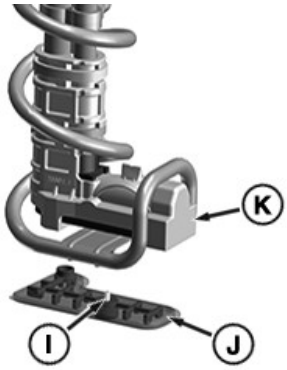
IMPORTANT: If DEF is spilled or contacts any surface other than the storage tank, immediately clean the surface with clear water. DEF is corrosive to painted and unpainted metallic surfaces and can distort some plastic and rubber components.

Spilled DEF, if left to dry or if only wiped away with a cloth, leaves a white residue. Improperly cleaned DEF spill can interfere with diagnosis of Selective Catalytic Reduction (SCR) system leakage problems.

7. Clear all debris from area around DEF tank header.

NOTE: Mark all hoses and wires before removal.

8. Remove DEF tank header, inspect O-ring for damage. Replace if necessary.



RXA0160700—UN—23AUG17

9. Remove DEF header filter retaining screw (I).
10. Remove filter (J) from header assembly (K).
11. Install filter (J).
12. Install screw (I) and tighten to 1 N·m (11 lb·in).
13. Lubricate O-rings with clean DEF.

IMPORTANT: Plugged DEF header filter may indicate that dosing unit filter is also plugged.

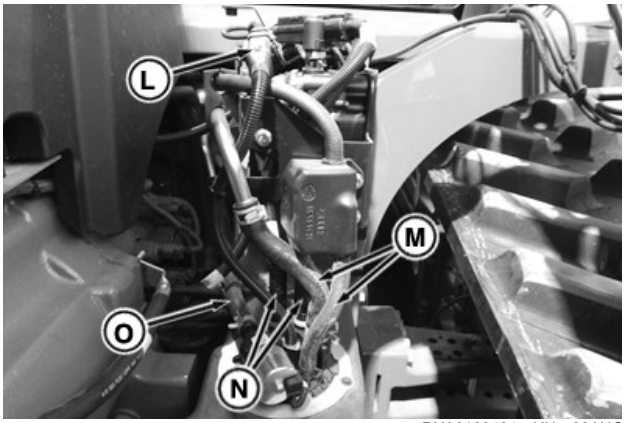
14. Examine header filter. If filter is plugged with contaminants go to step 15. If not plugged, go to step 19.
15. Change DEF dosing unit filter. See Dosing Unit Filter in this Operator's Manual section.
16. Check DEF tank for contaminated DEF. See Testing Diesel Exhaust Fluid (DEF) in DEF section of this Operator's Manual.
17. If DEF is contaminated, drain and clean DEF tank. See Diesel Exhaust Fluid (DEF) Tank in Service - Clean section of this Operator's Manual.
18. Check stored DEF supply. See Testing Diesel Exhaust Fluid (DEF) in DEF section of this Operator's Manual.

IMPORTANT: Prevent DEF leak, header, or align notches on locking ring with plastic tabs on header.

19. Insert DEF tank header assembly and header assembly cap screws. Tighten to 8 N·m (71 lb·in).

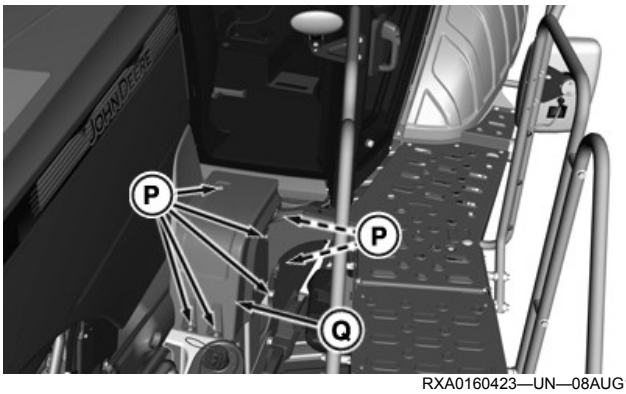
IMPORTANT: Push DEF line onto fitting until a "click" is heard. Then lightly pull back to ensure that it is connected and locked it in place.

NOTE: DEF supply and return lines have unique sized fittings.



RXA0160424—UN—08AUG17

20. Install connector (L).
21. Install lines and hoses (M—O).



RXA0160423—UN—08AUG17

22. Install cap screws (P) and DEF tank cover (Q).
23. Connect (—) battery cable.

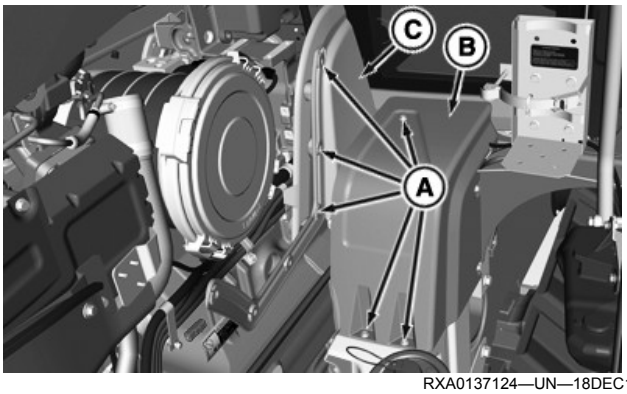
IMPORTANT: If DTC message reappears, filter may not have been causing problem that generated code.

24. Start and run tractor. If either DTC appears, header filer was not problem. See your John Deere dealer.

BH38674,0000BF5-19-10JAN18

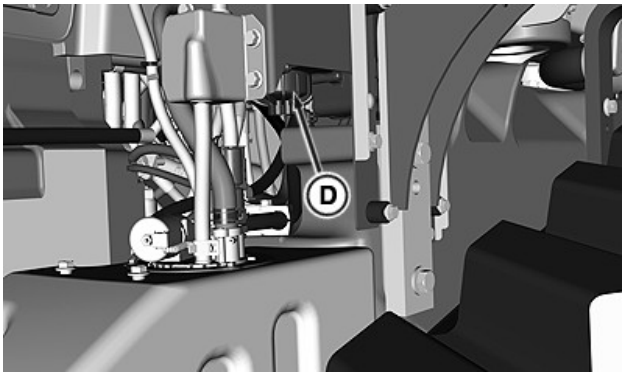
Access DEF Dosing Unit Filter

IMPORTANT: Replace every 4500 hours of operation or every 3 years, whichever comes first.



RXA0137124—UN—18DEC13

1. Remove cap screws (A), shield (B) and side panel (C).



RXA0160026—UN—26JUN17

2. Diesel exhaust fluid (DEF) dosing unit filter (D) is located on bottom of dosing unit
3. See Diesel Exhaust Fluid (DEF) Dosing Unit Filter in Service - Change section of this Operator's Manual.
4. Install in reverse order. Tighten to 37 N·m (27 lb·ft).

RW29387,000007E-19-20NOV17

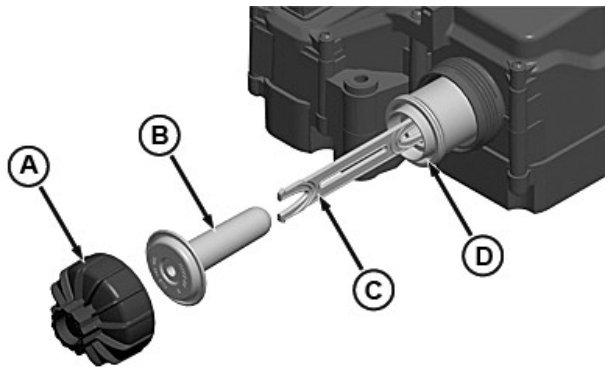
DEF Dosing Unit Filter—Final Tier 4/Stage IV Engine

CAUTION: Avoid contact with eyes. In case of contact, immediately flush eyes with large amounts of water for a minimum of 15 minutes. Reference the Materials Safety Data Sheet (MSDS) for additional information.

IMPORTANT: If DEF is spilled or contacts any surface other than the storage tank, immediately clean the surface with clear water. DEF is corrosive to painted and unpainted metallic surfaces and can distort some plastic and rubber components.

Spilled DEF, if left to dry or if only wiped away with a cloth, leaves a white residue. Improperly cleaned DEF spill can interfere with diagnosis of Selective Catalytic Reduction (SCR) system leakage problems.

NOTE: Servicing DEF dosing unit filter may require removing additional covers or components. See Access DEF Dosing Unit for location information.



RG22534—UN—21MAR13

1. Remove DEF dosing unit filter cover (A).
2. Remove and discard DEF dosing unit filter equalizing element (B).
3. Insert “Black” end of DEF dosing unit filter tool (C) into DEF dosing unit filter (D) until CLICK is felt or heard indicating DEF dosing unit filter tool is fully engaged.

NOTE: A tool such as a screwdriver can be inserted into DEF dosing unit filter tool slot to assist removal.

4. Pull DEF dosing unit filter tool and DEF dosing unit filter from DEF dosing unit. Discard DEF dosing unit filter and DEF dosing unit filter tool.

IMPORTANT: Plugged DEF dosing unit filter may indicate that header filter is also plugged.

5. Examine dosing unit filter. If filter is plugged with contaminants, go to step 6. If not plugged, go to step 10.
6. Change DEF header filter. See Header Filter in this Operator’s Manual section.
7. Check DEF tank for contaminated DEF. See Testing Diesel Exhaust Fluid (DEF) in Diesel Exhaust Fluid (DEF) section of this Operator’s Manual.
8. If DEF is contaminated, drain and clean DEF tank. See Diesel Exhaust Fluid (DEF) Tank in Service - Clean section of this Operator’s Manual.
9. Check stored DEF supply. See Testing Diesel Exhaust Fluid (DEF) in Diesel Exhaust Fluid (DEF) section of this Operator’s Manual.
10. Clean DEF dosing unit threads and mating surfaces with distilled water.
11. Lubricate new DEF filter O-rings with clean engine oil. Carefully insert DEF dosing unit filter into DEF dosing unit.
12. Install new DEF dosing unit filter equalizing element into DEF dosing unit filter.
13. Install DEF dosing unit filter cover and tighten to 23 N·m (204 lb·in).

RX32825,0001857-19-09NOV17

Engine Crankshaft Damper

See your John Deere dealer.

TS36762,000015C-19-26JUN17

Engine Coolant

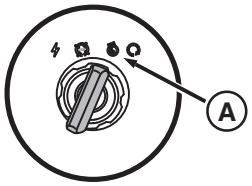
IMPORTANT: *INITIAL* change interval is 6 years or 6000 hours, provided cooling system is topped off using only John Deere Cool-Gard™ II and premix . After initial service, *SCHEDULED* interval (2 years or 2000 hours) can be extended up to 6 years or 6000 hours depending on coolant used. Follow recommendations in Drain Intervals for Diesel Engine Coolant in Fuels, Lubricants, and Coolant section of this manual.

IMPORTANT: Replace thermostat, thermostat gasket, de-aeration tank cap, and radiator cap whenever system is flushed.

1. Park tractor, turn key switch to OFF and allow radiator to cool.

NOTE: Throughout draining, flushing, and filling procedure, set cab temperature to highest setting to ensure that fluids are drained from heating/air conditioning unit. If temperature is not set to highest setting or key switch is not turned to Run, system will not completely drain.

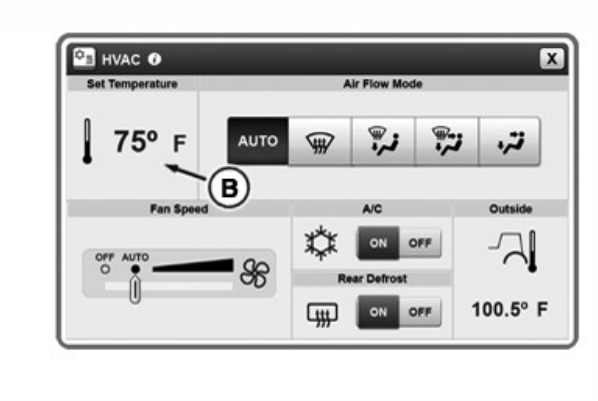
2. Open hood, see Open Hood in Service - General Information section of this Operator’s Manual.



RXA0110623—UN—02SEP10

3. Turn key to Run (A).

Cool-Gard is a trademark of Deere & Company



RXA0131853—UN—03APR13

4. Set cab temperature (B) to highest setting possible. See HVAC Settings—Generation 4 CommandCenter™ in HVAC section of this Operator's Manual.

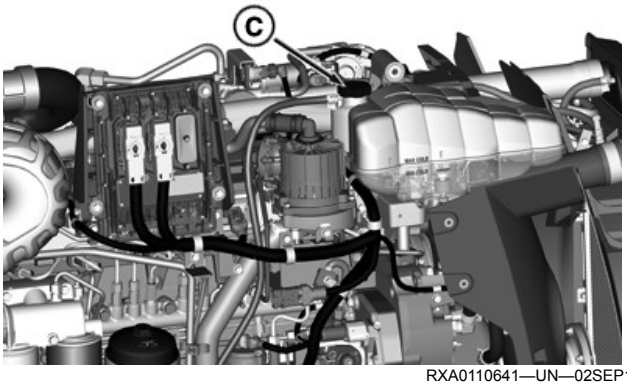


TS281—UN—15APR13

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

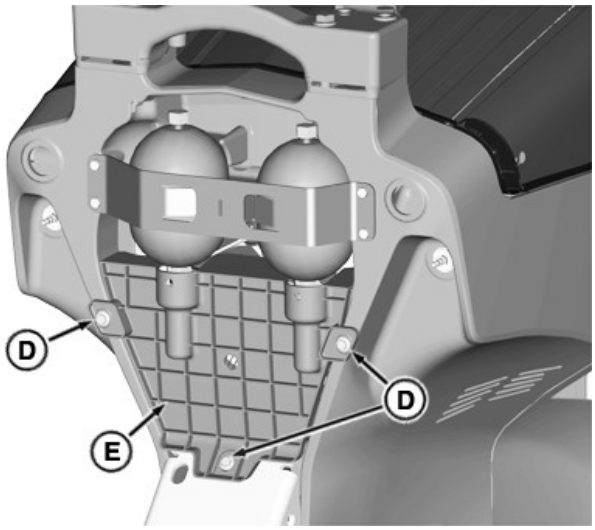
Shut off engine. Only remove cap when cool enough to touch with bare hands. Slowly loosen cap to first stop to relieve pressure before removing completely.

5. Remove old radiator cap and replace with new cap.



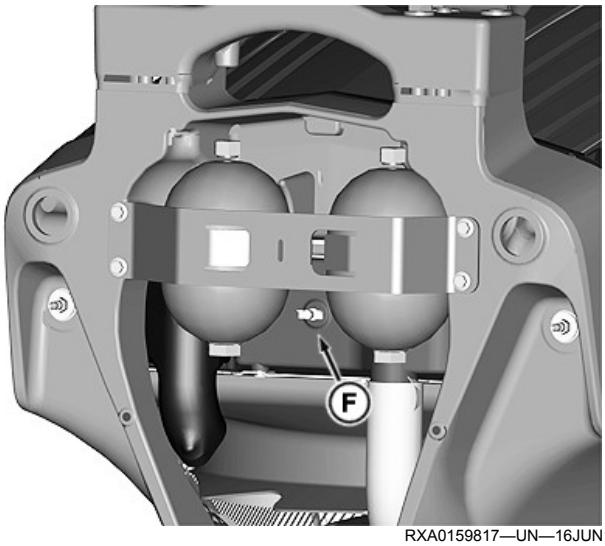
RXA0110641—UN—02SEP10

6. Remove and discard old de-aeration tank cap (C).



RXA0159816—UN—19JUN17

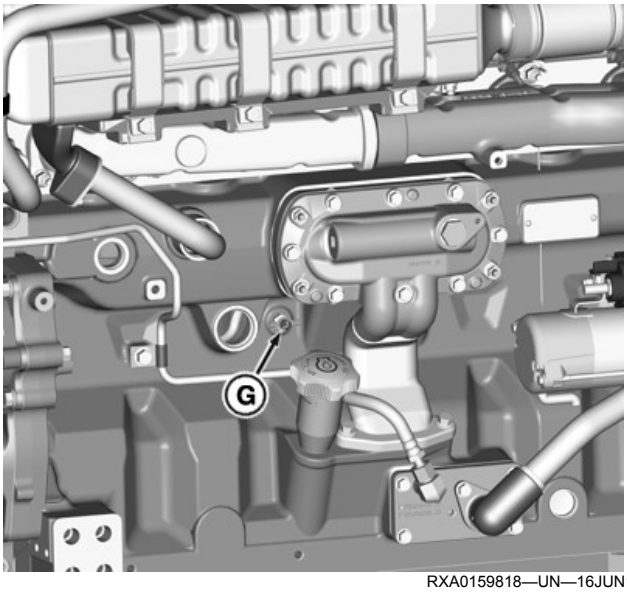
7. Remove cap screws (D), then remove deflector (E) beneath radiator drain valve.



RXA0159817—UN—16JUN17

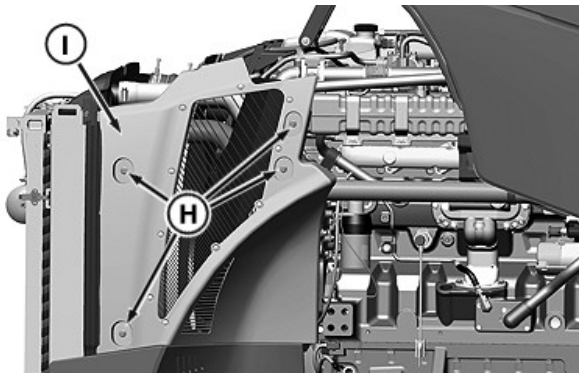
8. Place catch pan under radiator drain valve (F).
9. Open radiator drain valve and drain coolant into catch pan.

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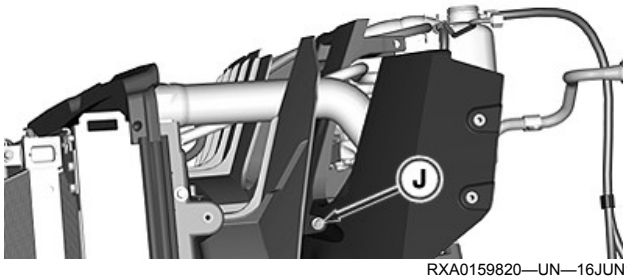
RXA0159818—UN—16JUN17

10. Place catch pan under engine drain valve (G).
11. Open engine drain valve and drain coolant into catch pan.
12. Allow radiator and engine to drain.

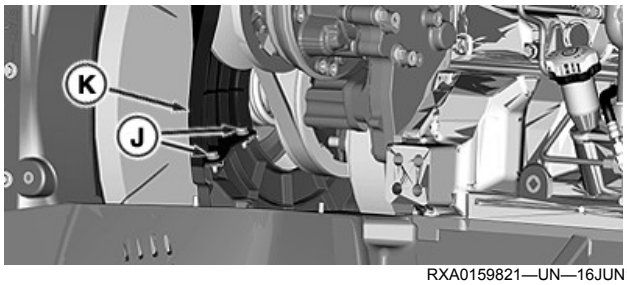


RXA0159819—UN—16JUN17

13. Remove cap screws (H) and left front side panel (I).

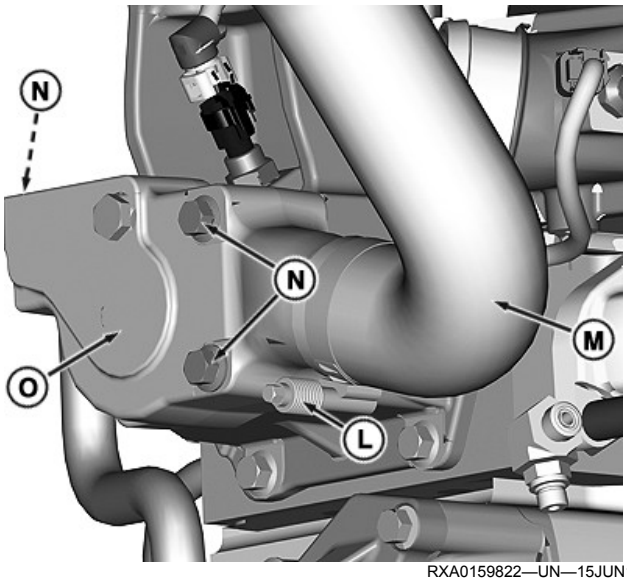


RXA0159820—UN—16JUN17



RXA0159821—UN—16JUN17

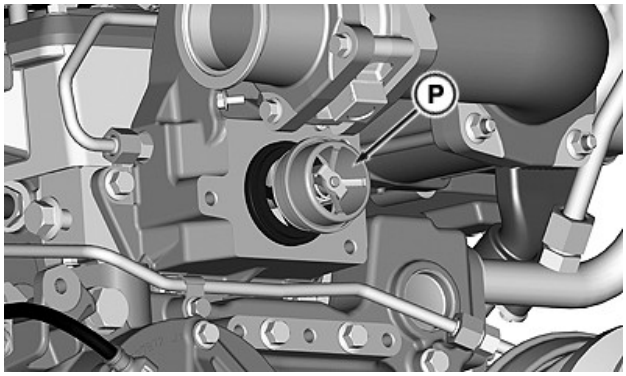
14. Remove cap screws (J).
15. Remove diverter (K).



RXA0159822—UN—15JUN17

16. Loosen hose clamp (L) and slide hose (M) off thermostat cover.
17. Remove cap screws (N) and thermostat cover (O).

NOTE: During draining, filling, and flushing; cooling system thermostat is not installed.



RXA0159823—UN—15JUN17

18. Remove old thermostat (P) and clean sealing area.
19. Install new gasket and cover. Tighten cap screws to 48 N·m (35 lb·ft).
20. Reinstall radiator hose and clamp, diverter, and side panel.
21. Close engine drain valve and radiator drain valve.
22. Dispose of old coolant in accordance with local laws and ordinances.

IMPORTANT: Never pour cold water or coolant into hot engine.

NOTE: See your John Deere dealer for recommendations on cleaning solutions.

23. Fill cooling system at de-aeration tank with cooling system cleaning solution.
24. Install new de-aeration cap.

IMPORTANT: Make sure side panel is installed and hood is closed before starting engine to assure correct air flow through radiator.

25. Close hood and reinstall side panel.
26. Start engine and run at a minimum of 1500 rpm for at least 15 minutes.
27. Shut off engine and allow cleaning solution to cool.
28. Make sure cab temperature is set to highest setting, then turn key to Run position.



TS281—UN—15APR13

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

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

29. Open hood, remove de-aeration cap, put drain pans in place, then open radiator and engine drain valves.
30. Allow cooling system to drain.
31. Close engine and radiator drain valves.
32. Dispose of cleaning solution in accordance with local laws and ordinances.

IMPORTANT: Never pour cold water or coolant into hot engine.

33. Fill cooling system at de-aeration tank with clean water.
34. Install new de-aeration tank cap.

IMPORTANT: Make sure side panel is installed and hood is closed before starting engine.

35. Close and secure hood.
36. Start engine and run at a minimum of 1500 rpm for at least 15 minutes.
37. Shut off engine and allow water to cool.
38. Make sure cab temperature is set to highest setting, then turn key to Run position.



TS281—UN—15APR13

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

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

39. Open hood, remove de-aeration cap, put drain pans in place, then open radiator and engine drain valves.
40. Allow cooling system to drain completely.
41. Remove left side panel and diverter.
42. Loosen hose clamp and slide hose back, remove cap screws, thermostat cover, and gasket.
43. Inspect sealing area to ensure it is clean.
44. Apply light coat of RTV silicone sealant to new gasket.
45. Install new thermostat, new gasket, and cover. Tighten cap screws to 48 N·m (35 lb·ft).
46. Reinstall hose, clamps, diverter, and left front side panel.
47. Close engine drain valve and radiator drain valve.
48. Dispose of drained water in accordance with local laws and ordinances.

NOTE: Use engine coolant specified in Engine Coolant section of this Operator's Manual.

49. Fill cooling system at de-aeration tank with new coolant solution. For cooling system capacity, see Capacities in Specifications section of this Operator's Manual.
50. Install de-aeration cap.

CAUTION: Make sure side panel is installed and hood is closed before starting engine.

51. Install front side panel and close hood.

52. Start engine and run at a minimum of 1500 rpm for at least 15 minutes.

NOTE: Coolant may seep out of de-aeration tank overflow vent as air is purged from cooling system.

Coolant level may change when tractor is running or during next few operation cycles.

It is highly recommended cooling system be checked for leaks after draining, flushing, and refilling to ensure optimum tractor performance. See your John Deere dealer for procedure and appropriate tools.

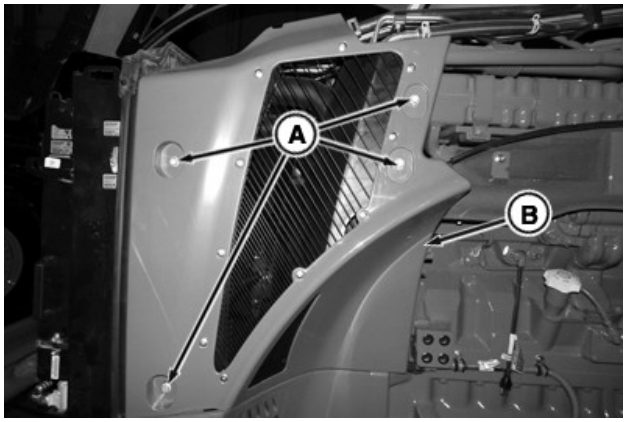
53. After completing service, monitor coolant level for next three days of operation. Most effective way to check coolant level is when tractor is cool. If coolant is low, fill de-aeration tank to mark on tank.

DB71512,000003B-19-16NOV17

Vari-Cool™ Fan Belt - 9.0L Final Tier 4/ Stage IV Engines

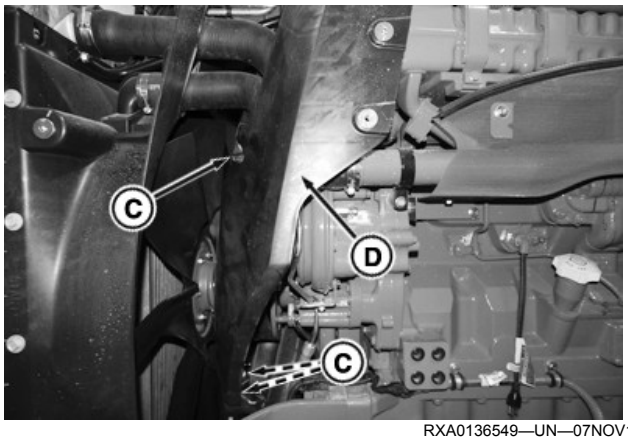
IMPORTANT: When engine is stopped, fan drive oil pressure is released and flows back to the reservoir.

1. Disconnect negative (-) battery cable.
2. Open hood, see Open Hood in Service - General Information section of this Operator's Manual.



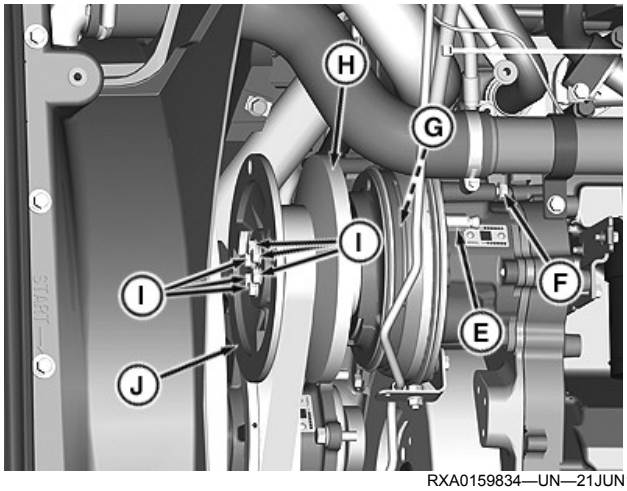
RXA0136544—UN—06NOV13

3. Remove cap screws (A) and left-hand finger guard (B).



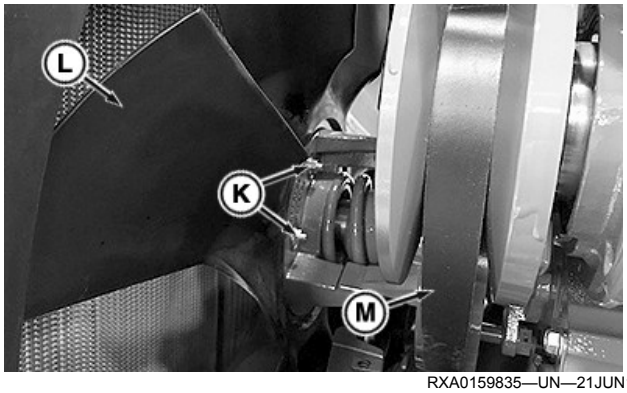
RXA0136549—UN—07NOV13

4. Remove cap screws (C) and diverter panel (D).



RXA0159834—UN—21JUN17

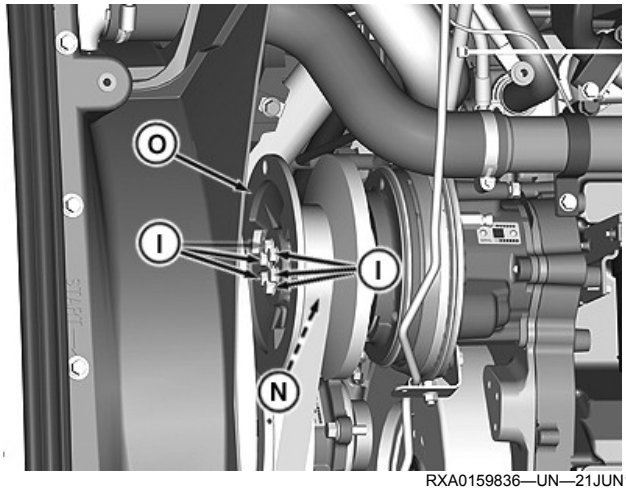
5. Remove vent adapter (E) from housing.
6. Remove cap screw (F) and install into vent adapter hole in piston plate (G).
7. Tighten cap screw to pull inner sheave (H) inward.
8. Hold front sheave (J) and remove cap screws (I).
9. Pull front sheave evenly off shaft.



RXA0159835—UN—21JUN17

10. Remove six nuts (K) and carefully position fan (L) against radiator.
11. Remove belt (M) through opening between fan and hub.

12. Discard old belt.
13. Install new fan belt between fan and hub so that it is positioned between lower sheave halves.
14. Slide fan into place, install nuts and tighten to 35 N·m (26 lb·ft).
15. Clean front sheave and shaft mating surfaces.



RXA0159836—UN—21JUN17

16. Pull belt onto drive shaft (N) and against rear sheave.

IMPORTANT: When installing front sheave (O), make sure belt remains loose and is not pinched between sheaves.

17. Install front sheave.
18. Hold front drive sheave and tighten cap screws to 37 N·m (27 lb·ft).
19. Remove cap screw and install vent adapter. Tighten vent adapter to 24 N·m (18 lb·ft). Reinstall cap screw and tighten to 13 N·m (10 lb·ft).
20. Reinstall diverter panel. Tighten cap screws to 20 N·m (15 lb·ft).

NOTE: Starting engine with belt loose between sheaves allows belt to climb out of groove between sheaves. Belt will correctly position itself within a few seconds after engine is started.

21. Start engine and run at idle for 15 seconds. Turn off engine.
22. Remove right-hand side front shield and make sure that belt is correctly positioned between sheaves.

CAUTION: Keep hands away from exposed fan blades. Blades have sharp edges which may result in personal injury.

23. Reinstall finger panel and tighten cap screws.

DB71512,0000035-19-14NOV17

Vari-Cool™ Fan Drive Bushings, Seals, and Wear Pads—9.0L Final Tier 4/Stage IV Engine

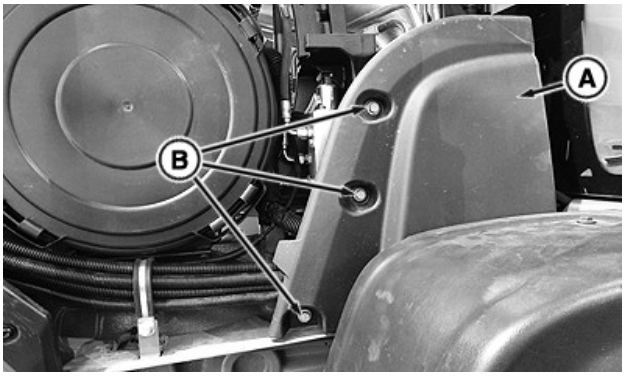
IMPORTANT: In extreme conditions, change components every 2000 hours. In normal conditions, change every 4500 hours.

See your John Deere dealer.

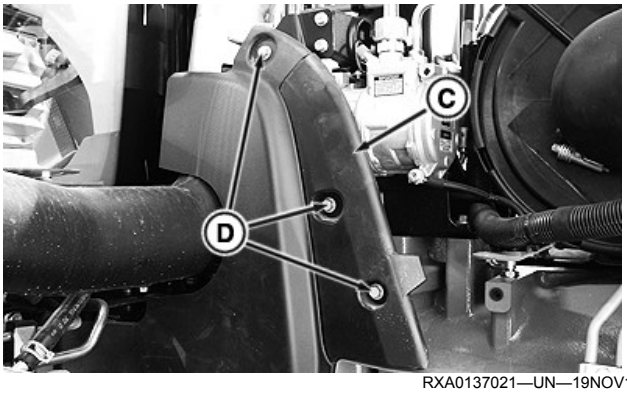
TS36762,0000358-19-22FEB18

Auxiliary Drive Belt

1. Open hood, see Open Hood in Service - General Information section of this Operator's Manual.



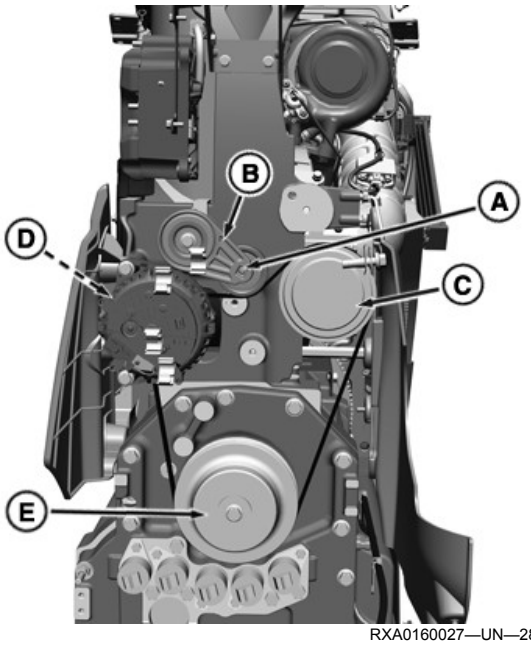
RXA0137020—UN—19NOV13



RXA0137021—UN—19NOV13

2. Remove cap screws (B) then left-hand shield (A), cap screws (D) and then right-hand shield (C).

IMPORTANT: Keep tension off belt during removal.



RXA0160027—UN—28JUN17

3. Insert 1/2 in. drive tool into square hole (A) in tensioner arm (B).
4. Push up on tool handle to relieve tension on drive belt.
5. Remove belt from air conditioner pulley (C).
6. Remove belt from alternator pulley (D).
7. Remove belt from auxiliary drive pulley (E).
8. Discard old belt.

NOTE: There is minimal clearance between transmission auxiliary drive pulley and tractor frame. Do not damage new belt when installing.

9. Install new belt to auxiliary drive pulley, then on alternator pulley.
10. For tractors with air brake, install belt on air brake pulley and idler.
11. Install belt on air conditioner pulley.
12. Remove 1/2 in drive tool restoring tension on new belt.
13. Install shield and close hood.

DB71512,0000025-19-28JUN17

Fuel Filters

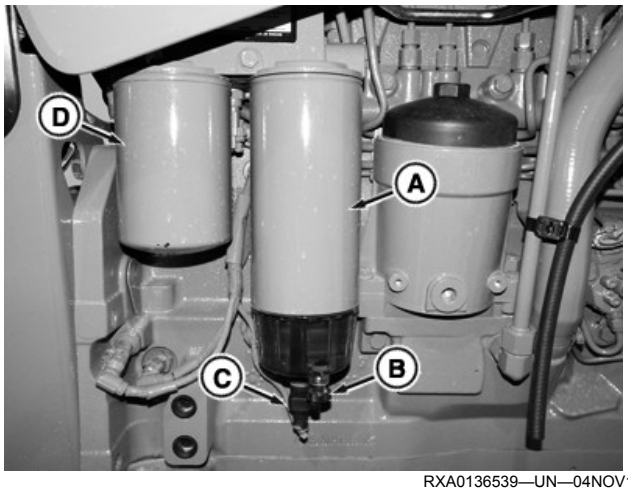
CAUTION: Always Shut off engine and remove key before performing maintenance work on fuel filter.

IMPORTANT: To determine which engine your tractor is equipped with, see Engine Serial Number in Identification Numbers section of this Operator's Manual.

NOTE: Service may be required more often under some conditions.

Drain fuel tank sump if fuel filters are replaced frequently or water in the fuel tank. See Fuel Tank Sump in Service - Check section of this Operator's Manual.

1. Thoroughly clean exterior of fuel filters and surrounding area.



RXA0136539—UN—04NOV13

2. Open drain valve (B) of primary fuel filter (A) to drain water and contaminants into suitable container.
3. Disconnect the Water-In-Fuel (WIF) sensor connector (C) from primary filter.

IMPORTANT: Always replace both filters at the same time.

4. Remove the final fuel filter (D) first, for clearance, using a suitable filter wrench. Then remove primary fuel filter canister.
5. Remove primary fuel filter element and replace with new element.

IMPORTANT: Do NOT prefill either fuel filter with fuel.

6. Remove packing for primary fuel filter canister and replace with new packing provided with filter element. Lubricate packing for primary fuel filter with fuel, and install canister onto base. Tighten 1/2 turn after packing contacts base.
7. Connect sensor.
8. Lubricate packing on new final fuel filter, and install filter onto base. Tighten 1/2 turn after packing contacts base.

IMPORTANT: Key must be turned to ON position for 3 minutes before starting engine to provide time to prefill fuel filters. Fuel system is self-bleeding.

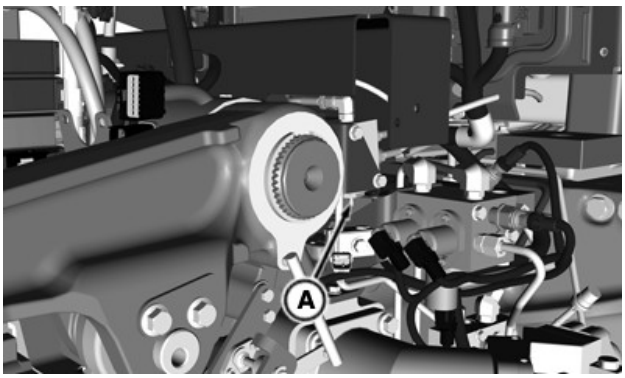
Do not try to start engine until 3 minute time elapses or an air lock in fuel system may occur.

9. Turn key switch to ON position for 3 minutes to allow transfer pump to prefill fuel filters.
10. Turn key switch clockwise to START position, and run engine at 1200 rpm for 2 minutes.

RD47322,0000016-19-20JUN17

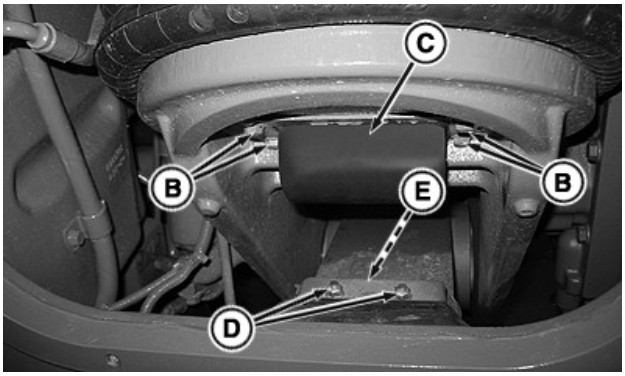
Walking Beam Bumper Stops

1. Park tractor on firm, level surface.



RXA0137120—UN—10DEC13

2. Relieve system air pressure by depressing vent valve (A).



RXA0104166—UN—30JUL09

3. Remove cap screws (B) and remove swing arm stop (C).
4. Using a hydraulic service jack, raise left-hand side of walking beam until walking beam contacts stop.
5. Remove nuts (D) and remove right-hand stop (E).
6. Install new stop and tighten nuts to 20 N·m (177 lb·in).
7. Lower left-hand side of walking beam.
8. Raise right-hand side of walking beam until walking beam contacts stop.
9. Lower walking beam and remove hydraulic service jack.
10. Install swing arm stop (C) and tighten cap screws (B) to 37 N·m (27 lb·ft).
11. Inflate track suspension.

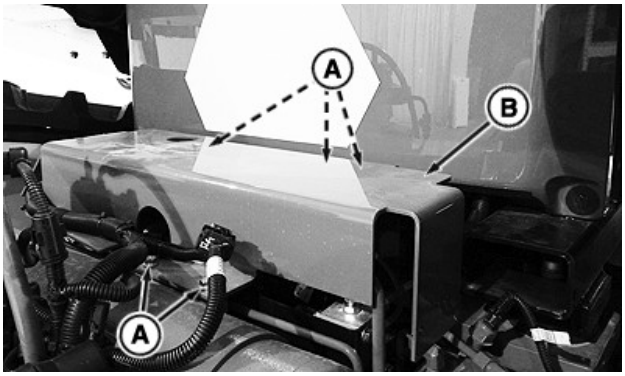
RX32825,0001856-19-20NOV17

Front Suspension Air Compressor Inlet Filter

CAUTION: Stay clear of moving suspension parts, tractor lowers when air valve is pressed.

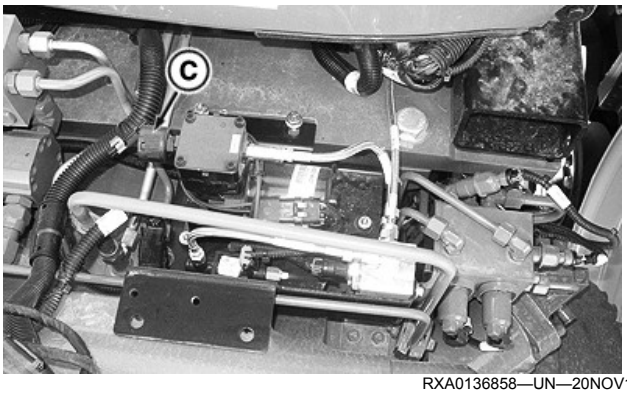
IMPORTANT: Service at 1500 operating hours or annually, which ever comes first.

IMPORTANT: Exposure to excessive amounts of water or dust may result in dirt building up on filter, restricting air flow. Change filter after exposure to excessive amounts of water or dust. Do not clean or reuse filter element.



RXA0136857—UN—02DEC13

1. Remove cap screws (A) and remove shield (B).

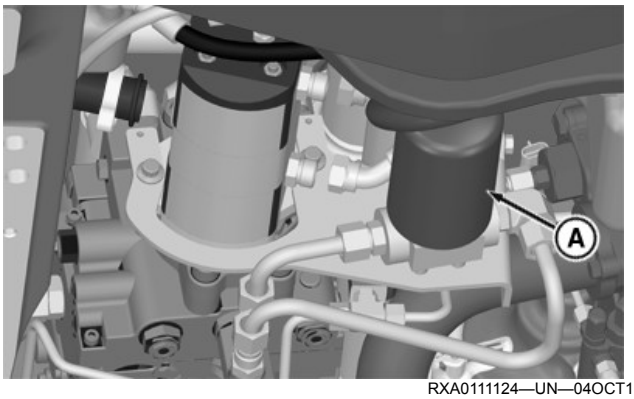


RXA0136858—UN—20NOV13

2. Remove dirt and debris around air compressor inlet filter(C).
3. Turn filter counterclockwise to remove, then discard old filter.
4. Install new filter.

RX32825,00005E2-19-22NOV17

Steering Filter



RXA0111124—UN—04OCT10

1. Remove filter (A).
2. Lubricate new filter packing with hydraulic oil only.
3. Install and hand tighten filter.

SV81855,0000261-19-27JUN17

Transmission Torsional Damper

NOTE: Replacement not required on 8400RT tractor.

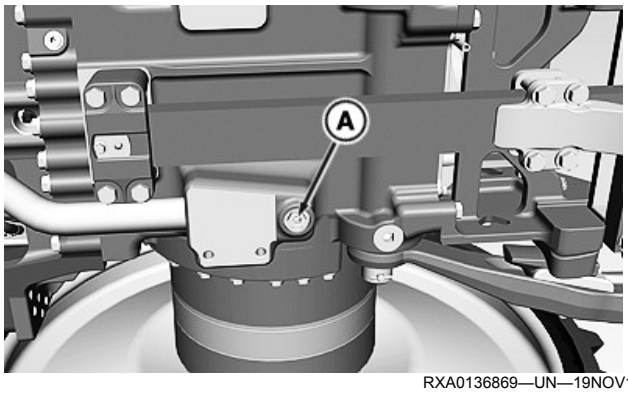
See your John Deere™ dealer.

RX32825,00005B9-19-18JAN17

Differential Oil

IMPORTANT: If oil appears milky or foamy, oil may be contaminated with water, change oil immediately. If oil is discolored or smells burned, oil may be overheating. See your John Deere dealer.

1. Park tractor on level surface with hitch lowered.
2. Place drain pan under differential case.

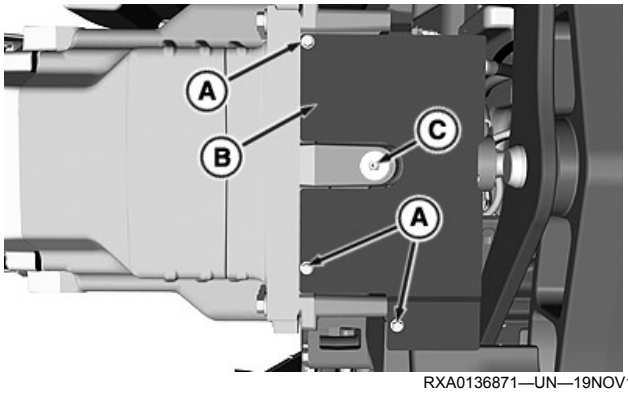


RXA0136869—UN—19NOV13

3. Remove drain plug (A) on bottom of rear differential case. Retain drain plug for reinstallation.
4. After used oil is completely drained, reinstall drain plug and tighten to 102 N·m (75 lb·ft).
5. Dispose of used oil in accordance with local laws and ordinances.
6. For tractors with IVT™/AutoPowr™ transmission, proceed to IVT™/AutoPowr™ and e23™ Transmissions-Hydraulic Oil in this section of this Operator's Manual.

RX32825,000000E-19-15NOV17

IVT™/AutoPowr™ and e23™Transmissions-Hydraulic Oil



RXA0136871—UN—19NOV13

1. Remove four cap screws (A) and cover (B).
2. Place drain pan under transmission drain plug (C).
3. Remove drain plug.

IMPORTANT: Do not remove screen unless it is dirty. Contact your John Deere dealer with questions regarding removal of hydro control valve or transmission filter screen.

When servicing hydraulic components, cleanliness is essential and ANY FOREIGN MATERIAL (DIRT) can damage equipment! Clean area around hydro control valve thoroughly with steam cleaner prior to removing valve. Make sure valve is clean before reinstalling.

4. Using a work light, inspect filter through bottom drain plug opening.
5. If filter screen appears clean, reinstall plug and tighten to 69 N·m (51 lb·ft).

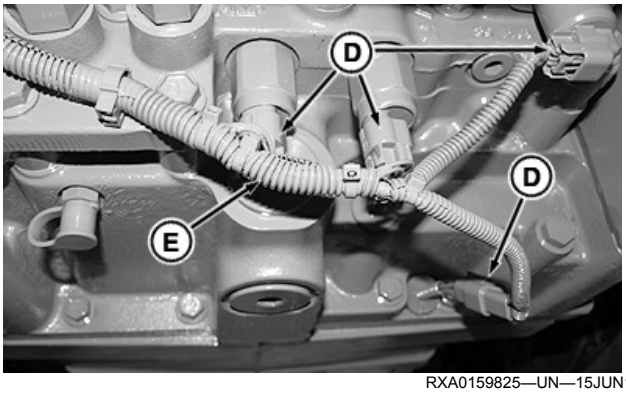
   Dispose of oil in accordance with local laws and ordinances.

   If screen appears dirty, remove it.

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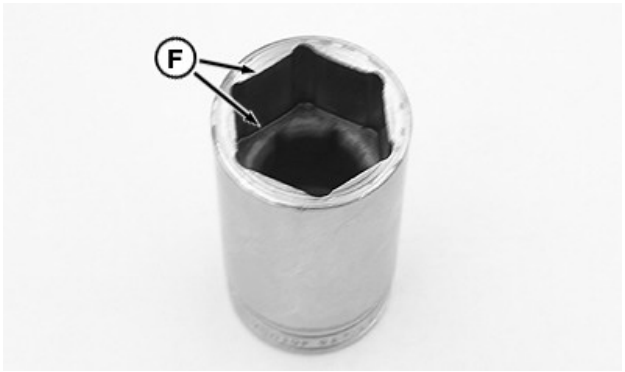
IVT is a trademark of Deere & Company
AutoPowr is a trademark of Deere & Company

IMPORTANT: Disconnect wiring harness and protect from dripping oil before removing screen access plug. Oil in wiring harness connectors can damage equipment.



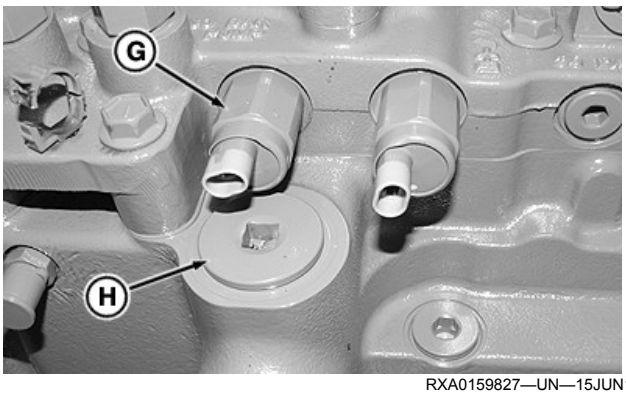
RXA0159825—UN—15JUN17

6. Remove connectors (D) on control valves. Secure wiring harness (E) away from oil.



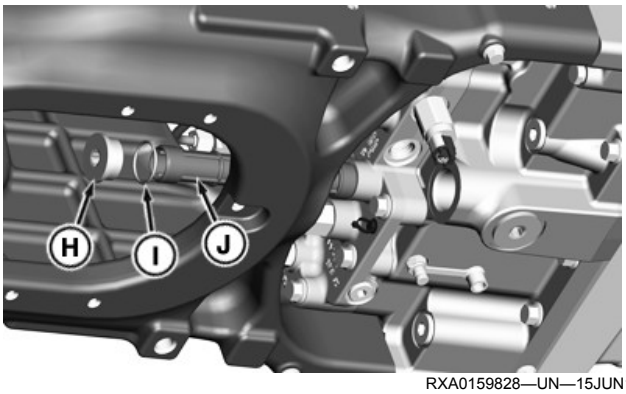
RXA0159826—UN—15JUN17

IMPORTANT: Remove hydro control valve with a 1 1/4 in. (deep broach) deep well socket (F) to avoid damaging control valve.



RXA0159827—UN—15JUN17

7. Remove hydro control valve (G).



RXA0159828—UN—15JUN17

8. Remove screen access plug (H) at front of transmission, with O-ring (I).
9. Remove filter screen (J).
10. Wash filter screen carefully in solvent. Blow dry with compressed air.
11. Reinstall filter screen in transmission, screen access plug, and tighten to 69 N·m (51 lb·ft).
12. Reinstall control valve and tighten to 45 N·m (33 lb·ft).
13. Reinstall wiring harness connectors.
14. Dispose of used oil in accordance with local laws and ordinances.

SV81855,00001C2-19-15NOV17

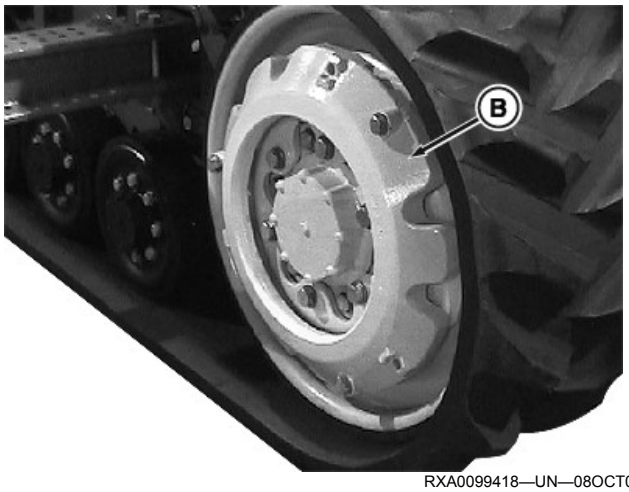
Remove and Install Track

CAUTION: Avoid possible personal injury. Ensure that tractor is fully supported and stable using support stands with sufficient capacity before removing or adjusting tread settings.

Remove Track:

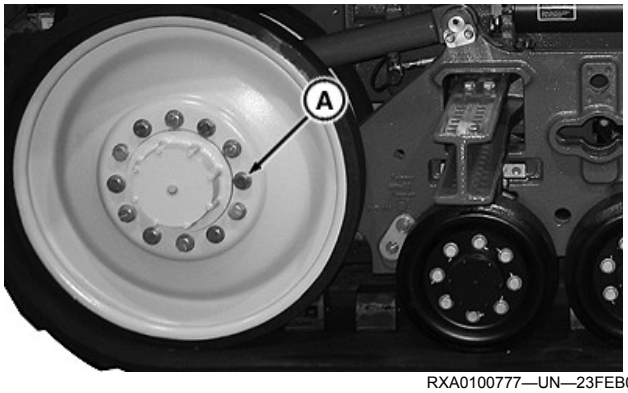
1. Place track on jack stands. See Track Adjustment in this Operator's Manual.
2. Disconnect track tension pressure sensor harness connector.

CAUTION: Removing and installing tracks requires lifting heavy components which can cause severe injury or machine damage. Proper lifting equipment is required.



RXA0099418—UN—08OCT08

3. Remove idler wheel weights (B) if installed.



RXA0100777—UN—23FEB09

4. Loosen cap screws (A) on outer idler wheel, but do NOT remove.
5. De-tension track. See De-tensioning and Tensioning Track in this section.
6. Allow track to de-tension for five minutes.
7. Stop engine.

NOTE: Track should be dragging on the ground.

8. Remove outer idler wheel.
9. Remove track.

Install Track:

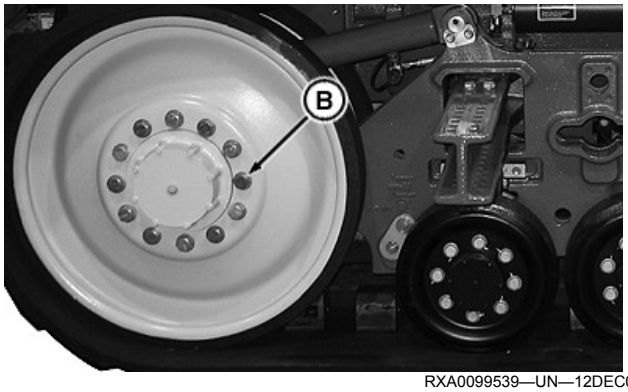


RXA0099540—UN—13OCT08

1. Install track onto drive wheel (A).

NOTE: Use of soapy water on the idler wheel greatly aids in getting track over the wheel.

2. Slide front of track over inside idler wheel.



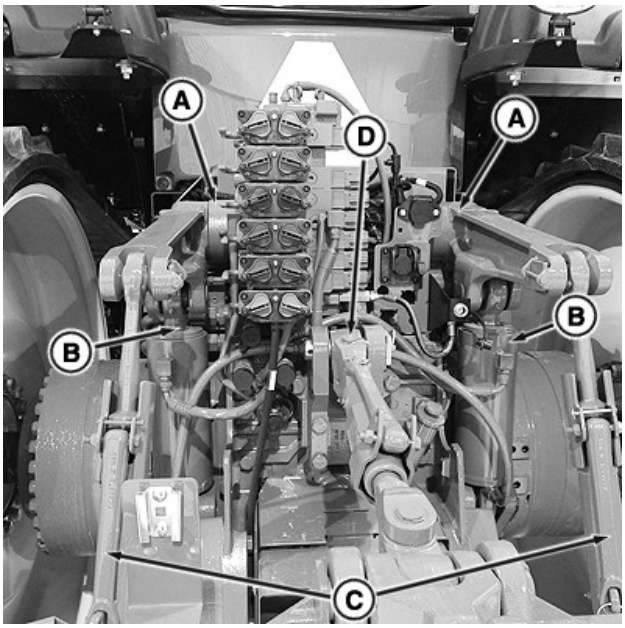
RXA0099539—UN—12DEC08

3. Install outer idler wheel (B). Hand tighten cap screws.
4. Start engine.
5. Tension track. See De-tensioning and Tensioning Track in this Operator's Manual.
6. Clean up any oil that may have spilled or leaked during de-tension or tensioning process.
7. Tighten idler wheel hub cap screws to 1050 N·m (775 lb·ft), and if equipped, install weights
8. Retighten idler wheel cap screws to 1050 N·m (775 lb·ft).
9. Remove support stands and lower tractor to the ground.
10. Tension track a second time, to ensure full track tension.

RW29387,0000310-19-20NOV17

Rear Hitch

IMPORTANT: If hitch is used daily, lubricate every 50 hours. If only used occasionally, lubricate every 250 hours.



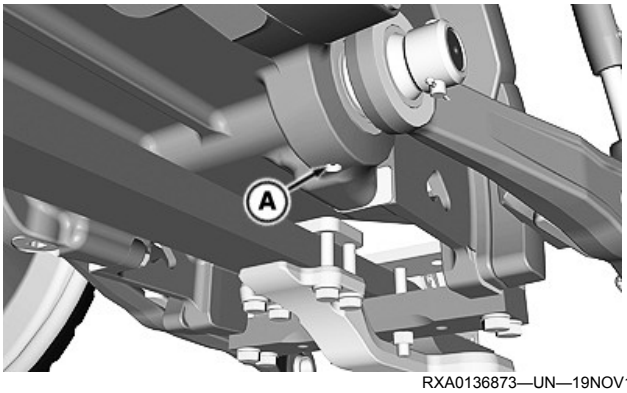
RXA0136856—UN—11NOV13

Use John Deere SD Polyurea grease or equivalent. See Grease in Other Lubricants section of this Operator's Manual.

Lubricate rockshaft (A), lift cylinders (B), lift links (C), and center link (D) grease fittings.

RX32825,00005C3-19-20NOV17

Draft Link Support Shaft Bushing



RXA0136873—UN—19NOV13

Under Rear Left-hand Side of Tractor

Apply one or two shots of grease to support shaft grease fitting (A).

Use John Deere SD Polyurea grease or other grease as specified in Grease in Other Lubricants section of this Operator's Manual.

RX32825,00005AA-19-21JUN17

Vari-Cool™ Fan Drive—Final Tier 4/Stage IV Engine

IMPORTANT: Avoid damage to Vari-Cool fan drive. Lubricate fan drive every 500 hours or annually, whichever occurs first. If no grease fitting is available no service is required.

1. Raise engine hood. See Open Hood in Service - General section of this Operator's Manual.
2. Remove left-hand engine finger guard. See Remove Finger Guards in Service - General section of this Operator's Manual.
3. Remove left-hand diverter panel. See Remove Diverter Panels in Service - General section of this Operator's Manual.

IMPORTANT: If more than 50 pumps of grease are required, internal leakage may be occurring. See your John Deere dealer.

NOTE: Apply grease only at one fitting. Opposite side fitting provides fan balance and service position convenience.



RXA0157310—UN—06FEB17

4. Pump grease into a lubrication fitting (B) until grease is visible coming from shaft vent (A). Use TY25744 John Deere Multi-purpose Extreme Duty Synthetic Grease

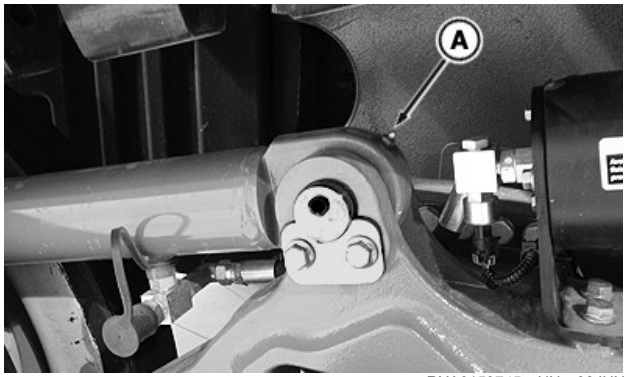
NOTE: While Vari-Cool fan drive is accessible, perform fan drive system checks. See Vari-Cool Fan Drive and Belt in Service - Check section of this Operator's Manual.

5. Reinstall diverter panel and tighten cap screws to 20 N·m (14 lb·ft).
6. Reinstall finger guard and tighten cap screws.

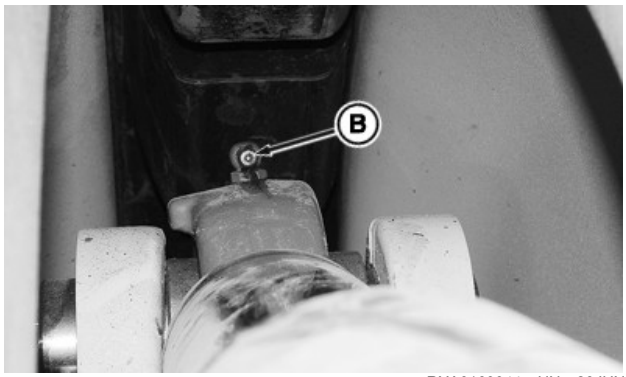
7. Close and secure hood.

TS36762,00002EB-19-20FEB18

Track Tension Cylinders



RXA0159745—UN—08JUN17



RXA0160044—UN—28JUN17

Apply several shots of grease to tension cylinder grease fittings at rear of cylinder (A) and between front idler wheels (B). Use John Deere SD Grease as specified in Other Lubricants section of this Operator's Manual.

RX32825,00005C2-19-22NOV17

Service - Electrical Overview

In addition to fuses and relays mounted in fuse panels (behind operator's seat), tractors are also equipped with solid state load centers located in two electronic control units.

These solid-state load centers replace fused relay circuits previously used. Their primary function is to control the majority of high current loads such as rear fender lights and horn. Load center circuitry monitors loads and voltages providing fast reaction time and ability to alert operator if a circuit overloads or if voltage is out of specification, i.e. open circuit (undercurrent) or short circuit (over-current).

If circuit is faulty and a diagnostic trouble code is generated, circuit will stay OFF and diagnostic trouble code will remain active until circuit is recycled by operator. If circuit or one of its components is turned back ON and problem is no longer present, system will function normally.

As an example, if a light circuit is determined to have an over-current condition, load center system will shut the circuit off. If operator turns light switch off and back on, and system senses zero amps when light controlled by the switch is off, system will turn system back on and normal operation will turn back on.

If total current load of load center exceeds a preset level, software will automatically shut down system, turning off one circuit at a time. Logic circuit will wait a few seconds between circuit shutdowns to determine if total controller current has fallen below preset level, or if additional circuits should be turned off.

Solid state circuits are rated for a fixed value. If additional electrical devices need to be added to tractor, it is recommend to use a power strip or convenience outlets in conjunction with an off/on switch. Splicing into a wire in the wrong location could cause circuit to overload and shut circuit down.

If extra implement lights and controls, such as switches are needed, contact your John Deere dealer. A dealer can provide information on correct method to tie in a light switch with one of accessory wires located in 7 pin terminal on back of tractor.

TS36762,000015E-19-31AUG17

Welding Near Electronic Control Units



TS953—UN—15MAY90

IMPORTANT: Do not jump-start engines with arc welding equipment. Currents and voltages are too high and may cause permanent damage.

1. Disconnect the negative (-) battery cable(s).
2. Disconnect the positive (+) battery cable(s).
3. Connect the positive and negative cables together. Do not attach to vehicle frame.
4. Clear or move any wiring harness sections away from welding area.
5. Connect welder ground close to welding point and away from control units.
6. After welding, reverse Steps 1—5.

DX,WW,ECU02-19-14AUG09

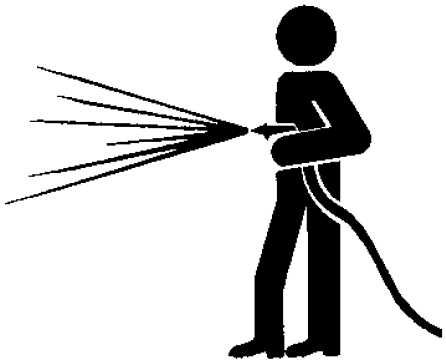
Keep Electronic Control Unit Connectors Clean

IMPORTANT: Do not open control unit and do not clean with a high-pressure spray. Moisture, dirt, and other contaminants may cause permanent damage.

1. Keep terminals clean and free of foreign debris. Moisture, dirt, and other contaminants may cause the terminals to erode over time and not make a good electrical connection.
2. If a connector is not in use, put on the proper dust cap or an appropriate seal to protect it from foreign debris and moisture.
3. Control units are not repairable.
4. Since control units are the components LEAST likely to fail, isolate failure before replacing by completing a diagnostic procedure. (See your John Deere dealer.)
5. The wiring harness terminals and connectors for electronic control units are repairable.

DX,WW,ECU04-19-11JUN09

Compressed Air Use

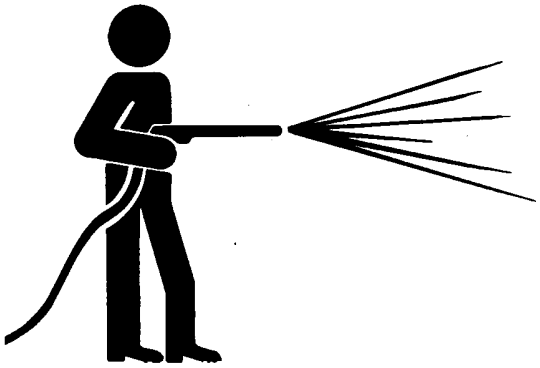


RW56455—UN—30JUN97

IMPORTANT: Directing pressurized air at electronic/electrical components or connectors, may cause buildup of static electricity and product malfunctions.

TS36762,000015F-19-21JUN17

High-Pressure Washers Use



T6642EJ—UN—18OCT88

IMPORTANT: Directing pressurized water at electronic/electrical components or connectors, bearings and hydraulic seals, fuel injection pumps, exhaust outlet or other sensitive parts and components may cause product malfunctions. Reduce pressure, and spray at a 45 to 90 degree angle. When washing do not direct any water towards the exhaust or any fill tank openings.

TS36762,0000160-19-21JUN17

Disconnect Battery—Final Tier 4/Stage IV Engine

IMPORTANT: To determine tractor engine type, see Engine Serial Number in Identification Numbers section of this Operator's Manual. Do not disconnect battery until Selective Catalytic Reduction (SCR) system has had enough time to automatically purge system of Diesel Exhaust Fluid (DEF). If adequate time is not allowed for system to be purged, any DEF remaining can crystallize and plug system. At temperatures below -15°C (5°F), unpurged DEF freezes and damages system components. If equipped with a battery disconnect system, a light next to the disconnect system is illuminated while auto-purge is in progress. It shuts off when complete and safe to disconnect the battery.

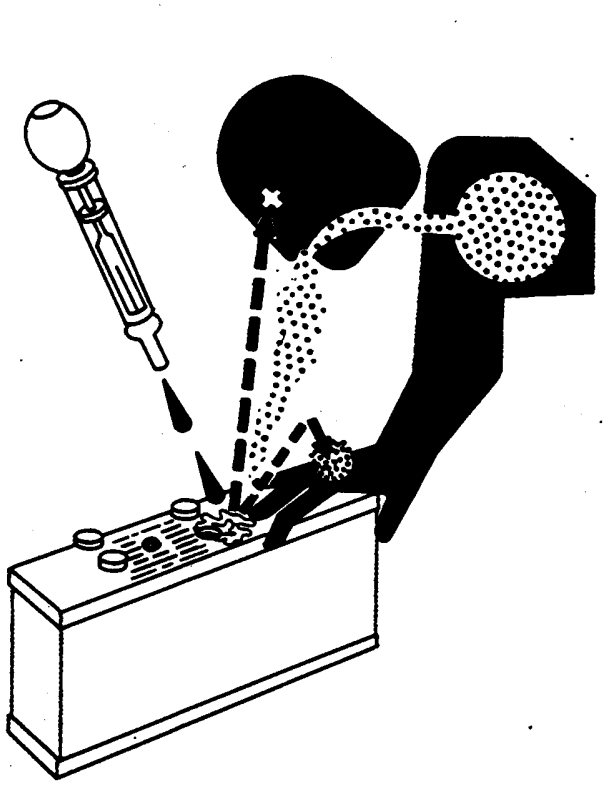
If tractor is not equipped with battery disconnect switch, wait at least 4 minutes after tractor stops before disconnecting battery.

TS36762,0000161-19-18DEC17

Handling Batteries Safely



TS204—UN—15APR13



TS203—UN—23AUG88

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

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

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

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

Avoid hazards by:

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

If acid is spilled on skin or in eyes:

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

If acid is swallowed:

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

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

DX,WW,BATTERIES-19-02DEC10

Service Batteries and Connectors—Final Tier 4/Stage IV Engine



RXA0086786—UN—14FEB06

CAUTION: Never use compressed air to clean batteries. It can cause a buildup of static charge leading to potential injury.

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 posts. Use a voltmeter or hydrometer.

Always remove battery ground cables before positive battery cables and connect them last. Do not let disconnected ground terminal touch metal surface.

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

CAUTION: Avoid contact with poisonous sulfuric acid in battery electrolyte. Battery acid can burn skin, damage clothing, and cause blindness if splashed into eyes.

IMPORTANT: Final Tier 4/Stage IV Engines Only: To determine tractor engine type, see Engine Serial Number in Identification Numbers section of this Operator's Manual. Do not disconnect battery until Selective Catalytic Reduction (SCR) system has had enough time to automatically purge system of Diesel Exhaust Fluid (DEF). If adequate time is not allowed for system to be purged, any DEF remaining can crystallize and plug system. At temperatures below -15°C (5°F), unpurged DEF freezes and damages system components. If equipped with a battery disconnect system, a light next to the disconnect system is illuminated while auto-purge is in progress. It shuts off when complete and safe to disconnect the battery.

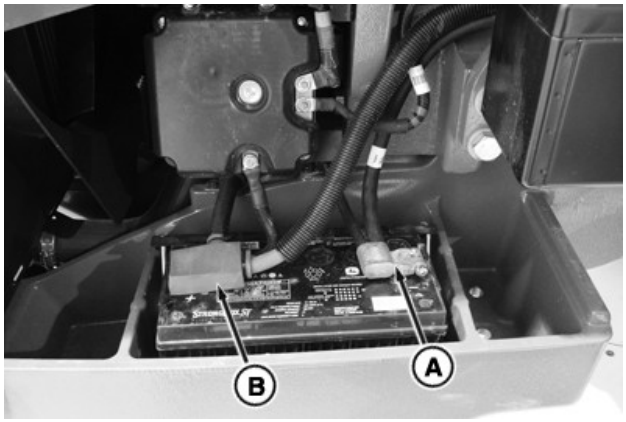
If tractor is not equipped with battery disconnect switch, wait at least 4 minutes after tractor stops before disconnecting battery.

NOTE: Although this battery is a maintenance free battery, conditions such as long periods of operation at high ambient temperatures and excessive engine cranking may require adding water. See label on battery.

NOTE: For optimum battery performance, keep battery terminals clean and tight.

For replacement batteries, follow manufacturer's recommendations.

1. Remove battery compartment cover.
2. Remove battery hold down clamp and slide batteries forward.



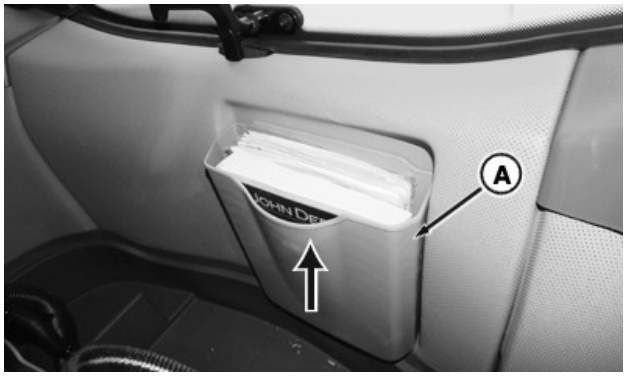
RXA0136866—UN—14NOV13

3. Disconnect negative battery cables (A), then positive battery cables (B).
4. Remove any corrosion with a terminal brush, then clean terminals and battery posts using a baking soda and water solution.
5. Rinse with clean water and air dry.
6. Slide batteries back into compartment and install battery hold down clamp.
7. Connect positive battery terminals, then connect negative battery terminals.
8. Apply thin coat of grease to cable ends.
9. Install battery compartment cover.

KD34109,0000558-19-19DEC17

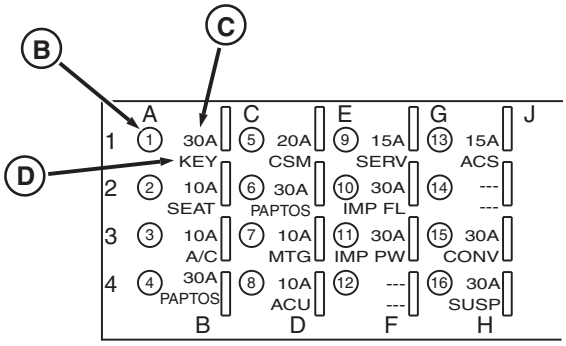
Access Load Center Fuses

NOTE: Fold seat backrest down to allow easier access, and allow to cab lighting to shine on load center when fuses are being inspected or replaced.



RXA0136550—UN—06NOV13

Load center is found directly behind operator's seat and just below cab rear window. To access load center, lift up on Operator's Manual holder (A).



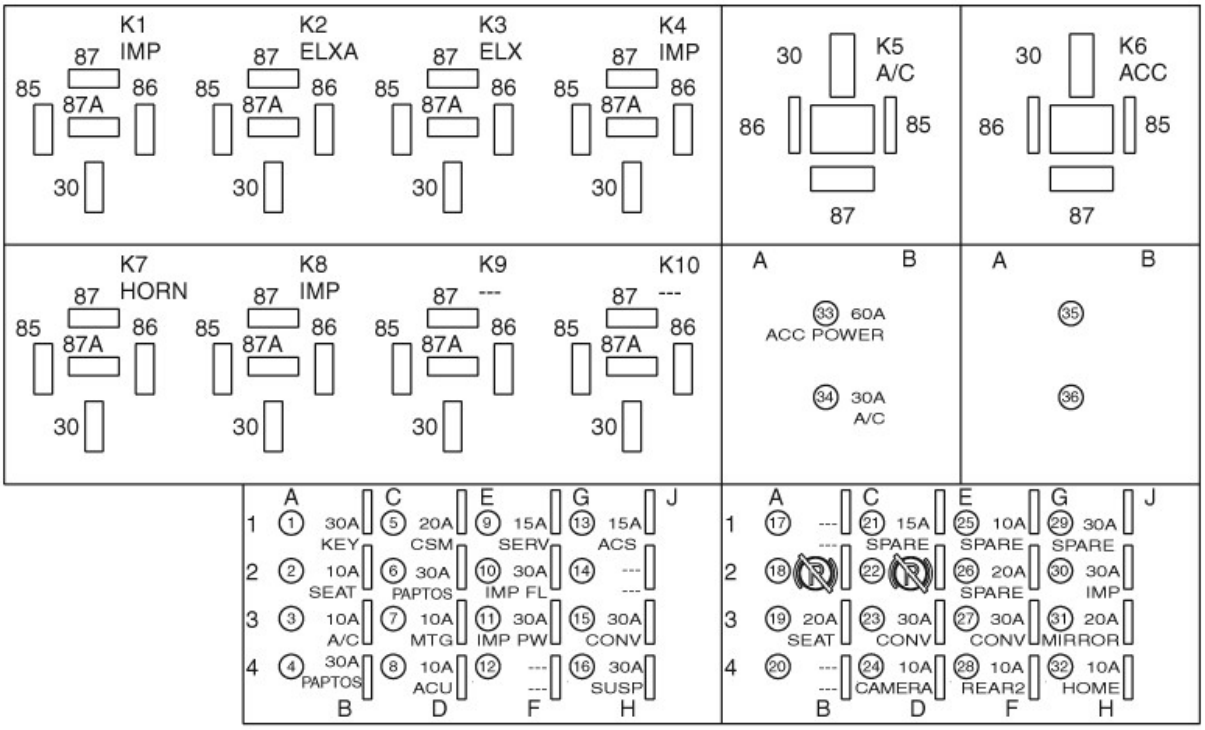
RXA0159961—UN—22JUN17

Diagram identifies load center fuse location (B), size (C), and description (D).

IMPORTANT: Final Tier 4/Stage IV Engines Only: To determine tractor engine type, see Engine Serial Number in Identification Numbers section of this Operator's Manual. Do not disconnect battery until Selective Catalytic Reduction (SCR) system has had enough time to automatically purge system of Diesel Exhaust Fluid (DEF). If adequate time is not allowed for system to be purged, any DEF remaining can crystallize and plug system. At temperatures below -15°C (5°F), unpurged DEF freezes and damages system components. If equipped with a battery disconnect system, a light next to the disconnect system is illuminated while auto-purge is in progress. It shuts off when complete and safe to disconnect the battery.

If tractor is not equipped with battery disconnect switch, wait at least 4 minutes after tractor stops before disconnecting battery.

IMPORTANT: Replacement fuses must be the same rating as original. Ensure key is in OFF position.



RXA0127389—UN—25JAN13

K1—ISO Implement Connector Power Relay
K2—Electronics Relay
K3—Electronics Relay
K4—Implement Accessory Relay
K5—Blower Relay
K6—Accessories Relay
K7—Warning Horn Relay
K8—Implement Flood Relay
K9—Not Used
K10—Not Used
1—Key Switch (30 Amp)
2—Operator Presence Switch (10 Amp)
3—Air Conditioner (10 Amp)
4—Not Used
5—Radio, Primary Display, and Interior Lights (20 Amp)
6—Not Used
7—Modular Telematics Gateway (10 Amp)
8—Armrest Control Unit (10 Amp)
9—Server (15 Amp)
10—Implement Flood Lights (30 Amp)
11—Implement Accessory (30 Amp)
12—Not Used
13—Steering Controller (15 Amp)
14—Not Used
15—Convenience Outlet Battery (30 Amp)
16—Tracks Suspension (Tracks Only) (30 Amp)
17—Not Used
18—Park Brake Release
19—Seat Controls (20 Amp)
20—Not Used
21—Spare (15 Amp)
22—Park Brake Release
23—Convenience Outlet Switched (30 Amp)
24—Video Camera Power and Armrest Outlet (10 Amp)
25—Spare (10 Amp)
26—Spare (20 Amp)
27—Convenience Outlet Switched (30 Amp)
28—Rear Chassis Control Unit (10 Amp)
29—Spare (30 Amp)
30—ISO Implement Connector (30 Amp)

31—Remote Mirror (20 Amp)
32—Come Home Mode (10 Amp)
33—Accessories Power (60 Amp)
34—Blower Motor (30 Amp)
35—Not Used
36—Not Used

DB71512,000003C-19-19DEC17

Access Master Fuses

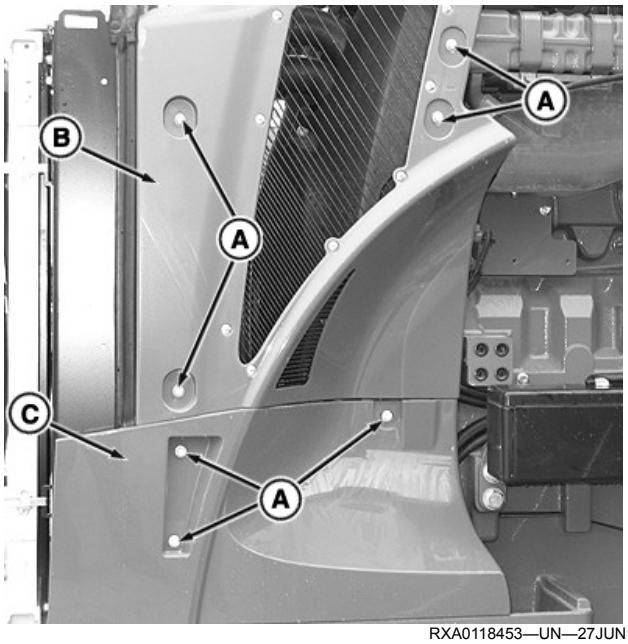
IMPORTANT: Final Tier 4/Stage IV Engines Only: To determine tractor engine type, see Engine Serial Number in Identification Numbers section of this Operator's Manual. Do not disconnect battery until Selective Catalytic Reduction (SCR) system has had enough time to automatically purge system of Diesel Exhaust Fluid (DEF). If adequate time is not allowed for system to be purged, any DEF remaining can crystallize and plug system. At temperatures below -15°C (5°F), unpurged DEF freezes and damages system components. If equipped with a battery disconnect system, a light next to the disconnect system is illuminated while auto-purge is in progress. It shuts off when complete and safe to disconnect the battery.

If tractor is not equipped with battery disconnect switch, wait at least 4 minutes after tractor stops before disconnecting battery.

CAUTION: Disconnect both negative and positive battery connections from both batteries prior to fuse inspection or replacement.

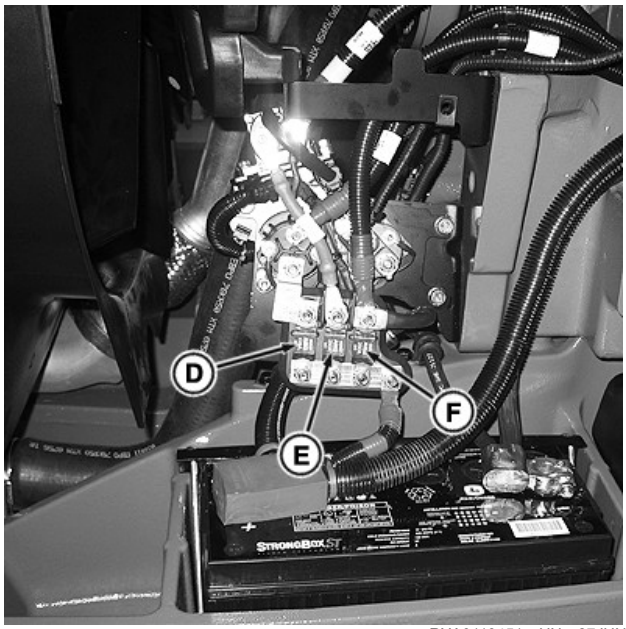
IMPORTANT: Do not attempt to disassemble master fuses unless instructed by your John Deere dealer.

Replacement fuses must be the same rating as original.



RXA0118453—UN—27JUN11

Tractors have three master fuses. Remove cap screws (A) to remove left front side panel (B) and battery compartment cover (C) to locate fuses.



RXA0118451—UN—27JUN11

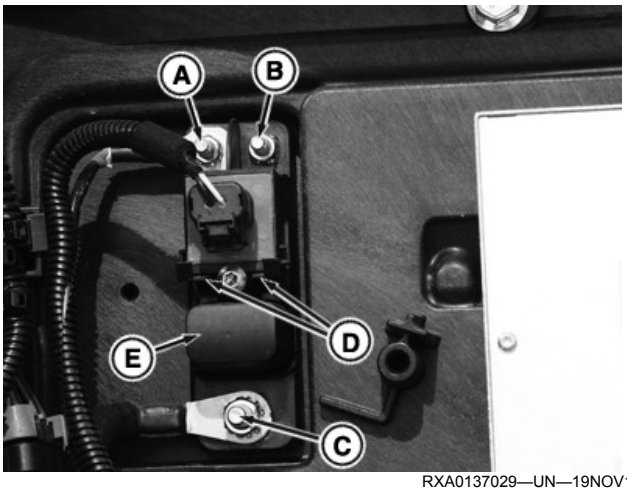
The master fuses are:

- Hydraulic Backup Pump (D) - 175 Amps
- Alternator Battery Relay (E) - 300 Amps
- Master Fuse (F) - 300 Amps

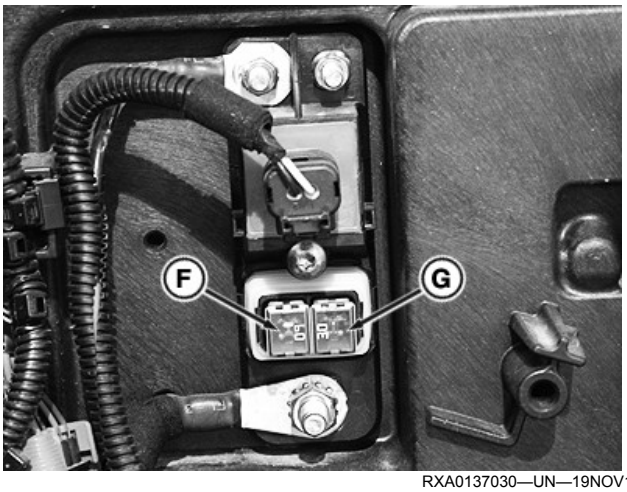
RX32825,0000057-19-19DEC17

Access Implement Power Relay Module Fuses

Remove cab rear cover. Implement power relay module, located in upper left corner, routes power to implement bus breakaway connector.



RXA0137029—UN—19NOV13



RXA0137030—UN—19NOV13

Top left module stud is switched power lug (A) protected by a 60 Amp fuse (F). Top right module stud is unswitched power lug (B) protected by a 30 Amp fuse (G).

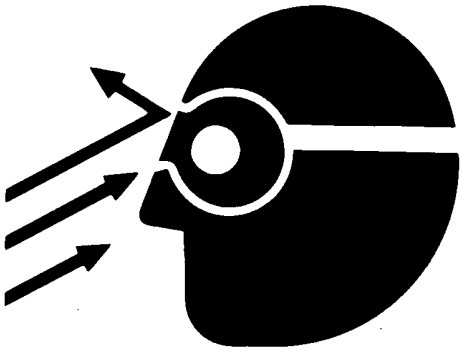
Bottom center is the battery power input stud (C).

Change Fuses:

1. Press down on fuse cover tabs (D) and remove fuse cover (E).
2. To remove, pull fuse straight back.
3. Replace with new fuse.
4. Reinstall cover and slide tabs over cover edge to hold in place.

RW29387,000037F-19-24OCT17

Handle Halogen Light Bulbs Safely



TS266—UN—23AUG88



H39474—UN—30JUN00

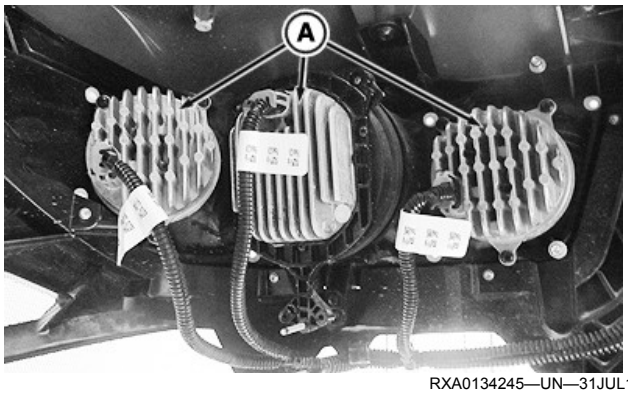
CAUTION: Halogen bulbs (A) contain gas under pressure. Handling a bulb improperly could cause it to shatter into flying fragments. To avoid possible injury:

- **Turn light switch off and allow bulbs to cool before changing. Leave switch off until bulb change is done.**
- **Wear eye protection.**
- **Handle bulb by its base. Keep bulb oil free; wear gloves to avoid touching glass.**
- **Do not drop or scratch bulb. Keep moisture away.**
- **Place used bulb in the new bulb carton and dispose of properly. Keep out of reach of children.**

TS36762,0000165-19-05SEP17

Change Front HID/LED Light Assembly

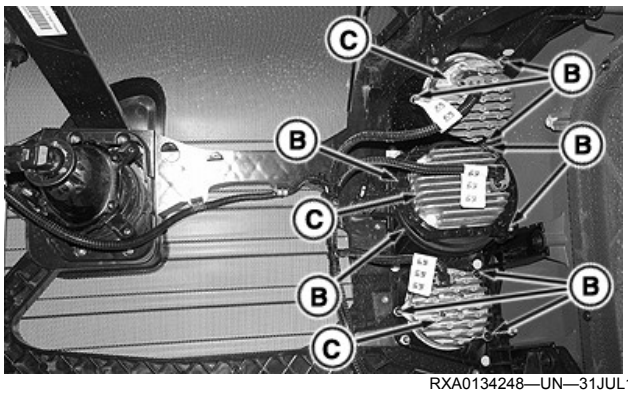
1. Open hood, see Open Hood in Service-General Information section of this Operator's Manual.



RXA0134245—UN—31JUL13

Right-Hand Side Shown

2. Disconnect harness connector (A).



RXA0134248—UN—31JUL13

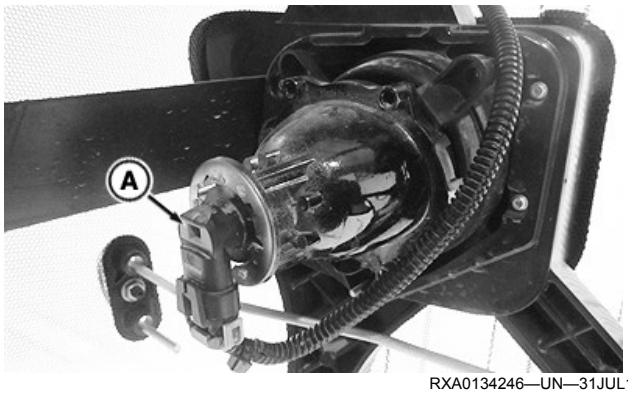
Right-Hand Side Shown

3. Remove screws (B) and light assembly (C).
4. Replace light assembly.
5. Install new light assembly in reverse order of removal.
6. Close and secure hood.

TS36762,0000166-19-05JUL17

Change Front Grille Halogen Light Bulbs

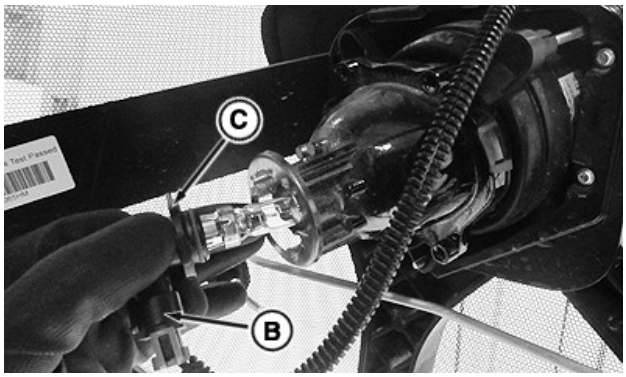
1. Open hood, see Open Hood in Service-General Information section of this Operator's Manual.



RXA0134246—UN—31JUL13

Right-Hand Side Shown

2. Rotate halogen headlight (A) counterclockwise 1/4 turn and remove.



RXA0134247—UN—31JUL13

Right-Hand Side Shown

3. Disconnect wiring harness plug by lifting retaining tab (B).
4. Replace light bulb assembly (C).
5. Install new light bulb in reverse order of removal.
6. Close and secure hood.

TS36762,0000167-19-05JUL17

Adjust Front Grille Lights

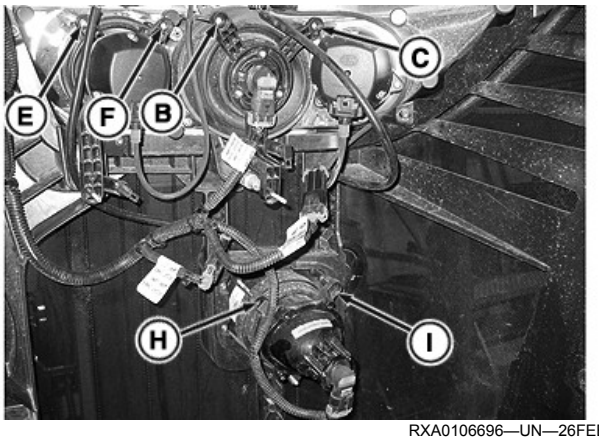
For High Beam Headlights:



RXA0106698—UN—26FEB10

Right-Hand Lights Shown

1. To lower high beam aim, turn high beam adjustment screw (A) clockwise.



RXA0106696—UN—26FEB10

Right-Hand Lights Shown

To raise and tilt out high beam, turn high beam adjustment screw (B) clockwise.

To raise and tilt in high beam, turn high beam adjustment screw (C) clockwise.

For Inner Hood Light:

2. To lower inner hood light, turn inner hood light adjustment screw (D) clockwise.

   To raise and tilt out inner hood light beam, turn inner hood light beam adjustment screw (E) clockwise.

   To raise and tilt in inner hood light beam, turn inner hood light beam adjustment screw (F) clockwise.

For Low Beam Headlights:

3. To lower low beam aim, turn low beam adjustment screw (G) clockwise.

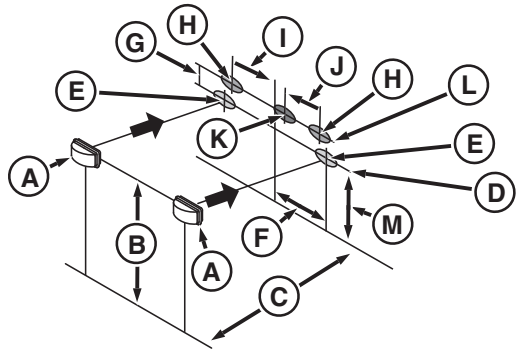
   To raise and tilt out low beam headlights, turn low beam adjustment screw (H) clockwise.

   To raise and tilt in low beam headlights, turn low beam adjustment screw (I) clockwise.

4. Repeat for opposite side of tractor.

GH15097,0000540-19-22JUN17

Adjust Headlights



RXA0161046—UN—11OCT17

1. Park tractor on level surface with low beam road lights (A) 7.5 meters (25 ft) (C) from a straight wall. Tractor must be perpendicular to wall. Turn on low beam road lights.
2. Measure distance (B) from center of road light low beam lamps to ground.
3. Mark a horizontal line (D) on wall 0.7 times height (B).
4. On wall, mark each road light low beam center (E).
5. Determine total distance between centers of road light low beams.
6. Calculate one-half distance determined in step 5.
7. Mark vertical line at distance calculated in step 6 from center of right-hand low beam center.
8. Distance (F) between center of road light low beam and center line should be 914 mm (36 in). Adjust as necessary. See Adjust Front Grille Lights in this section of this Operator's Manual.
9. Turn on road light high beams.
10. Adjust road light high beams so edge of bright area (L) is **at least** one tenth of distance (M) **above** road light low beam centers (E). Distance (G) is approximately 355 mm (14 in).
11. On wall, mark each road light high beam center (H), then mark a horizontal center line between center of road light high beams.
12. Distance (I) between center of road light high beams and center line should be 787 mm (31 in). Adjust as necessary. See Adjust Front Grille Lights in this section of this Operator's Manual.
13. Configure inner hood lights ON.
14. Turn on field lights. Inner hood light beam center (K) should be on horizontal line between centers of road light high beams. Adjust as necessary.
15. Distance (J) between inner hood light beam center (K) and light center line should be 635 mm (25 in). Adjust as necessary.

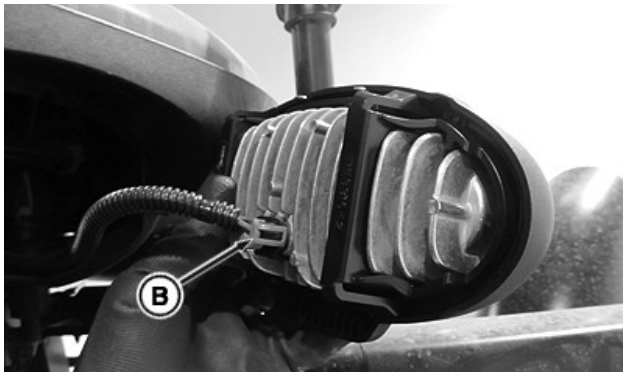
TS36762,0000169-19-12OCT17

Change Front, Side And Rear Cab Roof Light Bulb



RXA0134250—UN—31JUL13

1. Push down light fixture latch tab (A). Remove fixture.

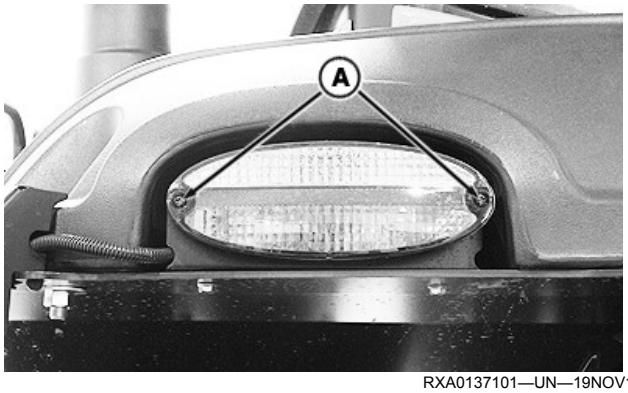


RXA0134251—UN—31JUL13

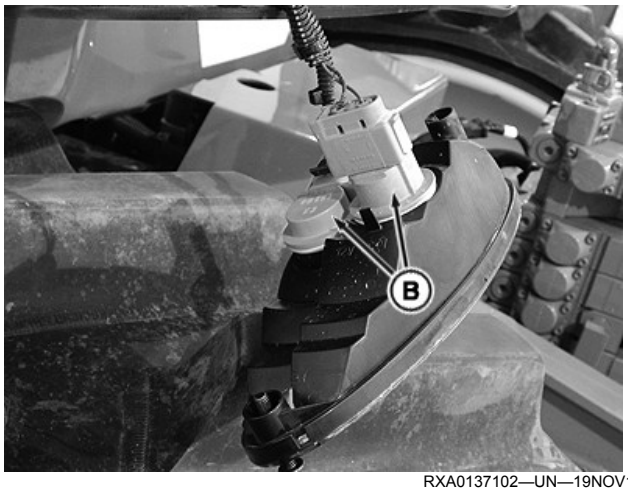
2. Disconnect harness connector (B) and replace light assembly.
3. Connect harness connector.
4. Insert fixture into cab roof until it seats and tab snaps into place.

TO84419,0000230-19-28JUN17

Change Brake or Turn Signal Light Bulb



RXA0137101—UN—19NOV13



RXA0137102—UN—19NOV13

1. Remove screws (A) and light assembly (B).
2. Turn bulbs (B) counterclockwise 1/4 turn and pull out to remove.
3. Install new bulb in fixture and turn 1/4 turn clockwise.
4. Reinstall assembly and screws.

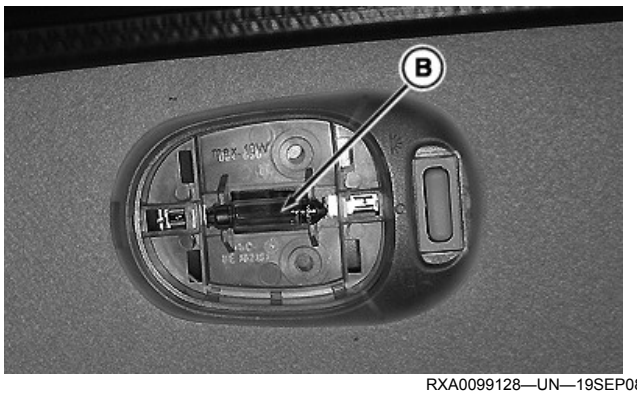
RW29387,0000387-19-28JUN17

Change Dome Light Bulb



RXA0099130—UN—19SEP08

1. Remove lens cover (A).



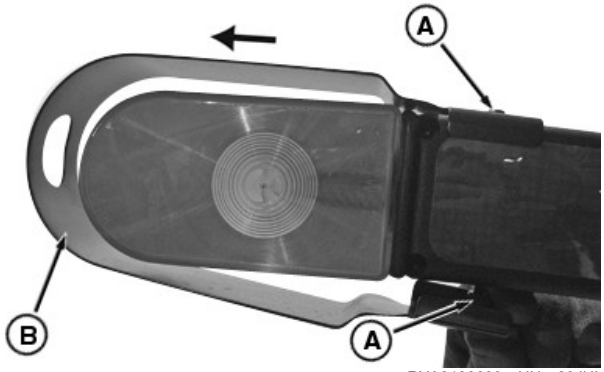
RXA0099128—UN—19SEP08

2. Grasp light bulb (B) firmly and pull straight down.
3. Gently push new bulb into fixture until it seats.

4. Reinstall cover.

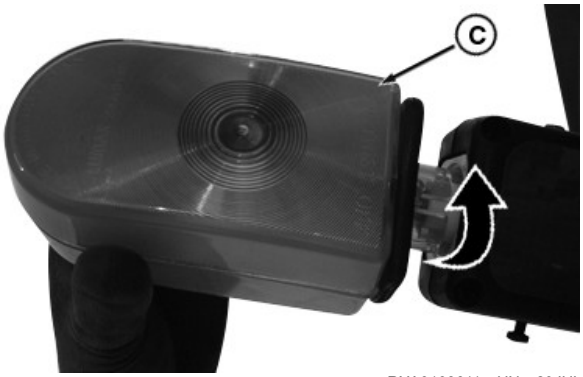
TS36762,000016C-19-05JUL17

Change Extremity Warning Light Bulb



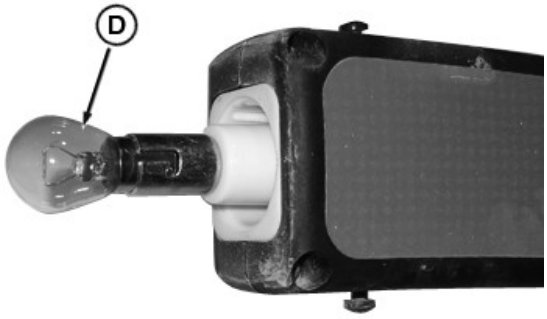
RXA0108609—UN—29JUL10

1. Loosen screws (A).
2. Slide shield (B) away from lens cover to remove.



RXA0108611—UN—29JUL10

3. Turn lens cover (C) counterclockwise to access light bulb.



RXA0108613—UN—29JUL10

4. Install new bulb (D) in reverse order of removal.

TO84419,0000233-19-28JUN17

Engine

Symptom	Problem	Solution
Engine hard to start or will not start	Fuel pump not operating properly	Turn key switch on and listen for pumping noise to make sure fuel pump is working
	Incorrect starting procedure	Review starting procedure
	Blown fuse	Replace fuse. See Load Center Fuses in Service - Electrical section of this Operator's Manual
	No fuel	Check fuel tank
	Air in fuel line	Bleed fuel line, turn key switch to RUN position for 60 seconds with engine off
	Cold weather	Use cold weather starting aids
	Slow starter speed	See Starter Turns Over Slowly in Electrical System Troubleshooting
	Crankcase oil too heavy	Use correct oil viscosity
	Incorrect type of fuel	Consult fuel supplier. Use correct fuel type for operating conditions
	Water, dirt, or air in fuel system	Drain, flush, fill, and bleed system
	Clogged fuel filter	Replace filter elements
	Dirty or faulty injectors	See your John Deere dealer
	Injection pump shutoff not reset	Turn key switch to OFF, then to ON
Engine knocks	Insufficient oil	Add oil
	During warm-up, pilot injection system will activate and deactivate depending on engine operating temperature	This is normal operation
	Low coolant temperature	Replace thermostats
	Engine overheating	See Engine Overheats in Engine Troubleshooting
Engine runs irregularly or stalls frequently	Low coolant temperature	Replace thermostats
	Clogged fuel filters	Replace filter elements
	Water, dirt, or air in fuel system	Drain, flush, fill, and bleed system
	Vent on fuel tank obstructed	Clean vent under rear cab panel

Symptom	Problem	Solution
	Dirty or faulty injectors	See your John Deere dealer
Below normal engine temperature	Defective thermostat	Replace thermostats
	Defective temperature gauge or sender	See your John Deere dealer
Throttle does not allow full engine rpm	IVT™/AutoPowr™ Auto Shift (or Load Control) may not be set properly	See IVT/AutoPowr Transmission section of this Operator's Manual
	Maximum Set Speed may be on and limiting max engine rpm	Check the settings for Maximum Set Speed in the CommandCenter™. Make sure full rpm has been selected on display
	Cold oil can limit engine speed to 1500 rpm	Warm up transmission-hydraulic oil See your John Deere dealer
Lack of power	Engine overloaded	Reduce load or shift to lower gear
	Low fast idle speed	Make sure Maximum Set Speed is set to MAX rpm Make sure IVT™/AutoPowr™ is set correctly See your John Deere dealer
	Intake air restriction	Service air cleaner
	Clogged fuel filters	Replace fuel filter elements
	Incorrect type of fuel	Use correct fuel
	Overheated engine	See Engine Overheats in Engine Troubleshooting
	Below normal engine temperature	Remove and check thermostat
	Incorrect valve clearance	See your John Deere dealer
	Dirty or faulty injectors	See your John Deere dealer
	Turbocharger not functioning	See your John Deere dealer
	Leaking exhaust manifold gasket	See your John Deere dealer
	Implement incorrectly adjusted	See implement operator's manual
	Restricted fuel inlet	Clean or replace fuel line

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Symptom	Problem	Solution
	Incorrect ballast	Adjust ballast to load. See Performance Ballasting section of this Operator's Manual
Low oil pressure	Low oil level	Add oil
	Incorrect type of oil	Drain, fill crankcase with correct quality and viscosity of oil
High oil consumption	Crankcase oil too light	Use correct viscosity oil
	Oil leaks	Check for leaks in lines, around gaskets and drain plug
	Defective turbocharger	See your John Deere dealer
	Restricted engine breather tube	Unclog engine breather tube
Engine emits smoke	Incorrect type of fuel	Use correct 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
	Turbocharger not functioning	See your John Deere dealer
Engine overheats	Dirty radiator core, oil cooler, or grille screens	Remove all trash and clean coolers
	Engine overloaded	Shift to lower gear or reduce load
	Low engine oil level	Add oil as required
	Low coolant level	Fill de-aeration tank to correct level, check radiator, and hoses for loose connections or leaks
	Faulty radiator cap	Replace radiator cap
	Loose or defective fan belt	Check and replace belt as needed
	Cooling system needs flushing	Flush cooling system See your John Deere dealer
	Defective thermostat	Replace thermostat See your John Deere dealer
	Defective temperature gauge or sender	See your John Deere dealer

Symptom	Problem	Solution
High fuel consumption	Clogged or dirty air cleaner	Service air cleaner
	Engine overloaded	Reduce load or shift to lower gear
	Injection nozzles dirty	See your John Deere dealer
	Implement incorrectly adjusted	See implement operator's manual
	Excessive ballast	Adjust ballast to load. See Performance Ballasting section of this Operator's Manual

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Transmission

Symptom	Problem	Solution
Transmission oil overheats	Low oil supply	Fill system with correct oil
	Excessive oil supply	Remove oil as needed
	Oil cooler air passages clogged	Clean oil coolers
	Clogged transmission/hydraulic oil filter	Replace filter
IVT™/AutoPowr™ transmission external vent leaks oil	Clogged scavenge pump screen	Clean screen
Transmission warning displays	Diagnostic trouble code has been stored	Access PTI codes in the CommandCenter™ display. See Troubleshooting - Diagnostic Trouble Codes (DTC) section of this Operator's Manual
Low transmission oil pressure	Low oil supply	Fill system with correct oil
	Clogged transmission/hydraulic oil filter	Replace filter
Transmission shifts slowly and tractor steers hard	Cold oil	See Warm-Up Transmission-Hydraulic System in Transmission - General Information section of this Operator's Manual

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AutoPowr is a trademark of Deere & Company
CommandCenter is a trademark of Deere & Company

Symptom	Problem	Solution
IVT™/AutoPowr™ ore23™ transmission starts out too fast/ slow	No problem	Startup gear can be changed through the CommandCenter™ settings. See Adjust Set Speeds inIVT™/ AutoPowr™ Transmission section of this Operator's Manual. See Set Startup Gears in e23™ Transmission section of this Operator's Manual If problem persists, see your John Deere™ dealer

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Hydraulic System

Symptom	Problem	Solution
Entire hydraulic system fails to function	Low oil supply	Check sight glass and fill system with correct oil
	Clogged transmission-hydraulic filter	Replace filter
	Clogged hydraulic return screen	Clean screen
	Oil cooler air passages clogged	Clean oil cooler
	High-pressure internal leak	See your John Deere dealer
Hydraulic oil overheats	Low or high oil supply	Check sight glass and fill system with correct oil
	Oil cooler air passages clogged	Clean oil cooler
	Internal hydraulic leak	See your John Deere dealer
	Implement hydraulic load not matched to tractor or not properly routed back into tractor hydraulic system	See Hydraulic Connections section of this Operator's Manual
	Mid-mount valve (If Equipped) flow and detent settings incorrect	Adjust settings, see Selective Control Valves (SCV) section of this Operator's Manual
	Clogged transmission-hydraulic oil filter	Replace filter

TS36762,0000277-19-13DEC16

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e23 is a trademark of Deere & Company
CommandCenter is a trademark of Deere & Company
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Hitch

Symptom	Problem	Solution
Insufficient transport clearance	Center link too short	Adjust center link
	Center link in wrong position	Put center link of tractor in correct hole. See Front or Rear Hitch section of this Operator's Manual
	Lift links too short	Adjust lift links
	Implement not level	Level implement
	Implement not correctly adjusted	See implement operator's manual
	Upper height limit not correctly set	Adjust upper height limit in CommandCenter™
Hitch fails to follow lever	Malfunction in lever position sensor circuit or hitch position sensor	See your John Deere dealer
Poor position control	Load/depth mix control on wrong position	Adjust upper height limit in CommandCenter™
	System is reset	Enable system
	Malfunction in lever position sensor circuit or hitch position sensor	See your John Deere dealer
Hitch drops slowly	Hitch rate-of-drop not correctly set	Adjust rate-of-drop in CommandCenter™
Hitch fails to lift or lifts slowly	Excessive load on hitch	Reduce load
	Center link in wrong position	Put center link of tractor in correct hole. See Front or Rear Hitch section of this Operator's Manual
	Hitch valve leak	See your John Deere dealer
	Raise limit switch setting may be limiting lift	Check settings in CommandCenter™
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
Insufficient or no hitch response to draft load	Load/depth mix control in wrong position	Adjust load/depth mix in CommandCenter™
	System is reset	Enable system

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Symptom	Problem	Solution
	Rate-of-drop too slow	Adjust rate-of-drop in CommandCenter™
Hitch too responsive	Load/depth mix control not correctly set	Adjust load/depth mix in CommandCenter™
Hitch settles too fast after tractor is parked and engine shut off	Internal hydraulic leakage	See your John Deere dealer
Hitch will not move (controls not working, including rear raise/lower switches)	Blown fuse(s)	Replace fuse(s). See Load Center Fuses in Service - Electrical section of this Operator's Manual
External raise/lower switches will not move hitch	Failure of raise/lower switches, connector, or wiring harness	See your John Deere dealer
	Lever in transport lock	Move lever out of transport. Unlock hitch at CommandCenter™

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Selective Control Valve (SCV)

Symptom	Problem	Solution
Remote cylinder will not lift load	Flow check	Cycle SCV levers
	Excessive load	Reduce load
	Hoses not completely installed	Attach hoses correctly
	Incorrect remote cylinder size	Use correct size cylinder
	SCV control lever lock engaged	Release SCV control lever lock
	Incorrect or damaged hose tips	Replace hose tips
Remote cylinder rate of travel too fast or too slow	Incorrect flow rate	Adjust flow rate on CommandCenter™
Direction of remote cylinder travel is reversed	Incorrect hose connections	Reverse hose connections
Hoses will not couple	Incorrect hose male connectors	Replace connectors with ISO standard connectors
Detent does not hold or releases too soon	Detent time set incorrectly	Set time correctly
	Pressure restriction with some implements	Reduce oil flow by changing metering valve setting
	Flow control or detent release setting incorrect	Adjust detent relief setting

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Symptom	Problem	Solution
SCV lever does not release	Float is being ”commanded”	Do not push lever down in forward position
	Lever mechanism failed	See your John Deere dealer
	Built in pressure leakage with some implements	Increase oil flow by changing metering valve setting, see implement operator’s manual
	Flow control or detent release setting incorrect	Adjust detent relief setting
Implement does not operate or does not operate correctly	Incorrect hose connections	Reverse hose connections
		See your John Deere dealer

TS36762,0000279-19-06NOV17

TouchSet™ Depth Control

Symptom	Problem	Solution
Depth control does not function correctly	Implement transport lock-up valve closed	Open valve
	Cylinders not rephased (synchronized)	**IMPORTANT: Completely bleed air from depth control system**
		Rephase cylinders
	Machine operating at different depths	See implement operator's manual
	Cylinder leakage	Check for leakage
		Repair or replace cylinders; see your John Deere dealer
	Insufficient tractor hydraulic pressure	Check tractor hydraulic pressure; use correct size cylinders for tractor pressure
	Hydraulic hoses not connected correctly	Reconnect correctly

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Electrical System

Symptom	Problem	Solution
Voltage indicator displayed when there is low battery voltage (key ON and engine OFF)	Defective battery	Check electrolyte level and specific gravity
	Low charging voltage	See your John Deere dealer

Symptom	Problem	Solution
	High resistance in charging circuit	See your John Deere dealer
	Indicator malfunction	See your John Deere dealer
Voltage symbol displayed and service alert indicator flashing indicating low charging voltage (engine running)	Low engine speed	Increase speed
	Alternator belt slipping, alternator not charging	Check belt tension
	Defective battery	Check electrolyte level and specific gravity
	Defective alternator	See your John Deere dealer
	Excessive electrical load	Decrease load
Voltage symbol displayed and service alert indicators flashing indicating excessive charging voltage	Faulty connection to alternator	Check wiring connections
	Defective regulator	See your John Deere dealer
Chirping noise from side console	Noise is normal	Solid state electronic drivers are used instead of relays to control turn signal lights. Tractor warning system provides a turn signal indicator beep instead of relay clicking noise.
Batteries will not charge	Loose or corroded connections	Clean and tighten connections
	Sulfated or worn-out batteries	Check electrolyte level and specific gravity
	Loose or defective alternator belt	Adjust belt tension or replace belt
Starter inoperative	Transmission in gear	Place transmission in PARK
	Faulty neutral start switch or starter solenoid malfunction	See your John Deere dealer
	Loose or corroded connections	Clean and tighten loose connections
	Low battery output	See your John Deere dealer
	Blown fuse	Replace fuse. See Load Center Fuses in Service - Electrical section of this Operator's Manual
Starter turns over slowly	Low battery output	Check electrolyte level and specific gravity

Symptom	Problem	Solution
	Crankcase oil too heavy	Use correct viscosity oil
	Loose or corroded connections	Clean and tighten loose connections
Light system does not function; rest of electrical system functions	Blown fuse	Replace fuse. See Load Center Fuses in Service - Electrical section of this Operator's Manual
Entire electrical system does not function	Faulty battery connection	Clean and tighten connections
	Sulfated or worn out batteries	Check electrolyte level and specific gravity
	Blown master fuse	Replace master fuse. See Master Fuses in Service - Electrical section of this Operator's Manual
Blower malfunctioning	Blower does not work	Check for stored codes, total cab electrical load may be exceeding solid-state load center capacity
	Blown fuse	Replace fuse. See Load Center Fuses in Service - Electrical section of this Operator's Manual

TS36762,000027B-19-13DEC16

Operator Enclosure

Symptom	Problem	Solution
Blower not keeping dust out of operator enclosure	Defective seal around filter element	Check seal condition
		Check filter for correct installation
	Defective filter	Replace filter
	Excessive air leak	Seal air leaks
	Blower air flow too low	See Blower Air Flow Too Low in Operator Enclosure Troubleshooting
Blower air flow too low	Clogged filter or air intake screen	Clean
	Heater core or evaporator core clogged	Clean
Heater will not shut off	Heater hoses connected incorrectly	See your John Deere dealer
Air conditioner not cooling	Low voltage	See your John Deere dealer
	Low refrigerant	See your John Deere dealer

Symptom	Problem	Solution
	Belt slipping	Check belt tension
	Heater on	Turn heater to off position.
	Compressor stuck	Rock compressor pulley back and forth
Intermittent cooling	Air restriction	Clean side screens, radiator and oil cooler/condenser
Water leaking from roof	Plugged air conditioning condensate drain hoses	Clean drain hoses
	Heater hoses leaking	Replace heater hoses
Seat suspension sticking	Foreign objects under seat	Keep area under seat completely clear
Seat suspension not working	Blown fuse	Replace fuse. See Load Center Fuses in Service - Electrical section of this Operator's Manual
Radio does not function	Blown fuse	Replace fuse. See Load Center Fuses in Service - Electrical section of this Operator's Manual

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Steering System

Symptom	Problem	Solution
No steering	Transmission shift lever in PARK position	Shift lever into NEUTRAL position
	Plugged hydraulic steering filter	Replace steering filter
	Loss of electrical power to steering controller	Check fuse F13, see Load Center Fuses in Service - Electrical section of this Operator's Manual
		See your John Deere dealer
	Other electrical or hydraulic malfunctions	Check vehicle monitor for warning codes, see Troubleshooting - Diagnostic Trouble Codes section of this Operator's Manual
		See your John Deere dealer
Will not turn as short as desired/ expected or difficult to turn under load	Implement causes side loading greater than steering system can overcome when attempting to turn.	Raise implement
		Slow down during turn or execute turn by doing a series of brief short turns

Symptom	Problem	Solution
		Let drawbar swing
		Add ballast, see Performance Ballasting section of this Operator's Manual
		See Drawbar section of this Operator's Manual
	Electrical or hydraulic malfunction	Check vehicle monitor for warning codes, see Troubleshooting - Diagnostic Trouble Codes section of this Operator's Manual
		See your John Deere dealer
	Plugged transmission hydraulic filter	Replace transmission hydraulic filter
Tractor drifts or pulls to one side	Implement causing side load on tractor	Adjust implement to eliminate side draft
		Let drawbar swing
		Add ballast, see Performance Ballasting section of this Operator's Manual
		See Drawbar section of this Operator's Manual
	Steering wheel does not self center	See your John Deere dealer
Will not turn as short as desired/ expected with no load	Electrical or hydraulic malfunction	Check vehicle monitor for warning codes, see Troubleshooting - Diagnostic Trouble Codes section of this Operator's Manual
		See your John Deere dealer
	Attempting to turn while stopped (loose soil, heavy ballast); steering load exceeds system capacity	Maintain forward/reverse motion while turning
		Increase engine speed and/or hold steering wheel against stop for a couple of seconds to allow greater steering force
Will not turn as short as desired/ expected (high gear, low engine speed)	Minimum turn radius is naturally greater in high gears and maximum steering pump flow is less at low engine speed	Downshift before turn
		See appropriate transmission section of this Operator's Manual

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Premium Radio

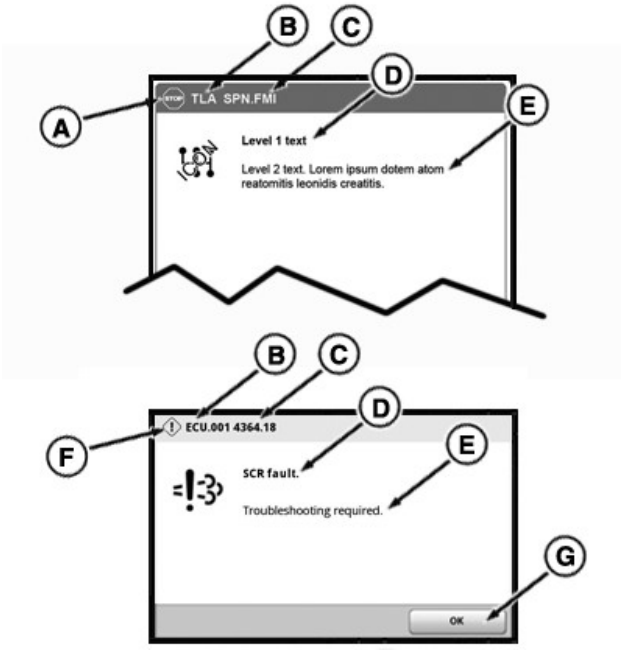
Symptom	Problem	Solution
"NO CD" displayed	CD will not play	No CD has been loaded in the player

Symptom	Problem	Solution
“CD ERROR” displayed	No playable files on media	Change media
”DEV ERR” displayed	No playable files on media	Change media
Bad sound quality, skipping, difficulty in finding tracks, and/or difficulty in loading or ejecting	CD-R quality or function may be affected by method of recording, quality of music recorded or how CD-R has been handled.	Play known good CD-R. Correct function indicates problem CD-R is at fault. If error occurs repeatedly or cannot be corrected, contact your John Deere dealer. If radio displays error message, record message for dealer use.
“BLOCKED” displayed	No audio in any source	Verify radio is installed in correct vehicle. Run engine for at least 5 minutes. Restart radio to resolve.
Radio display blank with radio on.	Display in DIM-OFF mode.	Change to DIM-ON mode in radio SETUP mode.

TS36762,0000280-19-13JUN17

STOP and Service Alert Indicators

NOTE: All STOP and Service Alert Indicators are accompanied by an informative message, diagnostic trouble code, and/or fault description shown on CommandCenter™.



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STOP Indicator (A): Light flashes and alarm sounds continuously. A serious malfunction has occurred, requiring immediate attention or the tractor will be damaged. Control unit (B), diagnostic trouble code (C), system (D) and solution (E) are identified on CommandCenter™. When control unit detects a malfunction or condition ”out of range”, a diagnostic trouble code containing the control unit followed by an industry standard number are displayed. Numbers to the left of the decimal indicate the malfunction and numbers to the right of decimal indicate the condition.

IMPORTANT: Engine will shut down automatically if STOP signal is received when operator is out of the seat for longer than 3 seconds and the transmission control is in PARK. CommandCenter™ display can be reset by cycling key switch.

If situation allows to stop operations immediately, reduce engine speed to idle, then shut down engine and turn key ON to observe CommandCenter™ display for problem identification and solution. It may be necessary to access the stored codes, see Using Diagnostics, Stored Codes and CAN Statistics. Correct problem before restarting.

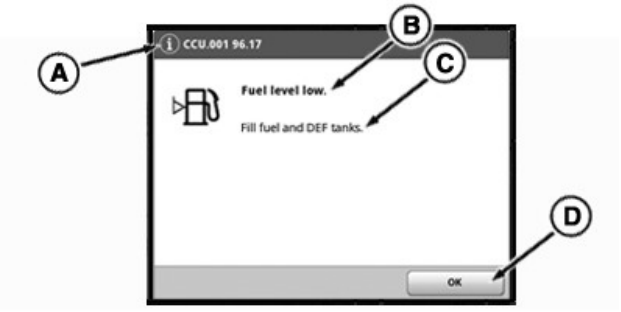
Service Alert Indicator (F): Light flashes and alarm sounds five times indicating a performance or operational problem has been detected, which must be resolved as soon as possible. Some Service Alert Indicators can be ”acknowledged” and cleared by pressing OK button (G) CommandCenter™ display. If condition still exists, diagnostic trouble code may reappear later. Continued operations can cause a Service 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 and/or damage to machine will occur.

When Service Alert Indicator is displayed, place tractor in park and shut off engine.

Follow solution on CommandCenter™ or if situation cannot be corrected contact your John Deere dealer.

TS36762,0000281-19-05JUL17

Information Indicator



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In some situations, the Information (INFO) Indicator light comes on continuously and alarm sounds for 2 seconds, indicating a fault condition. CommandCenter™ display shows diagnostic trouble code (A) and fault description including system affected (B), and suggested problem solution (C). Follow problem solution. Tractor operations can continue without damage; but, performance of some functions may be degraded.

Operating in a different manner may correct and clear an out of range condition. Some alerts can be ”acknowledged” and cleared by pressing OK button (D). If condition still exists after following solution or pressing OK button, alert may reappear later.

If situation cannot be corrected, see your John Deere dealer.

TS36762,0000282-19-25JUL17

Access Diagnostic Trouble Codes

NOTE: If problem is not resolved after cycling power to tractor, or following solution on CommandCenter™ page, see your John Deere dealer.

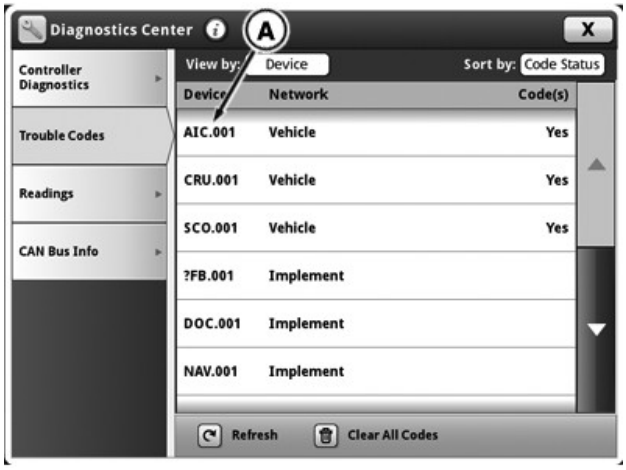
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Not all active DTC's are displayed. Follow steps to retrieve stored DTC's.



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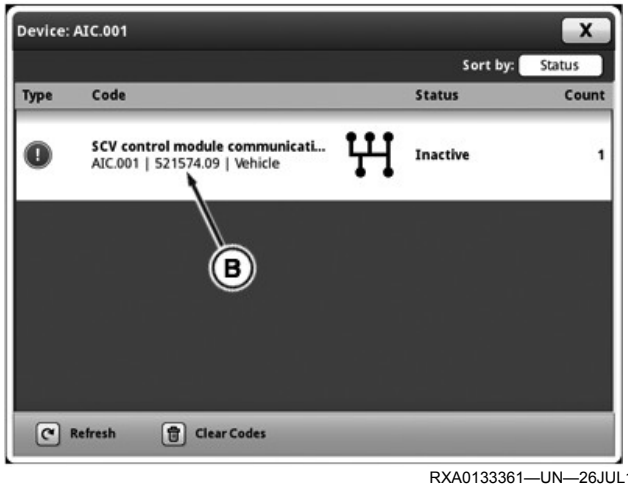
1. Select **Menu.**
2. Select **System tab.**
3. **Diagnostics Center icon**
4. Select **Trouble Codes tab.**



RXA0133359—UN—26JUL13

Trouble Codes Page

5. Select control unit (A) desired.



RXA0133361—UN—26JUL13

6. Select diagnostic code (B) for code display.

TS36762,0000283-19-25JUL17

Place Tractor in Storage

IMPORTANT: If tractor will not be used for more than three months, the following recommendations for storage and removal from storage will minimize corrosion and deterioration.

NOTE: Whenever possible store tractor in a building or under a roof to avoid damage resulting from prolonged exposure to the elements.

1. Lower hitch.
2. Change engine oil and replace filter (if required).

NOTE: Do not add BioDiesel fuel if placing tractor in storage.

3. Drain fuel tank and add back approximately 19 L (5 gal) of fuel.

IMPORTANT: Final Tier 4/Stage IV Engines Only: To determine tractor engine type, see Engine Serial Number in Identification Numbers section of this Operator's Manual. Long-term storage of Diesel Exhaust Fluid (DEF) in vehicle (over six months) is not recommended. If long-term storage is necessary, periodic testing of DEF is recommended to ensure that urea concentration does not fall out of specification.

4. Final Tier 4 and Stage IV tractors: Diesel Exhaust Fluid (DEF) has a limited shelf life, but may be stored in vehicle for as long as six months, depending upon storage conditions. See Storing DEF in Diesel Exhaust Fluid (DEF) section of this Operator's Manual. If draining DEF tank is necessary, see Draining DEF Tank in Fuel, Lubricants, and Coolant section of this Operator's Manual for proper procedure.
5. Using plastic bags and either tape or tie-bands, seal air inlets and exhaust, crankcase vent tube, radiator overflow hose, and transmission-hydraulic system fill cap.

IMPORTANT: Final Tier 4/Stage IV Engines Only: To determine tractor engine type, see Engine Serial Number in Identification Numbers section of this Operator's Manual. Do not disconnect battery until Selective Catalytic Reduction (SCR) system has had enough time to automatically purge system of Diesel Exhaust Fluid (DEF). If adequate time is not allowed for system to be purged, any DEF remaining can crystallize and plug system. At temperatures below -15°C (5°F), unpurged DEF freezes and damages system components. If equipped with a battery disconnect system, a light next to the disconnect system is illuminated while auto-purge is in progress. It shuts off when complete and safe to disconnect the battery.

If tractor is not equipped with battery disconnect switch, wait at least 4 minutes after tractor stops before disconnecting battery.

6. Remove and store batteries in a cool, dry location. Keep batteries charged.[1]
7. Coat all exposed (machined) metal surfaces such as lift cylinders and steering cylinder rods with light coat of grease.
8. Lubricate all grease fittings.

If tractor must be stored outside, follow these additional precautions.

1. Cover instrument panel, control levers, and seat with sheets of material or cardboard to protect against sun rays.
2. Thoroughly clean tractor, touching up any scratched or chipped painted surfaces.
3. Wax or cover entire tractor with waterproof material.
4. Raise tires or tracks off the ground and/or cover them to protect from heat and sunlight.

TS36762,0000284-19-18DEC17

Remove Tractor from Storage

1. Remove all coverings placed in or on tractor while preparing for storage.

IMPORTANT: To avoid engine damage, unseal crankcase vent tube.

2. Unseal all openings sealed during storage.
3. Remove any accumulated trash or debris, especially around engine and inside engine compartment.

IMPORTANT: If air conditioning compressor is locked up, engine operation with compressor clutch engaged may damage drive belt or compressor.

4. Rotate air conditioner compressor pulley several turns. If pulley does not turn freely, compressor components may be seized. See your John Deere dealer.
5. Check auxiliary drive belt for cracking and, if serviceable, install auxiliary drive belt on air conditioning compressor pulley.
6. Check under and around tractor for any evidence of fluid leaks.

[1] *Disconnect battery ground cable for short-term storage periods (20 to 90 days).*

IMPORTANT: If transmission-hydraulic oil level was correct at time of storage, and there is no evidence of hydraulic oil leaks, there should be no concern starting tractor even if transmission-hydraulic oil sight glass level is low. Over a period of storage, hydraulic oil may drain into transmission, causing sight glass to read low even when adequate amount of oil is available. If there are indications of oil leaks, do not start tractor until the source has been determined and repairs made. If there are no leakage indications, but there is any doubt about oil level at time of storage, check hydraulic oil level as soon as possible after starting tractor.

7. Check transmission-hydraulic oil level. Add oil as required.
8. Check all other fluid levels. Fill as required.
9. Fill fuel tank.

IMPORTANT: To confirm which engine your tractor is equipped with, see Engine Serial Number in Identification Numbers section of this Operator's Manual.

10. (Final Tier 4 and Stage IV engines) If Diesel Exhaust Fluid (DEF) tank has not been drained, test urea concentration. See Testing Diesel Exhaust Fluid (DEF) in Diesel Exhaust Fluid (DEF) section of this Operator's Manual. If concentration is not within specifications, drain and replace with new or good DEF. If DEF tank has been drained, fill tank. See Fill Diesel Exhaust Fluid (DEF) Tank in Diesel Exhaust Fluid (DEF) section of this Operator's Manual for appropriate procedures.
11. Inspect tracks for cuts, rips or tears. See Tracks section of this Operator's Manual.
12. Perform all Daily or 10 Hour services and any other scheduled services as required. See 10 Hour or Daily Service in Service - Record Charts section of this Operator's Manual.
13. Install batteries and connect cables.
14. Turn key switch to Run position for one minute to allow fuel system to prime.

NOTE: While operating engine at slow idle, visually check all instruments and indicators to ensure they function properly.

15. Start and operate engine at slow idle for several minutes.
16. Check tractor functions and systems, including air conditioning.
17. Warm up tractor before putting tractor under load.

RX32825,00000FE-19-28JUN17

Paint Finish Care

IMPORTANT: Never use strong soaps, chemical detergents, or cleaning agents containing acids, caustics, or abrasives. It is best to use commercially available car wash (non-detergent) products which will not remove protective wax, which may be applied to the paint finish.

- Wash tractor regularly, particularly if it has been exposed to herbicides, pesticides, road salt, or other chemical agents.
- Never wash tractor in direct sunlight.
- All cleaning agents should be rinsed away promptly and not be allowed to dry on painted surface.
- Waxing tractor occasionally is recommended to remove residue from and further protect paint finish. Never use waxes containing abrasive compounds.
- Inspect paint surface during washing or waxing for chips and scratches. Repaint any areas where paint has been damaged.

Your John Deere dealer has a full line of cleaners, waxes, and touch-up paints to help enhance the paint finishes and which are compatible with your equipment.

TS36762,0000286-19-22JUN17

Specifications

Engine

	8320RT	8345RT	8370RT
POWER			
Rated Engine power PS (hp ISO) at 2100 engine rpm (97/68/EC)[a]	235 kW (320 hp)	254 kW (345 hp)	272 kW (370 hp)
Rated Engine power PS[b](hp ISO) at 2100 engine rpm (ECE-R24)	226 kW (307 hp)	244 kW (331 hp)	261 kW (355 hp)
Rated PTO power (hp SAE) at rated engine speed (2100 erpm)[cd]	192 kW (258 hp)	208 kW (280 hp)	225 kW (303 hp)
Constant Power Range (rpm)	1500 - 2100		
ENGINE			
Manufacturer	John Deere PowerTech™ PSS 9.0 L (B20 Diesel Compatible)		
Aspiration	Dual series turbocharger with fixed geometry first stage, variable geometry second stage, air-to-air aftercooling, and cooled exhaust gas recirculation		
Intelligent Power Management (IPM) (97/68/EC)[a]	Optional — 35 Additional Engine Horsepower PS (hp ISO) at 2100 rpm (rated speed)		
Rated Speed	2100 rpm		
Type	Diesel, in-line, 6-cylinder, wet-sleeve with 4 valve-in-head		
Filter, engine air	Dual stage with engine cooling fan aspiration		
Displacement	9.0 L (549 in^3)		
Bore and stroke	118.4 mm (4.66 in) x 136 mm (5.35 in)		
Compression ratio	16.0:1		
Lubrication	Full-flow filtration with bypass		
Filter, oil	Replaceable cartridge-style oil filter		
FUEL SYSTEM (Type)	Electronically controlled, high-pressure common rail with electric fuel transfer pump (self-priming)		
Filter system	Two-stage with water separator and service indicator light		
Filter, primary	10 micron spin-on element with water indication sensor and drain		
Filter, secondary	2 micron spin-on element		

PowerTech is a trademark of Deere & Company
[a]97/68/EC power refers to average (50% MOE) net brake power measured and corrected for ambient conditions according to the EC emissions directive. It is equivalent to internal Deere Standard RES10080, and SAE Standards J1349, J1995.
[b]German term for horse power in which one PS is equivalent to 0.9863 horse power
[c]PTO Power for IVT™/AutoPowr™ models. Does not include optional equipment losses.
[d]80% Factory Observed MOE value.

EC82310,000057F-19-09AUG17

Capacities

	8320RT	8345RT	8370RT
Fuel Tank	816 L (215.5 gal)		
DEF Tank	25.3 L (6.7 gal)		
Cooling System	32.6 L (8.6 gal)		
Crankcase oil volume	25.0 L (6.8 gal)		
Transmission, differential, hydraulic system	180 L (47.5 gal)		

EC82310,00005EC-19-14AUG17

Hydraulic System

	8320RT	8345RT	8370RT
TYPE (Closed-center, pressure/flow compensated)			
Main pump, axial piston (displacement)	Standard — 85cc		
Maximum pressure	20400 ± 300 kPa (2958 psi ± 44 psi)		
Rated flow, 85cc pump	227.1 L/min (60 gpm)		
Rear SCV's			
With 1/2 inch ISO couplers	Standard — 4; Optional — 5 and 6		
With 3/4 inch and 1/2 inch ISO couplers	Optional — 5 (SCV 1: 3/4 inch coupler, SCV 2-5: 1/2 inch couplers)		
Available flow at single SCV			
1/2 inch coupler	132 L/min (35 gpm)		
3/4 in coupler	159 L/min (42 gpm)		
Take-out oil capacity	35 liters @ 2 L/sec		

EC82310,0000580-19-14AUG17

Transmission and Power Train

	8320RT	8345RT	8370RT
TRANSMISSION			
IVT™/AutoPowr™ 0.050-42 kph (0.3-26 mph)	Standard (42 kph @ 1550 ECO engine rpm[a])		
e23™ 40K; (23F/11R)	Optional (42 kph @ 1600 ECO engine rpm[a])		
FINAL DRIVES	Inboard planetary		
REAR AXLES			
Tread spacing	Standard — 1828.8 to 3048 mm (72 to 120 in); Optional — 2844.8 to 4064 mm (112 to 160 in)		
Track type	Camoplast® DURABUILT® 4500 and 6500 Series Track Belts		
Track widths	Standard — 635 mm (25 in); Optional — 406 mm (16 in), 457 mm (18 in), 610 mm (24 in), and 762 mm (30 in)		
Drive Wheel Total Width	Standard — 15 inch required with 16 inch, 18 inch, and 24 inch tracks; Optional — 24 inch required with 25 inch and 30 inch belts		
Mid-Rollers Total Width	Standard —15 inch required with 16 inch, 18 inch, and 24 inch tracks; Optional — 24 inch required with 25 inch and 30 inch belts		
Poly Mid-Rollers	Optional —16 inch, 18 inch, and 24 inch tracks		
SUSPENSION			
Suspension travel at front idlers (120" tread spacing)	403 mm (15.9 in)		
STEERING	Speed-sensitive, hydrostatic, differential - 406 mm diameter steering wheel - 1.8 turns lock-to-lock		
BRAKES	Power, hydraulic wet-disk with retractors - powered back-up		

IVT is a trademark of Deere & Company
AutoPowr is a trademark of Deere & Company
e23 is a trademark of Deere & Company
[a]*Base tractor configuration on level ground. ERPMs are load dependent*

EC82310,0000581-19-09AUG17

Hitch, Drawbar, and PTO

	8320RT	8345RT	8370RT
3-POINT HITCH	(Lower draft shaft bending bar with electro-hydraulic sensing)		
Category 4N/3 with Quik-Coupler			
Lift Capacity: 6803 kg (15000 lb)	Standard		
Lift Capacity: 9072 kg (20000 lb)	Optional		
DRAWBAR			
Category 4			
Maximum Vertical Load: 2245 kg (4950 lb)	Standard		
Category 4 with HD support			
Maximum Vertical Load: 4990 kg (11000 lb)	Optional		
REAR PTO (Independent)			
1-3/4 in, 20-spline, 1000 rpm	Standard		
PTO Speed @ Engine rpm	1000 PTO rpm @ 2000 engine rpm		

EC82310,0000582-19-09AUG17

Electrical System

	8320RT	8345RT	8370RT
Alternator/Battery	200 amps/12 Volt (2 batteries in parallel)		
Total cold cranking amps	1850 (2-925CCA grp 31 batteries)		

EC82310,0000583-19-09AUG17

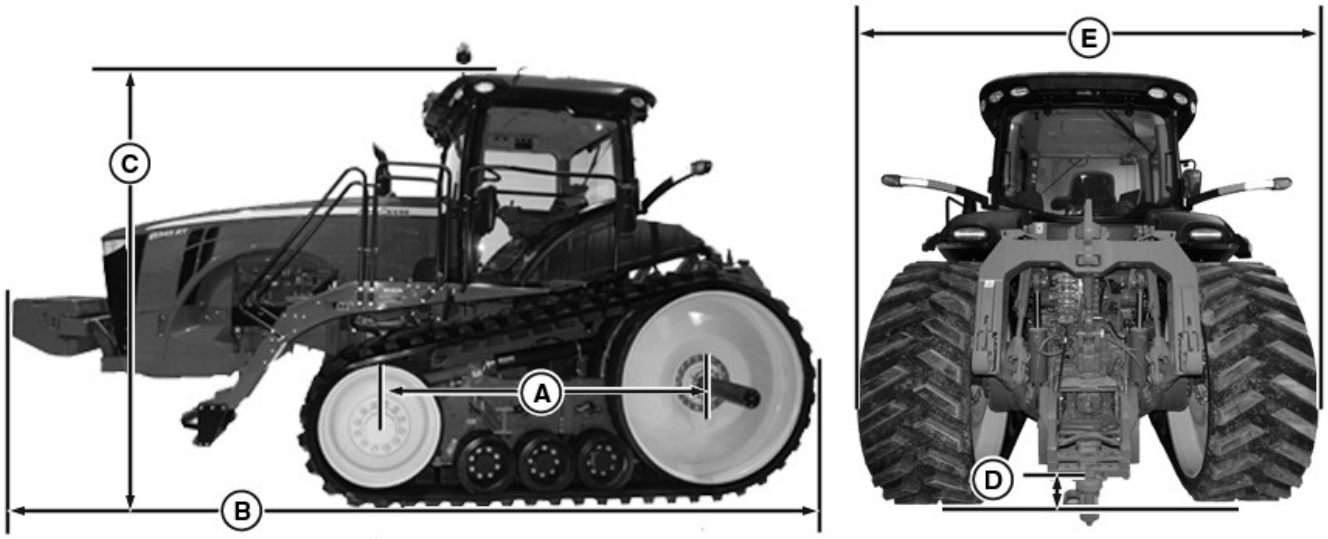
Other Equipment

AutoTrac™ Ready	Standard
Modular Telematics Gateway (MTG)	Optional — JDLink™ Ultimate and Ethernet Harness[a]
Service ADVISOR™ Remote	Optional — Capable with JDLink™ hardware and activations
CommandCenter™ Video with 4100 Processor	Single video input (Tyco Connector PN 776536-1) for camera using PAL or NTSC signal. Integrated behind rear cab cover. Camera and extension harness available through parts.
CommandCenter™ Video with 4600 Processor	Four video inputs (Tyco Connector PN 776536-1) for camera using PAl or NTSC signal. Integrated behind rear cab cover. Camera and extension harness available through parts.

AutoTrac is a trademark of Deere & Company
JDLink is a trademark of Deere & Company
Service ADVISOR is a trademark of Deere & Company
CommandCenter is a trademark of Deere & Company
[a]*Availability dependent upon destination*

EC82310,00005D2-19-11MAY17

Overall Dimensions



RXA0140970—UN—11APR14

	8320RT	8345RT	8370RT
WHEELBASE (A)	2515 mm (99 in)		
LENGTH (B)			
Weight bracket to drawbar	6043 mm (237.9 in)		
Includes 50 kg (110 lb) weights and Category 4 hitch with quick coupler	6959 mm (274.0 in)		
HEIGHT			
Top of roof	3334 mm (137.4 in)		
Ground Clearance[a] (D)	394 mm (15.5 in)		
Width[b] (E)	3099 mm (122 in)		
AVERAGE STANDARD WEIGHT			
Includes: e23™, 18 inch tracks, front weight support, Category 4 hitch with Quick-Connect, Category 4 HD drawbar, Cab suspension, and 87.1 L (23 gal) fuel)	15364 kg (33871 lb)		
Includes: IVT™/AutoPowr™ transmission, narrow drive wheels, 25 inch tracks, Category 4 hitch with quick coupler, 4 SCVs, Category 4 drawbar, no weights, and half tank of fuel	16578 kg (36549 lb)		
Ground Track Area / Static Track Pressure for 16067 kg (36000 lb) vehicle			
406 mm (16 in)	2.04 m^2 (3168 in^2) / 78.59 kPa (11.36 psi)		
457 mm (18 in)	2.30 m^2 (3565 in^2) / 69.87 kPa (10.1 psi)		
609 mm (24 in)	3.07 m^2 (4753 in^2) / 52.40 kPa (7.57 psi)		
635 mm (25 in)	3.19 m^2 (4951 in^2) / 50.30 kPa (7.27 psi)		

	8320RT	8345RT	8370RT
762 mm (30 in)	3.83 m^2 (5941 in^2) / 41.91 kPa (6.06 psi)		

e23 is a trademark of Deere & Company
IVT is a trademark of Deere & Company
AutoPowr is a trademark of Deere & Company
[a]*Ground to bottom of drawbar support*
[b]*Equipped with 30 in tracks*

EC82310,000057C-19-27FEB18

Ground Speeds - e23™ Transmission

Ground speeds are at rated engine speed of 2100 rpm (unless otherwise noted).

Forward Speeds

Gear	km/h (mph)
1	2.2 (1.4)
2	2.6 (1.6)
3	3.0 (1.9)
4	3.5 (2.1)
5	4.0 (2.5)
6	4.6 (2.9)
7	5.3 (3.3)
8	6.2 (3.8)
9	7.2 (4.5)
10	8.3 (5.2)
11	9.6 (6.0)
12	11.2 (6.9)
13	12.9 (8.0)
14	14.9 (9.2)
15	17.3 (10.7)
16	19.7 (12.2)
17	22.8 (14.2)
18	26.5 (16.4)
19	30.7 (19.1)
20	35.5 (22.1)
21	41.3 (25.6)
22	42.0 (26.1) @ 1860 ECO erpm
23	42.0 (26.1) @ 1600 ECO erpm

Reverse Speeds

Gear	km/h (mph)
R1	2.7 (1.7)
R2	3.6 (2.2)
R3	4.8 (3.0)
R4	6.4 (4.0)
R5	7.4 (4.6)
R6	10.0 (6.2)
R7	13.4 (8.3)
R8	17.9 (11.1)
R9	23.7 (14.7)
R10	30.0 (18.6) @ 1980 ECO erpm
R11	30.0 (18.6) @ 1470 ECO erpm

EC82310,00005A4-19-08MAY17

Ground Speeds - IVT™/AutoPowr™ Transmission

Ground speed is infinitely variable from 20 km/h (12 mph) in reverse to 42 km/h (26 mph) in forward.

The chart lists minimum engine speed needed to maintain 42 km/h (26 mph) ground speed using rolling circumference shown. Transmission ratios up to give top speed until engine speed drops below rpm listed.

For example, in Auto mode at full throttle, at 42 km/h (26 mph) ground speed. If load allows, engine rpm will reduce to 1550 ECO erpm, while maintaining 42 km/h (26 mph). Engine rpm will increase and transmission will ratio back to maintain top ground speed of 42 km/h (26 mph).

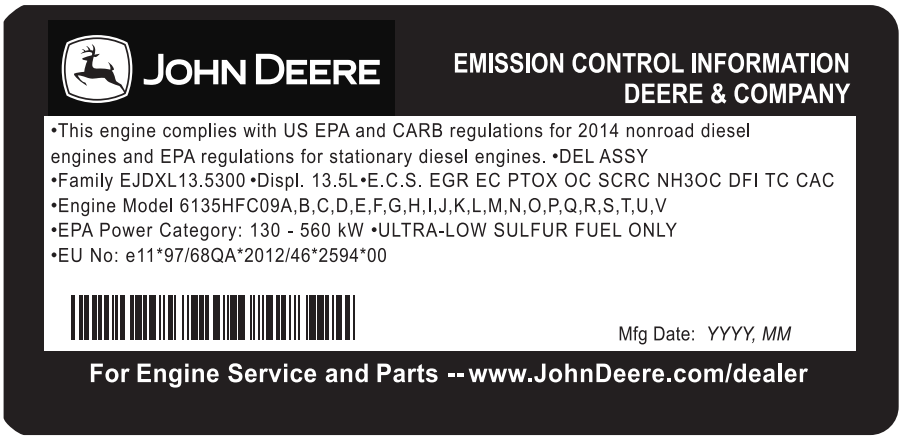
In manual mode at full throttle, ground speed would also be 42 km/h (26 mph). The transmission will ratio back to give a top speed of 42 km/h (26 mph).

NOTE: Actual rpm may vary from those listed.

Ground Speed (km/h (mph)) @ Minimum Engine RPM
42 (26) @ 1550 ECO erpm

EC82310,00005A5-19-08MAY17

Emissions Control System Certification Label



RG24291—UN—18SEP13

Engine Emissions Label

⚠ CAUTION: Statutes providing severe penalties for tampering with emissions controls may apply to the user or dealer.

The emissions warranty applies to those engines marketed by John Deere that have been certified by the United States Environmental Protection Agency (EPA) and/or California Air Resources Board (CARB); and used in the United States and Canada in Non-road equipment. The presence of an emissions label like the one shown signifies that the engine has been certified with the EPA and/or CARB. The EPA and CARB warranties only apply to new engines having the certification label affixed to the engine and sold as stated above in the geographic areas. The presence of an EU number signifies that the engine has been certified with the European Union countries per Directive 97/68/EC. The EPA and/or CARB emissions warranties do not apply to the EU countries.

The emissions label has applicable US EPA and/or CARB regulatory year. The regulatory year determines which warranty statement is applicable to engine. See “EPA Non-road Emissions Control Warranty Statement —Compression Ignition” and “CARB Non-road Emissions Control Warranty Statement—Compression Ignition”. For additional regulatory year warranty statements, see www.JohnDeere.com or contact the nearest John Deere service dealer for assistance.

Emission Control System(s) Laws

The U.S. EPA and California ARB prohibit the removal or rendering inoperative of any device or element of design installed on or in engines/equipment in compliance with applicable emission regulations prior to or after the sale and delivery of the engines/equipment to the ultimate purchaser.

DX,EMISSIONS,LABEL-19-01AUG14

EPA Non-road Emissions Control Warranty Statement—Compression Ignition

JOHN DEERE

DXLOGOV1—UN—28APR09

U.S. AND CANADA EMISSION CONTROL WARRANTY STATEMENT
YOUR WARRANTY RIGHTS AND OBLIGATIONS

To determine if the John Deere engine qualifies for the additional warranties set forth below, look for the "Emissions Control Information" label located on the engine. If the engine is operated in the United States or Canada and the Emissions Control information label states: "This engine complies with US EPA regulations for nonroad and stationary diesel engines”, or “This engine conforms to US EPA nonroad compression-ignition regulations”, refer to the "U.S. and Canada Emission Control Warranty Statement." If the engine is operated in California, and the label states: "This engine complies with US EPA and CARB regulations for nonroad diesel engines”, or “This engine conforms to US EPA and California nonroad compression-ignition emission regulations”, also refer to the "California Emission Control Warranty Statement.”

Warranties stated on this certificate refer only to emissions-related parts and components of your engine. The complete engine warranty, less emissions-related parts and components, is provided separately. If you have any questions about your warranty rights and responsibilities, you should contact John Deere at 1-319-292-5400.

JOHN DEERE'S WARRANTY RESPONSIBILITY

John Deere warrants to the ultimate purchaser and each subsequent purchaser that this off-road diesel engine including all parts of its emission-control system was designed, built and equipped so as to conform at the time of the sale with Section 213 of the Clean Air Act and is free from defects in materials and workmanship which would cause the engine to fail to conform with applicable US EPA regulations for a period of five years from the date the engine is placed into service or 3,000 hours of operation, whichever first occurs.

Where a warrantable condition exists, John Deere will repair or replace, as it elects, any part or component with a defect in materials or workmanship that would increase the engine's emissions of any regulated pollutant within the stated warranty period at no cost to you, including expenses related to diagnosing and repairing or replacing emission-related parts. Warranty coverage is subject to the limitations and exclusions set forth herein. Emission- related components include engine parts developed to control emissions related to the following:

Air-Induction System
Fuel System
Ignition System
Exhaust Gas Recirculation Systems
Aftertreatment Devices
Crankcase Ventilation Valves
Sensors
Engine Electronic Control Units

EMISSION WARRANTY EXCLUSIONS

John Deere may deny warranty claims for malfunctions or failures caused by:

- Non-performance of maintenance requirements listed in the Operator's Manual
- The use of the engine/equipment in a manner for which it was not designed
- Abuse, neglect, improper maintenance or unapproved modifications or alterations
- Accidents for which it does not have responsibility or by acts of God

The off-road diesel engine is designed to operate on diesel fuel as specified in the Fuels, Lubricants and Coolants section in the Operators Manual. Use of any other fuel can harm the emissions control system of the engine/equipment and is not approved for use.

To the extent permitted by law John Deere is not liable for damage to other engine components caused by a failure of an emission-related part, unless otherwise covered by standard warranty.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. REMEDIES UNDER THIS WARRANTY ARE LIMITED TO THE PROVISIONS OF MATERIAL AND SERVICES AS SPECIFIED HEREIN. WHERE PERMITTED BY LAW, NEITHER JOHN DEERE NOR ANY AUTHORIZED JOHN DEERE ENGINE DISTRIBUTOR, DEALER, OR REPAIR FACILITY OR ANY COMPANY AFFILIATED WITH JOHN DEERE WILL BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Emission_CI_EPA (18Dec09)

JOHN DEERE

U.S. AND CANADA EMISSION CONTROL WARRANTY STATEMENT
YOUR WARRANTY RIGHTS AND OBLIGATIONS

To determine if the John Deere engine qualifies for the additional warranties set forth below, look for the "Emissions Control Information" label located on the engine. If the engine is operated in the United States or Canada and the Emissions Control information label states: "This engine complies with US EPA regulations for nonroad and stationary diesel engines", or "This engine conforms to US EPA nonroad compression-ignition regulations", refer to the "U.S. and Canada Emission Control Warranty Statement." If the engine is operated in California, and the label states: "This engine complies with US EPA and CARB regulations for nonroad diesel engines", or "This engine conforms to US EPA and California nonroad compression-ignition emission regulations", also refer to the "California Emission Control Warranty Statement."

Warranties stated on this certificate refer only to emissions-related parts and components of your engine. The complete engine warranty, less emissions-related parts and components, is provided separately. If you have any questions about your warranty rights and responsibilities, you should contact John Deere at 1-319-292-5400.

JOHN DEERE'S WARRANTY RESPONSIBILITY

John Deere warrants to the ultimate purchaser and each subsequent purchaser that this off-road diesel engine including all parts of its emission-control system was designed, built and equipped so as to conform at the time of the sale with Section 213 of the Clean Air Act and is free from defects in materials and workmanship which would cause the engine to fail to conform with applicable US EPA regulations for a period of five years from the date the engine is placed into service or 3,000 hours of operation, whichever first occurs.

Where a warrantable condition exists, John Deere will repair or replace, as it elects, any part or component with a defect in materials or workmanship that would increase the engine's emissions of any regulated pollutant within the stated warranty period at no cost to you, including expenses related to diagnosing and repairing or replacing emission-related parts. Warranty coverage is subject to the limitations and exclusions set forth herein. Emission- related components include engine parts developed to control emissions related to the following:

Air-Induction System
Fuel System
Ignition System
Exhaust Gas Recirculation Systems
Aftertreatment Devices
Crankcase Ventilation Valves
Sensors
Engine Electronic Control Units

EMISSION WARRANTY EXCLUSIONS

John Deere may deny warranty claims for malfunctions or failures caused by:

- Non-performance of maintenance requirements listed in the Operator's Manual
- The use of the engine/equipment in a manner for which it was not designed
- Abuse, neglect, improper maintenance or unapproved modifications or alterations
- Accidents for which it does not have responsibility or by acts of God

The off-road diesel engine is designed to operate on diesel fuel as specified in the Fuels, Lubricants and Coolants section in the Operators Manual. Use of any other fuel can harm the emissions control system of the engine/equipment and is not approved for use.

To the extent permitted by law John Deere is not liable for damage to other engine components caused by a failure of an emission-related part, unless otherwise covered by standard warranty.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. REMEDIES UNDER THIS WARRANTY ARE LIMITED TO THE PROVISIONS OF MATERIAL AND SERVICES AS SPECIFIED HEREIN. WHERE PERMITTED BY LAW, NEITHER JOHN DEERE NOR ANY AUTHORIZED JOHN DEERE ENGINE DISTRIBUTOR, DEALER, OR REPAIR FACILITY OR ANY COMPANY AFFILIATED WITH JOHN DEERE WILL BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Emission_CI_EPA (18Dec09)

TS1721—UN—15JUL13
DX,EMISSIONS,EPA-19-12DEC12

CARB Non-road Emissions Control Warranty Statement—Compression Ignition

Emissions Control Warranty Statement 2016 through 2018

JOHN DEERE

DXLOGOV1—UN—28APR09

CALIFORNIA EMISSIONS CONTROL WARRANTY STATEMENT

YOUR WARRANTY RIGHTS AND OBLIGATIONS

To determine if the John Deere engine qualifies for the additional warranties set forth below, look for the “Emission Control Information” label located on the engine. If the engine is operated in the United States or Canada and the engine label states: “This engine complies with US EPA regulations for nonroad and stationary diesel engines”, or “This engine complies with US EPA regulations for stationary emergency diesel engines”, refer to the “U.S. and Canada Emission Control Warranty Statement.” If the engine is operated in California, and the engine label states: “This engine complies with US EPA and CARB regulations for nonroad diesel engines” also refer to the “California Emissions Control Warranty Statement.”

Warranties stated on this certificate refer only to emissions-related parts and components of your engine. The complete engine warranty, less emission-related parts and components, is provided separately. If you have any questions about your warranty rights and responsibilities, you should contact John Deere at 1-319-292-5400.

CALIFORNIA EMISSIONS CONTROL WARRANTY STATEMENT:

The California Air Resources Board (CARB) is pleased to explain the emission-control system warranty on 2016 through 2018 off-road diesel engines. In California, new off-road engines must be designed, built and equipped to meet the State’s stringent anti-smog standards. John Deere must warrant the emission control system on your engine for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your engine.

Your emission control system may include parts such as the fuel injection system and the air induction system. Also included may be hoses, belts, connectors and other emission-related assemblies.

John Deere warrants to the ultimate purchaser and each subsequent purchaser that this off-road diesel engine was designed, built, and equipped so as to conform at the time of sale with all applicable regulations adopted by CARB and is free from defects in materials and workmanship which would cause the failure of a warranted part to be identical in all material respects to the part as described in John Deere's application for certification for a period of five years from the date the engine is delivered to an ultimate purchaser or 3,000 hours of operation, whichever occurs first for all engines rated at 19 kW and greater. In the absence of a device to measure hours of use, the engine shall be warranted for a period of five years.

EMISSIONS WARRANTY EXCLUSIONS:

John Deere may deny warranty claims for failures caused by the use of an add-on or modified part which has not been exempted by the CARB. A modified part is an aftermarket part intended to replace an original emission-related part which is not functionally identical in all respects and which in any way affects emissions. An add-on part is any aftermarket part which is not a modified part or a replacement part.

In no event will John Deere, any authorized engine distributor, dealer, or repair facility, or any company affiliated with John Deere be liable for incidental or consequential damage.

JOHN DEERE'S WARRANTY RESPONSIBILITY:

Where a warrantable condition exists, John Deere will repair or replace, as it elects, your off-road diesel engine at no cost to you, including diagnosis, parts or labor. Warranty coverage is subject to the limitations and exclusions set forth herein. The off-road diesel engine is warranted for a period of five years from the date the engine is delivered to an ultimate purchaser or 3,000 hours of operation, whichever occurs first. The following are emissions-related parts:

Air Induction System
- Intake manifold
- Turbocharger
- Charge air cooler

Fuel Metering system
- Fuel injection system

Exhaust Gas Recirculation
- EGR valve

Catalyst or Thermal Reactor Systems
- Catalytic converter
- Exhaust manifold

Emission control labels

Particulate Controls
- Any device used to capture particulate emissions
- Any device used in the regeneration of the capturing system
- Enclosures and manifolding
- Smoke Puff Limiters

Positive Crankcase Ventilation (PCV) System
- PCV valve
- Oil filler cap

Advanced Oxides of Nitrogen (NOx) Controls
- NOx absorbers and catalysts

SCR systems and urea containers/dispensing systems

Miscellaneous Items used in Above Systems
- Electronic control units, sensors, actuators, wiring harnesses, hoses, connectors, clamps, fittings, gasket, mounting hardware

Any warranted emissions-related part scheduled for replacement as required maintenance is warranted by John Deere for the period of time prior to the first scheduled replacement point for the part. Any warranted emissions-related part not scheduled for replacement as required maintenance or scheduled only for regular inspection is warranted by John Deere for the stated warranty period.

OWNER'S WARRANTY RESPONSIBILITIES:

As the off-road diesel engine owner you are responsible for the performance of the required maintenance listed in your Operator's Manual. John Deere recommends that the owner retain all receipts covering maintenance on the off-road diesel engine, but John Deere cannot deny warranty solely for the lack of receipts or for the owner's failure to ensure the performance of all scheduled maintenance. However, as the off-road diesel engine owner, you should be aware that John Deere may deny you warranty coverage if your off-road diesel engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

The off-road diesel engine is designed to operate on diesel fuel as specified in the Fuels, Lubricants and Coolants section in the Operators Manual. Use of any other fuel may result in the engine no longer operating in compliance with applicable emissions requirements.

The owner is responsible for initiating the warranty process, and should present the machine to the nearest authorized John Deere dealer as soon as a problem is suspected. The warranty repairs should be completed by the authorized John Deere dealer as quickly as possible.

Emissions regulations require the customer to bring the unit to an authorized servicing dealer when warranty service is required. As a result, John Deere is NOT liable for travel or mileage on emissions warranty service calls.

Emission_CI_CARB (13Jun14)

Emissions Control Warranty Statement 2016 through 2018

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JOHN DEERE

CALIFORNIA EMISSIONS CONTROL WARRANTY STATEMENT
YOUR WARRANTY RIGHTS AND OBLIGATIONS

To determine if the John Deere engine qualifies for the additional warranties set forth below, look for the “Emission Control Information” label located on the engine. If the engine is operated in the United States or Canada and the engine label states: “This engine complies with US EPA regulations for nonroad and stationary diesel engines”, or “This engine complies with US EPA regulations for stationary emergency diesel engines”, refer to the “U.S. and Canada Emission Control Warranty Statement.” If the engine is operated in California, and the engine label states: “This engine complies with US EPA and CARB regulations for nonroad diesel engines” also refer to the “California Emissions Control Warranty Statement.”

Warranties stated on this certificate refer only to emissions-related parts and components of your engine. The complete engine warranty, less emission-related parts and components, is provided separately. If you have any questions about your warranty rights and responsibilities, you should contact John Deere at 1-319-292-5400.

CALIFORNIA EMISSIONS CONTROL WARRANTY STATEMENT:

The California Air Resources Board (CARB) is pleased to explain the emission-control system warranty on 2016 through 2018 off-road diesel engines. In California, new off-road engines must be designed, built and equipped to meet the State’s stringent anti-smog standards. John Deere must warrant the emission control system on your engine for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your engine.

Your emission control system may include parts such as the fuel injection system and the air induction system. Also included may be hoses, belts, connectors and other emission-related assemblies.

John Deere warrants to the ultimate purchaser and each subsequent purchaser that this off-road diesel engine was designed, built, and equipped so as to conform at the time of sale with all applicable regulations adopted by CARB and is free from defects in materials and workmanship which would cause the failure of a warranted part to be identical in all material respects to the part as described in John Deere's application for certification for a period of five years from the date the engine is delivered to an ultimate purchaser or 3,000 hours of operation, whichever occurs first for all engines rated at 19 kW and greater. In the absence of a device to measure hours of use, the engine shall be warranted for a period of five years.

EMISSIONS WARRANTY EXCLUSIONS:

John Deere may deny warranty claims for failures caused by the use of an add-on or modified part which has not been exempted by the CARB. A modified part is an aftermarket part intended to replace an original emission-related part which is not functionally identical in all respects and which in any way affects emissions. An add-on part is any aftermarket part which is not a modified part or a replacement part.

In no event will John Deere, any authorized engine distributor, dealer, or repair facility, or any company affiliated with John Deere be liable for incidental or consequential damage.

RG26035—UN—24JUN14

JOHN DEERE'S WARRANTY RESPONSIBILITY:

Where a warrantable condition exists, John Deere will repair or replace, as it elects, your off-road diesel engine at no cost to you, including diagnosis, parts or labor. Warranty coverage is subject to the limitations and exclusions set forth herein. The off-road diesel engine is warranted for a period of five years from the date the engine is delivered to an ultimate purchaser or 3,000 hours of operation, whichever occurs first. The following are emissions-related parts:

Air Induction System

- Intake manifold
- Turbocharger
- Charge air cooler

Fuel Metering system

- Fuel injection system

Exhaust Gas Recirculation

- EGR valve

Catalyst or Thermal Reactor Systems

- Catalytic converter
- Exhaust manifold

Emission control labels

Particulate Controls

- Any device used to capture particulate emissions
- Any device used in the regeneration of the capturing system
- Enclosures and manifolding
- Smoke Puff Limiters

Positive Crankcase Ventilation (PCV) System

- PCV valve
- Oil filler cap

Advanced Oxides of Nitrogen (NOx) Controls

- NOx absorbers and catalysts

SCR systems and urea containers/dispensing systems

Miscellaneous Items used in Above Systems

- Electronic control units, sensors, actuators, wiring harnesses, hoses, connectors, clamps, fittings, gasket, mounting hardware

Any warranted emissions-related part scheduled for replacement as required maintenance is warranted by John Deere for the period of time prior to the first scheduled replacement point for the part. Any warranted emissions-related part not scheduled for replacement as required maintenance or scheduled only for regular inspection is warranted by John Deere for the stated warranty period.

OWNER'S WARRANTY RESPONSIBILITIES:

As the off-road diesel engine owner you are responsible for the performance of the required maintenance listed in your Operator's Manual. John Deere recommends that the owner retain all receipts covering maintenance on the off-road diesel engine, but John Deere cannot deny warranty solely for the lack of receipts or for the owner's failure to ensure the performance of all scheduled maintenance. However, as the off-road diesel engine owner, you should be aware that John Deere may deny you warranty coverage if your off-road diesel engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

The off-road diesel engine is designed to operate on diesel fuel as specified in the Fuels, Lubricants and Coolants section in the Operators Manual. Use of any other fuel may result in the engine no longer operating in compliance with applicable emissions requirements.

The owner is responsible for initiating the warranty process, and should present the machine to the nearest authorized John Deere dealer as soon as a problem is suspected. The warranty repairs should be completed by the authorized John Deere dealer as quickly as possible.

Emissions regulations require the customer to bring the unit to an authorized servicing dealer when warranty service is required. As a result, John Deere is NOT liable for travel or mileage on emissions warranty service calls.

Emission_CI_CARB (13Jun14)

RG26036—UN—24JUN14

Emissions Control Warranty Statement 2019 through 2021

JOHN DEERE

DXLOGOV1—UN—28APR09

CALIFORNIA EMISSIONS CONTROL WARRANTY STATEMENT
YOUR WARRANTY RIGHTS AND OBLIGATIONS

To determine if the John Deere engine qualifies for the additional warranties set forth below, look for the "Emission Control Information" label located on the engine. If the engine is operated in the United States or Canada and the engine label states: "This engine complies with US EPA regulations for nonroad and stationary diesel engines", or "This engine complies with US EPA regulations for stationary emergency diesel engines", refer to the "U.S. and Canada Emission Control Warranty Statement." If the engine is operated in California, and the engine label states: "This engine complies with US EPA and CARB regulations for nonroad diesel engines" also refer to the "California Emissions Control Warranty Statement."

Warranties stated on this certificate refer only to emissions-related parts and components of your engine. The complete engine warranty, less emission-related parts and components, is provided separately. If you have any questions about your warranty rights and responsibilities, you

should contact John Deere at 1-319-292-5400.

CALIFORNIA EMISSIONS CONTROL WARRANTY STATEMENT:

The California Air Resources Board (CARB) is pleased to explain the emission-control system warranty on 2019 through 2021 off-road diesel engines. In California, new off-road engines must be designed, built and equipped to meet the State's stringent anti-smog standards. John Deere must warrant the emission control system on your engine for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your engine.

Your emission control system may include parts such as the fuel injection system and the air induction system. Also included may be hoses, belts, connectors and other emission-related assemblies.

John Deere warrants to the ultimate purchaser and each subsequent purchaser that this off-road diesel engine was designed, built, and equipped so as to conform at the time of sale with all applicable regulations adopted by CARB and is free from defects in materials and workmanship which would cause the failure of a warranted part to be identical in all material respects to the part as described in John Deere's application for certification for a period of five years from the date the engine is delivered to an ultimate purchaser or 3,000 hours of operation, whichever occurs first for all engines rated at 19 kW and greater. In the absence of a device to measure hours of use, the engine shall be warranted for a period of five years.

EMISSIONS WARRANTY EXCLUSIONS:

John Deere may deny warranty claims for failures caused by the use of an add-on or modified part which has not been exempted by the CARB. A modified part is an aftermarket part intended to replace an original emission-related part which is not functionally identical in all respects and which in any way affects emissions. An add-on part is any aftermarket part which is not a modified part or a replacement part.

In no event will John Deere, any authorized engine distributor, dealer, or repair facility, or any company affiliated with John Deere be liable for incidental or consequential damage.

JOHN DEERE'S WARRANTY RESPONSIBILITY:

Where a warrantable condition exists, John Deere will repair or replace, as it elects, your off-road diesel engine at no cost to you, including diagnosis, parts or labor. Warranty coverage is subject to the limitations and exclusions set forth herein. The off-road diesel engine is warranted for a period of five years from the date the engine is delivered to an ultimate purchaser or 3,000 hours of operation, whichever occurs first. The following are emissions-related parts:

Air Induction System
- Intake manifold
- Turbocharger
- Charge air cooler

Fuel Metering system
- Fuel injection system

Exhaust Gas Recirculation
- EGR valve

Catalyst or Thermal Reactor Systems
- Catalytic converter
- Exhaust manifold

Emission control labels

Particulate Controls
- Any device used to capture particulate emissions
- Any device used in the regeneration of the capturing system
- Enclosures and manifolding
- Smoke Puff Limiters

Positive Crankcase Ventilation (PCV) System
- PCV valve
- Oil filler cap

Advanced Oxides of Nitrogen (NOx) Controls
- NOx absorbers and catalysts

SCR systems and urea containers/dispensing systems

Miscellaneous Items used in Above Systems
- Electronic control units, sensors, actuators, wiring harnesses, hoses, connectors, clamps, fittings, gasket, mounting hardware

Any warranted emissions-related part scheduled for replacement as required maintenance is warranted by John Deere for the period of time prior to the first scheduled replacement point for the part. Any warranted emissions-related part not scheduled for replacement as required maintenance or scheduled only for regular inspection is warranted by John Deere for the stated warranty period.

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The owner is responsible for initiating the warranty process, and should present the machine to the nearest authorized John Deere dealer as soon as a problem is suspected. The warranty repairs should be completed by the authorized John Deere dealer as quickly as possible.

Emissions regulations require the customer to bring the unit to an authorized servicing dealer when warranty service is required. As a result, John Deere is NOT liable for travel or mileage on emissions warranty service calls.

Emission_CI_CARB (01Feb17)

Emissions Control Warranty Statement 2019 through 2021

DXLOGOV1 —UN—28APR09

JOHN DEERE

CALIFORNIA EMISSIONS CONTROL WARRANTY STATEMENT
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In no event will John Deere, any authorized engine distributor, dealer, or repair facility, or any company affiliated with John Deere be liable for incidental or consequential damage.

RG29280—UN—02FEB17

JOHN DEERE'S WARRANTY RESPONSIBILITY:

Where a warrantable condition exists, John Deere will repair or replace, as it elects, your off-road diesel engine at no cost to you, including diagnosis, parts or labor. Warranty coverage is subject to the limitations and exclusions set forth herein. The off-road diesel engine is warranted for a period of five years from the date the engine is delivered to an ultimate purchaser or 3,000 hours of operation, whichever occurs first. The following are emissions-related parts:

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Exhaust Gas Recirculation

- EGR valve

Catalyst or Thermal Reactor Systems

- Catalytic converter
- Exhaust manifold

Emission control labels

Particulate Controls

- Any device used to capture particulate emissions
- Any device used in the regeneration of the capturing system
- Enclosures and manifolding
- Smoke Puff Limiters

Positive Crankcase Ventilation (PCV) System

- PCV valve
- Oil filler cap

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- NOx absorbers and catalysts

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Emissions regulations require the customer to bring the unit to an authorized servicing dealer when warranty service is required. As a result, John Deere is NOT liable for travel or mileage on emissions warranty service calls.

Emission_CI_CARB (01Feb17)

RG29281—UN—27FEB17
DX,EMISSIONS,CARB-19-03FEB17

Required Emission-Related Information

Service Provider

A qualified repair shop or person of the owner's choosing may maintain, replace, or repair emission control devices and systems with original or equivalent replacement parts. However, warranty, recall, and all other services paid for by John Deere must be performed at an authorized John Deere service center.

DX,EMISSIONS,REQINFO-19-12JUN15

Limited Battery Warranty

NOTE: Applicable in North America only. For complete machine warranty, reference a copy of the John Deere warranty statement. Contact your John Deere dealer to obtain a copy.

To Secure Warranty Service

The purchaser must request warranty service from a John Deere dealer authorized to sell John Deere batteries, and present the battery to the dealer with the top cover plate codes intact.

Free Replacement

Any new battery which becomes unserviceable (not merely discharged) due to defects in material or workmanship within 90 days of purchase will be replaced free of charge. Installation costs will be covered by warranty if (1) the unserviceable battery was installed by a John Deere factory or dealer, (2) failure occurs within 90 days of purchase, and (3) the replacement battery is installed by a John Deere dealer.

Pro Rata Adjustment

Any new battery which becomes unserviceable (not merely discharged) due to defects in material or workmanship more than 90 days after purchase, but before the expiration of the applicable adjustment period, will be replaced upon payment of the battery's current list price less a pro rata credit for unused months of service. The applicable adjustment period is determined from the Warranty Code printed at the top of the battery and chart below. Installation costs are not covered by warranty after 90 days from the date of purchase.

This Warranty Does Not Cover

Breakage of the container, cover, or terminals.

Depreciation or damage caused by lack of reasonable and necessary maintenance or by improper maintenance.

Transportation, mailing, or service call charges for warranty service.

Limitation of Implied Warranties and Purchaser's Remedies

To the extent permitted by law, neither John Deere nor any company affiliated with it makes any warranties, representations or promises as to the quality, performance or freedom from defect of the products covered by this warranty. IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, TO THE EXTENT APPLICABLE, SHALL BE LIMITED IN DURATION TO THE APPLICABLE ADJUSTMENT PERIOD SET FORTH HERE. THE PURCHASER'S ONLY REMEDIES IN CONNECTION WITH THE BREACH OR PERFORMANCE OF ANY WARRANTY ON JOHN DEERE BATTERIES ARE THOSE SET FORTH HERE. IN NO EVENT WILL THE DEALER, JOHN DEERE OR ANY COMPANY AFFILIATED WITH JOHN DEERE BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. (Note: Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages. So these limitations and exclusions may not apply to you.) This warranty gives you specific legal rights, and you may also have some rights which vary from state to state.

No Dealer Warranty

The selling dealer makes no warranty of it's own and the dealer has no authority to make any representation or promise on behalf of John Deere, or to modify the terms or limitations of this warranty in any way.

Pro Rata Months of Adjustment

Warranty Code	Warranty Period
A	40 Months
B	36 Months
C	24 Months

NOTE: If your battery is not labeled with a warranty code, it is a warranty code "B".

DX,BATWAR,NA-19-16APR92

Identification Numbers

Identification Plates

Each tractor has the identification plates shown on these pages. The letters and numbers stamped on the plates identify a component or assembly. ALL these characters are needed when ordering parts or identifying a tractor or component for any John Deere product support program.

Also, they are needed for law enforcement to trace your tractor if it is ever stolen. ACCURATELY record these characters in the spaces provided in each of the following photographs. Additionally in a separate and secure location, maintain an up-to-date inventory of all product and component serial numbers.

RW29387,00003B7-19-22JUN16

Product Identification Number

Product Identification Number

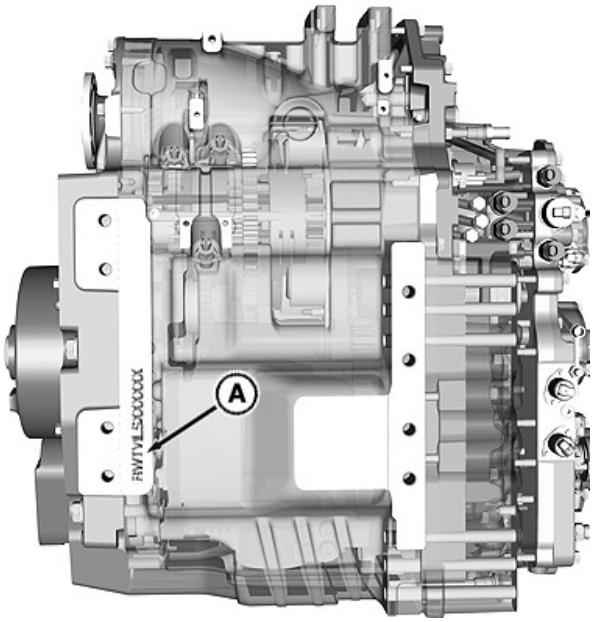
*_ _ _ _

Transmission Serial Number

Serial Number

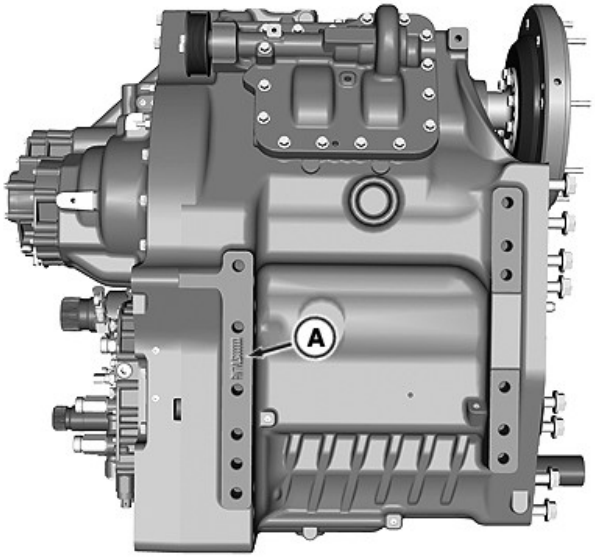
_____

Record serial number (A) in space provided.



RXA0144023—UN—05AUG14

IVT™/AutoPowr™ Transmission (Stamped Into Left-Hand Side Approximately 15 cm (6 in) Below Air Cleaner Mounting Bracket)



RXA0144024—UN—05AUG14

e23™ Transmission (Stamped Into Left Lower Rear Side of Transmission Housing)

SV81855,00002E9-19-27JUN17

Track Serial Numbers

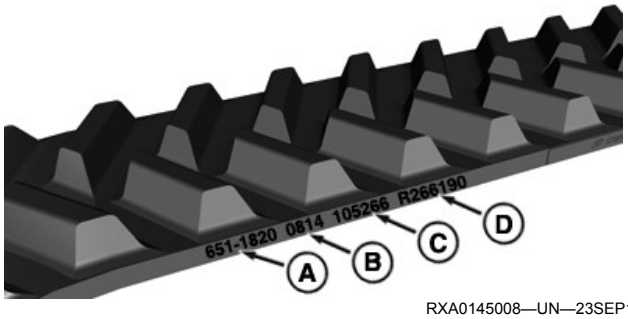
Left Track Serial Number

* __ __ __ __ __ __ __ __ __ __ *

Right Track Serial Number

* __ __ __ __ __ __ __ __ __ __ *

Track identification numbers consists of:



RXA0145008—UN—23SEP14

- Camso manufacturer number (A) is made up of seven numbers on track edges.
- Camso DURABUILT™ track manufacturer date (B): four digits indicating date of manufacture. Example: 0314 (March 2014).
- Six digits indicate track serial number (C).
- John Deere part number (D) is a letter followed by six numbers. Example: R123456.

RW29387,00003BD-19-02AUG17

Keep Proof of Ownership



TS1680—UN—09DEC03

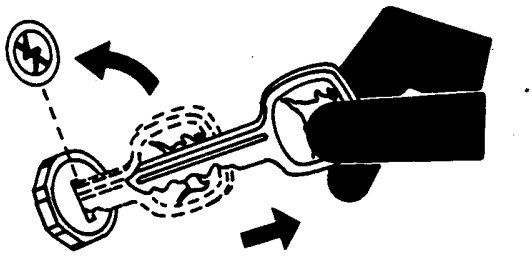
1. Maintain in a secure location an up-to-date inventory of all product and component serial numbers.
2. Regularly verify that identification plates have not been removed. Report any evidence of tampering to law enforcement agencies and order duplicate plates.

DURABUILT is a trademark of Camso Inc.

3. Other steps you can take:
   - Mark your machine with your own numbering system
   - Take color photographs from several angles of each machine

DX,SECURE1-19-18NOV03

Keep Machines Secure



TS230—UN—24MAY89

1. Install vandal-proof devices.
2. When machine is in storage:
   - Lower equipment to the ground
   - Set wheels to widest position to make loading more difficult
   - Remove any keys and batteries
3. When parking indoors, put large equipment in front of exits and lock your storage buildings.
4. When parking outdoors, store in a well-lighted and fenced area.
5. Make note of suspicious activity and report any thefts immediately to law enforcement agencies.
6. Notify your John Deere dealer of any losses.

DX,SECURE2-19-18NOV03

Change of Ownership

Subsequent Ownership

Second Owner

Serial Number:	Tractor Model:
Engine Number:	Registration Number:
Previous Owner:	New Owner:
Address:	Address: . . . .
Purchase Date: Hours at Purchase:	Dealer's Stamp *(only if sold through a dealer)*

Third Owner

Serial Number:	Tractor Model:
Engine Number:	Registration Number:
Previous Owner:	New Owner:
Address:	Address: . . . .
Purchase Date: Hours at Purchase:	Dealer's Stamp *(only if sold through a dealer)*

TS36762,000029B-19-23NOV16

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John Deere Service Literature Available

Technical Information

Technical information can be purchased from John Deere. Publications are available in print or CD-ROM format.

Orders can be made using one of the following:

- John Deere Technical Information Store: **www.JohnDeere.com/TechInfoStore**
- Call 1-800-522-7448
- Contact your John Deere dealer

Available information includes:



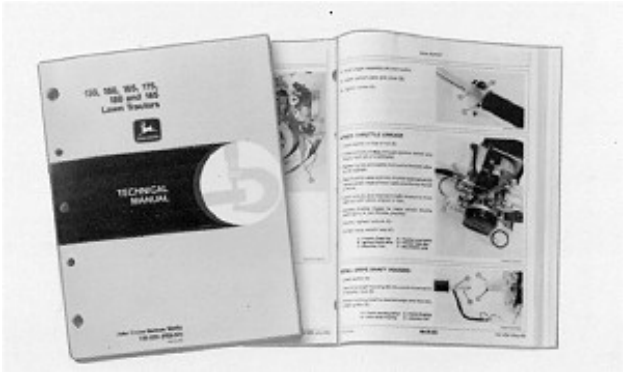
TS189—UN—17JAN89

PARTS CATALOGS list service parts available for your machine with exploded view illustrations to help you identify the correct parts. It is also useful in assembling and disassembling.



TS191—UN—02DEC88

OPERATOR'S MANUALS providing safety, operating, maintenance, and service information.



TS224—UN—17JAN89

TECHNICAL MANUALS outlining service information for your machine. Included are specifications, illustrated assembly and disassembly procedures, hydraulic oil flow diagrams, and wiring diagrams. Some products have separate manuals for repair and diagnostic information. Some components, such as engines, are available in a separate component technical manual.



TS1663—UN—10OCT97

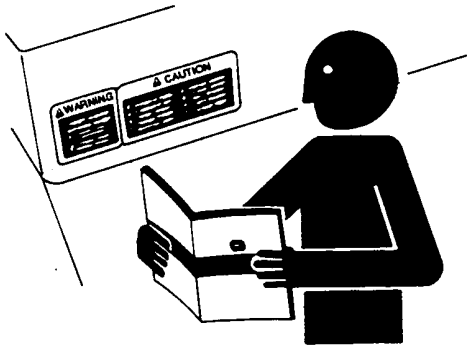
EDUCATIONAL CURRICULUM including five comprehensive series of books detailing basic information regardless of manufacturer:

- Agricultural Primer series covers technology in farming and ranching.
- Farm Business Management series examines "real-world" problems and offers practical solutions in the areas of marketing, financing, equipment selection, and compliance.
- Fundamentals of Services manuals show you how to repair and maintain off-road equipment.
- Fundamentals of Machine Operation manuals explain machine capacities and adjustments, how to improve machine performance, and how to eliminate unnecessary field operations.
- Fundamentals of Compact Equipment manuals provide instruction in servicing and maintaining equipment up to 40 PTO horsepower.

DX,SERVLIT-19-07DEC16

John Deere Service Keeps You On The Job

John Deere Is At Your Service



TS201—UN—15APR13

CUSTOMER SATISFACTION is important to John Deere.

Our dealers strive to provide you with prompt, efficient parts and service:

–Maintenance and service parts to support your equipment.

–Trained service technicians and the necessary diagnostic and repair tools to service your equipment.

CUSTOMER SATISFACTION PROBLEM RESOLUTION PROCESS

Your John Deere dealer is dedicated to supporting your equipment and resolving any problem you may experience.

1. When contacting your dealer, be prepared with the following information:

–Machine model and product identification number

–Date of purchase

–Nature of problem

2. Discuss problem with dealer service manager.

3. If unable to resolve, explain problem to dealership manager and request assistance.

4. If you have a persistent problem your dealership is unable to resolve, ask your dealer to contact John Deere for assistance. Or contact the Ag Customer Assistance Center at 1-866-99DEERE (866-993-3373) or e-mail us at www.deere.com/en_US/ag/contactus/.

DX,IBC,2-19-02APR02