



DCY

Operator's Manual

OPERATOR'S MANUAL

**8130, 8230, 8330, 8430 and 8530
Series Tractors (S.N. 040000—)
European Edition**

OMAR287594 ISSUE A9 (ENGLISH)

CALIFORNIA

Proposition 65 Warning

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

If this product contains a gasoline engine:

⚠ WARNING

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

The State of California requires the above two warnings.

John Deere Waterloo Works

European Edition
LITHO IN U.S.A.



OMAR287594

Introduction

Foreword

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

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

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

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

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

WARRANTY is provided as part of John Deere's support program for customers who operate and maintain their equipment as described in this manual. The warranty is

explained on the warranty certificate which you should have received from your dealer.

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

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

This tractor is designed solely for use in customary agricultural or similar operations. 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.

OURX935,0000545 -19-30AUG06-1/1

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.

OURX935,000046A -19-04APR06-1/1

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Safety

Recognize Safety Information

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

Follow recommended precautions and safe operating practices.



T81389 —UN—07DEC88

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

Understand Signal Words

A signal word—DANGER, WARNING, or CAUTION—is used with the safety-alert symbol. DANGER identifies the most serious hazards.

DANGER or WARNING safety signs are located near specific hazards. General precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this manual.



▲ WARNING

▲ CAUTION

TS187 —19—30SEP88

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

Follow Safety Instructions

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

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.



TS201 —UN—23AUG88

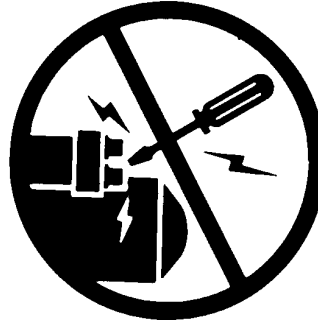
DX,READ -19-03MAR93-1/1

Prevent Machine Runaway

Avoid possible injury or death from machinery runaway.

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

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



TS177 —UN—11JAN89

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

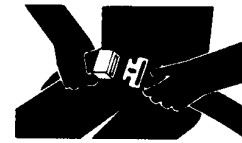
Use Seat Belt Properly

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

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

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

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



TS205 —UN—23AUG88

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

Driving the Tractor Safely

Always check the road and general operating safety of the machine before using.

Operate tractor only when all guards are fitted and in their correct position.

Before moving away, always check immediate vicinity of machine (e.g. for children). Ensure adequate visibility.

Always adapt your ground speed to meet the ground conditions. Avoid making sharp turns when driving up or down slopes or when driving across the slope. Do not attempt to turn the machine with the differential lock engaged. When driving down slopes, never depress the clutch and change gear!

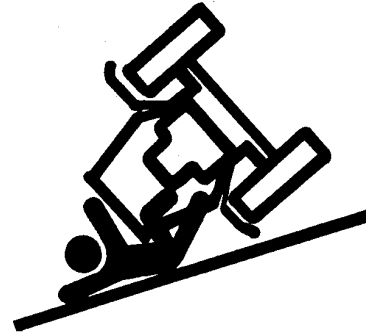
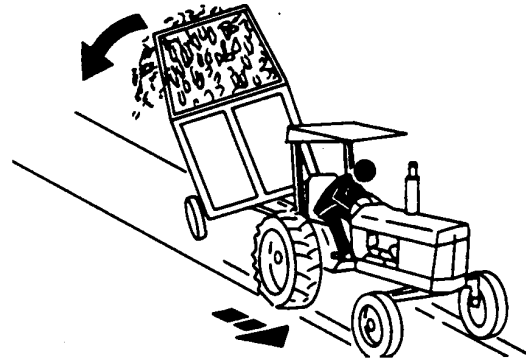
Attach implements and trailers to the tractor only using the prescribed drawbars or hitches. Attach trailers and implements correctly. Always ensure that trailers and implements cannot roll away.

When making turns with towed or mounted implements, always take into consideration the width and inertia of the implement.

Reduce your ground speed when driving the tractor on slopes or over uneven ground and before making sharp turns. Before descending a steep hill, shift to a lower gear. Never coast downhill!

Avoid holes, ditches and obstructions which may cause the tractor to tip, particularly on hillsides.

Front-wheel drive greatly increases traction. This means that the tractor can be driven on steeper slopes, increasing



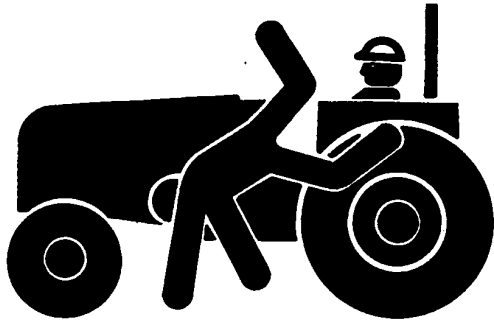
the possibility of a tip over. Driving forward out of a ditch or up a steep slope could cause tractor to tip over to the rear. Therefore reverse out of these situations whenever possible. Never drive near the edge of a gully or steep embankment — it might cave in!

LX,DRIVE -19-01JUN92-1/1

TS216 —UN—23AUG88

RW13093 —UN—07DEC88

Operating the Tractor Safely



TSS213 —UN—23AUG88



TSS276 —UN—23AUG88

Careless use of the tractor can result in unnecessary accidents. Be alert to hazards of tractor operation. Understand causes of accidents and take every precaution to avoid them. Most common accidents are caused from:

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

Avoid accidents by taking the following precautions:

Put transmission in PARK before dismounting. Leaving transmission in gear with engine off will NOT prevent the tractor from moving.

Be sure everyone is clear of tractor and attached equipment before starting engine.

Never try to get on or off a moving tractor.

When tractor is left unattended, place in PARK, lower implements to the ground, stop the engine, and remove the key.

Never go near an operating PTO or an operating implement.

Always fasten your seat belt in a ROPS equipped tractor.

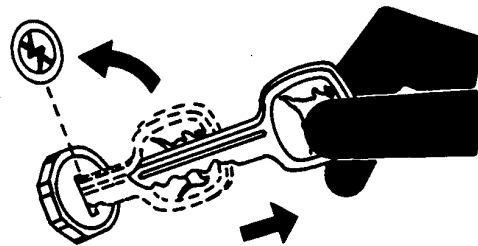
AG,RX15494,2607 -19-20SEP07-1/1

Stopping and Parking Tractor

Tractor roll-over, collisions, runaway tractors, and people being crushed under machines and implements can happen when operators ignore safety.

To avoid these accidents, take some precautions:

- Signal before stopping, turning, or slowing down on public roads
- Move to side of road before stopping
- Slow down before braking
- Pump brakes when stopping on slippery surfaces
- Be careful when towing and stopping heavy loads
- Shift to PARK or apply parking brake
- Lower all equipment when leaving tractor
- Shut off all SCVs
- Disengage PTO



- Remove key

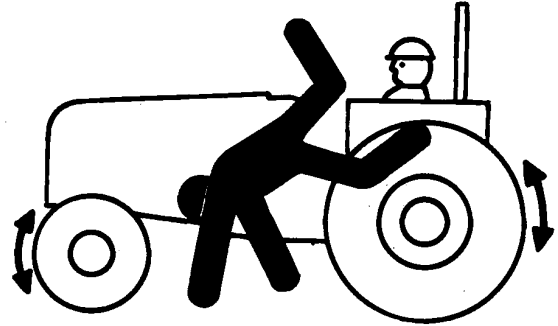
TSS230 —UN—24MAY89

AG,RX15494,2943 -19-08NOV07-1/1

Keep Riders Off Machine

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

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



TS290 —UN—23AUG88

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

Handle Fuel Safely—Avoid Fires

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

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

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



TS202 —UN—23AUG88

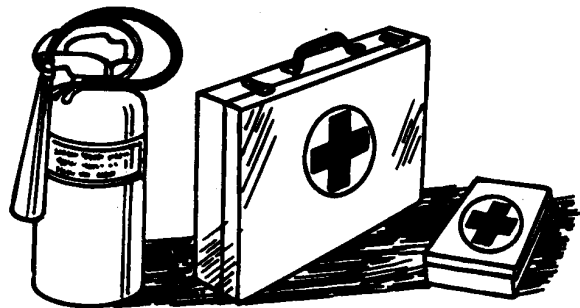
DX,FIRE1 -19-03MAR93-1/1

Prepare for Emergencies

Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

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



TS291 —UN—23AUG88

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

Handle Starting Fluid Safely

Starting fluid is highly flammable.

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

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

Do not incinerate or puncture a starting fluid container.



TS1356—UN—18MAR92

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

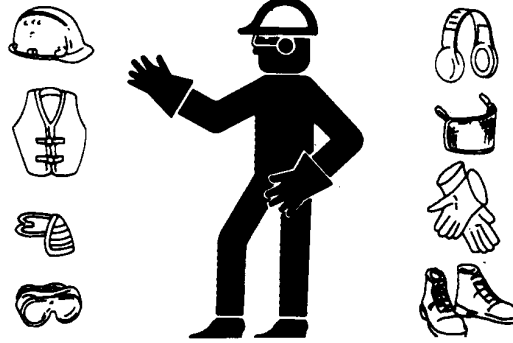
Wear Protective Clothing

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

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

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

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



TS206—UN—23AUG88

DX,WEAR -19-10SEP90-1/1

Handle Agricultural Chemicals Safely

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

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

Reduce risk of exposure and injury:

- Wear appropriate personal protective equipment as recommended by the manufacturer. In the absence of manufacturer's instructions, follow these general guidelines:
 - Chemicals labeled '**Danger**': Most toxic. Generally require use of goggles, respirator, gloves, and skin protection.
 - Chemicals labeled '**Warning**': Less toxic. Generally require use of goggles, gloves, and skin protections.
 - Chemicals labeled '**Caution**': Least toxic. Generally require use of gloves and skin protection.
- Avoid inhaling spray or dusts.
- 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.



A34471

- Store chemicals in a secure, locked area way 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 -19-08NOV07-1/1

TS220 —UN—23AUG88

A34471 —UN—11OCT88

Protect Against Noise

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

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



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

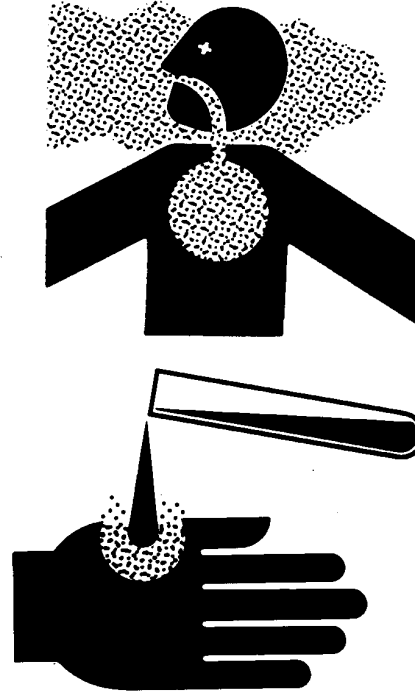
TS207 —UN—23AUG88

Avoid Contact with Pesticides

This enclosed cab does not protect against inhaling harmful pesticides. If pesticide use instructions require respiratory protection, wear an appropriate respirator inside the cab.

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

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



TS220 —UN—23AUG88

TS272 —UN—23AUG88

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

Stay Clear of Rotating Drivelines

Entanglement in rotating driveline can cause serious injury or death.

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

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



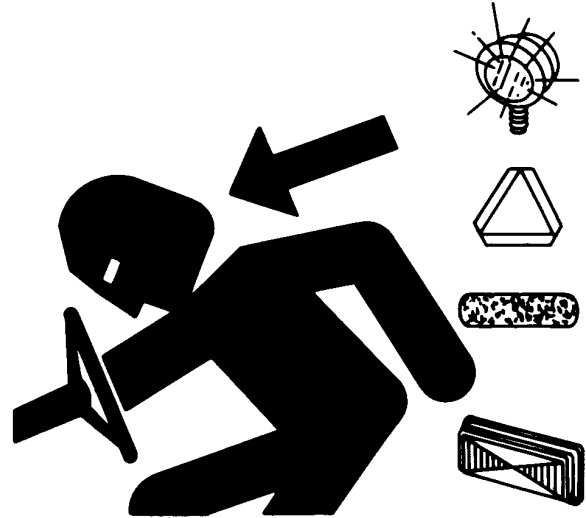
TS1644 —UN—22AUG95

DX,PTO -19-12SEP95-1/1

Use Safety Lights and Devices

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

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

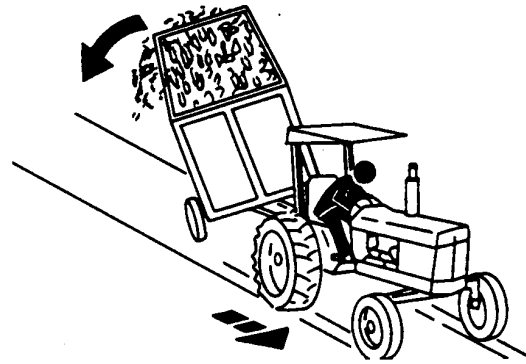


TS951—UN—12APR90

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

Towing Trailers/Implements Safely (Mass)

Stopping distance increases with speed and mass of trailer/implement, and when transporting on slopes. Towed mass with or without brakes that is too heavy for the tractor or is towed too fast can cause loss of control. Consider the total weight of the equipment and its load.



TS216—UN—23AUG88

Trailer/implement brake system

- unbraked.....	25 km/h (15.5 mph)
- independent.....	25 km/h (15.5 mph)
- overrun brake.....	25 km/h (15.5 mph)
- hydraulic brake.....	25 km/h (15.5 mph)
- single-line air brake.....	25 km/h (15.5 mph)
- dual-line air brake.....	Maximum design speed

Top speed

There may be legal limits in force that restrict travel speeds to figures lower than those quoted here.

Use additional caution when towing loads under adverse surface conditions, when turning, and on inclines.

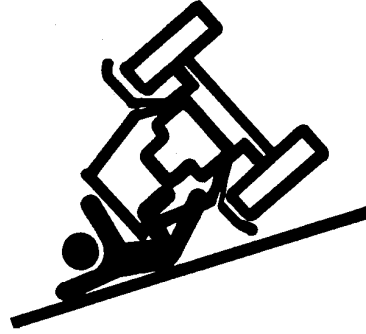
OU12401,0001105 -19-04OCT04-1/1

Use Caution on Hillsides

Avoid holes, ditches, and obstructions which may cause tractor roll-over, especially on hillsides. Avoid sharp turns on hills.

Never drive near the edge of a gully or steep embankment.

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



RW13093 —UN—07DEC88

AG,RX15494,2609 -19-08NOV07-1/1

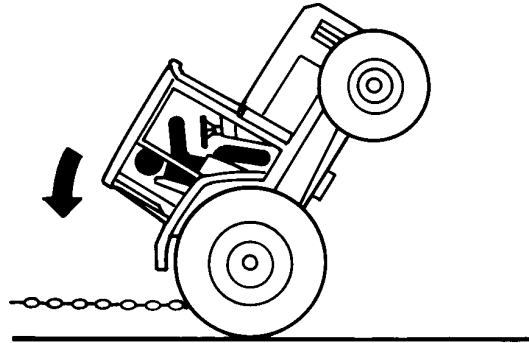
Freeing a Mired Machine

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

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

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

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



TS1645 —UN—15SEP95



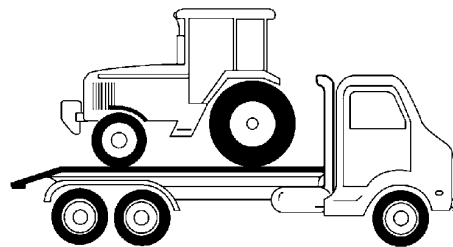
TS283 —UN—23AUG88

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

Transport Tractor Safely

Transport a disabled tractor on a flatbed carrier. Securely chain tractor to carrier.

If towing a tractor, never tow faster than 16 km/h (10 mph) with front or rear wheels raised or faster than 8 km/h (5 mph) with all wheels on the ground. Have an operator steer and brake tractor.



RW26779 —UN—12JAN00

AG,RX15494,2610 -19-08NOV07-1/1

Service Cooling System Safely

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

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



TS281 —UN—23AUG88

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

Practice Safe Maintenance

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

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

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

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

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

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



TS218 —UN—23AUG88

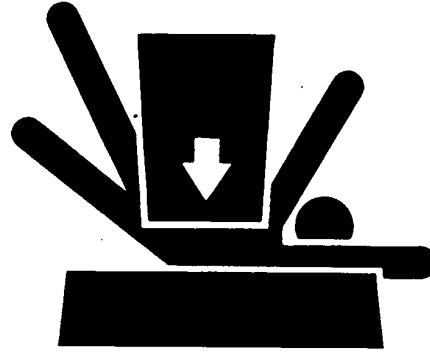
DX,SERV -19-17FEB99-1/1

Support Machine Properly

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

Do not support the machine on cinder blocks, hollow tiles, or props that may crumble under continuous load. Do not work under a machine that is supported solely by a jack. Follow recommended procedures in this manual.

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

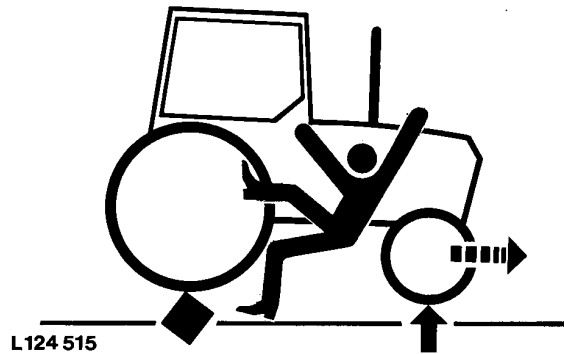


TS229 —UN—23AUG88

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

Service Front-Wheel Drive Tractor Safely

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



L124 515

L124515 —UN—06AUG94

OUMX005,0001690 -19-08NOV07-1/1

Remove Paint Before Welding or Heating

Avoid potentially toxic fumes and dust.

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

Remove paint before heating:

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

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



TS220 —UN—23AUG88

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

Dispose of paint and solvent properly.

DX,PAINT -19-24JUL02-1/1

Avoid Heating Near Pressurized Fluid Lines

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



TS953 —UN—15MAY90

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

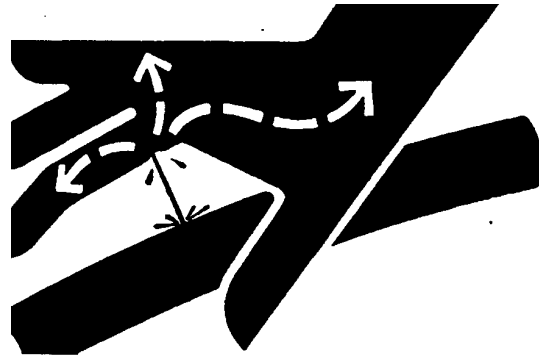
Avoid High-Pressure Fluids

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 from Deere & Company Medical Department in Moline, Illinois, U.S.A.



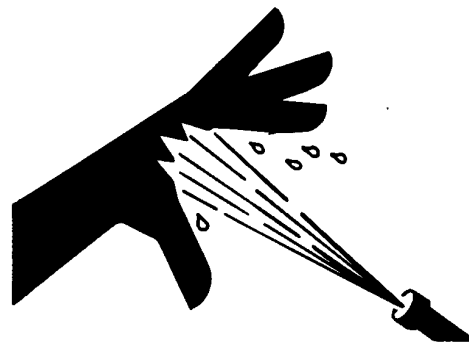
X9811 —UN—23AUG88

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

Protect Against High Pressure Spray

Spray from high pressure nozzles can penetrate the skin and cause serious injury. Keep spray from contacting hands or body.

If an accident occurs, see a doctor immediately. Any high pressure spray 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 from Deere & Company Medical Department in Moline, Illinois, U.S.A.



TS1343 —UN—18MAR92

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

Handling Batteries Safely

CAUTION: 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 jump start 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.

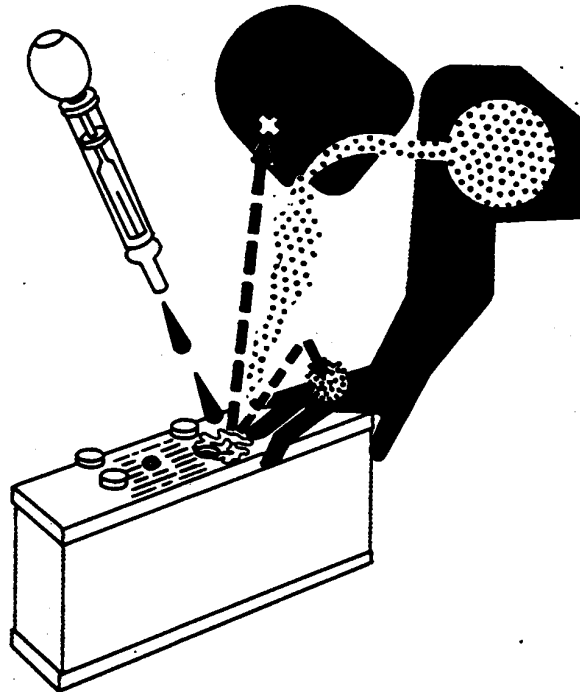
If acid is swallowed:

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

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



TS204 —UN—23AUG88



TS203 —UN—23AUG88

AG,RX15494,3820 -19-08NOV07-1/1

Store Attachments Safely

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

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



TS219 —UN—23AUG88

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

Dispose of Waste Properly

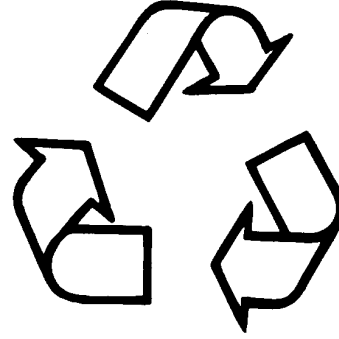
Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste used with John Deere equipment include such items as oil, fuel, coolant, brake fluid, filters, and batteries.

Use leakproof containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.

Do not pour waste onto the ground, down a drain, or into any water source.

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

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



TSS1133 —UN—26NOV90

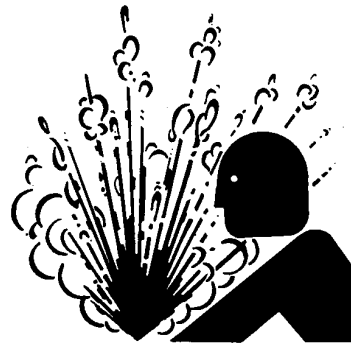
DX,DRAIN -19-03MAR93-1/1

Service Accumulator Systems Safely

Escaping fluid or gas from pressurized hydraulic accumulator 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 hydraulic system before removing accumulator. Never attempt to relieve hydraulic system or accumulator pressure by loosening a fitting.

Accumulators cannot be repaired.

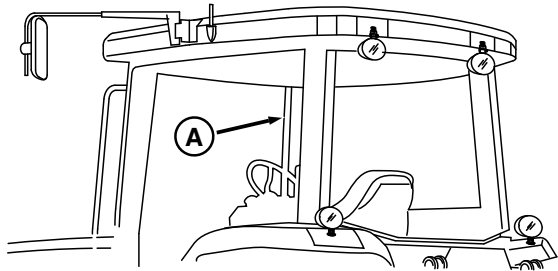


TSS281 —UN—23AUG88

DX,WW,ACCLA -19-15APR03-1/1

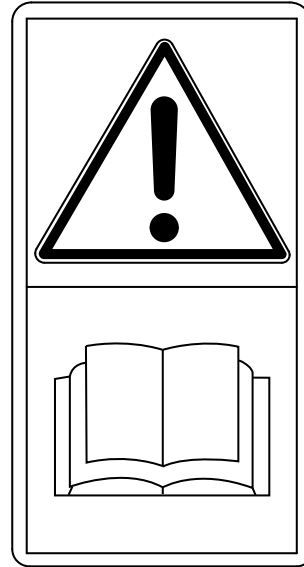
Safety Signs

Operator's Manual



Tractor Right-Hand Front Post

RXA0087043 —UN—21FEB06



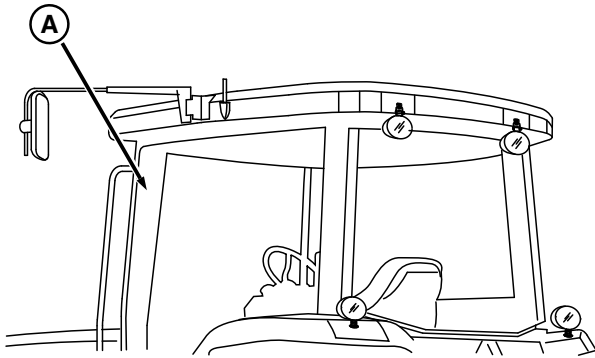
A—Operator's Manual Decal

RXA0068163 —UN—22JUN03

This Operator's Manual contains important information necessary for safe machine operation. Carefully observe all safety rules to avoid accidents.

OURX935,0000510 -19-25SEP07-1/1

No Riders Allowed—Germany



Cab Left-Hand Front Post

RXA0087044 —UN—21FEB06



A—Instruction Seat Decal

RXA0068164 —UN—22JUN03

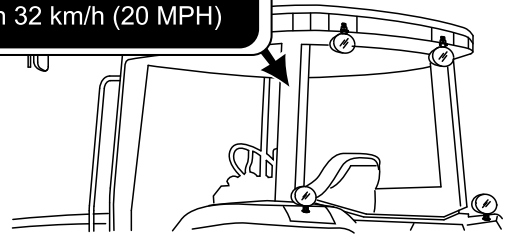
No one should ride on tractor except the driver and individuals being instructed in the proper tractor

operations. When receiving instructions, the student must be in the instruction seat.

OURX935,0000511 -19-25SEP07-1/1

Speed Limit—United Kingdom

Follow recommended speed limit. Do Not operate tractor faster than 32 Km/h (20 mph).

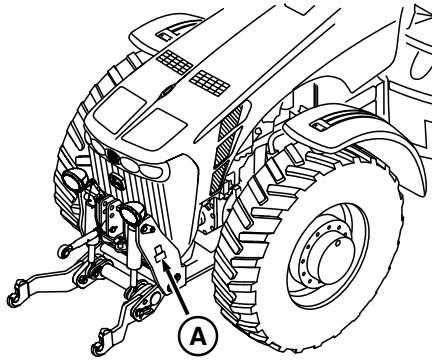


Speed Limit—United Kingdom

RXA0085585 —UN—06JAN06

OURX935.0000512 -19-25SEP07-1/1

External Front Hitch Control Switch



External Front hitch Control Switch



A—External Front hitch Control Switch Decal

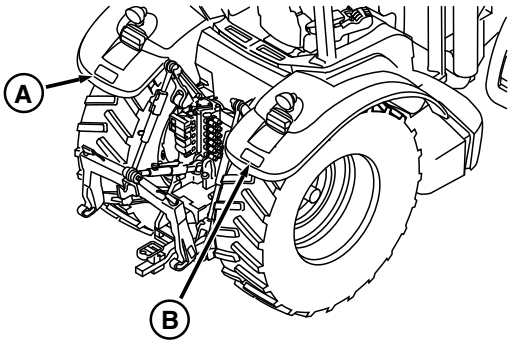
RXA0087040 —UN—21FEB06

RXA0068161 —UN—22JUN03

Stay clear of three-point hitch lift range when operating hitch using external control switch.

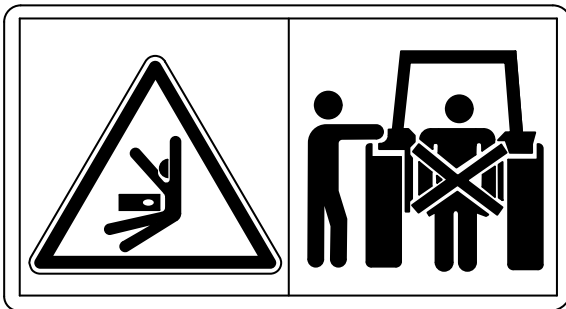
OURX935.0000513 -19-25SEP07-1/1

External Rear Hitch Control Switch



RXA0087042 —UN—13MAR06

External Hitch Control Switches



RXA0068162 —UN—22JUN03

A—Left External Hitch Control Switch



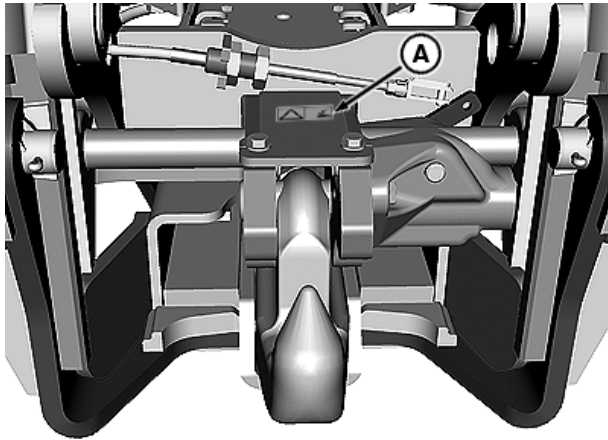
RXA0068161 —UN—22JUN03

B—Right External Hitch Control Switch

Stay clear of three-point hitch lift range when operating hitch using external control switch.

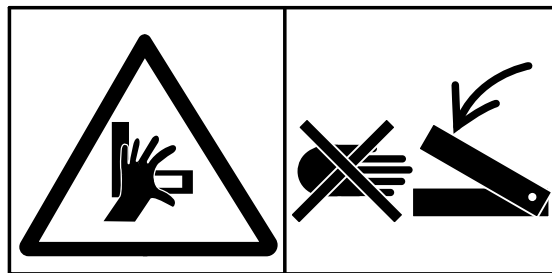
OURX935,0000514 -19-25SEP07-1/1

Safety Signs—External (Rear)



RXA0095953 —UN—11SEP07

A—Pick-Up Hitch



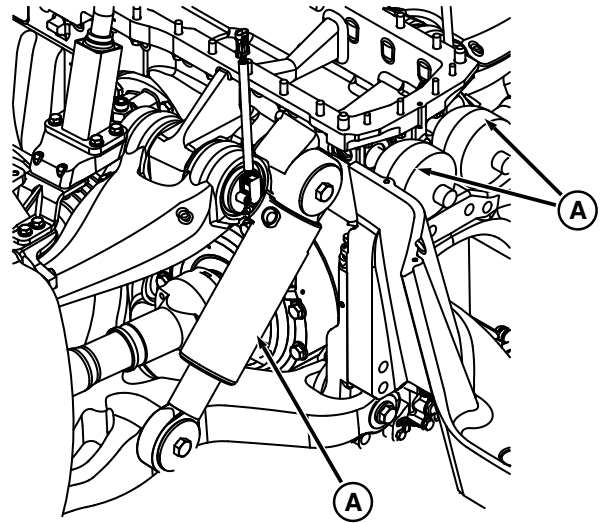
RXA0083866 —UN—01SEP05

A— Pick-Up Hitch

Stay clear of Pick-Up hitch travel range whenever hitch is in operation.

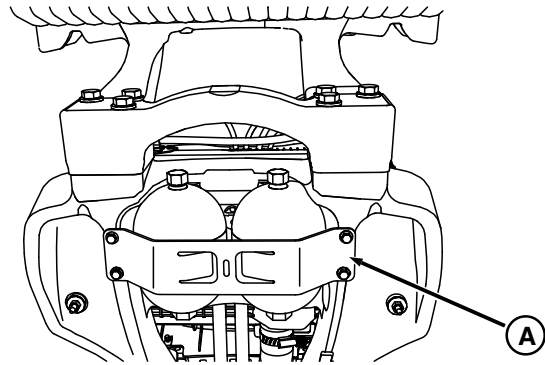
OURX935,0000077 -19-25SEP07-1/1

Accumulators—Independent Link Suspension Tractors



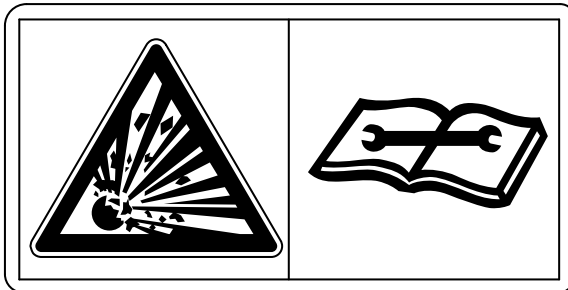
RXA0085581 —UN—06JAN06

Independent Link Suspension Accumulators



RXA0085582 —UN—06JAN06

Independent Link Suspension Accumulators



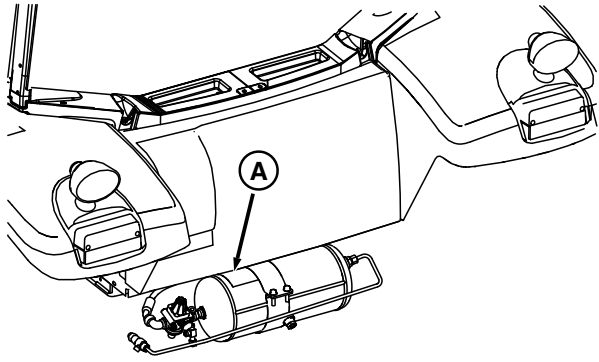
RXA0068157 —UN—22JUN03

A—Accumulator Decal

Read Technical Manual and follow all safety precautions before performing maintenance on accumulator.

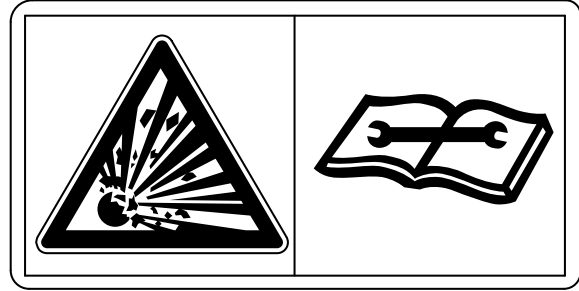
OURX935.0000515 -19-25SEP07-1/1

Pneumatic Trailer Brake Air Tank (If Equipped)



RXA0087038 —UN—21FEB06

Pneumatic Trailer Brake Accumulator—If Equipped



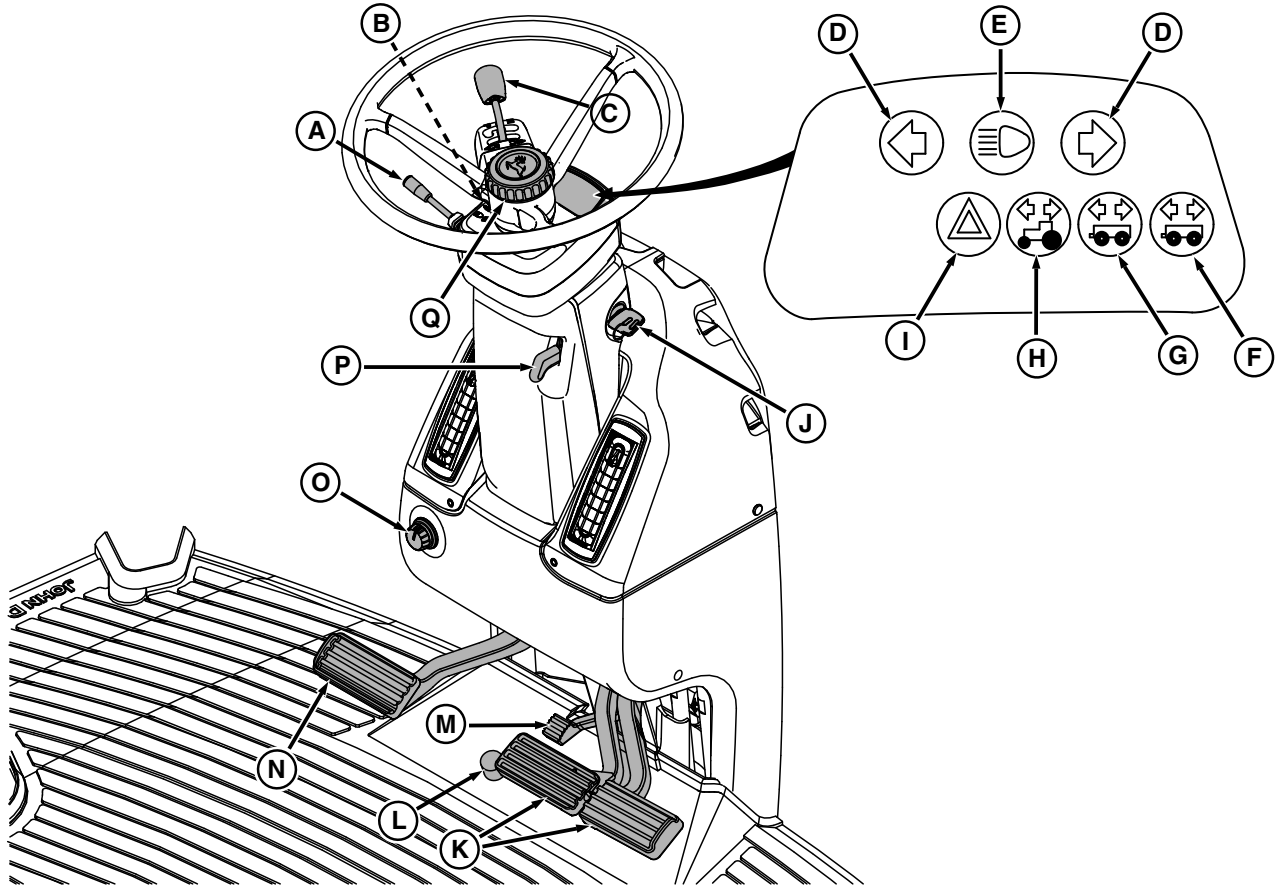
RXA0068157 —UN—22JUN03

A—Accumulator Decal

OURX935,0000517 -19-25SEP07-1/1

Controls and Instruments

Front Console



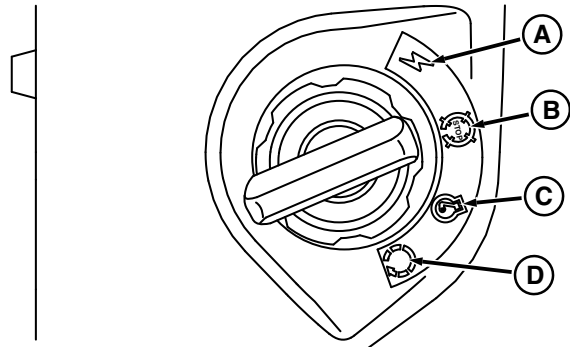
- | | | | | | | | | | | | | | | | | |
|--|--------------------------------------|-------------------------------------|--------------------------|-----------------------|-----------------------|-----------------------|-----------------------------|--------------------------|-------------------|----------------|---------------------|--------------------------------|----------------|--|-------------------------------|---------------------------------------|
| A—Turn Signal Lever,
Dimmer/Flash-to-Pass Switch
and Horn Button | B—Starting Aid Switch—If
Equipped | C—Left-Hand Reverser—If
Equipped | D—Turn Signal Indicators | E—High Beam Indicator | F—Trailer 2 Indicator | G—Trailer 1 Indicator | H—Tractor/Trailer Indicator | I—Hazard Light Indicator | J—Ignition Switch | K—Brake Pedals | L—Differential Lock | M—Steering Column Tilt Release | N—Clutch Pedal | O—Air Flow Direction Control
(Standard) | P—Steering Wheel Tilt Release | Q—Steering Wheel Telescope
Release |
|--|--------------------------------------|-------------------------------------|--------------------------|-----------------------|-----------------------|-----------------------|-----------------------------|--------------------------|-------------------|----------------|---------------------|--------------------------------|----------------|--|-------------------------------|---------------------------------------|

OURX935,0000643 -19-22AUG06-1/1

RXA0068213 —UN—27AUG03

Ignition Switch

- | | |
|---------------|---------|
| A—Accessories | C—Run |
| B—Off | D—Start |



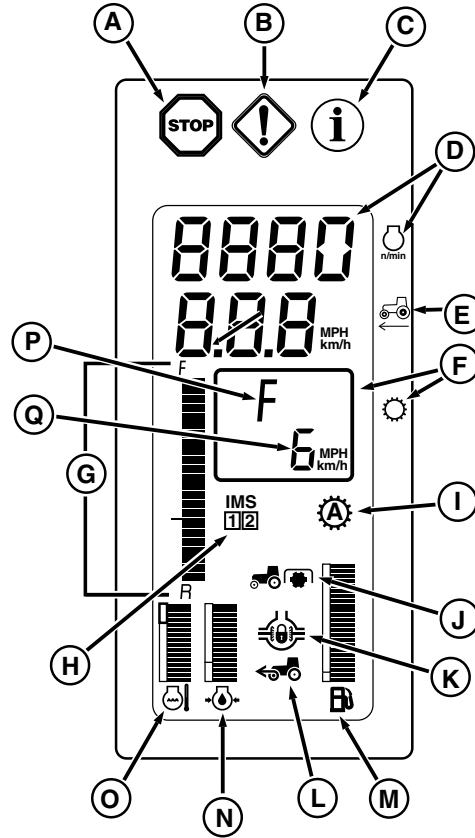
OURX935,00000BD -19-22MAR05-1/1

RXA0062186 —UN—22AUG02

Corner Post Display

NOTE: Operation indicators (H—L) activate when function is engaged.

- | | |
|--|-------------------------------|
| A—STOP Indicator | J—PTO Indicator—Rear |
| B—Service Alert Indicator | K—Differential Lock Indicator |
| C—Information Indicator | L—MFWD Engaged Indicator |
| D—Tachometer | M—Fuel Level Gauge |
| E—Ground Speed | N—Engine Oil Pressure Gauge |
| F—Transmission Indicator | O—Coolant Temperature Gauge |
| G—Set Speeds AutoPowr™ or Analog Speedometer | P—Direction |
| H—IMS ON/OFF and Sequence Indicators | Q—Gear/Speed |
| I—Automatic Powershift Indicator | |



RXA0081926 —JUN—30JUN05

AutoPowr is a trademark of Deere & Company

OURX935.0000535 -19-27MAR06-1/1

STOP, Service Alert and Information Indicators

NOTE: All STOP, Service Alert, and Information Indicators are accompanied by an informative message, diagnostic trouble code, and/or fault description shown on the CommandCenter display.

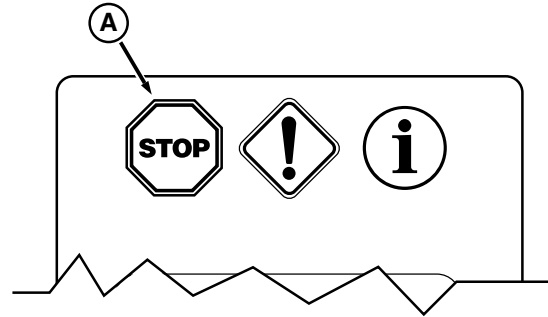
STOP Indicator (A): Light flashes and alarm sounds continuously to alert operator that a serious malfunction has occurred, which requires immediate attention or the tractor will be damaged.

IMPORTANT: Engine shuts down automatically if STOP signal is received when operator is out of the seat for longer than three seconds and the transmission control is in PARK. CommandCenter display can be reset by cycling key switch.

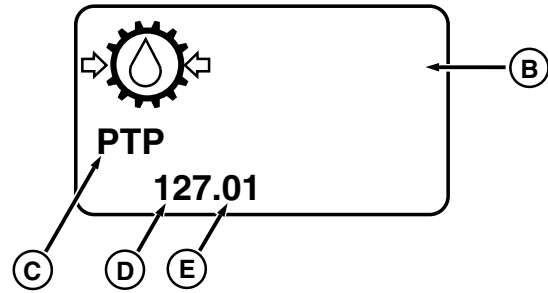
Immediately stop operations, reduce engine speed to idle, then shut down engine and turn key "ON" to observe CommandCenter display for problem identification. In the example to the right, "Transmission oil pressure low" (B) identifies the problem. It may be necessary to access the stored codes, see Using Diagnostics, Stored Codes and CAN Statistics. Correct problem before restarting.

When controller detects a malfunction or condition "out of range", a diagnostic trouble code containing the controller (C) followed by an industry standard number is displayed. Numbers to the left of the decimal indicate the malfunction (D) and numbers to the right of decimal indicate the condition (E).

Reference the diagnostic trouble code list in this manual for possible actions an operator can take. If situation cannot be corrected, record and give this information to your John Deere dealer to diagnose the problem.



STOP Indicator



STOP Message

- A—STOP Indicator
- B—Transmission Oil Pressure Low
- C—Controller
- D—Malfunction
- E—Condition

If a code is **not** in the Operator's Manual Diagnostic Trouble Code Section, contact your local John Deere dealer.

Continued on next page

BB92646,0000091 -19-19AUG05-1/2

RXA0079331 —UN—28FEB05

RXA0079349 —UN—09AUG05

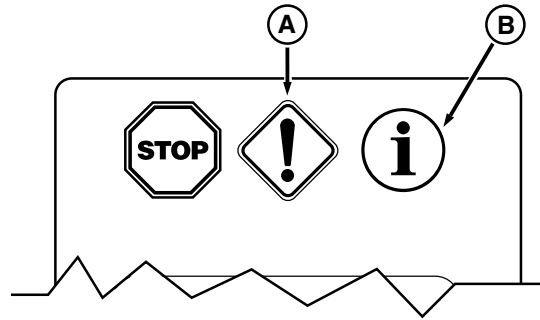
Service Alert Indicator (A): Light flashes and alarm sounds five times to inform operator that a performance or operational problem has been detected, which needs to be resolved as soon as possible. Continued operations can cause a Service Alert to escalate into a STOP indicator. If appropriate corrective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

Information (INFO) Indicator (B): Light comes on continuously and alarm sounds for two seconds, telling operator that a fault condition has been detected. Tractor operations can continue without damage; however, performance of some functions may be degraded. Operating in a different manner may correct the out of range condition and clear INFO indicator.

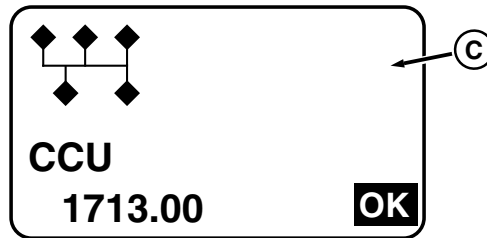
Some Service Alerts and Information Indicators can be "acknowledged" and display cleared by pressing the Select Switch on the CommandCenter. The display will return to a normal mode. This will allow tractor function to continue however the diagnostic trouble code may reappear at a later time if the condition still exists.

When either a Service Alert or Information Indicator is displayed it is suggested the tractor be placed in PARK and engine shut off. Restart engine to verify active diagnostic trouble code will reappear before contacting your John Deere dealer. The code condition will be verified when tractor is restarted.

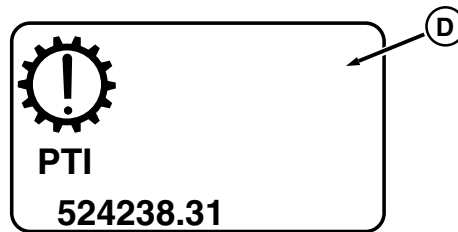
- A—Service Alert Indicator
- B—Information Indicator
- C—Identification System
- D—Transmission System



Service Alert And Information Indicators



Service Alert Message



Information Message

RXA0079330 —UN—28FEB05

RXA0082311 —UN—18JUL05

RXA0082312 —UN—18JUL05

BB92646,0000091 -19-19AUG05-2/2

Digital Indicators—Tachometer, Ground Speed and Transmission

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).

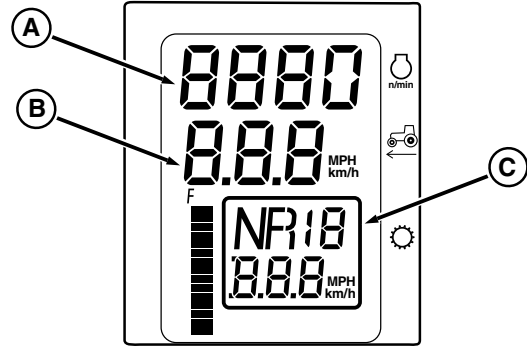
If " - - - " is displayed, no speed signal is being received.

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.

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

PST Only: Shows gear selected.



A—Tachometer
B—Travel Speed Indicator
C—Transmission Information

RXA0080715 —UN—18MAY05

OURX935,0000536 -19-27MAR06-1/1

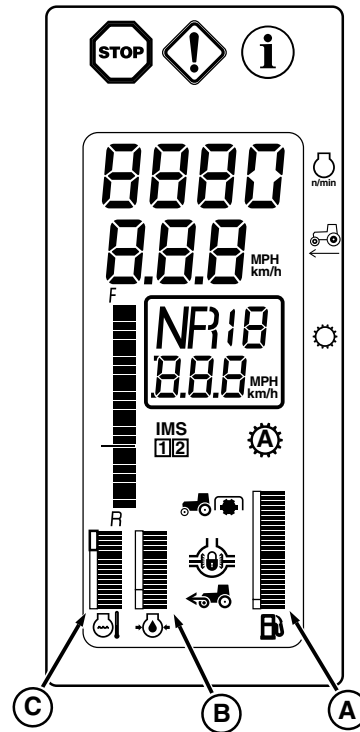
Gauges—Fuel Level, Engine Oil Pressure and Coolant Temperature

A—Fuel Level Gauge: Displays fuel level in tank. Each lighted segment represents 4% of the fuel tank's total capacity. When fuel tank is full, all segments are lit. When only the bottom segment is lit, the tank is nearly empty with approximately 40—60 L (10—15 gal.) remaining.

B—Engine Oil Pressure Gauge: Shows engine oil pressure, between 8 — 320 kPa (1 — 46 psi). All segments are off when oil pressure is extremely low, 0—7 kPa. All segments are lit when pressure is 320 kPa and above.

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

A—Fuel Level Gauge
B—Engine Oil Pressure Gauge
C—Coolant Temperature Gauge



RXA0080716 —UN—18MAY05

OURX935,0000081 -19-10JUL05-1/1

Right-Side Console



RXA0089491—UN—04AUG06

Right-Hand Console

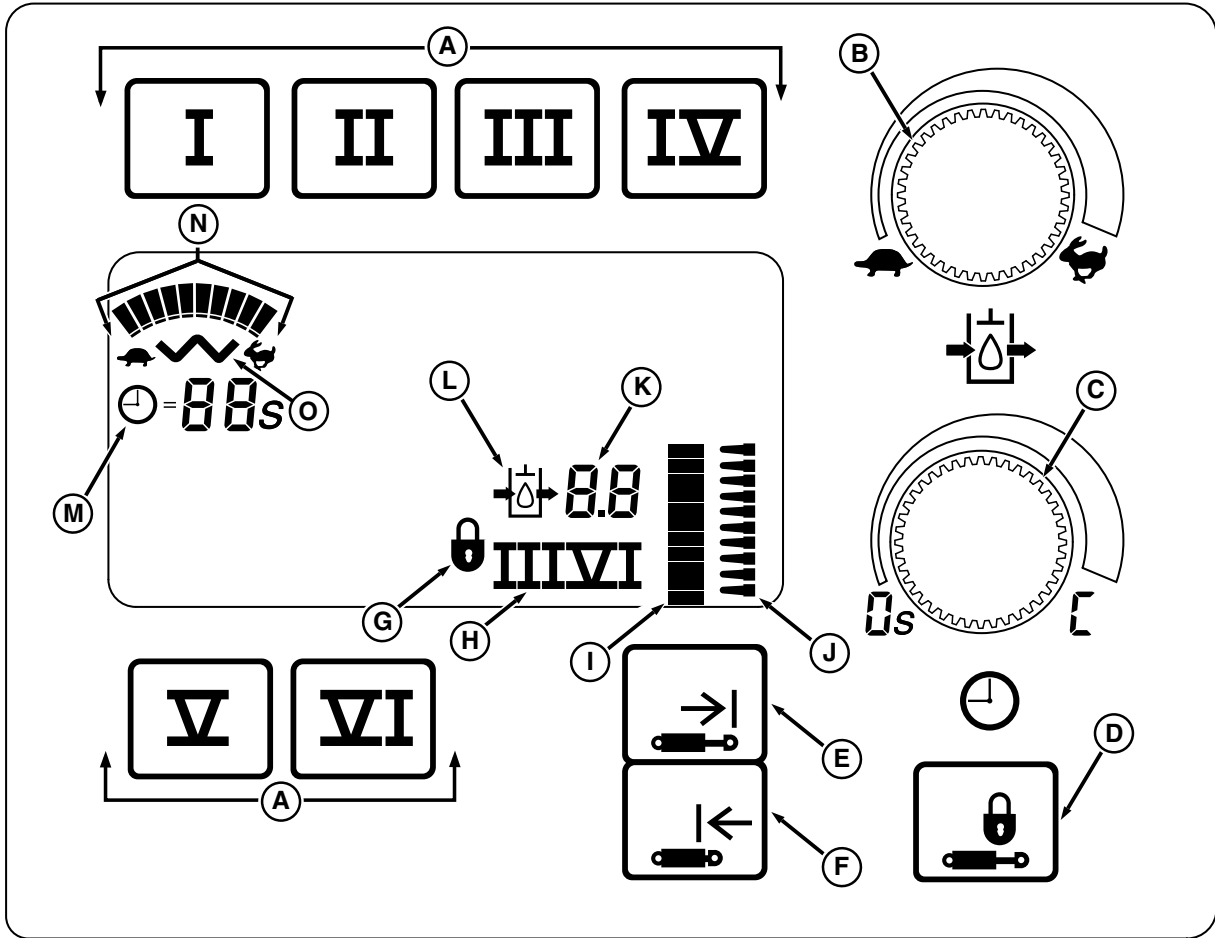
- | | | | |
|--|--|--|---|
| A—On/Off Switch (If Equipped) | G—Hazard Light Switch | M—Convenience Electrical Outlet | S—Temperature Set Control (If Equipped) |
| B—Temperature Control Knob (If Equipped) | H—MFWD Switch (If Equipped) | N—TOUCHSET™ Control Panel (See TouchSet Control Panel) | T—Air Flow Mode Control (If Equipped) |
| C—Fan Speed Control Knob (If Equipped) | I—Rear Windshield Wiper Switch (If Equipped) | O—CommandCenter™ | U—Park Brake Switch (Late Model Tractors) |
| D—Windshield Wiper Knob | J—Rear PTO Pre-selector Switch (If Equipped) | P—AutoPowr™ Selector Knob (AutoPowr Tractors Only) | |
| E—Light Selection Knob | K—Cigar Lighter Power Socket | Q—Air Vent | |
| F—Field Light Switch | L—Diagnostic Outlet | R—Blower Speed Control (If Equipped) | |

Tractors equipped with Automatic Temperature Control will use controls A—C to control temperature. Tractors equipped with ClimaTrak™ will use controls R—T

*TOUCHSET is a trademark of Deere & Company
CommandCenter is a trademark of Deere & Company
AutoPowr is a trademark of Deere & Company
ClimaTrak is a trademark of Deere & Company*

OURX935,0000537 -19-04AUG06-1/1

TouchSet Control Panel Controls And Indicators



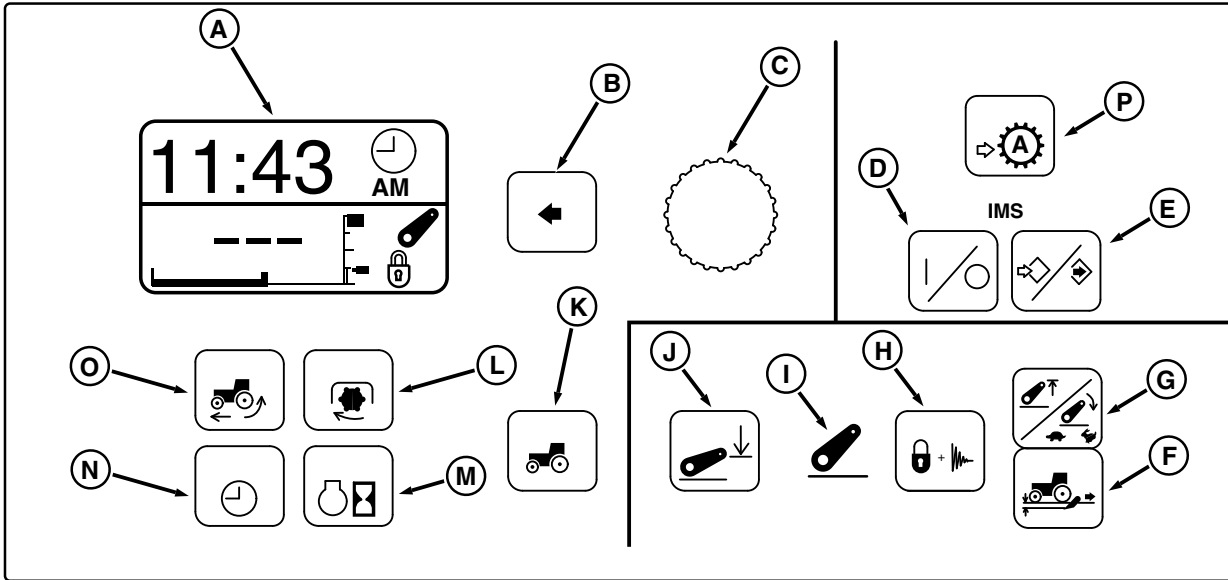
TouchSet Control Panel

- | | | | |
|-----------------------------|---------------------|-------------------------------|-------------------|
| A—SCV Selector Switches | E—Extend Set Switch | I— Set Point Indicator | M—Time Indicator |
| B—Flow rate Adjustment Knob | F—Retract Switch | J— Position Pointer Indicator | N—Flow Indicator |
| C—Time Adjustment Knob | G—Lock Indicator | K—Digital Read Out | O—Float Indicator |
| D—Lock Switch | H—SCV Indicator | L—Hydraulic Indicator | |

OURX935.0000083 -19-17AUG05-1/1

RXA0082728 —UN—25JUL05

CommandCenter™



RXA0080881—UN—02JUN05

CommandCenter

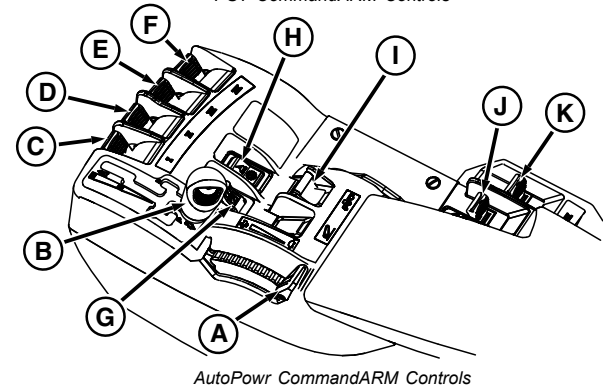
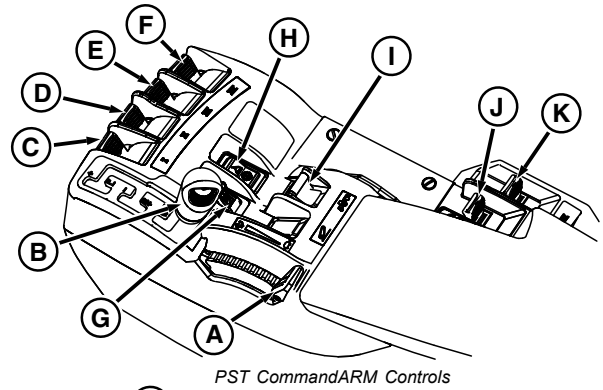
- | | | | |
|---|---|--------------------|---|
| A—Display Window | E—Implement Management System Learn/Save Switch | I— Hitch Icon | M—Engine Hours Switch |
| B—Select Switch | F—Load Depth Switch | J—Depth Set Switch | N—Time Switch |
| C—Command Dial | G—Hitch Raise/Lower Switch | K—Settings Switch | O—Percent Slippage Switch |
| D—Implement Management System ON/Off Switch | H—Hitch Lock Out Switch | L—PTO Speed Switch | P—Automatic Power Shift Switch (PST Only) |

CommandCenter is a trademark of Deere & Company

OURX935,0000084 -19-10JUL05-1/1

CommandARM Controls

- A—Engine Speed Control/Hand Throttle
- B—Speed Control Lever¹/Shift Lever²
- C—Hitch Command Lever
- D—SCV I Control Lever
- E—SCV II Control Lever
- F—SCV III Control Lever
- G—IMS Sequence Switch
- H—AutoTrac Resume Switch
- I—Rear PTO Switch
- J—SCV IV Lever or Front Hitch (If Equipped)
- K—SCV V (If Equipped)



¹For AutoPowr Equipped Tractors
²For PST Equipped Tractors

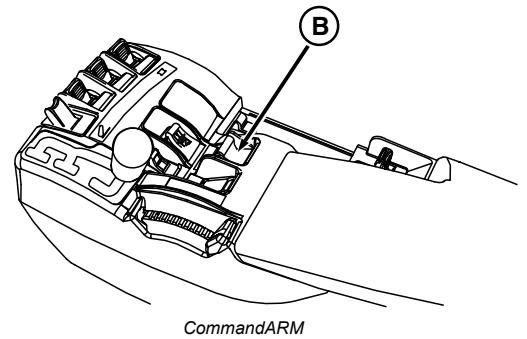
OURX935.0000465 -19-03SEP08-1/1

RXA0097362 —UN—25MAR08

RXA0097363 —UN—20FEB08

External Rear PTO Pre Selector Switch (If Equipped)

- A—Rear PTO Pre Selector Switch
- B—Rear PTO Switch



OURX935.0000466 -19-07AUG08-1/1

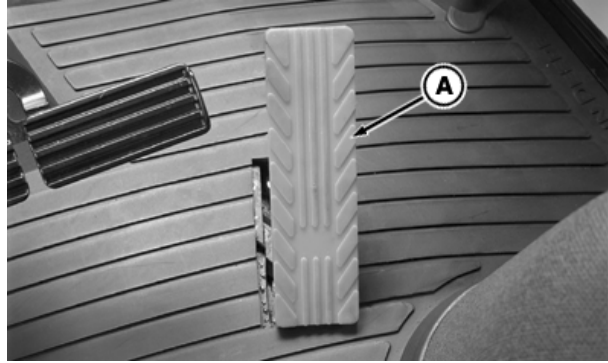
RXA0097474 —UN—07MAR08

RXA0089486 —UN—15JUN06

Foot Operated Throttle Control (If Equipped)

Depress foot pedal (A) to control engine rpm.

A—Foot Throttle Pedal



RXA0078764 —UN—10AUG05

OURX935,0000563 -19-02AUG05-1/1

Secondary Hand Brake

Pull switch up to set hand brake. Push down to release brake.

A—Secondary Hand Brake Switch

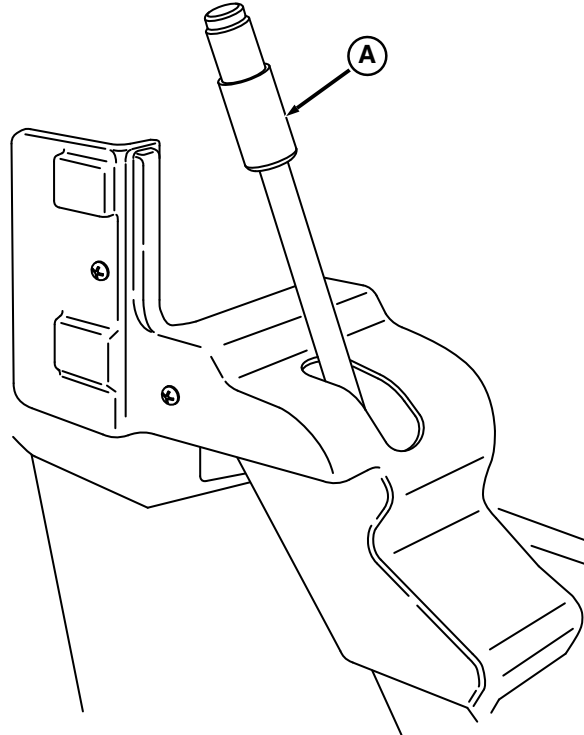


RXA0097475 —UN—07MAR08

OURX935,0000467 -19-07AUG08-1/1

Pick-Up Hitch Lock Pin Lever (If Equipped)

A—Lock Pin Control



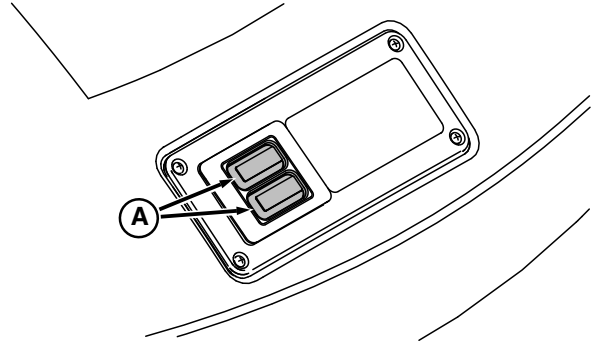
RXA0068226 —UN—26JUN03

OURX935,0000566 -19-25APR05-1/1

Rear Hitch Raise/Lower Switches—External

External switches (A) are on both left-hand and right-hand fender extensions.

A—Hitch Raise/Lower Switches



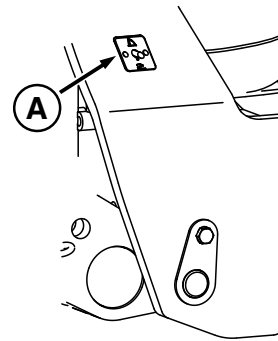
Rear Hitch Raise/Lower Switches (Left-Hand Side Shown)

OURX935.0000790 -19-25APR05-1/1

RXA0068228 —UN—05AUG08

Front Hitch External Raise/Lower Switch (If Equipped)

A—Front Hitch Switch



OURX935.0000568 -19-25JUL05-1/1

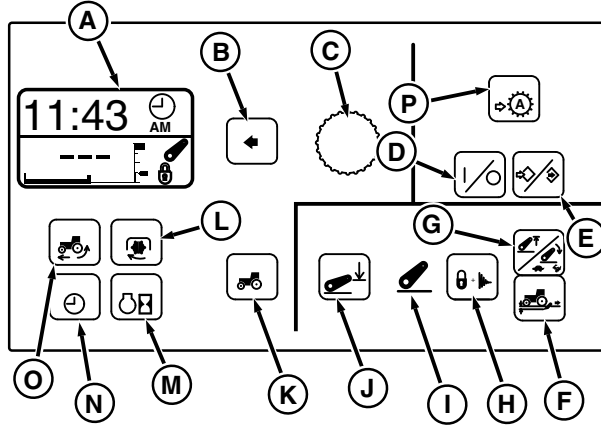
RXA0080875 —UN—23MAY05

Command Center

CommandCenter Panel

The CommandCenter display is the central information system for the tractor providing both text and graphical information. The CommandCenter displays operational performance, settings, diagnostics, and alarm information relevant to the tractor system. In addition, the CommandCenter allows modification of specific tractor settings such as rear hitch, transmission and PTO control. Control of the display and data input is accomplished through membrane switches and the Command Dial.

- | | |
|---|---|
| A—Split Screen Display | I— Hitch Icon |
| B—Select Switch | J—Depth Set Switch |
| C—Command Dial | K—Vehicle Settings Switch |
| D—IMS ON/OFF Switch | L—PTO Speed Switch |
| E—IMS Learn/Save Switch | M—Engine Hours Switch |
| F—Hitch Load/Depth Switch | N—Clock Switch |
| G—Hitch Raise Limit/Rate-Of-Drop Switch | O—Percent Slip Switch |
| H—Lock / Dampening Switch | P—Automatic PowerShift Set Switch (If Equipped) |



CommandCenter Panel

RXA0090205 —UN—04AUG06

OURX935.000062B -19-23NOV07-1/1

CommandCenter Split Screen - Constant Top-Half Display

The display is divided into two screens to allow alternative information to be displayed. Information in the top screen is selected by selecting one of the four function switches (A-D) located below the display. Once an option is selected this information remains on the top screen until another option is selected.

CommandCenter Split Screen - Constant Top-Half Display

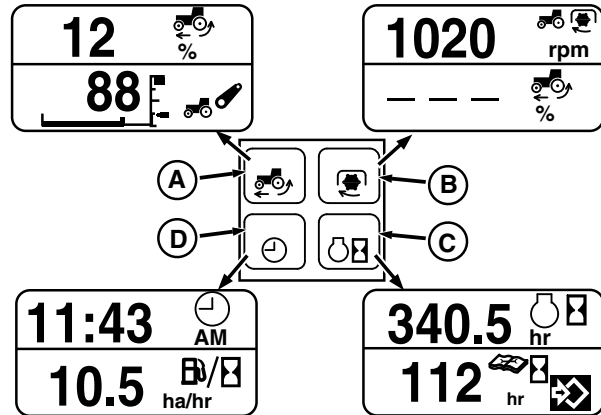
A—% SLIP:

Displays current wheel slippage as a percent of calculated wheel speed compared to the true ground speed. Tractor must be equipped with a radar. If true ground speed is not available, "----" will be displayed.

NOTE: If display reads something other than zero when traveling on a hard surface where there should be no wheel slip, push and hold touch pad (A) to reset.

B—PTO SPEED: Displays rear PTO rpm.

C—ENGINE HOURS: Displays total accumulated engine hours.



- A—Percent Slip Switch
B—PTO Speed Switch

- C—ENG HOURS Switch
D—CLOCK Switch

D—CLOCK: Displays current time in hours and minutes. Clock can be set to display in 12-hour or 24-hour format.

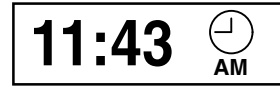
RXA0090206 —UN—04AUG06

OURX935.000062C -19-04AUG06-1/1

Split-Screen Display—Selectable Bottom Half

A bottom display option can be associated with a top display option for quick access to the option. By setting up screen associations, the same top and bottom half screens will display together whenever the selected switch is pressed. Four screen associations can be set up; one for each of the four option switches.

RXA0085000 —UN—17NOV05



To set up screen associations, bring up the desired top-half display by pressing the option switch. Rotate Command Dial until the desired bottom-half display appears. Setup is done automatically.

The bottom half of the display is selected by turning the Command Dial. Display options are specific to tractor configuration.

NOTE: To change between metric and U. S. measurements, see "Selecting Units and Language" in the CommandCenter section of this Operator's Manual.

Information that can be displayed includes:

Clock - Displays current time in hours and minutes. Clock can be set to display in 12-hour or 24-hour format through tractor settings.

OURX935,000062D -19-06SEP06-1/24

True Ground Speed - (Optional, requires radar) Ground speed as measured by the radar.

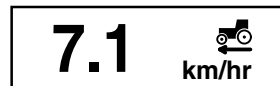
RXA0085299 —UN—06DEC05



OURX935,000062D -19-06SEP06-2/24

Wheel (Ground) Speed - Ground speed as measured at the axle.

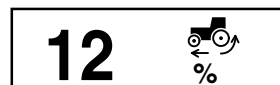
RXA0085300 —UN—06DEC05



OURX935,000062D -19-06SEP06-3/24

% Slip - (Requires Radar) Displays current wheel slippage as a percent of ground speed compared to the true ground speed. If true ground speed is not available, "---" will be displayed.

RXA0085003 —UN—15NOV05



Continued on next page

OURX935,000062D -19-06SEP06-4/24

Command Center

Engine Speed - Speed of the engine in RPM.

RXA0085301 —UN—06DEC05

2130 n/min 

OURX935,000062D -19-06SEP06-5/24

Time Since Service - Hours since the last service interval. Reset interval by pressing the Select Switch once to enter edit mode and once to save the 0 value.


RXA0085005 —UN—16NOV05

112 hr 

OURX935,000062D -19-06SEP06-6/24

Engine Hours - Hours accumulated while engine running.

RXA0085006 —UN—16NOV05

173.2 hr 

OURX935,000062D -19-06SEP06-7/24

Engine Coolant Temp - Temperature of the engine coolant in °C or °F.

RXA0090217 —UN—04AUG06

98 °C 

OURX935,000062D -19-06SEP06-8/24

Engine Oil Pressure - Pressure of engine oil in kPa, bar or psi.


RXA0089934 —UN—20JUL06

5.24 bar 

OURX935,000062D -19-06SEP06-9/24

System Voltage - Battery system voltage.

RXA0085009 —UN—16NOV05

14.6 v 

Continued on next page

OURX935,000062D -19-06SEP06-10/24

Command Center

Transmission Oil Temperature - The temperature of the transmission oil displayed in degrees °C or degrees °F.

RXA0090218 —UN—04AUG06



OURX935,000062D -19-06SEP06-11/24

AutoPowr Commanded Speed - (AutoPowr only) Travel speed commanded by the position of the AutoPowr speed control lever.

RXA0085304 —UN—06DEC05



OURX935,000062D -19-06SEP06-12/24

Rear Hitch Position - (Requires rear hitch) Displays the current rear hitch position and position limits. Display automatically appears when the rear hitch control switch is activated. Automatic display will remain visible for a short period of time or until the operator selects another display.

RXA0085010 —UN—16NOV05



OURX935,000062D -19-06SEP06-13/24

Rear PTO Speed - Displays the speed of the rear PTO (in RPM).

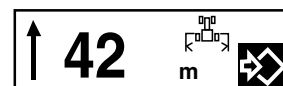
RXA0085305 —UN—06DEC05



OURX935,000062D -19-06SEP06-14/24

Implement Width - Displays the implement width as set by operator. Press Select Switch to enter setup and rotate Command Dial until desired width is shown. Press the Select Switch a second time to save.

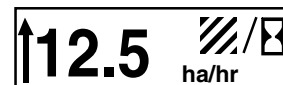
RXA0085307 —UN—06DEC05



OURX935,000062D -19-06SEP06-15/24

Area Per Hour - Area covered per hour. Based on implement width and distance traveled over time. This value may be reset by clearing the Area Accumulated counter.

RXA0085308 —UN—06DEC05



Continued on next page

OURX935,000062D -19-06SEP06-16/24

Command Center

Fuel Used Per Time - Liters (Gallons) consumed per hour.

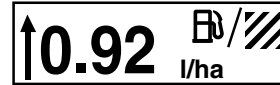
RXA0085309 —UN—06DEC05



OURX935,000062D -19-06SEP06-17/24

Fuel Used Per Area - Liters consumed per hectare or gallons consumed per acre. The amount of fuel used is accumulated over time based on the last area counter reset. Fuel/area can be reset by zeroing out the area accumulated and distance counters. Area accumulation is determined by the implement width and engagement (arrow) position. The area counter is enabled when the arrow is in the down position.

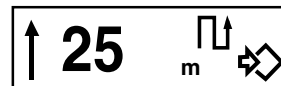
RXA0085310 —UN—06DEC05



OURX935,000062D -19-06SEP06-18/24

Distance Counter - Accumulated distance the tractor has traveled displayed in meters or feet. Arrow must be in the down position to enable the counter. Reset the value by pressing the Select Switch twice.

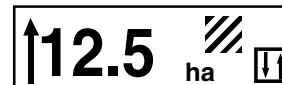
RXA0090219 —UN—07AUG06



OURX935,000062D -19-06SEP06-19/24

Total Area Covered - Total area covered by the tractor displayed in hectares or acres. For the area covered function in Manual mode, the implement position arrow and corresponding measuring is controlled by the Select Switch. Once implement is lowered, press Select Switch to point the position arrow down and start accumulating measurements. Then when implement is raised, press Select Switch again to reverse arrow and stop measuring.

RXA0090220 —UN—07AUG06



Implement mounted "Implement" switch needs to be introduced to the controller when first used, so its feedback signal will be recognized.

At first time use, dial in display Area Covered function, lower implement and press Select Switch to point position arrow down and start accumulating measurements; then when the implement is raised, the position arrow should reverse and measuring stop automatically.

OURX935,000062D -19-06SEP06-20/24

Area Covered - Total area covered by the tractor displayed in hectares or acres. Based on implement width and distance traveled. Counter is only active when arrow is in the down position. May be reset by pressing the Select Switch twice.

RXA0085313 —UN—06DEC05



Continued on next page

OURX935,000062D -19-06SEP06-21/24

Time to Empty - The time to empty calculation provides an estimated time until the fuel tank level reaches the low fuel point (approximately 3% of the measurable fuel remaining).

RXA0085020 —UN—16NOV05



OURX935,000062D -19-06SEP06-22/24

FieldCruise - The FieldCruise display allows the operator to set an upper engine RPM level. Engine speed can be adjusted from 1100 — 2150 rpm. Pressing the Select Switch enters the edit mode and will allow the user to change the engine rpm using the Command Dial.

RXA0085314 —UN—06DEC05



OURX935,000062D -19-06SEP06-23/24

Power Display- Shows the current engine power using a bar graph display. Solid vertical bars will be highlighted as the engine power requirement increases. Bars to the right of the box indicate engine power above rated.

RXA0090189 —UN—04AUG06



Power Display

Power Display (Intelligent Power Management) - (Optional) When enabled a plus sign shows inside the engine power icon. Solid vertical bars represent normal engine power, dashed vertical bars represent engine power as a result of Intelligent power management. Refer To Intelligent Power Management for additional information.

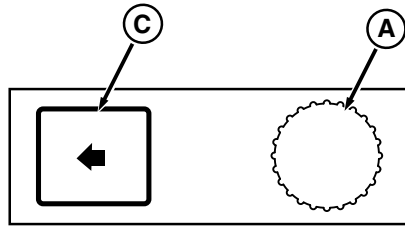
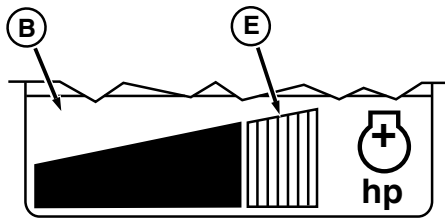
RXA0090190 —UN—04AUG06



Power Management Display

OURX935,000062D -19-06SEP06-24/24

Intelligent Power Management (If Equipped)



Intelligent Power Management provides a controlled power boost of up to 26 kW (35 hp) to the tractor under the following operating conditions:

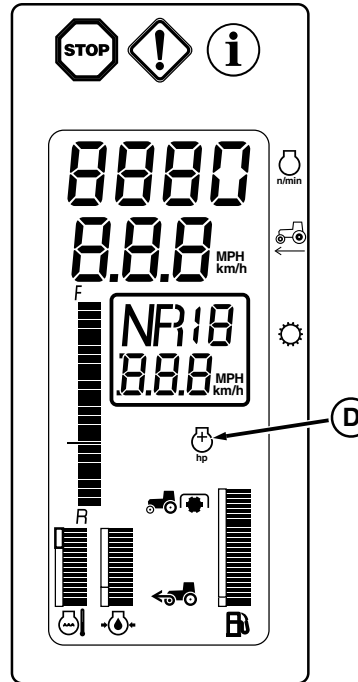
- **Transport during acceleration;** power boost occurs in steps through the range from 23—28 km/h (14.3—17.4 mph).
- **Transport during deceleration;** power boost ramps down in equal steps in the range from 23—18 km/h (14.3—11.2 mph).
- **Tractor moving and PTO under load;** must be moving at least 0.5 km/h (0.3 mph) and PTO consuming moderate power before power boost engages.

Power increase is not provided under draft applications or non loaded rear PTO applications. Power increase is only provided when required.

CommandCenter display (B) is a visual illustration of Intelligent Power Management usage. Rotate Command Dial (A) to bring Intelligent Power Management display (B) to bottom-half display. The solid portion illustrates engine power use up to rated power. Segments to the right of the solid portion indicate additional engine power (E) above rated.

NOTE: Intelligent Power Management is available as a factory or field installed option.

With tractor moving and rear PTO under load or in transport above 23 km/h (14.3 mph), symbol (D) will appear on corner post display when additional power is being provided to the tractor. Intelligent Power Management display (B) will indicate operating power level.



A—Command Dial
B—Intelligent Power Management Display
C—Select Switch

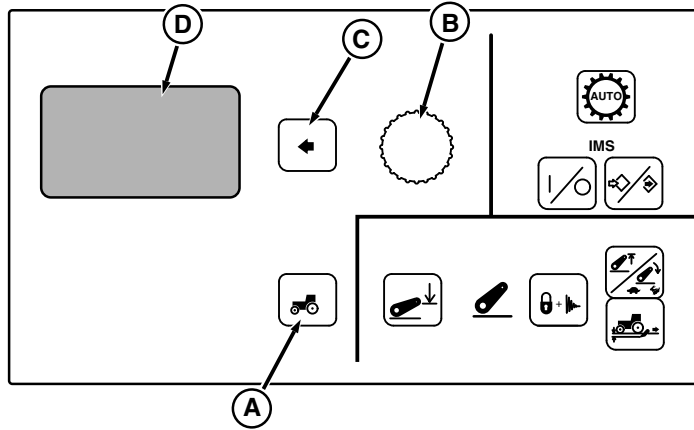
D—Intelligent Power Management Symbol
E—Power Increase Indicator

RXA0081914 —UN—30JUN05

RXA0089930 —UN—20JUL06

Continued on next page

OURX935.0000626 -19-02JAN08-1/2



A—Setting Switch

B—Command Dial

C—Select Switch

D—Display

Intelligent Power Management is normally enabled. However the feature can be turned off for demonstration, or to limit PTO power to the advertised level of the tractor. Intelligent Power Management is automatically enabled at engine power up.

1. Press Setting Switch (A) to view menu items on Display (D).
2. Rotate Command Dial (B) to highlight Power Management and press Select Switch (C).

3. Rotate Command Dial to highlight Disable.
4. Press Select Switch to enter setting into memory.

Power Management

- Enable
- Disable

OURX935.0000626 -19-02JAN08-2/2

RXA0084550 —UN—13OCT05

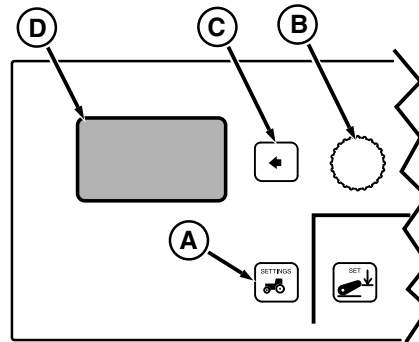
CommandCenter—Settings

Not all languages are displayed on CommandCenter. See "Selecting Units and Language" in this section for more information on languages that can be displayed.

Press Vehicle Settings Switch (A) to view menu. Rotate Command Dial (B) to scroll through menu items. Press Select Switch (C) when desired item is highlighted in Display (D).

Menu items on Display (D)

- English** — Translation (if applies)
- Implement Sel** — Implement Sel
- RPTO Engage** — RPTO Engage
- Transmission** — Transmission
- Single Lever Control (if Equipped)** — Single Lever Control (if Equipped)
- Hitch Slip Response (if Radar Equipped)** — Hitch Slip Response (if Radar Equipped)
- Speed Cal** — Speed Cal
- Power Management** — Power Management
- Day Backlight** — Day Backlight
- Night Backlight** — Night Backlight
- Display Contrast** — Display Contrast
- Units** — Units
- Language** — Language
- Clock Set** — Clock Set



A—Vehicle Settings Switch
B—Command Dial

C—Select Switch
D—Display

- Diagnostics** — Diagnostics
- Service Interval** — Service Interval
- Back** — Back

To return to previous screen(s), highlight and select BACK.

For detailed information on setting Hitch Slip, see Setting Hitch Slip response in Hitch section.

OURX935.00003F2 -19-06NOV07-1/1

RXA0085829 —UN—27JAN06

Setting Day Backlight, Night Backlight and Screen Contrast

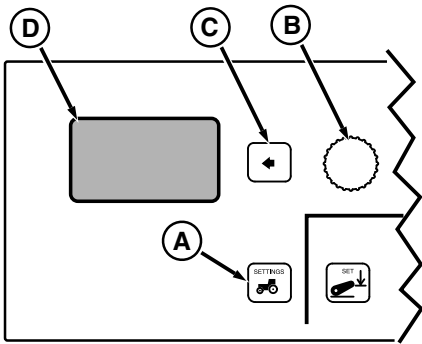


Day/Night Backlight Adjust

A—Vehicle Settings Switch
B—Command Dial

C—Select Switch
D—Display

E—Day/Night Backlight Adjust
F—Contrast Adjust



Display

RXA0085829 —UN—27-JAN06

Press Settings Switch (A) to view menu items on Display (D). Rotate Command Dial (B) to scroll through menu items. Press Select Switch (C) when desired item is highlighted.

Menu Items on Display (D)

English — Translation (if applies)

Day Backlight — Day Backlight

Night Backlight — Night Backlight

Contrast Adjust — Contrast Adjust

Using Command Dial, raise or lower setting to achieve desired screen appearance and press Select Switch.

Setting	Range
Day Backlight	0 (Dim) —10 (Bright)
Night Backlight	0 (Dim) —10 (Bright)
Contrast Adjust	0 (Min. "Light") —12 (Max. "Dark")



Contrast Adjust

Day Backlight (D): Used to adjust brightness of CommandCenter and corner post displays, when light switch is off.

Night Backlight (D): Used to adjust brightness of CommandCenter and corner post displays and switches, when light switch is on.

Contrast Adjust (E): Used to adjust contrast of CommandCenter and corner post displays.

OURX935,00003F3 -19-02JAN08-1/1

RXA0085045 —UN—06FEB06

RXA0085046 —UN—06FEB06

Setting Rear PTO Engagement Rate

Press vehicle Settings Switch (A) to view menu items on Display (D). Rotate Command Dial (B) to highlight desired menu item and press Select Switch.

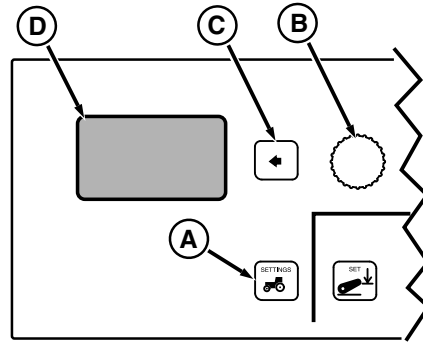
Menu Items on Display (D)

English — Translation (if applies)

Auto — Auto

Low Rate — Low Rate

High Rate — High Rate



A—Vehicle Settings Switch
B—Command Dial

C—Select Switch
D—Display

Auto setting is used for most implements, and is the factory setting in the CommandCenter. This setting provides software logic to determine the engagement rate for the PTO clutch, based on PTO speed sensor feedback. If the PTO does not turn fast enough during initial PTO clutch engagement, the engagement rate is automatically increased to avoid clutch slip and PTO shutdown.

Low Rate can be used where gradual PTO startup is required, or if Auto engagement is too aggressive or inconsistent. **Typically used for "lighter" loads or implements.**

High Rate can be used for applications where PTO clutch engagement needs to be unusually aggressive. **Typically used for "heavier" loads or implements.**

OURX935.00003F4 -19-02JAN08-1/1

RXA0085829 —UN—27JAN06

Setting Implement Selection

Press vehicle Settings Switch (A) to view menu items on Display (D). Rotate Command Dial (B) to highlight desired menu item and press Select Switch (C).

Menu Items on Display (D) Implement Select Code

English — Translation (if applies)

Manual — Manual

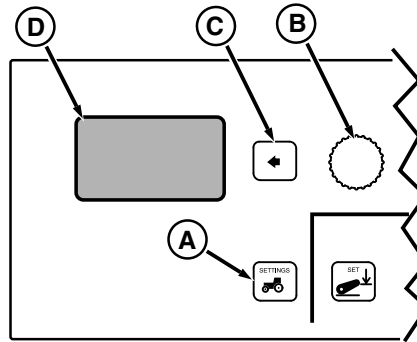
Auto Seek (Default) — Auto Seek (Default)

Impl Switch: AS — Impl Switch: AS

RPTO — RPTO

HCU — HCU

SCV I-V — SCV I-V



A—Vehicle Settings Switch
B—Command Dial

C—Select Switch
D—Display

Menu Items on Display (D) Implement Select Code	Device or System
Manual	Select Switch
Auto Seek (Default)	First Reporting Device or System
Impl Switch: AS	Implement Switch with Auto Seek
RPTO	Rear Power Take-Off
HCU	Hitch Control Unit
SCV I-V	Selective Control Valve I—V

IMPLEMENT SEL: Identifies a device or system that supplies a feedback signal for measurement related bottom-half screens, such as Total Area, Area-per-Hour or Distance, all of which include the implement position arrow. Position arrow indicates if implement is raised (arrow up) or lowered (arrow down). Measurements are being recorded only when the implement arrow is down.

When HCU, SCV I, II, III, IV, V or RPTO is selected, measurement recording will not take place until the

chosen device or system is engaged. Once selected and engaged, measuring cannot be turned off until the chosen device or system is disengaged.

When Auto Seek is selected, the first detected "engaged" signal seen by the control unit causes the implement arrow to point down and start accumulating measurements (distance and area). The code of the first detected device will highlight on the screen and change back to Auto Seek when that device is disengaged or, change to a different code if another device is already engaged. "AS" is shown at the end of implement code to indicate that the highlighted implement is engaged via the auto seek function.

RXA0085829 — UN—27JAN06

OURX935,00003F5 -19-02JAN08-1/1

Selecting Units and Language

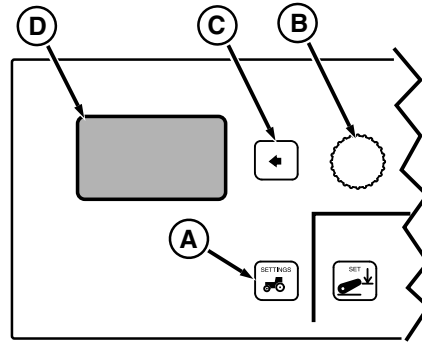
Press vehicle Settings Switch (A) to view menu items on Display (D). Rotate Command Dial (B) to highlight desired menu item and press Select Switch (C).

Menu Items on Display (D)

- English — Translation (if applies)
- English — English
- German — German
- Spanish — Spanish
- French — French
- Italian — Italian
- Portuguese — Portuguese
- Dutch — Dutch
- Swedish — Swedish
- Hungarian — Hungarian
- Danish — Danish
- Polish — Polish

Units — Units

Displays CommandCenter and corner post measurements in either U.S. or Metric Units.



A—Vehicle Settings Switch C—Select Switch
B—Command Dial D—Display

Languages listed are a standard language listing. Your tractor may have a slightly different languages depending on regional arena. Not all languages can be provided. Should other languages be required contact your John Deere dealer for language availability and details for updating your CommandCenter software.

OURX935.00003F6 -19-02JAN08-1/1

RXA0085829 —UN—27JAN06

Using Diagnostics, Stored Codes and CAN Statistics

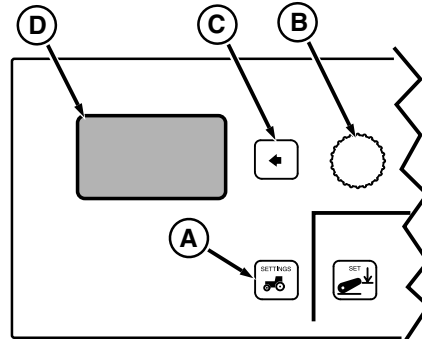
Press vehicle Settings Switch (A) to view menu items on Display (D). Rotate Command Dial (B) to highlight diagnostics menu item and press Select Switch (C).

Menu Items on Display (D)

- English — Translation (if applies)
- Diagnostics — Diagnostics
- Stored Codes — Stored Codes
- CAN Statistics — CAN Statistics

IMPORTANT: Diagnostics and CAN Statistics are normally not used by the operator. Diagnostic codes and CAN statistics are used by service technicians to isolate, identify and resolve problems or malfunctions. Do not clear diagnostic codes from memory; this should only be done by a qualified, factory trained John Deere service technician.

Stored Codes: If any codes are stored, "Retrieving..." will appear, followed by the codes. Use Command Dial to



A—Vehicle Settings Switch C—Select Switch
B—Command Dial D—Display

scroll through stored codes. If no codes are stored, no codes are displayed.

Refer to section 130, Diagnostic Trouble Codes, of this manual for the code, display and solution for codes.

OURX935.00003F7 -19-02JAN08-1/1

RXA0085829 —UN—27JAN06

Setting Clock and Service Alarm Interval

Press vehicle Settings Switch (A) to view menu items on Display (D). Rotate Command Dial (B) to highlight desired menu item and press Select Switch (C).

Menu Items on Display (D)

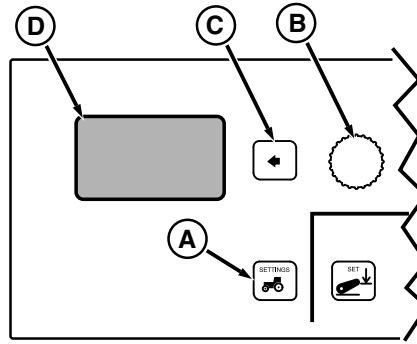
English — Translation (if applies)

Set Time — Set Time

Change Format — Change Format

Back — Back

Service Interval — Service Interval



A—Vehicle Settings Switch
B—Command Dial

C—Select Switch
D—Display

Menu Items on Display (D)	Explanation
Set Time	Select Set Time and use Command Dial to reset display to current time. Press Select Switch to enter setting in memory.
Change Format	Used to switch clock display from 12-hour to 24-hour format. In 24-hour format, AM and PM do not display.
Back	Returns to previous screen

hours of operation reaches setting, service alarm will sound with a corresponding message appearing on the CommandCenter display.

After service is performed, Hours-Since-Service display should be reset to zero.

Service Interval: Alarm interval is adjustable between 0 and 1000 hours, in 10-hour increments. When

RXA0086829 —JUN—27JAN06

OURX935,00003F8 -19-02JAN08-1/1

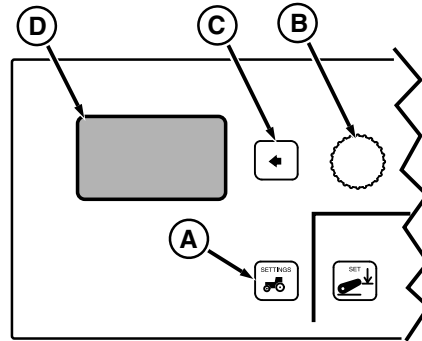
Vehicle Speed Calibration (Manual)

NOTE: The Vehicle Speed Calibration (Manual) procedure is not to be used with John Deere Dual Beam Radar.

Automatic vehicle calibration is used with John Deere Dual Beam radar or GPS signal device. See VEHICLE SPEED CALIBRATION (AUTOMATIC) in this Section.

On tractors equipped with no radar or single beam radar, a change in tire size or loading of tractor can affect wheel and ground speed which requires recalibration.

This procedure will compute tire rolling circumference value and radar proportion constant for the wheel and ground speed displays.



A—Settings Switch
B—Command Dial
C—Select Switch
D—Display

1. Install implement and ballast tractor as required for configuration.
2. On a hard level dry surface, mark out a 400 ft. (122 m.) course. Place easily visible markers at the start and end of the course.
3. Drive tractor up to, but do not cross, course start line.
4. Press vehicle Settings Switch (A) to view menu items on Display (D). Rotate Command Dial (B) to highlight Speed Cal and press Select Switch (C).

5. Display will read:

400 ft (122 m)
Automatic
Back

6. Highlight **400 ft (122 m)**, then press Select Switch.

When Select Switch is pressed, CommandCenter will display alternating messages shown in Display 1 and Display 2.

Display 1	Display 2
Speed Cal	Speed Cal
400 ft (122 m)	400 ft (122 m)
start	start
Enter Course,	Press Select
Driving 2 mph	At Marker

7. Set tractor speed to 3.2 km/h (2 mph) and press Select Switch as tractor crosses start line.

When Select Switch is pressed, CommandCenter will display alternating messages shown in Display 1 and Display 2.

Display 1	Display 2
Speed Cal	Speed Cal
400 ft (122 m)	400 ft (122 m) end
end	Press Select
Exit Course,	At Marker
Driving 2 mph	

8. Drive entire course length at 3.2 km/h (2 mph) and press Select Switch when crossing the course end marker.

NOTE: Most common reason failed message is received is because tractor speed falls below **3.2 km/h (2 mph)**. Increase speed in 1.6 km/h (1 mph) increment, not to exceed 9.6 km/h (6 mph) and attempt procedure again. It may be necessary to consult your John Deere dealer for assistance if calibration is not successful.

When Select Switch is pressed, CommandCenter will display:

If Calibration is Successful	If Calibration is Unsuccessful
Speed Cal	Speed Cal
Calibration	Calibration
Successful	Failed

9. If failed message is received, perform procedure again.

RXA0085829 —JUN—27JAN06

RW29387,000005B -19-08SEP08-1/1

Vehicle Speed Calibration (Automatic)

NOTE: Automatic calibration is used with John Deere Dual Beam radar. This procedure will enter a value in the radar sensor speed configuration address for the John Deere Dual Beam radar or GPS signal device requiring a configuration factor of 57.42.

Do not use Manual (400ft/122m) calibration for Dual Beam Radar.

Tractors not equipped with radar, but wanting to use a GPS signal require two controller addresses to be changed. Contact your John Deere dealer for assistance.

1. Press vehicle Settings Switch (A) to view menu items on Display (D). Rotate Command Dial (B) to highlight Speed Cal and press Select Switch (C).

2. Display will read:

400 ft (122 m)

Automatic

Back

3. Highlight **Automatic**, then press Select Switch.

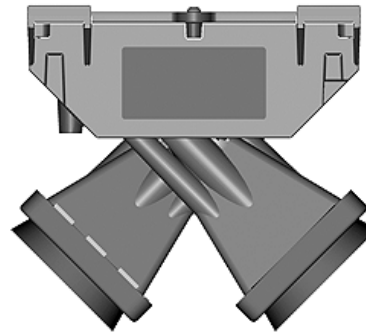
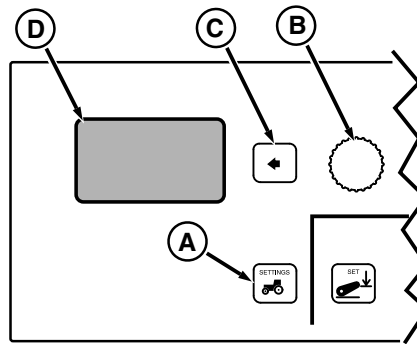
When Select Switch is pressed, CommandCenter will display:

If Calibration is Successful

Speed Cal
Calibration
Successful

If Calibration is Unsuccessful

Speed Cal
Calibration
Failed



Dual Beam Radar Sensor

A—Settings Switch
B—Command Dial

C—Select Switch
D—Display

NOTE:

- If failed message is received, it may be necessary to consult your John Deere dealer for assistance.
- If calibration is successful, perform Reset % Wheel Slip procedure if required. See RESET % WHEEL SLIP procedure.

RXA0006829 —JUN—27JAN06

RXA0009327 —JUN—24APR07

RW29387.000005C -19-20AUG08-1/1

Reset % Wheel Slip

NOTE: Radar or other true ground speed device must be installed and calibrated prior to resetting wheel slip. The procedure will compute and enter the rolling circumference based on radar or other true ground speed device installed on the vehicle.

It is recommended to have an implement connected to the tractor but not engaged in the ground (no load).

Reset % wheel slip value if:

- Wheel speed and radar speed are not equal when slip is not present
 - Wheel slip is displayed where slip should not be present
 - Tire size was changed
1. Reset % slip value by driving tractor on a hard level surface at a constant speed of 8 km/h (5 mph).
 2. Press and hold % Slip Switch (A) for a minimum of 3 seconds to zero out slip.

CommandCenter will display:

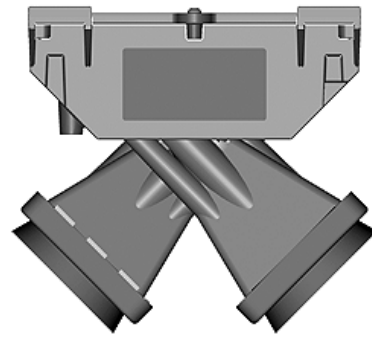
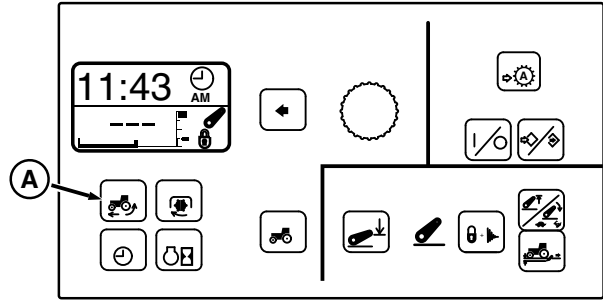
If Calibration is Successful

Calibration Successful

If Calibration is Unsuccessful

Calibration Failed

NOTE: Most common reason failed message occurs is because the radar or other true ground speed device is not calibrated properly. See *Vehicle Speed Calibration (Automatic)* for dual beam radar or *Vehicle Speed Calibration (Manual)* for single beam radar.



Dual Beam Radar Sensor

A—% Slip Switch

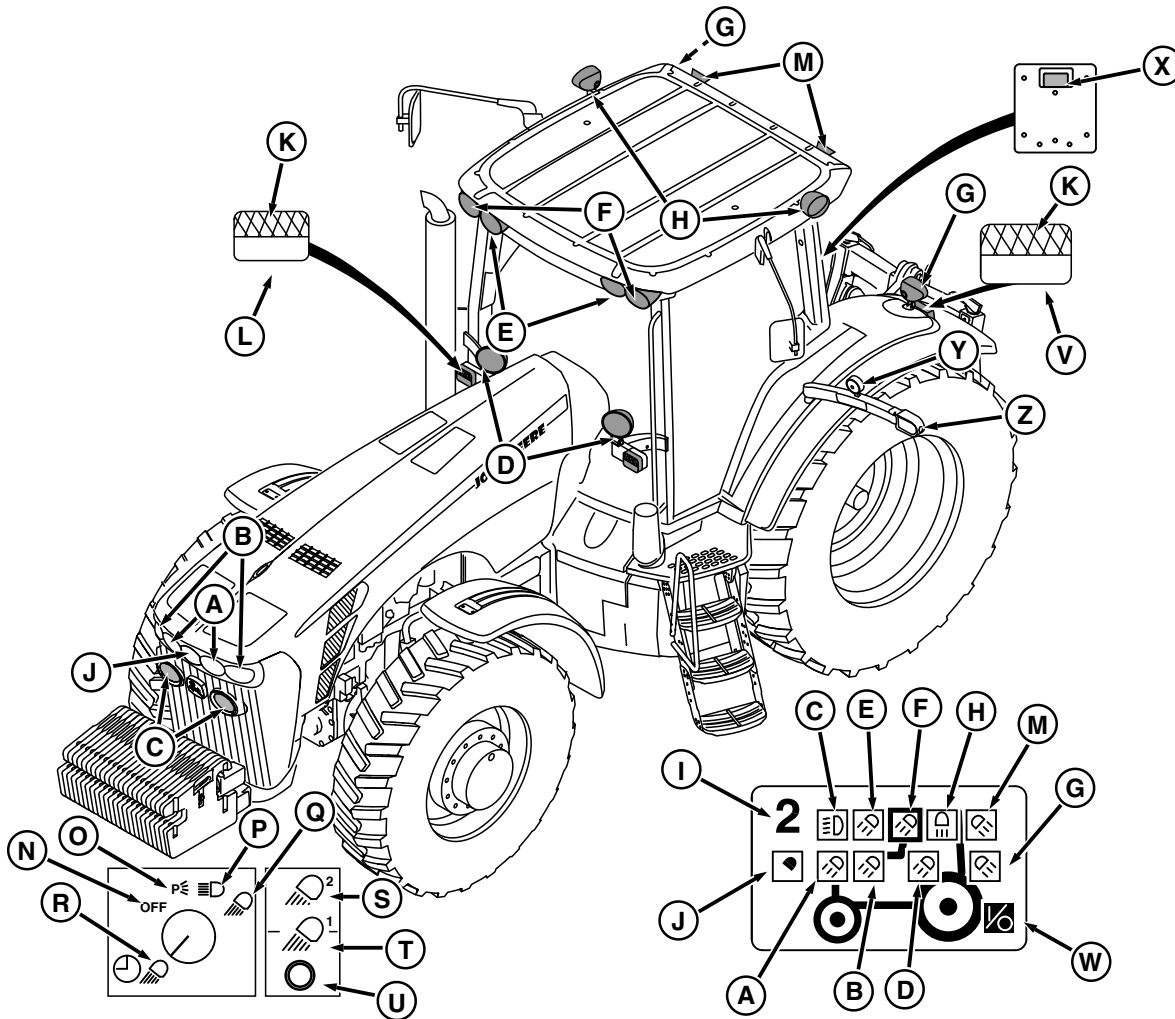
RXA0090934 —UN—28SEP06

RXA0093527 —UN—24APR07

RW29387,00005D2 -19-02JAN08-1/1

Lights

Road and Field Light Identification and CommandCenter Indicators



Field Position 2 Shown With All Lights On

- | | | | |
|---|---|---------------------------------|--|
| A—Field Lights, Front Inner | H—Field Lights, Cab Roof Side (If Equipped) | O—Park Position | V—Red Tail Light |
| B—Field Lights, Front Outer (Standard or HID-Xenon) | I—Indicator, Field Light Position | P—Field Position | W—ON/OFF ICON |
| C—Road Lights, High/Low Beam | J—Center Spot Light (HID/Xenon only) | Q—Field Position | X—License Plate Lamp |
| D—Field Lights, Cab Beltline | K—Amber Hazard Lights | R—Egress Position (If Equipped) | Y—Extremity Clearance Lights (If Equipped) |
| E—Field Lights, Inner Front Cab | L—Clearance Lights | S—Field Light 2 Position | Z—Extremity Transport Lights (If Equipped) |
| F—Field Lights, Outer Front Cab | M—Field Lights, Cab Rear Roof (Standard or HID-Xenon) | T—Field Light 1 Position | |
| G—Field Lights, Fender Rear | N—OFF Position | U—On/OFF Switch, Field Lights | |

NOTE: High Intensity Discharge (HID/Xenon) Field Lights are installed in place of standard outer field lights (B).

CAUTION: Avoid injury caused by accidental collision with another vehicle. Always comply with traffic regulations when driving tractor on a road. Dim headlights to low-beam for oncoming vehicles. Avoid using field lights which could blind or confuse other drivers.

Standard Light Switch has four positions (N—Q) and operates regardless of key position. With optional Egress

lighting, Light Switch has five positions; the same four as standard Light Switch, plus delayed shut-down position (R).

OFF Position (N):

Turns all lights off.

P (Park) Position (O):

Turns on front clearance lights (L), extremity clearance lights (Y), red tail lights (V), and license plate light (X).

RXA0091339—UN—31OCT06

Continued on next page

OURX935,0000075 -19-05FEB08-1/2

Road Position (P):

Turns on high/low beam road lights (C), front clearance lights (L), extremity clearance lights (Y), and red tail lights (V).

NOTE: Refer to PROGRAMMING LIGHTS for set-up information.

Field Position (Q) :

Turns on clear-lens lighting (A — H and J and M) programmed for each Field position.

Delayed Shut-Down Position (R) ((If Equipped)):

Momentarily turn light switch counterclockwise from the OFF position to activate delayed egress lighting. Cancel egress lighting by turning switch clockwise to Road position and then OFF.

Programmed lighting will remain on for 90 seconds, then shut off automatically. Each additional time switch is turned counterclockwise adds 30 seconds to time lights remain ON up to 3 minutes maximum.

Automatic Battery Protection Feature

To prevent battery discharge if headlights or field lights are left on accidentally after shutting off engine and removing ignition key, the electrical system will automatically start following sequence:

- After 30 minutes have elapsed, lights will turn on and off 5 times
- After 5th time, lights will turn back on and stay lit for about 60 seconds
- After 60 seconds, lights will go off and stay off to prevent complete battery discharge

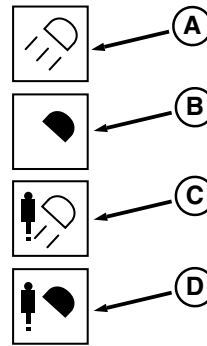
OURX935.0000075 -19-05FEB08-2/2

Programmable Lighting State

NOTE: All the clear-lens lights will show a fault, if a fault occurs, except the inner and outer front rooflights.

A—Light Programmed ON
B—Light Programmed Off

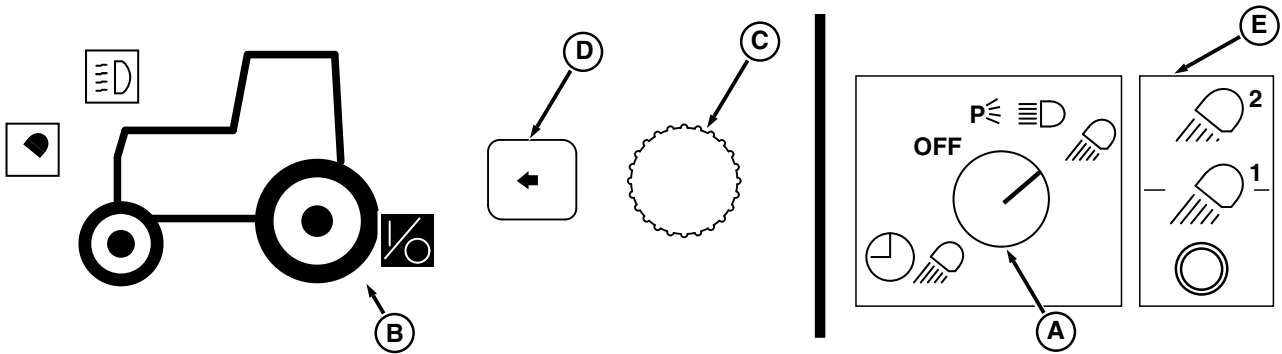
C—Light Programmed On, Faulted
D—Light Programmed Off, Faulted



RXA0080526 —UN—10MAY05

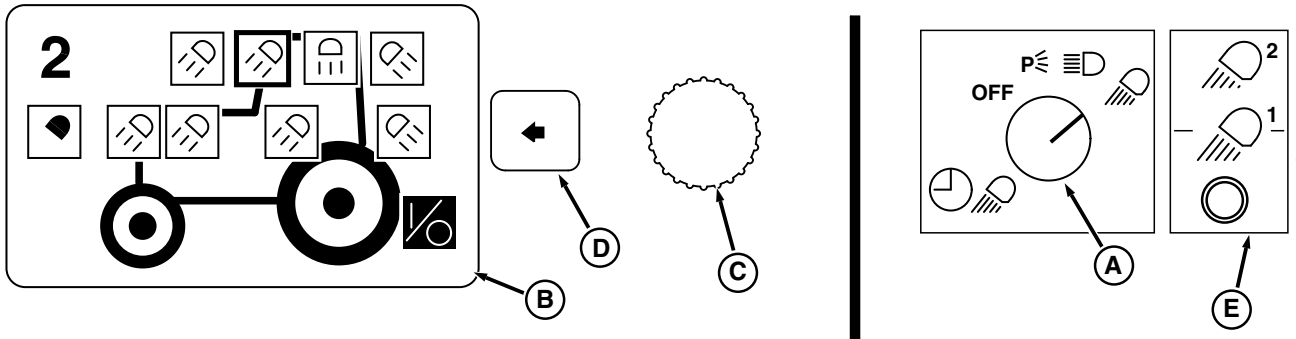
OURX935.00000AE -19-29JUL05-1/1

Programming Lights



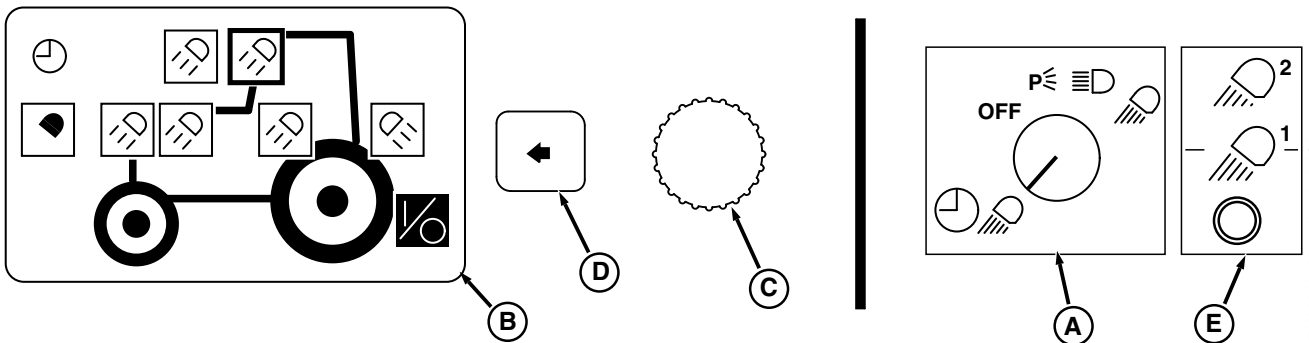
Road Lights

RXA0080492 —UN—10MAY05



Field 2 Lights with Center Spot Light and Cab Side Field Lights

RXA0080491 —UN—09AUG05



Egress Lighting with Options

RXA0080490 —UN—07AUG05

- A—Light Switch
- B—CommandCenter Display
- C—Command Dial
- D—Select Switch
- E—Field Light Switch

Operation of all clear-lens lighting (road lights, field lights and floodlights) is programmable using the Light Switch, Field Light Switch and CommandCenter. See ROAD AND FIELD LIGHT IDENTIFICATION AND COMMANDCENTER INDICATORS for further information on lights and display indicators.

Light display shows for 10 seconds whenever Light Switch and Field Light Switch positions are changed to a programmable setting. If no changes are made, display returns to last screen shown. Light indicators change from black-to-white when programmed ON.

OFF Position:

In the OFF position, all clear-lens lighting is programmed OFF (all black indicators).

P (Park), Road and Field Positions:

Turn Light Switch (A) to desired position and observe CommandCenter display (B); black lights are OFF, white lights are ON.

NOTE: P (Park) and Road positions are not programmable.

Lights

To program field lights, rotate Light Switch to field position, depress Field Light Switch, and observe CommandCenter display. All clear-lens lights are selectable when programming Field 1 or 2 positions.

Rotate Command dial (C) to highlight desired light, then press Select Switch (D) to turn light ON (white indicator) or OFF (black indicator). Changes to ON/OFF settings take place immediately.

Normally one field light position is programmed to operate only certain lights, such as rear facing field lights. Moving dimmer switch to high beam will give a second option to program lights such as all rear facing lights and side mounted roof lights. The other position is used to operate

all clear-lens lighting and again moving the dimmer switch will allow for a fourth option for programmable lighting.

Egress (Delayed Shutdown) Position (If Equipped):

Turn light switch knob to Egress (clock) position and observe CommandCenter display.

Programming Egress lighting is the same as Field lighting with all clear-lens lights selectable. Only operator selected clear-lens lights will come ON when switch knob is moved to Egress (Delayed Shutdown) position. Moving dimmer switch to high beam will give a second option to program lights.

OURX935.0000788 -19-09AUG05-2/2

Operating Turn Signals and High/Low Beam

NOTE: When turn signal is activated, a short audible chirping sound will be heard.

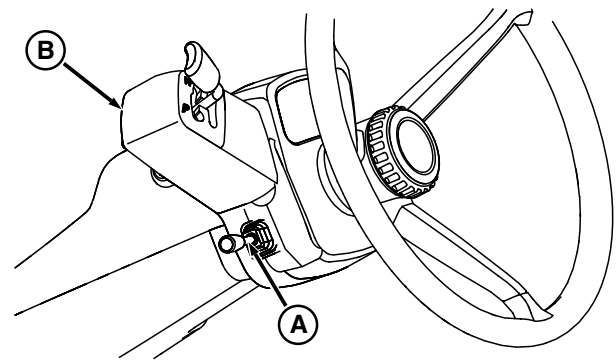
Turn Signals:

Push turn signal lever (A) up for a right turn, or pull down for a left turn. Return lever immediately to center position. Turn signal light continues to flash for additional 50 m (164 ft) of tractor travel, then switches off automatically.

High/Low Beam:

CAUTION: Avoid injury caused by accidental collision with another vehicle. Always comply with traffic regulations when driving tractor on a road. Dim headlights to low-beam for oncoming vehicles.

Push turn signal lever forward to activate high beam headlights; high beam indicator will come on. Pull lever into center position to operate low beam. Pull lever toward you and release to flash-to-pass high beams.



A—Turn Signal Lever

B—Left-Hand Reverser (If equipped)

Dim headlights for oncoming vehicles.

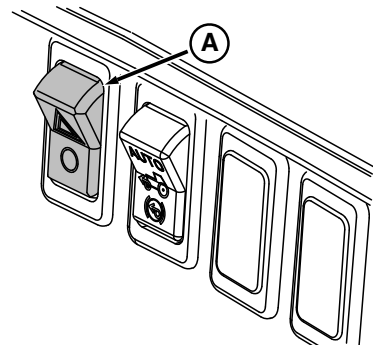
RXA0080014—UN—10AUG05

OURX935.000078A -19-18AUG05-1/1

Operating Hazard Light

Push Hazard Light Switch (A) to activate flashing amber hazard lights at front and rear.

A—Hazard Light Switch



RXA0068232—UN—27AUG03

OURX935.000078C -19-29JUL05-1/1

Operating Rotary Beacon Light—If Equipped

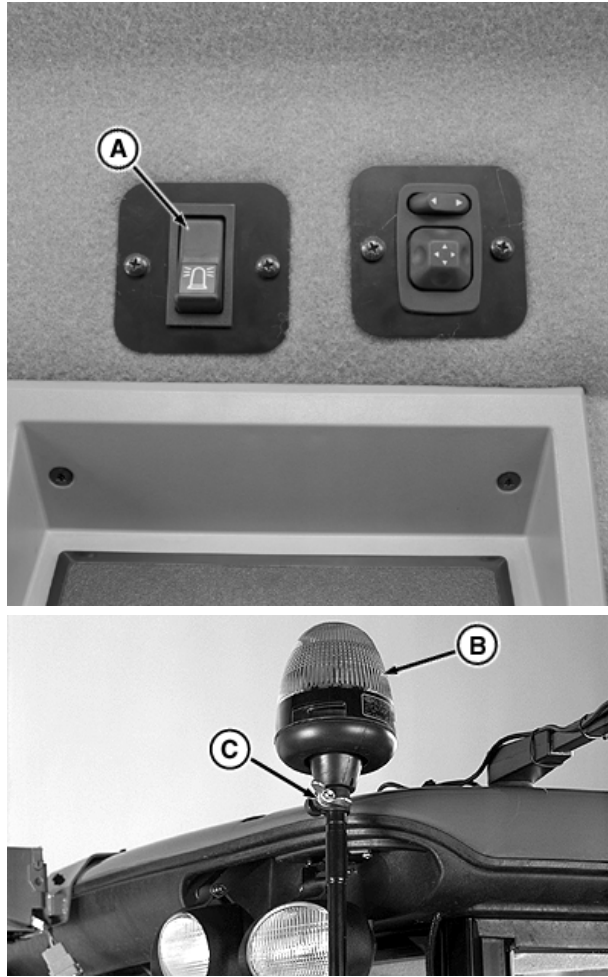
Push Rotary Beacon Switch (A) to activate the Rotary Beacon Light (B).

When Rotary Beacon Light is not used:

- Loosen nut (C) and remove light assembly
- Install rubber protective cap on connector

A—Rotary Beacon Switch
B—Light Assembly

C—Nut



RXA0080457 — UN—26APR05

RXA0079930 — UN—23MAR05

OURX935,000078E -19-29JUL05-1/1

Using Seven-Terminal Outlet

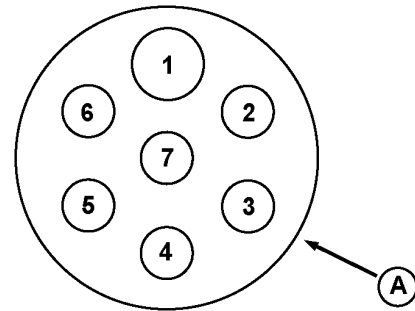
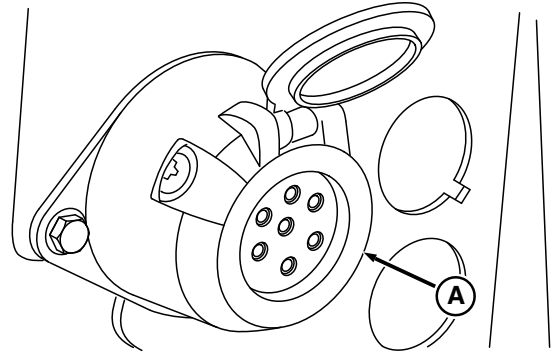
Outlet (A) is used to connect lights, turn signals, and remote electrical equipment on trailers or implements. Always use auxiliary light on towed implement when tractor rear signals and other lights are obscured.

Solid state circuits are rated for a fixed value. If any additional electrical devices need to be added to the tractor, we recommend a power strip or convenience outlets should be used in conjunction with an off/on switch. Splicing into a wire in the wrong location could cause the circuit to overload and shut the circuit down.

If extra implement lights and controls, such as switches are needed, contact your John Deere dealer. Your dealer can provide information on methods to tie in the light switch with one of the accessory wires located in the 7 pin terminal on the back of the tractor.

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

Terminal	Function
1	Left Turn Light
2	Accessory
3	Ground
4	Right Turn Light
5	Left Tail Light
6	Brake
7	Right Tail Light



A—Seven Terminal Outlet

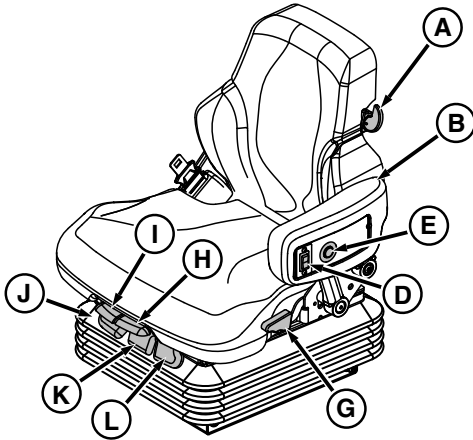
RXA0068235 —UN—17JAN06

RWZ1249A —UN—29APR99

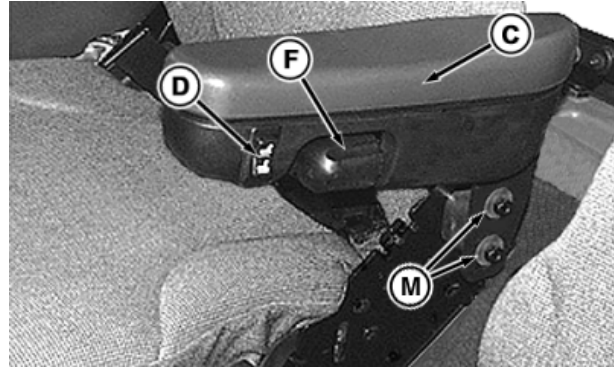
OURX935,000078F -19-08JAN08-1/1

Operator Station

Adjusting Air Suspension Seat



Seat with Fold-Down Armrest



Seat with Flip-up Armrest—Used with Instructional Seat

RXA0086017—UN—20JAN06

RXA0080139—UN—04APR05

- A—Lumbar Support Lever
- B—Fold-Down Armrest
- C—Flip-Up Armrest
- D—Seat Height Adjustment
- E—Armrest Adjustment
- F—Armrest Angle Adjustment
- G—Backrest Angle Adjustment
- H—Seat Swivel

- I—Fore-Aft Adjustment
- J—Suspension Shock Dampening
- K—Lateral Movement Lock
- L—Fore-Aft Movement Lock
- M—Armrest Height Adjustment Screws¹

IMPORTANT:

If single lever control is installed on CommandARM, lever may contact right-hand console if seat is placed in full right-hand swivel position. Check seat swivel as well as seat height and fore-aft adjustment to avoid this contact.

Lumbar Support Adjustment - Rotate 5-position lever (A).

Weight and Height Adjustment - Turn key to "ON". Press lower portion of switch (D) to lower seat or press upper portion of switch to raise seat.

Armrest Height Adjustment - Press button (E) or loosen screws (M) to adjust armrest height.

Armrest Angle - Turn knob (F) to adjust armrest angle.

Backrest Angle - Pull up handle (G) and adjust backrest to desired angle.

¹Flip-Up armrest only

Seat Swivel - Lift up on handle (H) to allow seat to swivel. Push down on handle to lock seat in position.

Fore-Aft Seat Position - Pull up on handle (I) to allow the seat to slide forward or backward.

Dampening - Handle (J) adjusts suspension shock. Moving lever to farthest down position provides the firmest ride; farthest up position provides softest ride.

Lateral Movement Lock - Push down on handle (K) to unlock lateral seat suspension. Pull up on handle to lock seat in position.

Fore-Aft Movement Lock - Push down on handle (L) to unlock fore and aft suspension. Pull up to prevent fore-aft movement.

OURX935,0000472 -19-12AUG08-1/1

Adjusting Active Seat (If Equipped)

IMPORTANT:

If single lever control is installed on CommandARM™, lever may contact right-hand console if seat is placed in full right-hand swivel position. Check seat swivel as well as seat height and fore-aft adjustment to avoid this contact.

NOTE: Before operating tractor, adjust Active Seat to your height and weight. This will allow you to get the most from ride zone protection. Active Seat has a built-in buffer at the high and low end of vertical seat travel, resulting in a much smoother ride.

Lumbar Support Adjustment - Rotate lever (A) to any of five positions.

Ride Firmness Control - Ride firmness switch (B) provides two different levels of seat suspension performance. Press upper portion "+" of switch for the firmest ride or lower portion "-" for the softest ride.

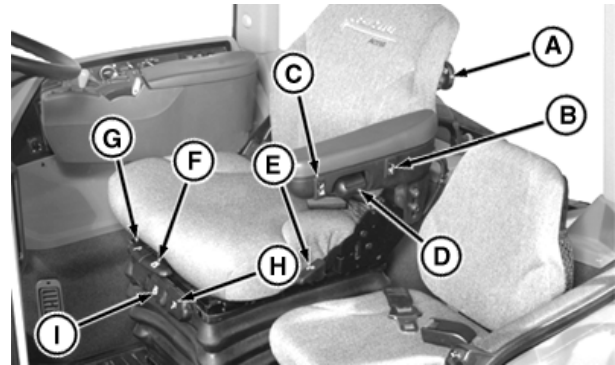
Ride Zone Protection - The seat is ride zone protected. The seat will automatically adjust back into the protected zone when operator adjusts the seat height position at or near the vertical seat travel limits.

Height Adjustment - Turn key switch to ON position. Press lower portion of switch (C) to lower the seat. Press upper portion of switch to raise the seat. Compressor continues to operate until air system is optimized for the given seat height and operator weight. For best seat performance, position seat slightly lower than usual.

Armrest Angle Adjustment - Turn handle (D) to adjust armrest angle.

Backrest Angle - Pull up handle (E) and adjust backrest to desired angle.

CommandARM is a trademark of Deere & Company



RXA0086021 —UN—20JAN06

- | | |
|-------------------------|--------------------------|
| A—Lumbar Support | F—Seat Swivel |
| B—Ride Firmness Control | G—Fore-Aft Adjustment |
| C—Seat Height | H—Fore-Aft Movement Lock |
| D—Armrest Angle | I—Lateral Movement Lock |
| E—Backrest Angle | |

Seat Swivel - Lift up on handle (F) to detent position to allow seat to swivel. Push down on handle to lock seat in position.

Fore-Aft Seat Position - Pull up on handle (G) to allow the seat to slide forward or backward.

Fore-Aft Movement Lock - Locks should remain in the UNLOCKED position for maximum performance. Push down on handle (H) to unlock fore and aft suspension. Pull up to prevent fore-aft movement.

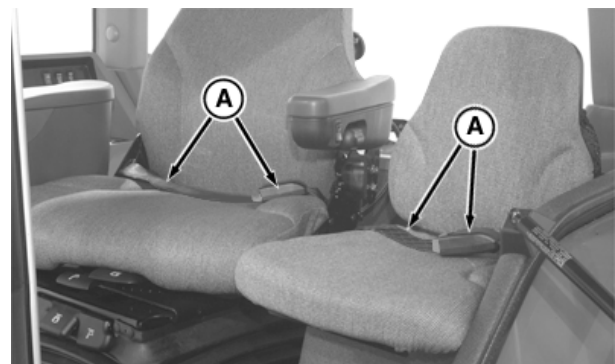
Lateral Movement Lock - Push down on handle (I) to unlock lateral seat suspension. Pull up on handle to lock seat in position.

OURX935,0000473 -19-12AUG08-1/1

Using Instructional Seat

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

A—Seat Belt



RXA0062690 —UN—20SEP02

OURX935,000042F -19-24JAN06-1/1

Heated Leather Seat (If Equipped)

NOTE: Heater will automatically turn off after 1 hour of use and can be turned on again manually, as needed.

The heated leather seat provides three heat settings for increased comfort during cold days. Heat intensity is controlled by a momentary switch (A) located in the left armrest. The four settings are: HIGH, MEDIUM, LOW, and OFF. When tractor is shut off, seat heater also turns off or after one hour of use switch will automatically turn off. To start or restart seat heater:

- Press switch one time for HIGH (Red LED ON).
- Press switch two times for MEDIUM (Red LED ON).
- Press switch three times for LOW (Red LED ON).
- Press switch four times for OFF (Red LED OFF).

LED Diagnostics Blink Pattern

- Red LED On longer than Off—Heating wire failure.
- Red LED Off longer than On—Temperature sensor failure.

Clean seat with mild soap and warm water. Use automotive leather conditioner for conditioning. Conditioning should be done every 6 months if tractor is stored outside. If stored inside conditioning interval can be extended to 12 months.



Heated Leather Seat

RXA0077640 —UN—26SEP04



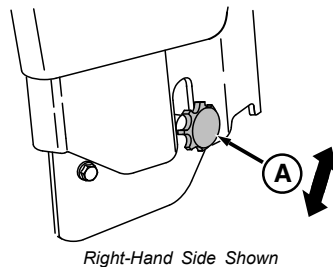
LED momentary switch

RXA0077642 —UN—26SEP04

A—Heated Seat Switch

OURX986,00002C8 -19-18JAN06-1/1

Adjusting CommandARM Position



Right-Hand Side Shown

A—Armrest Control Knob

CAUTION: Be careful when raising or lowering CommandARM console. Fingers could get pinched between mounting plates.

1. Support console and loosen knob (A).
2. Move console/armrest to desired position:
 - Raise console/armrest—Forward and up
 - Lower console/armrest—Rearward and down
3. Tighten knob (A).

RXA0085741 —UN—06JAN06

OURX935,0000401 -19-02JAN08-1/1

Operating Cab Heat, Defrost and Air Conditioning—Standard Equipment

Push air conditioning switch (A) ON for cab cooling or defrosting. Leave switch OFF for heat.

Turn temperature control knob (B) to red zone for heating or blue zone for cooling.

IMPORTANT: If system is not cooling properly, turn air conditioning switch off to avoid possible compressor damage.

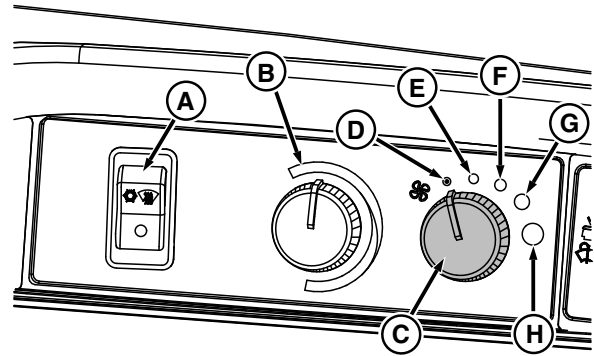
NOTE: Purge position is used for rapid cab cool down.

Turn fan speed control knob (C) to desired setting (D—H).

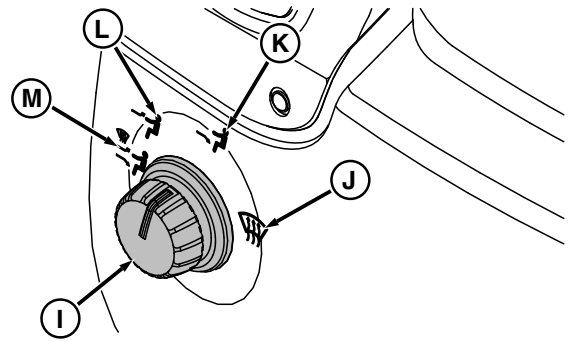
Turn air flow direction knob (I) for desired outlet (J—M).

Cowl Louvers (N) and right side console louver (O) are used to direct air flow to the windows for defrosting or at the operator for heating and cooling.

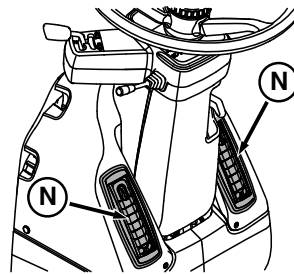
- | | |
|----------------------------|-----------------------------|
| A—Air Conditioning Switch | I— Air Flow Direction Knob |
| B—Temperature Control Knob | J— Windshield |
| C—Fan Control Knob | K—Floor |
| D—Off | L—Dash |
| E—Low Speed | M—All |
| F—Medium Speed | N—Cowl Louvers |
| G—High Speed | O—Right Side Console Louver |
| H—Purge | |



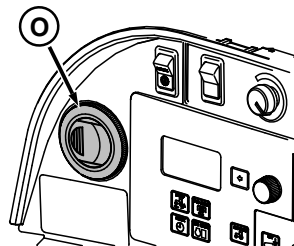
Air Conditioning Controls



Air Flow Direction Knob



Cowl Louvers



Right Side Console Louver

RXA0086019 —UN—20JAN06

RXA0086020 —UN—20JAN06

RXA0086139 —UN—27JAN06

RXA0086140 —UN—27JAN06

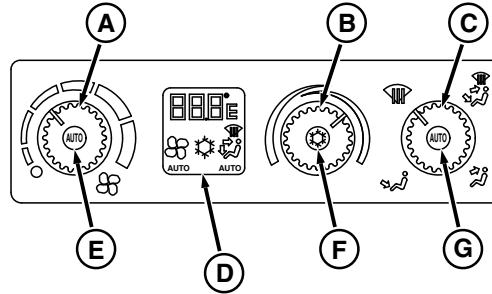
OURX935,0000402 -19-05MAR08-1/1

Using ClimaTrak (ATC) (If Equipped)

System Control and Display Panel

There are three controls and an ATC display window on the right side console for ClimaTrak (ATC) system:

1. Blower Speed Control (A) with AUTO blower control button (E)
2. Temperature Set Control (B) with A/C clutch engage button (F)
3. Four position air flow mode control (C) with AUTO air flow mode button (G)
 - Defog/Windshield
 - Dash
 - Defog/Dash/Floor
 - Floor



RXA0086141—UN—27JAN06

- | | |
|---------------------------|------------------------------|
| A—Blower Speed Control | E—AUTO Blower Control Button |
| B—Temperature Set Control | F—A/C Clutch Engage Button |
| C—Air Flow Mode Control | G—AUTO Air Flow Mode Button |
| D—ATC Display | |

Ambient air temperature is displayed on the ATC display (D). Upon adjustment of the temperature control knob and at tractor start up, the temperature set point (desired temperature) is displayed for 10 seconds. Ambient air temperature (obtained from sensor outside of cab at air inlet) is adjusted using a correction factor to minimize the effect of vehicle heat.

When the system is in automatic blower mode, a fan symbol and the word "AUTO" is displayed. When the A/C clutch is engaged the snowflake symbol is displayed. Air flow mode is indicated by an arrow pointing toward the feet, toward the chest, and a defog symbol. The word "AUTO" appears below the seated figure when the system is in automatic air flow mode.

AUTO Air Flow mode selection is infinitely variable between defog, floor and floor/dash.

- Dash — Air is directed to cowl louvers.
- Floor — Air is directed to floor when defog is not needed.
- Defog — Air is directed to windshield to remove fogging problem.
- Defog/Dash/Floor — Variable settings to direct air flow as needed.

OURX935,0000AA -19-08JAN08-1/1

Operating Windshield Wiper and Washer (If Equipped)

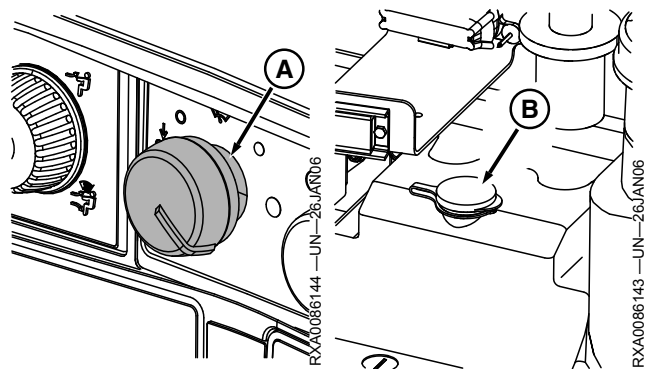
Wiper/washer switch (A) has four positions:

- Off
- Intermittent Wipe
- Slow Speed
- Fast Speed

Push switch in to operate optional windshield washer.

Fill reservoir (B) with non-freezing windshield washer fluid. Reservoir is located inside the battery box.

NOTE: Windshield washer nozzles can be adjusted by inserting a small pin into nozzle opening.



- | | |
|----------------------------------|--------------------------|
| A—Windshield Wiper/Washer Switch | B—Washer Fluid Reservoir |
|----------------------------------|--------------------------|

OURX935,0000430 -19-02JAN08-1/1

Operating Rear Window Wiper and Washer (If Equipped)

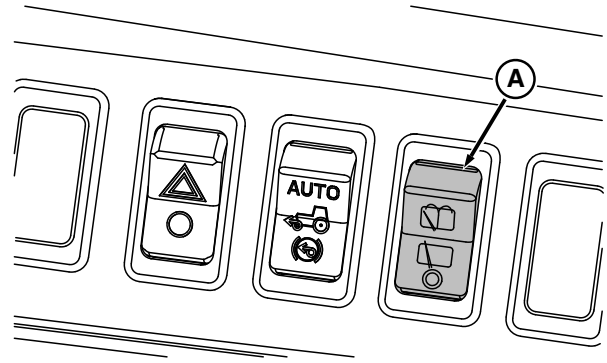
Switch (A) has three positions:

Top **WASHER** position—Hold switch down to activate washer

Center **ON** position—Rear window wiper is activated

Bottom **OFF** position

A—Rear Window Wiper/Washer Switch



RXA0069165 —UN—27AUG03

OUO1011,000539E -19-02JAN08-1/1

Adjusting Steering Wheel and Column

Telescope: Rotate knob (A) counterclockwise to extend or retract steering wheel. Rotate knob clockwise to lock.

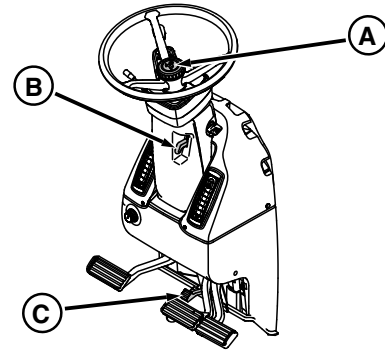
Tilt: Pull up on lever (B) and move steering column to desired position. Release lever to lock.

Memory: Push down on foot pedal (C) to permit steering column to automatically move up and out of the way for easy entry or exit.

Push down on foot pedal and pull down on steering wheel to return steering column to previous setting.

A—Knob
B—Lever

C—Foot Pedal



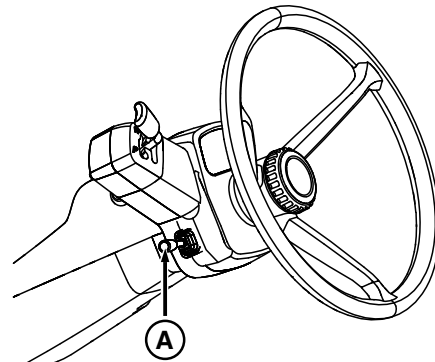
RXA0086022 —UN—20JAN06

OURX935,0000417 -19-02JAN08-1/1

Operating Horn

Push signal arm (A) in to activate horn.

A—Signal Arm and Horn



RXA0080015 —UN—29MAR05

OUO1011,00053A0 -19-02JAN08-1/1

Installing Mobile Radio and Antenna

CAUTION: Under no circumstances should mobile radio antenna be mounted to rear of cab or antenna cable be routed 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.

IMPORTANT: Avoid possible interference of tractor electronics by keeping radio, power and antenna cables close to the cab roof.

CAUTION: Prevent possible personal injury. Disconnect battery ground cable before any electrical repair.

NOTE: Only tractors ordered mobile ready from factory have mounting plate, antenna cable, and antenna included. For tractors ordered not mobile radio ready and do not include a mounting plate or wiring harness unless specified when tractor was ordered. See John Deere dealer to install mobile radio. For tractors that are mobile radio ready, follow installation steps below.

Remove existing entertainment radio bezel to gain access to power leads (E) and antenna cable (B).

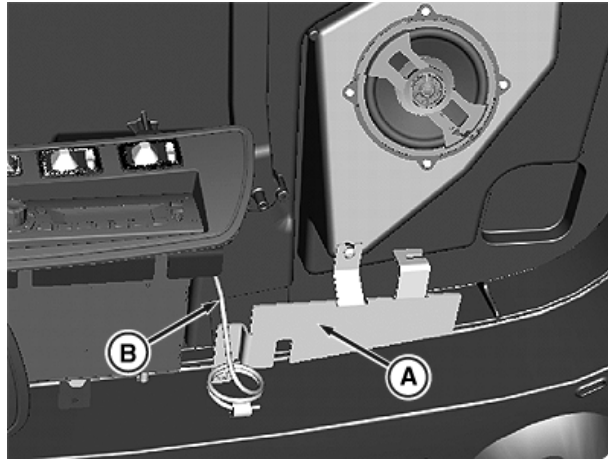
CAUTION: Prevent possible personal injury. Disconnect battery ground cable before any electrical repair.

Remove existing entertainment radio bezel to gain access to power leads (E) and antenna cable (B).

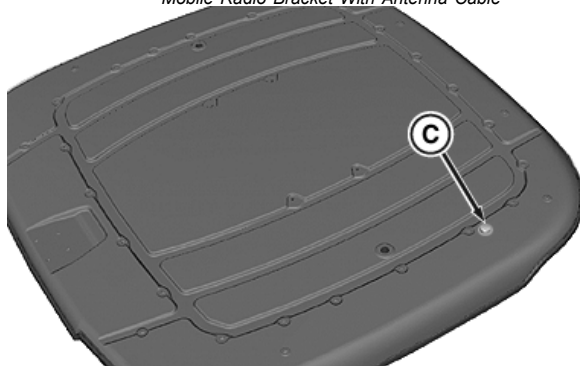
Power leads are pre-installed, locate red wire #272 for switch operation. Should radio operation require battery power at all times, use red wire #262. Black wire is mobile radio ground.

Connect antenna cable to radio. Remove rain cap on outer roof and attach non-ground plane type antenna to the mount. Antenna mount is 1-1/8 in. - 24 thread. The cable connector for radio is a PL259 type. Adapters are available through radio equipment suppliers.

NOTE: Antenna should be trimmed to appropriate variable standing wave ratio (VSWR). A professional installer is recommended.



Mobile Radio Bracket With Antenna Cable



Mobile Radio Antenna Location



Mobile Radio Mounted In Right Rear Cab Corner

- | | |
|---------------------------|----------------------------|
| A—Rotary Beacon Connector | E—Mobile Radio Power Leads |
| B—Mobile Radio Antenna | F—Console Light |
| C—AM/FM Connector | G—Roof Trim |
| D—AM/FM Antenna | H—Mobile Radio Bracket |

Install the radio bezel after the mobile radio cable and wires are routed.

OURX935,0000495 -19-15DEC08-1/1

RXA009991 —UN—12DEC08

RXA009993 —UN—12DEC08

RXA009995 —UN—12DEC08

Using Field Office (If Equipped)

IMPORTANT: The field office is not intended to carry heavy objects or to be used as a seat.

Field Office provides storage and electrical power source for on board electronic equipment. Lift pad (A) to access Field Office.

A—Pad



RW26657 —UN—23OCT99

OURX935.0000496 -19-02AUG05-1/1

Using Secondary Brake (If Equipped)

NOTE: Secondary Brake Switch (A) is spring loaded to off position so must be pushed up to engage brake. Corner post display brake indicator light when brake is engaged.

1. To engage secondary brake, push switch up.
2. To release secondary brake, push switch down.

A—Secondary Brake Switch



Secondary Brake Switch

RXA0086961 —UN—20FEB06

OURX935.0000074 -19-04FEB08-1/1

Using Electrical Outlets

IMPORTANT: Diagnostic outlet (A) is only to be used by your John Deere dealer. Other uses could damage the tractor's electronic components.

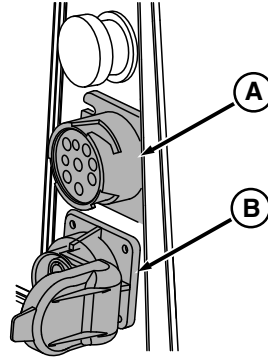
The 12-volt outlet (B) is used when connecting auxiliary equipment. An additional electrical outlet (C) is installed on left corner of the Field Office.

Pin (D) provides (key) switched power, pin (E) provides battery power (hot) and pin (F) is ground. Use auxiliary equipment installation instructions or see your John Deere dealer.

NOTE: Each outlet is protected by a 30-amp fuse.

Remove Field Office storage tray and locate 12-volt power source wiring for additional power plug. See your John Deere dealer for parts.

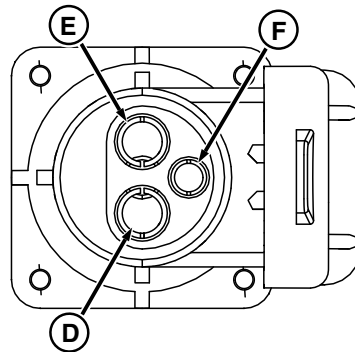
- | | |
|--|------------------------------|
| A—Diagnostic Outlet | D—Switched Power Circuit Pin |
| B—Accessory Outlet | E—Battery Circuit Pin |
| C—Optional Accessory Outlet
(Field Office Only) | F—Ground Pin |



RXA0086335 —UN—06FEB06



RW26645 —UN—21OCT99



RXA0086336 —UN—06FEB06



RW56061 —UN—21AUG96

Compartment Under Field Office Storage Tray

OURX935,0000615 -19-12JUN06-1/1

Using Auxiliary Power Strip (If Equipped)

IMPORTANT: Power strip is not a surge suppressor. Electrical equipment with program memory requires protection from damage of electrical surges and spikes.

The power strip (A) provides six outlets of 12-volt power with grounds. This power is 30 amp switched and 30 amp unswitched. The connectors can be used when connecting auxiliary equipment.

Adapters plug directly into power strip. To change to switched power on cigarette lighter adapter remove small tab at end of slot on plug and rotate plug 180°.

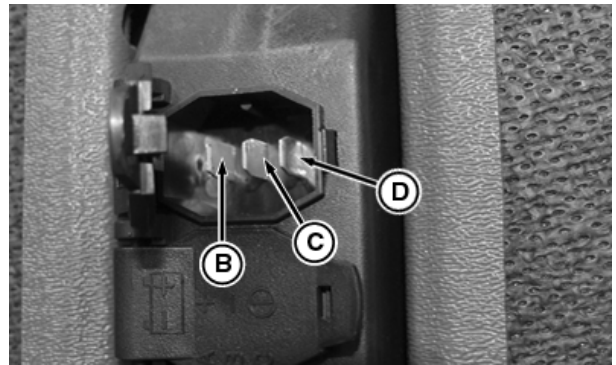
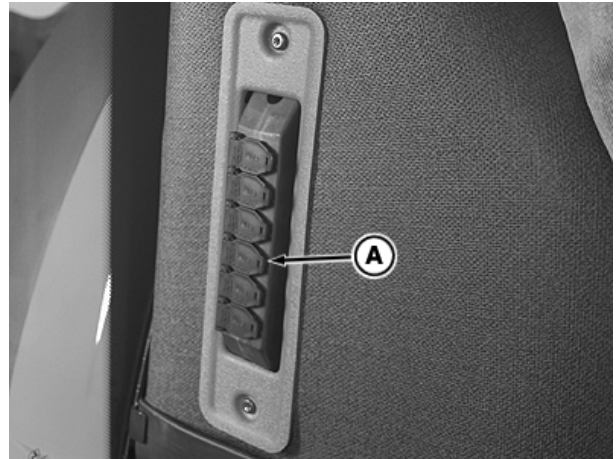
Adapters are available from your John Deere Dealer for the following: cigarette lighter adapters, three-way convenience adapters, and standard adapters.

Outlets in the convenience strip have three prongs:

- Battery (unswitched)
- Ground
- Switched

A—Auxiliary Power Strip
B—Battery (unswitched)

C—Ground
D—Switched



RXA0078762 —UN—28JAN05

RXA0081402 —UN—16JUN05

OURX935,0000498 -19-02AUG05-1/1

Configuring Tractor For GPS/Radar

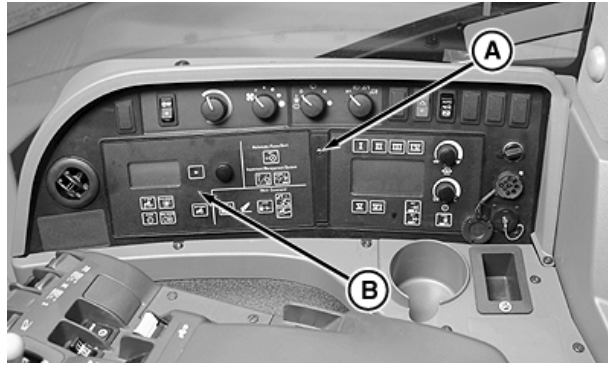
Tractors equipped with radar must be re-configured when switching to GPS receiver as the true ground speed input signal. To configure tractor:

1. Remove screw (A) and CommandCenter (B).
2. Inside right-hand console locate one wire lead marked "GPS" and one marked "Radar".
3. Remove radar plug (C) from wiring connector (E).
4. Remove GPS plug (D) from dust cap (F).
5. Install GPS plug into connector and radar plug into dust cap.
6. Install CommandCenter with previously removed screw.

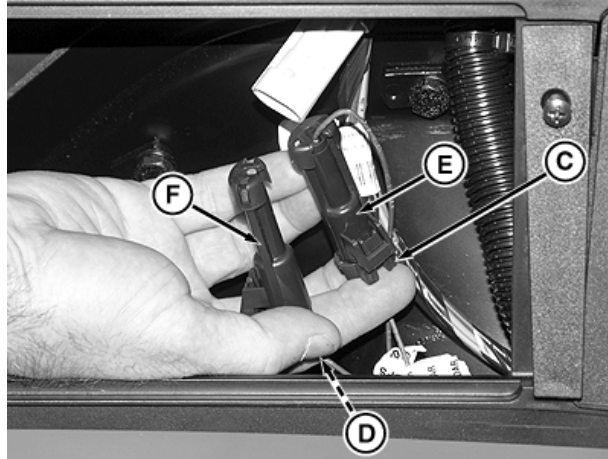
Tractors not equipped with radar, but wanting to add a GPS signal require two controller addresses to be changed. Contact your John Deere dealer for assistance.

A—Screw
B—CommandCenter
C—Radar Plug

D—GPS Plug
E—Connector
F—Dust Cap



Remove CommandCenter panel



Connect GPS

RXA0082000 —UN—08JUL05

RXA0082002 —UN—08JUL05

OURX935,00001D1 -19-02JAN08-1/1

GreenStar™ System Connections

1. Connect GreenStar Display (G) to bracket (E).

NOTE: Brackets (C), (D), (E) and (F) can be adjusted to provide desired position for GreenStar Display Monitor.

2. Install harness from display to bulk head connector (A).

NOTE: See your John Deere dealer for wiring harnesses needed to connect to GSD4, GSD2100 and DSD2600 displays.

3. Connect StarFire connector (H) to StarFire receiver (I).

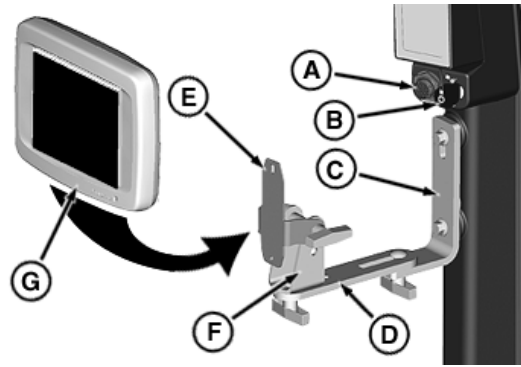
NOTE: See your John Deere dealer for wiring harnesses needed to connect to StarFire receiver.

4. Connect implement to tractor nine pin connector (K) at the rear of tractor.

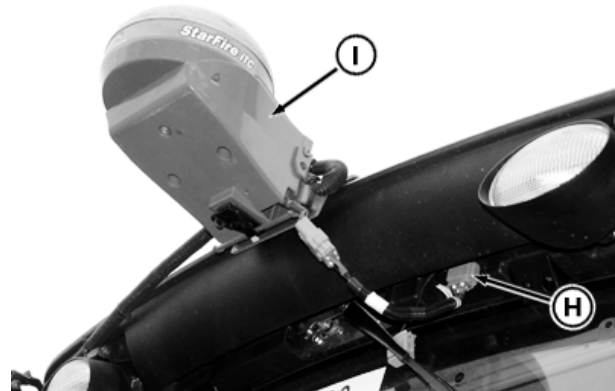
5. Push release (L) and pull handle (J) to open implement connector.

A—Bulk Head Connector for GSD4, GSD2100 and GSD2600 Displays
B—True Ground Speed Connector
C—Bracket
D—Bracket
E—Bracket
F—Bracket

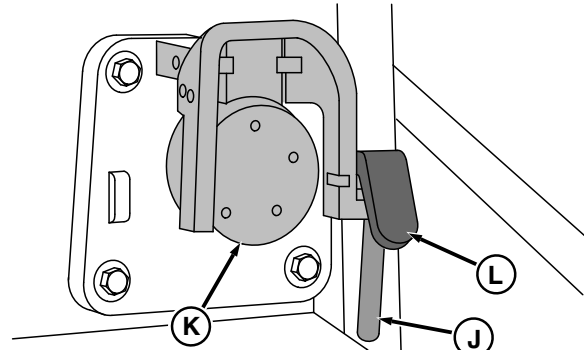
G—GreenStar Display (GSD2100 Shown)
H—StarFire Receiver Connector
I—StarFire Receiver
J—Handle
K—Implement Connector
L—Release



GreenStar Connections



Implement Connector



Nine Pin Connector On The Back Of Tractor

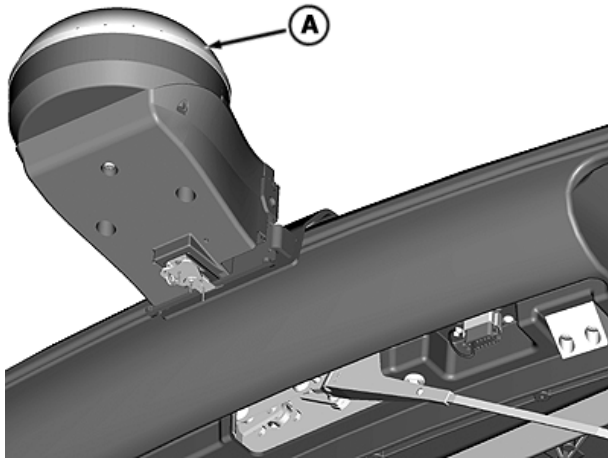
RXA0086023 —UN—20JAN06

RXA0084041 —UN—15SEP05

RXA0086024 —UN—20JAN06

OURX935.0000470 -19-05NOV08-1/1

AutoTrac Assisted Steering System (If Equipped)



StarFire Receiver

RXA0084309 —UN—26SEP05



GSD4 Display / Mobile Processor

RXA0084304 —UN—26SEP05

NOTE: Electrohydraulic steering is required for AutoTrac to function.

Refer to AutoTrac Operator's Manual for detailed instructions.

- AutoTrac system utilizes StarFire position receiver (A) and GreenStar display (B), (C) or (D) to assist operator in steering tractor.
- AutoTrac is a straight-line guidance system. Operator must turn vehicle at the end of each pass and to go around any field obstacles. Steering control is obtained by simply turning steering wheel.



GSD 2100 Display

RXA0084308 —UN—26SEP05

- | | |
|---|----------------------------|
| A —Position Receiver | C —GSD 2100 Display |
| B —GSD4 Display / Mobile Processor | D —GSD 2600 Display |



GSD 2600 Display

RXA0084306 —UN—26SEP05

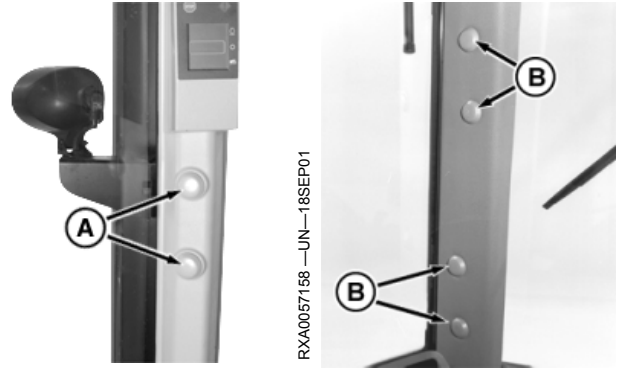
OURX935,00003FC -19-02JAN08-1/1

Using Monitor Mounts

Monitor mounting points are used to connect implement monitors to the cab using M10 cap screws.

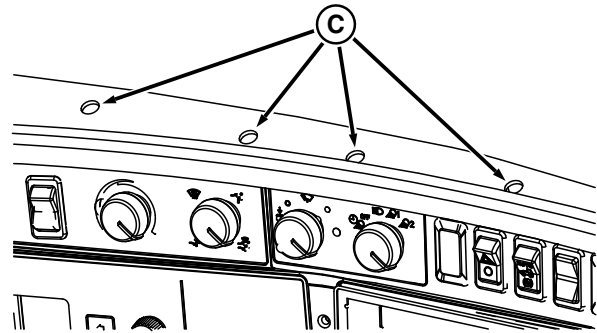
Mounting Locations

- A—Corner Post Display
- B—Rear Cab Post
- C—Side Console



Corner Post

Rear Cab Post



Side Console

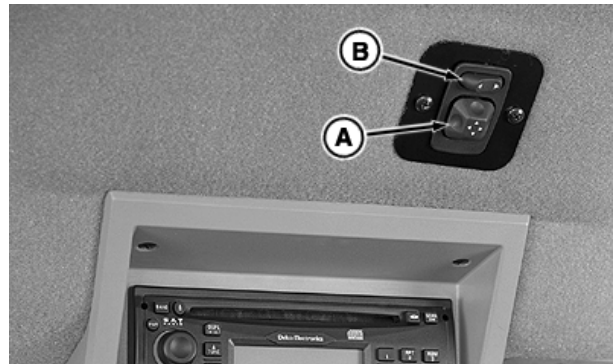
OURX935,000049A -19-02JUN05-1/1

Using Electric Rear View Mirror (If Equipped)

1. Push selection switch (B) to select either left or right mirror.
2. Push adjustment switch (A) in the direction desired to adjust rear view mirrors (C) up, down, in or out.
3. Loosen knob on arm (D) to adjust distance of mirror from cab.

- A—Adjustment Switch
- B—Selection Switch

- C—Rear View Mirror
- D—Mirror Arm



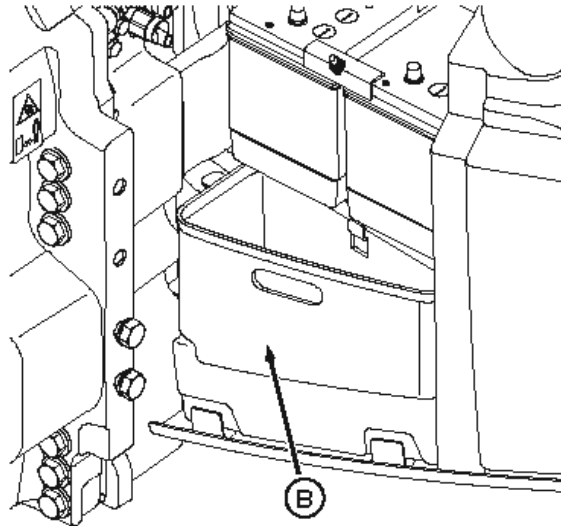
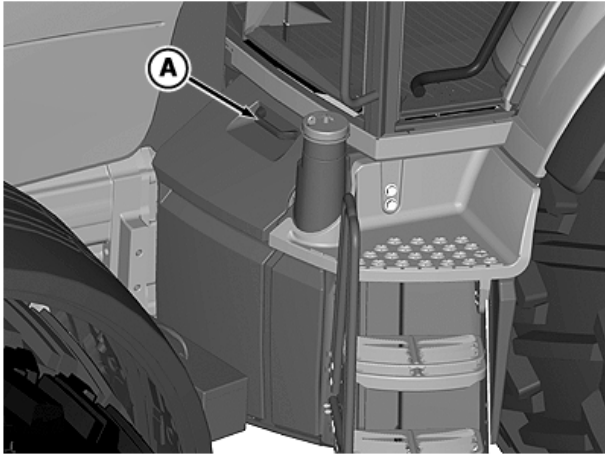
Rear View Mirror Switch



Electrical Right Rear View Mirror

OURX935,000049B -19-11AUG05-1/1

Using Storage Compartment



RXA0098888 —UN—14AUG08

Storage Compartment Cover

A—Handle

B—Storage Compartment

Pull handle (A) firmly to open magnetic cover latch. Remove cover retainer to gain access to storage compartment (B).

OURX935,0000475 -19-14AUG08-1/1

Steps and Handrails

Steps

NOTE: Position steps using round holes in side panels (F) for correct individual step and handrail positioning.

Do not remove center bolt (E). Step assembly can pivot if steps need to be positioned.

Bolts (A) ensure proper angle of step assembly.

Bolts (C) installed in round holes ensure individual steps are at correct angle with step assembly angle.

Handrail

Handrail (B) must be positioned in conjunction with the steps.

Strap

Strap (D) gives step assembly added support.

A—Step Angle Bolts

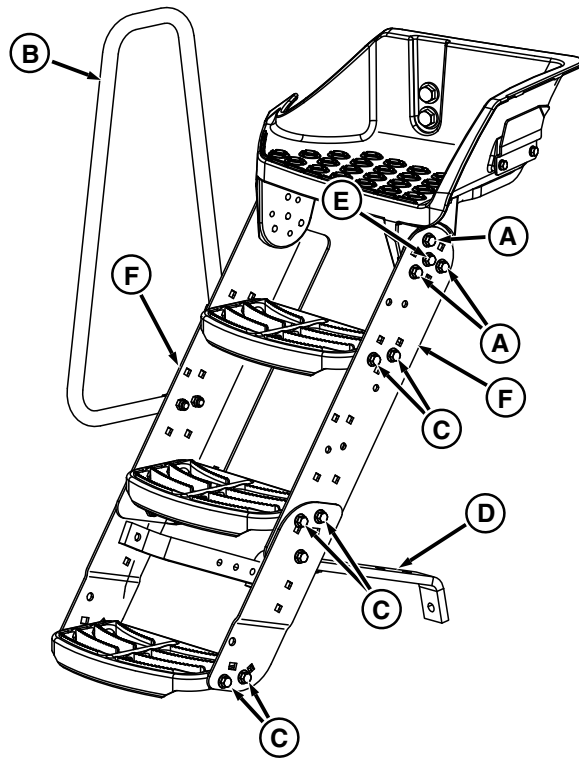
B—Handrail

C—Step Positioning Bolts

D—Strap

E—Center Bolt

F—Side Panels



Steps and Hand Rails

RXA0080279 —UN—21APR05

OURX935,0000099 -19-04JUN05-1/1

Break-In Period

Break-In Checks

Tighten wheel and axle bolts after **3 HOURS, 10 HOURS** and daily for the first week of operation.

Operate engine at heavy loads without sustained maximum load.

Avoid idling engine longer than 5 minutes.

Daily or Every 10 Hours

IMPORTANT: John Deere Break-in Oil must be added if oil level is BELOW ADD MARK on dipstick. DO NOT fill above crosshatch pattern or FULL mark.

- Check engine oil level
- Check coolant level
- Check transmission-hydraulic oil level
- Lubricate front axle:¹
 - Non-driving front axle; Pivot pin, wheel bearings, steering spindles/cylinder ends and tie rod ends¹
 - MFWD; Axle pivot, king pins and tie rod¹

¹In extremely wet conditions

- Lubricate hitch components
- Inspect tires to make sure tires have no cuts or punctures.
- Drain moisture from the trailer brake air pressure tank (if equipped).

At 100 Hours

IMPORTANT: If tractor is used under light load conditions during first 100 hours; Refill with John Deere Break-in Oil for an additional 100 hours to allow engine to break-in correctly. (See Fuel, Lubricants and Coolant section.)

- Change engine oil and filter

Reset service hours to zero after service. See Setting Clock and Service Alarm Interval in the CommandCenter section.

OURX935.00004EF -19-25JUL05-1/1

Operating the Engine

Starting the Engine



TS177 —UN—1JAN89



RXA0056400 —UN—23AUG01

A—Ignition Key

CAUTION:

Avoid the possibility of personal injury or death. Engine starting with shift lever in gear indicates a malfunction of the starting circuit. Repairs should be made immediately by 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 the operator seat.

Before Starting The Tractor

1. SCV levers are in NEUTRAL position.
2. PTO is disengaged.
3. Hand throttle is in slow idle position.
4. Transmission shift lever is in PARK position.
5. Be sure everyone is clear of tractor and attached equipment.
6. Depress clutch and brake pedals.
7. Sound the horn.

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

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

If Engine Fails To Start:

- Check Fuel (quality and quantity).
- Check Electrical system.

In cold weather (at or below -6°C (21°F), follow steps listed in Cold Weather Starting—With Starting Aid or Cold Weather Starting—Without Optional Starting Aid.

If engine fails to start after three attempts, it may be necessary to consult a John Deere service technician.

NOTE: For tractors equipped with IVT, the engine speed will be limited to 1500 rpm if the transmission oil temperature is less than -5°C (23°F).

For tractors equipped with PST, the engine speed will be limited to 1500 rpm if the transmission oil temperature is less than -18°C (0°F).

OURX935,000040B -19-13AUG08-1/1

Stopping the Engine

IMPORTANT: Before stopping engine that has been operating at working load, idle engine at least 1 or 2 minutes at 1000—1200 rpm to cool hot engine parts.

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. Make sure PTO switch is disengaged.

CAUTION: Remove ignition switch key to help prevent accidents.

7. Turn ignition key to **OFF** position and remove key.

OURX935,0000625 -19-02JAN08-1/1

Engine Fuel System and Power Rating

Fuel System

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

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

Engine Certification/Power Rating

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

OURX935,000040A -19-18JAN06-1/1

Using Engine Coolant Heater—If Equipped

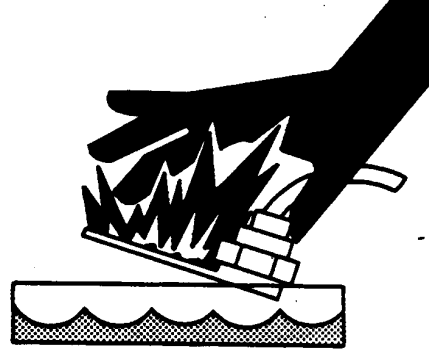
CAUTION: To avoid electrical shock or fire, use a three-wire, 14 AWG (14 gauge), heavy-duty electrical cord with 15-amp rating, suitable for outdoor use.

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

- Engine Block (1000 W)

The 1000-watt, 220-volt coolant heater is located on left-hand side of engine.

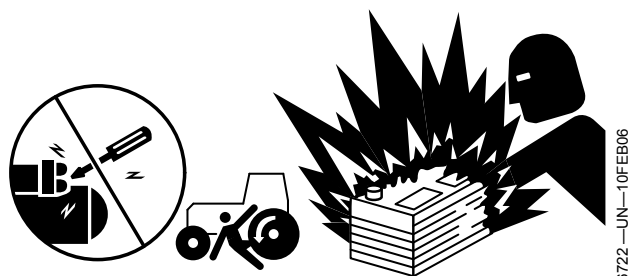
By warming engine coolant the heater reduces oil drag, eases starting and shortens warm up time.



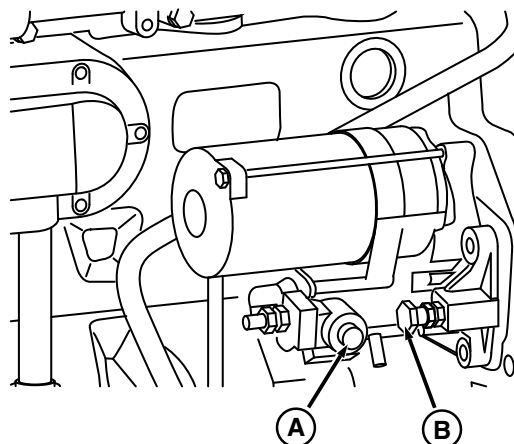
TS210 —UN—23AUG88

OURX935,000052C -19-22MAR06-1/1

Using a Battery Booster or Charger



RXA0086722 —UN—10FEB06



RXA0080175 —UN—07APR05

A—Positive Terminal

B—Ground

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

IMPORTANT: Be sure 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 booster batteries are producing a 12 volt charge.

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.

Booster Battery

1. Attach cable (red) to the remote positive terminal (A) of the starter and positive terminal of booster battery.
2. Attach (black) battery cable to negative terminal of booster battery. Attach other end to a ground (B) on tractor frame.
3. Remove ground cable first when disconnecting.

Battery Charger

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

1. 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 manufacturers instructions.
3. Switch charger to OFF. Remove negative charger lead first, then positive lead.

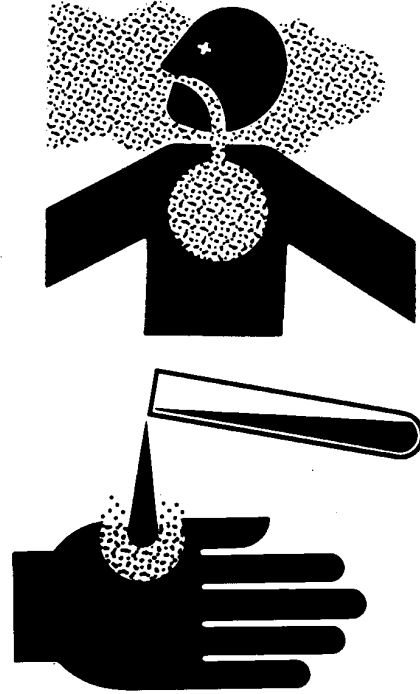
OURX935,0000584 -19-10FEB06-1/1

Operating the Tractor

Avoid Contact with Pesticides

⚠ CAUTION: This enclosed cab does not protect against inhaling harmful pesticides.

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



TSS220 —UN—23AUG88

TSS272 —UN—23AUG88

DX,CABS1 -19-03MAR93-1/1

Clean Tractor of Hazardous Pesticides

⚠ CAUTION: Avoid personal injury. Clean inside of cab and outside of tractor after application of hazardous pesticides. Pesticide residue can build up.

Clean exterior and interior of tractor daily to prevent contamination:

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

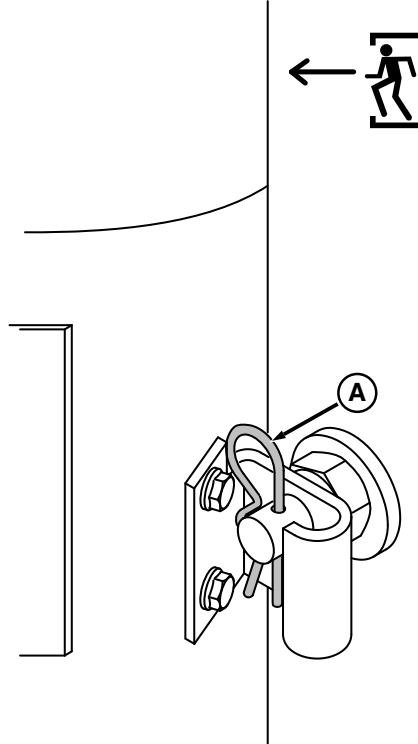
OURX935,000079F -19-31JAN06-1/1

Using Right Door Emergency Exit

Removable right-hand cab window provides a large exit path if cab door is blocked in an emergency situation.

To remove window, pull pin (A) and push out glass.

A—Window Lock Pin



RXA0068256 —UN—10SEP03

OURX935.00004C1 -19-28AUG08-1/1

Using Emergency Exit

The rear window (B) provides a large exit path if the cab door is blocked in an emergency situation. To exit through rear window, turn handle (A) and push window open.

A—Handle

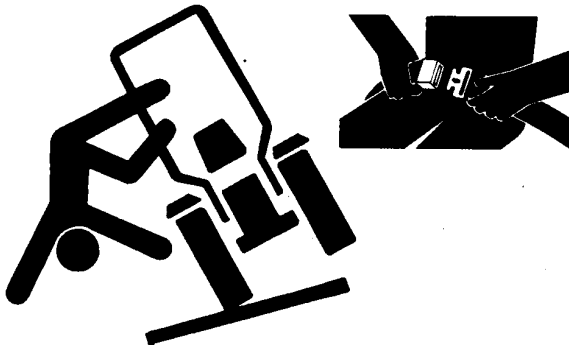
B—Rear Window



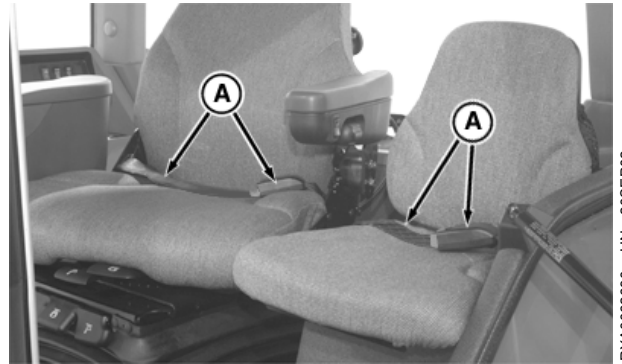
RXA0090226 —UN—08AUG06

OURX935.000051C -19-07AUG06-1/1

Using Seat Belts



TS205 —UN—23AUG88



RXA0062690 —UN—20SEP02

Optional Instructional Seat Shown

A—Seat Belts

⚠ CAUTION:

Minimize chance of possible injury from an accident. Use seat belts (A) when operating the tractor.

Instructional seat is provided only for training operators or diagnosing machine problems. Keep

all other riders off the tractor and equipment. Always wear your seat belt.

Inspect seat belts and mounting hardware annually. (See General Maintenance and Inspection section).

OURX935,0000467 -19-02JAN08-1/1

Transmission/Hydraulic System Warm-Up

Avoid operating tractor under load until transmission/hydraulic system has warmed up.

Install jumper hose (A) into SCV I coupler.

Shift transmission to PARK position and operate engine at 1500 rpm.

On the TouchSet panel, push SCV I button (B). Turn time control knob (E) until "C" (continuous) is displayed.

On the CommandARM, place SCV I lever in extend position.

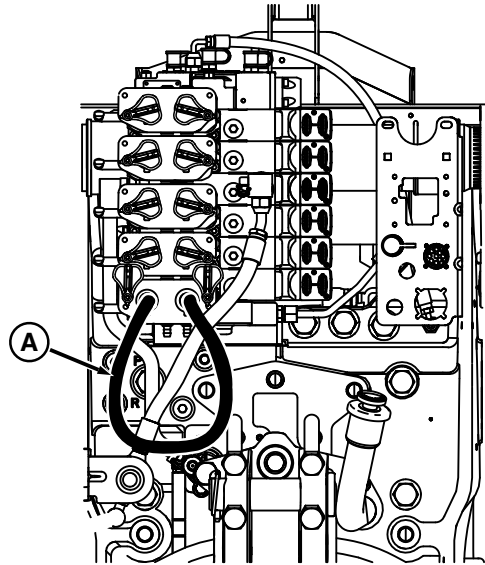
On the TouchSet panel, push SCV II button (C). Rotate time control knob clockwise until "C" (continuous) is displayed.

On the CommandARM, place SCV II lever (G) in extend position.

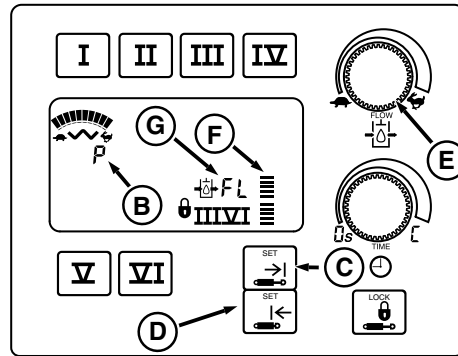
On the TouchSet panel, select SCV I and turn oil flow rate knob (D) until engine is slightly loaded (approximately 7.0—7.2).

Return SCV I and II levers to neutral position after transmission/hydraulic system has warmed up.

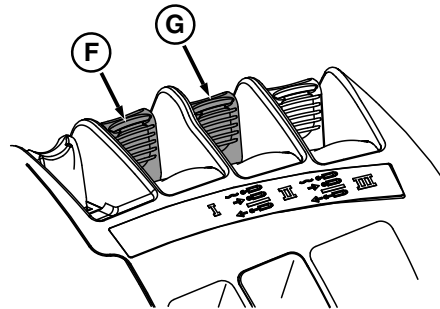
- | | |
|----------------------|---------------------|
| A—Jumper Hose | E—Time Control Knob |
| B—SCV I Switch | F—SCV I Lever |
| C—SCV II Switch | G—SCV II Lever |
| D—Oil Flow Rate Knob | |



Install Jumper Hose into SCV Coupler



TouchSet Panel



CommandARM

RXA0097035 —UN—13AUG08

RXA0097429 —UN—27FEB08

RXA0083192 —UN—09AUG05

OURX935,0000076 -19-05MAR08-1/1

Operating Tractor with Independent Link Suspension

Start Up Mode

- Independent Link Suspension does not move until placed into either forward or reverse.
- Independent Link suspension flexes when transmission shift lever is placed in NEUTRAL or any forward or reverse gear.
- If tractor has settled, Independent Link Suspension may rise about 25 mm (1 in.) seeking to center.
- Leveling is completed when tractor wheel speed is above 0.5 km/h (0.3 mph).

Independent Link Suspension is Locked (in Restricted Mode) under Following Conditions:

- Operator activates hitch raise/lower switch
- Transmission shift lever placed in PARK
- Wheel speed less than 0.5 km/h (0.3 mph)
- While correcting for an out of level condition
- Operator applies both brake pedals

Rear Hitch:

- Controllers limit suspension response when hitch is raised or lowered with a load since front weight changes
- Depressing clutch and moving transmission shift lever into gear for four seconds and then back to NEUTRAL adjusts suspension toward the mid-point. This can be repeated until tractor levels when attaching and detaching implements.

Parking Tractor:

IMPORTANT: Prevent possible damage. Do not park tractor with equipment or items under the front end of tractor.

- Front end can settle when tractor is parked. Keep front end of tractor away from equipment or other items.

OURX935.00007A1 -19-02JAN08-1/1

Using The Brakes

Use individual brakes (A or C) to assist in making sharp turns.

CAUTION: Avoid possible injury from losing control of tractor:

- Lock brake pedals together with arm (B) when operating on roads.
- Reduce speed if towed load weighs more than the tractor or when transporting loads under adverse conditions. Avoid hard braking applications. (See **TRANSPORTING TOWED EQUIPMENT**, in Transport Section and Implement Manual.)
- Tractor wheels may lock and skid on slippery downhill slopes. (For AutoPowr tractors, See **DOWNHILL OPERATION IN SLIPPERY CONDITIONS**, in Operating AutoPowr Transmission section.)

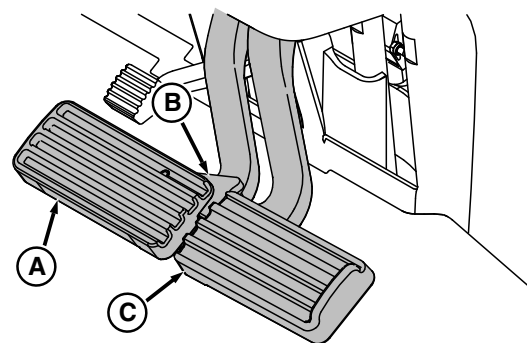
Test brakes with engine stopped to be sure manual brake system is functioning. (See General Maintenance and Inspection section).

Use individual brake pedals to assist in making sharp turns in non-transport situations.

IMPORTANT: Avoid unnecessary wear on brakes and increased fuel consumption. DO NOT rest feet on brake pedals during tractor operation.

For AutoPowr Tractors Only

AutoPowr is a trademark of Deere & Company



Lock Individual Brakes Together While Transporting

A—Brake Pedal
B—Arm

C—Brake Pedal

When operating at low idle, individual brake pedals will stop tractor without the use of clutch. To assist slow speed turning, depress either brake pedal while slowly increasing engine speed until desired turn is achieved. Returning engine speed to low idle while continuing to depress one brake pedal will slow tractor to a stop.

NOTE: Depressing the clutch to stop a tractor equipped with AutoPowr™ is not necessary. (See **STOPPING AND PARKING TRACTOR** in the Operating AutoPowr transmission Section.)

RXA0068386 —UN—27AUG03

OURX935.0000225 -19-17JUL05-1/1

Using Secondary Hand Brake—If Equipped

NOTE: Secondary hand brake applies:

- Front brakes on tractors equipped with Independent Link Suspension
- Trailer brakes on tractors equipped with pneumatic brakes
- Restriction in shifting transmission into gear until brake is released

NOTE: Secondary hand brake is off when switch (A) is in the down (the default) position). Switch is spring loaded to off position so must be helped up to engage brake.

1. As the lever is lifted, the secondary brake will be proportionally applied with increasing braking force.
2. When released, the lever will return to the down position and the brake will be disengaged.



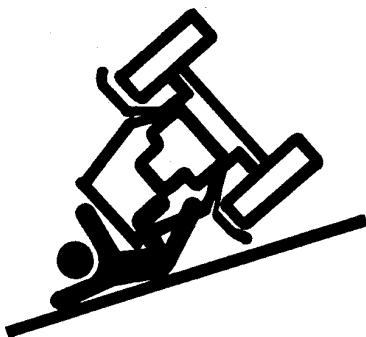
Hand Brake Switch

A—Hand Brake Switch

RXA0097475 —UN—07MAR08

OURX935,0000077 -19-07AUG08-1/1

Using Mechanical Front-Wheel Drive



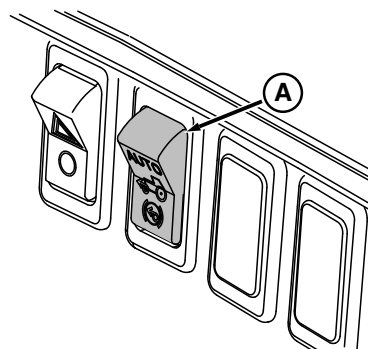
A—MFWD Switch

CAUTION: Avoid personal injury or death. Reduce speed when driving on icy, wet, or graveled surfaces.

Ballast tractor correctly to avoid skidding and loss of steering control. Engage front-wheel drive by using ON mode, rather than AUTO mode for four-wheel braking.

IMPORTANT: Use only AUTO or BRAKE ASSIST positions when transporting tractor. See Transport Section.

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



RW13093 —UN—07DEC88

RXA0068287 —UN—27AUG03

Center **ON** Position—engages MFWD. MFWD on under all conditions. Indicator on display console will show engagement.

Top **AUTO** Position. Indicator on display shows MFWD engagement.

MFWD Automatically Disengages;

- When pressing either brake pedal
- At speeds above 20.5 km/h (12.7 mph)

MFWD Automatically Engages;

- When BOTH brake pedals are depressed
- At any speed below 19.5 km/h (12 mph)

Bottom **BRAKE ASSIST** Position—MFWD OFF **except** when BOTH brake pedals are depressed at speeds above 5 km/h (3 mph).

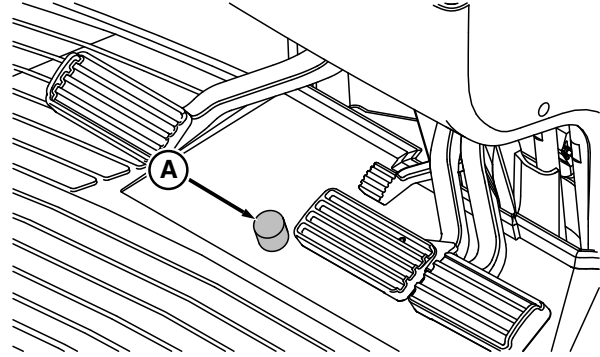
OURX935,00007A3 -19-06DEC07-1/1

Using Differential Lock

NOTE: On some tractors both front and rear axles have differential locks. When equipped with both, the front axle differential lock will engage when the rear differential lock engages.

When one wheel begins to slip, engage differential lock by pressing switch (A). Indicator light on display panel will light. Disengage differential lock by pressing either brake pedal.

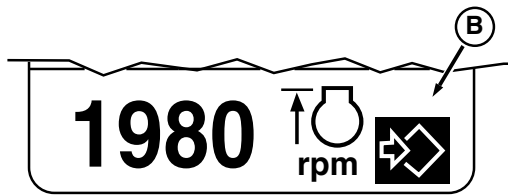
A—Differential Lock Switch



RXA0069157 —UN—27AUG03

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Using FIELDCRUISE™



A—Command Dial

B—FieldCruise Screen

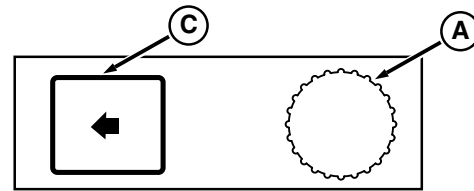
IMPORTANT: Engine must be running for FieldCruise to operate.

Rotate Command dial (A) to bring FieldCruise screen (B) to bottom-half display.

Press SELECT switch (C), rotate Command dial to raise or lower engine rpm setting as needed, and press SELECT switch again. Engine speed can be adjusted from 1100—2150 rpm. Changes to rpm setting take place immediately. When FieldCruise is not in use, "OFF" is displayed instead of the rpm speed.

FieldCruise utilizes a constant speed governor curve, providing instant response to varying loads. Use of

FIELDCRUISE is a trademark of Deere & Company



C—SELECT Switch

FieldCruise will remove availability of power surge and as such is not recommended for heavy tillage applications.

Limiting engine speed in light load situations may improve fuel economy.

AutoPowr: Use of the AutoPowr Selector Switch and related CommandCenter settings is the preferred method of controlling engine rpm, but FieldCruise can be considered for certain applications such as PTO operation when baling.

RXA0068149 —UN—22JUN03

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Hydraulic Trailer Brakes (If Equipped)

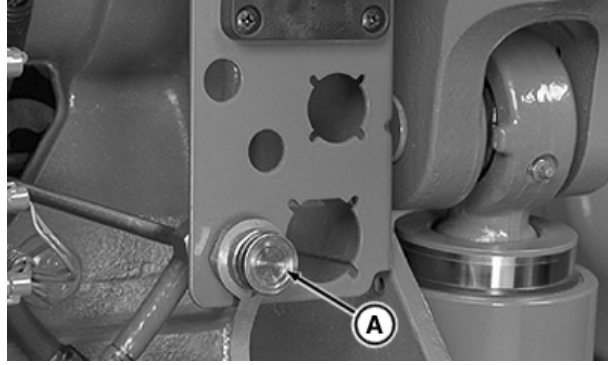
⚠ CAUTION: Avoid possible injury from losing control of tractor equipped with AutoPowr transmission operating on downhill slopes. Tractor wheels may lock and skid on slippery downhill slopes. (See **DOWNHILL OPERATION IN SLIPPERY CONDITIONS** in Operating Tractor—AutoPowr Transmission section.)

Remove cap from trailer brake coupler (A). Connect pressure hose to brake coupler, making sure hose end and coupler are clean.

Depress brake pedals to operate hydraulic trailer brake. The braking effect depends on pressure applied to the brake pedals.

IMPORTANT: Reduce brake wear:

- **Make sure the pressure hose is connected.**
- **Select the same gear for both downhill and uphill driving.**
- **Check the hydraulic trailer brake regularly for correct functioning.**



RXA0082409 —UN—25JUL05

A—Trailer Brake Coupler

Bring tractor-trailer to a complete stop, shift transmission to PARK before dismounting tractor or disconnecting lines from couplers. Seal connections with dust caps whenever hoses are disconnected.

OURX935,0000468 -19-07AUG08-1/1

Using Pneumatic Trailer Brakes

⚠ CAUTION: Avoid possible injury from losing control of tractor equipped with AutoPowr transmission operating on downhill slopes. Tractor wheels may lock and skid on slippery downhill slopes. (See **DOWNHILL OPERATION IN SLIPPERY CONDITIONS** in Operating Tractor—AutoPowr Transmission section.)

Clean connections before attaching air hoses. Lift cover from brake coupler and connect trailer hoses.

Attach trailer lighting plug to tractor 7-pin connector.

Start engine and allow air system to reach working pressure. While air pressure builds, Service Alert indicator light comes on and air pressure warning appears on CommandCenter display. When operating pressure is reached, indicator light and warning display shut off automatically.

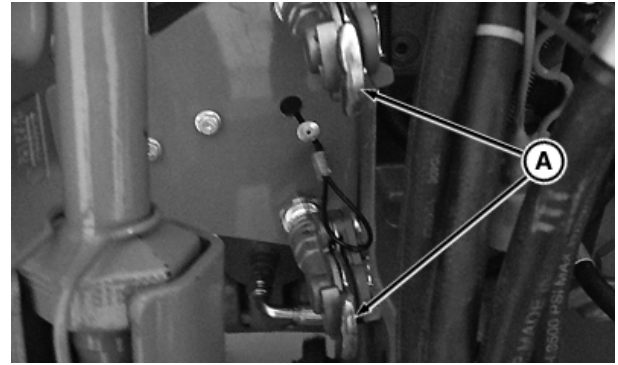
Clean connections before attaching air hoses. Lift cover from trailer brake coupler and connect trailer hose coupling. Seal connections with dust caps whenever hoses are disconnected.

Start engine and allow air system to reach working pressure. While air pressure builds, Service Alert indicator light comes on and air pressure warning appears on CommandCenter display. When operating pressure is reached, indicator light and warning display shut off automatically.

IMPORTANT: With trailer lines connected, do not drive tractor until operating pressure is reached and service alert light and warning display shut off.

Depress brake pedals to stop tractor-trailer while disengaging the clutch.

NOTE: Depressing the clutch to stop tractor equipped with AutoPowr transmission is not necessary. See



Brake Couplers

A—Yellow (Service)

B—Red (Park)

STOPPING AND PARKING THE TRACTOR in Operating Tractor—AutoPowr Transmission.

IMPORTANT: Reduce brake wear:

- **Make sure the pressure hoses are connected.**
- **Select the same gear for both downhill and uphill driving.**
- **Check the air brake on the trailer regularly for correct functioning.**

A field installation kit is available for older equipment requiring a single line braking system. See your John Deere dealer.

NOTE: If tractor is equipped with field installed single line braking system kit, trailer brake may be used at speeds up to 25 km/h (15 mph) only.

RXA0097297 —JUN—19FEB08

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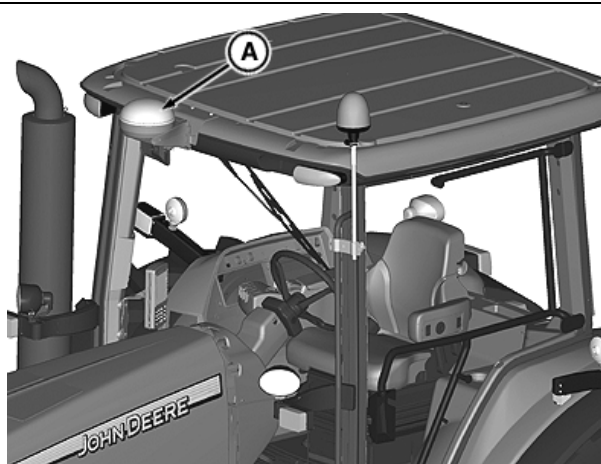
AutoTrac Assisted Steering System (If Equipped)

NOTE: Electro-hydraulic steering is required for AutoTrac to function. Refer to AutoTrac Operator's Manual for detailed instructions.

- AutoTrac system utilizes StarFire™ position receiver (A), GreenStar display and mobile processor (B) to assist operator in steering tractor. See Locating GREENSTAR™ System Connections in this Operator's Manual.
- Operator must enter implement width minus overlap desired in GreenStar display, and drive first field pass in a straight line, to enter starting and ending points of desired path.
- To activate AutoTrac initially, push Resume switch located on the CommandARM after Greenstar display has been enabled. For each field pass after that, the mark (C) on the display should stay in the middle of the tractor hood (D), when AutoTrac is being used.
- AutoTrac is a straight-line guidance system. Operator must turn vehicle at the end of each pass and to go around any field obstacles. Steering control is obtained by simply turning steering wheel.

A—Position Receiver
B—Mobile Processor

C—Mark
D—Tractor Hood



RXA0080528 —UN—28APR05



RXA0072417 —UN—05DEC03

StarFire is a trademark of Deere & Company
GREENSTAR is a trademark of Deere & Company

OURX935,00007A8 -19-02JAN08-1/1

Operating Powershift Transmission

Operating the Transmission

CAUTION: Avoid personal injury or damage to tractor. If engine starts with the shift lever in gear, there is a malfunction of the starting circuit. Repair should be made immediately by your John Deere Dealer.

IMPORTANT: Prevent transmission or clutch damage:

- Never depress clutch pedal while tractor is rolling downhill or coasting since serious transmission damage may result
- Never attempt to start tractor by towing or pushing
- Stop tractor completely before shifting to PARK position
- Avoid excessive ballast
- Avoid continuous operation under full throttle and full load conditions below 1800 rpm
- Clutch pedal must be fully depressed to completely disengage clutch

Transmission is shifted using lever (A).

Transmission can be shifted, without use of clutch pedal, either into a forward or reverse direction.

Clutch pedal allows operator maximum manual control for connecting implements, operating in confined areas, or rocking tractor.



A—Transmission Shift Lever

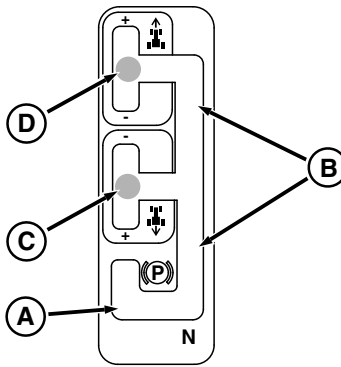
The corner post will display "N" for NEUTRAL, or "F" or "R" for forward and reverse directions plus selected gear.

NOTE: Operator presence switch is built into seat to prevent shifting into gear unless operator is in seat or clutch pedal is depressed.

OURX935.00004A3 -19-31JAN06-1/1

RXA0083249 —UN—10AUG05

Shifting the Transmission



A—Rear Slot

B—Right Slot

C—Center Slot

D—Front Slot

Shift Lever Positions

PARK — Rear slot (A)—Park brake applied when lever is fully forward in slot.

NEUTRAL — Right slot (B)—Park brake is released when lever is moved to the right slot.

Reverse — Center slot (C)—Tractor will begin moving rearward when lever enters this slot. Push lever forward for downshifts and pull rearward for upshifts.

Forward — Front slot (D)—Tractor will begin moving forward when lever enters this slot. Push lever forward for upshifts and pull rearward for downshifts.

Commanded Gears

NOTE: Use a higher gear and lower engine speed for light load operations to save fuel and reduce wear. Under full load conditions, use full throttle engine speed.

Transmission will start out in 7F and 2R after engine is started. These are the default gears.¹

Once in forward or reverse, commanded gear changes to the last gear of operation before shifting to NEUTRAL.

The initial commanded gear can also be changed prior to initiating motion to match the operation.

FORWARD gears (1 through 13) and REVERSE gears (1 through 3) may be preselected by depressing clutch pedal and pushing or pulling shift lever until desired gear is displayed.

Cold Weather Starting

Transmission will not shift into 15F and 16F speeds until normal operating temperature has been reached. Delayed shifting may also be noticeable.

Shifting From Reverse

The highest forward gear transmission will automatically shift to is 11F, when shifting from reverse. For example, if transmission is in 13F and is shifted to reverse, and then back to forward, transmission will automatically shift to 11F.

However, if transmission is in 13F or higher and tractor is stopped by using clutch or shifting to NEUTRAL and not shifted through reverse, transmission will be in 13F when shifted forward again.

Shifting—WITHOUT Using Clutch Pedal

Hold lever to shift up or down to selected gear. Transmission will shift one gear at a time until lever is released.

"Bump" lever to quickly shift up or down to selected gear. Transmission will skip gears, if lever is moved faster than transmission can shift.

Shifting—Using Clutch Pedal

Hold lever to shift up or down until desired gear is displayed. Transmission will go into commanded gear when clutch pedal is released.

"Bump" lever to quickly shift up or down until desired gear is displayed. Transmission will go into commanded gear when clutch pedal is released.

Rapid Shift

To reach transport speed quickly, depress clutch pedal and rapidly "bump" shift lever to 13F. Transmission will shift directly to 13F when clutch is released. Once tractor is underway in 13F, "bump" shift lever to 16F.

Shuttle Shifting (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.

Commanded gear will be 2R, regardless of previous reverse gear, when shifting from 14F—16F to reverse.

Ground Speed Matching

CAUTION: Avoid possible accident and injury from loss of vehicle control. Never coast down hill.

Continued on next page

OURX935,00004A4 -19-31JAN06-1/2

RXA0083193 —UN—09AUG05

Transmission will match ground speed as clutch is released after tractor slows when clutch pedal is depressed at speeds greater than 13F or 3R.

Transmission will not match ground speeds as clutch is released after tractor slows when clutch pedal is depressed at speeds below 13F or 3R. Transmission will remain in 13F or 3R even if tractor comes to complete stop.

Transmission will not up shift to match ground speed as clutch is released, if tractor speeds up while clutch pedal is depressed.

¹*Programmed forward gear can be changed from 7F to either 5F or 9F; reverse gear can be changed from 2R to 1R. See SETTING STARTUP GEAR in this section.*

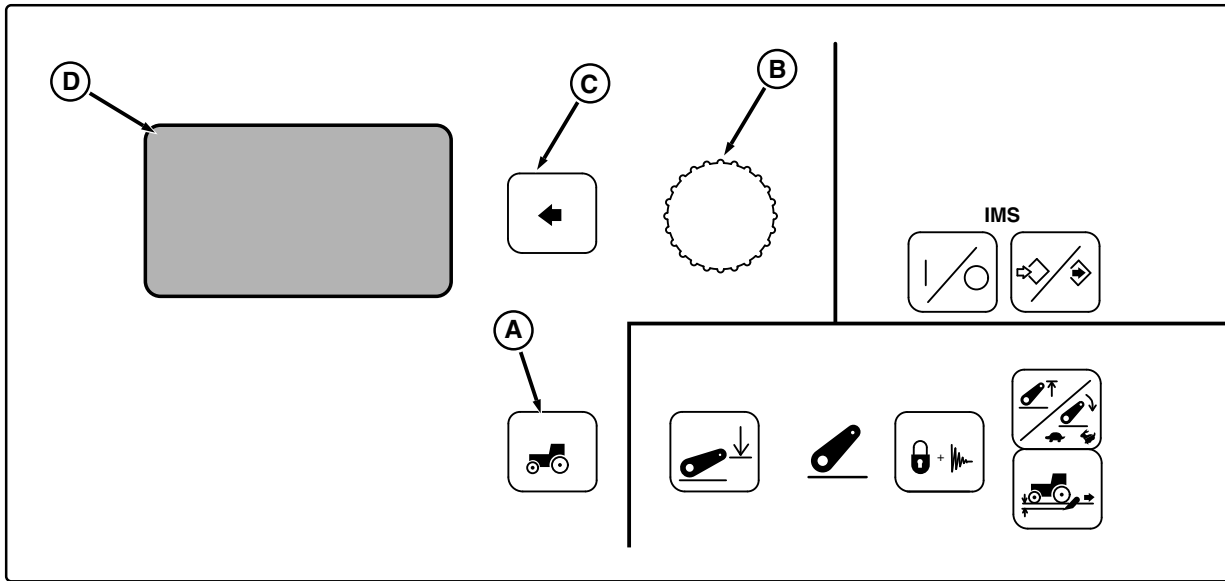
Load Starting—13F

Starting out in 13F with a heavy load may cause clutch to slip excessively. A flashing transmission symbol and a Service Alert warning light will display. Downshift to a lower gear.

Transmission will automatically shift from 13F to 11F if not downshifted and too much heat is detected.

OURX935.00004A4 -19-31JAN06-2/2

Setting Startup Gear



RXA0082971 —UN—04AUG05

CommandCenter

A—Settings Switch

B—Command Dial

C—Select Switch

D—Display

1. Press Settings Switch (A).

Display will be:

- Implement Sel
- RPTO Engage
- **Transmission**
- Hitch Slip Response

2. Using Command Dial (B), scroll down to **Transmission**, then press Select Switch (C).

Display will be:

- Auto Shift
- **Fwd Start Gear**
- Rev Start Gear
- Back

3. To change forward start gear, using Command Dial scroll down to **Fwd Start Gear** and press Select Switch. Rotate Command Dial clockwise to increase the gear displayed or counterclockwise to decrease the gear displayed.

To change reverse start gear, using Command Dial scroll down to **REV Start Gear** and press select switch. Rotate Command Dial clockwise to increase the gear displayed or counterclockwise to decrease the gear displayed.

4. A number will be displayed. Rotate Command Dial clockwise to increase the gear (number) displayed or counterclockwise to decrease the gear (number) displayed.
5. When the desired number for the gear is displayed, press Select Switch.

NOTE: New startup gear will not be locked into system memory until engine is turned off and tractor is restarted.

6. Turn Key switch OFF, after engine is shut off, restart engine.

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Operating Automatic PowerShift (APS)

Automatic PowerShift (APS) shifts transmission to maintain engine speed. APS will not shift above the maximum gear selected. Control unit determines shift points based on throttle setting, engine speed, and engine load.

The autoshift sensitivity can be changed through the transmission setting in the CommandCenter, if necessary, but the medium setting which is set from factory should satisfy most field applications.

1. Low RPM — This is the tightest engine speed control setting for APS load mode. It is intended to be used in applications where tight engine speed control is desired. It is automatically selected by the PTP control unit when the PTO is ON. The Low RPM text description implies that minimal engine speed droop is required to initiate automatic shifts.

2. Medium RPM — This is a moderate engine speed control setting for APS load mode. It is the factory default and is intended to be used for most field applications where a moderate level of change in load will be encountered and a balanced sensitivity to changing loads is desired.

3. High RPM — This is the widest engine speed control setting for APS load mode and allows more load change before initiating any automatic shifts. This may be useful in applications where highly variable load conditions will be encountered.

Transmission will downshift as many gears as necessary under heavy load. A change in throttle position allows a maximum downshift or upshift of three gears.

- Set throttle to full engine rpm.
- Select maximum forward gear.
- Press the **SET** switch. APS indicator will light. APS will automatically downshift and upshift as engine rpm or load changes.
- When using Automatic PowerShift.

Any manual shift cancels APS. Pushing **RESUME** switch (A) restores control of shifting to APS.



A—Resume Switch

Depressing clutch pedal suspends APS but will not cancel APS function. APS will resume when clutch pedal is released.

NOTE: APS can be programmed into Implement Management System (IMS). See Implement Management System Section.

APS is cancelled when:

- Operator shifts transmission
- Operator shifts to NEUTRAL or REVERSE

Operating AutoPowr Transmission

Controls Identification

AutoPowr transmission provides infinite ground speeds in the forward mode from 50 meters per hour (164 feet per hour) to 40 km/h (25 mph). Reverse mode provides infinite ground speeds from 50 meters per hour (164 feet per hour) to 18 km/h (11 mph). Maximum speeds may vary slightly due to tire size. Left-hand reverser allows shuttle-shifting.

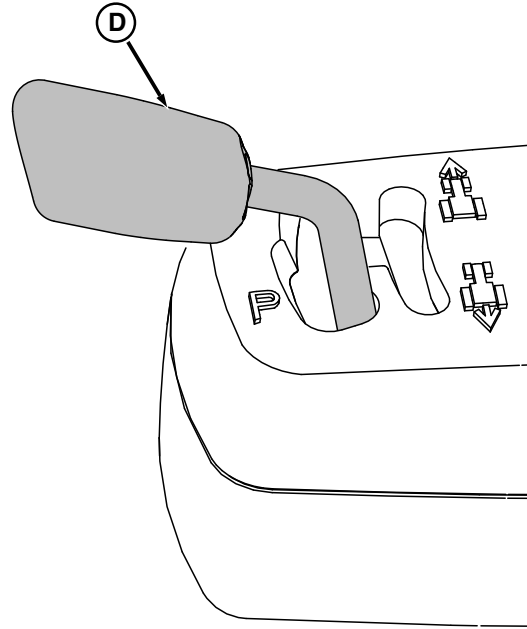
AutoPowr tractors are equipped with either a left-hand reverser or right-hand reverser. A left-hand configuration requires two levers; the left-hand reverser lever (D) which controls tractor direction, park and neutral. The second lever, the speed control lever (E), located on the CommandARM™ that controls the transmission ratio.

The right-hand option consists of a right-hand reverser lever (A) located in the CommandARM and controls all functions of both levers in the left-hand configuration.

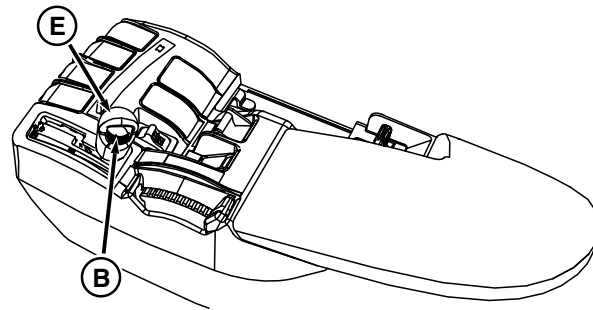
There are two variable speed bands in the forward direction on all tractors. Tractors equipped with a left-hand reverser also have two speed bands in reverse. Tractors equipped with right-hand reverser will have only a single reverse band.

Set speeds are the maximum ground speeds in each speed band. The speed control lever must be pushed to the end of the slot and be at full throttle. Set speeds are adjusted by rotating knob (B).

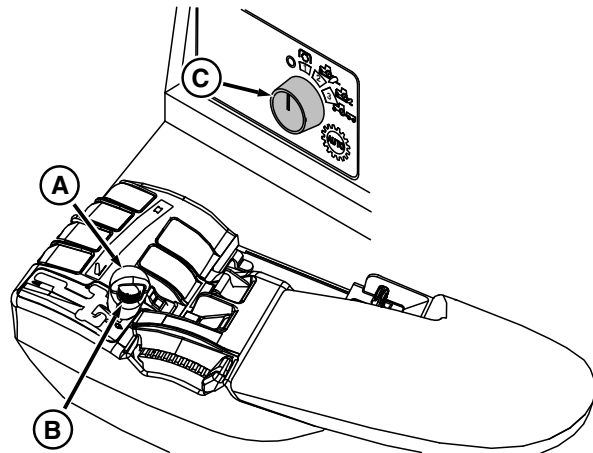
- A—Right-Hand Reverser Lever
- B—Set Speed Adjuster
- C—Selector Switch
- D—Left-Hand Reverser Lever
- E—Speed Control Lever



Left-Hand Reverser



Speed Control Lever



Right-Hand Reverser

CommandARM is a trademark of Deere & Company

BB92646,000001E -19-17JUN05-1/1

RXA0068274 —UN—27AUG03

RXA0081245 —UN—10JUN05

RXA0080725 —UN—10JUN05

Left-Hand and Right-Hand Reverser Shift Patterns

Park (A): Locks transmission to hold tractor stationary, preventing it from rolling; "P" will appear on corner post display.

Neutral (B): Unlocks tractor, allowing it to roll, but does not transmit power to the wheels; "N" will appear on corner post display.

Reverse (C): Transmits power to wheels for rearward travel; "R" will appear on corner post display.

Power Zero (D): Hand-held position is used to temporarily hold tractor stationary on a relatively flat surface.

Scroll (E): Scrolls set speeds on corner post display.

Forward Speed Band 1 (F): Transmits power to wheels for forward travel; "F1" will appear on corner post display.

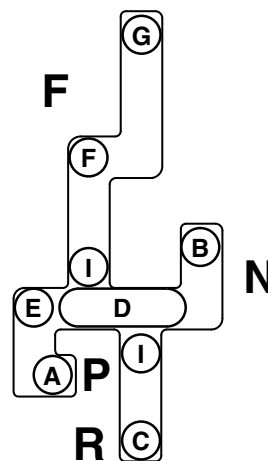
Forward Speed Band 2 (G): Transmits power to wheels for forward travel; "F2" will appear on corner post display.

Forward (H): Transmits power to wheels for forward travel; "F" will appear on corner post display.

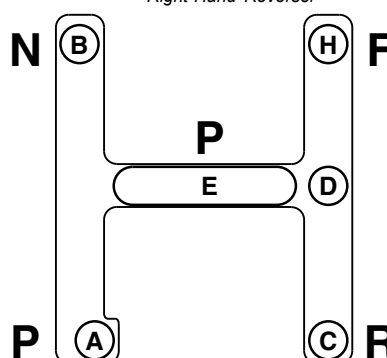
Minimum Speed (I): Transmits power to wheels in direction selected.

A—Park
B—Neutral
C—Reverse
D—Power Zero
E—Scroll

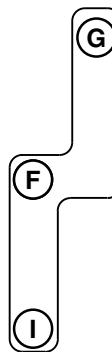
F—Forward Speed Band 1
G—Forward Speed Band 2
H—Forward
I— Minimum Speed



Right-Hand Reverser



Left-Hand Reverser



Left-Hand Reverser Speed Lever

RXA007572 —UN—14MAY08

RXA007570 —UN—10JUN05

RXA007571 —UN—10JUN05

OURX935,00004B6 -19-27AUG08-1/1

Operating The Transmission

⚠ CAUTION: Avoid personal injury or damage to tractor. If engine starts in gear, there is a malfunction in the starting circuit. Repairs should be made immediately by your John Deere dealer.

IMPORTANT: Prevent transmission or clutch damage:

- Never depress clutch pedal while tractor is rolling downhill or coasting, as serious transmission damage may result
- Never attempt to start tractor by towing or pushing
- Stop tractor completely before shifting to PARK position
- Avoid excessive ballast
- Clutch pedal must be fully depressed to completely disengage clutch. Never rest foot on clutch pedal while tractor is moving

NOTE: On tractors equipped with AutoPowr transmission an automatic calibration update is triggered after all the following conditions are true for a continuous 20 seconds:

- Engine operating at less than 1300 rpm
- Transmission is in PARK
- Transmission oil temperature is greater than 25 °C (77°F)
- PTO OFF

Calibration is attempted only once per engine start and will be aborted if shift lever is moved during the calibration process. If calibration process is interrupted, tractor reacts normally to operator commands. This does not affect the tractor and calibration is not attempted again during that engine start up. The calibration process takes

approximately 45 seconds, but the noticeable portion of the calibration process takes only 30 seconds. During the process, the software is updating values for the control valves. The operator will hear a slight gear whine as various speeds and shifts are performed. Transmission Cal will be displayed on the CommandCenter display lower half during the process, then the display will return to normal.

Starting Engine

IMPORTANT: Tractor with left-hand reverser can start in neutral.

Tractors with right-hand reverser cannot start in neutral. If tractor does start in neutral, contact your John Deere dealer for repair.

Ensure transmission is in PARK position; corner post monitor will display "P" for park. Start engine.

Stopping Engine

For tractors with left-hand reverser, reduce engine speed to low rpm, pull speed control lever back to slowest setting and depress brake pedals until travel stops. Move left-hand reverser lever to PARK position. Slowly release brakes and stop engine.

For tractors with right-hand reverser, reduce engine speed to low rpm, pull right-hand reverser lever back to slowest setting and depress brake pedals until travel stops. Move right-hand reverser lever to PARK position. Slowly release brakes and stop engine.

⚠ CAUTION: Always place reverser lever in PARK position before dismounting tractor.

OURX935.00004B7 -19-27AUG08-1/1

Adjusting Set Speeds

CAUTION: Avoid unexpected rapid acceleration. Check and adjust set speeds before putting tractor in motion.

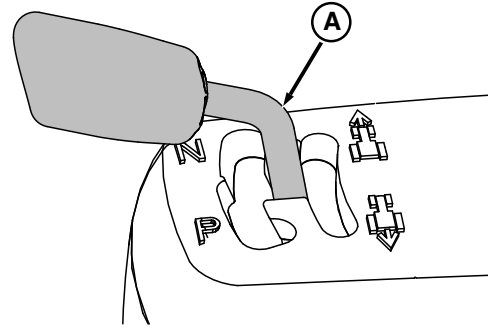
Turn key switch to "RUN" position. (For tractors with right-hand reverser, engine must be running.)

Move lever (A) to Scroll position. The forward and reverse set speeds will scroll on the corner post display (B) pausing at each speed for two seconds. Bar graph (C) indicates approximate set speeds for each forward and reverse speed band.

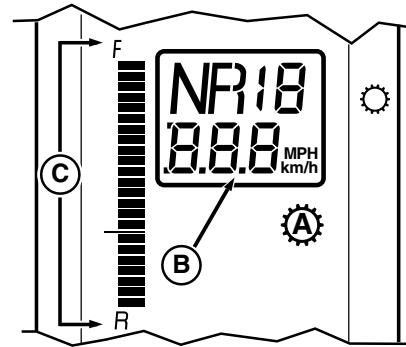
Adjust each speed when it displays by rotating the set speed adjuster on the speed control lever forward to increase the set speed value or rearward to decrease it.

NOTE: Set speed adjustments may affect the corresponding set speed of the opposite direction. (See ADJUSTING REVERSE-FORWARD SET SPEED RATIO in this section.)

A—Left-Hand Reverser C—Bar Graph
B—Display



Left-Hand Reverser Shown



Corner Post Display

OURX935,00004B8 -19-27AUG08-1/2

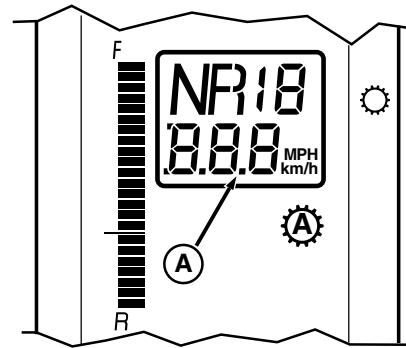
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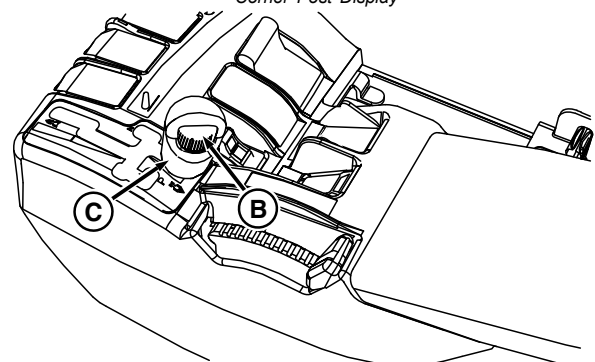
The set speed of a selected speed band and the ground speed of the tractor can be adjusted while the tractor is moving by rotating set speed adjuster (B). Increasing set speed value will increase ground speed. Decreasing set speed value will decrease ground speed. New set speed will indicate on display (A).

The maximum ground speed of a selected speed band is attained at full throttle when speed control lever (C) is pushed all the way forward to end of slot of the respective speed band.

A—Display C—Speed Control Lever
B—Set Speed Adjuster



Corner Post Display



Right-Hand Reverser Shown

OURX935,00004B8 -19-27AUG08-2/2

RXA0080543 —UN—29APR05

RXA0080648 —UN—04MAY05

Set Speeds—Guidelines And Examples

The value of Set Speed 1 will always be at least 10% less than the value of Set Speed 2. This ensures a smooth transition between speed bands and is illustrated in the following examples.

NOTE: F1 refers to Forward mode, Set Speed 1 in speed band 1. F2 refers to Forward mode, Set Speed 2 in speed band 2.

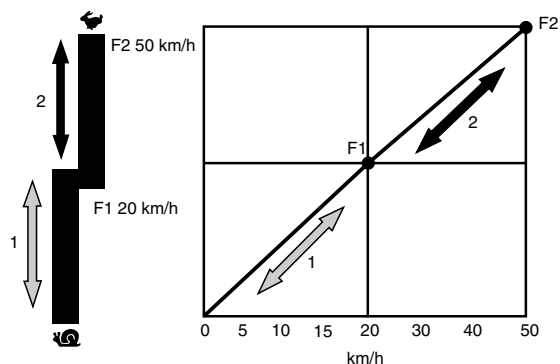
Example 1: Maximum Forward Set Speeds are selected for each speed band.

Example 2: Value of Set Speed 1 has been reduced to 10 km/h (6 mph). Set Speed 2 value has not been changed, but the lower portion of speed band 2 has automatically decreased to meet the top end of speed band 1.

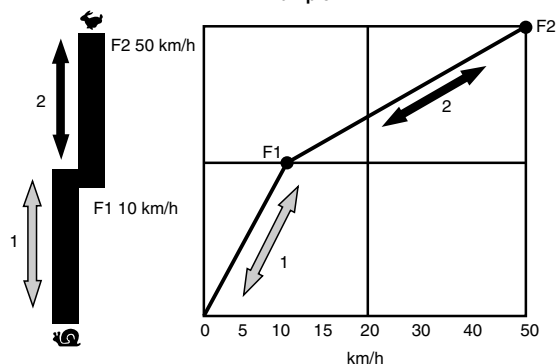
NOTE: Actual set speed increase or decrease will be at least 10% of the adjusted speed band, and can range up to 12.5%. Ten percent is used in illustrations of Examples 3 and 4, and can actually differ by as much as 2.5% of the speeds shown.

Example 3: Set Speed 2 has been reduced to 5 km/h (3 mph). Set Speed 1 automatically decreases to 4.5—4.3 km/h (2.8—2.7 mph), 10—12.5% below the new value of Set Speed 2.

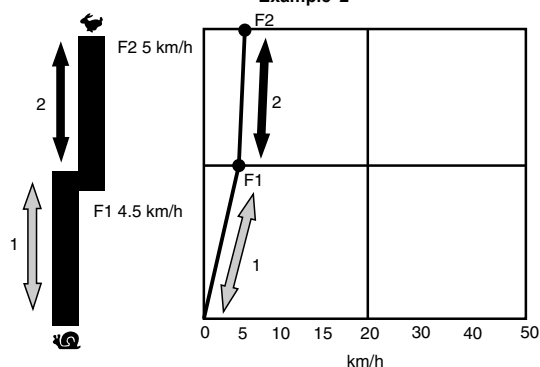
Example 4: Set Speed 1 has been increased to 20 km/h (12.4 mph), which is higher than the value of Set Speed 2. Set Speed 2 will automatically increase to 22—22.5 km/h (13.7—14.0 mph), 10—12.5% above the new value of Set Speed 1.



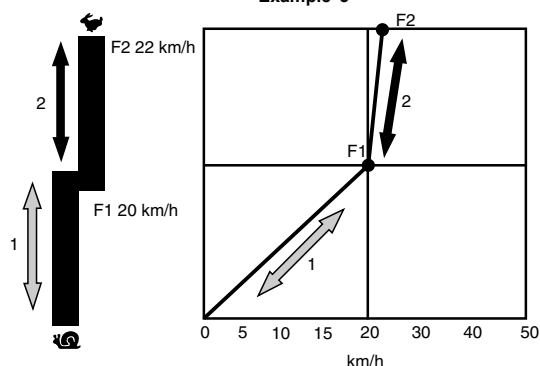
RXA0053043 —UN—26APR01



RXA0053045 —UN—26APR01



RXA0053049 —UN—26APR01



RXA0053047 —UN—26APR01

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Adjusting Set Speeds To Match Varying Load Conditions

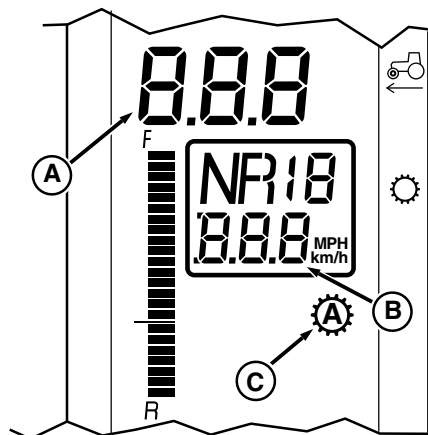
All Tractors:

Set speeds are obtained from measuring tractor axle speed combined with tire size details. Select a set speed that is approximately 3.2 km/h (2 mph) higher than the desired working speed in order to obtain maximum productivity in applications where a precise forward speed is **not** critical, such as plowing. The tractor will reach the higher set speed value during a no load or light load condition.

Symbol (C) indicates engine is at full load and transmission is shifting to maintain peak tractor performance. Commanded speed may not match actual speed.

Tractors Equipped with Radar:

The ground speed (A) indicated on the display will always be lower than the set speed (B) if **there is a measurable wheel slip**.



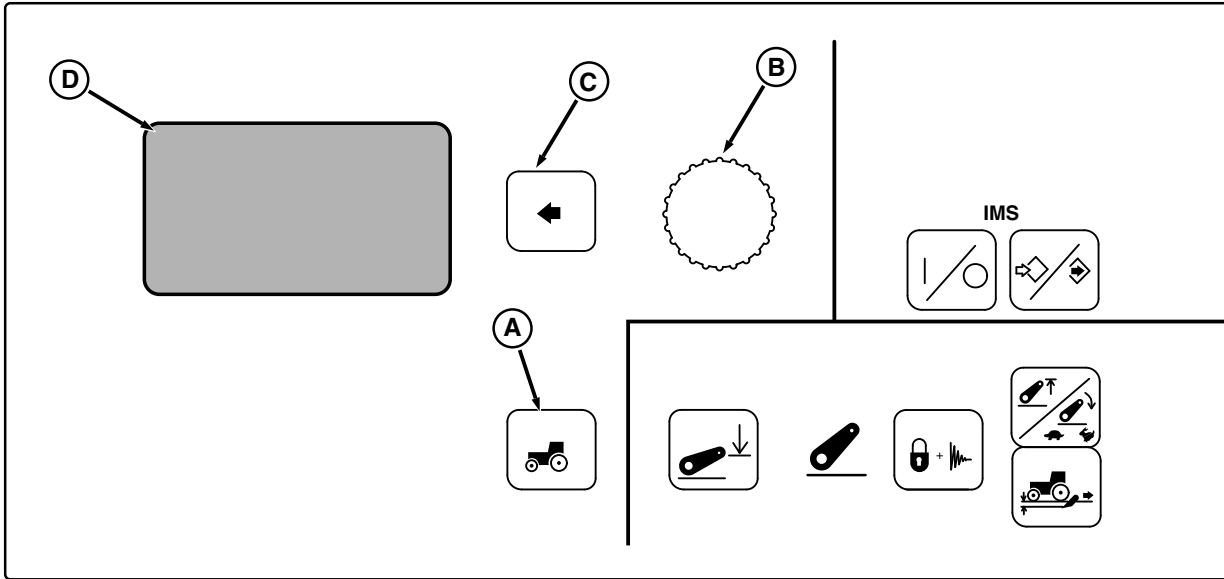
A—Ground Speed
B—Set Speed

C—Full Load Symbol

RXA0080538 —UN—09AUG05

OURX935,00004BA -19-27AUG08-1/1

Adjusting Reverse-Forward Set Speed Ratio



RXA0082971 —UN—04AUG05

A—Vehicle Setting Switch

B—Command Dial

C—Select Switch

D—Display

NOTE: Not all languages are displayed on CommandCenter. Reference "Selecting Units and Language" in this manual for more information on languages that can be displayed.

The ratio of a Reverse Set Speed to its corresponding Forward Set Speed can be adjusted. (A set speed is the maximum ground speed that can be attained in a speed band.)

Starting at the main display (D) in the CommandCenter, press Settings Switch (A), rotate Command Dial (B) to highlight Transmission. Press Select switch (C) to view menu items on display (D). Rotate Command Dial (B) to highlight Rev/Fwd Ratio and press Select Switch (C).

Using Command Dial, change ratio setting between Reverse and Forward Set Speeds and press Select Switch

Reverse/Forward Ratio can be set to operate independent of each other or from 0.3-to-1.3 times as fast (in 0.1 increments). Forward and reverse set speeds are the same at 1.0 setting (1 to 1 ratio).

If Forward Set Speed is 4 km/h (2.5 mph) and Ratio is:	Reverse Set Speed km/h (mph) is:
0.3	1.2 (0.75)
0.5	2.0 (1.2)
1.0	4.0 (2.5)
1.3	5.2 (3.2)

Maximum reverse speed is to 18 km/h (11 mph) regardless of ratio.

Reverse Set Speed is also limited to be no more than 5 km/h (3.1 mph) faster than Forward Set Speed. As an example, if Forward Set Speed 2 (FSS2) is adjusted to 10 km/h (6.2 mph), Reverse Set Speed 2 is automatically limited to 15 km/h (9.3 mph). Then if FSS2 is adjusted down to 3 km/h (1.86 mph), RSS2 is adjusted to 8 km/h (5.0 mph) reverse speed.

NOTE: Only tractors equipped with a left-hand reverser have a Reverse Set Speed 2 (RSS2) band.

BB92646,0000084 -19-16AUG05-1/1

Putting 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.

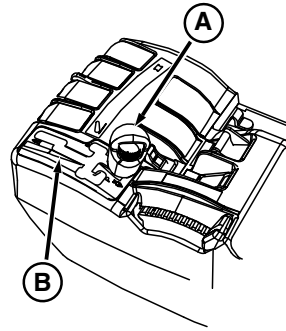
NOTE: Tractor cannot be put in gear unless operator is seated. Information indicator will light and a corresponding message appears on the CommandCenter display when Forward, Reverse, or NEUTRAL positions are selected and operator is **not** in the seat.

To initiate motion, move lever from PARK position to either Forward or Reverse position with operator seated.

NOTE: Cold conditions may affect AutoPowr tractor performance:

- Engine speed will be limited to 1500 rpm if transmission oil temperature is less than -5°C (23°F).
- Wheel speed is limited to 5 km/h (3.1 mph) if transmission oil temperature is less than -15°C (5°F).

Using the clutch to put tractor in motion is not necessary.



Right-Hand Reverser Shown

A—Speed Control Lever

B—Speed Band

NOTE: In the event of a seat switch failure, tractor can still be put into motion by cycling (depress/release) the clutch or brake pedals.

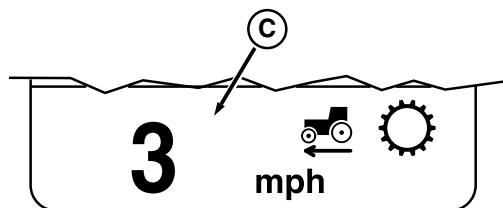
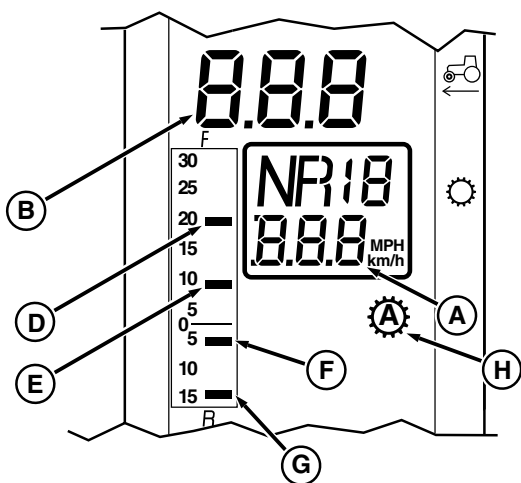
Move reverser lever into Forward or Reverse position.

Use throttle and speed control lever to obtain desired speed.

RXA0079023 —UN—28FEB05

OURX935,00004BB -19-27AUG08-1/1

Corner Post And CommandCenter Displays



A—Set Speed
B—Ground Speed

C—Commanded Speed
D—Forward Set Speed 2 (FSS2)

E—Forward Set Speed 1 (FSS1)
F—Reverse Set Speed 1 (RSS1)

G—Reverse Set Speed 2 (RSS2)
(Left-hand reverser only)
H—Full Load Symbol

Set Speeds

A set speed (A) is the maximum ground speed of selected speed band.

Ground Speed

The ground speed (B) value on tractors equipped with radar will always show a lower value than the set speed selected if there is measurable wheel slip.

Commanded Speed (CommandCenter Display)

Commanded speed (C) is determined by any given position of the speed control lever at full engine speed. If

the lever is pushed all the way forward to the end of the speed band slot, commanded speed will equal set speed.

Set Speed Bar Graph

Set Speed bar graph indicates set speed values by their relative position on the graph. Settings (D) and (E) are examples of Forward Set Speeds and are indicated on top part of graph. Settings (F) and (G) are examples of Reverse Set Speeds and are indicated on bottom part of graph.

OURX935.00004BC -19-27AUG08-1/1

Using Creeper Mode

Creeper mode is entered automatically when a set speed of less than 2 km/h (1.2 mph) is selected in speed band 1.

The default ratio between speed bands 1 and 2 is 2.5 in creeper mode. This is done to eliminate rapid acceleration when lever is moved into range 2. For example, if speed band 1 is set at 100 m/h (328.1 ft/h), the corresponding maximum speed in band 2 is 250 m/h (820.2 ft/h). The default ratio may be temporarily overridden (such as when making headland turns) by increasing speed band 2 to a

maximum of 10 km/h (6.2 mph). Moving the lever back to band 1 restores the previous working speeds.

Creeper mode is exited when Set Speed 1 is adjusted above 2 km/h (1.2 mph) or Set Speed 2 is adjusted above 10 km/h (6.2 mph).

Reverse set speeds are 1:1 ratio to forward. The ratio may be temporarily overridden by increasing reverse speed band. Moving the reverser back to forward restores previous working speeds and 1:1 ratio.

OURX935.00004BD -19-27AUG08-1/1

RXA0080545—UN—29APR05

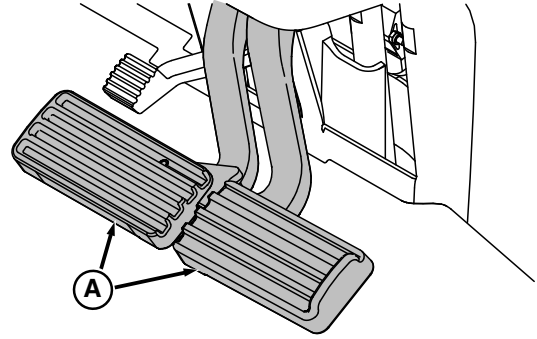
Using Individual Brake Pedals

Individual brake pedals (A) can be used to assist with slow speed off-road turning, such as hooking up to an implement. At low idle, the AutoClutch feature will stop the tractor if operator depresses only one brake pedal. IT IS NOT NECESSARY TO DEPRESS THE CLUTCH.

To assist in hooking up an implement, depress either brake pedal while slowly increasing engine speed until desired turn is achieved. Returning engine speed to low idle while continuing to depress one brake pedal will slow tractor to a stop.

⚠ CAUTION: Avoid possible injury. Braking the tractor while commanding a high engine speed will require higher brake pedal force.

Avoid possible injury due to sudden or unexpected acceleration. When brake pedals are released, the tractor will automatically accelerate to the speed currently commanded by the throttle and speed control lever.

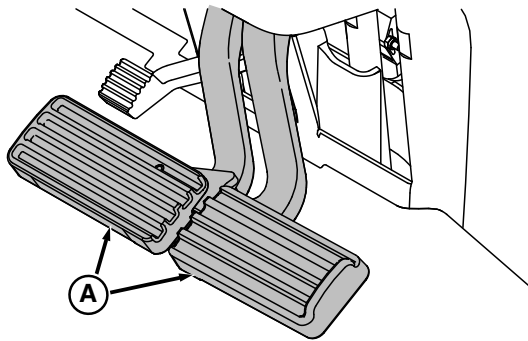


A—Individual Brake Pedals

RXA0068273 —UN—27AUG03

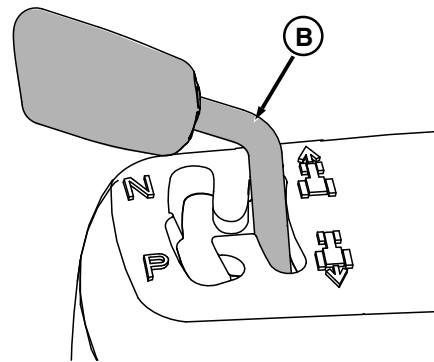
OURX935,000052A -19-27FEB06-1/1

Stopping And Parking The Tractor



Brake Pedals

A—Brake Pedals



Left Hand Reverser Shown In Power Zero

B—Power Zero Position

CAUTION: Avoid possible injury due to losing control of tractor. Couple brake pedals (A) together when driving on roads.

1. Reduce throttle to low engine rpm.
2. Depress both brake pedals. **It is not necessary to depress the clutch.** The brakes will activate the AutoClutch (automatic clutch function within the transmission) to stop the tractor.
3. Move speed control lever to slowest position.
4. Shift reverser to PARK position.
5. Lower implements and shut off PTO.
6. Shut engine off and remove key.

Stopping The Tractor using the AutoClutch

Depress both brake pedals. **It is not necessary to depress the clutch, reduce throttle, or move the speed control lever.** The brakes will activate the AutoClutch. When brakes are released, tractor accelerates to currently commanded speed.

CAUTION: Avoid possible injury. Braking the tractor while commanding a high engine speed will require higher brake pedal force.

Avoid possible injury due to sudden or unexpected acceleration. When brake pedals are released, the tractor will automatically accelerate to the speed currently commanded by the throttle and speed control lever.

Using PowerZero Position

Hold reverser lever in Power Zero position (B) to temporarily hold tractor stationary.

NOTE: Depending on speed and load, Power Zero may not bring tractor to a stop if already in motion.

Using NEUTRAL Position

Transmission NEUTRAL position is obtained (with engine running) by shifting reverser to NEUTRAL position. Tractor will roll freely in NEUTRAL position.

Using PARK Position

CAUTION: Always place reverser lever in PARK position before dismounting tractor.

Transmission PARK position holds tractor stationary.

RXA0068273 —UN—27AUG03

RXA0089425 —UN—09JUN06

OURX935.00004BE -19-27AUG08-1/1

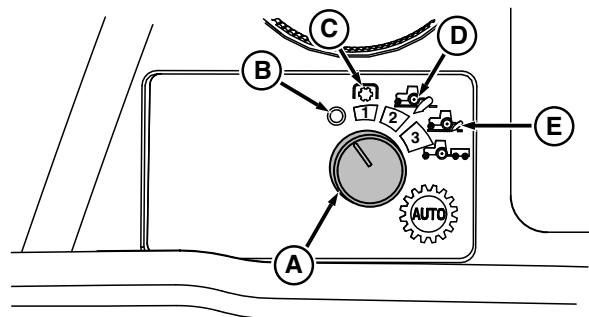
AutoPowr Selector Guidelines

The AutoPowr selector is a four-position switch (A) providing two automated productivity functions:

- **Load control** provides automatic transmission ground speed adjustment under load to maintain constant peak power levels and maximum productivity.
- **Fuel economy** function provides constant vehicle speed at reduced engine speed in light load or no-load conditions.

CAUTION: Avoid possible injury from unexpected acceleration. When load is reduced, tractor will resume selected set speed.

NOTE: For most applications, maximum productivity and fuel economy is realized when the selector is in positions 1, 2 or 3.



- A—Four-Position Switch
- B—Position OFF
- C—Position 1—PTO
- D—Position 2—Heavy Tillage
- E—Position 3—Transport or Light Tillage

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RXA0068282 —UN—09AUG05

AutoPowr Selector Examples

Position 1 - Most PTO and High Hydraulic Flow Applications:

- Use full throttle position
- Operating under load: transmission automatically adjusts speed to maintain Heavy Load RPM setting
- Operating under light load: engine speed will be approximately 2000 rpm (Low RPM Default)

Position 2 (Auto 2) - Plowing and Tillage:

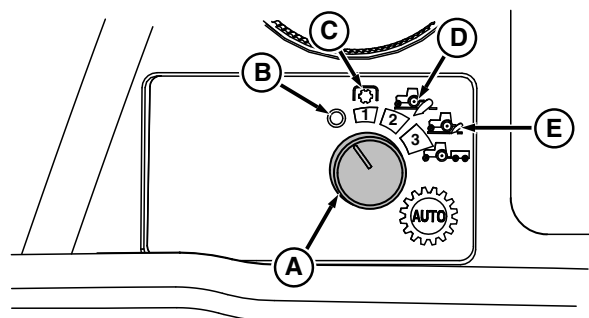
- Use full throttle position
- Adjust Auto 2 set speed to match application
- Operating under load: transmission automatically adjusts to maintain 1950 rpm
- Operating under light load: minimum engine speed is 1500 rpm

Position 3 (Auto 3) - Transport and Light Tillage:

- Use full throttle position
- Adjust Auto 3 set speed to match application
- Operating under load: transmission automatically adjusts to maintain 1950 rpm
- Operating under light load: Minimum engine speed is 1200 rpm

Position OFF:

Transmission will not shift automatically to maintain engine rpm with varying loads.



- A—Four-Position Switch
- B—Position OFF
- C—Position 1—PTO
- D—Position 2—Heavy Tillage
- E—Position 3—Transport or Light Tillage

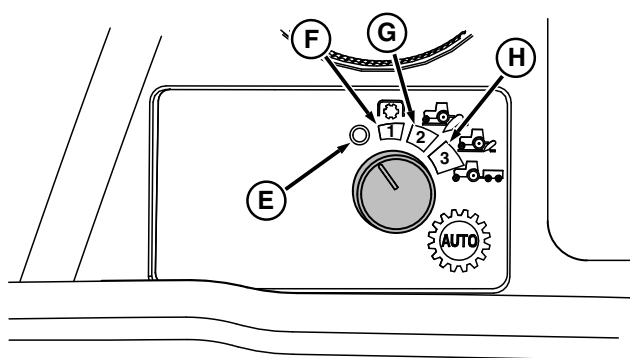
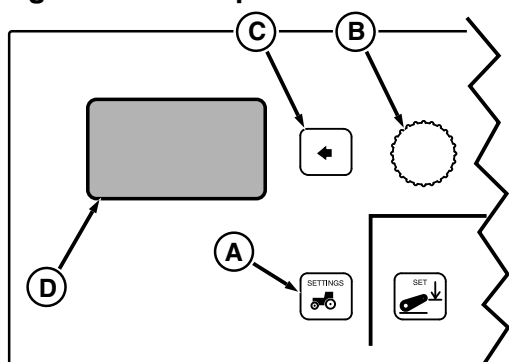
- Use OFF position if application is causing undesired automatic shifting.
- Use OFF position when operating on steep and/or slippery downhill slopes. (See DOWNHILL OPERATION IN SLIPPERY CONDITIONS in this section.)

NOTE: Minimum engine speed values of AutoPowr selector positions 1, 2, or 3 are adjustable. See SETTING AUTOPOWR OPTIONS in this section.

BB92646.0000020 -19-17JUN05-1/1

RXA0068282 —UN—09AUG05

Setting AutoPowr Options



CommandCenter Display And AutoPowr Selector Settings

A—Vehicle Settings Switch
B—Command Dial

C—Select Switch
D—Display

E—Position Off
F—Position 1—PTO

G—Position 2—Heavy Tillage
H—Position 3—Transport or Light Tillage

NOTE: A Load Anticipation feature allows AutoPowr to predict how much “hydraulic load” the engine expects from the activation of the hitch or a particular SCV function. For this to be activated, the SCV or hitch lever is placed in the **detented position** when the “hydraulic load” is decreasing. AutoPowr remembers that load change. When it detects the **same lever starting movement in the opposite direction**, it responds with a short engine rpm boost thus providing more power to better handle on-coming load increase.

at 1817 engine rpm for 540 rpm PTO speed and at 2000 engine rpm for 1000 rpm PTO speed operation. Field Cruise can be used to limit engine speed.

Auto/PTO Options

English — Translation (if applies)

Low RPM — Low RPM

Med/Low RPM — Med/Low RPM

Med/High RPM — Med/High RPM

High RPM — High RPM

Press Settings Switch (A) to view menu items on display (D), rotate Command dial (B) to highlight **Transmission Options** and press SELECT switch (C). See **AutoPowr Options** table for a list of selections to choose from. Using Command dial, highlight desired setting and press SELECT switch again.

AutoPowr Options	Auto with PTO	Low RPM
	Auto no PTO	Med/Low RPM
		Med/High RPM
		High RPM

AutoPowr Options

English — Translation (if applies)

Auto with PTO — Auto with PTO

Auto - no PTO — Auto - no PTO

Auto 2 — Auto 2

Auto 3 — Auto 3

Back — Back

Both AUTO 2 (G) and AUTO 3 (H) are fuel economy settings. AUTO 2 is used in conjunction with switch position 2 to adjust minimum engine speed when operating with a light load. See **Auto 2 Options** table for a list of selections to choose from. The default engine rpm setting in AUTO 2 is 1500 rpm.

AutoPowr Options	Auto 2	1500 RPM
		1600 RPM
		1700 RPM
		1800 RPM

Either AUTO with PTO or AUTO-no PTO is used in conjunction with Position 1 (F) of the selector switch. Setting determines how much engine rpm “pull down” to allow under load, before transmission automatically downshifts. See **Auto/PTO Options** table for a list of selections to choose from. See Engine Speeds—AutoPowr Options Auto With or Without PTO, for further information.

AUTO 3 is the same as AUTO 2, except it is used in conjunction with switch position 3. See **Auto 3 Options** table for a list of selections to choose from. The default engine rpm setting in AUTO 3 is 1200 rpm.

AutoPowr Options	Auto 3	1200 RPM
		1300 RPM
		1400 RPM
		1500 RPM

NOTE: Using correct engine speed is very important for PTO operations. Refer to implement Operator’s Manual for specific implement speeds. Run engine

Continued on next page

OURX935,00004A4 -19-25AUG08-1/2

RXA0086590 —UN—09FEB06

Engine Speeds (RPM)- AutoPowr Options Auto With or With PTO—8130-8430 Tractors						
Selection	Auto- No PTO			Auto with PTO		
	Light Engine Load	Heavy Engine Load		Light Engine Load	Heavy Engine Load	
		<30KPH	>30KPH		Light Load PTO	Heavy Load PTO
Low RPM	2000	1900	1900	2050	1950	1950
Medium / Low (Default)	2000	1800	1800	2100	1900	1900
Medium / High	2000	1650	1650	2100	1800	1800
High RPM	2150	1650	1650	2150	1650	1650

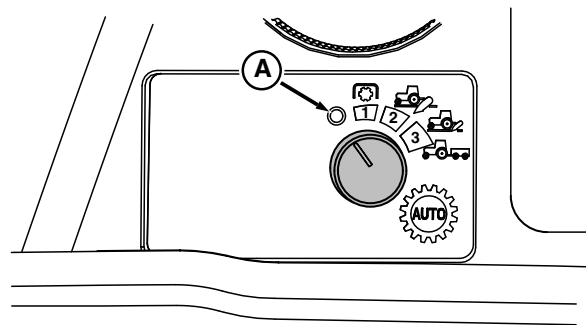
Engine Speeds (RPM)- AutoPowr Options Auto With or With PTO—8530 Tractor						
Selection	Auto- No PTO			Auto with PTO		
	Light Engine Load	Heavy Engine Load		Light Engine Load	Heavy Engine Load	
		<30KPH	>30KPH		Light Load PTO	Heavy Load PTO
Low RPM	2000	1950	1900	2050	1950	1950
Medium / Low (Default)	2050	1950	1800	2100	1900	1900
Medium / High	2100	1950	1700	2100	1900	1800
High RPM	2150	1950	1700	2150	1900	1650

OURX935,00004A4 -19-25AUG08-2/2

Downhill Operation In Slippery Conditions

CAUTION: Avoid possible injury from losing control of tractor while operating on a downhill slope. Tractor wheels may lock and skid on slippery downhill slopes. Observe the following precautions:

- Adjust set speed value to a safe downhill operating speed.
- Place AutoPowr Selector in OFF position (A). (The higher brake pedal force required in the OFF position will help prevent wheel lock and skidding.)
- Do not make major speed reductions with the speed control lever.

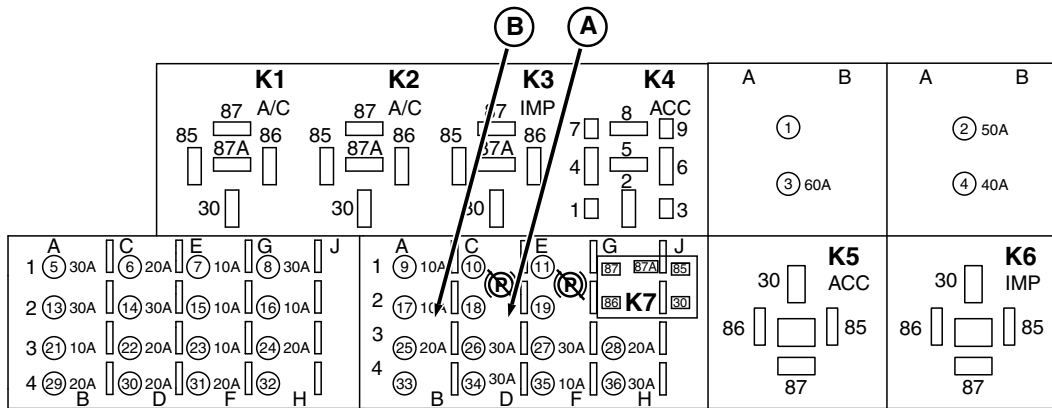


A—OFF Position

RXA0068283 —UN—10SEP03

OURX935,00004BF -19-27AUG08-1/1

Using Enabling Mode (Come Home)



Come Home Mode

A—Fuse # 18

B—Fuse Location # 17

Enabling mode allows tractor to be operated at a maximum of 8 km/h (5 mph) in forward position and 3 km/h in reverse at full throttle if certain transmission malfunctions occur.

NOTE: AutoClutch and AutoPowr selector features will not operate when transmission is in Enabling Mode.

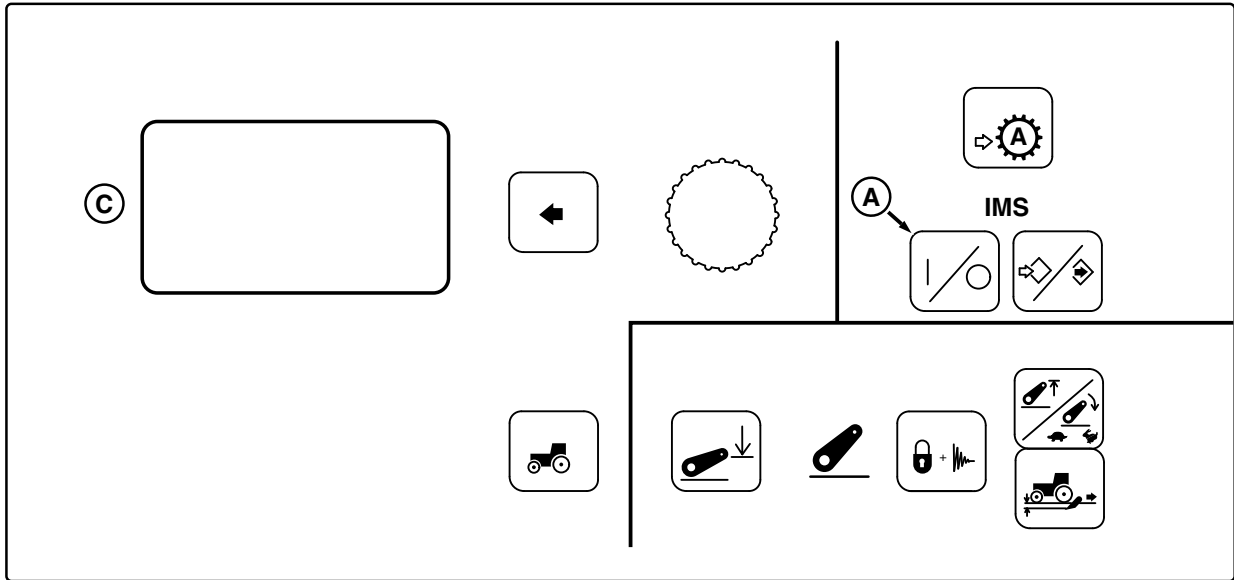
1. Move fuse # 18 (A) to fuse location # 17 (B).
2. Start tractor.
3. Depress clutch pedal.
4. Select Forward or Reverse direction.
5. Release clutch pedal to put tractor in motion.

OURX935.00004C0 -19-27AUG08-1/1

RXA0083933 —UN—08SEP05

Implement Management System

Implement Management System (IMS)—Description and Display

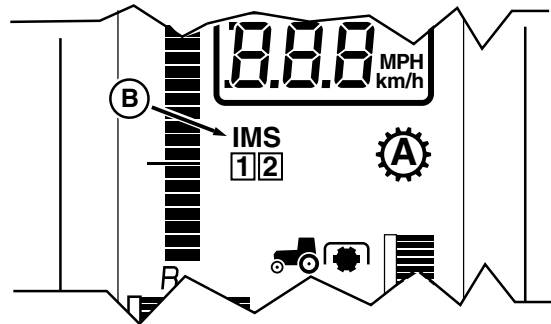


CommandCenter Panel

Implement Management System (IMS) allows multiple tasks to be performed by pressing one switch.

IMS has two sequences in which learned functions are stored. A sequence is defined as the start of the first recorded function to completion of last recorded function. On the CommandCenter display (C), an example of a sequence would appear:

- SCV 1 Retract
- SCV 2 Retract
- SCV 3 Retract
- SCV 4 Retract
- Hitch Down
- SCV 4 Extend
- SCV 3 Extend
- SCV 2 Extend
- SCV 1 Extend



IMS Indicator

A—IMS ON/OFF Switch
B—IMS Indicator

C—Display

Continued on next page

OURX935,000026F -19-17AUG05-1/2

RXA0083473 —UN—17AUG05

RXA0080616 —UN—01AUG05

NOTE: Tractor must be moving at a speed of at least 0.5 km/h (0.31 mph) to program or execute a sequence. Learned sequences will remain stored after engine stops.

A sequence is executed according to **distance** required to perform a series of functions when system is in LEARN mode. A maximum of 20 functions can be learned for each sequence. Learn Mode has a 60 second time limit and will stop recording events when time limit is reached.

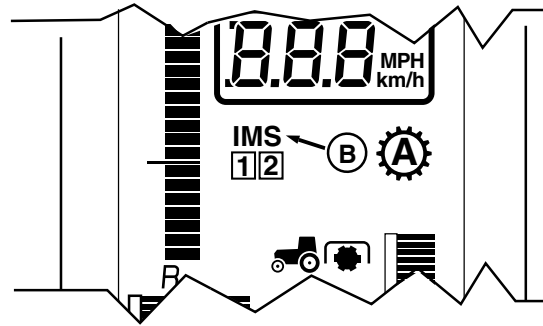
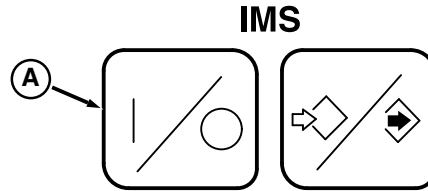
Press IMS ON/OFF switch (A) to OFF, then ON to view functions programmed in the two sequences.

IMS indicator (B) will display when system is activated.

Stored sequences and LEARNED functions (C) will be displayed in the order learned.

A—IMS ON/OFF Switch

B—IMS Indicator



RXA0083431 —JUN—16AUG05

RXA0081733 —JUN—17JUN05

OURX935,000026F -19-17AUG05-2/2

Implement Management System (IMS)—Learned Functions

NOTE: For AutoPowr Tractors when IMS is active, make speed adjustments with set speed adjuster only. If speed lever is moved, IMS will disengage.

LEARNED FUNCTIONS	
Item	Function(s)
Rear Hitch	RAISE/LOWER
Transmission Gear	Upshift or Downshift in Forward Gear
SCV (CommandARM/TouchSet Only)	EXTEND, RETRACT, FLOAT, NEUTRAL
MFWD	ON/OFF
Rear PTO	ON/OFF
Differential Lock	ON/OFF
Automatic PowerShift (PST Transmission Only)	Resume
Set Speed Forward (AutoPowr Only)	Increase/Decrease

BB92646,0000023 -19-17JUN05-1/1

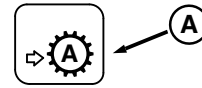
IMS Functions — Automatic PowerShift (APS)

NOTE: APS maximum gear must be set each time the tractor is started.

APS switch (A) can be cancelled or resumed during LEARN mode.

APS is cancelled by programming a transmission shift in IMS. (See Operating Automatic PowerShift in Operating the Tractor section.)

A—Automatic PowerShift Switch



RXA0083429 —JUN—16AUG05

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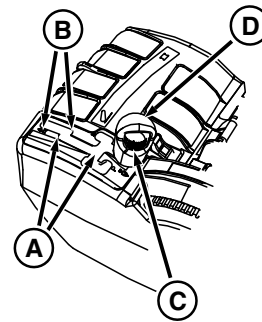
IMS Functions—AutoPowr Transmission

AutoPowr Set Speed: The current forward set speed (FSS1 or FSS2) can be changed up or down with the set speed adjuster (C), during Learn mode. Transmission ratio changes will be executed at the normal rate once the set speed has been changed.

During Learn mode, the set speed may be changed more than once. IMS will record the time of the first set speed change in the sequence. If additional changes occur at less than two second intervals, they will be combined with the first into a single event. The direction of the set speed change (up or down), the speed control lever (D) position (speed band 1 [A] or 2 [B]), and the final set speed are recorded. If the speed control lever is moved while learning a sequence, the set speed changes will not be saved. The minimum set speed that can be saved is 1.5 km/h (0.93 mph). Changing the set speed or moving the lever during execution of a sequence will not cause IMS to abort, but set speed changes will not be commanded for the remainder of the sequence.

During execution of a learned sequence, IMS will not change the set speed unless the lever is in the learned speed band (1 [A] or 2 [B]). If the lever is not in the learned speed band during execution of a sequence, IMS will not abort the sequence, but set speed changes will not be commanded for the remainder of the sequence.

During execution of a learned sequence, IMS will not change the set speed in the opposite direction from what



A—Speed Band 1
B—Speed Band 2

C—Set Speed Adjuster
D—Speed Control Lever

was learned in order to reach the desired set speed. For example, if the set speed adjuster (C) is turned down to reach 7.0 km/h (4.35 mph) during Learn mode, IMS records when the change occurred, the direction of change (down), the speed band, and the final set speed (7.0 km/h [4.35 mph]). If the set speed is 6.0 km/h (3.73 mph) when execution of the sequence begins, IMS will not change the set speed to 7.0 km/h (4.35 mph).

When a set speed is changed by IMS, the controller will react just as if the operator changed the set speed, pushing other set speeds up or down as a result.

RXA0079022 —JUN—28FEB05

BB92646,0000024 -19-17JUN05-1/1

IMS Functions—Selective Control Valves (SCV with CommandARM/TouchSet Controls Only)

NOTE: Learn mode requires SCV control (A) to be in **detent position**.

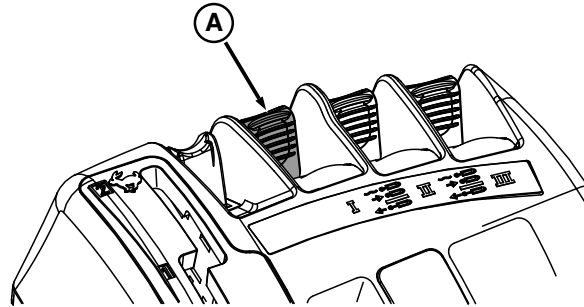
Flow Rate and Timed detent will **not** be learned and can be changed at any time. Timed detent is used to cancel SCV functions.

IMS can learn four functions for SCVs:

- Extend Detent
- Retract Detent
- Float
- Neutral (Used to cancel Float or Detent operations)

SCV control must be in neutral position during execution of a sequence.

NOTE: SCVs can be operated manually without causing a sequence to abort.



CommandARM SCV I

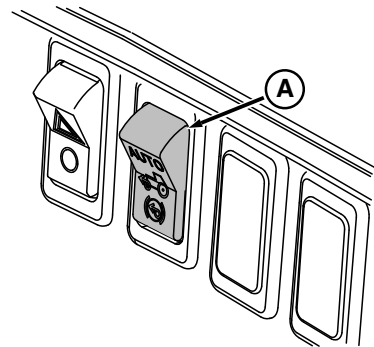
A—SCV Control I

RXA0080730—UN—13MAY05

OURX935,00007C2 -19-25JUL05-1/1

IMS Functions—MFWD

A—MFWD Switch



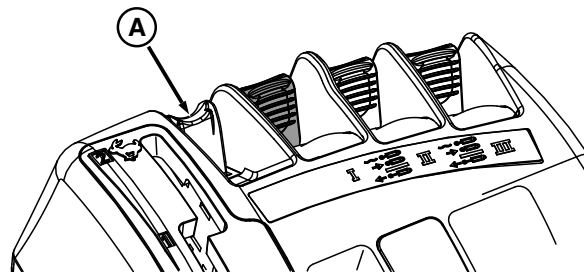
RXA0086287—UN—27AUG03

OURX935,00007C3 -19-02MAY05-1/1

IMS Functions—Hitch

Lever (A) can be activated to raise or lower hitch during an IMS sequence.

A—Hitch Command Lever



CommandARM

RXA0081670—UN—15JUN05

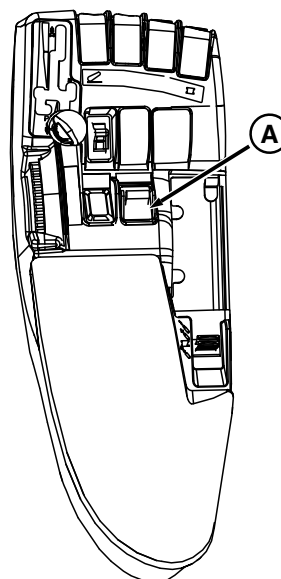
OURX935,0000022 -19-15JUN05-1/1

IMS Functions— Rear PTO

Rear PTO can be switched ON or OFF by IMS.

Manually operating PTO requires rear PTO switch (A) to be turned OFF and then ON again.

A—Rear PTO Switch



CommandARM

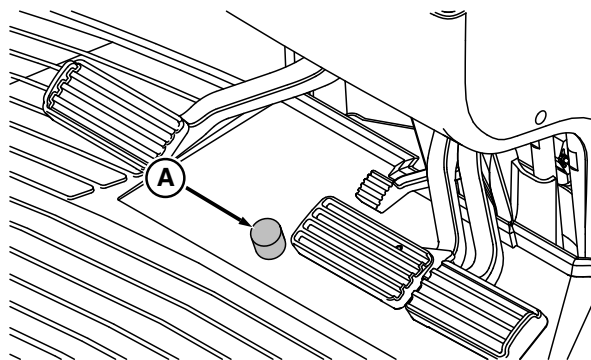
RXA007863 —UN—10FEB05

OURX935,00007C9 -19-16MAY05-1/1

IMS Functions—Differential Lock

Differential lock can be engaged or disengaged during a sequence by depressing switch (A).

A—Differential Lock Switch



RXA0069157 —UN—27AUG03

OURX935,00007C5 -19-02MAY05-1/1

Operating Implement Management System (IMS)

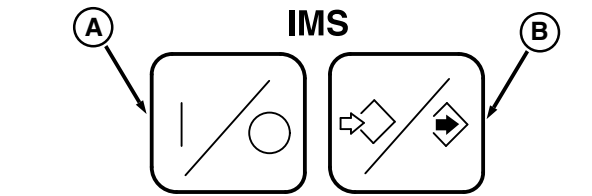
CAUTION: Avoid possible injury and loss of tractor control.

- A stored high gear in a learned sequence could initiate rapid shift changes when activating IMS.
- Clear IMS sequence after application is completed. (See **CLEARING IMS SEQUENCE** in this section.)

Accidental use of IMS could cause unexpected tractor or implement movement.

NOTE: Press IMS **ON/OFF** switch to **OFF**, then **ON** to view the functions programmed in the two sequences.

1. Make sure tractor is moving with speed of at least 0.5 km/h (0.31 mph). Press **ON/OFF** switch (A).



A—ON/OFF Switch

B—LEARN/SAVE Switch

2. Press **LEARN/SAVE** switch (B).

OURX935,0000277 -19-21MAR06-1/2

RXA0082723 —UN—26JUL05

3. Press **SEQUENCE 1** or **SEQUENCE 2** switch (A). Indicator light (B) will show the sequence being learned (1 or 2) and an audible signal will sound.

Learn Mode has a 60 second time limit and will stop recording events when time limit is reached. Should time-out occur, limit or reduce the number of steps recorded for a sequence so they are completed within the time limit, or use both sequences 1 and 2 to record a complete series of events that exceeds the time limit of a single sequence (60 seconds).

NOTE: Depressing clutch pedal during learn mode allows several functions to be performed at the same time.

4. Perform desired functions.
5. Press **LEARN/SAVE** switch to store functions and end learning mode. Sequence number indicator will stop flashing. IMS indicator light (C) will remain on.

NOTE: Depressing clutch pedal during a sequence will suspend the remaining functions until clutch pedal is released.

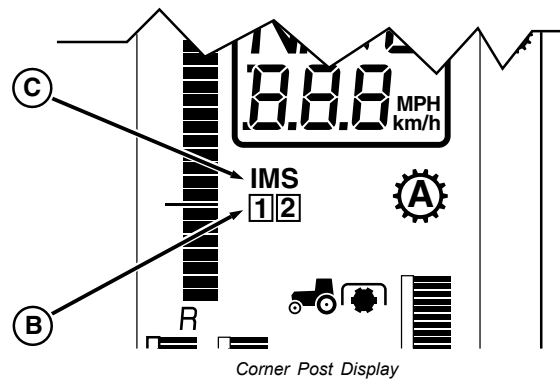
6. Press desired sequence switch and the sequence of learned events will begin. When sequence concludes, sequence number (B) will no longer be displayed.

A—Sequence Switch
B—Sequence Indicator

C—IMS Indicator



CommandARM



Corner Post Display

OURX935,0000277 -19-21MAR06-2/2

RXA0056431 —UN—29AUG01

RXA0085777 —UN—09JAN06

Aborting IMS

Any of the following will cause IMS to shut off (abort):

- Pressing **ON/OFF** switch while sequence is executing
- Pressing **LEARN/SAVE** switch during execution
- Pressing the **opposite sequence** switch during execution

- Shifting transmission to NEUTRAL position
- If 60 seconds elapses without operator input during **LEARN** or **SEQUENCE** execution mode

OURX935,00007C7 -19-02MAY05-1/1

Clearing IMS Sequence

1. Press IMS **ON/OFF** switch to ON.
2. Press **LEARN/SAVE** switch.

3. Press **SEQUENCE** switch.
4. Press **LEARN/SAVE** switch again to clear existing sequence.

OURX935,00007C8 -19-02MAY05-1/1

Hitch

Hitch Set-up and Use (Quick Reference)

Once implement is attached, follow these steps for tillage operations;

Adjustments

Select adjustment to display, change by turning Command Dial (C).

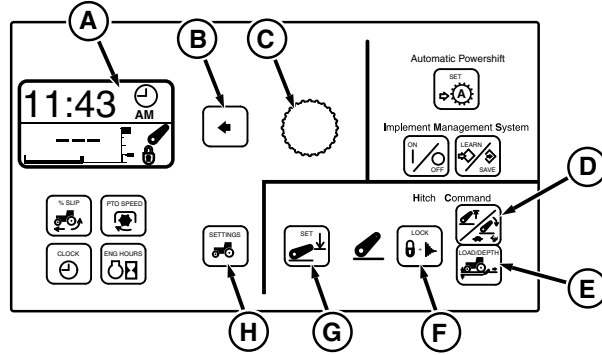
- Select height limit by pressing Height/Rate switch (D) **once**
- Select drop rate by pressing Height/Rate switch (D) **twice**
- Select draft response by pressing LOAD/DEPTH switch (E)

Set Operating Depth

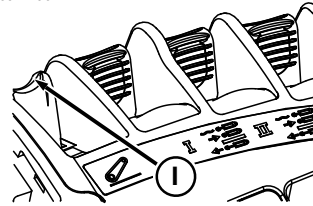
- Lower implement to desired operating depth using Hitch Command lever (I)
- Press SET switch to save operating depth (G)

Turn at End

- At end of field, pull lever into raise detent and release. Hitch will raise to upper height limit.
- After turnaround, push lever into lower detent and release. Hitch will lower to saved depth setting.



RXA0086166 —UN—26JAN06



- | | |
|----------------------|---------------------------|
| A—Display | F—LOCK Switch |
| B—Select Switch | G—Depth Set Switch |
| C—Command Dial | H—Vehicle Settings Switch |
| D—Height/Rate Switch | I— Hitch Command Lever |
| E—LOAD/DEPTH Switch | |

RXA0087380 —UN—02MAR06

OURX935,0000014 -19-02JAN08-1/1

Using Hitch Lever Display-Setting Depth and Lock/Dampening

Using Hitch Command Lever

Lever movements within the proportional region (D and E), commands hitch to raise or lower. Raise or lower rate depends on how far the lever is moved from center position. Push lever down to lower hitch; pull lever up to raise hitch.

- Lever will not raise hitch above upper height limit, but will move hitch below the saved depth setting.
- A short duration "flick" of the lever into proportional region will change depth command by 1 or 2 counts.

Setting Depth

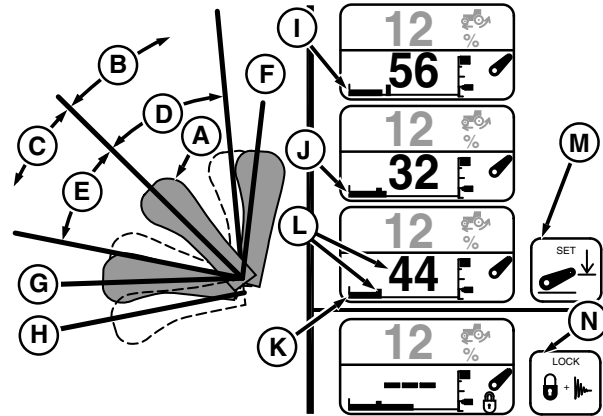
Use lever to move hitch to desired operating depth, then press Depth Set Switch (M) to store in memory.

- Each time Depth Set Switch is pressed, the previous depth setting is erased and the current depth is saved as the new setting.
- Operating depth can be pre-set before field operation. Hold lever forward until depth command reaches desired value, then store by pressing Depth Set Switch.

Display

Hitch information appears in lower half of display when using hitch lever, or can be permanently displayed by selecting with the Command Dial.

- Current depth is represented by both a numeric value and indicator mark (L). The numeric value is also present on other hitch adjustment displays.
- The saved depth setting is represented by a horizontal bar (K). Pressing Depth Set Switch (M) will move bar to align with indicator mark (L).



- A—Hitch Command Lever
- B—Hitch Raise—Slow
- C—Hitch Lower—Slow
- D—Hitch Raise—Fast
- E—Hitch Lower—Fast
- F—Detent Position, Raise
- G—Detent Position, Lower

- H—Float Position
- I—Hitch Above Stored Depth Setting
- J—Hitch Below Stored Depth Setting
- K—Hitch at Stored Depth Setting
- L—Current Depth Indicators
- M—Depth Set Switch
- N—Hitch Lock / Dampening Switch

- Screens (I—K) show current depth above (I), below (J) and at stored depth (K).
- Vertical bar in the display shows the upper height limit setting.

Continued on next page

OURX935.0000017 -19-02JAN08-1/2

RX-A0085778 —UN—09JAN06

Lever Detents

When lever is pulled into detent (A) and released, hitch raises to upper height limit. When pushed into detent (B) and released, hitch lowers to stored depth.

- If lever is held in the forward detent while lowering, hitch will lower beyond saved depth setting. If tractor is moving, hitch will raise to stored depth when lever is released.
- Depth can be varied by moving lever in the proportional region. Pushing lever into forward detent and releasing will return hitch to saved depth setting.

Lever Float

Float position (C) holds hitch lower valve open continuously and is useful when detaching an implement. See Using Float Operation in this section for proper setup if implement requires that hitch floats during field operation.

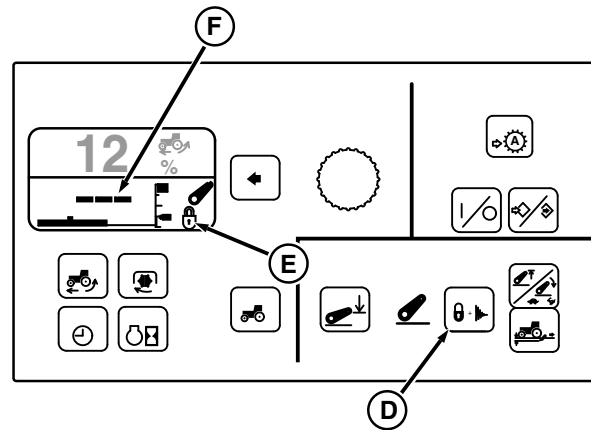
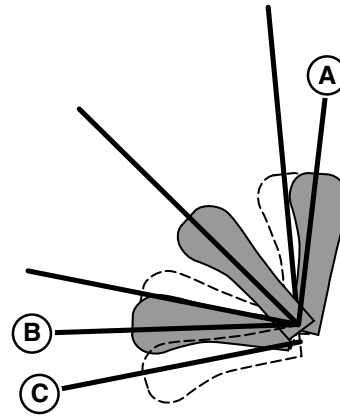
Lock/Dampening

CAUTION: To prevent possible injury and equipment damage, set hitch lock and dampening ON before transporting.

Before transport or during operations when hitch is not used, raise hitch with lever then press Hitch Lock / Dampening Switch (D). Lock symbol (E) will appear and numeric depth value changes to dashes (F). This locks the hitch and enables hitch dampening.

- If hitch leaks down while tractor is stopped, hitch will return to locked height when tractor begins moving.
- Hitch command lever is disabled so hitch cannot be lowered (but can be raised back up to the locked position if lever held in detent).
- Hitch dampening interrupts tractor pitching/rocking that can occur when transporting hitch-mounted equipment.

To unlock hitch and turn dampening off, press Hitch Lock / Dampening Switch again.



- A—Raise Detent
- B—Lower Detent
- C—Float Position
- D—Hitch Lock/Dampening Switch
- E—Lock Symbol
- F—Dashes

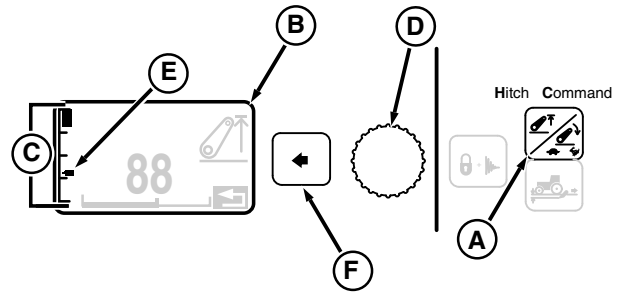
RXA0093551—UN—25APR07

RXA0093550—UN—25APR07

Setting Hitch Height Limit

Hitch height limit is adjusted in the CommandCenter.

1. Press Hitch Raise Limit / Rate-of-Drop Switch (A) once and observe Display (B); current height setting appears as a Height Bar Graph (C) on left-hand side.
2. Turn Command Dial (D) counterclockwise to lower height limit setting; clockwise to raise setting. Changes to height setting take place immediately. Lowest height setting is limited to 25% of Hitch Position. Indicator (E) shows current hitch position.
3. When desired height is reached, press Select Switch (F) to return to previous display.



Hitch Height Control Knob

- A—Hitch Raise Limit / Rate-of-Drop Switch
- B—Display
- C—Height Bar Graph
- D—Command Dial
- E—Hitch Position Indicator
- F—Select Switch

OURX935,000044E -19-20AUG08-1/1

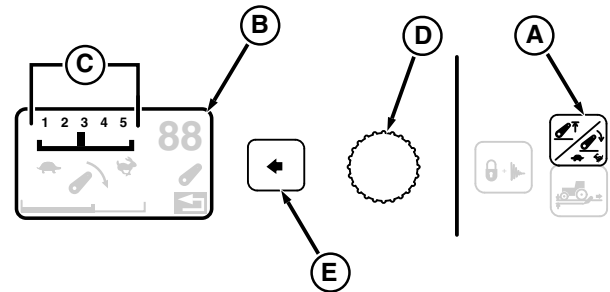
RXA0093501 —UN—23APR07

Adjusting Hitch Rate-of-Drop

CAUTION: Excessive drop speed may cause injury or machine damage. Fully lowering implement should take at least two seconds.

Hitch rate-of-drop is adjusted in the CommandCenter.

1. Press Hitch Raise Limit / Rate-of-Drop Switch (A) twice and observe Display (B); current rate-of-drop appears as a Speed Scale (C) across the top.
2. Turn Command Dial (D) counterclockwise for slower rate setting (turtle); clockwise for faster setting (rabbit). Changes to rate-of-drop setting take place immediately.
3. When desired rate is reached, press Select Switch (E) to return to previous display.



Hitch Drop Speed Control Knob

- A—Hitch Raise Limit / Rate-of-Drop Switch
- B—Display
- C—Speed Scale
- D—Command Dial
- E—Select Switch

OURX935,00004C6 -19-20AUG08-1/1

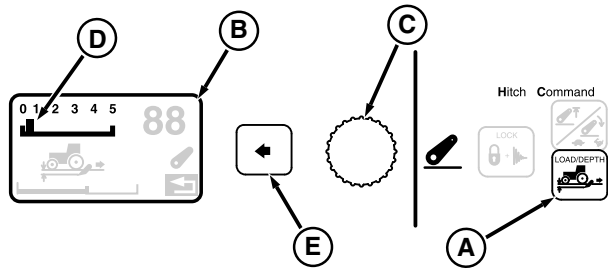
RXA0087384 —UN—02MAR06

Adjusting Load/Depth Control (Draft Response)

NOTE: Load/depth adjustment changes draft responsiveness only. Operating depth is set with hitch lever.

Hitch load/depth (draft response) is adjusted in the CommandCenter.

1. Press Hitch Load / Depth Switch (A) and observe Display (B); current draft response setting appears on Draft Response Scale (D) across the top.
2. Turn Command Dial (C) counterclockwise to reduce draft response or clockwise to increase. Changes to response setting take place immediately.
 - Zero draft response provides "position" control (See Using Position Control.)
 - Higher settings are used for "draft" control (See Using Draft Control.)
3. When desired setting is reached, press Select Switch (E) to return to previous display.



Using Position Control

- A—Hitch Load / Depth Switch
- B—Display
- C—Command Dial
- D—Draft Response Scale
- E—Select Switch

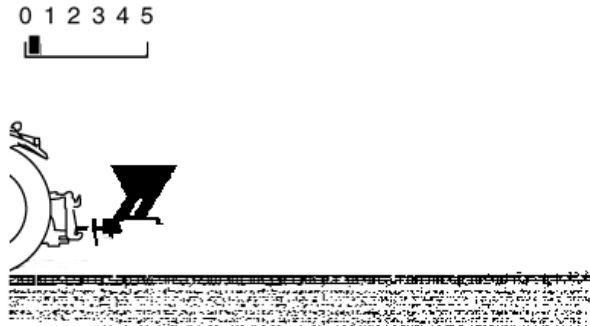
OURX935.00004C7 -19-20AUG08-1/1

RXA0087425—UN—02MAR06

Using Position Control

Use position control for operation of non-ground engaging implements and implements equipped with floating gauge wheels.

To adjust load/depth for position control, set draft response to zero.



Hitch Held at Selected Position

OURX935.000000F -19-02JAN08-1/1

RXA0093497—UN—23APR07

Using Draft Control

Use draft control to help maintain operating depth of non-floating tillage equipment in rolling terrain, or if tractor attitude/pitch and rear wheel sinkage force implement deeper than desired. If soil density/resistance varies, higher response setting will cause more depth variation. The best setting depends on implement type and field conditions.


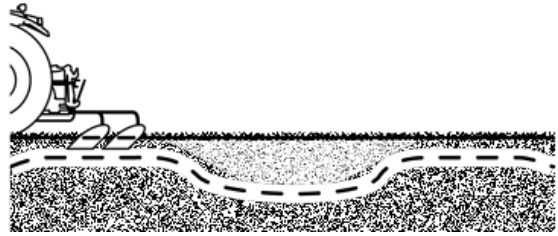
Typical draft settings, by implement type, are:

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

Adjusting load/depth only changes draft responsiveness. Use hitch lever to control/change operating depth.


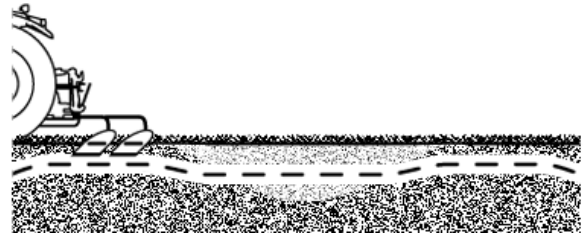
NOTE: Low draft response settings may slow the drop rate of some implements. Hold lever in forward detent to speed entry. Hitch will lower at the drop rate selected.

0 1 2 3 4 5

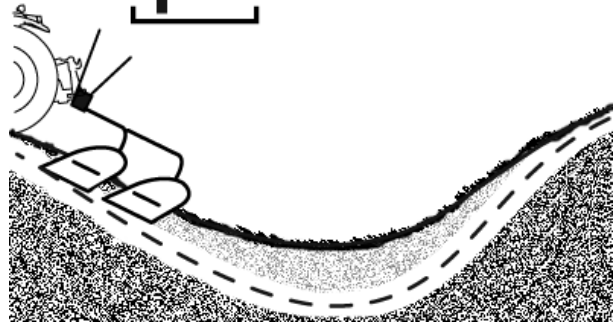
High Response Causes More Depth Variation If Soil Varies

0 1 2 3 4 5

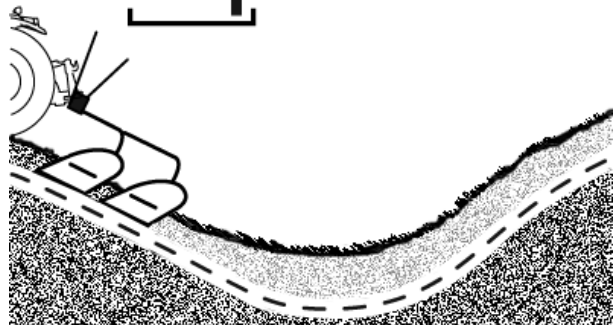
Lower Response Controls Depth Better If Soil Varies

0 1 2 3 4 5

Lower Response Causes More Depth Variation In Rolling Terrain

0 1 2 3 4 5

Higher Response Controls Depth Better In Rolling Terrain

OURX935.0000010 -19-02JAN08-1/1

RXA0093493 —UN—23APR07

RXA0093494 —UN—23APR07

RXA0093495 —UN—25APR07

RXA0093496 —UN—23APR07

Setting Hitch Slip Response

NOTE: Tractor must be equipped with **radar**, and load/depth control must be in **draft control** mode for hitch slip to function. See *Using Draft Control* in this section.

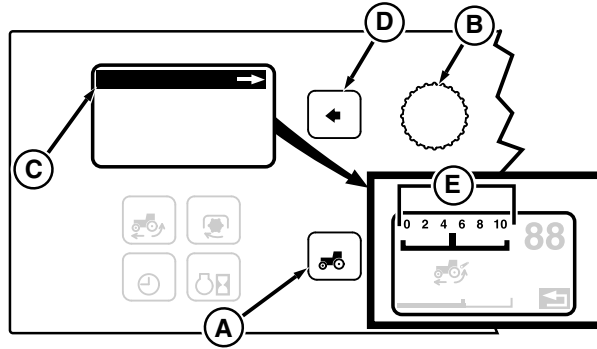
Hitch can be operated with draft sensing only, or with draft sensing and hitch slip. Hitch slip adjustment is independent from draft response.

Hitch slip uses wheel slip data to supplement draft control system and help maintain uniform working depth. Hitch slip only functions if wheel slip is above 10%.

Response Setting Guidelines *	
Chisel Plow	2—4
Subsoiler	5—7
Moldboard Plow	7—9
V-Ripper	8—10
* Appropriate setting will depend on implement type, soil conditions and tractor setup	

1. Preset operating depth and draft response, with slip response at zero.
2. Press Vehicle Settings Switch (A) and turn Command Dial (B) until Hitch Slip is highlighted in Display (C), then press Select Switch (D). Slip response setting appears as a Numbered Scale (E) across the top of the display.

NOTE: Changing slip response setting will only affect operation if wheel slip is above 10%.



CommandCenter Controls and Display

- A—Vehicle Settings Switch
- B—Command Dial
- C—Display
- D—Select Switch
- E—Numbered Scale

3. Turn Command Dial (B) to adjust slip response. Higher values provide more/faster response to slip variation. Lower values provide less/slower response to slip variation. Changes to slip response take place immediately.
4. When desired response is reached, press Select Switch (D) to return to previous display.

NOTE: Slip response automatically returns to zero during transport (speed above 20 km/h [12.4 mph]).

RXA0086779—UN—09JAN06

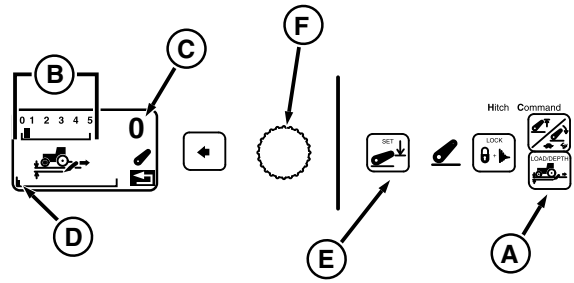
OURX935.0000450 -19-02JAN08-1/1

Using Float Operation

Implements equipped with depth-gauging wheels may require float operation to follow ground contour.

- Press Hitch Load/Depth Switch (A) and observe display.
- Turn Command Dial (F) Counter Clockwise (CCW) to set Load/Depth to minimum on draft response scale (B).
- Hold hitch lever forward until Commanded Depth (C) shows zero, full down.
- Press Depth Set Switch (E) to save full down as stored depth setting.

NOTE: Lift links can be adjusted for lateral float. (See *Changing Lateral Float* in this section.)



Using Float Position

- | | |
|-----------------------------|---------------------------|
| A—Hitch Load / Depth Switch | D—Full Down Depth Setting |
| B—Draft Response Scale | E—Depth Set Switch |
| C—Commanded Depth | F—Command Dial |



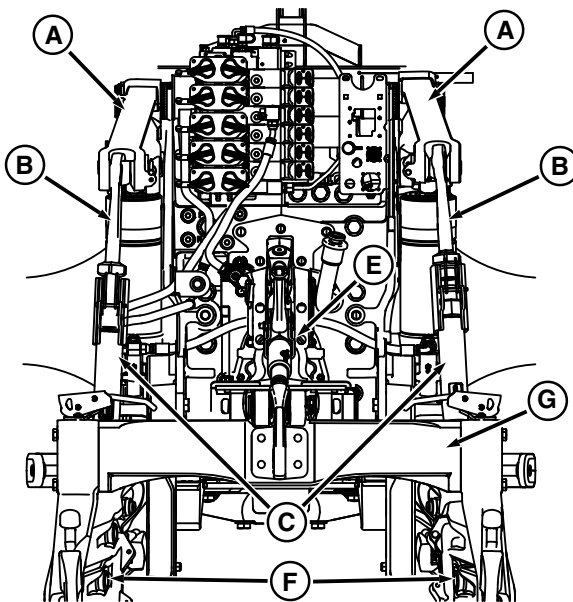
Float Operation

OURX935,0000451 -19-06AUG08-1/1

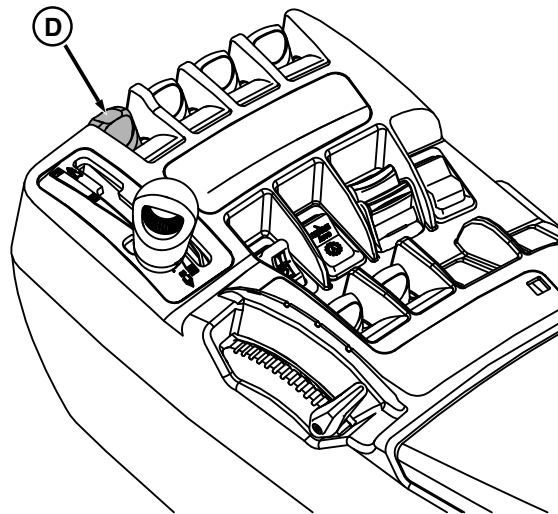
RXA0093552 —UN—25APR07

RXA0093506 —UN—23APR07

Hitch Components



Hitch Components



Hitch Lever

- | | | | |
|------------------|---------------|---------------|-----------------|
| A—Lift Arms | C—Lift Links | E—Center Link | G—Quick Coupler |
| B—Lift Cylinders | D—Hitch Lever | F—Draft Links | |

OURX935,0000007 -19-24NOV08-1/1

RXA0099923 —UN—24NOV08

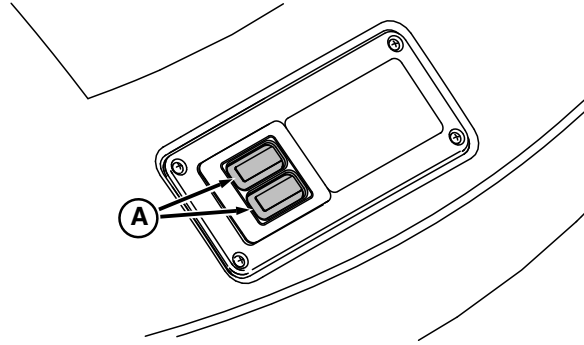
Using External Raise and Lower Switches

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

When external switches (A) are pressed hitch moves slowly, but slowly increases speed the longer hitch switch is held down.

Press and hold external switches (A) to raise or lower hitch. Hitch moves at slow speed when using external switches.

NOTE: Hitch command lever cannot be used simultaneously with external raise/lower switch.



A—External Raise/Lower Switches

RXA0068228 —UN—05AUG08

OURX935,00003E5 -19-30JUL08-1/1

Using Hitch Manual Lowering Feature

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.

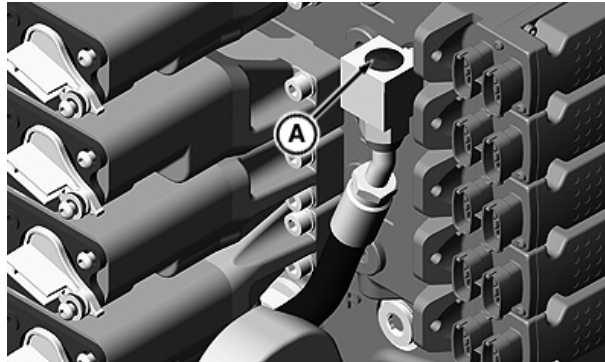
Remove plug (A) to access the manual lowering screw (B). Turn screw counterclockwise to lower the hitch.

NOTE: The hitch cannot be raised mechanically. Both hydraulic and electrical power are required to raise the hitch.

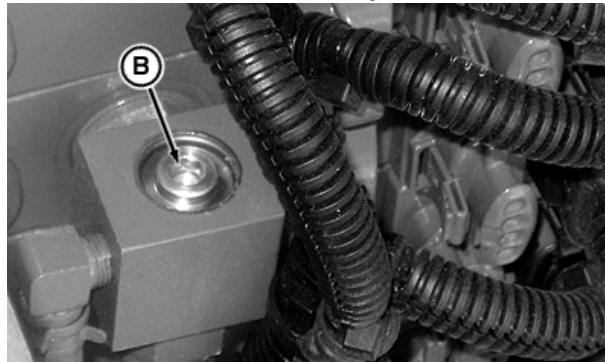
Turn screw clockwise and install plug after hitch has been lowered.

A—Plug

B—Manual Lowering Screw



Plastic Plug



Manual Lowering Screw

RXA0096797 —UN—10DEC07

RXA0096799 —UN—10DEC07

OURX935,0000078 -19-16JUL08-1/1

Using Correct Center Link Position

IMPORTANT: Excessive power can damage an implement, and a too large implement can damage the tractor.

This tractor requires center link with recessed retaining mount (C) to prevent interference with SCV valve stack. Using a center link without a recessed retaining mount may result in damage to SCV stack.

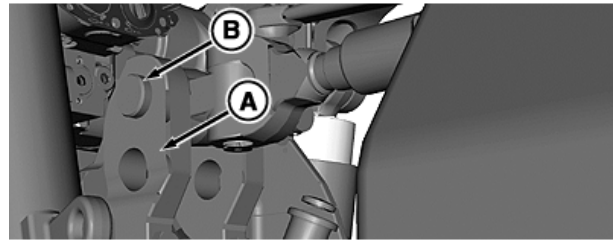
NOTE: Upper hole offers greater lift capacity. Lower hole offers greater ground clearance.

Attach center link to lower hole (A) for most standard implements. Use upper hole (B) when implements requiring higher lift capacity are used. See implement operator's manual for recommendations.

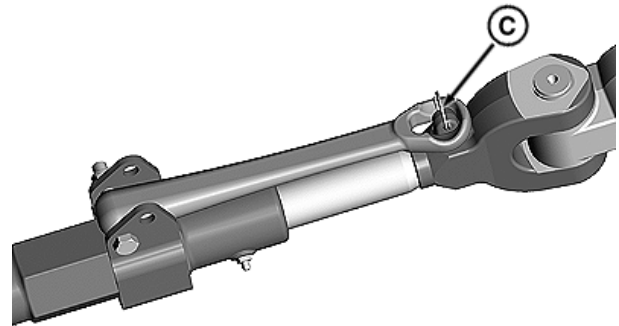
Refer to lift capacities in Specifications Section.

A—Lower Hole
B—Upper Hole

C—Recessed Retaining Mount



Use Correct Hitch Category



Recessed Retaining Mount Center Link

OURX935,000090 -19-13AUG08-1/1

RXA0085781 —UN—10JAN06

RXA0097299 —UN—19FEB08

Using Sway Blocks

Install sway blocks (A) in lower position to minimize side sway of hitch.

Adjust bumper (B) by loosening lock nut and sliding forward or rearward as needed to limit the amount of sway.

Mount sway blocks in upper position to allow side sway when hitch is lowered. Side sway is prevented when hitch is raised.

NOTE: Use shims as needed to provide desired sway control. Shims can be purchased from your John Deere dealer.

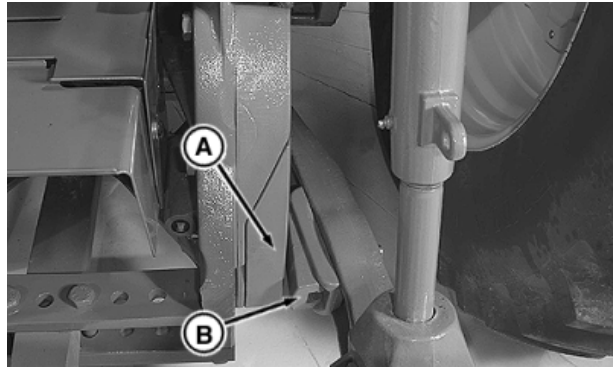
If there is not enough adjustment in bumper block to remove hitch sway, install shims as necessary between bumper block and spacer (F).

IMPORTANT: Tires must have at least 25 mm (1 in.) clearance distance (D) with fenders. To prevent draft link interference, be sure distance (E) between tires is:

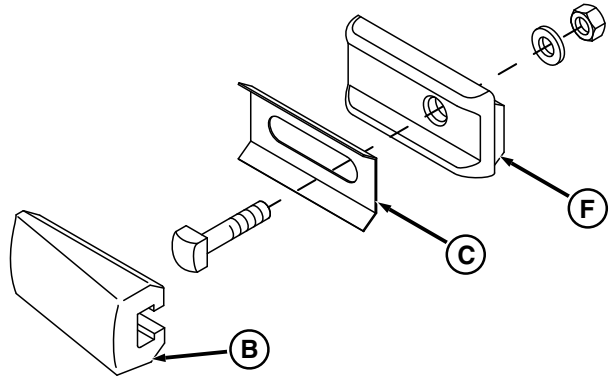
- Category 3N Hitch—1.09 m (43 in.)
- Category 3 Hitch—1.17 m (46 in.)
- Category 4N Hitch—1.17 m (46 in.)

A—Sway Blocks
B—Bumper
C—Shim

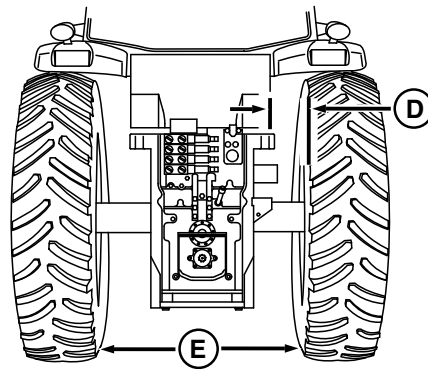
D—Distance Clearance
Between Tires And Cab
E—Distance Between Tires
F—Spacer



Sway Blocks in Lower Position



Install Shim Between Bumper block and Spacer



Distance Between Tires

RXA0052493 —JUN—28MAR01

RXA0090041 —JUN—04AUG06

RXA0089661 —JUN—04AUG06

OURX935,0000521 -19-21MAR06-1/1

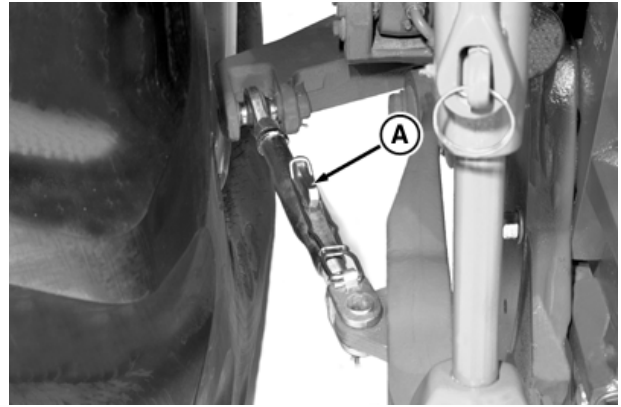
Using Strut-Type Stabilizers

IMPORTANT: Check full range of hitch movement when using stabilizing system. Check for interference when tractor is equipped with 710/70R38 or larger tires.

Adjust hitch to minimize lateral sway before transporting implement.

Adjust draft link width and lateral sway by turning handles (A).

A—Handle



RXA0056487 —UN—23AUG01

OURX935,00001CA -19-18AUG05-1/1

Using Deluxe Stabilizers

IMPORTANT: Check full range of hitch movement when using stabilizing system. Check for interference when tractor is equipped with 710/70R38 or larger tires.

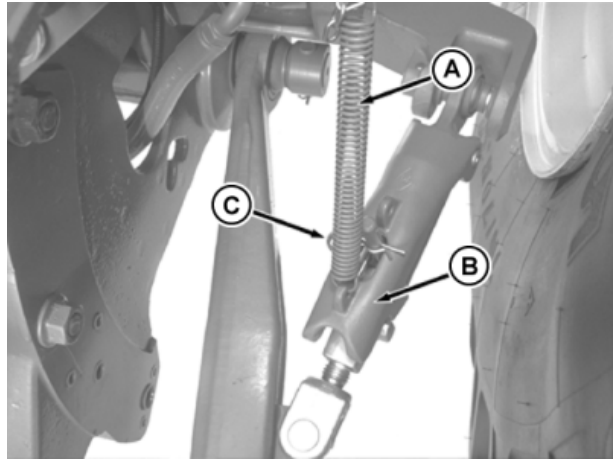
The stabilizing system is operated by means of chain/spring (A) and latch (B). If latch is raised (remove pin (C) to raise latch), the draft links have lateral sway, otherwise they are locked.

Chain (A) Short:

Draft links are locked in raised position (rigid setting), in lowered position they have lateral sway.

Chain (A) Long:

Draft links are locked in all positions.



RW5546A—UN—06NOV09

A—Chain/Spring
B—Latch

C—Pin

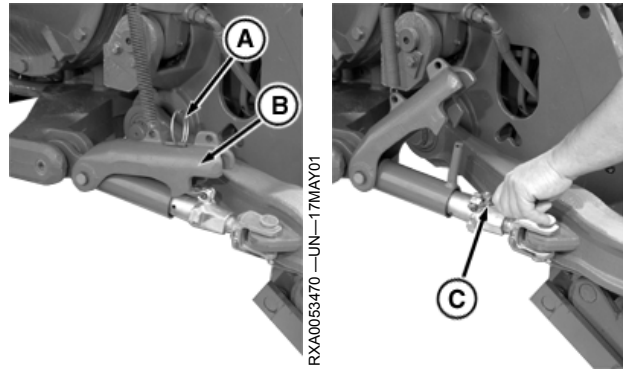
OURX935.00001CB -19-18AUG05-1/2

Back tractor to the center of the implement. Remove retainer (A), raise latch (B) and lift handle (C).

Adjust support by turning handle. After adjustment, lower the latch and install retainer (A).

A—Retainer
B—Latch

C—Handle



RX-A0053470—UN—17MAY01

RX-A0053471—UN—17MAY01

OURX935.00001CB -19-18AUG05-2/2

Attaching Implement to Walterscheid Couplers

CAUTION: To 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.

Do not stand between tractor and implement.

1. Turn load/depth control fully counterclockwise before attaching implements.

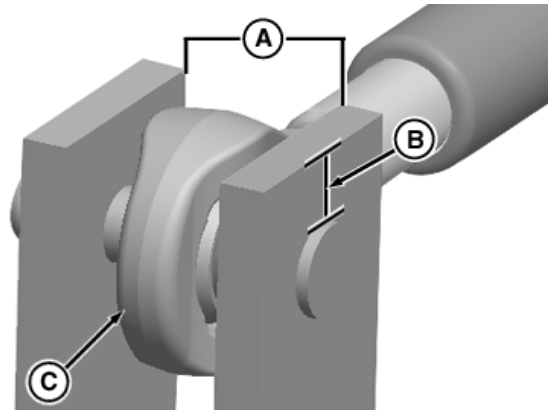
CAUTION: Avoid bodily injury. **DO NOT** use raise/lower switch when attaching or detaching implements. Use only hitch control lever or **EXTERNAL** raise/lower switches.

2. Lower hitch using hitch control lever. Back up tractor until the coupler hooks (C) are below the implement hitch pins.
3. Slowly raise hitch until pins are engaged in coupler hooks and correctly locked into position.
4. Attach center link to the implement mast. Mast height on implement must not exceed 885 mm (34.8 in.).

IMPORTANT: If the implement upper mast opening is greater than 70 mm (2.8 in.) or if there is less than 14 mm (0.6 in.) around the upper mast hole, use a combination of shims on both sides of the center link ball.

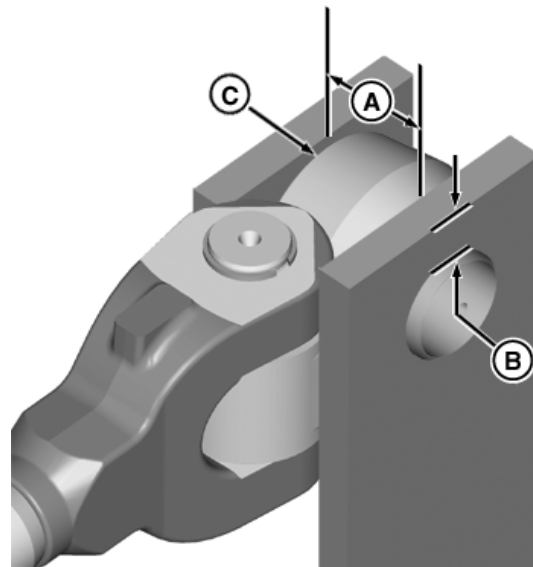
A—Distance
B—Distance

C—Yoke
D—Coupler Hooks



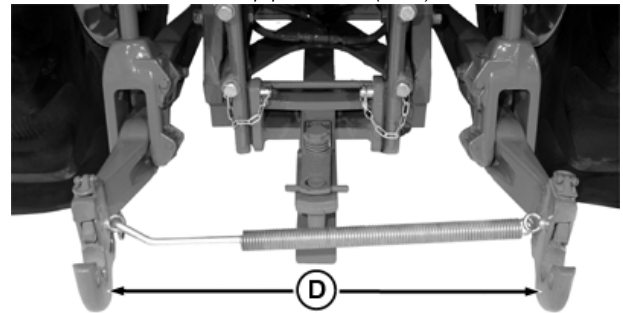
Equipment Mast (Cat 3)

RXA0086593 —UN—09FEB06



Equipment Mast (Cat 4)

RXA0088024 —UN—23MAR06



RXA0098806 —UN—12AUG08

OURX935.00003E9 -19-30JUL08-1/1

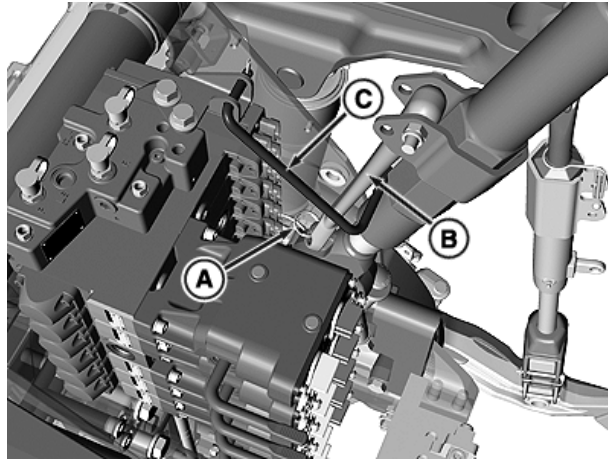
Detaching Implement from Walterscheid Couplers

1. Lower implement to the ground.

NOTE: For tractors equipped with Independent Link 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

2. Disconnect hydraulic hoses and electrical connections.
3. Retract lower hooks and lower the hitch until couplers are clear of implement hitch pins.
4. Disconnect center link from implement.
5. Carefully drive tractor forward away from implement.
6. Lock center link into the transport position. Remove retaining ring (A). Lift center link handle (B) and lock retaining link (C) into position.



RXA0098641 —UN—25AUG08

A—Retaining Ring
B—Link Handle

C—Lock Retaining Link

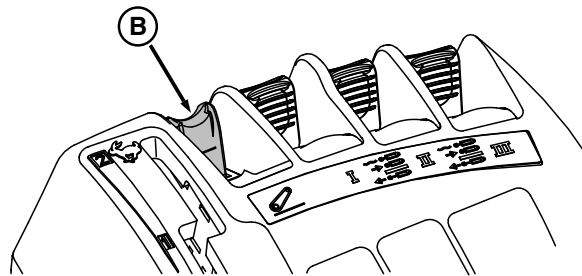
OURX935,00003E7 -19-30JUL08-1/1

Attaching Implement to Quick Coupler



RXA0087968 —UN—21MAR06

A—Coupler Latch Handle B—Hitch Control Lever



RXA0086769 —UN—14FEB06

⚠ CAUTION: To 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.

Do not stand between tractor and implement.

1. Pull up on coupler latch handles (A).
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.

⚠ CAUTION: To avoid bodily injury or machine damage make sure implement is attached correctly. Incorrect attachment can allow implement to be pulled over the tractor wheel and onto the operator station.

5. Push coupler latch handles down to lock implement to quick coupler.
6. Connect hydraulic hoses and electrical connections.

Continued on next page

OURX935,00003E8 -19-25AUG08-1/2

**IMPORTANT: Check for implement interference.
Drawbar removal may be necessary.**

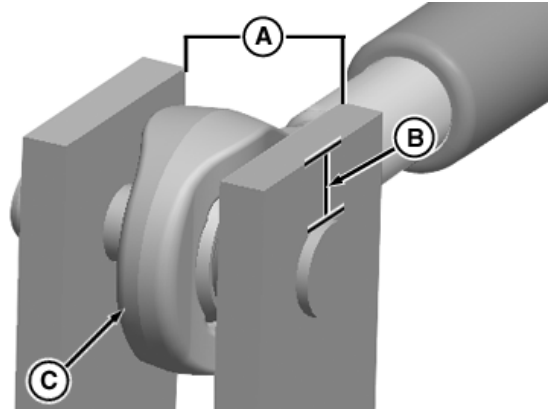
7. Slowly pull hitch control lever (B) to raise implement. Lower implement to ground and adjust upper height limit control if necessary.

IMPORTANT: If center link is attached directly to implement, measure upper mast opening (A) and height above pin (B). 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 (C).

- If connecting to a category 4N hitch, use a combination of shims on both sides of center link pivot.

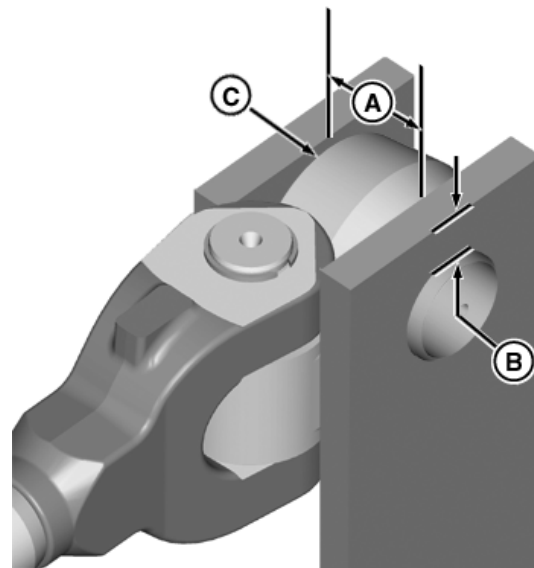
A—Distance
B—Distance

C—Yoke



Equipment Mast (Cat 3)

RXA0086593 —UN—09FEB06

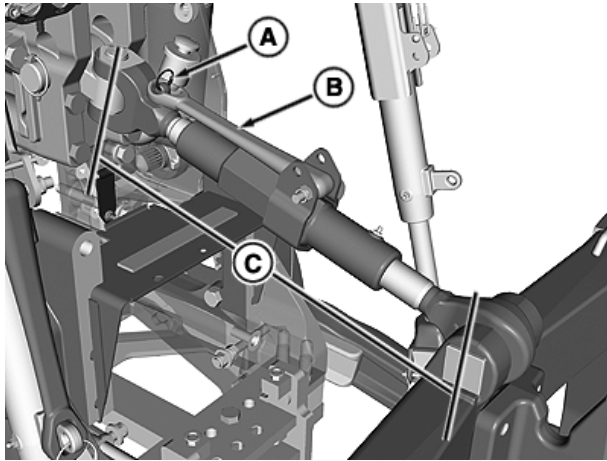


Equipment Mast (Cat 4)

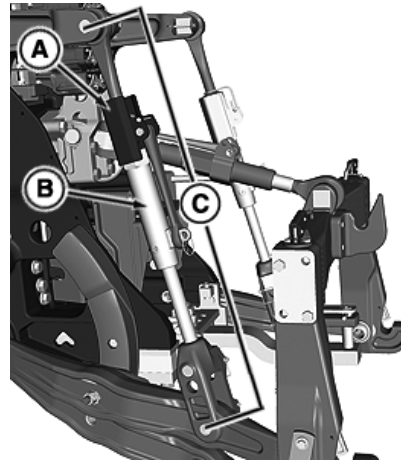
RXA0088024 —UN—23MAR06

OURX935,00003E8 -19-25AUG08-2/2

Adjusting Implement Level



RXA0098642 —UN—16JUL08



RXA0098643 —UN—16JUL08

A—Locking Ring
B—Handle

C—Center Link Adjustment Length
D—Collar

E—Center Portion
F—Lift Link Adjustment Length

1. Adjust center link to level implement front-to-rear.

- Remove Locking Ring (A).
- Lift Handle (B).
- Rotate center portion of center link to desired position.

2. Secure handle with locking ring.

3. Measure between centers of pins (C).

Center Link—Specification

Adjustment—Category 3 Length	690—834 mm (27.2—32.8 in.)
Category 4 Length	681—831 mm (26.8—32.7 in.)

4. Adjust lift links to level implement side-to-side. Slide collar (D) upward. Rotate center portion (E) of lift link to desired position.

Lift Link Length—Specification

Adjustment—Category 3/3N	
Length.....	1004—1143 mm (39.5—45 in.)
Category 4 Length.....	966—1137 mm (38—44.8 in.)

5. Lock out lateral float.

6. Secure collar in position.

OURX935,00003D9 -19-16JUL08-1/1

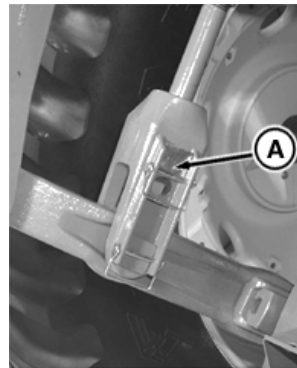
Changing Lateral Float

Put lateral float pins in upper holes (A) to hold implement rigidly.

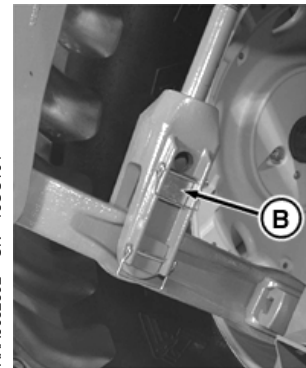
Put lateral float pins in lower holes (B) to allow either draft link to raise slightly as implement follows ground surface.

A—Upper Holes

B—Lower Holes



RXA0052502 —UN—18OCT01



RXA0052503 —UN—18OCT01

OURX935,00004BC -19-02JAN08-1/1

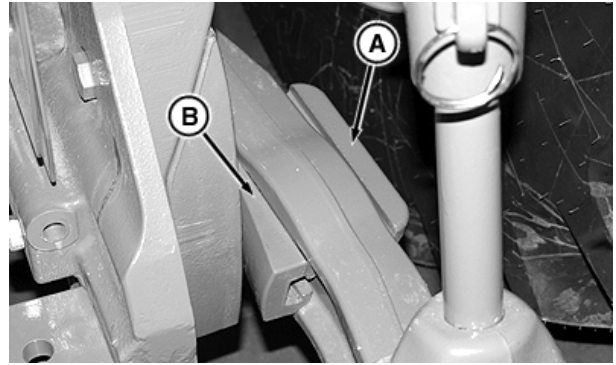
Hitch Conversion—Convertible Quick Coupler

1. Converting to category 3N is necessary for some 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.

IMPORTANT: If coupler is converted to category 3N, sway block spacer (A) must be mounted on the outside of draft link to avoid damaging equipment.

2. Adjust bumper block (B) to minimize clearance.
3. Tighten nut securely.



Spacer and Bumper Block

A—Spacer

B—Bumper Block

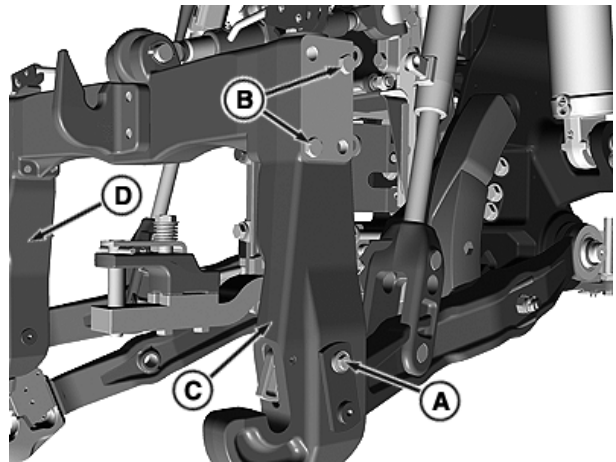
RXA0085783 —UN—10JAN06

OURX935.00003DA -19-16JUL08-1/2

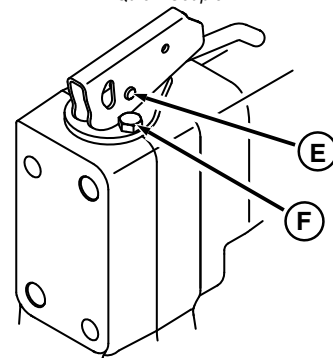
4. Support center of quick coupler. Remove pin retaining bolts (A) and pins from draft link. Remove side member cap screws (B).
5. Swap quick coupler side members, left-side member (C) to right end and right-side member (D) to left. Tighten cap screws to 320 +/-64 N·m.
6. Disconnect latch levers by removing C-clip and pin (E).
7. Remove cap screw (F) from wear plate and turn so tab is inward.
8. Install cap screws and tighten securely.
9. Reconnect levers.

A—Retaining Bolts
B—Cap Screws
C—Left Side Member

D—Right Side Member
E—C-Clip and Pin
F—Cap Screw



Quick Coupler



Quick Coupler

RXA0098644 —UN—28JUL08

RXA0085782 —UN—10JAN06

OURX935.00003DA -19-16JUL08-2/2

Detaching Implement from Quick Coupler

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 Independent Link 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



Coupler Latch Handle

A—Latch Lever

4. Carefully drive tractor away from implement.

OURX935,000045A -19-20SEP07-1/1

RXA0078885—UN—08FEB05

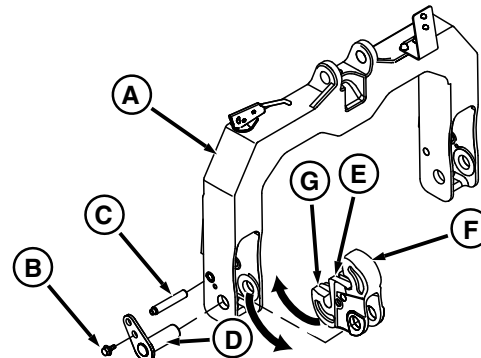
Converting Category 4 Convertible Quick Coupler Lower Hooks

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.

NOTE: Lower hooks are not marked for left-hand or right-hand side. Do not move lower hooks from one side to the other.



Converting Lower Hooks

- A—Quick Coupler Frame
- B—Cap Screw
- C—Retainer
- D—Pin
- E—Lower Hook
- F—Category 3 Hook
- G—Category 4N Hook

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 torque.

Specification

Lower Hook Cap Screws—Torque..... 100 N·m (74 lb-ft)

OURX935,000045A -19-02JAN08-1/1

RXA0085785—UN—10JAN06

Operating the Wagon Hitch

Wagon hitch can be released from the operator's seat using lever (A).

⚠ CAUTION: Avoid personal injury. Keep hands and fingers from hitch latching mechanism.

The wagon hitch closes automatically when trailer towing eye enters the hitch or can be manually closed using release lever (B).

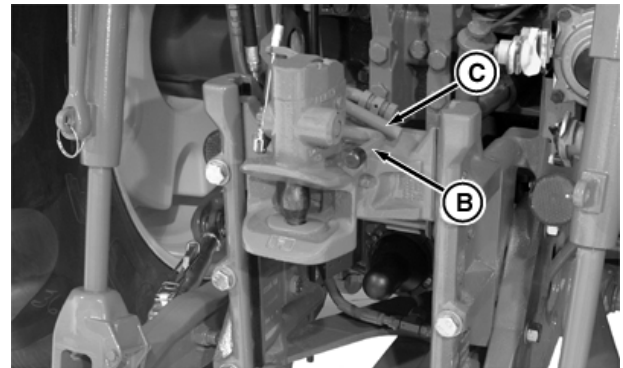
Wagon hitch height can be adjusted using height adjustment lever (C).

A—Lever (In Cab)
B—Release Lever

C—Height Adjustment Lever



RXA0056498 —UN—29AUG01



RXA0056498 —UN—29AUG01

OURX935,00001CE -19-29JUN05-1/1

Operating Pickup Hitch

NOTE: The pickup hitch is operated using selective control valves. SCV I (B) raises or lowers hitch and SCV II (C) extends or retracts hitch.

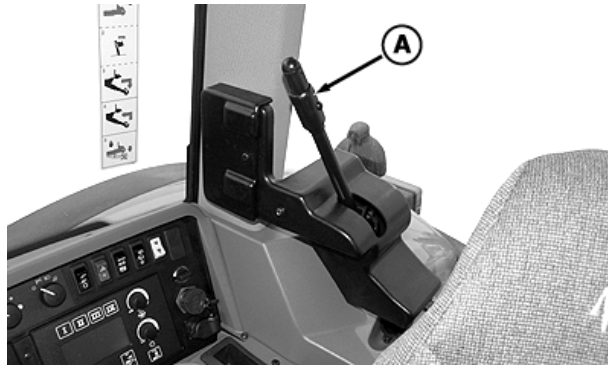
1. To release pickup hitch, raise hitch while pulling lever (A) to the right then lower hitch to desired height.
2. Back up tractor and raise pickup hitch so hitch hook engages in trailer towing eye.
3. Raise pickup hitch to transport/locked position.
4. Check to make sure pickup hitch is in **locked position**. Pull release lever to the right. Lever should not move.

⚠ CAUTION: Avoid bodily injury or machine damage whenever pickup hitch is used. Before driving away, make sure pickup hitch is fully raised and locked in position. Adjust sway blocks or stabilizers to prevent interference or binding.

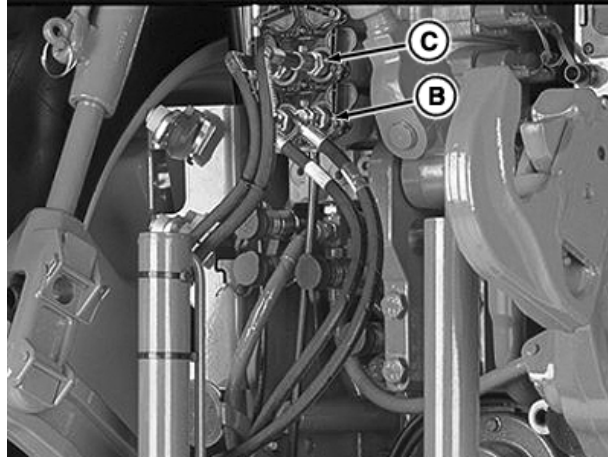
5. To change couplers, remove pins (F) and hook (D), then slide in drawbar (E) and reinstall pins.

A—Lever
B—SCV I Coupler
C—SCV II Coupler

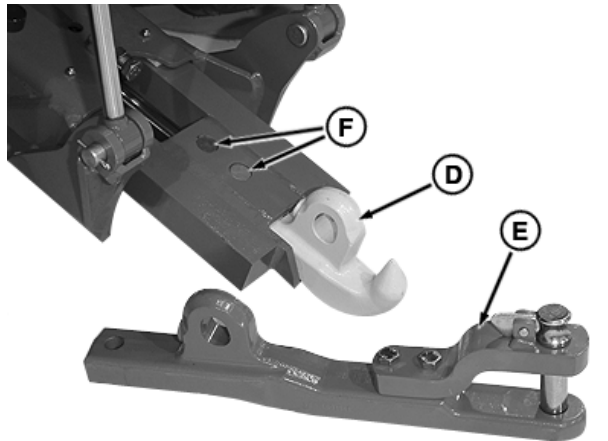
D—Hook
E—Drawbar
F—Pins



RXA0087945 —UN—20MAR06



RXA0083371 —UN—15AUG05



RXA0083395 —UN—15AUG05

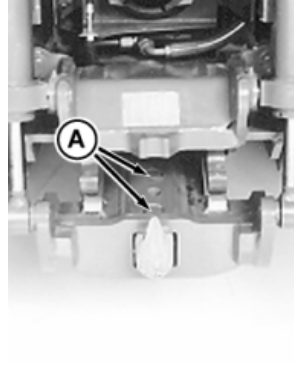
OURX935,0000522 -19-21MAR06-1/1

Changing Pickup Hitch Coupler

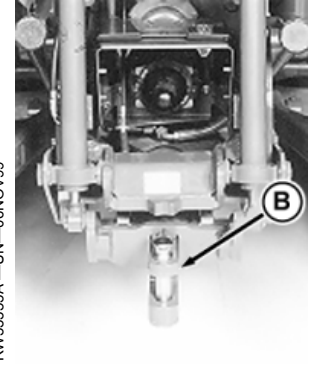
1. Lower pickup hitch.
2. Remove pins (A) from hook.
3. Install swinging drawbar (B) and replace pins.
4. Store hook or drawbar element in holder on left side of tractor frame by batteries.

A—Pins

B—Swinging Drawbar



RW55556A—UN—06NOV99



RW55556A—UN—06NOV99

OURX935,00001D0 -19-18AUG05-1/1

3 in 1 Hitch System

CAUTION: Avoid personal injury. Keep hands and fingers from pickup hitch latching mechanism.

The pickup hitch pin closes automatically when trailer towing eye enters the pickup hitch or can be manually closed using lever (A).

Install piton coupling (B) or ball coupling (C) by pulling spring release pins (H) and locking pins (F). Slide either coupling into pickup hitch rails and reinstall locking pins.

IMPORTANT: If using 35 mm (1 3/8 in.) PTO or PTO adaptor with 3 in 1 hitch rails, it may be necessary to limit steering angles to prevent PTO drive line from rubbing and/or damaging hitch rails.

A—Lever (In Cab)

B—Piton Coupling

C—Ball Coupling

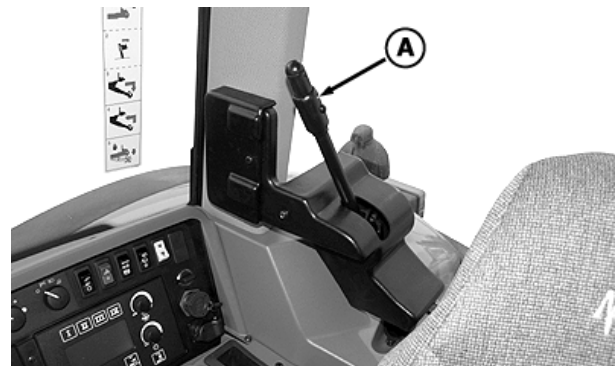
D—Wagon Hitch Release Lever

E—Wagon Hitch Height Adjustment Lever

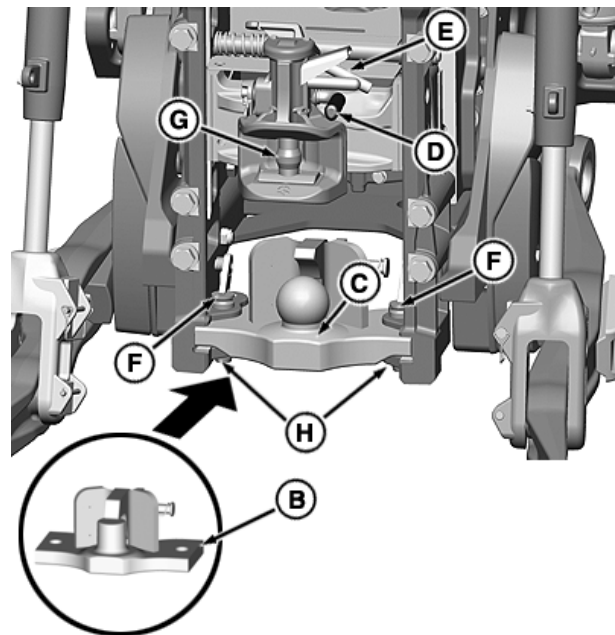
F—Locking Pins

G—Wagon Hitch

H—Spring Release Pins



RXA0087945—UN—20MAR06



RXA0086664—UN—14FEB06

OURX935,0000523 -19-23MAR06-1/1

Using Front Hitch (If Equipped)

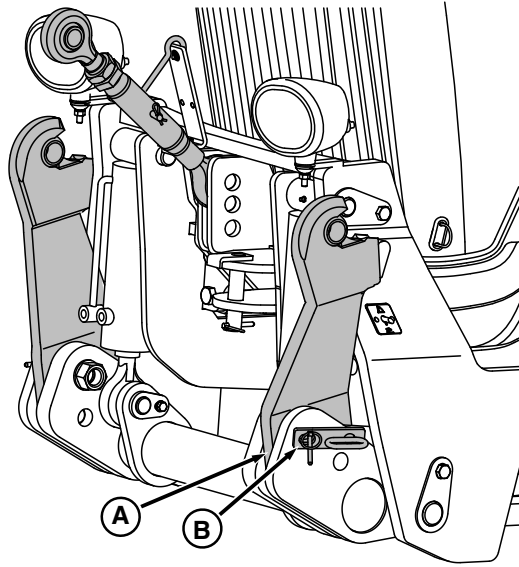
Lift Arm Storage and Operating Positions

Perform the following procedures to prepare the front hitch for operation:

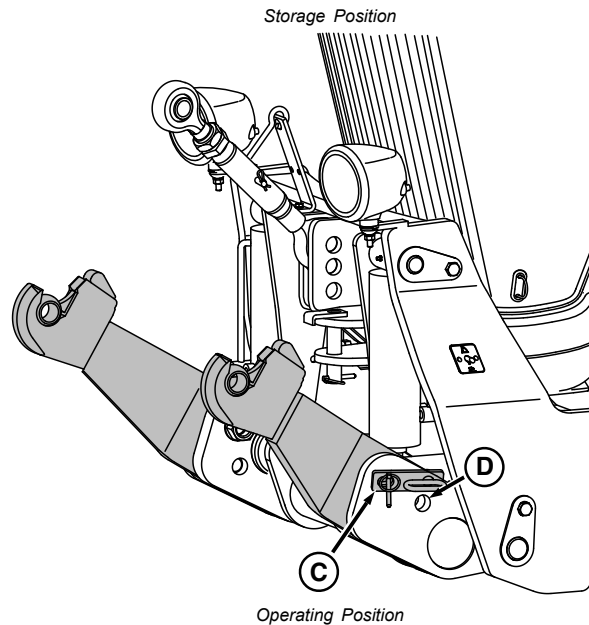
1. Support lift arm (A) and remove quick lock pin and pin (B).
2. Lower lift arm to align holes with hitch frame for one of the following operations:
 - Position (C)—Rigid; Lift arms stable
 - Position (D)—Float; Allows lift arms/hitch to follow ground contours
3. Install pin and quick lock pin.
4. Repeat on opposite side.

To store lift arms, remove pins and raise lift arm into upright position. Install pin and quick lock pin in location (C).

A—Lift Arm
 B—Quick Lock Pin and Pin
 C—Rigid Position
 D—Float Position



RXA0080755 —UN—20MAY05



RXA0080754 —UN—20MAY05

Continued on next page

OURX935.0000482 -19-02JAN08-1/2

Attaching and Detaching Implement to/from Hitch

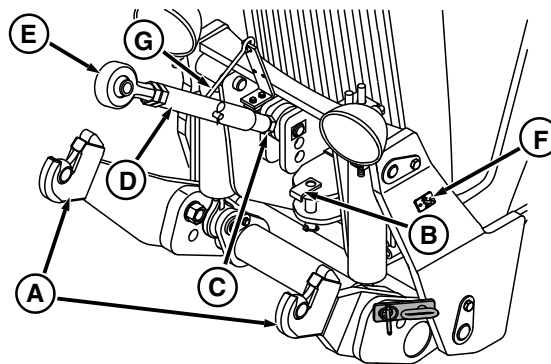
⚠ CAUTION: Avoid possible personal injury and tractor damage. **DO NOT** use front hitch to lift tractor. Use correct lifting equipment.

IMPORTANT: Avoid damage to equipment. Be sure load is balanced side-to-side and front-to-rear.

1. Adjust implement attaching points. (See implement operator's manual.)
2. Lower lift arms (A) using remote hitch switch (F).
3. Position coupler ends of lift arms below implement link pins and slowly raise hitch until coupler ends lock on implement link pins.

NOTE: Keep center link in stored position when not in use.

4. Remove retainer (G) from center link.
5. Loosen lock nut (C).
6. Hold link end (E) and turn center link (D) to adjust length. Tighten lock nut.



A—Lift Arms	E—Link End
B—Quick Lock Pin and Pin	F—Remote Hitch Switch
C—Lock Nut	G—Retainer
D—Center Link	

7. Remove quick lock pin and pin (B) from storage location and attach center link to implement.

Detach implement from hitch in reverse order of attaching.

RXA0085786 —JUN—10JAN06

OURX935.0000482 -19-02JAN08-2/2

TouchSet Depth Control

Using 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, may cause unexpected movement. Stay clear of implement when starting engine.

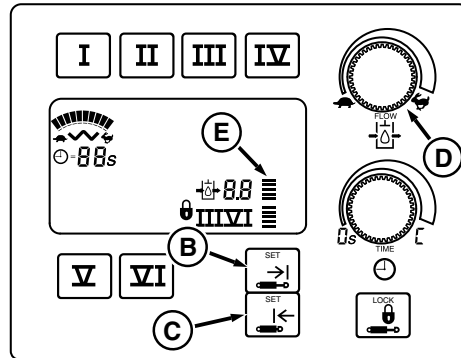
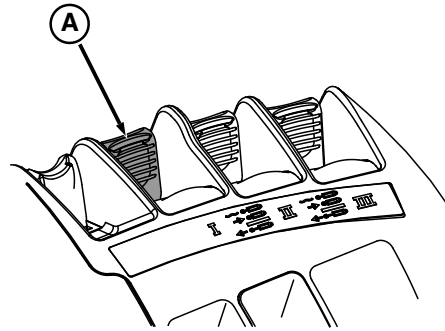
Tractor selective control valve (SCV I) is used to electronically control raising, lowering, and setting of implement depth, without leaving the cab.

Control lever (A) is used to control implement operating depth and height that implement will raise.

Touch switches (B) and (C) set limits of implement movement controlled by SCV control lever for repeatability of implement raised and lowered positions.

Flow knob adjusts flow rate for each SCV to determine speed at which implement will raise and lower.

- | | |
|-----------------------------|-----------------------------|
| A—SCV I Control Lever | D—Flow Rate Adjustment Knob |
| B—Raise Position Set Switch | E—Indicator |
| C—Lower Position Set Switch | |



TouchSet Control Panel

RXA0083126 —JUN—09AUG05

RXA0097428 —JUN—27FEB08

OURX935,0000097 -19-09SEP08-1/1

Attaching Implement and Control System

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.

IMPORTANT: Be sure to correctly connect remote hydraulic hoses to couplers. If hose connections are reversed, machine will not respond to system controls. Extend hose always goes in coupler left-hand port. Retract hose always goes in coupler right-hand port.

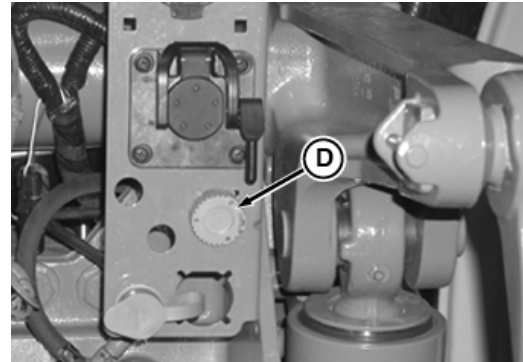
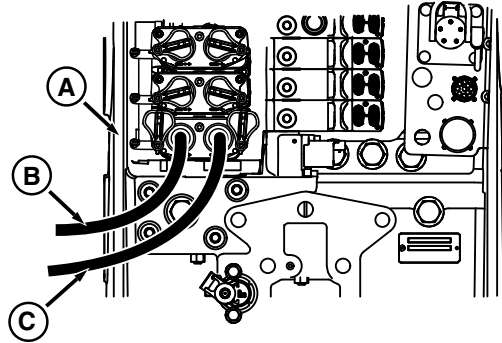
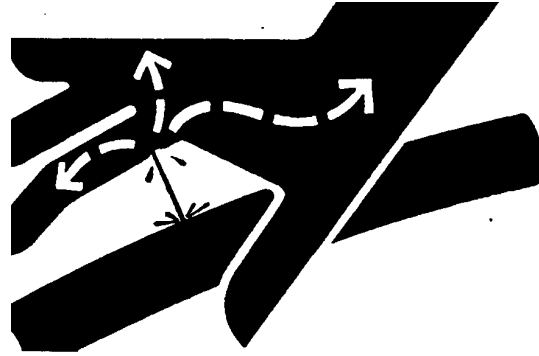
- Extend = Left Side
- Retract = Right Side

NOTE: Hose identification kits are available from your John Deere Dealer.

1. Identify extend hose (B) and retract hose (C).
2. Back tractor into position and attach hitch link to drawbar. Be sure hitch pin is locked into position.

IMPORTANT: Always shut engine off before connecting/disconnecting implement position sensor. Connect/disconnect with engine running will cause system faults. Shut engine off then restart to restore correct function.

3. Shut off tractor engine.
4. Connect implement hydraulic hoses according to Hydraulics and Selective Control Valves in this Operator's Manual.
5. Install implement position sensor to tractor wiring harness connector (D).



A—SCV handle
B—Extend Hose

C—Retract Hose
D—Wiring Harness Connector

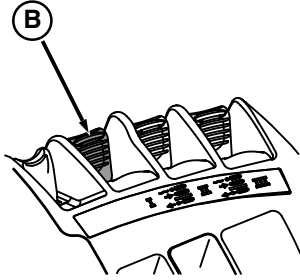
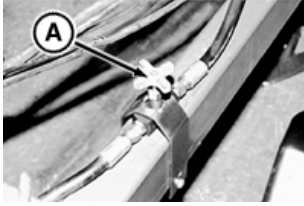
OURX935,0000079 -19-05FEB08-1/1

X9811 —UN—23AUG88

RXA0097038 —UN—13AUG08

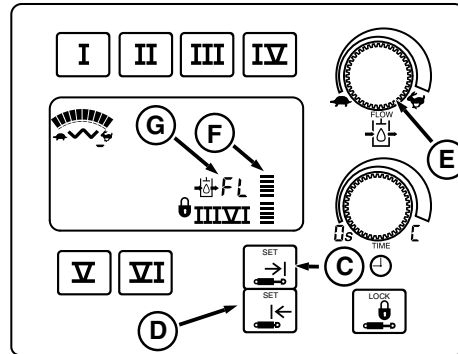
RXA0097019 —UN—15JAN08

Checking Depth Control Operation



RXA0086168 —UN—26.JAN06

RXA0097542 —UN—11.MAR08



RXA0097544 —UN—11.MAR08

A—Lock-Up Valve
B—SCV I Control Lever

C—Upper Limit Switch
D—Lower Limit Switch

E—Flow Rate
F—Indicator

G—FL (Fault)

To activate Electro-Hydraulic Depth Control, select SCV 1. Two characters, “PC”, (Position Control) are displayed indicating set points are disabled. Operator must initially set detent time by turning time adjustment knob clockwise. As the time adjustment wheel is turned, “PC” display changes to a number range from 0.0 to 10. “P” is displayed confirming detent time is set. After being initially set, detent time is stored and remembered even though tractor is shut off and restarted.

If detent time is not set, “0s” is displayed and SCV1 will operate in normal operating mode.

Although figure on this page displays a “FL” (G) or fault, when setting detent time for Electro-Hydraulic Depth Control other characters may be displayed such as; P—set points are enabled, PC—set points disabled, 0.0 through 10 detent time setting in seconds or Os—disabled,(SCV1 will operate normally).

IMPORTANT: If “P” is not displayed when tractor is restarted, wiring connection is not correct. If “FL” (G) is displayed, a fault condition exists. Check to make sure hoses are not installed backwards.

1. Open implement lock-up valve (A).
2. Start engine and raise and lower implement with SCV I control lever (B). Pulling lever rearward will

raise implement and pushing lever forward will lower implement.

3. Push SCV Control Lever forward to desired implement operating depth.
4. Push lower limit switch (D) to store operating depth. Implement will lower to same working depth each time the lever is pushed forward into detent “click” position and released.
5. Pull SCV control lever back to raise implement to desired height. Push upper limit switch (C) to store upper limit. Implement will raise to same height each time the lever is pulled back to the detent “click” position and released.

NOTE: Indicator (F) gives operator visual indication of change in depth.

6. Adjust flow rate (E) to determine speed at which implement will raise and lower. If implement goes beyond depth settings, flow rate is too high.

NOTE: System can be over-riden by using SCV I lever without detenting. Push lever into detent and release to return implement to saved settings.

TouchSet Scraper Control—for Scrapers Equipped with Scraper Control Unit

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 valve (SCV I and/or SCV III) are used to electronically control raising, lowering, and setting of implement depth, without leaving the cab. (Used primarily in areas requiring automated laser guidance system for scraper applications.)

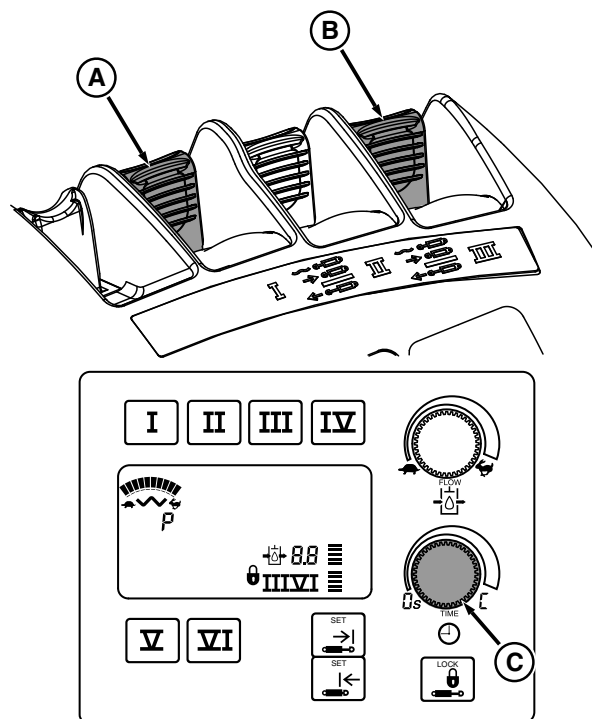
Control lever (A) is used to manually control SCV I and activate an automatic scraper control system.

Control lever (B) is used to manually control SCV III and activate a second automatic scraper control system.

Detent time adjustment knob (C) allows operator determine the time allowed for cylinder to extend. A setting of "P" replaces the zero ("0") detent time when SCV is activated by TouchSet Scraper controller.

A—SCV I Control Lever
B—SCV III Control Lever

C—Detent Time Adjustment Knob



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RXA0097431 —UN—27FEB08

OURX935,000009A -19-09SEP08-1/1

Enabling TouchSet Scraper Control System

Scraper controller must be connected to tractor's optional implement harness' 9-pin connector. The scraper controlled SCV number (I or III), "EC", and 3 vertical bars will be displayed on TouchSet display between the SET switches once the tractor has started and communication

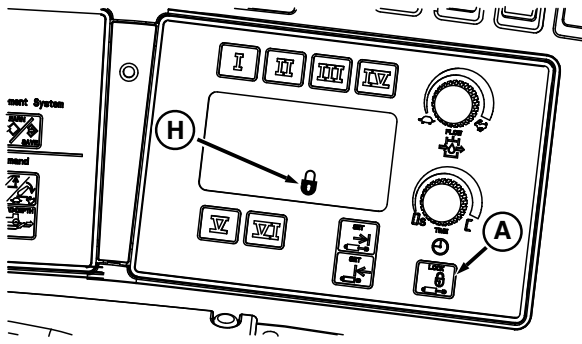
between the tractor's SCV controller and the Laser Leveling Control system is established. "EC" must be shown for system to function.

Automatic scraper controller will be OFF until system is activated by moving SCV I or SCV III control lever to the lower detent position.

OURX935,0000012 -19-02JAN08-1/1

Hydraulics and Selective Control Valves

Connecting Hydraulic Hoses



TouchSet Monitor

A—Transport Lock Touch Switch C—Retract Icon
B—Extend Icon D—SCV Identifier Number

IMPORTANT: Steam cleaning or use high pressure washer in the area around the SCV connections and electronics may damage equipment. Any pressure washer exceeding 1000 psi (75 bar). should be kept a minimum of 200 mm (8 in.) away from connections.

1. Back tractor up to implement and connect hitch.

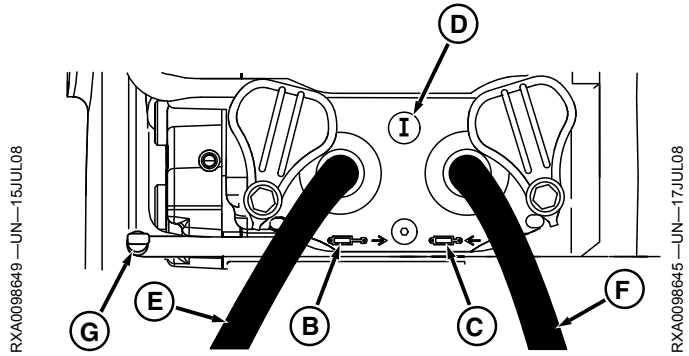
CAUTION: Make sure no oil flow is commanded before connecting or disconnecting hydraulic hoses. Failure to perform one of these steps prior to connecting or disconnecting SCV hoses may result in personal injury or damage to equipment.

- Turn off tractor engine
- Push Transport Lock Switch
- SCV lever is in neutral.

2. Push Transport Lock Touch Switch (A) to engage transport lock.

NOTE: When transport lock engaged, a locked padlock (H) will appear on TouchSet Monitor screen.

3. Check TouchSet Monitor to ensure transport lock is engaged.



RXA0098649 —UN—15JUL08

RXA0098645 —UN—17JUL08

E—Extend Hose G—Handle
F—Retract Hose H—Padlock

4. Clean tractor SCVs and area around SCVs and hose ends.

NOTE: When connecting couplers, ensure you are connecting to the correct SCV port by noting the number indicated on the identifier (D) on each SCV. If hose connections are reversed, machine will not respond to system controls. Couplers are designated I through V with I being the bottom coupler. Always connect one-way cylinders to the extend side as indicated by the extend icon (B). When connecting two-way cylinders, the extend side will be the left side. The retract side is the right side as indicated by the retract icon (C). Lever (G) is only pushed down when couplers are disconnected. Disconnect both connectors at the same time.

5. Push extend hose (E) and retract hose (F) firmly into receptacle.
6. Push Transport Lock Touch Switch again to disengage transport lock. Padlock is no longer displayed on TouchSet Monitor.

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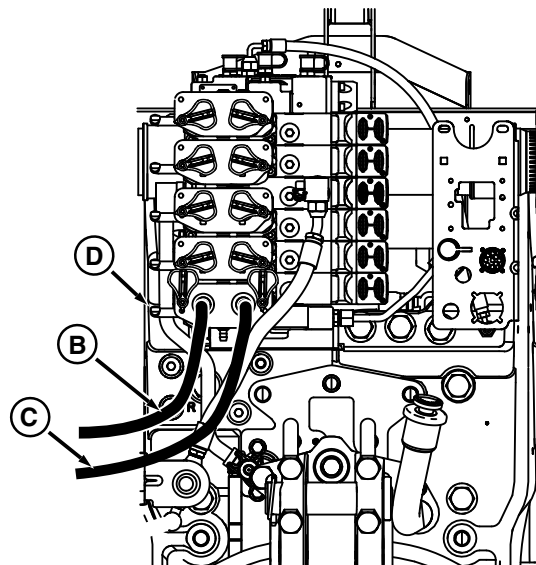
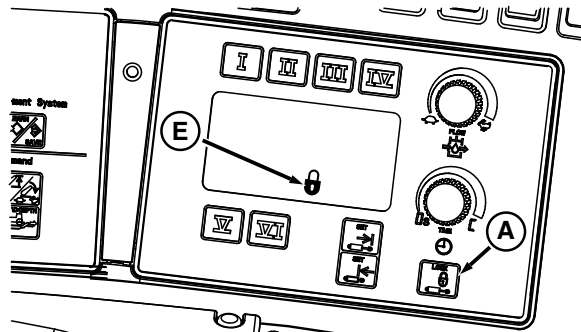
Disconnecting Hydraulic Hoses

IMPORTANT: Steam cleaning or use high pressure washer in the area around the SCV connections and electronics may damage equipment. Any pressure washer exceeding 1000 psi (75 bar).. should be kept a minimum of 200 mm (8 in.) away from connections.

CAUTION: Push transport lock touch switch (A) on SCV TouchSet monitor before detaching implements to prevent implement movement and possible personal injury.

1. Lower implement to ground.
2. Push transport lock touch switch to engage transport lock.
3. Observe TouchSet Monitor to ensure padlock (E) is displayed.
4. Push lever (D) down to release both extend hose (B) and retract hose (C).

A—Transport Lock Touch Switch	D—Lever
B—Extend Hose	E—Padlock
C—Retract Hose	



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RXA0097039 —UN—13AUG08

OURX935,0000092 -19-10JUL08-1/1

Determining Total Flow Demand

1. Check flow setting for each function, independently. (See implement operator's manual, applications section, to determine correct motor flow settings.)

Examples of functions which may cause the pump to operate at high pressure:

- Down pressure systems (drills, air seeders, disks)—usually can be considered to be zero flow demand after completion of raise or lower cycle. See Remote Hydraulic Connections section, Implement Connection Example 1— Pressure Control Valve Applications (Grain Drills Or Air Seeders With Constant Down-Pressure System) in this Operator's Manual.
 - Auxiliary flow control valves (vacuum flow control)—Completely open implement flow control valve and adjust tractor flow rate to desired setting. See Remote Hydraulic Connections section, Implement Connection Example 4— Planter with Vacuum Motor and Return Line to SCV Using Motor Return Tip in this Operator's Manual.
 - Cylinder functions, where line or orifice restrictions control flow—Adjust tractor flow control to point where function speed begins to decrease. See Remote Hydraulic Connections section, Implement Connection Example 2—Motor Application Using Motor Case Drain in this Operator's Manual.
 - Auxiliary control valves (implement stack valves, row guidance)—Adjust tractor flow control to lowest setting resulting in correct operation.
2. Determine total flow demand by adding flow requirements for each SCV using settings determined in Step 1. Include hitch and power beyond flow requirements, if applicable. (Refer to 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 there is performance concern. (See your John Deere Dealer.)
 - Flow demand exceeds pump flow:
 - Increase engine rpm if possible

- Decrease flow setting on non critical functions
- Convert implement open-center valves to closed-center operation, if implement is so equipped.

NOTE: Flow measurements are made without steering or hitch being used.

MAIN HYDRAULIC PUMP FLOW (APPROXIMATE)		
Engine rpm	Pump	Pump Flow
1000	63 cc	80 L/min (21 gpm)
2000	63 cc	160 L/min (42 gpm)
1000	85 cc	108 L/min (28.5 gpm)
1500	85 cc	162 L/min (43 gpm)
2000	85 cc	216 L/min (57 gpm)

SCV FLOW OUTPUT (APPROX. ^a)	
SCV Flow Settings	Flow
0.1 ^b	—
1.0	3.4 L/min (0.9 gpm)
2.0	7.5 L/min (2.0 gpm)
3.0	12.5 L/min (3.3 gpm)
4.0	17.4 L/min (4.6 gpm)
5.0	20.8 L/min (5.5 gpm)
6.0	27.6 L/min (7.3 gpm)
7.0	40 L/min (10.6 gpm)
8.0	75 L/min (19.8 gpm)
9.0	110 L/min (29.3 gpm)
10.0	131.7 L/min (34.8 gpm)

^a at 2100 rpm

^b 0.1 = Minimum Flow Setting

Hitch Flow		
Hitch Cylinder	Flow	
Diameter (mm)	L/min	gpm
90/90	59.5	15.7
90/100	66.4	17.5
100/100	73.4	19.4
100/112	82.6	21.9
112/112	92.1	24.3

OURX935,0000003 -19-02JAN08-1/1

Adjusting SCV Flow Rate

IMPORTANT: Excessive operating speed may cause damage or injury. Full extension or retraction of cylinder should take at least 2 seconds.

Adjust flow rate for each job. Rate should be slow enough to be safe, yet fast enough to be practical.

Change flow setting as follows:

1. Press selected SCV switch (A). Display shows previous flow rate.

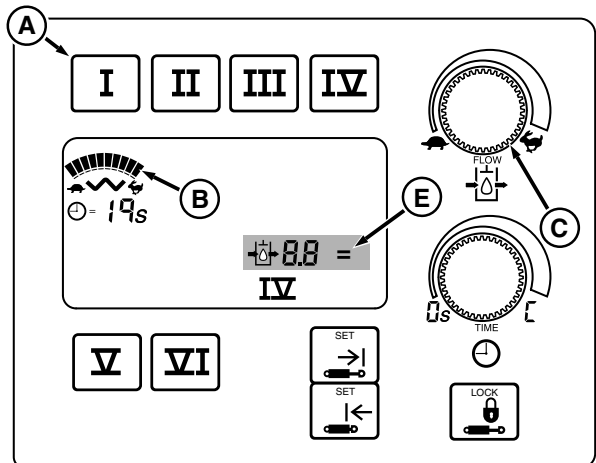
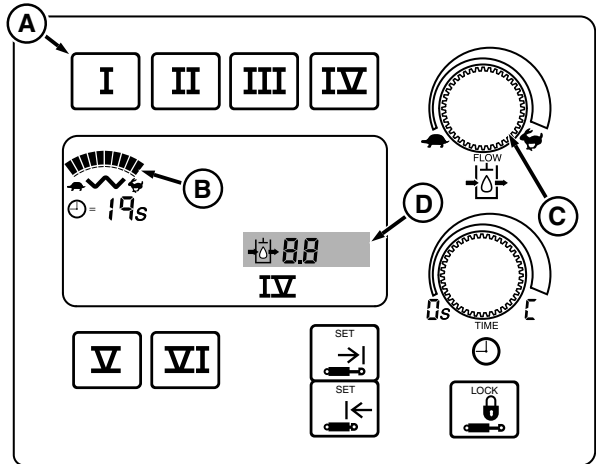
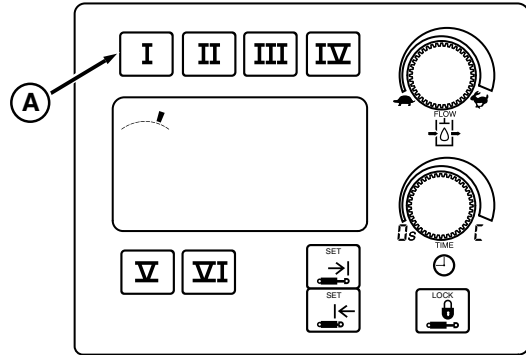
NOTE: To provide operator with additional indication of command setting, as operator "clicks" flow knob (C) through the flow settings, the display will increase or decrease the number of multiple line increments as the flow changes.

2. Turn flow rate knob (C) clockwise (rabbit) to increase flow or counterclockwise (turtle) to decrease flow. Flow setting is shown on bar graph display (B).

NOTE: SCV can be operated to observe flow rate while in adjustment mode. Reduced cylinder cycle times and/or a reduction in motor speed may result if total flow demand exceeds available pump flow.

A—SCV Switch
B—Bar Graph Display
C—Flow Rate Knob

D—Blank Field
E—Multiple Dashes



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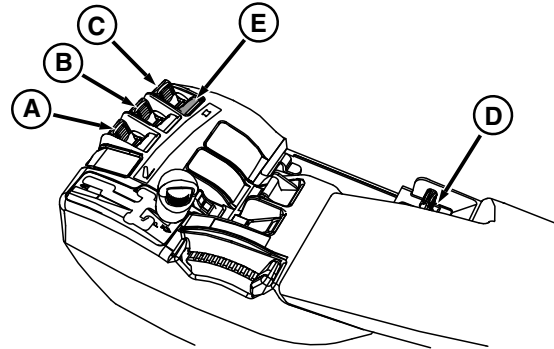
Using Six Position SCV Control Levers

CAUTION: To avoid personal injury, ensure hoses are not reversed. If hoses are reversed, cylinder will extend when it should retract.

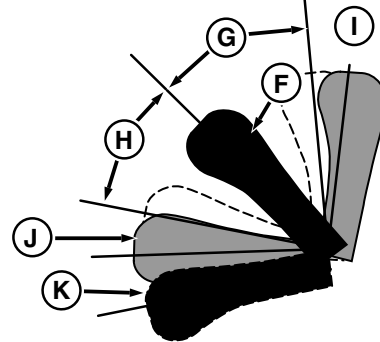
NOTE: Float can also be used to allow hydraulic motors to coast when shutting down an implement. Neutral and Float are the only positions that SCV lever will remain without being held.

- **Neutral (F)**—Lever returns to center position when released except in float position.
- **Extend** (rearward between Neutral and Detent Position Extend)—Variable flow to extend cylinder, proportional to lever movement and flow settings; shuts off when released to center position.
- **Extend Detent Position (I)** (rearward to "click" position)—Timed flow to extend cylinder, based on detent time setting and at a rate set by flow rate control. (See ADJUSTING TIMED DETENT and ADJUSTING SCV FLOW RATE in this section). Lever returns to neutral when released.
- **Retract** (forward between Neutral and Detent Position Retract)—Variable flow to retract cylinder, proportional to lever movement; shuts off when released.
- **Retract Detent Position (J)** (forward to "click" position)—Timed flow to retract cylinder, based on detent time setting and rate set by flow rate control. (See ADJUSTING TIMED DETENT and ADJUSTING SCV FLOW RATE). Lever returns to neutral when released.
- **Float (K)** (fully forward and down into locked position)—Valve is open to sump to allow cylinder to extend or retract to allow implement to follow ground contour; must be pulled up and out of locked position to disengage.

NOTE: To relieve hydraulic pressure in an implement, move SCV control lever to float position, while engine is running.



CommandARM



Armrest Controls—Six Position SCV Levers

- | | |
|--------------------------|---------------------------|
| A—SCV I | G—Extend Range |
| B—SCV II | H—Retract Range |
| C—SCV III | I—Extend Detent Position |
| D—SCV IV | J—Retract Detent Position |
| E—Cover | K—Float |
| F—SCV lever (In Neutral) | |

Push SCV lever cover (E) forward when SCV is not in use.

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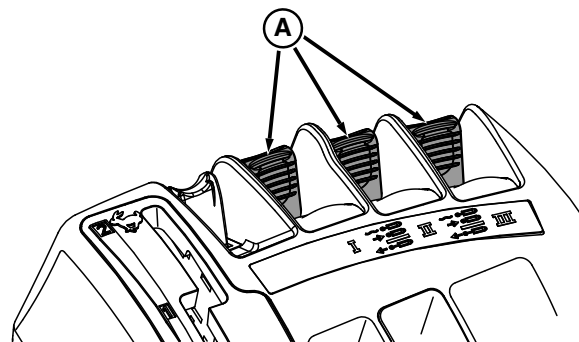
SCV Lever—Neutral Position

Neutral (A) allows flow to continue until timed detent has expired. If no timed detent was "commanded", then both extend and retract valves will be off.

NOTE: SCV control lever should be in neutral position at tractor start up.

Levers in extend or retract positions automatically return to neutral when released. Float position will remain detented.

Any position other than neutral or float will be ignored, until lever is cycled to neutral after engine start up.



A—Neutral Position

OURX935,0000007 -19-03JAN08-1/1

RXA0080734 —UN—13MAY05

SCV Lever—Extend and Extend Detent Position

Extend

Pull lever slightly to rear of neutral. This slowly extends cylinder at a variable flow rate. (See Adjusting SCV Flow Rate in this section.)

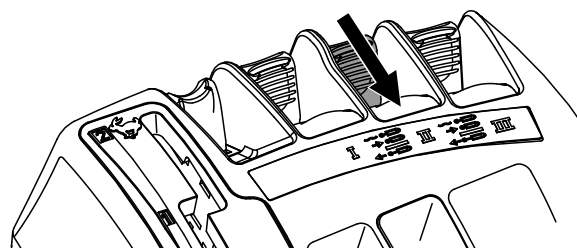
Pull the lever all the way rearward to extend the remote cylinder at maximum rate. Detent operation mode depends on the SCV detent selected.

NOTE: Time setting is ignored in extend position.

Extend Detent

Pull lever rearward to "click" detent position and release. Lever will return to neutral position, but flow will continue at rate set on TouchSet panel. (See Adjusting SCV Flow Rate and Adjusting Timed Detent in this section.)

Flow timing begins when lever is moved into detent. SCV flow time should be adjusted so cylinder will be fully extended when time has elapsed.



RXA0080732 —UN—13MAY05

NOTE: If lever is not returned from detent to neutral in less than 0.8 seconds, detent cancels.

Detent can be cancelled by moving SCV lever forward or rearward from neutral.

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SCV Lever—Retract and Retract Detent Position

Retract Position

Push lever slightly forward of neutral. This slowly retracts cylinder at a variable flow rate. (See Adjusting SCV Flow Rate in this section.) Lever returns to neutral and flow stops when released.

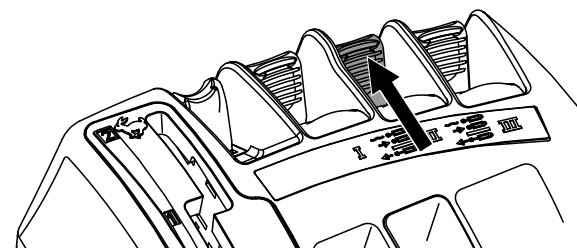
Push the lever forward to the first detent notch to retract the remote cylinder at maximum rate.

NOTE: Time setting is ignored in retract position.

Retract Detent Position

Push lever forward to "click" detent position and release. Lever will return to neutral position, but flow will continue at rate set on TouchSet panel. (See Adjusting SCV Flow Rate and Adjusting Timed Detent in this section.)

Flow timing begins when SCV lever is first moved into detent. SCV flow time should be adjusted so cylinder will be fully retracted when time has elapsed.



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Detent can be cancelled by moving SCV lever slightly forward or rearward from neutral after lever has returned to neutral or by holding lever in retract position for more than 0.8 seconds after lever is released from detent.

NOTE: Detent positions are ignored at start up until lever is cycled to NEUTRAL.

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SCV Lever—Float Position

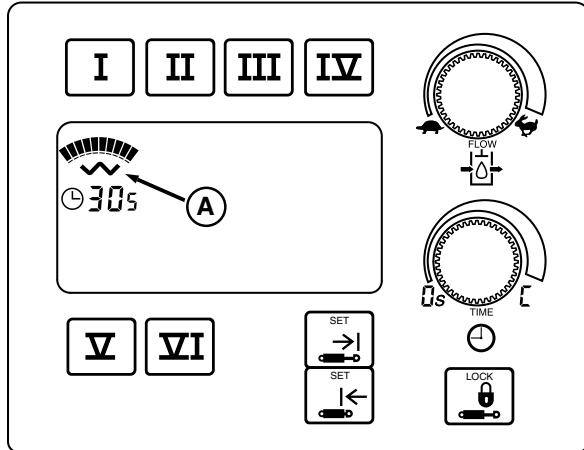
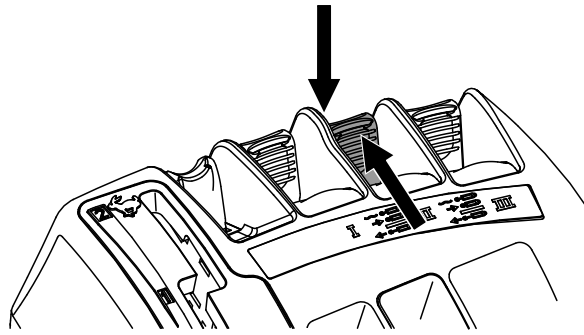
Push SCV lever all the way forward and down to lock in float position. Lever and SCV will remain in float position until lever is manually returned to neutral. Cylinder is free to extend or retract, letting implement follow ground contour. Float indicator (A) will be displayed when lever is in float position.

NOTE: Time setting is ignored in Float position.

If lever is in float position at engine start up, float function will operate if lever was moved to float position at least 10 seconds before engine was stopped and had not moved out of float position. If lever was not operated in this manner, float function will be disabled until lever is cycled to neutral.

Cycle cylinder fully in both directions after being used in the float position to insure cylinder is filled with oil.

A—Float Indicator



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RXA0081636 —UN—15JUN05

OURX935,000000C -19-03JAN08-1/1

Operator Presence Sensor

Service Alert indicator light will flash with an audible warning signal if operator leaves seat with transmission in PARK or NEUTRAL and SCV control in "Continuous" or "Timed Detent" modes.

After 5 seconds, Service Alert indicator and audible warning signal will stop, and Information indicator light

will come on with an associated message appearing on the CommandCenter display.

NOTE: SCV does not disengage when operator leaves seat.

OURX935,000000D -19-03JAN08-1/1

Adjusting Timed Detent

⚠ CAUTION: Avoid possible personal injury. DO NOT use timed detents for loader operation.

Timed Detent Function

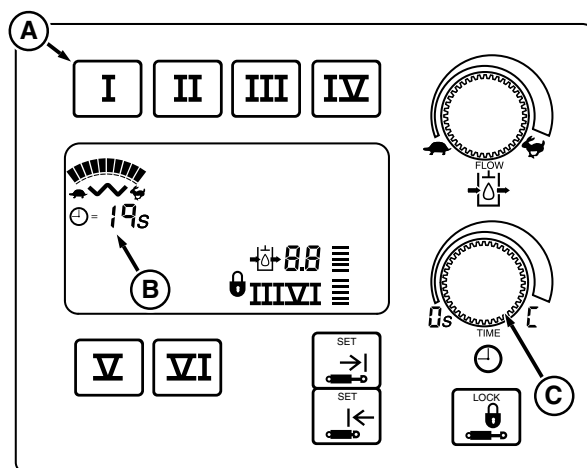
Three detent functions are available to hold each SCV function for an adjustable time.

- 0 second (No Timed Detent)—Hold control lever in extend or retract position. Oil flow continues until control lever is released. (This position is recommended for loaders and implements requiring frequent height or depth adjustments.)
- 1–60 seconds (Adjustable Timed Detent)—Move control lever to (detented) extend or retract position and release. After click, lever returns to neutral. Oil flow continues until time expires. (This position is recommended for implements operating at full depth or with depth stops on the cylinders.)
- C (Continuous Flow)—Control lever is moved to full (detented) extend or retract position and released. Lever returns to neutral. Oil flow continues until control lever is moved away from Neutral or until tractor is shut off. (This position is recommended for hydraulic motor use or applications where a continuous flow of oil is required.)

Timed Detent Adjustment

Press selected SCV switch (A). Display (B) shows set time.

Adjust timed detent by turning knob (C) clockwise (longer detent time or "C" continuous detent time). Turn knob



A—SCV Switch
B—Display

C—Knob

counterclockwise (shorter detent time or "0" zero detent time).

NOTE: SCV can be operated to observe detents while in adjustment mode.

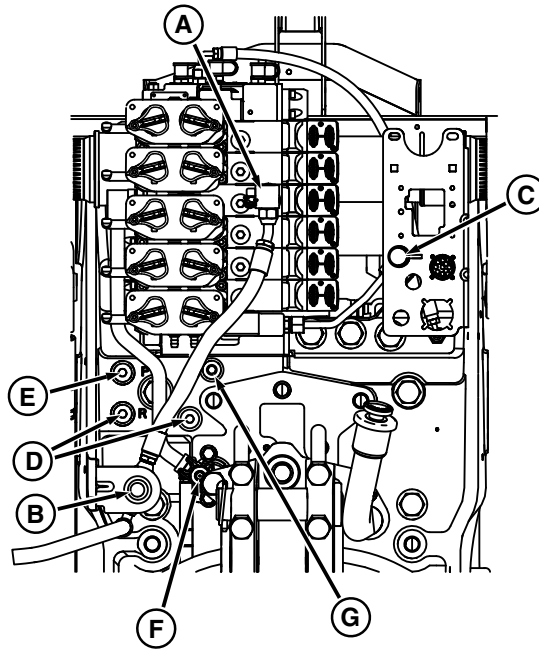
Move SCV lever forward or rearward from neutral to cancel a detent function manually.

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Remote Hydraulic Connections

Hydraulic Component Identification



A—Hitch Valve
B—Auxiliary Hitch Valve Port (If Equipped)

C—Power Beyond Load-Sense Coupler (If Equipped)
D—Return Ports

E—Pressure Port (Primary)
F—Drain Port (To Sump)

G—Pressure Port (Limited Access)

¹Field installed kit available through your John Deere dealer.

OURX935,000008B -19-13AUG08-1/1

RXA0096590—UN—13AUG08

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
- Implement control valve requires external load sense signal to prevent pump operation at high pressure
- No other SCV outlet is available

Power Beyond functions require a "load-sense" signal to regulate pump pressure, therefore, a "load-sense"

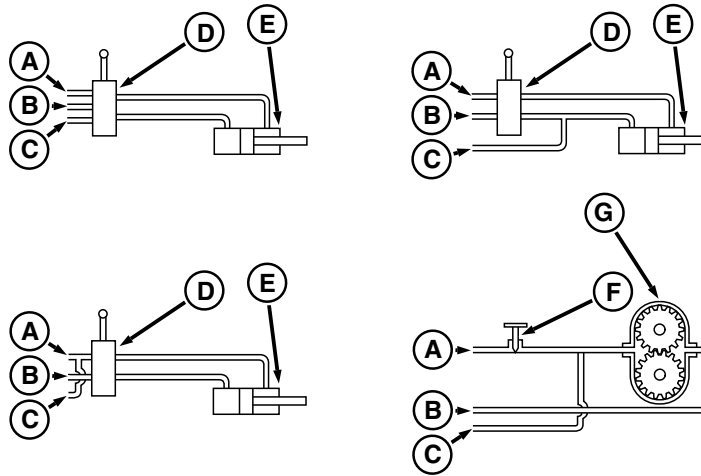
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hydraulic line is used. Certain equipment may require modification. Special hydraulic couplers are available from your John Deere™ Dealer.

NOTE: *The available flow to power-beyond is limited when using a load-sense connection to the implement.*

OURX935,000008C -19-15JAN08-1/1

Examples Using Load-Sensing Hydraulic System—Power-Beyond



Four Examples of Load-Sensing Hydraulic System — Power Beyond

A—Pressure Line
B—Return Line

C—Load-Sense Line
D—Control Valve

E—Cylinder
F—Pressure-Compensated Flow Valve

G—Hydraulic Motor

Upper Left—Control valves with a load-sense provide a load-sense signal to hydraulic system and can be operated manually or by solenoids.

Upper Right—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 not needed.

IMPORTANT: Circuit allows cylinder "leak-down" through load-sense line (C). If leakage is not acceptable for operation, use Example 3.

Lower Left—Control valve directs oil into extend or retract circuits, either requiring high pressure. Connect load-sense line to pressure line before control valve.

NOTE: 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.

Lower Right—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.

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FXA0086800—UN—10JAN06

Using Hydraulic Spray Pumps

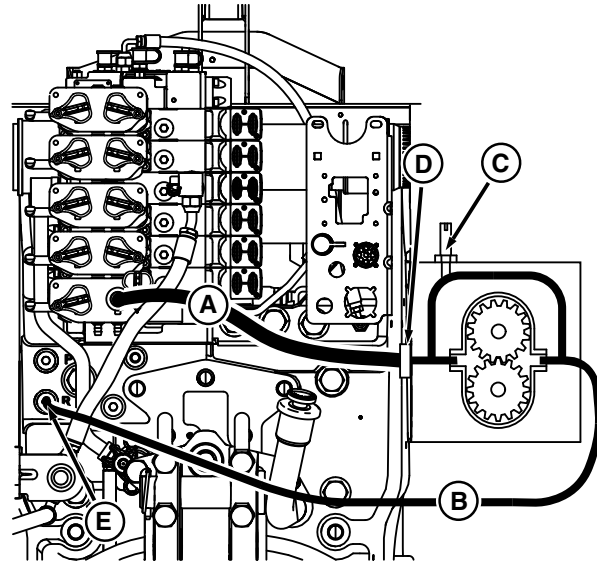
1. Follow spray pump manufacturers recommendations for pump model selection, setup and operation.

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.

2. Connect motor pressure line (A) to retract port of SCV (right-hand side).
3. Connect return line (B) to power beyond return coupler (E).
4. Some hydraulic motors have a separate case drain line for internal leakage. The case drain line (F) must be routed to the hitch frame drain port (G) 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.

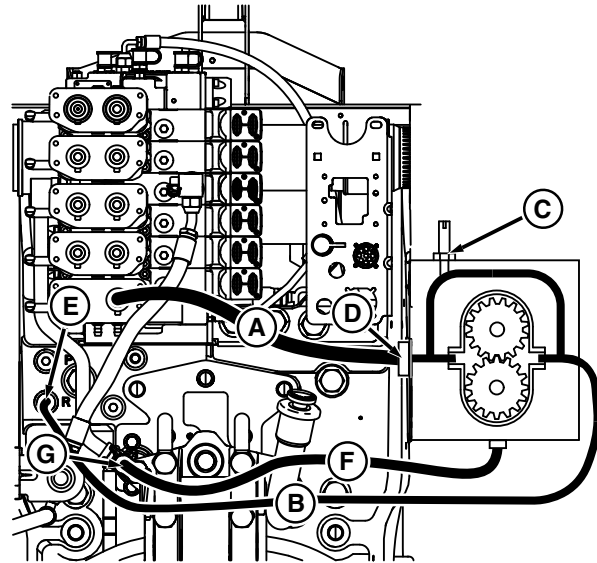
IMPORTANT: Some motors are not equipped with over-speed protection. Extended operation above recommended speed can cause failure.

A—Pressure Line	E—Power Beyond Return Coupler
B—Return Line	F—Case Drain Line
C—Needle Line (Closed)	G—Drain Port (To Sump)
D—Inlet Line Orifice (Remove)	



Spray Pump

RXA0096591 —UN—13AUG08

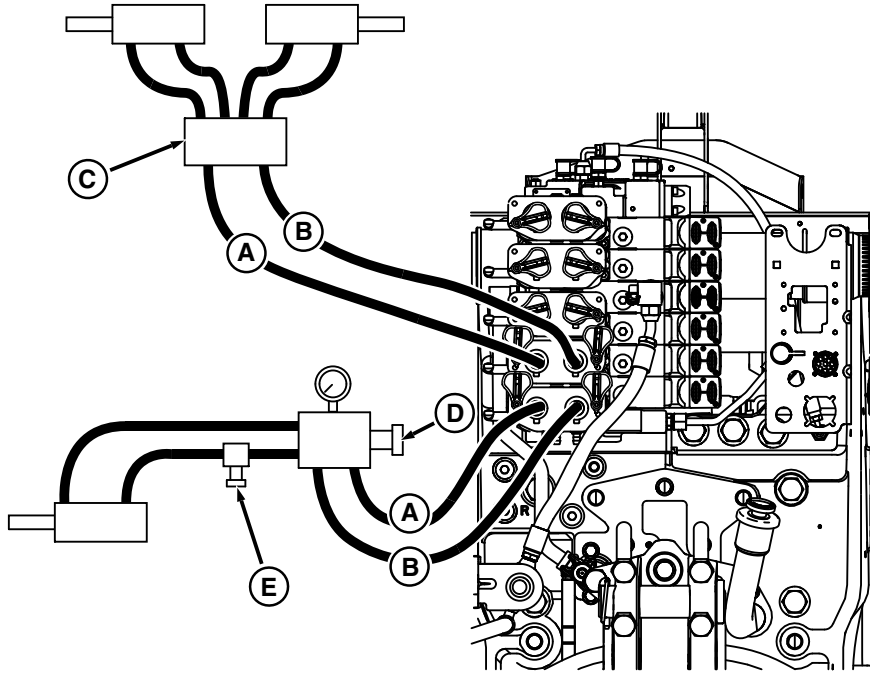


Spray Pump with Drain Directly to Sump (Zero Back Pressure)

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OURX935,000008E -19-15JAN08-1/1

Implement Connection, Example 1—Pressure Control Valve Applications (Grain Drills or Air Seeders with Constant Down-Pressure System)



A—Extend Coupler Line
B—Retract Coupler Line

C—Selector Valve
D—Pressure Control Valve

E—Transport Lock Valve

For implements using active down force set flow control to continuous and move lever to retract detent position.

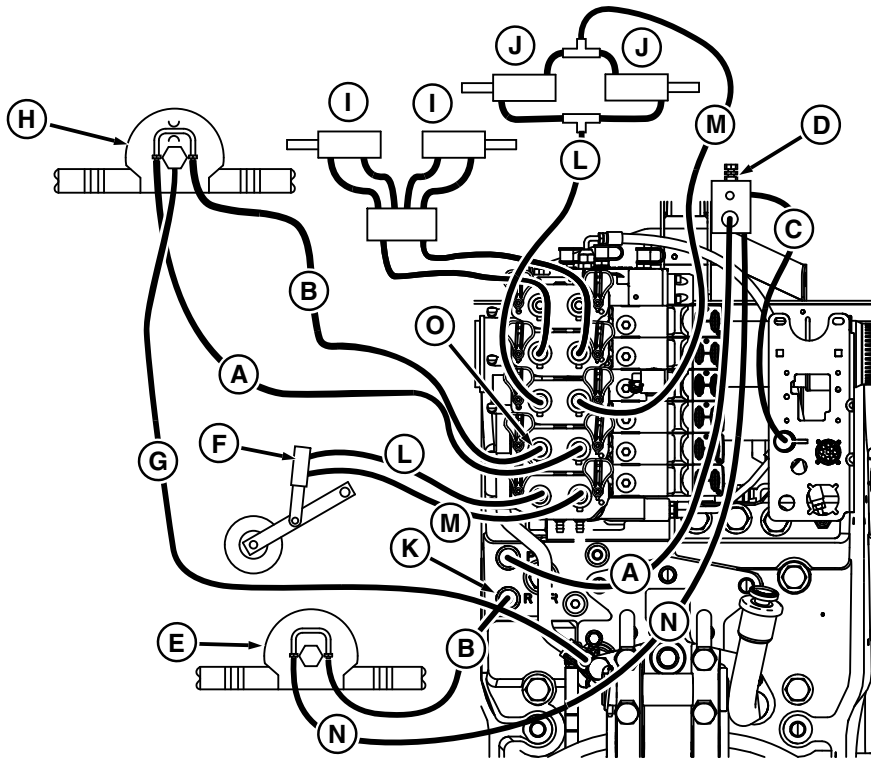
This will cause hydraulic pump to operate at maximum pressure which may cause overheating of hydraulic oil if

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.

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RXA0098593 —UN—13AUG08

Implement Connection, Example 2—Motor Application Using Motor Case Drain



- | | | | |
|-------------------|-------------------------|----------------------------|------------------------|
| A—Pressure Line | E—Vacuum Motor | I—Marker | M—Retract Coupler Line |
| B—Return Line | F—Raise/Lower Cylinder | J—Fold | N—Controlled Flow Line |
| C—Load Sense Line | G—Motor Seal Drain Line | K—Power Beyond Return Port | |
| D—Control Valve | H—Second Motor | L—Extend Coupler Line | |

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.

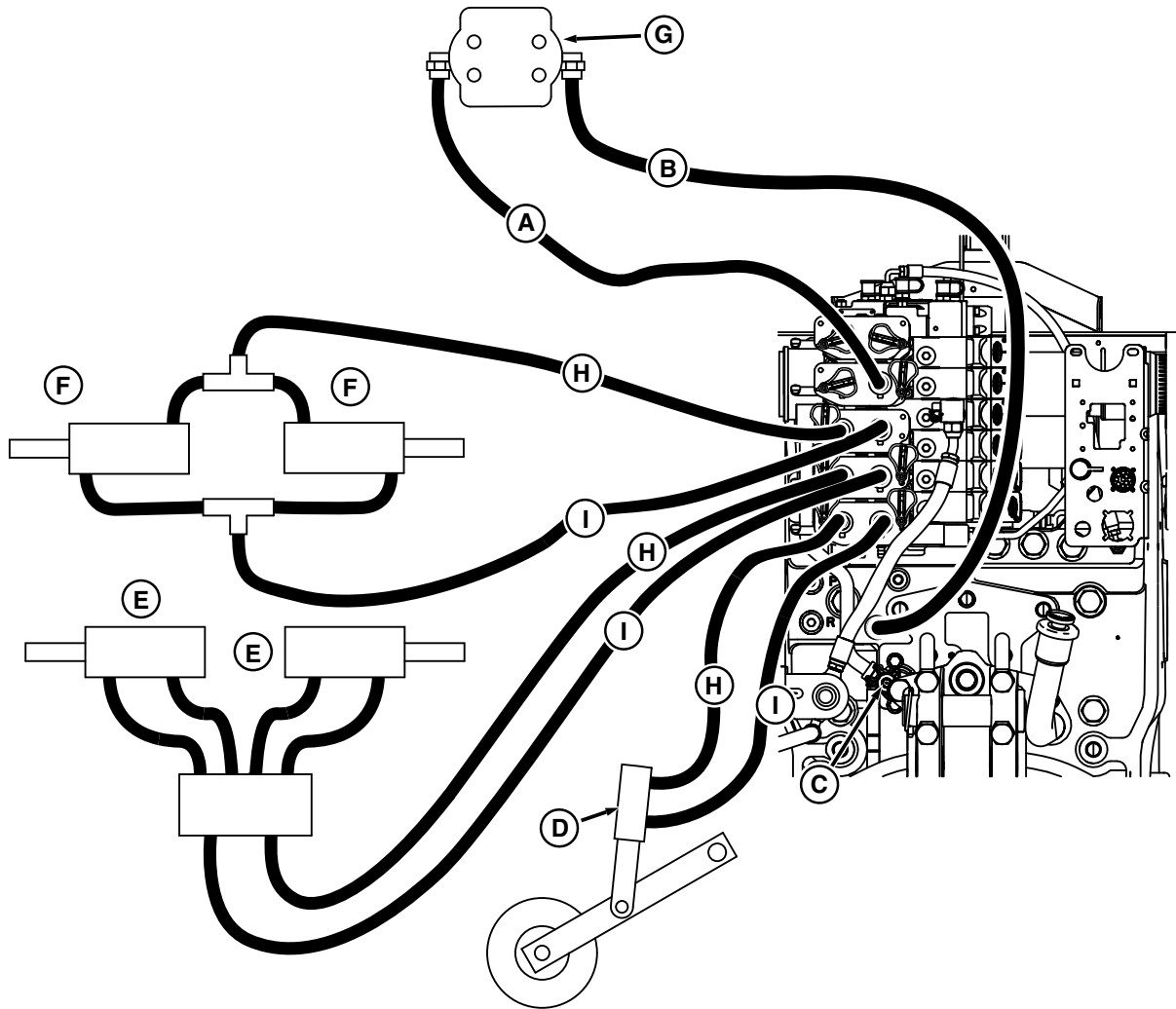
The second motor (H) is equipped with motor case drain line (G). Pressure oil comes from the retract port on the SCV and return oil is routed to the extend port. When motor return oil is routed to an SCV, a special return hose

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.

RXA0096594—UN—29AUG08

OURX935,0000090 -19-15JAN08-1/1

Implement Connection, Example 3—Closed Center Valve with Pump at High Pressure



A—Pressure Line
B—Return Line
C—Drain Port To Sump

D—Raise/Lower cylinder
E—Markers
F—Fold

G—Hydraulic Motor
H—Extend Coupler Line
I—Retract Coupler Line

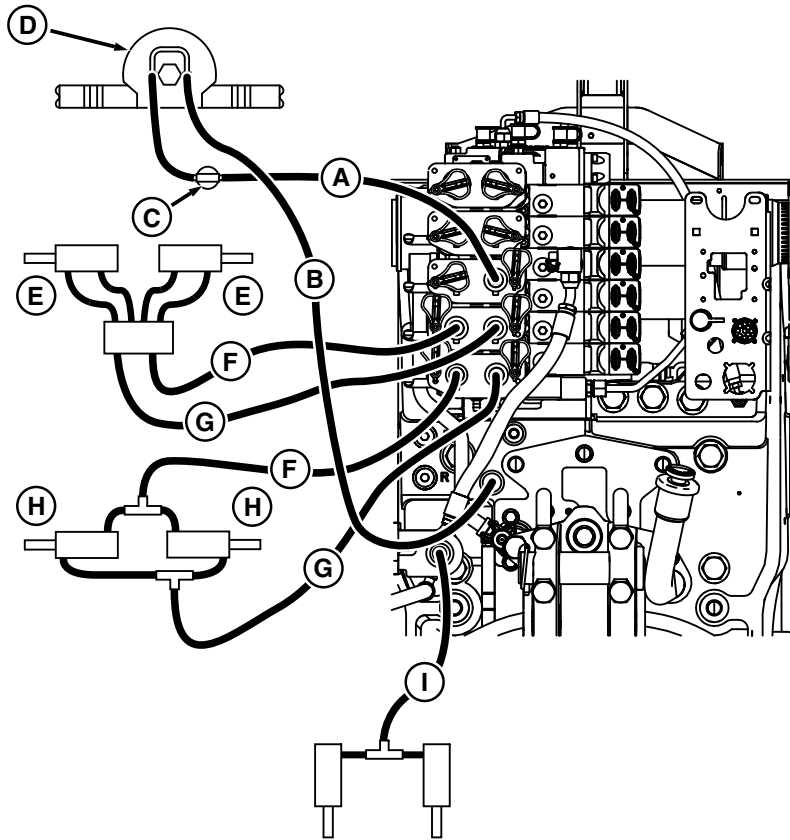
In this application motor (G) receives pressure oil from the retract port on SCV. Return oil is routed to power beyond return port. When the motor is shut off, the SCV lever is moved to float position to allow motor to coast to a stop.

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.

OURX935,0000091 -19-14JUL08-1/1

RXA0086595 —UN—13AUG08

Implement Connection, Example 5—Planter with Vacuum Motor, Return Line to Motor Return and Lift Assist



- | | | |
|----------------------------------|-----------------------|------------------------|
| A—Pressure Line | D—Vacuum Motor | G—Retract Coupler Line |
| B—Return Line | E—Fold | H—Markers |
| C—Flow Control Valve (Wide Open) | F—Extend Coupler Line | I—Lift Assist |

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,

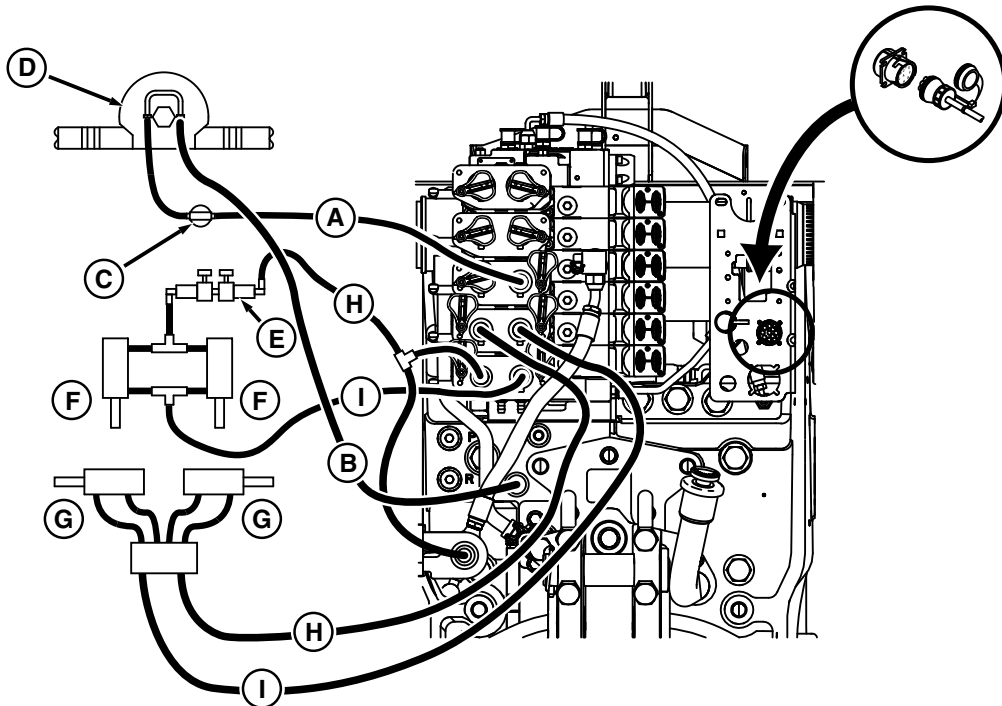
pump will operate at maximum pressure which may cause overheating of hydraulic oil if operating at same time outside air temperature is high.

Lift assist cylinder oil is connected to auxiliary hitch valve port which is controlled by hitch command lever settings in the cab.

OURX935,0000093 -19-15JAN08-1/1

RXA0096597 -JUN-13AUG08

Implement Connection, Example 6—Planter with Vacuum Motor and Return Line to Motor Return



Implement Connection Example 6 (SCV Controlled)

- | | | |
|----------------------------------|-----------------|------------------------|
| A—Pressure Line | D—Vacuum Motor | G—Markers |
| B—Return Line | E—Control Valve | H—Extend Coupler Line |
| C—Flow Control Valve (Wide Open) | F—Lift Assist | I—Retract Coupler Line |

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,

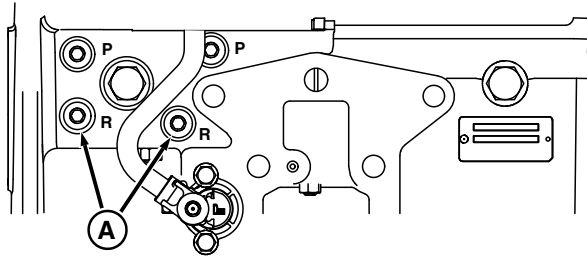
pump will operate at maximum pressure which may cause overheating of hydraulic oil if operating at same time outside air temperature is high.

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.

RXA0096598—UN—13AUG08

OURX935,0000094 -19-15JAN08-1/1

Using Hydraulic Motor Return



A—Return Port Plug

Hydraulic motor return kit provides a convenient port to access the tractor low pressure return circuit.

Remove one of the two return port plugs (A) and install hydraulic motor return coupler. If routing two return lines through a single coupler results in excessive return line pressure, install an additional connector in the second return port. Always make sure hose end and coupler are clean.

Using the motor return coupler will prevent:

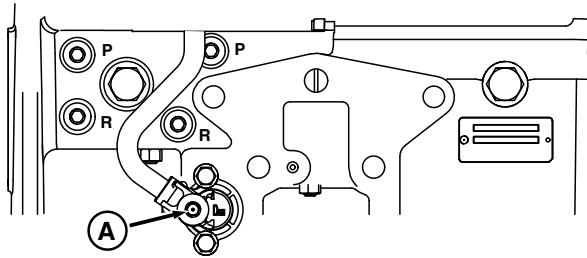
- Inadvertent reverse operation
- Pressurization of auxiliary function return line
- Potential flow checking of the return-side SCV coupling

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.*

OURX935,0000095 -19-15JAN08-1/1

FXA0085801 —UN—10JAN06

Using Hydraulic Motor Case Drain (Sump)



A—Plug

Remove 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.

John Deere is a trademark of Deere & Company

Allows oil to drain directly to reservoir (differential case) from hydraulic motor, by-passing remote coupler, SCV and filter.

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OURX935,0000096 -19-15JAN08-1/2

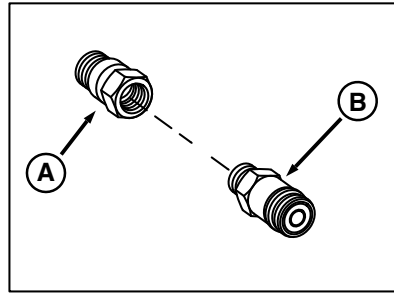
FXA0085802 —UN—10JAN06

Remote Hydraulic Connections

NOTE: Couplers may vary depending on equipment. Older equipment uses a standard coupler while newer seeding equipment may require a Flush Face coupler (B) and adapter (A) for the drain.

A—Adapter

B—Flush Face Coupler



RXA0082406 —UN—25JUL05

OURX935,0000096 -19-15JAN08-2/2

Using Implement Requiring Large Volumes of Oil

NOTE: Do not add oil to reservoir with engine running.

If additional oil capacity is needed for large one way cylinders, an optional field installed auxiliary reservoir is available. See your John Deere dealer.

IMPORTANT: Removing too much oil can result in malfunction when raising the hitch or using the "extend" function of SCVs.

Cycle all implement cylinders after starting tractor.

Check the transmission-hydraulic oil level. (See Checking Transmission-Hydraulic Oil Level in the Lubrication Section.)

Add oil if required.

Lower the implement to return the oil to the reservoir.

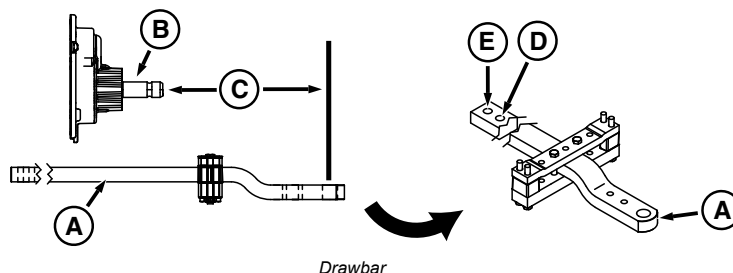
Recheck oil level when implement is removed.

Drain excess oil if necessary.

OURX935,0000097 -19-15JAN08-1/1

Drawbar and PTO

Observing Drawbar Load Limitations



IMPORTANT: Heavy implements together with rough terrain and speed can place excessive strain on drawbar. Do not exceed maximum static vertical load on drawbar for a given drawbar (A) length/position, as indicated in the following table.

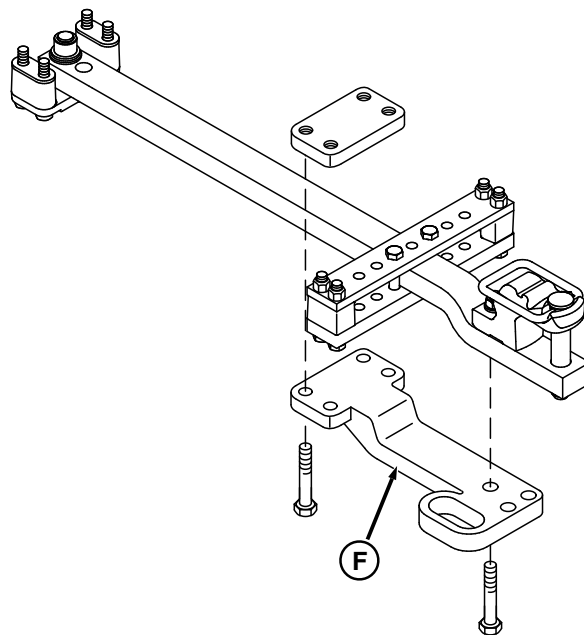
IMPORTANT: Heavy duty drawbar support must be used when maximum static vertical load exceeds 2245 kg (4950 lb).

NOTE: Special cap screws are used on drawbars. See your John Deere dealer if cap screws must be replaced.

When vertical load exceeds 2245 kg (4950 lb), attach heavy duty support (F) on Category 4 drawbar and tighten special cap screws to torque specification.

Heavy Duty Drawbar Support—Specification

Support Cap Screws—Torque 430 N·m (318 lb-ft)



Heavy Duty Drawbar with Support

- A—Drawbar
- B—PTO Shaft
- C—Dimension
- D—Short Position
- E—Long Position
- F—Heavy Duty Support

Drawbar Load Limits Based on Drawbar Position, Length and PTO Type				
Tractor Model and Drawbar Category	PTO Shaft (B)	End of PTO Shaft to Draw Pin Hole Distance (C)	Drawbar Position	Maximum Vertical Drawbar Load
8130 — 8530 with Cat 2 Drawbar	Standard 1000 rpm w/20 splines, 45 mm (1-3/4 in.) Diameter Shaft	500 mm (20 in.)	Rear Hole (D) Short Position ^a	2405 kg (5300 lb) ^b
8130 — 8530 with Cat 2 Drawbar	Optional 540 rpm w/6 splines, 35 mm (1-3/8 in.) Diameter shaft	400 mm (16 in.)	Rear Hole (D) Short Position ^a	2405 kg (5300 lb) ^b
8130 — 8530 with Cat 2 Drawbar	Optional 1000 rpm w/21 splines, 35 mm (1-3/8 in.) Diameter Shaft	400 mm (16 in.)	Rear Hole (D) Short Position ^a	2405 kg (5300 lb) ^b
8130 — 8330 with Cat 3 Drawbar	Standard 1000 rpm w/20 splines, 45 mm (1-3/4 in.) Diameter Shaft	500 mm (20 in.)	Front Hole (E) Long Position	1837 kg (4050 lb)
8130 — 8330 with Cat 3 Drawbar	Optional 540 rpm w/6 splines, 35 mm (1-3/8 in.) Diameter shaft	350 mm (14 in.)	Rear Hole (D) Short Position	2700 kg (6000 lb)
8130 — 8330 with Cat 3 Drawbar	Optional 1000 rpm w/21 splines, 35 mm (1-3/8 in.) Diameter Shaft	400 mm (16 in.)	Front Hole (E) Long Position	1837 kg (4050 lb)
8430 and 8530 with Cat 4 Drawbar	Standard 1000 rpm w/20 splines, 45 mm (1-3/4 in.) Diameter Shaft	500 mm (20 in.)	Single Hole Drawbar	2245 kg (4950 lb)
8430 and 8530 with Cat 4 Drawbar	Optional 540 rpm w/6 splines, 35 mm (1-3/8 in.) Diameter Shaft	N/A	N/A	N/A

Continued on next page

OURX935.00004A6 -19-25AUG08-1/2

RXA0090815 —UN—14SEP06

RXA0090722 —UN—14SEP06

Drawbar and PTO

Drawbar Load Limits Based on Drawbar Position, Length and PTO Type

Tractor Model and Drawbar Category	PTO Shaft (B)	End of PTO Shaft to Draw Pin Hole Distance (C)	Drawbar Position	Maximum Vertical Drawbar Load
8430 and 8530 with Cat 4 Drawbar	Optional 1000 rpm w/21 splines, 35 mm (1-3/8 in.) Diameter Shaft	400 mm (16 in.)	Single Hole Drawbar	2245 kg (4950 lb)
8130 — 8530 with Cat 4 Drawbar and Heavy Duty Drawbar Support	Standard 1000 rpm w/20 splines, 45 mm (1-3/4 in.) Diameter Shaft	500 mm (20 in.)	Single Hole Drawbar	4990 kg (11,000 lb)
8130 — 8530 with Cat 4 Drawbar and Heavy Duty Drawbar Support	Optional 540 rpm w/6 splines, 35 mm (1-3/8 in.) Diameter shaft	N/A	N/A	N/A
8130 — 8530 with Cat 4 Drawbar and Heavy Duty Drawbar Support	Optional 1000 rpm w/21 splines, 35 mm (1-3/8 in.) Diameter shaft	400 mm (16 in.)	Single Hole Drawbar	4990 kg (11,000 lb)

Category 2 drawbar uses a 31.75 mm (1.25 in.) draw pin.
 Category 3 drawbar uses a 38 mm (1.5 in.) draw pin.
 Category 4 uses a 51 mm (2.0 in.) draw pin.

^aLong Position E not used for PTO operations, but rated drawbar load becomes 1655 kg (3650 lbs)

^bType approval load rating higher at 2800 kg (6300 lbs.)

OURX935,00004A6 -19-25AUG08-2/2

Adjusting Drawbar Length

IMPORTANT: For PTO-driven implement, drawbar (A) must be positioned as instructed in Attaching PTO Driven Implement in this section.

Loosen drawbar locking bolts.

Remove cap screw (B), retaining pin (C) and retaining strap.

Slide drawbar to desired position.

Install drawbar retaining strap and pin.

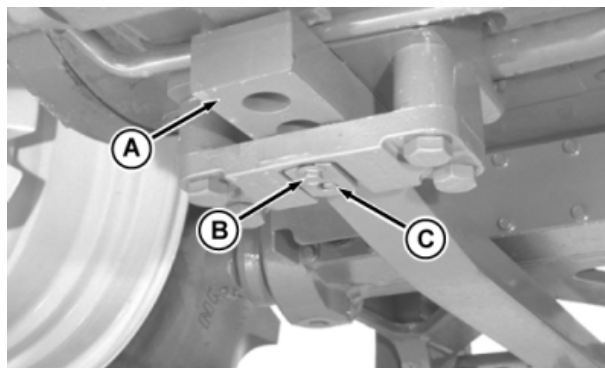
Retaining Cap Screws—Specification

Cap Screw—Torque 70 N·m (50 lb-ft)

Tighten drawbar locking bolts.

Drawbar Locking Bolts—Specification

Locking Bolts—Torque..... 435 N·m (322 lb-ft)



A—Drawbar
B—Cap Screw

C—Retaining Pin

RW55309A—UN—22OCT09

AG,RX15494,2751 -19-18SEP07-1/1

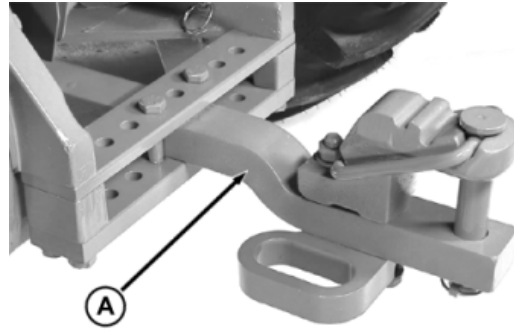
Adjusting Drawbar Height

Height of drawbar is adjustable by turning offset (A) up or down. Proceed as in length adjustment. Slide drawbar all the way 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.

A—Offset



RW26277 —UN—12JUN99

RX15494,000008A -19-18SEP07-1/1

Adjusting Drawbar Side-to-Side

Remove drawbar locking bolts (A).

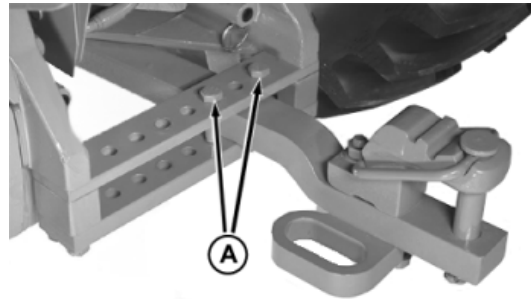
Slide drawbar to desired position.

Install a locking bolt against each side of drawbar. Tighten bolts.

Drawbar Locking Bolts—Specification

Locking Bolts—Torque.....	430 N·m (318 lb-ft)
---------------------------	---------------------

A—Locking Bolts



RW26278 —UN—14JUN99

AG,RX15494,2753 -19-18SEP07-1/1

Installing and Using Clevis Assembly

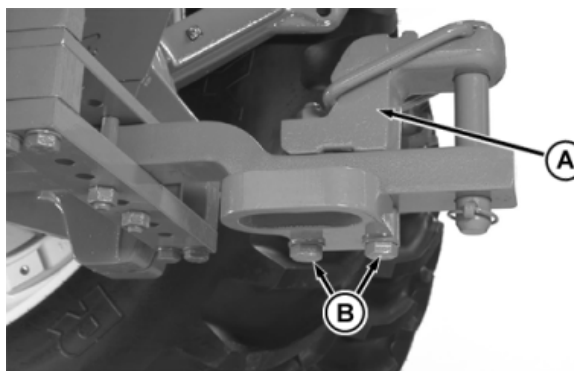
IMPORTANT: Remove clevis assembly, before using PTO shaft, or whenever PTO shaft might cause interference.

Clevis assembly (A) must be attached ONLY to top of drawbar.

Install clevis assembly and tighten cap screws (B).

Clevis Assembly Retaining Cap Screws—Specification

Category 3—Torque	610 N·m (450 lb-ft)
Category 4—Torque	430 N·m (318 lb-ft)



A—Clevis Assembly

B—Cap Screw

RW26279 —UN—12JUN09

RX15494,000007D -19-18SEP07-1/2

Clevis assembly (A) must be attached ONLY to top of drawbar.

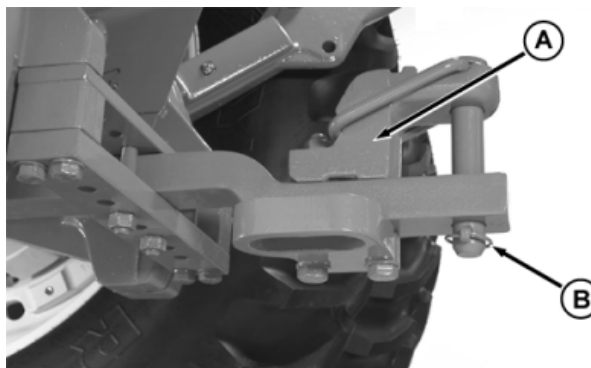
Remove lock pin (B). Lift pin with handle (C) and position in notch of clevis assembly.

Attach implement.

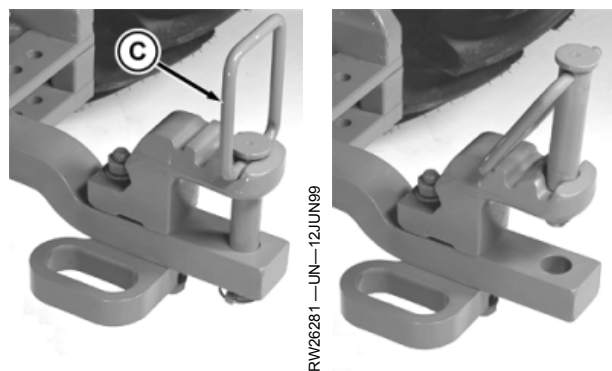
Insert pin only through drawbar, not through clevis assembly, if towed implement also has a clevis assembly. DO NOT insert pin through all four members.

A—Clevis Assembly
B—Lock Pin

C—Pin with Handle



RW26280 —UN—12JUN09



RW26281 —UN—12JUN09

RW26282 —UN—12JUN09

RX15494,000007D -19-18SEP07-2/2

Attaching PTO-Driven Implement

⚠ CAUTION: Entanglement in rotating driveline can cause serious injury or death. STOP THE ENGINE and be sure PTO driveline is stopped before making adjustments, connections, or before cleaning PTO-driven equipment.

Keep PTO shield and driveline shields in place at all times. Make sure rotating shields turn freely. Wear close fitting clothing.

Lock drawbar in center position and remove clevis assembly.

PTO Shaft	PTO Shaft End to Hitch Pin Hole (A)
540 rpm - 6 Splines *	350 mm (14.0 in.)
1000 rpm - 21 Splines *	400 mm (16.0 in.)
1000 rpm - 20 Splines **	508 mm (20.9 in.)

* 35 mm (1-3/8 in.) Shaft Diameter

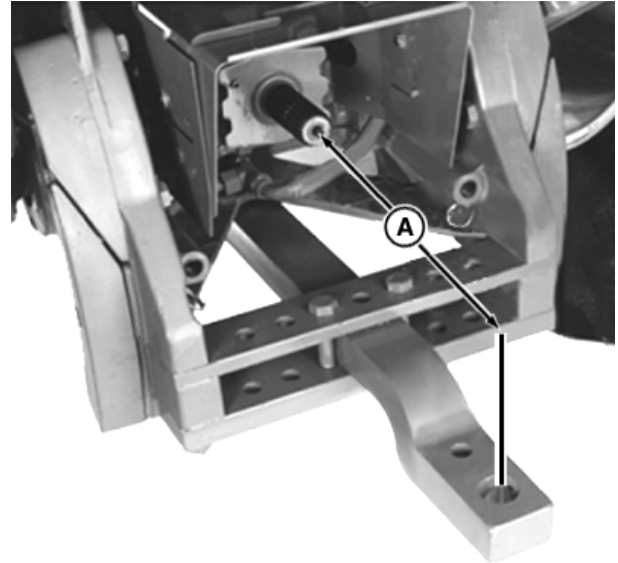
** 45 mm (1-3/4 in.) Shaft Diameter

Attach implement to drawbar before connecting PTO driveline. If implement will be connected to quick coupler, be sure drawbar will not interfere.

Connect driveline to PTO shaft. Turn shaft slightly by hand, to line up splines. Be sure yoke is in correct position and firmly locked.

Move PTO shield into position for size PTO shaft being used.

A—PTO Shaft to Pin Hole Distance



TSS1644—UN—22AUG95

RXA0058071—UN—29OCT01

AG,RX15494,2755 -19-18SEP07-1/1

Using PTO Shield

⚠ CAUTION: Avoid personal injury. Put the PTO shield in correct position at all times. Do not use shield as a step.

Move main support (B) into correct position.

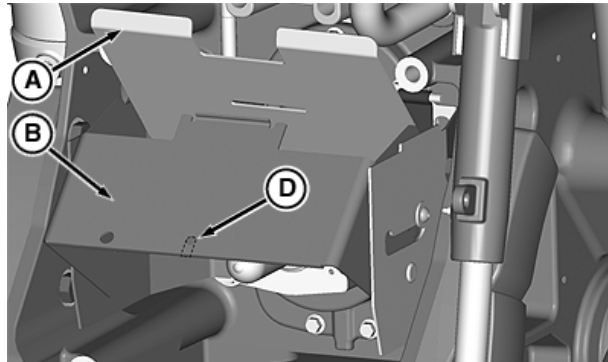
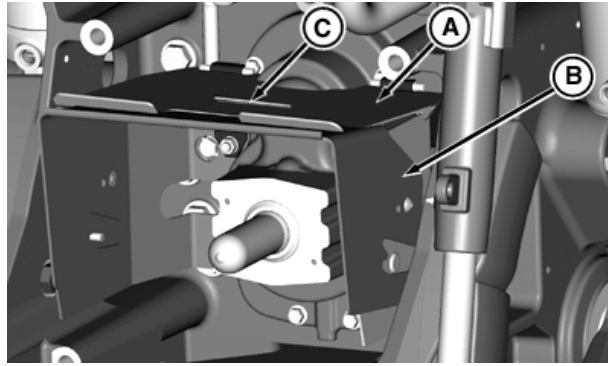
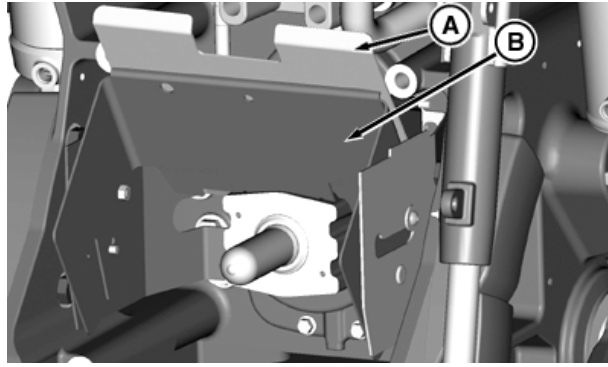
To extend shield, lift up upper support (A) and tilt main support down. Slide main support portion of shield forward and pull up to locked position (C).

Lift main and upper supports to raised position to provide clearance while connecting implement driveline to the PTO shaft.

To connect an implement with an old-style tunnel shield, cut slot in the PTO shield. Cut from the edge of the main support to the small slot (D).

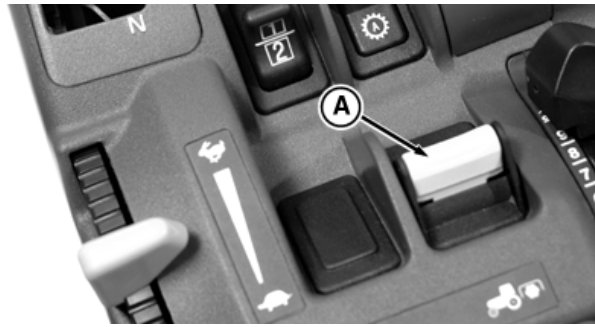
A—Upper Support
B—Main Support

C—Lock Position
D—Slot



OURX935,0000456 -19-05AUG08-1/1

Operating Rear PTO



A—PTO Switch

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

Always disengage the PTO when not in use.

PTO can be engaged or disengaged without operating the clutch.

NOTE: PTO and Service Alert indicator lights will flash with an audible warning signal if operator leaves seat with PTO engaged. PTO does not disengage while operator is absent from the seat.

Push down and forward on PTO switch (A) to engage PTO clutch. The PTO indicator on display panel will light.

IMPORTANT: If PTO disengages during start up in cold-weather operation, wait 5 minutes before re-engaging PTO to avoid damage.

Pull back 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 control switch and then engage the PTO again.

For tractor equipped with Independent Link Suspension, suspension will automatically level when tractor is stationary with PTO switch ON.

RX15494,0000045 -19-18SEP07-1/1

RXA0066531 —JUN—23AUG01

Using External Rear PTO Pre Selector Switch (If Equipped)

NOTE: If rear PTO switch (B) is engaged before rear PTO pre selector switch (A), rear PTO will start, then cancel when PTO pre selector switch is pressed. "PTO Switch" will appear in the CommandCenter display (C). Turn all PTO switches off and restart vehicle before following correct sequence listed below.

1. Push rear PTO pre selector switch down.
2. Push rear PTO switch down and forward, "Remote PTO enabled" will appear on the CommandCenter Display. Amber warning flashers will begin flashing.

NOTE: External rear PTO switch (D) must be held in for more than four seconds before PTO will continue to operate without external rear PTO switch being depressed.

External rear PTO switch functions as as a toggle switch; one push turns rear PTO **ON**. Rear PTO begins turning and amber warning flashers will shut off. Depressing switch a second time, turns rear PTO **OFF**. Amber warning flashers will come on again at the same time rear PTO stops turning.

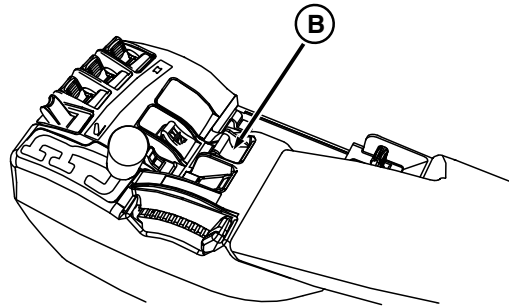
3. To turn on PTO, push in external rear PTO switch.
4. To turn off PTO, push external rear PTO switch again.

A—Rear PTO Pre Selector Switch
B—Rear PTO Switch

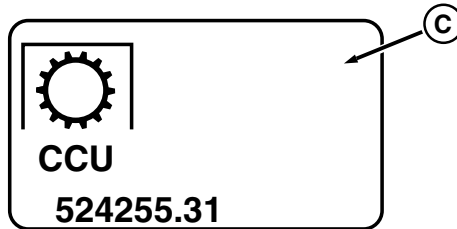
C—CommandCenter Display
D—External Rear PTO Switch



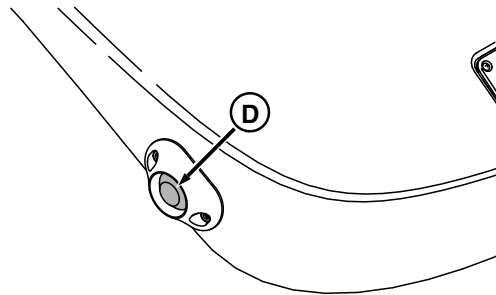
Rear PTO Pre selector Switch



CommandARM



CommandCenter Display



Remote Switch (Left Rear Fender)

RXA0097474 —UN—07MAR08

RXA0089486 —UN—15JUN06

RXA0089486 —UN—15JUN06

RXA0089503 —UN—15JUN06

OURX935,000064A -19-08APR08-1/1

Using Correct Engine Speed

Correct engine speed is very important. Run engine at 2200 engine rpm for 1000 rpm PTO speed operation with the 45 mm (1-3/4 in.) 20 spline shaft or the 35 mm (1-3/8 in.) 21 spline shaft.

Run engine at 1975 engine rpm for 540 rpm PTO speed operation with the 35 mm (1-3/8 in.) 6 spline shaft.



RW55470 —UN—20JUL94

AG,RX15494,2758 -19-18SEP07-1/1

Using Correct PTO Shaft

Diameter of the standard PTO shaft is 45 mm (1-3/4 in.). High power, heavy PTO loads require the strength of this large 20 spline shaft. Use this size whenever possible.

The optional PTO package includes a 45 mm (1-3/4 in.), 1000 rpm stub shaft (A) with 20 splines for high power, heavy PTO loads and a 35 mm (1-3/8 in.), 1000 rpm shaft (B) with 21 splines and a 35 mm (1-3/8 in.), 540 rpm shaft (C) with six splines for light load applications *only*.

IMPORTANT: Use the 35 mm (1-3/8 in.) 540 rpm PTO shaft only on implements requiring less than 56 kW (75 PTO horsepower).

Use the 35 mm (1-3/8 in.) 1000 rpm PTO shaft only on implements requiring less than 112 kW (150 PTO horsepower).

Use the 35 mm (1-3/8 in.) 540 and 1000 rpm PTO option for light-duty farm use only. Use the 45 mm (1-3/4 in.) 1000 rpm PTO shaft if heavier loads are expected.



A—1000 RPM Stub Shaft
B—1000 RPM End

C—540 RPM End

RW55321A—UN—22OCT09

AG,RX15494,2759 -19-18SEP07-1/1

Changing PTO Stub Shaft

⚠ CAUTION: Avoid personal injury. PTO shaft may be hot from operation. Allow shaft to cool before changing.

1. Remove snap ring (A), which retains the 45 mm (1-3/4 in.) 20 spline, 1000 rpm PTO stub shaft. Carefully clean surrounding areas.

NOTE: Rotate the ends of the snap ring to align with flat surface of the shaft.

2. Remove PTO stub shaft (B) from housing.
3. Clean stub shaft thoroughly, coat splines with John Deere SD Polyurea grease or other grease as specified in Fuel, Lubricants and Coolant section.
4. Select the 540 (C) or 1000 (D) rpm shaft end of the PTO adapter.
5. Install splined collar (E) on shaft and insert adapter into PTO housing.

540 rpm shaft - Rotate collar back and forth while installing, to ensure shaft is correctly seated in housing.

1000 rpm shaft - Rotate collar back and forth while installing until engagement is felt.

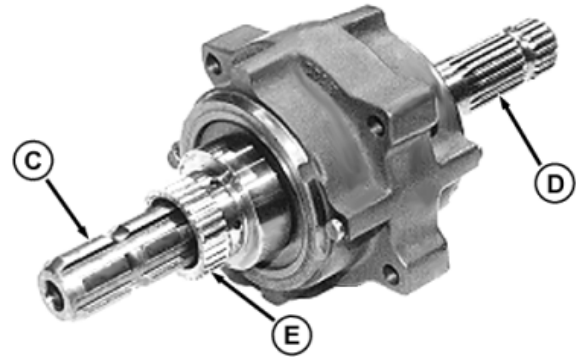
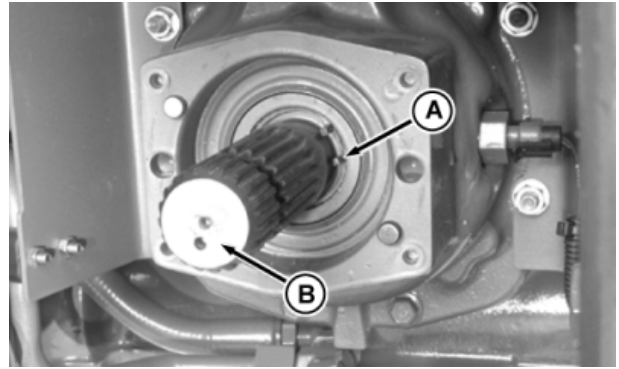
Shaft is correctly engaged when shaft turns with high effort.

6. Retain adapter with four cap screws.

PTO Adapter Cap Screws—Specification

Cap Screw—Torque 52 N·m (70 lb-ft)

IMPORTANT: Prevent PTO damage. Clean bore in end of shaft thoroughly when installing six-spline PTO shaft for 1000 rpm use.



A—Snap Ring
B—Stub Shaft
C—540 End

D—1000 End
E—Collar

RW55322A —UN—22OCT99

RW55488A —UN—22JUN99

OURX935,00004CB -19-13SEP07-1/1

Performance Ballasting

General Ballasting Information

Basic Ballasting Definitions

Ballast is mass added to tractor chassis and/or wheels to:

- Increase TOTAL WEIGHT
- Influence WEIGHT DISTRIBUTION between front axle and rear axle (static balance).

Static means that front and rear axle loads are determined when tractor is parked. The static weight distribution between front and rear axles is sometimes called WEIGHT SPLIT. It is usually expressed as percentages of total tractor static weight supported by the front axle and by the rear axle. For example, if the front axle supports 40% of the total static tractor weight, the tractor has a 40/60 weight split. The percentage of front axle weight is always stated first in this formula.

Major Considerations

NOTE: Radial-ply and bias-ply tires use same ballasting procedures.

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

Tires—small or large

Type of front axle (MFWD, or Independent Link Suspension)

Too Little Ballast

Excessive wheel spin
Power loss
Tire wear
Fuel waste
Lower productivity

Too Much Ballast

Soil compaction
Power loss
Increased load
Fuel waste
Lower productivity

- A tractor PROPERLY ballasted for a given type of implement (towed, integral, or semi-integral) has both

the correct TOTAL WEIGHT and STATIC BALANCE for that type of implement.

- Pulling a lighter load at a higher speed is more economical and more efficient than pulling heavier loads at a lower speed.
- When changing from one implement or attachment to another it may be necessary to reconfigure ballast on the tractor.
- Correct ballast allows most efficient use of tractor available power and will not make up for an implement which is too big for the tractor. Adding ballast will not improve performance, if engine speed falls below rated speed and/or wheel slip is not beyond the recommended range.

Ballasting Is Required To:

1. Insure that front axle carries sufficient weight for steering security and stability with field draft loads as well as transport in the field and on the road.
2. Provide sufficient traction to efficiently pull high draft loads.
3. Provide proper fore-aft balance to minimize occurrence of power hop in tractors equipped with MFWD and Independent Link Suspension.
4. Insure that rear axle carries sufficient weight for traction, braking, and stability when an implement is attached to front of tractor.

Ballast Limitations

IMPORTANT: Tractor weight exceeding heavy ballast limits should be avoided and may void the warranty due to "overload" conditions.

Ballast should be limited by the lowest of either tire capacity or tractor capacity. Carrying capacity of each tire should not be exceeded. If a greater amount of weight is needed, larger tires should be considered.

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General Guidelines for Tractor Weight Based on PTO Kilowatt

The total tractor weight needed to efficiently deliver power through wheels to ground for field draft applications depends on travel speed. The table shows recommended weight per PTO kilowatt for three draft speed ranges.

	Light	Medium	Heavy
Ground Speed	8.7 km/h (5.4 mph) and faster	7.2 - 8.7 km/h (4.5 - 5.4 mph)	7.2 km/h (4.5 mph) and slower
Kg/PTO-kW	41	45	48
Lb/PTO-HP	120	130	140

Wheel slip should normally be in the range of 8-12% for optimum power delivery efficiency at these field speeds. Wheel slip may briefly rise above this range when tractor encounters a higher draft area in the field, but it should not stay there continuously. Add more weight to drive wheels if slip is excessive. If there is less than minimum percent slip, ballast should be removed, unless needed for stability.

NOTE: It is recommended to use the radar to continually monitor wheel slip. Checking wheel slip manually is possible but will only show slip in one area of the field.

IMPORTANT: To extend drive train life, tractor should never be operated with continuous full-power loads below 6.4 km/h (4.0 mph). Ground speed may briefly drop below that level in hard pull situations, but it must recover to higher levels during normal operations. This applies to tractors with all types of transmissions. For tractors equipped with AutoPowr transmission operating in automatic mode, the engine will not labor in extremely high draft situations, but minimum ground speed guideline must still be followed.

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General Weight Split Guidelines

Weight split requirements are based on type of implement or attachment being used. A primary consideration is to maintain sufficient weight on front and rear axles to provide stability and steering security under both field and transport conditions. Other factors as indicated in following tables must also be considered.

IMPORTANT: This split will vary depending on the application. If heavy drawbar load or hitch-mounted implements are being used, INCREASE the weight on the front to insure stability and steering security.

Towed Draft Implements

Towed equipment that place SMALL VERTICAL LOADS on the tractor drawbar such as disks, chisel plows, and field cultivators:

MFWD	No more than 35% on front axle. This is required for power hop control. (See Power Hop Control section for details.)
Independent Link Suspension	40% up to approximately 55% on front axle. Best tractive performance is attained in lower end of range, but there is only a modest reduction in performance at higher values.

Trailers, Towed Slurry and Fertilizer Tanks

Implements that place HIGH VERTICAL LOADS on the drawbar or are connected to a high hitch point such as Premium Wagon Hitch:

MFWD and Independent Link Suspension	Up to approximately 55% on front axle to insure steering security and stability.
	It may be practical to have a lower front percentage with smaller trailers, but steering security and stability must still be assured.

Integral and Semi-Integral Implements

Implements that place LARGE VERTICAL LOADS on the hitch such as mounted rollover plows.

MFWD and Independent Link Suspension	Up to approximately 55% on front axle.
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CAUTION: Do not exceed front tire carrying capacities when using high percentages of front weight. See Maximum Load Per Wheel in this section.

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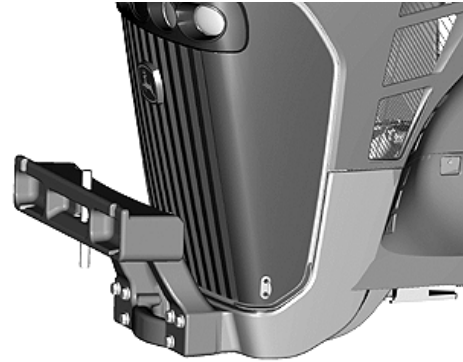
Ballast Types

Cast iron wheel weights and QUIK-TATCH weights are the preferred form of ballast. Liquid ballast in tires should be avoided if practical since it has a stiffening effect that causes rough ride and makes the tractor more susceptible to power hop. If liquid is used in rear tires, all tires on the axle must be filled to the same level which should not exceed 40% (4 o'clock valve stem position). Specific information on use of liquid ballast is given later in this section.

In some cases, it may be necessary or desirable to remove either front or rear ballast. A QUIK-TATCH weight facilitates this for front ballast. Installation and removal of rear weights on outside of wheels requires the use of a hoist or forklift. Removal of inner rear wheel weights should not be required after initial installation at factory or dealership.

Standard Front Weight Support

The standard front weight support weighs 170 kg (375 lb).



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Independent Link Suspension

The standard front weight support mounted on a tractor equipped with Independent Link Suspension effectively ADDS 147% of its weight to the front axle and SUBTRACTS 47% of its weight from the rear axle due to leverage.

$$\text{Front Axle Multiplier} = 1.47 \quad \text{Rear Axle Multiplier} = -0.47$$

The standard front weight support ADDS $1.47 \times 170 \text{ kg (375 lb)} = 250 \text{ kg (551 lb)}$ to the front axle and SUBTRACTS $-0.47 \times 170 \text{ kg (375 lb)} = -80 \text{ kg (176 lb)}$ from the rear axle.

MFWD

The standard front weight support mounted on a tractor equipped with MFWD effectively ADDS 145% of its weight to the front axle and SUBTRACTS 45% of its weight from the rear axle due to leverage.

$$\text{Front Axle Multiplier} = 1.45 \quad \text{Rear Axle Multiplier} = -0.45$$

The standard front weight support ADDS $1.45 \times 170 \text{ kg (375 lb)} = 247 \text{ kg (544 lb)}$ to the front axle and SUBTRACTS $-0.45 \times 170 \text{ kg (375 lb)} = -77 \text{ kg (169 lb)}$ from the rear axle.

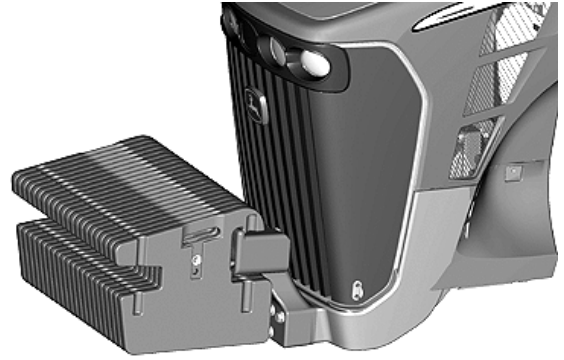
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QUIK-TATCH Weights

NOTE: Depending on the mounting position used (standard front support or support on front hitch), the effective weight added to the front axle will be greater due to leverage caused by the weight distance in front of the axle

NOTE: When adding front weights, some weight is transferred from the rear of the tractor to the front. Use following guidelines to figure tractor weight when front weights are added.



QUIK-TATCH Weights on Standard Support

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QUIK-TATCH weights weigh 50 kg (110 lb) each. Up to 20 weights can be installed on the front weight support or on a support on a front hitch. These combinations can be limited by the front axle option.

Standard Front Weight Support (Independent Link Suspension)

QUIK-TATCH weights mounted on a standard front weight support on a tractor equipped with Independent Link Suspension effectively ADD 157% of their weight to front axle and SUBTRACT 57% from rear axle due to leverage.

Front axle multiplier = 1.57 Rear axle multiplier = -0.57

Each 50 kg (110 lb) QUIK-TATCH weight ADDS 1.57 x 50 kg (110 lb) = 79 kg (174 lb) to the front axle and SUBTRACTS -0.57 x 50 kg (110 lb) = -29 kg (64 lb) from the rear axle.

Standard Front Weight Support (MFWD)

QUIK-TATCH weights mounted on a standard front weight support on a tractor equipped with MFWD effectively ADD 155% of their weight to front axle and SUBTRACT 55% from rear axle due to leverage.

Front axle multiplier = 1.55 Rear axle multiplier = -0.55

Each 50 kg (110 lb) QUIK-TATCH weight ADDS 1.55 x 50 kg (110 lb) = 78 kg (172 lb) to the front axle and SUBTRACTS -0.55 x 50 kg (110 lb) = 28 kg (62 lb) from the rear axle.

Front Weight Support on Front Hitch

NOTE: A front hitch is only available on tractors equipped with Independent Link Suspension.

Front axle multiplier = 1.69 Rear axle multiplier = -0.69

Each 50 kg (110 lb) QUIK-TATCH weight ADDS 1.69 x 50 kg (110 lb) = 85 kg (188 lb) to the front axle and SUBTRACTS -0.69 x 50 kg (110 lb) = 35 kg (77 lb) from the rear axle.

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900 kg (1984 lb) Block Weight

One 900 kg (1984 lb) block weight can be installed on the standard front weight support or on a support on the front hitch.

IMPORTANT: Front weight support will need to be modified to accept the 900 kg (1984 lb) block weight. See your John Deere dealer to install block weight on a standard front weight support.



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Standard Front Weight Support (Independent Link Suspension)

The 900 kg (1984 lb) block weight mounted on a standard front weight support on a tractor equipped with Independent Link Suspension effectively ADDS 157% of its weight to the front axle and SUBTRACTS 57% of its weight from the rear axle due to leverage.

Front Axle Multiplier = 1.57 Rear Axle Multiplier = -0.57

The 900 kg (1984 lb) block weight ADDS $1.57 \times 900 \text{ kg (1984 lb)} = 1413 \text{ kg (3115 lb)}$ to the front axle and SUBTRACTS $-0.57 \times 900 \text{ kg (1984 lb)} = 513 \text{ kg (1131 lb)}$ from the rear axle.

Standard Front Weight Support (MFWD)

The 900 kg (1984 lb) block weight mounted on a standard front weight support on a tractor equipped with MFWD effectively ADDS 155% of its weight to the front axle and SUBTRACTS 55% of its weight from the rear axle due to leverage.

Front Axle Multiplier = 1.55 Rear Axle Multiplier = -0.55

The 900 kg (1984 lb) block weight ADDS $1.55 \times 900 \text{ kg (1984 lb)} = 1395 \text{ kg (3075 lb)}$ to the front axle and SUBTRACTS $-0.55 \times 900 \text{ kg (1984 lb)} = -495 \text{ kg (1091 lb)}$ from the rear axle.

Front Weight Support on Front Hitch

The 900 kg (1984 lb) block weight mounted on a front weight support mounted on the front hitch effectively ADDS 189 % of its weight to the front axle and SUBTRACTS 89 % of its weight from the rear axle due to leverage.

Front Axle Multiplier = 1.89 Rear Axle Multiplier = -0.89

The 900 kg (1984 lb) block weight ADDS $1.89 \times 900 \text{ kg (1984 lb)} = 1701 \text{ kg (3750 lb)}$ to the front axle and SUBTRACTS $-0.89 \times 900 \text{ kg (1984 lb)} = 801 \text{ kg (1766 lb)}$ from the rear axle.

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Rear Wheel Weights

Rear wheel weights are available in 75 kg (165 lb), 205 kg (450 lb), and 635 kg (1400 lb) sizes.

Each weight applies total weight to rear axle and none to front axle.



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Front Hitch

When tractor has a front hitch, additional front axle and rear axle loads due to its weight must be included in calculating total axle loads. The front and rear axle weights shown in Unballasted Tractor Weight Charts are based on tractors with a front weight support. With a front hitch installed instead of a front weight support the NET amounts of weight changes are used in determining axle loads.

NET Weight ADDED to front axle 696 kg (1534 lb)

NET Weight SUBTRACTED from 216 kg (476 lb)
rear axle

NOTE: The front hitch REMOVES 216 kg (476 lb) from rear axle due to leverage.



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Ballasting Suggestions for Specific Types of Implements

These recommendations are offered as starting points when ballasting for operations with several common types of implements. Some deviations may be needed for specific circumstances.

Towed Draft Implements

Towed equipment that place small vertical loads on the tractor drawbar such as disks, chisel plows, and field cultivators:

MFWD

	8130	8230	8330	8430
QUIK-TATCH Weights	None	None (support only)	None (support only)	8
Rear Weights	None	None	1 pair 205 kg (450 lb) 1 pair 75 kg (165 lb)	1 pair 635 kg (1400 lb) and 1 pair 205 kg (450 lb) and 1 pair 75 kg (165 lb)

Independent Link Suspension

	8130	8230	8330	8430	8530
QUIK-TATCH Weights	None	None	None (support only)	4	8
Rear Weights	None	None	None	1 pair 635 kg (1400 lb) and 1 pair 75 kg (165 lb)	1 pair 635 kg (1400 lb) and 1 pair 205 kg (450 lb) and 1 pair 75 kg (165 lb)



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Trailers, Towed Slurry and Fertilizer Tanks

Implements that place high vertical loads on the drawbar or are connected to a high hitch point such as Premium Wagon Hitch:

MFWD and Independent Link Suspension

Front Ballast	20 QUIK-TATCH weights or 900 kg (1984 lb) block weight.
Rear Ballast	None required. If rear weights are already installed, it is not necessary to remove them.

NOTE: It may be practical to use less front weight with smaller trailers, but steering security and stability must be assured.



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Integral and Semi-Integral Implements

Implements that place large vertical loads on the hitch such as mounted rollover plows:

MFWD and Independent Link Suspension

Front 20 QUIK-TATCH weights or 900 kg (1984 lb) block weight.

Ballast

Rear None

Ballast



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Determining Ballasted Tractor Weight, Weight Split, Axle Loads and Required Tire Inflation Pressures

The Unballasted Tractor Weight Charts provide front axle, rear axle and total weights for all power train and tire size options. From this and information previously provided on weights of various ballast elements (QUIK-TATCH weights and wheel weights), front ballast multipliers and front hitch axle loads (if used), the ballasted tractor weight and axle

loads can be calculated. These are needed to determine if total weight and weight split recommendations are met and to look up required tire inflation pressures from the Recommended Pressures charts in Wheels, Tires, and Treads section.

8230 PST with Independent Link Suspension and Front Weight Support— 200 PTO-HP

Front Tires	480/70 R30
Rear Tires	710/70 R38
Front Ballast	Weight Support
Rear Ballast	None

According to the Unballasted Tractor Weight Charts on following pages, the front axle weight is 4767 kg (10510 lb) and the rear axle weight is 6280 kg (13844 lb). Note that these charts do not assume that a front weight support is mounted.

Front Axle Weight ADDED by Front Weight Support: 170 kg (375 lb) x 1.47 = 250 kg (551 lb)

Rear Axle Weight REMOVED by Front Support: 170 kg (375 lb) x -0.47 = -80 kg (176 lb)

Combine all of these as shown

	Front Axle	Rear Axle	Total
Base Tractor Weight	4767 kg (10510 lb)	6280 kg (13844 lb)	11047 kg (24354 lb)
Front Weight Support	250 kg (551 lb)	-80 kg (176 lb)	170 kg (375 lb)
Total	5017 kg (11061 lb)	6200 kg (13668 lb)	11217 kg (24729 lb)

So the tractor is ballasted to the level of 11217 kg (24729 lb) / 200 PTO-HP = 56.1 kg (124 lb) per PTO-HP (Light)

The percentage of weight on the front axle is 5017 kg (11061 lb) / 11217 kg (24729 lb) x 100% = 45%.

From the Recommended Pressures charts in Wheels, Tires, Treads section for calculated axle loads, the required inflation pressures are:

Front Inflation Pressure: 165 kPa (1.65 bar; 24 psi)

Rear Inflation Pressure 75 kPa (0.75 bar; 11 psi) but **only if tractor is towing an implement that places very little down load on drawbar (planter or air seeder).**

For implements that generate high weight transfer add approximately 50 kPa (0.5 bar; 7 psi) for a total of 110 kPa (1.1 bar; 16 psi) for rear tires. With the aid of an assistant, visually check tire deflection when tractor is pulling hard in the field to confirm that tires are not under-inflated with these pressures.

For trailers, tankers, or any heavy integral implement, the rear inflation pressures **MUST** be increased substantially to support the extra weight at transport speeds. The exact amount depends on the extra load. Usually it will be **MORE THAN DOUBLE** the base amount or 130 - 150 kPa (1.3 - 1.5 bar; 19 - 22 psi) for this example. To determine rear axle load exactly, weigh rear axle of loaded tractor on a platform scale.

8330 PST with MFWD and Standard Front Weight Support — 225 PTO-HP

Front Tires	540/65 R34
Rear Tires	520/85 R46
Front Ballast	Weight Support
Rear Ballast	1 pair - 635 kg (1400 lb) Wheel Weights and 2 pair - 205 kg (450 lb) Wheel Weights

According to the Unballasted Tractor Weight Charts, the front axle weight is 4224 kg (9312 lb) and the rear is 6175 kg (13612 lb). Note that these charts do not assume that a front weight support is mounted. The weight for the weight support and transfer effect is found in the section on attaching front weights.

Front Axle Weight ADDED by Front Weight Support: 170 kg (375 lb) x 1.45 = 247 kg (544 lb)

Rear Axle Weight REMOVED by Front Weight Support: 170 kg (375 lb) x -0.45 = -77 kg (169 lb)

The pair of 635 kg (1400 lb) rear wheel weights and two pairs of 205 kg (450 lb) wheel weights add nothing to the front axle and 2090 kg (4608 lb) to the rear axle.

Combine all of these as shown

Front Axle	Rear Axle	Total
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BB92646,000005B -19-12AUG05-1/2

Performance Ballasting

Base Tractor Weight	4224 kg (9312 lb)	6175 kg (13612 lb)	10399 kg (22924 lb)
Weight Support	247 kg (544 lb)	-77 kg (169 lb)	170 kg (375 lb)
1 Pair 635 kg (1400 lb) Wheel Weights	0 kg (lb)	1270 kg (2800 lb)	1270 kg (2800 lb)
2 Pair 205 kg (450 lb) Wheel Weights	0 kg (lb)	820 kg (1808 lb)	820 kg (1808 lb)
Total	4471 kg (9857 lb)	8188 kg (18051 lb)	12659 kg (27908 lb)

So the tractor is ballasted to the level of 12659 kg (27908 lb) / 225 PTO-HP = 56 kg (124 lb) per PTO-HP (Light).

The percentage of weight on the front axle is 4471 kg (9857 lb) / 12659 kg (27908 lb) x 100% = 35%

From the Recommended Pressures charts in Wheels, Tires, and Treads section for the calculated axle loads, the required inflation pressures are:

Front Inflation Pressure: 110 kPa (1.1 bar; 16 psi)

Rear Inflation Pressure: 160 kPa (1.6 bar; 23 psi) but **only if the tractor is towing an implement that places very little load on the drawbar (planter or air seeder).**

This is the ideal configuration for a 8330 tractor equipped with MFWD when it is used with towed implements such as planters or air seeders. The front weight percentage should be approximately 35% or less to help prevent Power Hop. Power Hop can still occur, but it can be controlled using the procedures given in this section.

When this tractor is used to tow large trailers, the rear inflation pressure must be increased as outlined in Example 1.

If this tractor is used with heavy integral or semi-integral implements, additional front ballast and higher rear inflation pressures will be required.

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Unballasted Tractor Weight Chart

NOTE: Unballasted weights are average tractor weights figuring a full tank of fuel.

	1300 MFWD		1500 MFWD		Independent Link Suspension	
	8130-8430 PowerShift	8130-8430 AutoPowr	8130-8430 PowerShift	8130-8430 AutoPowr	8130-8430 PowerShift	8130-8530 AutoPowr
Group 47						
520/85 R42						
Front in kg (lb)	4132 (9110)	4348 (9585)	4420 (9750)	4648 (10747)	4767 (10510)	4993 (11007)
Rear in kg (lb)	6084 (13413)	6129 (13513)	6129 (13513)	6175 (13613)	6129 (13513)	6175 (13613)
Total	10216 (22523)	10477 (23098)	10551 (23623)	10823 (23860)	10897 (24023)	11167 (24620)
Front %	40	41	42	42	44	45
Rear %	60	59	58	58	56	55
710/70 R38						
Front in kg (lb)	4132 (9110)	4348 (9585)	4420 (9750)	4648 (10747)	4767 (10510)	4993 (11007)
Rear in kg (lb)	6234 (13744)	6280 (13844)	6280 (13844)	6325 (13944)	6280 (13844)	6325 (13944)
Total	10366 (22854)	10627 (23429)	10660 (23595)	10973 (24147)	11047 (24354)	11318 (24951)
Front %	40	41	41	43	43	44
Rear %	60	59	59	57	57	56
650/65 R42						
Front in kg (lb)	4132 (9110)	4348 (9585)	4420 (9750)	4648 (10747)	4767 (10510)	4993 (11007)
Rear in kg (lb)	6214 (13700)	6260 (13800)	6260 (13800)	6305 (13900)	6260 (13800)	6305 (13900)
Total	10346 (22810)	10607 (23385)	10680 (23550)	10953 (24157)	11027 (24310)	11298 (24907)
Front %	40	41	41	42	43	44
Rear %	60	59	59	58	57	56
620/70 R42						
Front in kg (lb)	4132 (9110)	4348 (9585)	4420 (9750)	4648 (10747)	4767 (10510)	4993 (11007)
Rear in kg (lb)	6214 (13700)	6260 (13800)	6260 (13800)	6305 (13900)	6260 (13800)	6305 (13900)
Total	10346 (22810)	10607 (23385)	10680 (23550)	10953 (24157)	11027 (24310)	11298 (24907)
Front %	40	41	41	42	43	44
Rear %	60	59	59	58	57	56
Group 48						
520/85 R46						
Front in kg (lb)	4224 (9312)	4450 (9809)	4524 (9974)	4739 (10449)	4869 (10734)	5084 (11209)
Rear in kg (lb)	6174 (13612)	6019 (13271)	6020 (13271)	6065 (13371)	6020 (13271)	6065 (13371)
Total	10398 (22924)	10469 (23080)	10440 (23021)	10713 (23618)	10888 (24005)	11149 (24580)
Front %	41	43	44	43	45	46
Rear %	59	58	56	57	55	54
710/70 R42						
Front in kg (lb)	4224 (9312)	4450 (9809)	4524 (9974)	4739 (10449)	4869 (10734)	5084 (11209)
Rear in kg (lb)	6214 (13700)	6260 (13800)	6260 (13800)	6305 (13900)	6260 (13800)	6305 (13900)
Total	10438 (23012)	10709 (23609)	10788 (23774)	11044 (24349)	11128 (24534)	11389 (25109)
Front %	40	42	42	43	44	45
Rear %	60	58	58	57	56	55
620/70 R46						
Front in kg (lb)	4224 (9312)	4450 (9809)	4524 (9974)	4739 (10449)	4869 (10734)	5084 (11209)
Rear in kg (lb)	6034 (13303)	6080 (13403)	6080 (13403)	6125 (13503)	6080 (13403)	6125 (13503)
Total	10258 (22615)	10529 (23212)	10604 (23307)	10865 (23952)	10948 (24137)	11209 (24712)
Front %	41	42	43	44	44	45
Rear %	59	58	57	56	56	55
650/85 R38						

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OURX935,000051B -19-22MAR06-1/2

Performance Ballasting

	1300 MFWD		1500 MFWD		Independent Link Suspension	
	8130-8430 PowerShift	8130-8430 AutoPowr	8130-8430 PowerShift	8130-8430 AutoPowr	8130-8430 PowerShift	8130-8530 AutoPowr
Front in kg (lb)	4224 (9312)	4450 (9809)	4524 (9974)	4739 (10449)	4869 (10734)	5084 (11209)
Rear in kg (lb)	6134 (13524)	6180 (13624)	6180 (13624)	6225 (13724)	6180 (13624)	6225 (13724)
Total	10358 (22836)	10629 (23433)	10704 (23598)	10964 (24173)	11049 (24358)	11309 (24933)
Front %	41	42	42	43	44	45
Rear %	59	58	58	57	56	55

OURX935,000051B -19-22MAR06-2/2

Maximum Load Per Wheel

Front Wheels 40 km/h (25 mph)		Rear Wheels 40 km/h (25 mph)	
Tire Size	Load	Tire Size	Load
		Group 47	
Group 42		520/85 R42	4125 kg (9100 lb)
16.9 R30	2575 kg (5680 lb)	710/70 R38	5300 kg (11700 lb)
480/70 R30	3550 kg (7850 lb)	620/70 R42	4500 kg (9900 lb)
600/65 R28	3075 kg (6800 lb)	650/65 R42	6000 kg (13200 lb)
		Group 48	
Group 43		520/85 R46	4250 kg (9350 lb)
480/70 R34	3875 kg (8550 lb)	710/70 R42	5600 kg (12300 lb)
540/65 R34	3550 kg (7850 lb)	620/70 R46	4750 kg (10500 lb)
600/70 R30	3550 kg (7850 lb)	800/70 R38	6500 kg (14300 lb)
Group 44		650/85 R38	6500 kg (14300 lb)
540/75 R34	4125 kg (9100 lb)		
620/75 R30	4853 kg (10700 lb)		

IMPORTANT: Maximum loads per wheel shown assume tire is inflated to rated pressure.

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Worksheet to Calculate Ballast Changes

IMPORTANT: Ballast should not exceed weight required to result in recommended percent slip at 6.6 km/h (4.1 mph) MINIMUM.

NOTE: Complete this entire worksheet before adding or changing any ballast or air pressures.

1. Determine desired weight split for your operation. _____ % Front
2. Record desired weight of tractor (See Ballasting Guide). _____
3. Percent of Weight Split from Step No. 1 multiplied by Step No.2 (Desired Weight) results in Total Front Weight. For Rear Weight, subtract front weight from Total Weight. _____
4. Weight of tractor as determined from the Unballasted Tractor Weight Chart or weight from scale. _____
5. Ballast needed (subtract tractor weight in Step No. 4 from desired weight in Step No. 3). _____
6. Add ballast. _____
7. Add ballast from Step No. 6 to weights from Step No. 4. _____
8. Set tire pressure for operating conditions using weights from Step No. 7. (See appropriate inflation pressure table). _____

NOTE: You are now ready to test for wheel slippage. See Measuring Wheel Slip.

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Using Rear Wheel Weights

CAUTION: When installing weights, use appropriate equipment or have the job performed by your John Deere Dealer.

NOTE: When using 1524 mm (60 in.) tread setting, maximum of two 205 kg (450 lb) or one 635 kg (1400 lb) weight can be installed on inside of wheel.

Install weight (A) on wheel.

Weight Attaching Bolts—Specification

M16-Bolt—Torque.....	310 N·m (230 lb-ft)
M20-Bolt—Torque.....	610 N·m (450 lb-ft)

For additional weights, install bolts in previous weight. Rotate alternate weight to align bolts with weight holes.

Tighten bolts and then retighten after driving approximately 100 meters (100 yd).

Retighten bolts after working **3 HOURS** and again after **10 HOURS**.

Check tightness every 250 hours.

IMPORTANT: Inside wheel weights must have at least 25 mm (1 in.) clearance between weight and tractor components.



A—Rear Wheel Weight

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Using Liquid Ballast

CAUTION: Installing liquid ballast requires special equipment and training. See your John Deere Dealer or a tire service store.

IMPORTANT: NEVER fill any tire to more than 90 percent. More solution could damage tires.

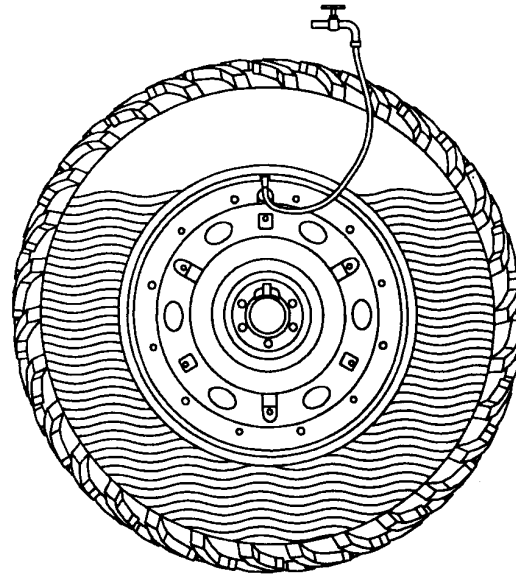
Water or calcium chloride solution can be used to provide economical ballast. Used properly, it will not damage tires, tubes, or rims. However, liquid ballast is not recommended because it results in harsh ride, difficulty in handling, spills if flats occur, and when used in rear tires can result in greater susceptibility to power hop.

Liquid ballast should be avoided in rear tires since it has a stiffening effect that causes the tractor to give a rough ride and generally reduces ability to control power hop. If liquid is used in the rear tires, *all tires on the axle must be filled to the same level* which should not exceed 40 percent.

A calcium chloride mixture of 420 grams per liter (3.5 lb per gal) of water will not freeze solid above -45°C (-50°F) or a mixture of 600 grams per liter (5.0 lb per gal) will not freeze solid above -50°C (-60°F).

NOTE: Use of alcohol as liquid ballast is not recommended.

Up to 75 percent may be used in MFWD front tires for weight or to provide stiffness to assist in power hop control. *Do this as a last alternative.*



RWZ5003 — JUN—07 JUL 93

Fill FRONT tires to 40 or 75 percent for needed ballast. Fill REAR tires to maximum of 40 percent. More solution could result in harsh ride. Chart shows how much each size holds if filled to 40 or 75 percent.

Liquid Ballast Chart

Liquid Ballast PER Front Tire						Liquid Ballast PER Rear Tire		
Tire Size	40% Fill		75% Fill		Tire Size	40% Fill		
	420 g/L (3.5 lb/gal)	600 g/L (5.0 lb/gal)	420 g/L (3.5 lb/gal)	600 g/L (5.0 lb/gal)		420 g/L (3.5 lb/gal)	600 g/L (5.0 lb/gal)	
Group 42						Group 47		
16.9 R30	178 kg (393 lb)	191 kg (420 lb)	335 kg (738 lb)	357 kg (787 lb)	620/70 R42	411 kg (905 lb)	439 kg (967 lb)	
600/65 R28	231 kg (509 lb)	246 kg (543 lb)	433 kg (954 lb)	462 kg (1019 lb)	650/70 R42	400 kg (882 lb)	428 kg (944 lb)	
Group 43						480/80 R46	292 kg (644 lb)	313 kg (690 lb)
480/70 R34	203 kg (448 lb)	216 kg (476 lb)	381 kg (840 lb)	405 kg (893 lb)	710/70 R38	493 kg (1086 lb)	526 kg (1159 lb)	
540/65 R34	226 kg (498 lb)	239 kg (527 lb)	423 kg (933 lb)	448 kg (988 lb)	Group 48			
600/70 R30	307 kg (677 lb)	326 kg (719 lb)	575 kg (1268 lb)	611 kg (1347 lb)	380/90 R54	193 kg (426 lb)	205 kg (453 lb)	
Group 44						520/85 R46	375 kg (827 lb)	400 kg (882 lb)
540/75 R34	226 kg (498 lb)	239 kg (527 lb)	424 kg (935 lb)	448 kg (988 lb)	710/70 R42	523 kg (1154 lb)	558 kg (1230 lb)	
620/75 R30	355 kg (783 lb)	378 kg (833 lb)	666 kg (1469 lb)	708 kg (1561 lb)	620/70 R46	421 kg (929 lb)	451 kg (995 kg)	
					800/70 R38	663 kg (1462 lb)	707 kg (1559 lb)	

BB92646.000005E -19-15AUG05-1/1

Implement Codes

IMPORTANT: Use a scale to check static weight, especially with heavy implements. Static weight remaining on the front wheels with the implement lifted should always be at least 50 percent of the weight with the implement resting on the ground.

Determine the following:

- MFWD, or Independent Link Suspension
- Front tires with or without liquid

Find implement code in John Deere implement operator's manual.

To find implement code for non-John Deere implements use the following procedure:

1. Estimate implement center of gravity (find or estimate fore-and-aft balance point)
2. Measure distance from implement hitch point to center of gravity. Record the distance (inches). Add 37 to this figure.
3. Determine the implement weight (fully loaded). Record the weight (pounds).

4. Multiply Step 2 by Step 3. Divide by 1000.

5. Resulting number is the implement code.

Use the prior information and refer to the appropriate chart to determine how many QUIK-TATCH weights are required.

CAUTION: Do not attempt to transport an implement without adequate front ballast. Loss of steering control may result. With maximum front ballast, do not attempt to transport an implement whose code exceeds:

- 650 for MFWD
- 835 for 8130, 8230, and 8330 with Independent Link Suspension
- 865 for 8430 and 8530 with Independent Link Suspension

NOTE: If no quick coupler is used, add 15 to code.

QUIK-TATCH Weights Required

Tractor Code	8130-8430	8130-8530
	MFWD	Independent Link Suspension
0—320	—	—
321—335	—	—
336—350	—	—
351—365	—	—
366—380	—	—
381—395	0	—
396—410	S	—
411—425	2	—
426—440	4	—
441—455	6	0
456—470	8	S
471—485	10	2
486—500	12	4
501—515	14	6
516—530	16	8
531—545	18	10
546—560	20	12
561—575	22	14
576—590	—	16
591—610	—	18
611—625	—	20
626—640	—	22

Continued on next page

BB92646,000005F -19-15AUG05-1/2

Performance Ballasting

Tractor Code	8130-8430	8130-8530
	MFWD	Independent Link Suspension
641—655	—	—
656—670	—	—

S=Weight Support Only

Add to tractor code when:

.. Fluid is added to front tires

60	60
----	----

Maximum obtainable tractor code

650	835
-----	-----

IMPORTANT: Tractor code must be greater than or equal to the implement code.

BB92646,000005F -19-15AUG05-2/2

Weight Added to Rear Axle with Hitch Mounted Implements

code and will require additional weight on the rear axle. (See Using Implement Codes in this section for more details.)

This chart applies to an implement whose center of gravity is at 610 mm (24 in.) behind the hook points.

NOTE: Implements with a center of gravity greater than 610 mm (24 in.) will have a higher implement

Implement Weight in kg (lb)	907 (2000)	1133 (2500)	1361 (3000)	1588 (3500)	1814 (4000)	2041 (4500)	2268 (5000)	2495 (5500)	2722 (6000)	2948 (6500)	3175 (7000)	3402 (7500)	3629 (8000)
Approximate Implement Code Rating	120	155	185	215	245	275	305	335	365	395	425	460	490
Approximate Weight Added to Rear Axle by Mounted Implement in kg (lb)	1474 (3250)	1837 (4050)	2223 (4900)	2585 (5700)	2948 (6500)	3311 (7300)	3697 (8150)	4060 (8950)	4423 (9750)	4808 (10600)	5171 (11400)	5534 (12200)	5897 (13000)
Implement Weight in kg (lb)	3856 (8500)	4082 (9000)	4309 (9500)	4536 (10000)	4763 (10500)	4990 (11000)	5216 (11500)	5443 (12000)	5670 (12500)	5897 (13000)	6123 (13500)	6350 (14000)	
Approximate Implement Code Rating	520	550	580	610	640	670	700	730	765	795	825	855	
Approximate Weight Added to Rear Axle by Mounted Implement in kg (lb)	6282 (13850)	6645 (14650)	7008 (15450)	7371 (16250)	7756 (17100)	8119 (17900)	8482 (18700)	8868 (19550)	9231 (20350)	9593 (21150)	9956 (21950)	10342 (22800)	

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Measuring Wheel Slip—Manually

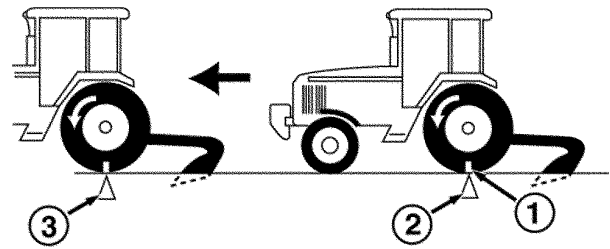
NOTE: Tractors equipped with optional radar unit can automatically determine the percentage of wheel slip. Radar must be calibrated correctly. (See CommandCenter section).

1. Mark a rear tire.
2. Mark a starting point on the ground with the tractor moving and implement lowered in the ground.
3. Follow tractor and mark the ground again where marked tire completes 10 full revolutions.
4. Repeat procedure with implement raised at the same working speed. Count revolutions between same two marks.
5. Use second count and chart to determine slippage.

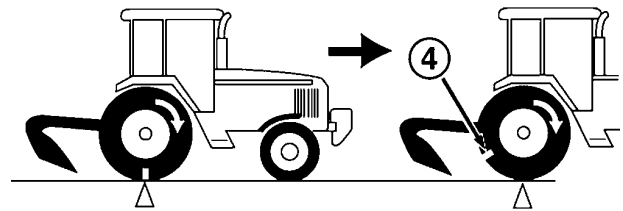
NOTE: 8—12% is ideal for tractors with MFWD engaged (10—15 percent for two-wheel drive tractors).

6. Adjust ballast or load to give correct slippage.

NOTE: Available horsepower is greatly reduced when wheel slip drops below minimum percent.



RW26776 —UN—12JAN00



RW26777 —UN—13JAN00

Wheel Slippage Chart

Wheel Revolutions (Step 4)	% Slip	Result
10	0	Remove Ballast
9-1/2	5	Remove Ballast
9	10	Correct Ballast
8-1/2	15	Add Ballast
8	20	Add Ballast
7-1/2	25	Add Ballast
7	30	Add Ballast

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Front Wheels, Tires, and Treads

Service Tires Safely

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

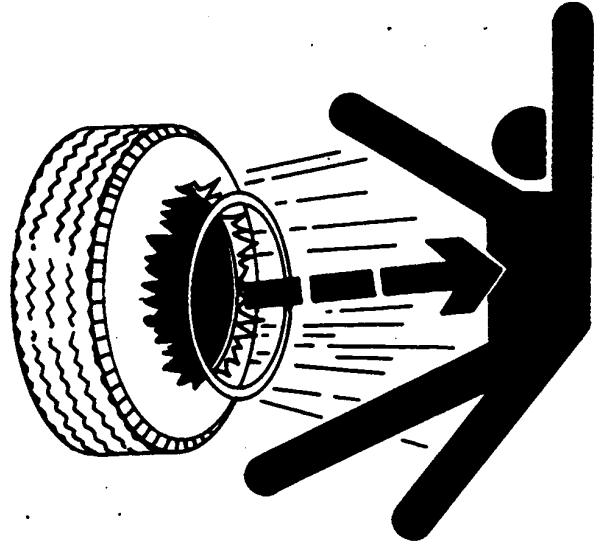
Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job.

Always maintain the correct tire pressure. Do not inflate the tires above the recommended pressure.

Never weld or heat a wheel and tire assembly. The heat can cause an increase in air pressure resulting in a tire explosion. Welding can structurally weaken or deform the wheel.

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

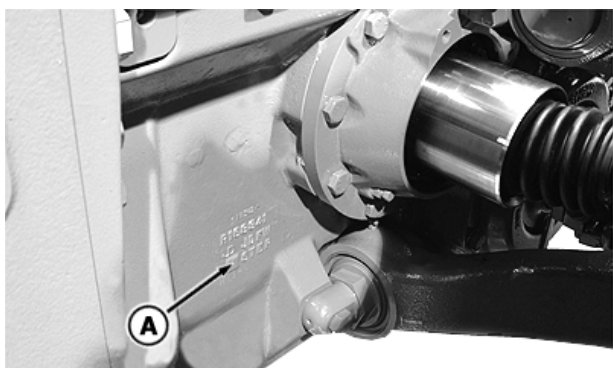
Check wheels for low pressure, cuts, bubbles, damaged rims or missing lug bolts and nuts.



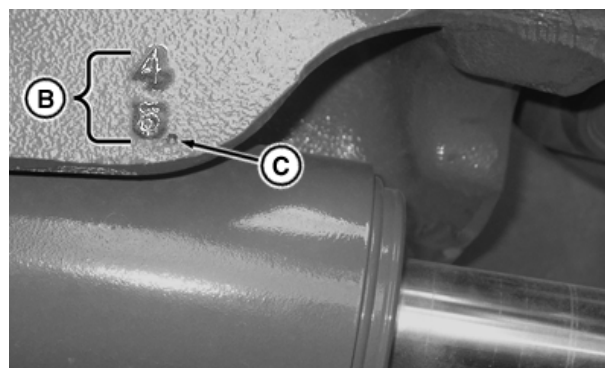
TS211 — JUN — 23AUG88

DX,RIM1 -19-27OCT08-1/1

Tire Combinations



Step Identification (Independent Link Suspension)



Step Identification (1500 MFWD Axle)

A—Marking Location, Independent Link Suspension **B**—Marking Location, 1500 MFWD Axle

C—Divot

IMPORTANT: Avoid excessive drive train wear. Do not mix worn and new tires, bias and radial, or tires of different diameters. Do not use R2 tires in combination with R1.

If tire sizes are not correctly matched on AutoPowr equipped tractors, the speed sensor may indicate the front tires are traveling at a higher speed or give an erratic reading while MFWD is disengage resulting in higher travel speeds.

Suspension have a "4" or "5" marking (A) stamped on the right side of front differential housing. Tractors equipped with 1500 MFWD axle, have a "4" and a "5" marking (B) stamped on the right-hand side of the front axle above the steering cylinder. A divot (C) is stamped beside the appropriate number for that tractor. This marking identifies axle gear ratio and the difference in tire group size required.

If tire sizes are not correctly matched on AutoPowr equipped tractors, the speed sensor may indicate the front tires are traveling at higher speed or give an erratic reading while MFWD is disengage resulting in higher travel speeds.

With the tire industry converting to metric designations, there are many new terms which can be confusing. To simplify things, tires are placed into groups by their Rolling Circumference Index (RCI). Rolling circumference is the distance a tire travels in one revolution. Tires within a group, regardless of rim size, are the same or nearly the same height. Knowing and understanding RCI and group sizes makes choosing front and rear tire combinations easier.

The front tire must be from a group that is four or five group sizes smaller than the rear tire group. For example, if the rear tires are group 47, and the front differential is stamped with "5", then the front tires must be group 42. The rim size is of no consequence. Different rim-size tires such as 18.4R46 and 20.8R42 have the same rolling circumference, which is 47. Tire sizes for 8030 Series Tractors are found in the table on the following page.

RCI is important for proper MFWD and Independent Link Suspension tractor setup. With both types of front axles, front and rear tires do the work. Since front tires are smaller than rear tires, front tires have to rotate faster to cover the same distance as the rear. Therefore it is important to select the correct size to optimize efficiency and ensure longer tire life.

MFWD front tire size combinations must be matched with the rear tires. It is not recommended tire combinations be changed without consulting your dealer. Mismatched tire sizes effect electronic transmission control, which may vary tractor ground speed. Mis-matched tires may also increase wear on tires and drive train components.

Tractors equipped with 1300 axle MFWD always have front tires that are five group sizes smaller than the rear tire group. Tractors equipped with Independent Link

If you have any questions or need assistance in choosing the correct combination, see your John Deere dealer.

OURX935.0000619 -19-08JAN08-1/1

Tire Combination Tables

Rear Tire Group Sizes

	Minimum Recommended Row Width								
	508 mm (20 in.)	558.8 mm (22 in.)	660.4 mm (26 in.)	762 mm (30 in.)	812.8 mm (32 in.)	1016+ mm (40+ in.)			
Tire Section Width									
Group Size	320 mm (12.4 in.)	380 mm (14.9 in.)	420 mm (16.9 in.)	480 mm (18.4 in.)	520 mm (20.8 in.)	620 mm (24.5 in.)	710 mm (28 in.)	800 mm (30.5 in.)	900 mm (35.4 in.)
48					520/85R46	620/70R46 650/85R38	710/70R42	800/70R38	
47						650/65R42 650/75R38 620/70R42	710/70R38		

Front Tire Group Sizes

	Minimum Recommended Row Width						
	508 mm (20 in.)	558.8 mm (22 in.)	660.4 mm (26 in.)	762 mm (30 in.)	812.8 mm (32 in.)	1016+ mm (40+ in.)	
Tire Section Width							
Group Size	290 mm (11.2 in.)	320 mm (12.4 in.)	380 mm (14.9 in.)	420 mm (16.9 in.)	480 mm (18.4 in.)	520 mm (20.8 in.)	620 mm (23.1 in.)
44						540/75R34	620/75R30
43				420/85R34	480/70R34	540/65R34	600/70R30
42				16.9R30	480/70R30	540/65R30	600/65R28

OURX935,000069A -19-02APR08-1/1

Tire Inflation Pressure Guidelines

Check tire inflation pressure *at least* every two weeks, while tires are cool, using an accurate dial or stick-type gauge having 10 kPa (0.1 bar) (1 psi) graduations.

NOTE: Use a special air-water gauge and measure with valve stem at bottom if tires contain liquid ballast.

Correctly inflated radial tires will show a deflection of the sidewall. This is normal and will not harm the tire.

Inflation pressures less than 80 kPa (0.8 bar) (12 psi) should be monitored frequently because of the increased risk of low pressure air leaks.

NOTE: Bead slip can be experienced in high-traction conditions. Increasing the inflation pressure will help but will reduce traction.

Maximum tire pressure is specified on tire sidewall.

Determine correct tire pressure by weighing tractor using the following procedure:

Front axle weight with implement lowered

Rear axle weight with implement raised

Set tire inflation pressures according to weight measured. *Ballasting and tire inflation pressure may need to be adjusted when operating conditions change.*

NOTE: If tractor is equipped with front-mounted implement, raise implement when determining front axle weight and lower implement when

determining rear axle weight. If tractor is equipped with both a front and rear-mounted implement, raise both implements.

Managing Tire Inflation Pressures

IMPORTANT: Integral implements transfer significant weight to rear axle. Include this added weight when determining correct inflation pressures.

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

Tractors operating on steep side slopes or furrow plowing should increase rear tire pressures 30 kPa (0.3 bar) (4 psi) above the values listed for base pressures 80 kPa (0.8 bar) (12 psi) and above to compensate for lateral weight transfer. For base pressures below 80 kPa (0.8 bar) (12 psi), pressure should be increased by 30 percent.

Tractors with heavy hitch-mounted implements require increased rear tire inflation pressures to carry the increased weight during transport.

Reduce pressures to correct pressure for towed implement operation.

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

OURX935,0000693 -19-23NOV07-1/1

Recommended Pressures—Group 42

Axle Load Kg(lb)	16.9R30	480/70R30	480/70R30	540/65R30	600/65R28
	Single	Single	Single	Single	Single
	144A8	141A8	152A8	143A8	147A8
	kPa(bar)(psi)	kPa(bar)(psi)	kPa(bar)(psi)	kPa(bar)(psi)	kPa(bar)(psi)
1814(4000)	55(0.55)(8)	50(0.55)(8)	50(0.55)(8)	50(0.55)(8)	50(0.55)(8)
2041(4500)	55(0.55)(8)	50(0.55)(8)	50(0.55)(8)	50(0.55)(8)	50(0.55)(8)
2268(5000)	55(0.55)(8)	50(0.55)(8)	50(0.55)(8)	50(0.55)(8)	50(0.55)(8)
2495(5500)	60(0.6)(9)	50(0.55)(8)	50(0.55)(8)	50(0.55)(8)	50(0.55)(8)
2721(6000)	70(0.7)(10)	60(0.6)(9)	60(0.6)(9)	50(0.55)(8)	50(0.55)(8)
2948(6500)	80(0.8)(12)	70(0.7)(10)	70(0.7)(10)	50(0.55)(8)	50(0.55)(8)
3180(7000)	95(0.95)(14)	75(0.75)(11)	75(0.75)(11)	70(0.7)(10)	50(0.55)(8)
3400(7500)	105(1.05)(15)	90(0.9)(13)	90(0.9)(13)	70(0.7)(10)	60(0.6)(9)
3630(8000)	120(1.2)(17)	95(0.95)(14)	95(0.95)(14)	90(0.9)(13)	70(0.7)(10)
3860(8500)	130(1.3)(19)	110(1.1)(16)	110(1.1)(16)	90(0.9)(13)	75(0.75)(11)
4080(9000)	145(1.45)(21)	120(1.2)(17)	120(1.2)(17)	105(1.05)(15)	80(0.8)(12)
4310(9500)	160(1.6)(23)	125(1.25)(18)	125(1.25)(18)	110(1.1)(16)	90(0.9)(13)
4540(10000)	165(1.65)(24)	130(1.3)(19)	130(1.3)(19)	120(1.2)(17)	95(0.95)(14)
4760(10500)	185(1.85)(27)	145(1.45)(21)	145(1.45)(21)	125(1.25)(18)	110(1.1)(16)
4990(11000)	200(2.0)(29)	150(1.5)(22)	150(1.5)(22)	130(1.3)(19)	110(1.1)(16)
5220(11500)	215(2.15)(31)	—	165(1.65)(24)	145(1.45)(21)	120(1.2)(17)
5440(12000)	235(2.35)(35)	—	180(1.8)(26)	160(1.6)(23)	125(1.25)(18)
5670(12500)	—	—	190(1.9)(28)	—	140(1.4)(20)
5900(13000)	—	—	215(2.15)(31)	—	145(1.45)(21)
6120(13500)	—	—	240(2.4)(35)	—	160(1.6)(23)
6350(14000)	—	—	270(2.7)(39)	—	—
6580(14500)	—	—	275(2.75)(40)	—	—
6800(15000)	—	—	295(2.95)(43)	—	—
7030(15500)	—	—	320(3.2)(46)	—	—
7260(16000)	—	—	—	—	—
7480(16500)	—	—	—	—	—
7950(17000)	—	—	—	—	—
8170(17500)	—	—	—	—	—
8400(18000)	—	—	—	—	—

OURX935,0000694 -19-17APR08-1/1

Recommended Pressures—Group 43

	420/85R34	480/70R34	480/70R34	540/65R34	600/70R30	IF600/70R30
	Single	Single	Single	Single	Single	Single
Axle Load	147A8	146A8	155A8	152A8	152A8	159A8
Kg(lb)	kPa(bar)(psi)	kPa(bar)(psi)	kPa(bar)(psi)	kPa(bar)(psi)	kPa(bar)(psi)	kPa(bar)(psi)
1814(4000)	55(0.55)(8)	50(0.55)(8)	55(0.55)(8)	50(0.55)(8)	50(0.55)(8)	85(0.85)(12)
2041(4500)	55(0.55)(8)	50(0.55)(8)	55(0.55)(8)	50(0.55)(8)	50(0.55)(8)	85(0.85)(12)
2268(5000)	55(0.55)(8)	50(0.55)(8)	55(0.55)(8)	50(0.55)(8)	50(0.55)(8)	85(0.85)(12)
2495(5500)	55(0.55)(8)	50(0.55)(8)	55(0.55)(8)	50(0.55)(8)	50(0.55)(8)	85(0.85)(12)
2721(6000)	55(0.55)(8)	50(0.55)(8)	50(0.55)(8)	50(0.55)(8)	50(0.55)(8)	85(0.85)(12)
2948(6500)	60(0.6)(9)	60(0.6)(9)	60(0.6)(9)	50(0.55)(8)	55(0.55)(8)	85(0.85)(12)
3180(7000)	75(0.75)(11)	70(0.7)(10)	70(0.7)(10)	60(0.6)(9)	55(0.55)(8)	85(0.85)(12)
3400(7500)	90(0.9)(13)	75(0.75)(11)	75(0.75)(11)	70(0.7)(10)	55(0.55)(8)	85(0.85)(12)
3630(8000)	95(0.95)(14)	90(0.9)(13)	90(0.9)(13)	75(0.75)(11)	55(0.55)(8)	85(0.85)(12)
3860(8500)	105(1.05)(15)	95(0.95)(14)	95(0.95)(14)	90(0.9)(13)	60(0.6)(9)	85(0.85)(12)
4080(9000)	110(1.1)(16)	110(1.1)(16)	110(1.1)(16)	90(0.9)(13)	70(0.7)(10)	85(0.85)(12)
4310(9500)	120(1.2)(17)	120(1.2)(17)	120(1.2)(17)	105(1.05)(15)	75(0.75)(11)	85(0.85)(12)
4540(10000)	130(1.3)(19)	125(1.25)(18)	125(1.25)(18)	110(1.1)(16)	80(0.8)(12)	85(0.85)(12)
4760(10500)	140(1.4)(20)	130(1.3)(19)	130(1.3)(19)	120(1.2)(17)	90(0.9)(13)	85(0.85)(12)
4990(11000)	145(1.45)(21)	140(1.4)(20)	140(1.4)(20)	120(1.2)(17)	95(0.95)(14)	85(0.85)(12)
5220(11500)	160(1.6)(23)	150(1.5)(22)	150(1.5)(22)	130(1.3)(19)	105(1.05)(15)	85(0.85)(12)
5440(12000)	160(1.6)(23)	160(1.6)(23)	160(1.6)(23)	140(1.4)(20)	110(1.1)(16)	85(0.85)(12)
5670(12500)	190(1.9)(28)	170(1.7)(25)	170(1.7)(25)	150(1.5)(22)	120(1.2)(17)	85(0.85)(12)
5900(13000)	215(2.15)(31)	190(1.9)(28)	190(1.9)(28)	165(1.65)(24)	120(1.2)(17)	90(0.9)(13)
6120(13500)	230(2.3)(34)	—	215(2.15)(31)	180(1.8)(26)	125(1.25)(18)	95(0.95)(14)
6350(14000)	—	—	225(2.25)(33)	190(1.9)(28)	130(1.3)(19)	100(1.0)(14)
6580(14500)	—	—	255(2.55)(37)	215(2.15)(31)	140(1.4)(20)	105(1.05)(15)
6800(15000)	—	—	270(2.7)(39)	225(2.25)(33)	145(1.45)(21)	110(1.1)(16)
7030(15500)	—	—	280(2.8)(41)	240(2.4)(35)	160(1.6)(23)	115(1.15)(17)
7260(16000)	—	—	300(3.0)(44)	—	—	120(1.2)(17)
7480(16500)	—	—	310(3.1)(45)	—	—	125(1.25)(18)
7950(17000)	—	—	320(3.2)(46)	—	—	—
8170(17500)	—	—	—	—	—	—
8400(18000)	—	—	—	—	—	—
8630(18500)	—	—	—	—	—	—
8640(19000)	—	—	—	—	—	—
8865(19500)	—	—	—	—	—	—
9090(20000)	—	—	—	—	—	—
9298(20500)	—	—	—	—	—	—
9530(21000)	—	—	—	—	—	—
9752(21500)	—	—	—	—	—	—
9990(22000)	—	—	—	—	—	—
10205(22500)	—	—	—	—	—	—
10440(23000)	—	—	—	—	—	—
10659(23500)	—	—	—	—	—	—
10900(24000)	—	—	—	—	—	—

OURX935.0000695 -19-17APR08-1/1

Recommended Pressures—Group 44

Axle Load Kg(lb)	540/75R34	620/75R30
	Single 157A8 kPa(bar)(psi)	Single 163A8 kPa(bar)(psi)
1814(4000)	55(0.55)(8)	55(0.55)(8)
2041(4500)	55(0.55)(8)	55(0.55)(8)
2268(5000)	55(0.55)(8)	55(0.55)(8)
2495(5500)	55(0.55)(8)	55(0.55)(8)
2721(6000)	55(0.55)(8)	55(0.55)(8)
2948(6500)	55(0.55)(8)	55(0.55)(8)
3180(7000)	55(0.55)(8)	55(0.55)(8)
3400(7500)	55(0.55)(8)	55(0.55)(8)
3630(8000)	60(0.6)(9)	55(0.55)(8)
3860(8500)	70(0.7)(10)	55(0.55)(8)
4080(9000)	75(0.75)(11)	55(0.55)(8)
4310(9500)	80(0.8)(12)	60(0.6)(9)
4540(10000)	90(0.9)(13)	70(0.7)(10)
4760(10500)	95(0.95)(14)	75(0.75)(11)
4990(11000)	105(1.05)(15)	75(0.75)(11)
5220(11500)	110(1.1)(16)	80(0.8)(12)
5440(12000)	110(1.1)(16)	90(0.9)(13)
5670(12500)	120(1.2)(17)	95(0.95)(14)
5900(13000)	125(1.25)(18)	105(1.05)(15)
6120(13500)	130(1.3)(19)	110(1.1)(16)
6350(14000)	145(1.45)(21)	110(1.1)(16)
6580(14500)	145(1.45)(21)	120(1.2)(17)
6800(15000)	150(1.5)(22)	125(1.25)(18)
7030(15500)	160(1.6)(23)	130(1.3)(19)
7260(16000)	180(1.8)(26)	140(1.4)(20)
7480(16500)	190(1.9)(28)	140(1.4)(20)
7950(17000)	200(2.)(29)	145(1.45)(21)
8170(17500)	220(2.2)(32)	150(1.5)(22)
8400(18000)	230(2.3)(34)	160(1.6)(23)
8630(18500)	—	165(1.65)(24)
8640(19000)	—	180(1.8)(26)
8865(19500)	—	190(1.9)(28)
9090(20000)	—	210(2.1)(30)
9298(20500)	—	215(2.15)(31)
9530(21000)	—	220(2.2)(32)
9752(21500)	—	240(2.4)(35)
9990(22000)	—	—
10205(22500)	—	—
10440(23000)	—	—
10659(23500)	—	—
10900(24000)	—	—

OURX935,0000696 -19-15AUG08-1/1

MFWD and Independent Link Suspension Front Wheel Bolts Tightening

CAUTION: Avoid the possibility of personal injury. Failure to follow torquing sequence and procedure will result in damage to equipment and may result in personal injury. Wheel bolts are critical and require repeated torquing.

NOTE: Both inner and outer bolt patterns of disk have one **tight fit** hole and one **slot fit** hole 180° from each other, for improved wheel centering.

Wheel Disk to Rim

Install bolt in **tight fit** hole (A) and hand tighten bolt.
 Install bolt in **slot fit** (B) and hand tighten bolt.
 Install and hand tighten remaining wheel disk-to-rim bolts.
 Using a star shaped pattern, torque disk to rim bolts as needed to maintain torque.

Specification

Disk To Rim Bolts—Torque..... 310 N-m
 (230 lb-ft)

Drive tractor 100 meters (110 yd) and retighten bolts.
 Tighten again at **3 HOURS** and **10 HOURS**.

Wheel Disk to Hub

Install cap screw in **tight fit** hole (C) and hand tighten cap screw.
 Install cap screw in **slot fit** hole (D) and hand tighten cap screw.
 Install and hand tighten remaining wheel disk-to-hub cap screws.
 Using a star shaped pattern, torque disk-to-hub cap screws as needed to maintain torque.

Specification

Disk-To-Hub Cap
 Screws—Torque 600 N-m
 (445 lb-ft)

Drive tractor 100 meters (110 yd) and retighten cap screws.



A—Disk-to-Rim Tight Fit Hole C—Disk-to-Hub Tight Fit Hole
 B—Disk-to-Rim Slot Fit Hole D—Disk-to-Hub Slot Fit Hole

Tighten again at **3 HOURS**, **10 HOURS**, and **DAILY** for the first week of operation.

RW26463—UN—14AUG99

RW26464—UN—25AUG99

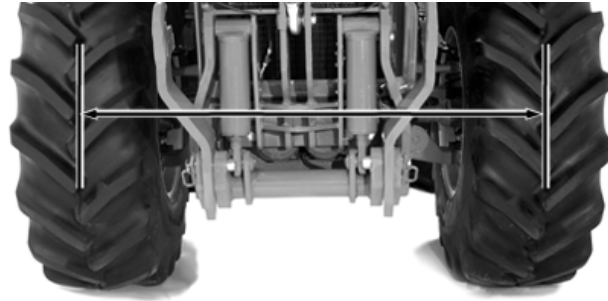
OURX935,0000679 -19-23NOV07-1/1

MFWD and Independent Link Suspension Toe-In Check

NOTE: For Independent Link Suspension tractors in addition to the front wheels being straight, Independent Link Suspension axle must be level.

1. Make sure tires are in the straight forward position by driving tractor in a straight line for at least 15.24 m (50 ft).
2. Verify that equal lengths of the steering cylinder are showing on either side of tractor.
3. Measure distance between center line of tires at the hub level in front of axle. Mark the point that is measured.
4. Drive forward until front tires are rotated 180°.

NOTE: When measuring rear of tire, make sure both front and rear measurements are from same point on tire. If front measurement of tire was from center line, then rear measurement of tire must be taken from tire center line. When performing rear measurement the transmission will be in



RXA0056533 —JUN—29AUG01

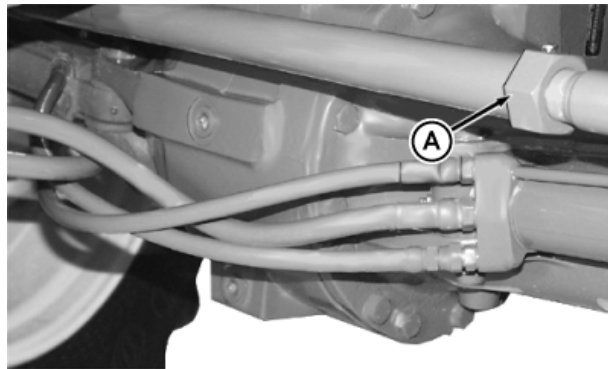
the way. Make measurement from tire to loader bracket on each side of tractor, then add the width of transmission 512 mm (20.2 in.).

5. Repeat step 3 at rear of tire at same point.
6. Determine the difference between front and rear measurements. The difference may be in either direction (toe-in or toe-out), but should be less than 3 mm (1/8 in.).

OURX935,000067B -19-03JAN08-1/1

1300 MFWD Axle Toe-In Adjustment

1. Check to make sure axle is centered.
2. Loosen jam nuts (A) on both ends of the tie rod tube.
3. Rotate tube to lengthen or shorten tie rod, as needed to obtain toe-in or toe-out of less than 3 mm (1/8 in.). Each 1/8 turn equals approximately 4 mm (3/16 in.) change.
4. Tighten jam nuts (A) on both ends of tie rod tube.



RW56646A —JUN—22OCT99

Loosen Jam Nuts

A—Jam Nut

Jam Nut—Specification

Nut—Torque 200 N·m (150 lb-ft)

OURX935,000050E -19-03JAN08-1/1

1500 MFWD Axle Toe-In Adjustment

NOTE: Timing mark (B) on adjustment screw (A) is factory set at zero toe-in.

1. Loosen cap screws (E and F) on the split end (H) of the clamp (G).

NOTE: Turn Adjustment screw a maximum of 90° to adjust the toe-in up to 2 mm (3/32 in.). Considering set screw may be turned either left or right, total toe-in adjustment is a total of 4 mm (3/16 in.).

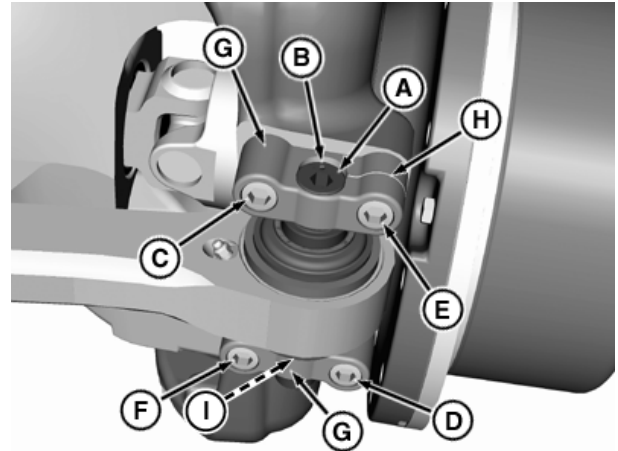
2. Adjust toe-in, then measure wheels as specified in MFWD And Independent Link Suspension Toe-In Check to verify toe-in is correct.
3. Tighten cap screws to torque.

Specification

Cap Screws—Torque..... 310 N·m (229 lb-ft)

NOTE: If all four cap screws are loosened, tie rod may drop down allowing lower boot (I) to rub on the lower clamp. To avoid premature wear on lower boot, tie rod must be centered between the upper and lower clamps. Cap screws on the solid end of the clamp must be tightened before cap screws on the split end of the clamp. Use a crisscross method to tighten cap screws. If all four screws are loosened:

- Tighten clamp solid end cap screws (C and D).



1500 MFWD Axle Toe-In Adjustment

- | | |
|-------------------------------------|-------------------------------------|
| A—Adjustment Screw | F—Lower Clamp Cap Screw (Split End) |
| B—Timing Mark | G—Clamp |
| C—Upper Clamp Cap Screw (Solid End) | H—Split End |
| D—Lower Clamp Cap Screw (Solid End) | I—Lower Boot |
| E—Upper Clamp Cap Screw (Split End) | |

- Tighten clamp split end cap screws (E and F).

OURX935.000050F -19-03JAN08-1/1

RXA0087842 —UN—16MAR06

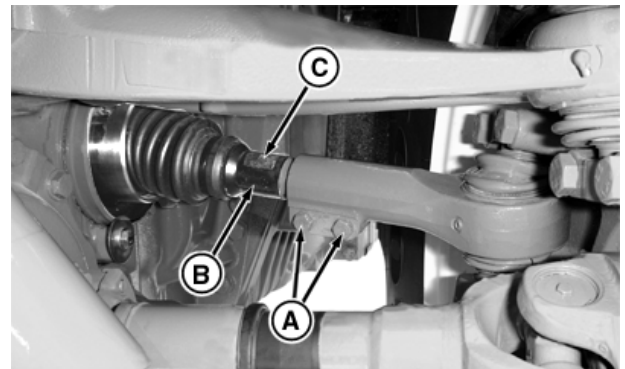
Independent Link Suspension Toe-In Adjustment

CAUTION: For tractors equipped with front hitch, avoid possible personal injury and equipment damage. DO NOT use the front hitch to lift the tractor. Use correct lifting equipment.

1. Make sure axle is centered.
2. Loosen clamp bolts (A) on both tie rods.
3. Rotate inboard pin (B) using the wrench flats (C). One full revolution of both pins changes toe-in approximately 20 mm.
4. Tighten clamp bolts (A) on both tie rods.

Clamp Bolt—Specification

Bolt—Torque..... 125 N·m (90 lb-ft)



RXA0056534 —UN—18OCT01

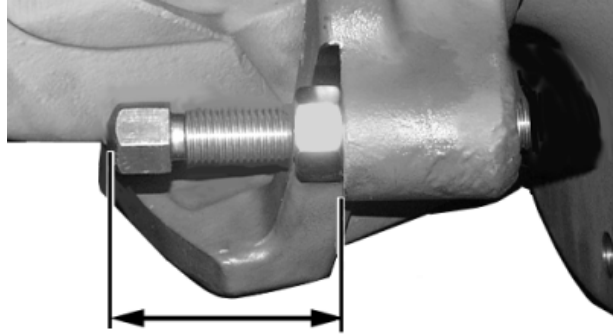
OURX935.0000759 -19-23NOV07-1/1

MFWD Steering Stop Settings

1. Adjust fenders before setting steering stop positions.
2. Select correct steering stop position for tire size and tread setting. See following chart.
3. Set steering stops to correct position as illustrated.
4. Tighten steering stop retaining bolts to 250 N·m (185 lb-ft).
5. Turn wheel fully to the right. Impact knuckle housing to steering stop five times. Repeat for left side.
6. Retighten steering stop retaining bolts to 250 N·m (185 lb-ft).

IMPORTANT: Settings allow 25 mm (1 in.) minimum clearance at maximum turn and full oscillation. Fenders may deflect against side frame during turn. Clearance and interference must be checked under full oscillation and full turn.

7. Verify clearance by turning steering wheel fully to the left and then to the right.



RW56647—UN—06OCT98

1300 MFWD STEERING STOP POSITIONS

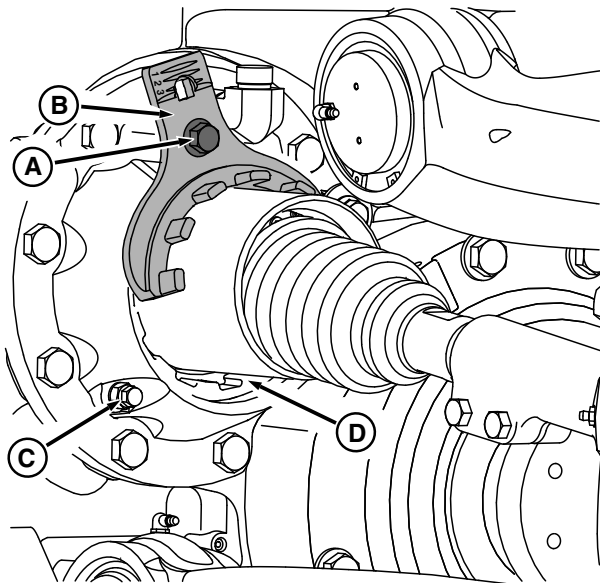
Position	Turn Angle	Bolt Length
0	52°	43.6 mm (1.72 in.)
1	47°	56.6 mm (2.23 in.)
2	42°	69.6 mm (2.74 in.)
3	37°	82.6 mm (3.25 in.)

1500 MFWD STEERING STOP POSITIONS

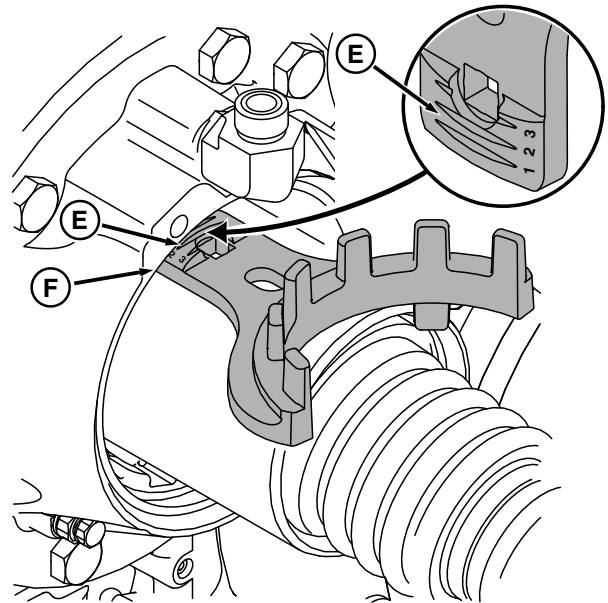
Position	Turn Angle	Bolt Length
0	48°	42.5 mm (1.67 in.)
1	44°	56.6 mm (2.22 in.)
2	39	75.0 mm (2.95 in.)
3	35°	89.3 mm (3.51 in.)

OURX935,0000530 -19-03JAN08-1/1

Independent Link Suspension Steering Stop Settings



RXA0053863 —UN—17OCT01



RXA0064851 —UN—17JAN03

A—Retaining Cap Screw
B—Wrench

C—Bleed Screw
D—Rod Guide

E—Steering Stop Position Marks
F—Outer Flange

CAUTION: For tractors equipped with front hitch, avoid possible personal injury and equipment damage. DO NOT use the front hitch to lift the tractor. Use correct lifting equipment.

1. Determine correct steering stop position for tire size and tread setting.
2. Remove cap screw (A) and wrench (B) on axle housing.
3. Loosen bleed screw (C) and jam nut.

NOTE: To check a steering stop position of zero, insert wrench as shown in right-hand illustration, the wrench will be flush with outer flange (F).

4. Check current rod guide (D) position using position marks (E) on wrench.
5. Turn rod guide (D) using wrench (B) to adjust distance to correct steering position.
6. Adjust guide minimally to reinstall wrench and retaining cap screw (A).

Specification	
Retaining Cap Screw—Torque	125 N·m (90 lb-ft)

7. Tighten bleed screw (C) and jam nut.

Bleed Screw and Jam Nut—Specification	
Screw—Torque	40 N·m (30 lb-ft)
Jam Nut—Torque.....	15 N·m (12 lb-ft)

8. Repeat procedure on opposite side of axle housing.

IMPORTANT: Settings allow 25 mm (1 in.) minimum clearance at maximum turn and full oscillation. Fenders may deflect against side frame during turn. Clearance and interference must be checked under full oscillation and full turn.

9. Verify clearance by turning fully left then fully right.

OURX935,000067E -19-23NOV07-1/1

Eight Position Wheel Settings

CAUTION: Avoid the possibility of personal injury. Failure to follow torquing sequence and procedure will result in damage to equipment and may result in personal injury. Wheel bolts are critical and require repeated torquing.

NOTE: A through H are used for all tires 480 mm (18.4 in.) or less.

NOTE: Tread settings are measured at bottom center line of tire.

Use diagram at the right to adjust rim and disk for desired tread setting.

Using a star shaped pattern, torque disk to rim bolts as needed to maintain torque.

Specification

Disk To Rim Bolts—Torque..... 310 N·m
(230 lb-ft)

Using a star shaped pattern, torque disk to hub nuts as needed to maintain torque.

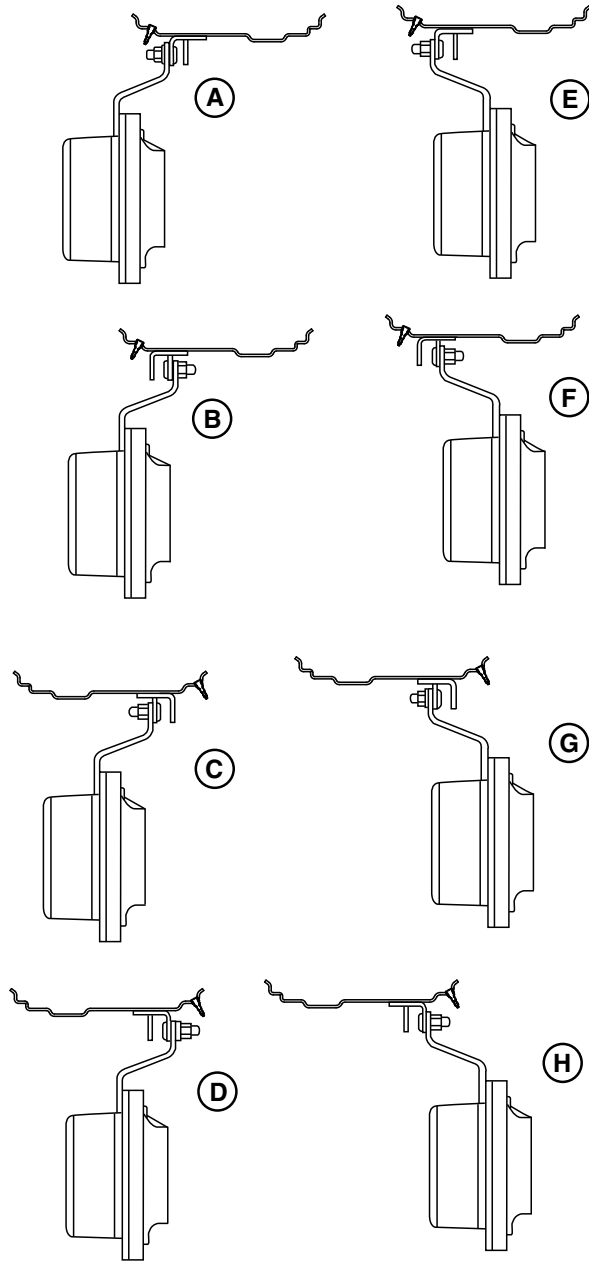
Specification

Disk To Hub Nuts —Torque 600 N·m
(450 lb-ft)

Retighten bolts after working 3 hours and again after 10 hours.

Tighten bolts daily for the first week of operation.

Adjust fenders and steering stops as required using the tables and diagrams on the following pages.



Rim Settings

RXA0062856—UN—01OCT02

Continued on next page

OURX935.0000680 -19-03JAN08-1/2

CAUTION: Avoid the possibility of personal injury. Failure to follow torquing sequence and procedure will result in damage to equipment and may result in personal injury. Wheel bolts are critical and require repeated torquing.

NOTE: I through P are used for 540, 600 and 620 mm tires.

NOTE: Tread settings are measured at bottom center line of tire.

Use diagram at the right to adjust rim and disk for desired tread setting.

Using a star shaped pattern, torque disk to rim bolts as needed to maintain torque.

Specification

Disk To Rim Bolts—Torque 310 N·m
(230 lb-ft)

Using a star shaped pattern, torque disk to hub nuts as needed to maintain torque.

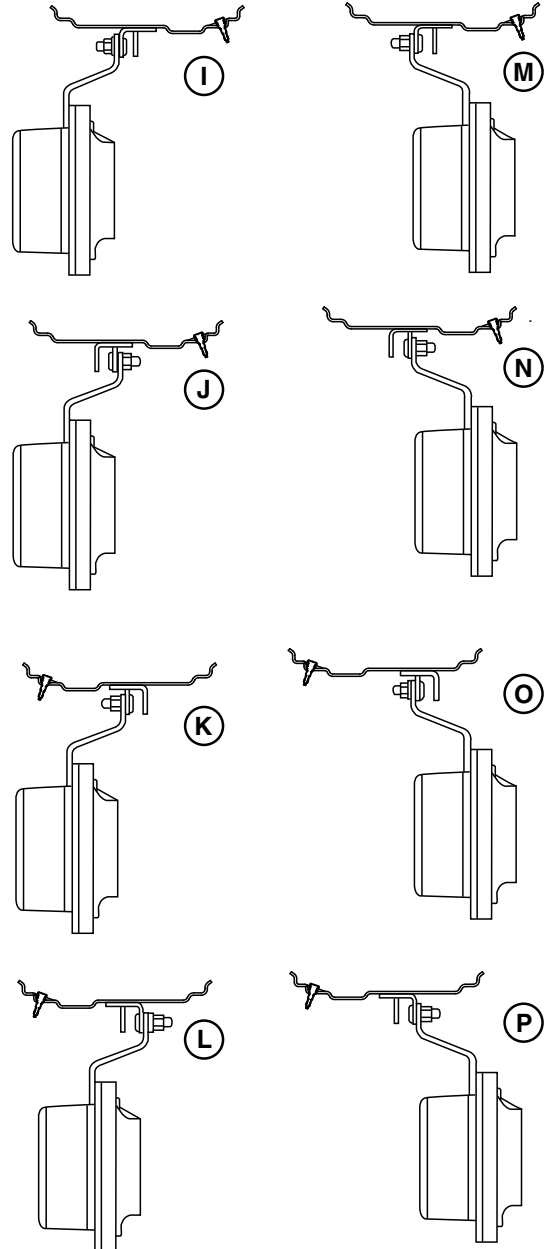
Specification

Disk To Hub Nuts —Torque 600 N·m
(450 lb-ft)

Retighten bolts after working 3 hours and again after 10 hours.

Tighten bolts daily for the first week of operation.

Adjust fenders and steering stops as required using the tables and diagrams on the following pages.

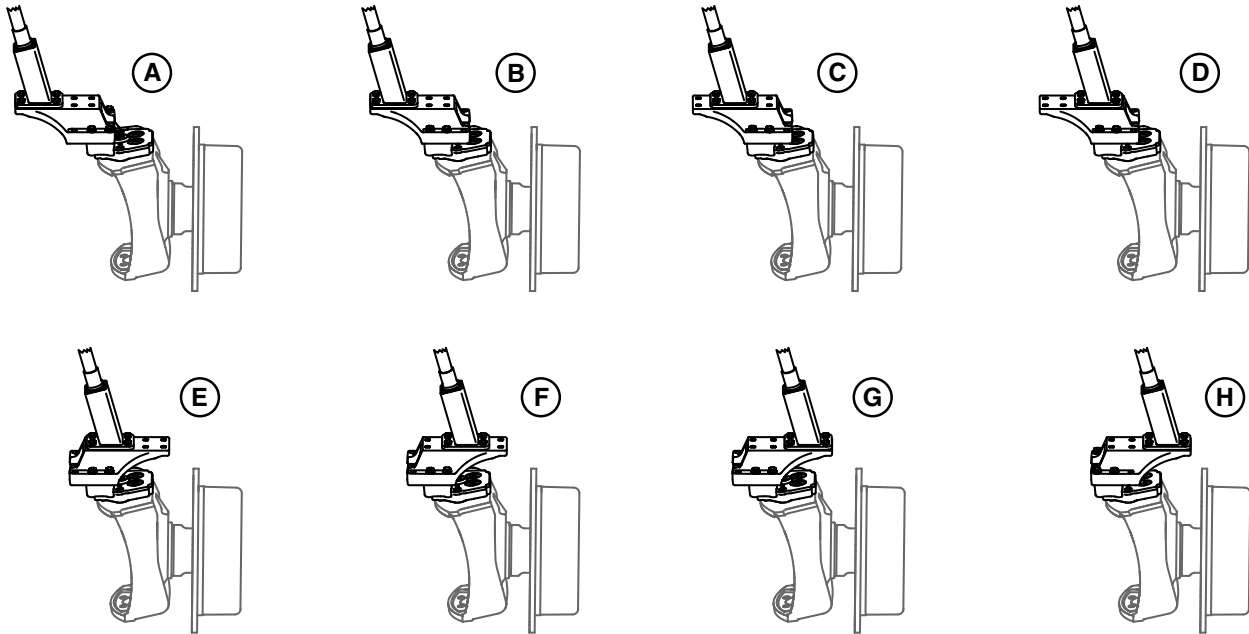


Wide Rim Settings

OURX935.0000680 -19-03JAN08-2/2

RXA0062368 —UN—01OCT02

1300 MFWD Axle Fender Settings

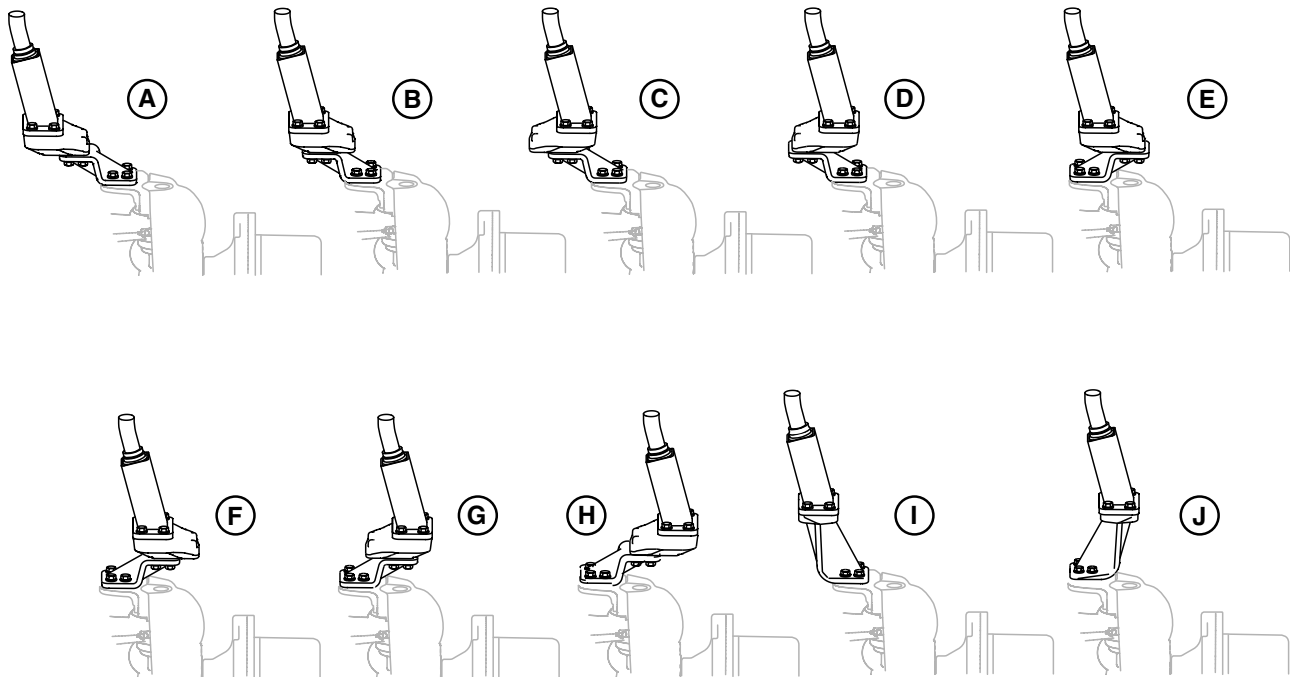


Fender Settings for MFWD

RXA0087302 —UN—09MAR06

OURX935,000037A -19-04AUG08-1/1

1500 MFWD and Independent Link Suspension Fender Settings

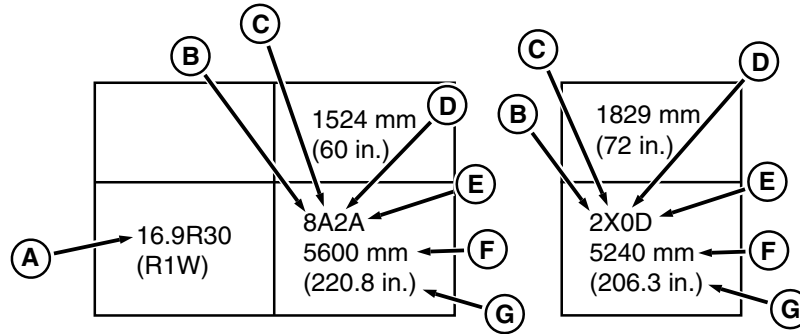


Fender Setting for 1500 MFWD and Independent Link Suspension

RXA0062365 —UN—04SEP02

OURX935,0000451 -19-05AUG08-1/1

**MFWD and Independent Link Suspension
Front Tire, Fender and Steering Stop
Settings Example**



Explanation of Tire Option Tables

- A—Tire Size
- B—Two or Eight Position Rims
- C—Tread Setting
- D—Steering Stop Setting
- E—Fender Setting
- F—Turning Radius in Millimeters
- G—Turning Radius in Inches

NOTE: This is an explanation of the tables in the next several pages.

The first row across the top of the page list tread spacing in millimeters and inches.

Column one lists the tire size (A).

The first number (B) in column two identifies either two or eight position rim is used. The first letter (C) indicates which example to follow from the Eight Position

Wheel Settings. There are only two possibilities for the two position rim, either in or out. In this table "X" will represent the in setting and "Z" will represent the out setting. The next number (D) is the correct steering stop position. The last letter (E) is the fender setting, which is taken from either Fender Settings for MFWD or Fender Settings for Independent Link Suspension. Entries (F) and (G) indicates turning radius in millimeters and inches respectively. If the last character is a "w", wide fenders are used for this application.

OURX935,00004AA -19-25AUG08-1/1

RXA0083932—UN—08SEP05

1300 MFWD Front Tire, Fender and Steering Stop Settings

1300 MFWD Axle Front Tire, Fender and Steering Stop Settings							
Size	1577 mm (62 in.)	1679 mm (66 in.) ^a	1780 mm (70 in.)	1829 mm (72 in.)	1877 mm (73.9 in.)	1882 mm (74.1 in.)	1956 mm (77 in.)
16.9R30 R1W	8A2B 6750 mm (265.7 in.)	8B1C 6320 mm (248.8 in.)	8C0D 6080 mm (239.4 in.)	2IN0D 5270 mm (207.5 in.)	8E0E 5950 mm (234.3 in.)	8D0E 5860 mm (230.7 in.)	2Z0F 5310 mm (209.1 in.)
420/85R34	8A3A 6100 mm (240.2 in.)	8B2C 5990 mm (235.8 in.)	8C2C 6040 mm (237.8 in.)	N/A	8E1E 5720 mm (225.2 in.)	8D1E 5720 mm (225.2 in.)	N/A
480/70R30	8A2B 6750 mm (265.7 in.)	8B1C 6320 mm (248.8 in.)	8C0D 6080 mm (239.4 in.)	2X0D 5270 mm (207.5 in.)	8E0E 5950 mm (234.3 in.)	8D0E 5860 mm (230.7 in.)	2Z0F 5310 mm (209.1 in.)
480/70R34	8A3A 6100 mm (240.2 in.)	8B2C 5990 mm (235.8 in.)	8C1D 5670 mm (223.2 in.)	2X1D 5840 mm (229.9 in.)	8E0E 5350 mm (210.6 in.)	8D0E 5350 mm (210.6 in.)	2Z0F 5380 mm (211.8 in.)
540/65R30	N/A	8B1Bw 6450 mm (253.9 in.)	8C0Bw 6070 mm (239 in.)	2X0Cw 5270 mm (207.5 in.)	8E0Cw 5350 mm (210.6 in.)	8D0Cw 5350 mm (210.6 in.)	2Z0Dw 5310 mm (209.1 in.)
540/65R34	N/A	8B3Bw 6450 mm (253.9 in.)	8C1Bw 6040 mm (237.8 in.)	2X1Cw 5720 mm (225.2 in.)	8E0Cw 5720 mm (225.2 in.)	8D0Cw 5720 mm (225.2 in.)	2Z0Dw 5740 mm (226 in.)
600/65R28	N/A	N/A	8K1Bw 6070 mm (239 in.)	2X0Cw 5720 mm (225.2 in.)	N/A	8L0Cw 5720 mm (225.2 in.)	2Z0Dw 5740 mm (226 in.)
600/70R30	N/A	N/A	8K2Bw 6500 mm (255.9 in.)	2X2Cw 6100 mm (240.2 in.)	N/A	8L1Cw 6090 mm (239.8 in.)	2Z1Dw 5740 mm (226 in.)

^aTo achieve a 1676 mm (66 in.) row spacing setting, use 1625 mm (64 in.) row spacing and order one 25.4 mm (1 in.) spacer set per side through your John Deere dealer.

1300 MFWD Axle Front Tire, Fender and Steering Stop Settings							
Size	1979 mm (78 in.)	2080 mm (82 in.)	2182 mm (86 in.)				
16.9R30 R1W	8F0F 6000 mm (236.2 in.)	8G0G 6050 mm (238.2 in.)	8H0H 6110 mm (240.6 in.)				
420/85R34	8F1F 5770 mm (227.2 in.)	8G0G 5460 mm (215 in.)	8H0H 5510 mm (216.9 in.)				
480/70R30	8F0F 6000 mm (236.2 in.)	8G0G 6050 mm (238.2 in.)	8H0H 6110 mm (240.6 in.)				
480/70R34	8F0F 5410 mm (213 in.)	8G0G 5460 mm (215 in.)	8H0H 5510 mm (216.9 in.)				
540/65R30	8F0Dw 5410 mm (213 in.)	8G0Ew 5460 mm (215 in.)	8H0Fw 5510 mm (216.9 in.)				
540/65R34	8F0Dw 5410 mm (213 in.)	8G0Ew 5460 mm (215 in.)	8H0Fw 5510 mm (216.9 in.)				
600/65R28	8N0Dw 5410 mm (213 in.)	8O0Ew 5460 mm (215 in.)	8P0Fw 5510 mm (216.9 in.)				
600/70R30	8N1Dw 5770 mm (227.2 in.)	8O0Ew 5820 mm (229.1 in.)	8P0Fw 5870 mm (231.1 in.)				
To achieve a 1676 mm (66 in.) row spacing setting, use 1625 mm (64 in.) row spacing and order one 25.4 mm (1 in.) spacer set per side through your John Deere dealer.							

OURX935.00004AB -19-25AUG08-1/1

1500 MFWD Front Tire, Fender and Steering Stop Settings

1500 MFWD Axle Front Tire, Fender and Steering Stop Settings							
Size	1575 mm (62 in.)	1676 mm (66 in.) ^a	1780 mm (70 in.)	1829 mm (72 in.)	1877 mm (73.9 in.)	1882 mm (74.1 in.)	1956 mm (77 in.)
420/85R34	N/A	8B3C 5990 mm (235.8 in.)	8C2D 5670 mm (223.2 in.)	N/A	8E1E 5720 mm (225.2 in.)	8D1E 5720 mm (225.2 in.)	N/A
480/70R34	N/A	8B3C 6450 mm (253.9 in.)	8C2D 5670 mm (223.2 in.)	2X1D 5670 mm (223.2 in.)	8E1E 5350 mm (210.6 in.)	8D1E 5350 mm (210.6 in.)	2Z0F* 5400 mm (212.6 in.)
540/65R34	N/A	8B3Bw 6450 mm (253.9 in.)	8C2Bw 6040 mm (237.8 in.)	2X2Cw 6060 mm (238.6 in.)	8E1Cw 5720 mm (225.2 in.)	8D1Cw 5720 mm (225.2 in.)	2Z0Dw* 5400 mm (212.6 in.)
540/75R34	N/A	N/A	N/A	N/A	N/A	N/A	N/A
600/70R30	N/A	N/A	N/A	2X3Cw 6520 mm (256.7 in.)	N/A	8M3Cw 6090 mm (239.8 in.)	2Z2Dw* 6120 mm (240.9 in.)
620/75R30	N/A	N/A	N/A	N/A	N/A	N/A	N/A

^aTo achieve a 1676 mm (66 In.) row spacing setting, use 1625 mm (64 in.) row spacing and order one 25.4 mm (1 in.) spacer set per side through your John Deere dealer.

1500 MFWD Axle Front Tire, Fender and Steering Stop Settings							
Size	1979 mm (78 in.)	2080 mm (82 in.)	2182 mm (86 in.)				
420/85R34	8F1F* 5770 mm (227.2 in.)	8G1G * 5460 mm (215 in.)	8H1H * 5510 mm (216.9 in.)				
480/70R34	8F0F* 5410 mm (213 in.)	8G0G* 5460 mm (215 in.)	8H0H * 5510 mm (216.9 in.)				
540/65R34	8F0Dw* 5410 mm (213 in.)	8G0Ew* 5460 mm (215 in.)	8H0Fw * 5510 mm (216.9 in.)				
540/75R34	N/A	8G3Ew* 6670 mm (262.6 in.)	8H2Fw * 6260 mm (246.5 in.)				
600/70R30	8N1Dw* 5770 mm (227.2 in.)	8O1Ew* 5820 mm (229.1 in.)	8P1Fw * 5870 mm (231.1 in.)				
620/75R30	N/A	N/A	8P3Fw * 6700 mm (263.8 in.)				

To achieve a 1676 mm (66 In.) row spacing setting, use 1625 mm (64 in.) row spacing and order one 25.4 mm (1 in.) spacer set per side through your John Deere dealer.

* Tool Box must be removed from factory installed location.

Independent Link Suspension Front Tire, Fender and Steering Stop Settings

Independent Link Suspension Front Tire, Fender and Steering Stop Settings							
Size	1575 mm (62 in.)	1676 mm (66 in.) ^a	1780 mm (70 in.)	1829 mm (72 in.)	1877 mm (73.9 in.)	1882 mm (74.1 in.)	1956 mm (77 in.)
16.9R30 R1W	8A3B 6310 mm (248.4 in.)	8B1C 5700 mm (224.4 in.)	8C0D 5400 mm (212.6 in.)	N/A	8E0E 5400 mm (212.6 in.)	8D0E 5400 mm (212.6 in.)	N/A
420/85R34	8A3B 6310 mm (248.4 in.)	8B2C 5990 mm (235.8 in.)	8C1D 5670 mm (223.2 in.)	N/A	8E1E 5720 mm (225.2 in.)	8D1E 5720 mm (225.2 in.)	N/A
480/70R30	8A3B 6310 mm (248.4 in.)	8B2C 6000 mm (236.2 in.)	8C1D 5670 mm (223.2 in.)	N/A	8E0E 5400 mm (212.6 in.)	8D0E 5400 mm (212.6 in.)	N/A
480/70R34	N/A	8B3C 6450 mm (253.9 in.)	8C1D 5670 mm (223.2 in.)	2X1D 5670 mm (223.2 in.)	8E1E 5350 mm (210.6 in.)	8D1E 5350 mm (210.6 in.)	2Z0F 5400 mm (212.6 in.)
540/65R30	N/A	8B2Bw 6000 mm (236.2 in.)	8C1Bw 5670 mm (223.2 in.)	2X0Cw 5270 mm (207.5 in.)	8E0Cw 5400 mm (212.6 in.)	8D0Cw 5400 mm (212.6 in.)	2Z0Dw 5400 mm (212.6 in.)
540/65R34	N/A	8B3Bw 6450 mm (253.9 in.)	8C2Bw 6040 mm (237.8 in.)	2X1Cw 6060 mm (238.6 in.)	8E0Cw 5720 mm (225.2 in.)	8D0Cw 5720 mm (225.2 in.)	8Z0Dw 5400 mm (212.6 in.)
540/75R34	N/A	N/A	N/A	N/A	N/A	N/A	N/A
600/65R28	N/A	N/A	8K2Bw 6040 mm (237.8 in.)	N/A	N/A	8L1Cw 5720 mm (225.2 in.)	N/A
600/70R30	N/A	N/A	8K3Bw 6500 mm (255.9 in.)	2X2Cw 6520 mm (256.7 in.)	N/A	8L2Cw 6090 mm (239.8 in.)	2Z1Dw 6120 mm (240.9 in.)
620/75R30	N/A	N/A	N/A	N/A	N/A	N/A	N/A

^aTo achieve a 1676 mm (66 in.) row spacing setting, use 1625 mm (64 in.) row spacing and order one 25.4 mm (1 in.) spacer set per side through your John Deere dealer.

Independent Link Suspension Front Tire, Fender and Steering Stop Settings							
Size	1979 mm (78 in.)	2080 mm (82 in.)	2182 mm (86 in.)				
16.9R30 R1W	8F0F 5400 mm (212.6 in.)	8G0G 5400 mm (212.6 in.)	8H0H 5400 mm (212.6 in.)				
420/85R34	8F1F 5770 mm (227.2 in.)	8G1G * 5460 mm (215 in.)	8H1H * 5510 mm (216.9 in.)				
480/70R30	8F0F 5400 mm (212.6 in.)	8G0G 5400 mm (212.6 in.)	8H0H 5400 mm (212.6 in.)				
480/70R34	8F0F 5410 mm (213 in.)	8G0G 5460 mm (215 in.)	8H0H * 5510 mm (216.9 in.)				
540/65R30	8F0Dw 5400 mm (212.6 in.)	8G0Ew 5400 mm (212.6 in.)	8H0Fw 5400 mm (212.6 in.)				
540/65R34	8F0Dw 5410 mm (213 in.)	8G0Ew 5460 mm (215 in.)	8H0Fw * 5510 mm (216.9 in.)				
540/75R34	8F3Dw 6670 mm (262.6 in.)	8G3Ew* 6670 mm (262.6 in.)	8H2Fw * 6260 mm (246.5 in.)				
600/65R28	8N0Dw 5770 mm (227.2 in.)	8O0Ew 5460 mm (215 in.)	8P0Fw * 5510 mm (216.9 in.)				
600/70R30	8N1Dw 5770 mm (227.2 in.)	8O1Ew 5820 mm (229.1 in.)	8P1Fw * 5870 mm (231.1 in.)				

Continued on next page

OURX935,00004A8 -19-25AUG08-1/2

Front Wheels, Tires, and Treads

Independent Link Suspension Front Tire, Fender and Steering Stop Settings

Size	1979 mm (78 in.)	2080 mm (82 in.)	2182 mm (86 in.)			
16.9R30 R1W	8F0F 5400 mm (212.6 in.)	8G0G 5400 mm (212.6 in.)	8H0H 5400 mm (212.6 in.)			
620/75R30	N/A	8O3Ew 6670 mm (262.6 in.)	8P2Fw * 6700 mm (263.8 in.)			

To achieve a 1676 mm (66 In.) row spacing setting, use 1625 mm (64 in.) row spacing and order one 25.4 mm (1 in.) spacer set per side through your John Deere dealer.
* Tool Box must be removed from factory installed location.

OURX935,00004A8 -19-25AUG08-2/2

Independent Link Suspension Bolt On Dual Front Tire, Fender and Steering Stop Settings

Maximum single wheel tread spacing is 2235 mm (88 in.).

Maximum dual outer setting is 3352 mm (132 in.).

Maximum static front axle weight, without liquid ballast or duals, is 10800 kg (23800 lbs).

NOTE: Listed below are instructions for using the Independent Link Suspension Dual Front Tire, Fender and Steering Stop Settings Table.

The first row under heading gives the row spacing in millimeters and inches.

Column one lists the tire size.

The first number in column identifies either an eight or sixteen position rim is used. The first letter indicates which example to follow, either Eight or Sixteen Position Wheel Settings. The next number is the correct steering stop position. The last letter is the fender setting, which is taken from Fender Settings for Independent Link Suspension.

Tire Size	Row Spacing					
	508 mm (20 in.)		558.8 mm (22 in.)		762 mm (30 in.)	
	Inner Tire 2032 mm (80 in.)	Dual Tire 3048 mm (120 in.)	Inner Tire 2235.2 mm (88 in.)	Dual Tire 3352.8 mm (132 in.)	Inner Tire 1524 mm (60 in.) ^a	Dual Tire 3048 mm (120 in.)
420/85R34	N/A	N/A	N/A	N/A	N/A	N/A
480/70R34	N/A	N/A	N/A	N/A	N/A	N/A

^aTo achieve a 1676 mm (66 In.) row spacing setting, use 1625mm (64 in.) row spacing and order one 25.4 mm (1") spacer set per side through your John Deere dealer.

* Tool box must be removed to avoid hitting tires.

Tire Size	Row Spacing					
	812 mm (32 in.)		914.4 mm (36 in.) Front duals for flotation. Not for row cultivation.		1016 mm (40 in.) Front duals for flotation. Not for row cultivation.	
	Inner Tire 2032 mm (64 in.)	Dual Tire 3251.2 mm (128 in.)	Inner Tire 1828.8 mm (72 in.)	Dual Tire 3352.8 mm (132 in.) Tire not in row.	Inner Tire 2032 mm (80 in.)	Dual Tire 3352.8 mm (132 in.) Tire not in row.
420/85R34	8B3B	8G3B	8D2D	8H2D	8F0F	8H0F *
480/70R34	8B3A	8G3A	8D3C	8H3C	8F3F	8H3F

* Tool box must be removed to avoid hitting tires.

OURX935,000023F -19-15APR08-1/1

1500 MFWD Bolt On Dual Front Tire, Fender and Steering Stop Settings

Maximum single wheel tread spacing is 2235 mm (88 in.).

Maximum dual outer setting is 3657 mm (144 in.).

Maximum static front axle weight, without liquid ballast or duals, is 10800 kg (23800 lbs).

Some wheel settings may exceed 2794 mm (110 in.) mean tread spacing. These settings are allowed, but at reduced axle loads as shown in the following table.

NOTE: To determine the mean tread spacing, add tread spacing for inner tire (center to center) and tread spacing for outer tire (center to center). Divide by two.

NOTE: Listed below are instructions for using the 1500 MFWD Dual Front Tire, Fender and Steering Stop Settings Table.

The first row under heading gives the row spacing in millimeters and inches.

Column one lists the tire size.

The first number in column identifies either an eight or sixteen position rim is used. The first letter indicates which example to follow, either Eight or Sixteen Position Wheel Settings. The next number is the correct steering stop position. The last letter is the fender setting, which is taken from 1500 MFWD and Independent Link Suspension Fender Settings block in this OM.

Axle Load Table	
Mean Tread Spacing	Allowable Static Axle Weight
2794 mm (110 in.)	10800 kg (23800 lbs)
2845 mm (112 in.)	10390 kg (22900 lbs)
2895 mm (114 in.)	10020 kg (22090 lbs)
2946 mm (116 in.)	9670 kg (21320 lbs)

Tire Size	Row Spacing					
	508 mm (20 in.)		558.8 mm (22 in.)		762 mm (30 in.)	
	Inner Tire 2032 mm (80 in.)	Dual Tire 3048 mm (120 in.)	Inner Tire 2235.2 mm (88 in.)	Dual Tire 3352.8 mm (132 in.)	Inner Tire 1524 mm (60 in.) ^a	Dual Tire 3048 mm (120 in.)
Mean Tread	2540 mm (100 in.)		2794 mm (110 in.)		2286 mm (90 in.)	
420/85R34	8F0F	8B0F *	8H1H *	8E1H *	N/A	NA *
480/70R34	8F0F	8B0F *	8H1H *	8E1H *	N/A	NA *

^aTo achieve a 1676 mm (66 in.) row spacing setting, use 1625mm (64 in.) row spacing and order one 25.4 mm (1") spacer set per side through your John Deere dealer.

* Tool box must be removed to avoid hitting tires.

Tire Size	Row Spacing					
	812 mm (32 in.)		914.4 mm (36 in.)		1016 mm (40 in.) Front duals for flotation not for row cultivation.	
	Inner Tire 2032 mm (64 in.)	Dual Tire 3251.2 mm (128 in.)	Inner Tire 1828.8 mm (72 in.)	Dual Tire 3657 mm (144 in.)	Inner Tire 2032 mm (80 in.)	Dual Tire 3657 mm (144 in.) Tire not in row.
Mean Tread	2439 mm (96 in.)		2743 mm (108 in.)		2845 mm (112 in.)	
420/85R34	8B3B	8D3B *	8D3D	8H3D *	8F3F *	8H3F *
480/70R34	8B3B	8D3B *	8D3D	8H3D *	8F3F *	8H3F *

* Tool box must be removed to avoid hitting tires.

OURX935,0000240 -19-16APR08-1/1

Independent Link Suspension or 1500 MFWD Clamp On Dual Front Tire, Fender and Steering Stop Settings

Tractors equipped with Independent Link Suspension (ILS) or 1500 MFWD axle are approved for limited use of clamp on front dual wheels. Clamp on duals are limited to two tire sizes, 540/65R34 and 600/70R30. Tread spacings available are in the table below. When using clamp on duals, all tread positions must use steering stop position 3. Tool Box must be moved from factory installed location to alternate right-hand location. See your John Deere dealer for details.

IMPORTANT: Any variance from tread settings listed below may damage fuel tank and/or steps.

NOTE: To determine the mean setting, add tread spacing for inner tire (center to center) and tread spacing for outer tire (center to center). Divide by two.

The mean tread setting cannot exceed 2794 mm (110 in.).

Maximum ILS or 1500 MFWD static front axle weight, without liquid ballast or duals, is 10795 kg (23800 lb).

NOTE: Listed below are instruction to use the Inner Wheel Tread Spacing Table.

IMPORTANT: Do not drive tractors equipped with duals faster than 40 km/h (25 mph).

The first row under the heading identifies tread spacing in millimeters and inches.

Column one provides tire size.

The first number in column identifies an eight position rim is used. The first letter indicates which example to follow from the Eight Position Wheel Settings. The next number is the correct steering stop position. The last capital letter is the fender setting, taken from 1500 MFWD and Independent Link Suspension Fender Settings block in this OM. If there is a "w" in the fifth position, it indicates the setting is for wide fenders.

Tire Size	Inner Wheel Tread Spacing			
	1780 mm (70 in.)	1882 mm (74 in.)	1979 mm (78 in.)	2080 mm (82 in.)
	Independent Link Suspension Axle			
540/65R34	8C3B	8D3C	8F3D	8G3E
600/70R30	N/A	8L3C	8N3D	8O3E
	1500 MFWD Axle			
540/65R34	8C3Bw	8D3Cw	8F3Dw	8G3Ew
600/70R30	N/A	8M3Cw	8N3Dw	8O3Ew

OURX935,000023E -19-21APR08-1/1

Clamp-On Dual Usage

IMPORTANT: Clamp-on duals should not be used for heavy traction work. They are allowed only for use when the following conditions are met including recommended tire sizes and manufacturers.

IMPORTANT: Do not drive tractors equipped with duals faster than 40 km/h (25 mph).

- Clamp-on dual wheels are used only in low draft or PTO applications.
- Maximum vehicle weight is limited to 16000 kg (35274 lb).
- Rear drive wheel is heavy duty cast center type.
- Current wheel sleeve cap screws and washers are replaced with cap screws and washers contained in kit AR219840 for cast drive wheel.

- Steel wheel-to-cast hub cap screws and washers are replaced with cap screws and washers contained in kit AR217153.
- Use rear wheel bolt tightening procedure (See Tightening Rear Wheel Bolts in this section).
- Inner single wheel tread setting does not exceed 1900 mm (75 in.).
- Outer dual wheel tread setting does not exceed 3400 mm (134 in.).
- Average tread width of dual combination does not exceed 2650 mm (104 in.).
- Outer tire must be of equal or smaller section width tire.
- Drive wheels and clamp-on dual tires should be inflated to the same pressure.

OURX935,00002A1 -19-23NOV07-1/1

Rear Wheels, Tires, and Treads

Service Tires Safely

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

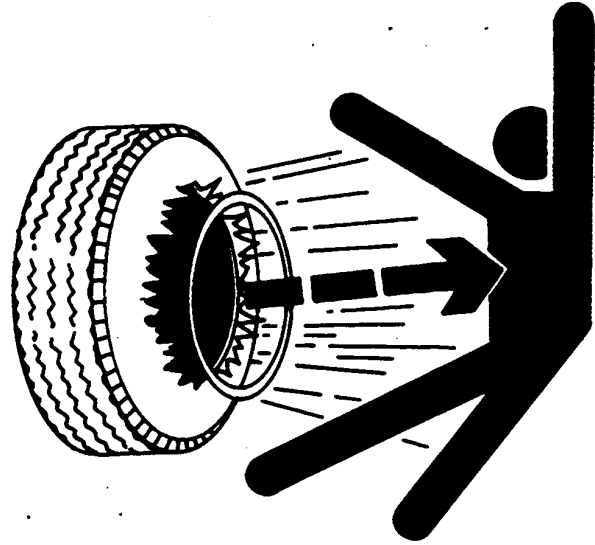
Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job.

Always maintain the correct tire pressure. Do not inflate the tires above the recommended pressure.

Never weld or heat a wheel and tire assembly. The heat can cause an increase in air pressure resulting in a tire explosion. Welding can structurally weaken or deform the wheel.

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

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



TS211 - JUN-23AUG88

DX,RIM1 -19-27OCT08-1/1

Tire Combination Tables

Rear Tire Group Sizes

	Minimum Recommended Row Width								
	508 mm (20 in.)	558.8 mm (22 in.)	660.4 mm (26 in.)	762 mm (30 in.)	812.8 mm (32 in.)	1016+ mm (40+ in.)			
Tire Section Width									
Group Size	320 mm (12.4 in.)	380 mm (14.9 in.)	420 mm (16.9 in.)	480 mm (18.4 in.)	520 mm (20.8 in.)	620 mm (24.5 in.)	710 mm (28 in.)	800 mm (30.5 in.)	900 mm (35.4 in.)
48					520/85R46	620/70R46 650/85R38	710/70R42	800/70R38	
47						650/65R42 650/75R38 620/70R42	710/70R38		

Front Tire Group Sizes

	Minimum Recommended Row Width						
	508 mm (20 in.)	558.8 mm (22 in.)	660.4 mm (26 in.)	762 mm (30 in.)	812.8 mm (32 in.)	1016+ mm (40+ in.)	
Tire Section Width							
Group Size	290 mm (11.2 in.)	320 mm (12.4 in.)	380 mm (14.9 in.)	420 mm (16.9 in.)	480 mm (18.4 in.)	520 mm (20.8 in.)	620 mm (23.1 in.)
44						540/75R34	620/75R30
43				420/85R34	480/70R34	540/65R34	600/70R30
42				16.9R30	480/70R30	540/65R30	600/65R28

OURX935.000047C -19-15AUG08-1/1

Recommended Pressures—Group 47

Axle Load Kg(lb)	18.4R46	20.8R42	480/80R46	620/70R42	620/70R42
	Dual 155A8 kPa(bar)(psi)	Dual 155A8 kPa(bar)(psi)	Dual 158A8 kPa(bar)(psi)	Single 160A8 kPa(bar)(psi)	Dual 160A8 kPa(bar)(psi)
4540(10000)	40(0.4)(6)	40(0.4)(6)	40(0.4)(6)	55(0.55)(8)	40(0.4)(6)
4760(10500)	40(0.4)(6)	40(0.4)(6)	40(0.4)(6)	60(0.6)(9)	40(0.4)(6)
4990(11000)	40(0.4)(6)	40(0.4)(6)	40(0.4)(6)	70(0.7)(10)	40(0.4)(6)
5220(11500)	40(0.4)(6)	40(0.4)(6)	40(0.4)(6)	70(0.7)(10)	40(0.4)(6)
5440(12000)	50(0.5)(7)	40(0.4)(6)	40(0.4)(6)	75(0.75)(11)	40(0.4)(6)
5670(12500)	50(0.5)(7)	40(0.4)(6)	40(0.4)(6)	80(0.8)(12)	40(0.4)(6)
5900(13000)	55(0.55)(8)	40(0.4)(6)	50(0.5)(7)	90(0.9)(13)	40(0.4)(6)
6120(13500)	55(0.55)(8)	50(0.5)(7)	50(0.5)(7)	90(0.9)(13)	40(0.4)(6)
6350(14000)	60(0.6)(9)	50(0.5)(7)	55(0.55)(8)	100(1.0)(15)	40(0.4)(6)
6580(14500)	60(0.6)(9)	50(0.5)(7)	55(0.55)(8)	110(1.1)(16)	40(0.4)(6)
6800(15000)	70(0.7)(10)	55(0.55)(8)	60(0.6)(9)	110(1.1)(16)	40(0.4)(6)
7030(15500)	70(0.7)(10)	55(0.55)(8)	70(0.7)(10)	120(1.2)(17)	40(0.4)(6)
7260(16000)	75(0.75)(11)	60(0.6)(9)	70(0.7)(10)	120(1.2)(17)	40(0.4)(6)
7480(16500)	80(0.8)(12)	60(0.6)(9)	75(0.75)(11)	125(1.25)(18)	50(0.5)(7)
7720(17000)	80(0.8)(12)	70(0.7)(10)	75(0.75)(11)	130(1.3)(19)	50(0.5)(7)
7950(17500)	90(0.9)(13)	70(0.7)(10)	80(0.8)(12)	130(1.3)(19)	55(0.55)(8)
8170(18000)	90(0.9)(13)	75(0.75)(11)	90(0.9)(13)	140(1.4)(20)	55(0.55)(8)
8400(18500)	95(0.95)(14)	75(0.75)(11)	90(0.9)(13)	145(1.45)(21)	60(0.6)(9)
8630(19000)	105(1.05)(15)	80(0.8)(12)	95(0.95)(14)	150(1.5)(22)	70(0.7)(10)
8850(19500)	105(1.05)(15)	80(0.8)(12)	105(1.05)(15)	160(1.6)(23)	70(0.7)(10)
9080(20000)	110(1.1)(16)	90(0.9)(13)	105(1.05)(15)	—	70(0.7)(10)
9530(21000)	120(1.2)(17)	95(0.95)(14)	110(1.1)(16)	—	75(0.75)(11)
9990(22000)	130(1.3)(19)	105(1.05)(15)	120(1.2)(17)	—	80(0.8)(12)
10440(23000)	140(1.4)(20)	110(1.1)(16)	125(1.25)(18)	—	90(0.9)(13)
10900(24000)	150(1.5)(22)	120(1.2)(17)	130(1.3)(19)	—	95(0.95)(14)
11350(25000)	160(1.6)(23)	125(1.25)(18)	140(1.4)(20)	—	105(1.05)(15)
11800(26000)	165(1.65)(24)	140(1.4)(20)	145(1.45)(21)	—	110(1.1)(16)
12260(27000)	180(1.8)(26)	145(1.45)(21)	145(1.45)(21)	—	120(1.2)(17)
12710(28000)	190(1.9)(28)	150(1.5)(22)	165(1.65)(24)	—	120(1.2)(17)
13170(29000)	200(2.0)(29)	160(1.6)(23)	180(1.8)(26)	—	125(1.25)(18)
13605(30000)	210(2.1)(30)	165(1.65)(24)	200(2.0)(29)	—	130(1.3)(19)
14060(31000)	—	—	215 (2.15)(31)	—	140(1.4)(20)
14510(32000)	—	—	220(2.2)(32)	—	140(1.4)(20)
14970(33000)	—	—	235(2.35)(35)	—	150(1.5)(22)
15420(34000)	—	—	—	—	160(1.6)(23)
15875(35000)	—	—	—	—	—
16330(36000)	—	—	—	—	—
16783(37000)	—	—	—	—	—
17236(38000)	—	—	—	—	—
17690(39000)	—	—	—	—	—
18143(40000)	—	—	—	—	—

OURX935,0000481 -19-15AUG08-1/1

Recommended Pressures—Group 47—Continued

Axle Load Kg(lb)	650/65R42	650/65R42	650/75R38	710/70R38	710/70R38
	Single 158A8	Single 170A8	Single 169A8 or 169B	Single 166A8	Dual 166A8
	kPa(bar)(psi)	kPa(bar)(psi)	kPa(bar)(psi)	kPa(bar)(psi)	kPa(bar)(psi)
4540(10000)	55(0.55)(8)	55(0.55)(8)	55(0.55)(8)	55(0.55)(8)	40(0.4)(6)
4760(10500)	60(0.6)(9)	60(0.6)(9)	55(0.55)(8)	55(0.55)(8)	40(0.4)(6)
4990(11000)	70(0.7)(10)	70(0.7)(10)	55(0.55)(8)	55(0.55)(8)	40(0.4)(6)
5220(11500)	70(0.7)(10)	70(0.7)(10)	60(0.6)(9)	55(0.55)(8)	40(0.4)(6)
5440(12000)	80(0.8)(12)	80(0.8)(12)	60(0.6)(9)	55(0.55)(8)	40(0.4)(6)
5670(12500)	90(0.9)(13)	90(0.9)(13)	70(0.7)(10)	60(0.6)(9)	40(0.4)(6)
5900(13000)	90(0.9)(13)	90(0.9)(13)	75(0.75)(11)	70(0.7)(10)	40(0.4)(6)
6120(13500)	95(0.95)(14)	95(0.95)(14)	80(0.8)(12)	70(0.7)(10)	40(0.4)(6)
6350(14000)	100(1.0)(15)	100(1.0)(15)	90(0.9)(13)	75(0.75)(11)	40(0.4)(6)
6580(14500)	110(1.1)(16)	110(1.1)(16)	90(0.9)(13)	80(0.8)(12)	40(0.4)(6)
6800(15000)	110(1.1)(16)	110(1.1)(16)	95(0.95)(14)	90(0.9)(13)	40(0.4)(6)
7030(15500)	120(1.2)(17)	120(1.2)(17)	105(1.05)(15)	90(0.9)(13)	40(0.4)(6)
7260(16000)	120(1.2)(17)	120(1.2)(17)	110(1.1)(16)	90(0.9)(13)	40(0.4)(6)
7480(16500)	125(1.25)(18)	125(1.25)(18)	110(1.1)(16)	95(0.95)(14)	40(0.4)(6)
7720(17000)	130(1.3)(19)	130(1.3)(19)	120(1.2)(17)	105(1.05)(15)	40(0.4)(6)
7950(17500)	140(1.4)(20)	140(1.4)(20)	120(1.2)(17)	110(1.1)(16)	40(0.4)(6)
8170(18000)	150(1.5)(22)	150(1.5)(22)	125(1.25)(18)	110(1.1)(16)	40(0.4)(6)
8400(18500)	160(1.6)(23)	160(1.6)(23)	130(1.3)(19)	120(1.2)(17)	40(0.4)(6)
8630(19000)	—	165(1.65)(24)	130(1.3)(19)	120(1.2)(17)	50(0.5)(7)
8850(19500)	—	180(1.8)(26)	140(1.4)(20)	125(1.25)(18)	50(0.5)(7)
9080(20000)	—	185(1.85)(27)	145(1.45)(21)	125(1.25)(18)	50(0.5)(7)
9530(21000)	—	200(2.)(29)	160(1.6)(23)	140(1.4)(20)	55(0.55)(8)
9990(22000)	—	225(2.25)(33)	172(1.7)(25)	145(1.45)(21)	60(0.6)(9)
10440(23000)	—	250(2.5)(36)	186(1.9)(27)	160(1.6)(23)	70(0.7)(10)
10900(24000)	—	270(2.7)(39)	199(2.0)(29)	—	70(0.7)(10)
11350(25000)	—	295(2.95)(43)	234(2.3)(34)	—	75(0.75)(11)
11800(26000)	—	310(3.1)(45)	—	—	80(0.8)(12)
12260(27000)	—	—	—	—	90(0.9)(13)
12710(28000)	—	—	—	—	90(0.9)(13)
13170(29000)	—	—	—	—	95(0.95)(14)
13605(30000)	—	—	—	—	105(1.05)(15)
14060(31000)	—	—	—	—	110(1.1)(16)
14510(32000)	—	—	—	—	110(1.1)(16)
14970(33000)	—	—	—	—	120(1.2)(17)
15420(34000)	—	—	—	—	120(1.2)(17)
15875(35000)	—	—	—	—	125(1.25)(18)
16330(36000)	—	—	—	—	130(1.3)(19)
16783(37000)	—	—	—	—	140(1.4)(20)
17236(38000)	—	—	—	—	145(1.45)(21)
17690(39000)	—	—	—	—	150(1.5)(22)
18143 (40000)	—	—	—	—	150(1.5)(22)

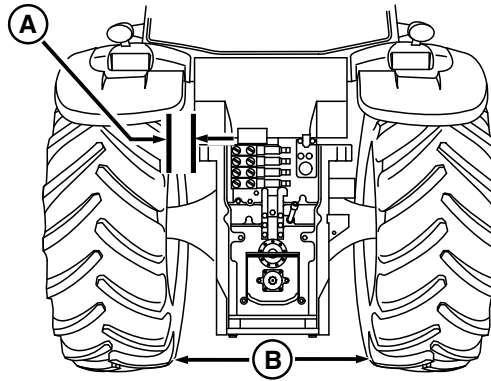
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Recommended Pressures—Group 48

	520/85R46	620/70R46	650/85R38	IF650/85R38	710/70R42	710/70R42	710/70R42	800/70R38
	Single	Single	Single	Single	Single	Single	Dual	Single
Axle Load	158A8	162A8	173A8	179A8 or 179B	168AB	173A8 or 173B	173A8 or 173B	173A8
Kg(lb)	kPa(bar)(psi)	kPa(bar)(psi)	kPa(bar)(psi)	kPa(bar)(psi)	kPa(bar)(psi)	kPa(bar)(psi)	kPa(bar)(psi)	kPa(bar)(psi)
4540(10000)	60(0.6)(9)	55(0.55)(8)	55(0.55)(8)	120(1.2)(17)	55(0.55)(8)	55(0.55)(8)	40(0.4)(6)	55(0.55)(8)
4760(10500)	70(0.7)(10)	55(0.55)(8)	55(0.55)(8)	120(1.2)(17)	55(0.55)(8)	55(0.55)(8)	40(0.4)(6)	55(0.55)(8)
4990(11000)	75(0.75)(11)	60(0.6)(9)	55(0.55)(8)	120(1.2)(17)	55(0.55)(8)	55(0.55)(8)	40(0.4)(6)	55(0.55)(8)
5220(11500)	80(0.8)(12)	70(0.7)(10)	55(0.55)(8)	120(1.2)(17)	55(0.55)(8)	55(0.55)(8)	40(0.4)(6)	55(0.55)(8)
5440(12000)	80(0.8)(12)	70(0.7)(10)	55(0.55)(8)	120(1.2)(17)	55(0.55)(8)	55(0.55)(8)	40(0.4)(6)	55(0.55)(8)
5670(12500)	90(0.9)(13)	75(0.75)(11)	55(0.55)(8)	120(1.2)(17)	55(0.55)(8)	55(0.55)(8)	40(0.4)(6)	55(0.55)(8)
5900(13000)	95(0.95)(14)	80(0.8)(12)	60(0.6)(9)	120(1.2)(17)	60(0.6)(9)	60(0.6)(9)	40(0.4)(6)	55(0.55)(8)
6120(13500)	105(1.05)(15)	90(0.9)(13)	70(0.7)(10)	120(1.2)(17)	70(0.7)(10)	70(0.7)(10)	40(0.4)(6)	55(0.55)(8)
6350(14000)	110(1.1)(16)	90(0.9)(13)	70(0.7)(10)	120(1.2)(17)	70(0.7)(10)	70(0.7)(10)	40(0.4)(6)	55(0.55)(8)
6580(14500)	120(1.2)(17)	95(0.95)(14)	75(0.75)(11)	120(1.2)(17)	70(0.7)(10)	75(0.75)(11)	40(0.4)(6)	55(0.55)(8)
6800(15000)	120(1.2)(17)	105(1.05)(15)	75(0.75)(11)	120(1.2)(17)	75(0.75)(11)	75(0.75)(11)	40(0.4)(6)	60(0.6)(9)
7030(15500)	125(1.25)(18)	110(1.1)(16)	80(0.8)(12)	120(1.2)(17)	80(0.8)(12)	80(0.8)(12)	40(0.4)(6)	70(0.7)(10)
7260(16000)	130(1.3)(19)	110(1.1)(16)	90(0.9)(13)	120(1.2)(17)	90(0.9)(13)	90(0.9)(13)	40(0.4)(6)	70(0.7)(10)
7480(16500)	140(1.4)(20)	120(1.2)(17)	95(0.95)(14)	120(1.2)(17)	90(0.9)(13)	90(0.9)(13)	40(0.4)(6)	70(0.7)(10)
7720(17000)	140(1.4)(20)	120(1.2)(17)	105(1.05)(15)	120(1.2)(17)	95(0.95)(14)	95(0.95)(14)	40(0.4)(6)	75(0.75)(11)
7950(17500)	145(1.45)(21)	125(1.25)(18)	105(1.05)(15)	120(1.2)(17)	105(1.05)(15)	105(1.05)(15)	40(0.4)(6)	80(0.8)(12)
8170(18000)	150(1.5)(22)	130(1.3)(19)	110(1.1)(16)	120(1.2)(17)	110(1.1)(16)	110(1.1)(16)	40(0.4)(6)	80(0.8)(12)
8400(18500)	160(1.6)(23)	140(1.4)(20)	110(1.1)(16)	120(1.2)(17)	110(1.1)(16)	110(1.1)(16)	40(0.4)(6)	90(0.9)(13)
8630(19000)	—	145(1.45)(21)	120(1.2)(17)	120(1.2)(17)	120(1.2)(17)	120(1.2)(17)	40(0.4)(6)	90(0.9)(13)
8850(19500)	—	150(1.5)(22)	120(1.2)(17)	120(1.2)(17)	120(1.2)(17)	120(1.2)(17)	50(0.5)(7)	95(0.95)(14)
9080(20000)	—	150(1.5)(22)	125(1.25)(18)	120(1.2)(17)	125(1.25)(18)	125(1.25)(18)	50(0.5)(7)	105(1.05)(15)
9530(21000)	—	160(1.6)(23)	130(1.3)(19)	120(1.2)(17)	130(1.3)(19)	130(1.3)(19)	50(0.5)(7)	110(1.1)(16)
9990(22000)	—	—	140(1.4)(20)	120(1.2)(17)	140(1.4)(20)	140(1.4)(20)	55(0.55)(8)	120(1.2)(17)
10440(23000)	—	—	150(1.5)(22)	120(1.2)(17)	150(1.5)(22)	150(1.5)(22)	60(0.6)(9)	120(1.2)(17)
10900(24000)	—	—	160(1.6)(23)	120(1.2)(17)	160(1.6)(23)	160(1.6)(23)	70(0.7)(10)	125(1.25)(18)
11350(25000)	—	—	170(1.70)(25)	125(1.25)(18)	—	170(1.70)(25)	70(0.7)(10)	140(1.4)(20)
11800(26000)	—	—	190(1.9)(28)	130(1.3)(19)	—	185(1.85)(27)	75(0.75)(11)	145(1.45)(21)
12260(27000)	—	—	215(2.15)(31)	140(1.4)(20)	—	200(2.)(29)	80(0.8)(12)	150(1.5)(22)
12710(28000)	—	—	225(2.25)(33)	150(1.5)(22)	—	225(2.25)(33)	90(0.9)(13)	160(1.6)(23)
13170(29000)	—	—	—	160(1.6)(23)	—	—	90(0.9)(13)	—
13605(30000)	—	—	—	170(1.70)(25)	—	—	95(0.95)(14)	—
14060(31000)	—	—	—	185(1.85)(27)	—	—	105(1.05)(15)	—
14510(32000)	—	—	—	200(2.)(29)	—	—	110(1.1)(16)	—
14970(33000)	—	—	—	220(2.2)(32)	—	—	120(1.2)(17)	—
15420(34000)	—	—	—	240 (2.4)(35)	—	—	120(1.2)(17)	—
15875(35000)	—	—	—	—	—	—	125(1.25)(18)	—
16330(36000)	—	—	—	—	—	—	125(1.25)(18)	—
16783(37000)	—	—	—	—	—	—	130(1.3)(19)	—
17236(38000)	—	—	—	—	—	—	140(1.4)(20)	—
17690(39000)	—	—	—	—	—	—	145(1.45)(21)	—
18143 (40000)	—	—	—	—	—	—	145(1.45)(21)	—

OURX935.0000483 -19-15AUG08-1/1

Rear Wheel, Tire and Tread Guidelines



A—Fenders

B—Centerline

To provide a wider range of tread settings, wheels may be switched side to side. This provides either dished in or dished out condition. Always maintain correct direction of tire rotation.

CAUTION: Prevent personal injury and tractor instability. Never operate with single tires having tread width less than 1520 mm (60 in.).

IMPORTANT: Tires must have at least 25 mm (1 in.) clearance with fenders (A). Distance between tires must be at least 1015 mm (40 in.) with tires equal distances from tractor centerline (B).

With sway blocks in upper position (sway allowed), minimum distance between tires must be 1090 mm (43 in.) to prevent interference.

Do not exceed 2800 mm (110 in.) between single tires for pulling heavy loads.

Check for adequate clearance between implement and rear tires.

Over inflating a radial tire reduces machine performance. Using the correct inflation pressures will result in optimum tractive performance.

OURX935,0000493 -19-15AUG08-1/1

RXA0056703 —UN—29AUG01

Rear Drive Wheel — Installing

CAUTION: Avoid the possibility of personal injury. Never operate tractor with loose wheel bolts.

NOTE: The wheel rim (A) has one **tight fit** hole smaller than the other holes. One **slot fit** hole is 180° from the tight fit hole, for improved wheel centering.

Install and hand tighten bolt in the **tight fit** hole (B).

Install and hand tighten bolt in the **slot fit** hole (C).

Install and hand tighten remaining bolts.

Tighten all bolts to torque.

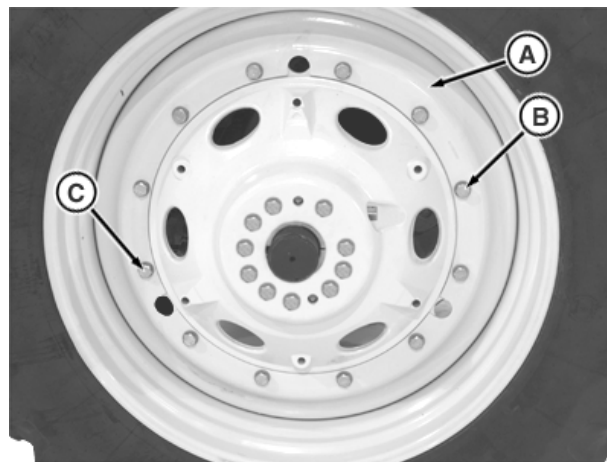
Specification

Sleeve Bolts—Final Torque 600 N·m
(445 lb·ft)

Tighten all bolts to torque again.

Drive tractor 100 meters (100 yd) and torque bolts.

Tighten again at **3 HOURS, 10 HOURS, and DAILY** for the first week of operation.



Heavy Duty Cast Wheel Shown

A—Wheel Rim
B—Tight Fit Hole

C—Slot Fit Hole

OURX935,0000494 -19-15AUG08-1/1

RXA0056691 —UN—11SEP01

Rear Drive Wheel — Adjusting and Tightening

CAUTION: Avoid personal injury. Never run the engine with transmission in gear and rear wheels off the ground. MFWD wheels could pull rear wheels off support. Disengage MFWD and put transmission in NEUTRAL to rotate axle. Never operate tractor with a loose rim, wheel, or hub.

IMPORTANT: Carefully follow procedure. Failure to do so could lead to wheel hub damage.

1. Raise the tractor on level ground with rack upward on the axle.
2. Loosen (without removing) sleeve bolts (1—10) just enough to move wheel.

IMPORTANT: Do not loosen or remove the two allen head screws. Doing so could result in wheel jamming or damage.

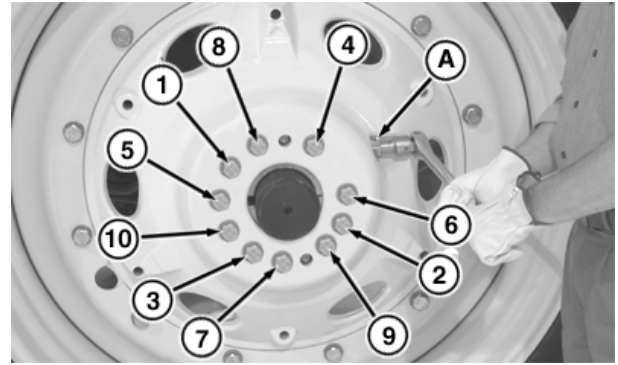
Failure to follow proper torquing sequence may result in damage to wheel sleeves.

3. Turn pinion gear (A) to move wheel to desired position.

NOTE: Dual hub does not have pinion gear.

CAUTION: Avoid the possibility of personal injury. Failure to follow torquing sequence and procedure will result in damage to equipment and may result in personal injury. Wheel bolts are critical and require repeated torquing.

4. Tighten sleeve bolts in numerical order (1—10) to initial torque and then in numerical order (1—10) tighten to intermediate torque.



Drive Wheel Shown

RXA0056944 —JUN—10OCT01

A—Pinion Gear

	Specification
Sleeve Bolts—Initial Torque.....	204 N·m (150 lb-ft)
Sleeve Bolts—Intermediate Torque.....	410 N·m (300 lb-ft)

IMPORTANT: Some sleeve bolts may loosen as sleeve is tightened. Repeat star shaped torquing pattern until ALL sleeve bolts maintain the proper torque. Failure to follow procedure could result in damage to equipment and may result in personal injury.

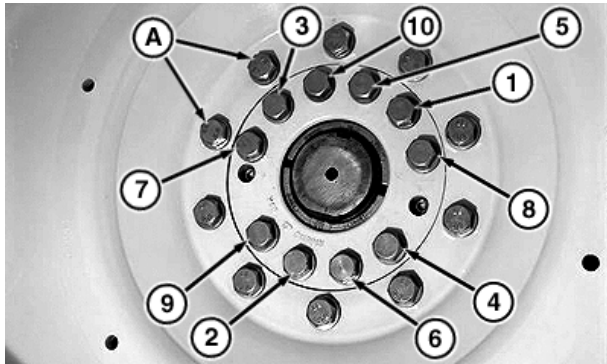
5. Drive tractor a minimum of 100 meters (110 yd) and using previously described method tighten to final torque.

	Specification
Sleeve Bolts—Final Torque	600 N·m (445 lb-ft)

6. Torque bolts after working **3 HOURS, 10 HOURS,** and **DAILY** during the first week of operation.

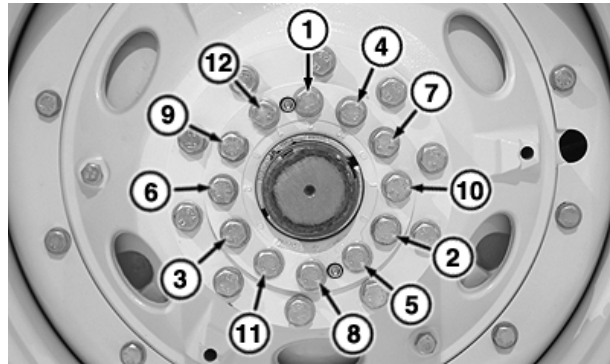
OURX935,0000495 -19-15AUG08-1/1

Adjusting and Tightening—Heavy-Duty Dual Wheels (10 or 12 Bolt Hubs)



Heavy-Duty Hub-10 Bolt (120 mm Axle)

RXA0091580—UN—20NOV06



Heavy-Duty Hub 12 Bolt (120 mm Axle)

RXA0097661—UN—03APR08

A—Cap Screws

CAUTION: Avoid personal injury. Never run the engine with transmission in gear when adjusting wheels. Wheels on the ground could pull supported wheels off jackstands.

Never operate tractor with a loose rim, wheel, or hub.

IMPORTANT: Tractors are equipped with 12 bolt heavy-duty wheels and 10 or 12 bolt hubs. Numbers indicating proper torquing sequence are cast into wheel hub.

Carefully follow procedure. Failure to do so could lead to wheel hub damage.

IMPORTANT: Clean any paint, grease, film, rust or debris from axle shafts prior to positioning and installing wheel hubs and sleeves. DO NOT apply any lubricant to cap screws or threads.

1. Raise the tractor on level ground and support tractor with jackstands.
2. Loosen (without removing) sleeve bolts (1—10) or (1—12) just enough to move wheel.

IMPORTANT: Do not loosen or remove the two allen head screws. Doing so could result in wheel jamming or damage.

NOTE: Adjusting tool is not compatible with heavy-duty wheel hub.

3. Move wheel to desired position.
4. While making sure wheel is perpendicular to axle, tighten bolts (1-10) or (1—12) in numerical order to torque initial specification.

Specification

Cap Screws (A)—Initial Torque	405 N·m
	300 lb·ft

5. Tighten bolts (1—10) or (1—12) in numerical order to final torque specification.

Specification

Cap Screws (A)—Final Torque	610 N·m
	450 lb·ft

IMPORTANT: Repeat torquing pattern until ALL bolts maintain the proper torque. Failure to follow procedure could result in damage to equipment and may result in personal injury.

6. Using a star shaped pattern, torque all wheel to hub cap screws (A) as needed to maintain torque.

Specification

Cap Screws (A) Initial	
Torque—Initial Torque.....	405 N·m
	300 lb·ft
Cap Screws (A) Final Torque—Final	
Torque.....	610 N·m
	450 lb·ft

7. Drive tractor a minimum of 100 meters (110 yd) and tighten bolts in numerical order until bolts maintain torque of 610 N·m (450 lb·ft).

IMPORTANT: If tractor is operated with wheel sleeve loose for 4-5 hours, it is necessary to replace sleeves.

8. Torque bolts after working **3 HOURS, 10 HOURS,** and **DAILY** during the first week of operation.

NOTE: Continue to check torque a minimum of weekly if used for normal scraper operations.

Rear Drive Wheel Tread Settings for Single Wheels

520 or 20.8 Tire			
Single Tire			
Position	Minimum	2438 mm (96 in.) Axle Maximum	3015 mm (118.5 in.) Axle Maximum
IN	1555 mm (61.2 in.)	1875 mm (73.8 in.)	2449 mm (96.4 in.)
OUT	1821 mm (71.7 in.)	2180 mm (85.8 in.)	2754 mm (108.4 in.)

620 Tire			
Single Tire			
Position	Minimum	2438 mm (96 in.) Axle Maximum	3015 mm (118.5 in.) Axle Maximum
IN	1659 mm (65.3 in.)	1875 mm (73.8 in.)	2449 mm (96.4 in.)
OUT	1821 mm (71.7 in.)	2180 mm (85.8 in.)	2754 mm (108.4 in.)

650 Tire			
Single Tire			
Position	Minimum	2438 mm (96 in.) Axle Maximum	3015 mm (118.5 in.) Axle Maximum
IN	1690 mm (65.31 in.)	1875 mm (73.8 in.)	2449 mm (96.4 in.)
OUT	1821 mm (71.1 in.)	2180 mm (85.8 in.)	2754 mm (108.4 in.)

710 Tire			
Single Tire			
Position	Minimum	2438 mm (96 in.) Axle Maximum	3015 mm (118.5 in.) Axle Maximum
IN	1752 mm (69 in.)	1875 mm (73.8 in.)	2449 mm (96.4 in.)
OUT	1821 mm (81.7 in.)	2180 mm (85.8 in.)	2754 mm (108.4 in.)

800 Tire			
Single Tire			
Position	Minimum	2438 mm (96 in.) Axle	3015 mm (118.5 in.) Axle Maximum
IN	1846 mm (72.7 in.)	2028 (79.8 in.)	2602 mm (102.4 in.)
OUT	N/A	N/A	N/A

OURX935,0000497 -19-15AUG08-1/1

Rear Dual Wheel Tread Settings—320, 480 and 520 Tires

320 Tire on 3015 mm (118.5 in.) Axle						
Position	Single Tire			Position	Dual Tire	
	Minimum	Maximum	Maximum ^a		Minimum	Maximum
IN	1524 mm (60 in.)	1896 mm (74.6 in.)	1978 mm (77.9 in.)	D	2290 mm (90.2 in.)	2662 mm (104.8 in.)
OUT	1810 mm (71.3 in.)	1896 mm (74.6 in.)	2078 mm (88.3 in.)	D	2952 mm (116.2 in.) ^a	2662 mm (104.8 in.)
OUT	1810 mm (71.3 in.)	1896 mm (74.6 in.)	2078 mm (88.3 in.)	D	2576 mm (101.4 in.)	2662 mm (104.8 in.)
IN	1524 mm (60 in.)	1978 mm (77.9 in.)	1978 mm (77.9 in.)	G	2462 mm (96.9 in.)	2915 mm (114.8 in.)
OUT	1810 mm (71.3 in.)	2150 mm (84.6 in.)	2282 mm (89.8 in.)	G	2576 mm (101.4 in.)	2915 mm (114.8 in.)
IN	1524 mm (60 in.)	1978 mm (77.9 in.)	1978 mm (77.9 in.)	L	2614 mm (102.9 in.)	3068 mm (120.8 in.)
OUT	1810 mm (71.3 in.)	2282 mm (89.8 in.)	2282 mm (89.8 in.)	L	2596 mm (102.2 in.)	3068 mm (120.8 in.)
IN	1524 mm (60 in.)	1978 mm (77.9 in.)	1978 mm (77.9 in.)	O	2868 mm (112.9 in.)	3322 mm (130.8 in.)
OUT	1810 mm (71.3 in.)	2282 mm (89.8 in.)	2282 mm (89.8 in.)	O	2850 mm (112.2 in.)	3322 mm (130.8 in.)
IN	1524 mm (60 in.)	1978 mm (77.9 in.)	1978 mm (77.9 in.)	P	2920 mm (115 in.)	3372 mm (132.8 in.)
OUT	1810 mm (71.3 in.)	2282 mm (89.8 in.)	2282 mm (89.8 in.)	P	2900 mm (114.2 in.)	3372 mm (132.8 in.)

^awith 15 in. extension

480 Tire on 3015 mm (118.5 in.) Axle						
Position	Single Tire			Position	Dual Tire	
	Minimum	Maximum	Maximum ^a		Minimum	Maximum
IN	1524 mm (60 in.)	1508 mm (59.4 in.)	1974 mm (77.7 in.)	IN	2918 mm (114.9 in.) ^a	2606 mm (102.6 in.)
IN	1524 mm (60 in.)	1508 mm (59.4 in.)	1974 mm (77.7 in.)	IN	2622 mm (103.2 in.)	2606 mm (102.6 in.)
OUT	1806 mm (71.18 in.)	N/A	2270 mm (89.4 in.)	IN	2622 mm (103.2 in.)	3368 mm (132.6 in.) ^a
IN	1524 mm (60 in.)	1974 mm (77.7 in.)	1974 mm (77.7 in.)	OUT	2822 mm (111.1 in.)	3272 mm (128.9 in.)
OUT	1806 mm (71.18 in.)	2174 mm (85.6 in.)	2278 mm (89.7 in.)	OUT	2906 mm (114.4 in.)	3272 mm (128.9 in.)

^awith 15 in. extension

520 Tire on 3015 mm (118.5 in.) Axle						
Position	Single Tire			Position	Dual Tire	
	Minimum	Maximum	Maximum ^a		Minimum	Maximum
IN	1535 mm (60 in.)	N/A	1974 mm (77.7 in.)	IN	2826 mm (111.3 in.) ^a	3266 mm (128.6 in.) ^a
OUT	1806 mm (71.1 in.)	N/A	2084 mm (82 in.)	IN	2988 mm (117.6 in.) ^a	3266 mm (128.6 in.) ^a
IN	1534 mm (60.4 in.)	1974 mm (77.7 in.)	1974 mm (77.7 in.)	OUT	2935 mm (115.6 in.)	3374 mm (132.8 in.)
OUT	1806 mm (71.1 in.)	2192 mm (86.3 in.)	2278 mm (89.7 in.)	OUT	2988 mm (117.6 in.)	3374 mm (132.8 in.)

^awith 15 in. extension

OURX935.00004AC -19-25AUG08-1/1

**Rear Dual Wheel Row Crop Settings—620
And 650 Tires**

620/70R46 Tire on 3015 mm (118.5 in.) Axle						
Position	Single Tire			Dual Tire		
	Minimum	Maximum	Maximum ^a	Position	Minimum	Maximum
IN	1638 mm (64.5 in.)	N/A	1774 mm (69.8 in.)	IN	3028 mm (119.2 in.) ^a	3148 mm (123.9 in.) ^a
OUT	1806 mm (71.1 in.)	N/A	1758 mm (69.2 in.)	IN	3196 mm (125.8 in.) ^a	3148 mm (123.9 in.) ^a
IN	1638 mm (64.5 in.)	1974 mm (77.7 in.)	1974 mm (77.7 in.)	OUT	3170 mm (124.8 in.)	3506 mm (138 in.)
OUT	1806 mm (71.1 in.)	2116 mm (83.3 in.)	2278 mm (89.7 in.)	OUT	3196 mm (125.8 in.)	3506 mm (138 in.)

^awith 15 in. extension

620/70R42 Tire on 3015 mm (118.5 in.) Axle						
Position	Single Tire			Dual Tire		
	Minimum	Maximum	Maximum ^a	Position	Minimum	Maximum
IN	1638 mm (64.5 in.)	N/A	1718 mm (67.6 in.)	IN	3028 mm (119.2 in.)	3108 mm (122.3 in.) ^a
OUT	N/A	N/A	N/A	IN	N/A	N/A
IN	1638 mm (64.5 in.)	1974 mm (77.7 in.)	1974 mm (77.7 in.)	OUT	3210 mm (126.4 in.)	3545 mm (139.6 in.)
OUT	1806 mm (71.1 in.)	2156 mm (84.9 in.)	2278 mm (89.7 in.)	OUT	3196 mm (125.8 in.)	3545 mm (139.6 in.)

^awith 15 in. extension

650/85R38 and 650/65R42 Tire on 3015 mm (118.5 in.) Axle						
Position	Single Tire			Dual Tire		
	Minimum	Maximum	Maximum ^a	Position	Minimum	Maximum
IN	N/A	N/A	N/A	IN	N/A	N/A
OUT	N/A	N/A	N/A	IN	N/A	N/A
IN	1670 mm (65.8 in.)	1974 mm (77.7 in.)	1974 mm (77.7 in.)	OUT	3242 mm (127.6 in.)	3545 mm (139.6 in.)
OUT	1806 mm (71.1 in.)	2094 mm (82.4 in.)	2278 mm (89.7 in.)	OUT	3258 mm (128.3 in.)	3545 mm (139.6 in.)

^awith 15 in. extension

OURX935,00004AD -19-25AUG08-1/1

Rear Wheels, Tires, and Treads

Rear Dual Wheel Row Crop Settings

320 mm, 14.9 inch or 380 mm Section Dual Rear Tire and Hub Extensions								
Row Spacing - inch	20	22	30	32	34	36	38	40
Drive Wheel - inch	80	88	60	64	68	72	76	80
Dual Wheels - inch	120	132	120	128	136	144	152	160
Dual Ext. ^a (110.5 in. Axle)	N/R	N/A	N/R	5"	10"	10"	15"	N/A
Dual Ext. ^a (118.5 in. Axle)	N/R	N/R	N/R	N/R	5"	10"	10"	15"
420 mm, 18.4 in. or 480 mm Section Dual Rear Tire and Hub Extension								
Row Spacing - inch	20	22	30	32	34	36	38	40
Drive Wheel - inch	N/A	N/A	60	64	68	72	76	80
Dual Wheels - inch	N/A	N/A	120	128	136	144	152	160
Dual Ext. ^a (110.5 in. Axle)	N/A	N/A	N/R	5"	10"	10"	15"	N/A
Dual Ext. ^a (118.5 in. Axle)	N/A	N/A	N/R	N/R	5"	10"	10"	15"
For 18.4R42 Rear Dual use a 13 inch Extension For 18.4R42 Rear Dual 40 inch row spacing is NOT available								
520mm and 20.8 in. Section Dual Rear Tire and Hub Extension								
Row Spacing - inch	20	22	30	32	34	36	38	40
Drive Wheel - inch	N/A	N/A	N/A	64	68	72	76	80
Dual Wheels - inch	N/A	N/A	N/A	128	136	144	152	160
Dual Ext. ^a (110.5 in. Axle)	N/A	N/A	N/A	5"	10"	10"	15"	N/A
Dual Ext. ^a (118.5 in. Axle)	N/A	N/A	N/A	N/A	5"	10"	10"	15"
620 mm, 650 mm, and 710mm Section Dual Rear Tire and Hub Extension								
Row Spacing - inch	20	22	30	32	34	36	38	40
Drive Wheel - inch	N/A	N/A	N/A	N/A	N/A	N/A	N/A	80
Dual Wheels - inch	N/A	N/A	N/A	N/A	N/A	N/A	N/A	160
Dual Ext. ^a (110.5 in. Axle)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	15"
Dual Ext. ^a (118.5 in. Axle)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	13"
800 mm Section Dual Rear Tire and Hub Extension								
Row Spacing - inch	20	22	30	32	34	36	38	40
Drive Wheel - inch	N/A	N/A	N/A	N/A	N/A	N/A	N/A	80
Dual Wheels - inch	N/A	N/A	N/A	N/A	N/A	N/A	N/A	160
Dual Ext. (110.5 in. Axle)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dual Ext. ^a (118.5 in. Axle)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	13"

^aExt is abbreviation for Extension in this table

OURX935.0000499 -19-15AUG08-1/1

Rear Dual Wheel Tread Settings—710 and 800 Tires

710/70R42 Tire on 3015 mm (118.5 in.) Axle						
Position	Single Tire			Position	Dual Tire	
	Minimum	Maximum	Maximum ^a		Minimum	Maximum
IN	N/A	N/A	N/A	IN	N/A	N/A
OUT	N/A	N/A	N/A	IN	N/A	N/A
IN	1732 mm (68.2 in.)	1974 mm (77.7 in.)	1974 mm (77.7 in.)	OUT	3380 mm (133.1 in.)	3621 mm (142.6 in.)
OUT	1806 mm (71.18 in.)	2044 mm (80.5 in.)	2278 mm (89.7 in.)	OUT	3384 mm (133.2 in.)	3621 mm (142.6 in.)

^awith 15 in. extension

710/70R38 Tire on 3015 mm (118.5 in.) Axle						
Position	Single Tire			Position	Dual Tire	
	Minimum	Maximum	Maximum ^a		Minimum	Maximum
IN	N/A	N/A	N/A	IN	N/A	N/A
OUT	N/A	N/A	N/A	IN	N/A	N/A
IN	1732 mm (68.1 in.)	1968 mm (77.5 in.)	1974 mm (77.7 in.)	OUT	3310 mm (130.3 in.)	3342 mm (139.6 in.)
OUT	1806 mm (71.18 in.)	1968 mm (77.5 in.)	2278 mm (89.7 in.)	OUT	3384 mm (133.2 in.)	3342 mm (139.6 in.)

^awith 15 in. extension

800 Tire on 3015 mm (118.5 in.) Axle						
Position	Single Tire			Position	Dual Tire	
	Minimum	Maximum	Maximum ^a		Minimum	Maximum
IN	N/A	N/A	N/A	IN	N/A	N/A
OUT	N/A	N/A	N/A	IN	N/A	N/A
IN	1826 mm (71.9 in.)	N/A	2126 mm (83.7 in.)	OUT	3958 mm (155.8 in.) ^a	4260 mm (167.7 in.) ^a
OUT	N/A	N/A	N/A	OUT	N/A	N/A

^awith 15 in. extension

OURX935,00004AE -19-25AUG08-1/1

Clamp-On Dual Usage

IMPORTANT: Clamp-on duals should not be used for heavy traction work. They are allowed only for use when the following conditions are met including recommended tire sizes and manufacturers.

IMPORTANT: Do not drive tractors equipped with duals faster than 40 km/h (25 mph).


- Clamp-on dual wheels are used only in low draft or PTO applications.
- Maximum vehicle weight is limited to 16000 kg (35274 lb).
- Rear drive wheel is heavy duty cast center type.
- Current wheel sleeve cap screws and washers are replaced with cap screws and washers contained in kit AR219840 for cast drive wheel.

- Steel wheel-to-cast hub cap screws and washers are replaced with cap screws and washers contained in kit AR217153.
- Use rear wheel bolt tightening procedure (See Tightening Rear Wheel Bolts in this section).
- Inner single wheel tread setting does not exceed 1900 mm (75 in.).
- Outer dual wheel tread setting does not exceed 3400 mm (134 in.).
- Average tread width of dual combination does not exceed 2650 mm (104 in.).
- Outer tire must be of equal or smaller section width tire.
- Drive wheels and clamp-on dual tires should be inflated to the same pressure.

OURX935,000049A -19-15AUG08-1/1

Transport

Driving Tractor on Roads

 **CAUTION:** Avoid personal injury or death from losing control of tractor. When driving tractor on roads:

- Couple brake pedals together
- 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 wheels from locking and skidding on tractors equipped with AutoPowr transmission. (See **DOWNHILL OPERATION IN SLIPPERY CONDITIONS**, in Operating AutoPowr Transmission section.)

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.

Check headlights, flashing warning lights and tail lights before operating tractor on highway. Adjust rear-view mirrors and clean windows.

 **CAUTION:** To prevent possible personal injury, 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.

Brakes—Tap brake pedal to ensure differential lock is NOT engaged. **Couple brake pedals together before driving on a road.** Avoid hard application of brakes.

MFWD—Disengage front wheel drive when transporting tractor. When driving on roads, engage BRAKE ASSIST position of MFWD switch to provide four wheel braking. (See USING MFWD in Operating Tractor section.)

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 Hydraulic System—Lever Operated SCVs or TouchSet Controls section.)

Front or Rear 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.)

OURX935,000053E -19-04SEP07-1/1

Transporting with Ballast

 **CAUTION:** Avoid possible injury or equipment damage when transporting heavy rear-mounted implements.

- Drive slowly over rough ground, regardless of how much ballast is used.
- Add weight to front end if needed to maintain stability and steering control. Heavy

pulling and heavy rear-mounted implements tend to lift front wheels.

Use implement code in implement operator's manual to determine the minimum number of front weights required.

RF30435,0000034 -19-04SEP07-1/1

Towing Tractor

CAUTION: Avoid personal injury or death. Disconnect MFWD or ILS drive shaft(s) if towing tractor with front wheels on a carrier. Loss of electrical power or transmission-hydraulic system pressure will engage the MFWD and pull tractor off carrier, even with switch in the DISENGAGED position.

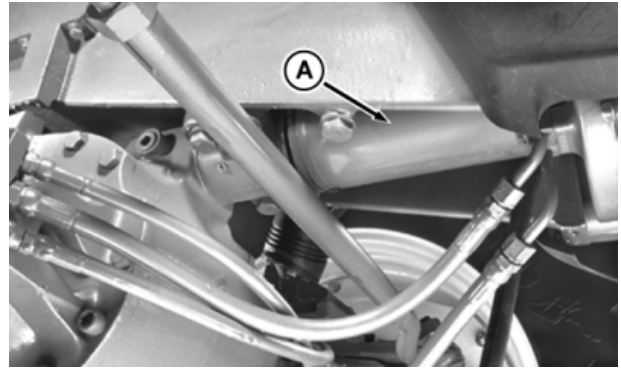
IMPORTANT: Avoid transmission and drive train component damage:

- 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 the first ten minutes in below freezing temperatures.
- Check transmission-hydraulic oil level. Add 4 L (1 gal) for each 152 mm (6 in.) front wheels are raised off the ground. Do not raise wheels more than 305 mm (12 in.). Drain excess oil after transporting.

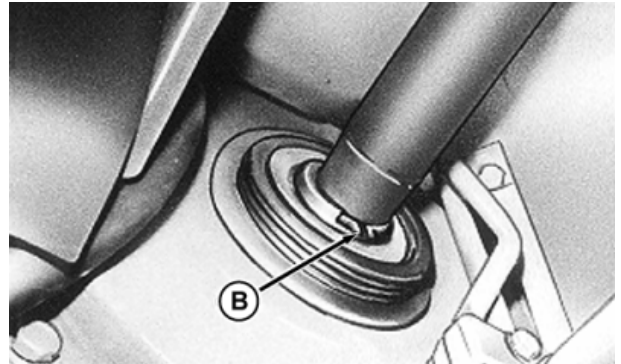
Towing Tractor with Front Wheels on a Carrier

IMPORTANT: Check transmission-hydraulic oil level. Add 4 L (1 gal) for each 152 mm (6 in.) front wheels are raised off the ground. Do not raise wheels more than 305 mm (12 in.). Drain excess oil after transporting.

MFWD AXLE:



RW55349A —UN—22OCT99



RW55350A —UN—22OCT99

Standard MFWD

A—Drive Shaft Shield

B—Snap Ring

- Remove drive shaft shield (A). Spread snap ring (B) and slide shaft forward from clutch.
- Install cap plug in clutch housing to protect from dirt.

OURX935,00004E7 -19-02JAN08-1/2

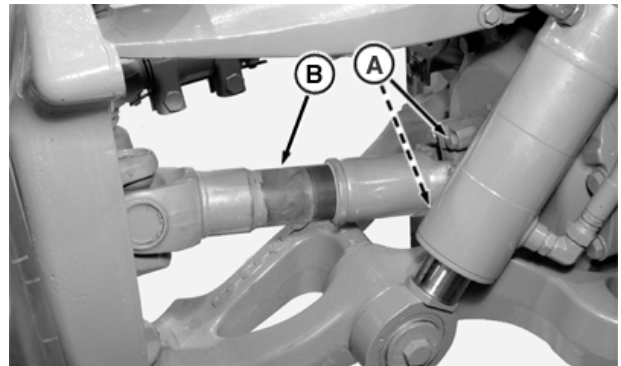
INDEPENDENT LINK SUSPENSION:

- Remove top and bottom cap screws (A) from each side of the drive shaft yoke.
- Collapse each drive shaft (B) to minimum length.
- Suspend each drive shaft using a sling.

Momentarily depress brake pedals to make sure differential lock is not engaged.

A—Cap Screws

B—Drive Shaft



RXA0087519 —UN—10MAR06

OURX935,00004E7 -19-02JAN08-2/2

Releasing Park Brake (Powershift Transmission)

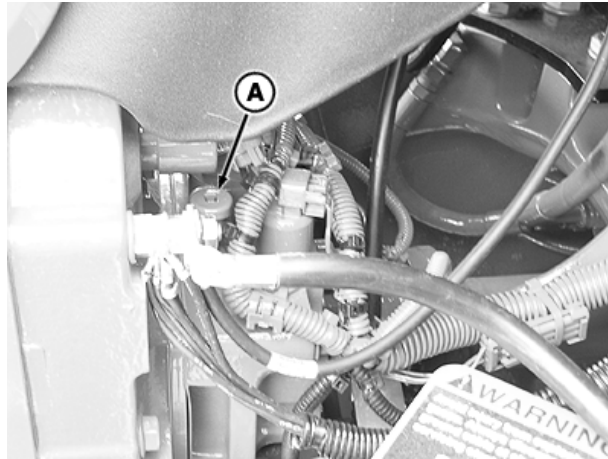
The park brake must be released to tow tractor. With tractor on level surface (or block wheels to prevent motion), move gear shift lever to PARK position. Open battery compartment to expose park brake valve (A) and push it down with your hand.

NOTE: To disengage the park brake, pump clutch pedal approximately 20 times or until clutch pedal no longer fully returns. In cold temperatures pumping the clutch pedal may not work. A hydraulic hand pump can be used. See your John Deere Dealer.

Move gear shift lever to NEUTRAL position when towing.

After towing, pull up park brake release valve from the tow position. Move shift lever from NEUTRAL to PARK position and start engine.

⚠ CAUTION: Clutch pedal will return quickly with a strong force when shift lever is moved from the PARK position. Depress clutch pedal and release slowly to avoid injury.

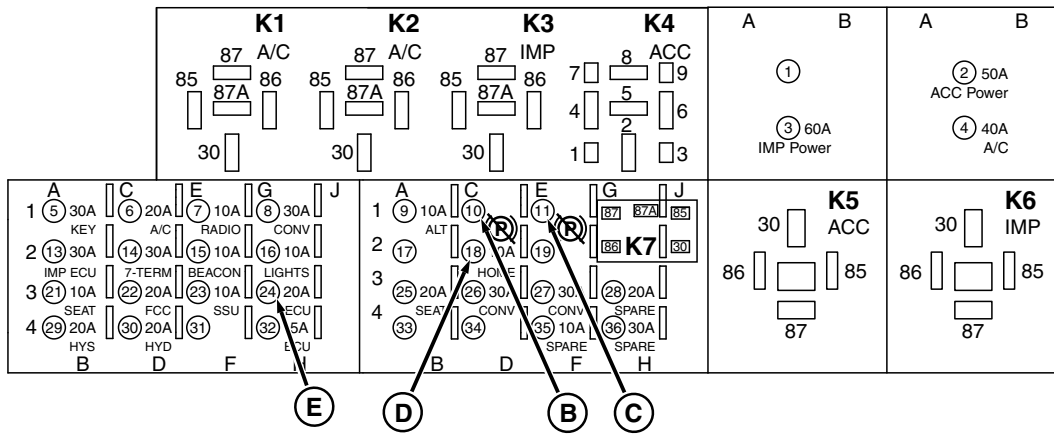
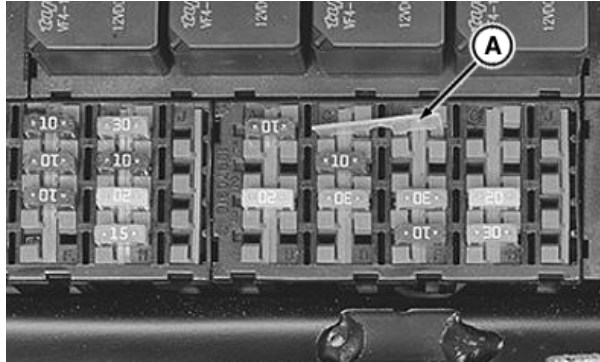


A—Park Brake Valve

RXA0082665—UN—28JUL05

OURX935,00004E8 -19-04SEP07-1/1

Releasing Park Brake (AutoPowr Transmission)



A—Plastic Fuse Isolator
B—Fuse 10 (Location)

C—Fuse 11 (Location)
D—Fuse 18 (Location)

E—Fuse 24 (Location)

CAUTION: Avoid possible injury if tractor moves. Block tires to prevent tractor from moving when park brake releases. Procedure requires an operator seated in the tractor to monitor park brake release procedure.

- Block tractor tires.
- Make sure key switch is in **OFF** position.

NOTE: Moving fuses allows engine to be cranked without starting.

- Remove cover to access fuses. (See ACCESSING FUSES AND RELAYS in Maintenance—Electrical System section.)
- Remove and save plastic fuse isolator (A) from fuse # 10 (B) and fuse # 11 (C) fuse locations.
- Move fuse # 18 (D) to fuse # 10 location and move fuse # 24 (E) to fuse # 11 location.
- Turn key to "Run" (not "Start") position. SERVICE ALERT indicator light will flash. After five seconds, STOP indicator light will also flash.

- Turn key to "**START**" position and crank engine 10 — 15 seconds. Release key and make sure it is in **RUN** position.
- If STOP indicator light flashes instead, there is not enough hydraulic pressure to release park brake. Repeat Step 6 up to two more times. If SERVICE ALERT light does not flash, contact your John Deere dealer.

CAUTION: Minimize chance of possible injury from an accident. Always use seat belts when operating the tractor.

Turning key switch to the "**OFF**" position while towing tractor will cause sudden engagement of the park brake, locking the rear wheels. Avoid serious personal injury by making sure the key switch remains in the **RUN** position anytime tractor is towed, unless emergency stop is required.

- Depress brake pedals while an assistant removes tire blocks. Proceed with towing, observing towing precautions stated in TOWING TRACTOR, in this section.

Continued on next page

OURX935,000053F -19-27AUG08-1/2

RXA0078788 —UN—07APR05

RXA0080187 —UN—07APR05

⚠ CAUTION: Avoid possible injury. If park brake starts to drag repeatedly even after performing Step 8, system is unable to maintain sufficient pressure to keep park brake released. Signal tow vehicle driver to stop immediately, as park brake may engage suddenly. Person in towed tractor should apply wheel brakes at the same time.

10. Every 30 minutes, or if STOP light starts flashing and warning horn sounds continuously and an associated message appears on the CommandCenter display, or if park brake drag is felt, signal tow vehicle driver to stop immediately. Person in towed tractor should

apply wheel brakes at the same time as tow vehicle. Turn key switch to "START position", cranking engine for 10-15 seconds, then release to "RUN" position.

11. After tractor has reached service area, depress brake pedals to bring tractor to a complete stop before switching key to "OFF" position.
12. Move fuses from fuse # 10 location back to fuse #18 location and from fuse #11 location back to fuse # 24 location.
13. Re-install plastic fuse isolator to F10 and F11 fuse locations. Install access panel.

OURX935,000053F -19-27AUG08-2/2

Transporting with Ballast

⚠ CAUTION: Avoid possible injury or equipment damage when transporting heavy rear-mounted implements.

- Drive slowly over rough ground, regardless of how much ballast is used.
- Add weight to front end if needed to maintain stability and steering control. Heavy

pulling and heavy rear-mounted implements tend to lift front wheels.

Use implement code in implement operator's manual to determine the minimum number of front weights required.

RF30435,0000034 -19-04SEP07-1/1

Freeing a Mired Machine

⚠ CAUTION: 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 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 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.

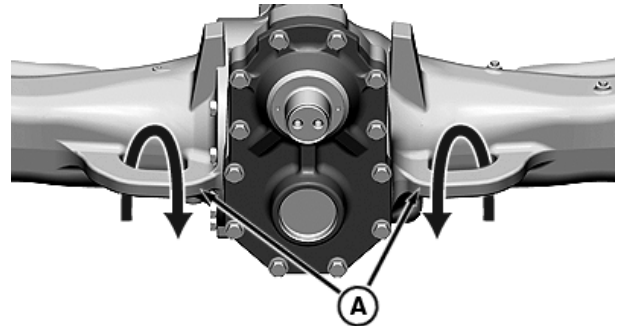
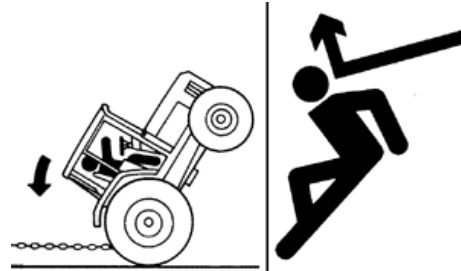
Always hitch to the drawbar of the towing unit. Before moving, clear the area of people. Apply power smoothly to take up the slack: a sudden pull could snap any towing device causing it to whip or recoil dangerously.

If mired tractor must be pulled from the front;

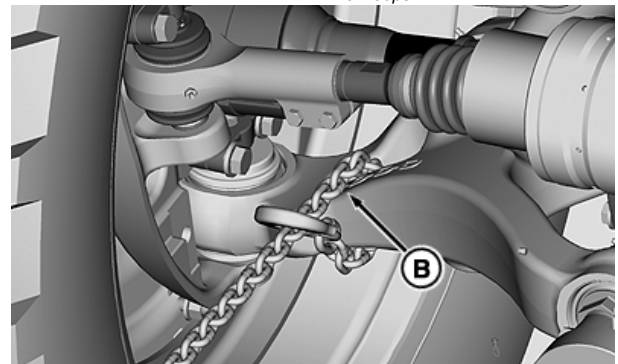
- For 1300 and 1500 MFWD axles, connect chain to both loops (A) when pulling horizontally.
- For Independent Link Suspension axles, connect chain to both lower A arms (B).
- For all tractors, an alternate option is to place chain around the cross member (C) of the front weight support bracket.

IMPORTANT: Avoid damage to steering cylinders or tie rods. Attach chain to front axle housing. Pull tractor straight forward. Use drawbar to tow tractor out of mired condition if pulling tractor from the rear.

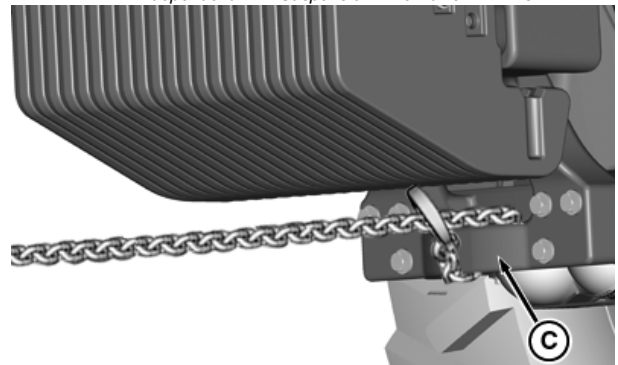
A—Loops, MFWD Axle C— Cross Member, Front
 B—Lower A Arms, Independent Weight Support Bracket
 Link Suspension



MFWD Axle Loops



Independent Link Suspension Axle Lower A Arms



Front Weight Support Bracket Cross Member

RXA0089821 —UN—14.JUL06

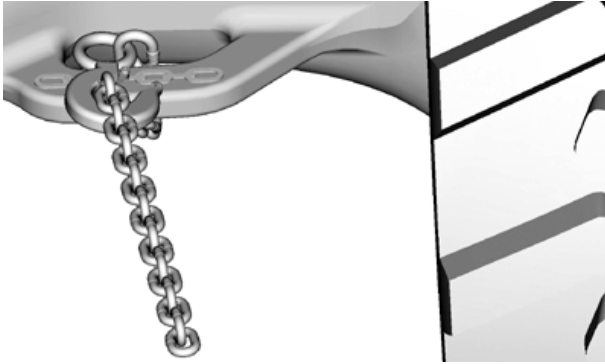
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RXA0089893 —UN—18.JUL06

RXA0089749 —UN—13.JUL06

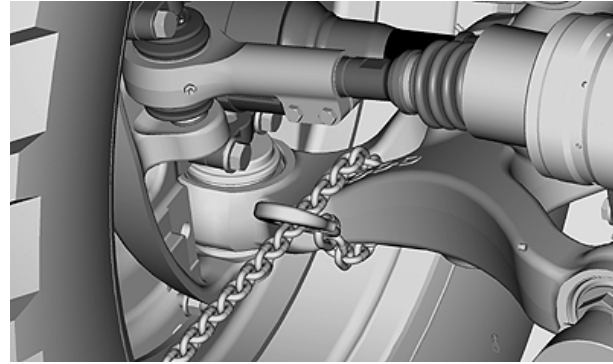
OURX935.000049C -19-04SEP07-1/1

Transporting on Flat-Bed Carrier



Standard MFWD Axle

RXA0086733 —UN— 14FEB06



Independent Link Suspension Axle

RXA0086293 —UN— 13FEB06

⚠ CAUTION: To avoid accident or injury, securely chain the tractor to carrier. **DO NOT** chain to tractor components other than those areas listed. **DRIVE CAREFULLY.**

IMPORTANT: A disabled tractor should be hauled on a flat-bed carrier.

Engage PARK position.

NOTE: If park brake has been disengaged, engage park brake. See Towing Tractor in this section.

Two-Wheel Drive Tractors:

Wrap chain around front axle bottom support and secure to carrier.

MFWD Axle:

Attach chain to tie-down loops on each side of the axle and secure to carrier.

Independent Link Suspension:

IMPORTANT: Attach chain to lower support arm only. Attaching chain at any other point could cause component damage.

NOTE: Suspension does NOT have to be collapsed for transporting tractor.

Attach chain to the outer lower support arm on each side of the axle and secure to carrier.

OURX935,00004AD -19-04SEP07-1/1

Fuels, Lubricants, and Coolant

Diesel Fuel

Consult your local fuel distributor for properties of the diesel fuel available in your area.

In general, diesel fuels are blended to satisfy the low temperature requirements of the geographical area in which they are marketed.

Diesel fuels specified to EN 590 or ASTM D975 are recommended. Renewable diesel fuel produced by hydrotreating animal fats and vegetable oils is basically identical to petroleum diesel fuel. Renewable diesel that meets EN 590 or ASTM D975 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 45 minimum. Cetane number greater than 50 is preferred, especially for temperatures below -20°C (-4°F) or elevations above 1500 m (5000 ft).

Cold Filter Plugging Point (CFPP) 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 0.45 mm as measured by ASTM D6079 or ISO 12156-1.

Sulfur Content for Interim Tier 4 and EU Stage IIIB Engines

- Diesel fuel quality and fuel sulfur content must comply with all existing emissions regulations for the area in which the engine operates.
- Use ONLY ultra low sulfur diesel (ULSD) fuel with a maximum of 0.0015% (15 ppm) sulfur content.

Sulfur Content for Other Engines

- Diesel fuel quality and fuel sulfur content must comply with all existing emissions regulations for the area in which the engine operates.
- Use of diesel fuel with sulfur content less than 0.10% (1000 ppm) is STRONGLY recommended.
- Use of diesel fuel with sulfur content 0.10% (1000 ppm) to 0.50% (5000 ppm) may result in REDUCED oil and filter change intervals as shown in the table.
- BEFORE using diesel fuel with sulfur content greater than 0.50% (5000 ppm), contact your John Deere dealer.

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 -19-03NOV08-1/1

Fill Fuel Tank

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

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

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

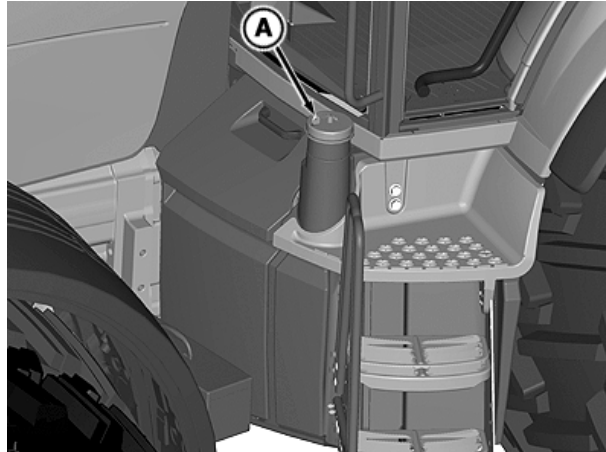
NOTE: Fuel indicator will flash when approximately 60 L (16 gal) of fuel remains.

Fill fuel tank (A) at end of each day. This prevents condensation in tank as moist air cools.

A—Fill Fuel Tank



TS202 —UN—23AUG88



RXA0086601 —UN—09FEB06

OURX935,000008E -19-11JAN08-1/1

Lubricity of Diesel Fuel

Most diesel fuels manufactured in the United States, Canada, and the European Union have adequate lubricity to ensure proper operation and durability of fuel injection system components. However, diesel fuels manufactured in some areas of the world may lack the necessary lubricity.

IMPORTANT: Make sure the diesel fuel used in your machine demonstrates good lubricity characteristics.

Fuel lubricity should pass a maximum scar diameter of 0.45 mm as measured by ASTM D6079 or ISO 12156-1.

If fuel of low or unknown lubricity is used, add John Deere PREMIUM DIESEL FUEL CONDITIONER (or equivalent) at the specified concentration.

Lubricity of Biodiesel Fuel

Significant improvement in lubricity can occur with biodiesel blends up to B20. The gain in lubricity above a 20% blend is limited.

DX.FUEL5 -19-05OCT07-1/1

Handling and Storing Diesel Fuel

⚠ CAUTION: Handle fuel carefully. Do not fill the fuel tank when engine is running.

DO NOT smoke while you fill the fuel tank or service the fuel system.

Fill the fuel tank at the end of each day's operation to prevent water condensation and freezing during cold weather.

Keep all storage tanks as full as practicable to minimize condensation.

Ensure that all fuel tank caps and covers are installed properly to prevent moisture from entering. Monitor water content of the fuel regularly.

When using bio-diesel 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.

When fuel is stored for an extended period or if there is a slow turnover of fuel, add a fuel conditioner to stabilize the fuel and prevent water condensation. Contact your fuel supplier for recommendations.

OURX935,000008A -19-11JAN08-1/1

Biodiesel Fuel

Biodiesel is a fuel comprised of mono-alkyl esters of long chain fatty acids derived from vegetable oils or animal fats. Biodiesel blends are biodiesel mixed with petroleum diesel fuel on a volume basis.

Biodiesel users in the U.S. are strongly encouraged to purchase biodiesel blends from a BQ-9000 Certified Marketer and sourced from a BQ-9000 Accredited Producer (as certified by the National Biodiesel Board). Certified Marketers and Accredited Producers can be found at the following website: <http://www.bq-9000.org>.

While 5% blends are preferred (B5), biodiesel concentrations up to a 20% blend (B20) in petroleum diesel fuel can be used in all John Deere engines. Biodiesel blends up to B20 can be used ONLY if the biodiesel (100% biodiesel or B100) meets ASTM D6751 (US), EN 14214 (EU), or equivalent specification. Expect a 2% reduction in power and a 3% reduction in fuel economy when using B20.

John Deere approved fuel conditioners containing detergent/dispersant additives are recommended when using lower biodiesel blends, but are required when using blends of B20 or greater.

John Deere engines can also operate on biodiesel blends above B20 (up to 100% biodiesel) ONLY if the biodiesel meets the EN 14214 specification (primarily available in Europe). Engines operating on biodiesel blends above B20 may not fully comply with all applicable emissions regulations. Expect up to a 12% reduction in power and an 18% reduction in fuel economy when using 100% biodiesel. John Deere approved fuel conditioners containing detergent/dispersant additives are required.

The petroleum diesel portion of biodiesel blends must meet the requirements of ASTM D975 (US) or EN 590 (EU) commercial standards.

Biodiesel blends up to B20 must be used within 90 days of the date of biodiesel manufacture. Biodiesel blends from B21 to B100 must be used within 45 days of the date of biodiesel manufacture.

Request a certificate of analysis from your fuel distributor to ensure that the fuel is compliant with the above specifications.

Consult your John Deere dealer for approved biodiesel fuel conditioners to improve storage and performance with biodiesel fuels.

When using biodiesel fuel, the engine oil level must be checked daily. If oil becomes diluted with fuel, shorten oil change intervals. Refer to Diesel Engine Oil and Filter Service Intervals for more details regarding biodiesel and engine oil change intervals.

The following must be considered when using biodiesel blends up to B20:

- Cold weather flow degradation
- Stability and storage issues (moisture absorption, oxidation, microbial growth)
- Possible filter restriction and plugging (usually a problem when first switching to biodiesel on used engines.)
- Possible fuel leakage through seals and hoses
- Possible reduction of service life of engine components

The following must also be considered when using biodiesel blends above B20.

- Possible coking and/or blocked injector nozzles, resulting in power loss and engine misfire if John Deere approved fuel conditioners containing detergent/dispersant additives are not used
- Possible crankcase oil dilution, requiring more frequent oil changes
- Possible corrosion of fuel injection equipment
- Possible lacquering and/or seizure of internal components
- Possible formation of sludge and sediments
- Possible thermal oxidation of fuel at elevated temperatures
- Possible elastomer seal and gasket material degradation (primarily an issue with older engines)
- Possible compatibility issues with other materials (including copper, lead, zinc, tin, brass, and bronze) used in fuel systems and fuel handling equipment
- Possible reduction in water separator efficiency
- Potential high acid levels within fuel system
- Possible damage to paint if exposed to biodiesel

IMPORTANT: Raw pressed vegetable oils are NOT acceptable for use as fuel in any concentration in John Deere engines. Their use could cause engine failure.

DX,FUEL7 -19-04OCT07-1/1

Testing Diesel Fuel

DIESELSCAN™ is a John Deere fuel analysis program that can be used to monitor the quality of your fuel. The DIESELSCAN analysis verifies fuel type, cleanliness,

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water content, suitability for cold weather operation, and whether the fuel meets specifications.

Check with your John Deere dealer for availability of DIESELSCAN kits.

DX,FUEL6 -19-14NOV05-1/1

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 information below 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 5°C (40°F), winter grade fuel (Grade No. 1-D fuel 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 will begin to form in the fuel and this wax causes fuel filters to plug.

Pour point is the temperature at which fuel begins to thicken and becomes more resistant to flow through fuel pumps and lines.

NOTE: On an average, winter grade 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.

 **CAUTION: Do not use any starting fluid with an air intake heater.**

Starting Fluid

A starting fluid port on the intake is available to aid cold weather starting.

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 proper concentration of low silicate antifreeze as recommended. (See DIESEL ENGINE OIL and ENGINE COOLANT requirements this section.)

Diesel Fuel Flow Additive

Use John Deere Premium Diesel Fuel Conditioner (Winter) or equivalent to treat fuel during the cold weather season. This winter formulation is a combination diesel fuel conditioner and anti-gel additive.

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.

OURX935,00004CA -19-11JAN08-1/1

Diesel Engine Oil

Use oil viscosity based on the expected air temperature range during the period between oil changes.

John Deere PLUS-50™ oil is preferred.

Oils meeting one of the following specifications are also recommended:

- ACEA Oil Sequence E7
- ACEA Oil Sequence E6

Extended service intervals may apply when John Deere PLUS-50™, ACEA E7, or ACEA E6 engine oils are used. Consult your John Deere dealer for more information.

Other oils may be used if they meet one or more of the following:

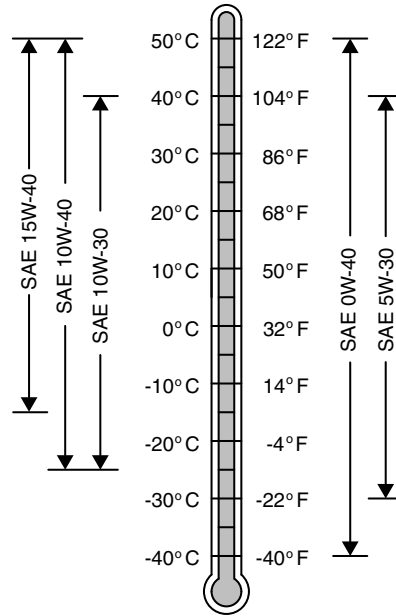
- John Deere TORQ-GARD SUPREME™
- API Service Category CJ-4
- API Service Category CI-4 PLUS
- API Service Category CI-4
- ACEA Oil Sequence E5
- ACEA Oil Sequence E4

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.

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TORQ-GARD SUPREME is a trademark of Deere & Company



Oil Viscosities for Air Temperature Ranges

DO NOT use diesel fuel with sulfur content greater than 1.0% (10 000 ppm).

TS1691—UN—18JUL07

DX,ENOIL11 -19-26JUL07-1/1

Diesel Engine Oil and Filter Service Intervals

The oil and filter service intervals in the table below should be used as guidelines. Actual service intervals also depend on operation and maintenance practices. It is suggested to use oil analysis to determine the actual useful life of the oil and to aid in selection of the proper oil and filter service interval. Oil and filter service intervals are based on a combination of oil pan capacity, type of engine oil and filter used, and sulfur content of the diesel fuel.

Diesel fuel sulfur level will affect engine oil and filter service intervals. Higher fuel sulfur levels reduce oil and filter service intervals as shown in the table:

- Use of diesel fuel with sulfur content less than 0.10% (1000 ppm) is strongly recommended.
- Use of diesel fuel with sulfur content 0.10% (1000 ppm) to 0.50% (5000 ppm) may result in REDUCED oil and filter change intervals as shown in the table.
- BEFORE using diesel fuel with sulfur content greater than 0.50% (5000 ppm), contact your John Deere dealer.

- DO NOT use diesel fuel with sulfur content greater than 1.00% (10 000 ppm).

Oil types (premium or standard) in the table include:

- Premium Oils include John Deere PLUS-50™, ACEA E7, or ACEA E6 oils.
- Standard Oils include John Deere TORQ-GARD SUPREME™, API CI-4 PLUS, API CI-4, ACEA E5, or ACEA E4 oils.

Use of lower specification oils in U.S. Tier 3 and EU Stage III A engines may result in premature engine failure. The 500 hour extended oil and filter change interval is allowed if the following conditions are met:

- Use of diesel fuel with sulfur content less than 0.10% (1000 ppm)
- Use of premium oil John Deere PLUS-50, ACEA E7 or ACEA E6 and approved John Deere oil filter

Fuel Sulfur	Less than 0.10% (1000 ppm)
Standard Oil	250 hours
Premium Oil	500 hours (For 8030 Series Tractors, do not exceed 375 hours between oil changes.)
Fuel Sulfur	0.10 to 0.20% (1000 to 2000 ppm)
Standard Oil	200 hours
Premium Oil	300 hours
Fuel Sulfur	0.20 to 0.50% (2000 to 5000 ppm)
Standard Oil	150 hours
Premium Oil	250 hours
Fuel Sulfur	0.50% to 1.00% (5000 ppm to 10 000 ppm)
Standard Oil	Contact John Deere Dealer (dealer refers to DTAC solutions)
Premium Oil	Contact John Deere Dealer (dealer refers to DTAC solutions)

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 TORQ-GARD SUPREME is a trademark of Deere & Company

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Oil Filters

Filtration of oils is critical to proper operation and lubrication.

Always change filters regularly as specified in this manual.

Use filters meeting John Deere performance specifications.

DX,FILT -19-11JAN08-1/1

Heavy Duty Diesel Engine Coolant

The engine cooling system is filled to provide year-round protection against corrosion and cylinder liner pitting, and winter freeze protection to -37°C (-34°F). If protection at lower temperatures is required, consult your John Deere dealer for recommendations.

John Deere COOL-GARD™ II Premix Coolant is preferred.

John Deere COOL-GARD II Premix is available in a concentration of 50% ethylene glycol.

Additional Recommended Coolants

The following engine coolants are also recommended:

- John Deere COOL-GARD II Concentrate in a 40% to 60% mixture of concentrate with quality water.
- John Deere COOL-GARD Premix (available in a concentration of 50% ethylene glycol).
- John Deere COOL-GARD Concentrate in a 40% to 60% mixture of concentrate with quality water.
- John Deere COOL-GARD PG Premix (available in a concentration of 55% propylene glycol).

John Deere COOL-GARD II Premix and COOL-GARD II Concentrate coolants do not require use of supplemental coolant additives.

John Deere COOL-GARD Premix, COOL-GARD Concentrate, and COOL-GARD PG Premix do not require use of supplemental coolant additives, except for periodic replenishment of additives during the drain interval.

Use John Deere COOL-GARD PG Premix when a non-toxic coolant formulation is required.

Other Coolants

It is possible that John Deere COOL-GARD II, COOL-GARD, and COOL-GARD PG coolants are

unavailable in the geographical area where service is performed.

If these coolants are unavailable, use a coolant concentrate or prediluted coolant intended for use with heavy duty diesel engines and with a minimum of the following chemical and physical properties:

- Is formulated with a quality nitrite-free additive package.
- Provides cylinder liner cavitation protection according to either the John Deere Cavitation Test Method or a fleet study run at or above 60% load capacity.
- Protects the cooling system metals (cast iron, aluminum alloys, and copper alloys such as brass) from corrosion.

The additive package must be part of one of the following coolant mixtures:

- ethylene glycol or propylene glycol base prediluted (40% to 60%) heavy duty coolant
- ethylene glycol or propylene glycol base heavy duty coolant concentrate in a 40% to 60% mixture of concentrate with quality water

Water Quality

Water quality is important to the performance of the cooling system. Distilled, deionized, or demineralized water is recommended for mixing with ethylene glycol and propylene glycol base engine coolant concentrate.

IMPORTANT: Do not use cooling system sealing additives or antifreeze that contains sealing additives.

Do not mix ethylene glycol and propylene glycol base coolants.

Do not use coolants that contain nitrites.

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DX,COOL3 -19-03NOV08-1/1

John Deere COOL-GARD™ II COOLANT EXTENDER

Some coolant additives will gradually deplete during engine operation. For John Deere COOL-GARD™ II Premix and COOL-GARD II Concentrate, replenish coolant additives between drain intervals by adding John Deere COOL-GARD II COOLANT EXTENDER.

John Deere COOL-GARD II COOLANT EXTENDER should not be added unless indicated by coolant testing.

John Deere COOL-GARD II COOLANT EXTENDER is a chemically matched additive system approved for use with John Deere COOL-GARD II coolants in all John Deere engines.

John Deere COOL-GARD II COOLANT EXTENDER is not designed for use with John Deere COOL-GARD coolants.

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IMPORTANT: Do not add a supplemental coolant additive when the cooling system is drained and refilled with any of the following:

- John Deere COOL-GARD II
- John Deere COOL-GARD
- John Deere COOL-GARD PG

The use of non-recommended supplemental coolant additives may result in additive drop-out, gelation of the coolant, or corrosion of cooling system components.

Add the recommended concentration of John Deere COOL-GARD II COOLANT EXTENDER. **DO NOT** add more than the recommended amount.

DX,COOL16 -19-03NOV08-1/1

Operating in Warm Temperature Climates

John Deere engines are designed to operate using glycol base engine coolants.

Always use a recommended glycol base engine coolant, even when operating in geographical areas where freeze protection is not required.

John Deere COOL-GARD™ II Premix is available in a concentration of 50% ethylene glycol. However, there are situations in warm temperature climates where a coolant with lower glycol concentration (approximately 20% ethylene glycol) has been approved. In these cases, the low glycol formulation has been modified to provide the same level of corrosion inhibitor as John Deere COOL-GARD II Premix (50/50).

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IMPORTANT: Water may be used as coolant in emergency situations only.

Foaming, hot surface aluminum and iron corrosion, scaling, and cavitation will occur when water is used as the coolant, even when coolant conditioners are added.

Drain cooling system and refill with recommended glycol base engine coolant as soon as possible.

DX,COOL6 -19-03NOV08-1/1

Drain Intervals for Diesel Engine Coolant

Drain and flush the cooling system and refill with fresh coolant at the indicated interval, which varies with the coolant used.

John Deere COOL-GARD™ II Premix and COOL-GARD II Concentrate are maintenance free coolants for up to 6 years or 6000 hours of operation, provided that the cooling system is topped off using only John Deere COOL-GARD II Premix. Test the coolant condition annually with Coolant Test Strips designed for use with John Deere COOL-GARD II coolants. If the test strip chart indicates that additive is required, add John Deere COOL-GARD II COOLANT EXTENDER as directed.

When John Deere COOL-GARD Premix, COOL-GARD Concentrate or John Deere COOL-GARD PG Premix coolants are used, the drain interval may be extended to 5 years or 5000 hours of operation, provided that the coolant is tested annually AND additives are replenished, as needed, by adding a supplemental coolant additive.

If John Deere COOL-GARD II Premix or COOL-GARD II Concentrate is used, but the coolant is not tested OR

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additives are not replenished by adding John Deere COOL-GARD II COOLANT EXTENDER, the drain interval is 4 years or 4000 hours of operation. This drain interval only applies to COOL-GARD II coolants that have been maintained within a 40% to 60% mixture of concentrate with quality water.

If John Deere COOL-GARD Premix, COOL-GARD Concentrate, or COOL-GARD PG Premix is used, but the coolant is not tested OR additives are not replenished by adding a supplemental coolant additive, the drain interval is 3 years or 3000 hours of operation. This drain interval only applies to COOL-GARD Premix, COOL-GARD Concentrate, and COOL-GARD PG Premix that have been maintained within a 40% to 60% mixture of concentrate with quality water.

If a coolant other than COOL-GARD II, COOL-GARD, or COOL-GARD PG is used, reduce the drain interval to 2 years or 2000 hours of operation.

DX,COOL11 -19-03NOV08-1/1

Additional Information About Diesel Engine Coolants and John Deere COOL-GARD™ II COOLANT EXTENDER

Engine coolants are a combination of three chemical components: ethylene glycol or propylene glycol antifreeze, inhibiting coolant additives, and quality water.

Coolant Specifications

John Deere COOL-GARD™ II Premix is a fully formulated coolant that contains all three components in their correct concentrations. DO NOT add an initial charge of John Deere COOL-GARD II COOLANT EXTENDER to COOL-GARD II Premix. DO NOT add any other supplemental coolant additive or water to COOL-GARD II Premix.

John Deere COOL-GARD II Concentrate contains both ethylene glycol and inhibiting coolant additives. Mix this product with quality water, but DO NOT add an initial charge of John Deere COOL-GARD II COOLANT EXTENDER or any other supplemental coolant additive.

Replenish Coolant Additives

Some coolant additives will gradually deplete during engine operation. Periodic replenishment of inhibitors is required, even when John Deere COOL-GARD II Premix or COOL-GARD II Concentrate is used. Follow the recommendations in this manual for the use of John Deere COOL-GARD II COOLANT EXTENDER.

Why use John Deere COOL-GARD II COOLANT EXTENDER?

Operating without proper coolant additives will result in increased corrosion, cylinder liner erosion and pitting, and other damage to the engine and cooling system. A simple mixture of ethylene glycol or propylene glycol and water will not give adequate protection.

John Deere COOL-GARD II COOLANT EXTENDER is a chemically matched additive system designed to fortify the proprietary additives used in John Deere COOL-GARD II Premix and COOL-GARD II Concentrate and to provide optimum protection for up to 6 years or 6000 hours of operation.

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Avoid Automotive-type Coolants

Never use automotive-type coolants (such as those meeting ASTM D3306). These coolants do not contain the correct additives to protect heavy-duty diesel engines. Do not treat an automotive engine coolant with supplemental coolant additives because the high concentration of additives can result in additive fallout.

Water Quality

Water quality is important to the performance of the cooling system. Distilled, deionized, or demineralized water is recommended for mixing with ethylene glycol and propylene glycol base engine coolant concentrate. All water used in the cooling system should meet the following minimum specifications for quality:

Chlorides	<40 mg/L
Sulfates	<100 mg/L
Total dissolved solids	<340 mg/L
Total hardness	<170 mg/L
pH	5.5 to 9.0

Freeze Protection

The relative concentrations of glycol and water in the engine coolant determine its freeze protection limit.

Ethylene Glycol	Freeze Protection Limit
40%	-24°C (-12°F)
50%	-37°C (-34°F)
60%	-52°C (-62°F)
Propylene Glycol	Freeze Protection Limit
40%	-21°C (-6°F)
50%	-33°C (-27°F)
60%	-49°C (-56°F)

DO NOT use a coolant-water mixture greater than 60% ethylene glycol or 60% propylene glycol.

DX,COOL17 -19-03NOV08-1/1

Testing Diesel Engine Coolant

Maintaining adequate concentrations of glycol and inhibiting additives in the coolant is critical to protect the engine and cooling system against freezing, corrosion, and cylinder liner erosion and pitting.

Test the coolant solution at intervals of 12 months or less and whenever excessive coolant is lost through leaks or overheating.

Coolant Test Strips

Coolant test strips are available from your John Deere dealer. These test strips provide a simple, effective method to check the freeze point and additive levels of your engine coolant.

When Using John Deere COOL-GARD II

John Deere COOL-GARD™ II Premix and COOL-GARD II Concentrate are maintenance free coolants for up to 6 years or 6000 hours of operation, provided that the cooling system is topped off using only John Deere COOL-GARD II Premix coolant. Test the coolant condition annually with coolant test strips designed for use with John Deere

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CoolScan is a trademark of Deere & Company
CoolScan PLUS is a trademark of Deere & Company*

COOL-GARD II coolants. If the test strip chart indicates that additive is required, add John Deere COOL-GARD II COOLANT EXTENDER as directed.

Add only the recommended concentration of John Deere COOL-GARD II COOLANT EXTENDER. DO NOT add more than the recommended amount.

When Using John Deere COOL-GARD

Compare the test strip results to the supplemental coolant additive (SCA) chart to determine the amount of inhibiting additives in your coolant and whether more John Deere LIQUID COOLANT CONDITIONER should be added.

Add only the recommended concentration of John Deere LIQUID COOLANT CONDITIONER. DO NOT add more than the recommended amount.

CoolScan and CoolScan PLUS

For a more thorough evaluation of your coolant, perform a CoolScan™ or CoolScan PLUS™ analysis, where available. See your John Deere dealer for information.

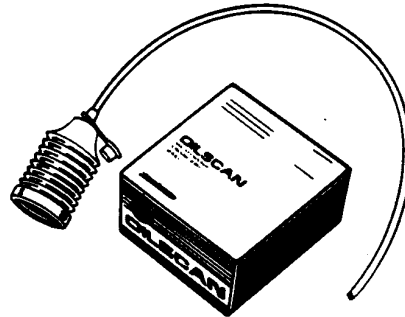
DX,COOL9 -19-03NOV08-1/1

OILSCAN™ and COOLSCAN™

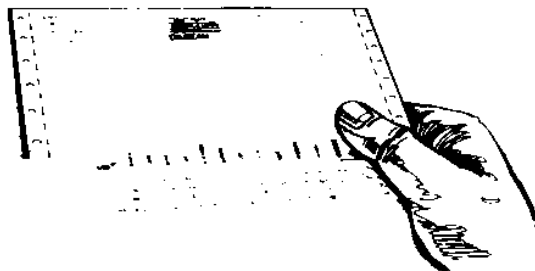
OILSCAN™ and COOLSCAN™ are John Deere sampling programs to help you monitor machine performance and identify potential problems before they cause serious damage.

Oil and coolant samples should be taken from each system prior to its recommended change interval.

Check with your John Deere dealer for the availability of OILSCAN™ and COOLSCAN™ kits.



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T6829AB—UN—18OCT08

*OILSCAN is a trademark of Deere & Company.
COOLSCAN is a trademark of Deere & Company.*

DX,OILSCAN -19-12MAY08-1/1

Transmission and Hydraulic Oil

Use oil viscosity based on the expected air temperature range during the period between oil changes.

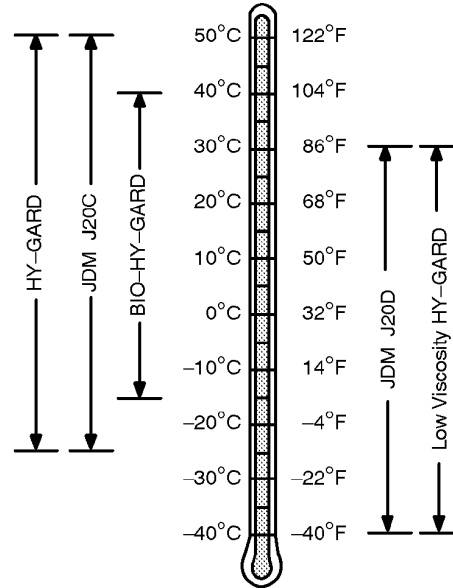
The following oils are preferred:

- 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™ oil when a biodegradable fluid is required.¹



HY-GARD is a trademark of Deere & Company
 BIO-HY-GARD is a trademark of Deere & Company

¹ 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.

TS1660—JUN—10OCT97

DX,ANTI -19-11JAN08-1/1

Powershift Transmission Recalibration

Your tractor's transmission is factory filled with John Deere HY-GARD® oil.

When changing transmission-hydraulic oil from one viscosity to another, powershift control unit must

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be recalibrated in order to maintain smooth shifting characteristics. See your John Deere Dealer.

OURX935.000042D -19-11JAN08-1/1

Independent Link Suspension Differential Case Oil

NOTE: The Independent Link Suspension differential case is connected to the transmission case and operates using the same oil. There is no fill location.

OURX935.000042F -19-11JAN08-1/1

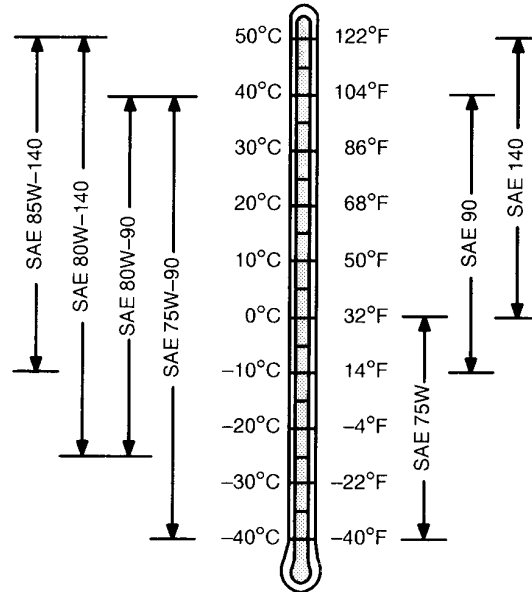
Gear Oil

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 API Service Classification GL-5.



TS1653 —UN—14MAR96

EXTREME-GARD is a trademark of Deere & Company.

DX.GEOIL -19-07JUL99-1/1

Grease

Use grease based on NLGI consistency numbers and the expected air temperature range during the service interval.

John Deere SD POLYUREA GREASE is preferred.

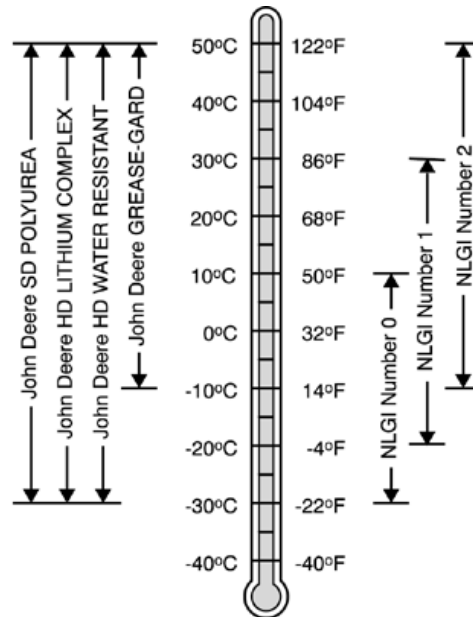
The following greases are also recommended

- John Deere HD LITHIUM COMPLEX GREASE
- John Deere HD WATER RESISTANT GREASE
- John 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



TS1673 —UN—31OCT03

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DX.GEA1 -19-11JAN08-1/1

Mixing of Lubricants

In general, avoid mixing different brands or types of oil. Oil manufacturers blend additives in their oils to meet certain specifications and performance requirements.

Mixing different oils can interfere with the proper functioning of these additives and degrade lubricant performance.

Consult your John Deere dealer to obtain specific information and recommendations.

DX,LUBMIX -19-11JAN08-1/1

Alternative and Synthetic Lubricants

Conditions in certain geographical areas may require lubricant recommendations different from those printed in this manual.

Some John Deere brand coolants and lubricants may not be available in your location.

Consult your John Deere dealer to obtain information and recommendations.

Synthetic lubricants may be used if they meet the performance requirements as shown in this manual.

The temperature limits and service intervals shown in this manual apply to both conventional and synthetic oils.

Re-refined base stock products may be used if the finished lubricant meets the performance requirements.

DX,ALTER -19-11JAN08-1/1

Lubricant Storage

Your equipment can operate at top efficiency only when clean lubricants are used.

Use clean containers to handle all lubricants.

Whenever possible, 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 -19-11JAN08-1/1

Transmission, Hydraulic, and Gear Case Oil

Use oil viscosity based on the expected air temperature range during the period between oil changes.

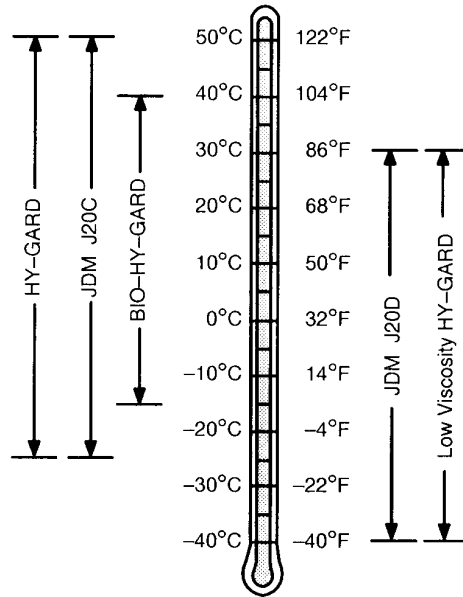
The following oils are preferred:

- 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™ oil when a biodegradable fluid is required.¹



HY-GARD is a trademark of Deere & Company.
BIO-HY-GARD is a trademark of Deere & Company

¹BIO-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.

TS1651 —UN—14MAR96

DX,OIL1 -19-07NOV03-1/1

Maintenance and Service Intervals

Observe Service Intervals

IMPORTANT: Recommended service intervals are for average conditions. Service MORE OFTEN if tractor is operated under adverse conditions.

When looking for details on any service listed in this section, go to either the Table of Contents or the Index of this Operator's Manual. Look for the same title that is listed in the left hand column of the tables on the following pages.

Perform all services at the hourly intervals indicated on the following pages. Record the service performed in Lubrication and Maintenance Records section.

The procedure for services can be found in the following sections of this Operator's Manual:

Service Interval	Section
10 Hour or Daily	100
Initial 100 Hour	101
250 Hour	102
500 Hour	103
750 Hour	104
Annual	105
1500 Hour	106
2000 Hour	107
3000 Hour	108
4500 Hour	109
General Services (As Needed)	110
Electrical Services (As Needed)	120

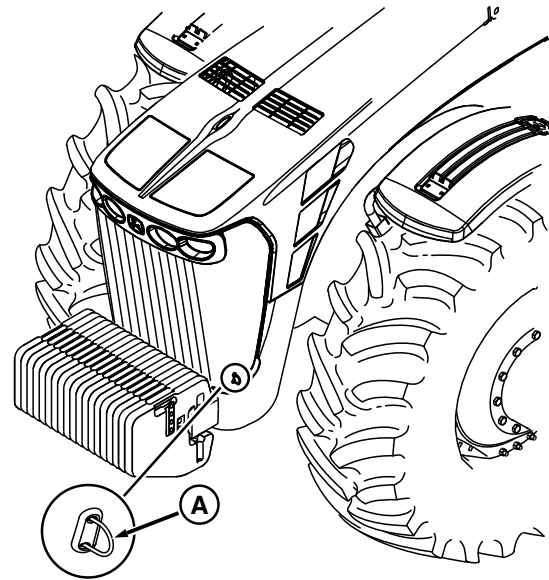
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Raising the Hood

Stop engine before raising hood.

Pull out on hood release (A) and tilt hood back to open.

A—Hood Release



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OURX935,000058F -19-18DEC07-1/1

Service Interval Chart—Daily or 10 Hours—100 Hours (Initial)—250 Hours—500 Hours—750 Hours

Item	Daily or 10 Hours	100 Hours (Initial)	250 Hours	500 Hours	750 Hours
Checking Engine Oil	•				
Checking Tires	•				
Checking Transmission/Hydraulic Oil Level	•				
Draining Air Brake Tank	•				
Lubricating Hitch Components	•				
Checking Coolant Level (Coolant Recovery Tank)	•				
Draining Water Separator	•				
Checking Coolant Level (De-aeration Tank)		•			
Changing Engine Oil and Filter *		•	•		
Checking Neutral Start System (PST or AutoPowr Transmissions)			•		
Checking Transmission PARK Position			•		
Checking Wheel and Wheel Weight Bolts			•		
Lubricating MFWD Axle And MFWD Axle U-Joints ***			•		
Lubricating Independent Link Suspension External Fittings *** And Axle U-Joints			•		
Checking MFWD Differential Case Oil Level			•		
Cleaning Cab Air Filters **			•		
Checking Manual Brakes			•		
Lubricating Front Hitch (If Equipped)			•		
Draining Fuel Tank Sump			•		
Checking Manually-Operated Hitch For Wear			•		
Checking Remote Controlled Hitch For Wear			•		
Check Wear At Tow Hitch (Piton or Ball)			•		
Check Swinging Drawbar For Wear			•		
Check tow-Hook On Pick-Up Hitch For Wear			•		
Checking MFWD or Independent Link Suspension Wheel Hub Oil Level			•		
Replacing Fuel Filter Elements (Both Fuel Filters) ****				•	
Cleaning MFWD Axle Vent Filter					•
Cleaning Fuel Tank Vent Filter **					•
Checking Air Intake System					•
Testing Coolant					•

* INITIAL engine oil and filter change is 100 hours maximum of operation. SCHEDULED interval (250 hours) can be extended to 375 hours if John Deere PLUS-50 oil and John Deere filter are used.

** Interval can vary according to operating conditions

*** Daily or 10 Hours when operating in extremely wet and muddy conditions or where AutoTrac is used.

**** Replace at 500 hours or annually whichever comes first.

OURX935,000038D -19-03SEP08-1/1

Service Interval Chart—Annual, 1500 Hours, 2000 Hours and 4500 Hours

Item	Annually	1500 Hours	2000 Hours	4500 Hours
Replacing Primary and Secondary Engine Air Filters **	•			
Servicing Batteries ****	•			
Checking Auxiliary Drive Belt	•			
Checking Seat Belts	•			
Replacing Cab Air Filters **	•			
Checking Independent Link Suspension Upper and Lower Rod and Head End Accumulator Charge Pressure *	•			
Cleaning And Inspecting Primary Engine Filter	•			
Draining Clean Oil Reservoir		•		
Changing Transmission/Hydraulic Oil And Cleaning Transmission Filter Screen		•		
Cleaning Transmission Filter Screen (IVT Only)		•		
Replacing Transmission/Hydraulic Filters (Both Filters)		•		
Cleaning Hydraulic Oil Suction Screen		•		
Changing MFWD Differential Case Oil		•		
Lubricating Independent Link Suspension Axle Internal Tie Rod Ball Joints*		•		
Changing MFWD Or Independent Link Suspension Wheel Hub Oil		•		
Replacing SCV Stack Filter		•		
Replacing Front Hitch SCV Filter		•		
Lubricating Draft Link Support Shaft Bushing		•		
Adjusting Engine Valve Clearance *			•	
Draining, Flushing, and Refilling Engine Cooling System ***			•	
Replacing Engine Crankshaft Damper *				•

* See your John Deere Dealer for questions

** Interval can vary according to operating conditions

*** **INITIAL** change interval is 6 years or 6000 hours, provided cooling system is topped off using only John Deere Cool-GARD II and premix and coolant is tested at recommended intervals. After initial service, the **SCHEDULED** interval (2 years or 2000 hours) can be extended up to 6 years or 6000 hours depending on coolant used and if coolant is tested at recommended intervals. Follow recommendations in "Drain Intervals for Diesel Engine Coolant" in Fuels, Lubricants and Coolant section of this manual.

**** For replacement batteries, follow manufacturer's recommendations.

OURX935,000038E -19-02DEC08-1/1

Daily or 10 Hour Service

Checking Engine Oil

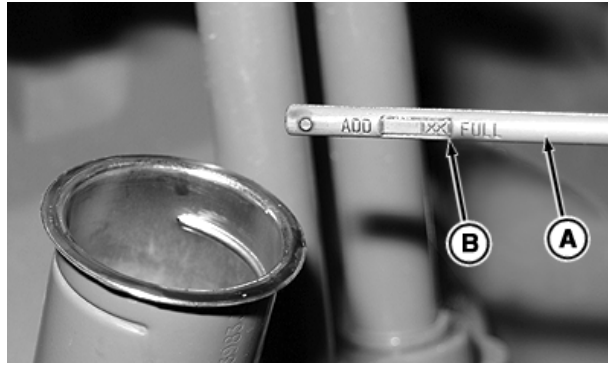
Remove dipstick and check oil level with tractor on level ground before starting tractor. Oil level should be between the "ADD" and the top of the cross-hatch area (B) on dipstick (A).

NOTE: Tighten dipstick to check oil. Cross-hatch area is considered FULL.

IMPORTANT: Do not operate engine with oil level below the "ADD" mark on dipstick.

A—Dip Stick

B—Cross Hatch Area



RXA0078347—UN—08DEC04

OURX935,00002AD -19-07JUL08-1/1

Checking Tires

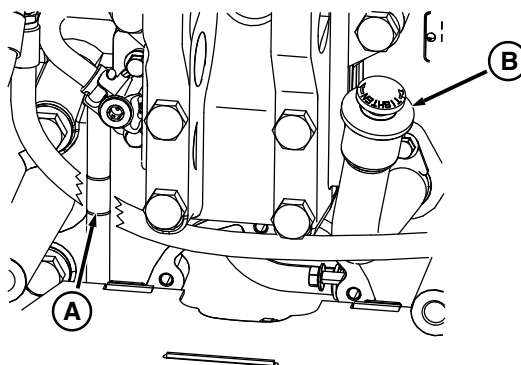
IMPORTANT: Keep tires at maximum allowable pressure to insure maximum performance.

Inspect tires daily for cuts or breaks and repair. If tires contain liquid ballast, use a special air-water gauge, and

measure with valve stem positioned at bottom. Check pressure of each tire at least once a week.

OURX935,0000332 -19-19JUN08-1/1

Checking Transmission/Hydraulic Oil Level



A—Sight Glass

B—Filler Cap

Park tractor on level ground.

Operate engine at approximately 1000 rpm for at least one minute. Before checking oil level, stop engine and wait an additional three minutes for oil to settle back into differential case.

IMPORTANT: Change oil in clean oil reservoir immediately if oil is contaminated with water.

NOTE: Oil temperature should be approximately 45° C. See Changing Display Functions in the CommandCenter section to determine oil temperature.

Tractor should be on level ground with hitch in the lowered position and engine stopped when checking oil level.

Sight glass observations will be significantly higher with hotter oil temperatures and lower with colder oil or if engine has not run long enough.

Observe oil level in sight glass (A). Oil level should be between the marks on the glass. Optimum level is at the top mark.

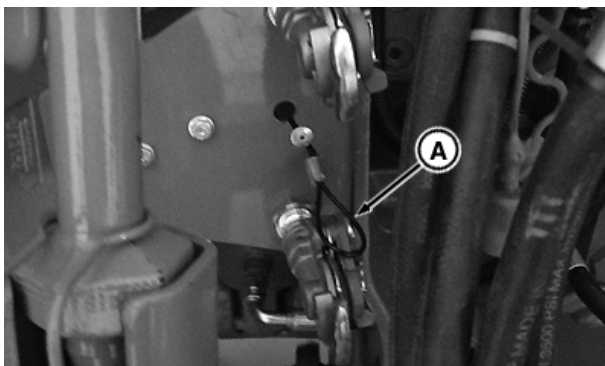
IMPORTANT: Oil level above the top mark on sight glass can result in power loss and heat generation during transport.

If oil level is below the lower mark, remove filler cap (B) and add hydraulic oil.

OURX935,00002AE -19-19JUN08-1/1

RXA0098554 —UN—16JUN08

Draining Air Brake Tank



A—Air Tank Drain Cable

B—Tube

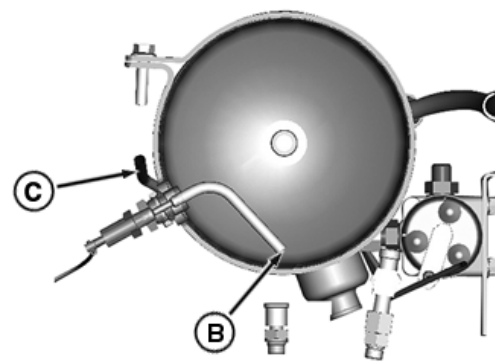
C—Lever

NOTE: Air brake tank should be drained before beginning daily operations. Air tank is designed in such a way that when air tank drain cable is pulled, lever (C) opens valve allowing water to drain.

Tank is designed with tube (B) near the bottom of tank to collect water that accumulates

Pull Air Tank Drain Cable (A) at the back of tractor to drain air brake tank.

OURX935,00002B0 -19-25JUN08-1/1



RXA0097298 —UN—19FEB08

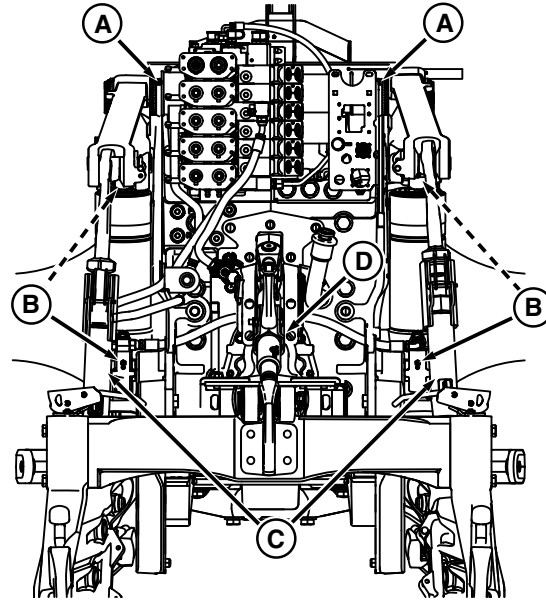
RXA0098555 —UN—16JUN08

Lubricating Hitch Components

Use John Deere SD Polyurea grease or other grease as specified in Fuel, Lubricants and Coolant section.

Lubricate hitch components (A—D).

- | | |
|------------------|---------------|
| A—Rockshaft | C—Lift Links |
| B—Lift Cylinders | D—Center Link |



RXA0097174 —UN—22FEB08

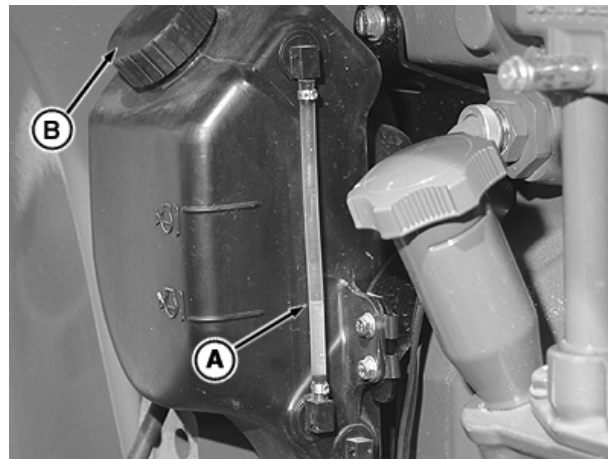
OURX935,00002B1 -19-25JUN08-1/1

Checking Coolant Level (Coolant Recovery Tank)

1. Check coolant level at sight tube (A), BEFORE starting tractor. Level should be above lower mark when engine is cold.
2. If coolant level is low:
 - a. Raise hood.
 - b. Check for any signs of leakage. Repair if necessary.

NOTE: If coolant recovery tank still needs coolant and there is no sign of an external leak, this may indicate an internal coolant leak. Contact your John Deere dealer for service.

- c. Remove coolant recovery tank cap (B) and add coolant, as specified in Fuel, Lubricants and Coolant section.
- d. Lower hood.



Left-Hand Side

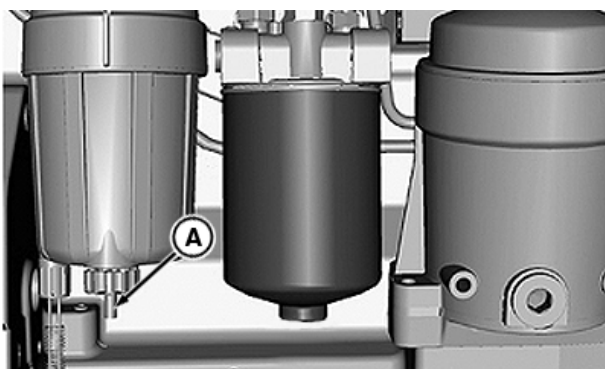
A—Sight Tube

B—Coolant Recovery Tank Cap

RXA0078349 —UN—11APR05

OURX935,00002B2 -19-19JUN08-1/1

Draining Water Separator



Water Separator

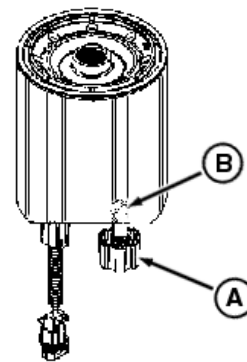
A—Drain Valve Nut

B—Tabs

IMPORTANT: Tractor warranty is void if power level is changed from factory specifications.

Do not attempt to service injection pump or fuel injectors yourself. Special training and special tools are required. See your John Deere dealer.

NOTE: When separator sensor identifies water in the fuel system, the service alert indicator will flash on the cornerpost display. An alarm will sound



Water Separator

for five seconds and a corresponding message appears on the CommandCenter display.

NOTE: Water in fuel collects in the bottom of the fuel filters. Loosening drain valve nut (A) causes tabs (B) to drop down allowing water to drain.

Turn drain valve nut counterclockwise all the way open to drain water.

OURX935,00004C9 -19-29AUG08-1/1

Initial 100 Hour Service

Changing Engine Oil and Filter

IMPORTANT: Use of diesel fuel with sulfur content less than 0.10% (1000 ppm) is strongly recommended. Refer to Fuel, Lubricants and Coolant section for more information on oil change intervals.

NOTE: *INITIAL* oil and filter change is 100 hours maximum of operation.

**SCHEDULED* interval (250 hours) can be extended to 375 hours if John Deere PLUS 50 oil and John Deere filter are used.

If fuel sulfur level is 0.20 — 0.50% (2000 to 5000 PPM), regular interval of 250 hours between oil changes should be reduced to 150 hours.

See Changing Engine Oil and Filter in the 250 Hour Service Section.

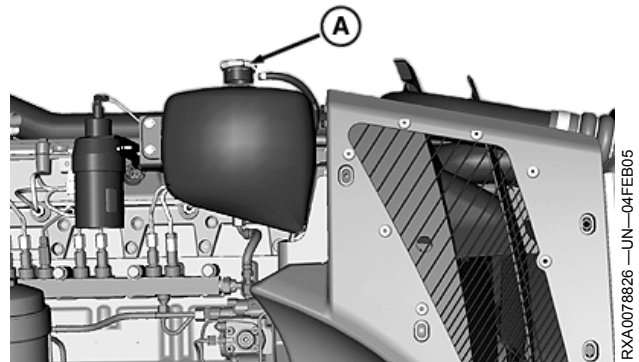
OURX935,0000333 -19-19JUN08-1/1

Checking Coolant Level (Coolant De-aeration Tank)



Pressurized Cooling System can Cause Serious Burns

TS281—UN—23AUG88



RXA0078826—UN—04FEB05

A—De-aeration Tank Cap

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.

1. Raise hood.
2. Slowly turn de-aeration tank cap (A) to relieve pressure. Remove cap.

NOTE: *When inspecting tank, if it is at least half full, do not add additional coolant.*

If tank is empty and recovery tank has been kept at least full cold, this indicates a leak that prevents system from recovering coolant from recovery tank.

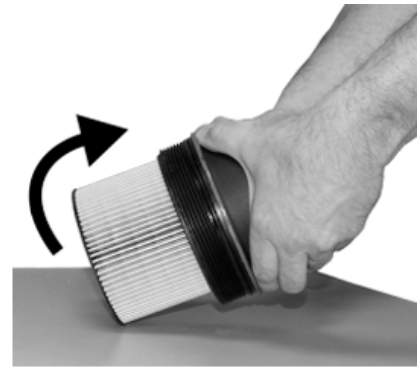
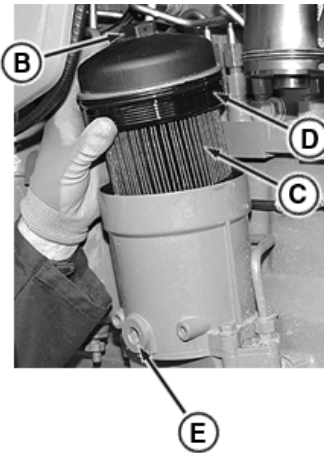
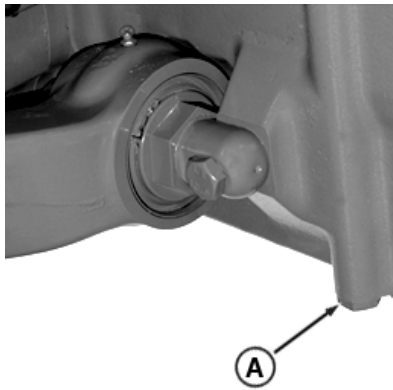
If recovery tank level does not change when engine is being warmed up, this is a sign of a leak or of a very low coolant level in the pressurized circuit.

3. Check de-aeration tank level. Tank will not be full of coolant when cap is removed.
4. Add coolant, as specified in Fuel, Lubricants and Coolant section.
5. Reinstall de-aeration tank cap.

OURX935,0000334 -19-19JUN08-1/1

250 Hour Service

Changing Engine Oil and Filter



Drain Oil and Replace Filter

A—Engine Oil Drain Plug
B—Filter Cover

C—Filter
D—O-Ring

E—Plug

IMPORTANT: Use of diesel fuel with sulfur content less than 0.10% (1000 ppm) is strongly recommended. Refer to Fuel, Lubricants and Coolant section for more information on oil change intervals.

NOTE: *INITIAL* oil and filter change is 100 hours maximum of operation.

**SCHEDULED* interval (250 hours) can be extended to 375 hours if John Deere PLUS 50 oil and John Deere filter are used.

If fuel sulfur level is 0.20 — 0.50% (2000 to 5000 PPM), regular interval of 250 hours between oil changes should be reduced to 150 hours.

- Operate engine approximately 5 minutes to warm oil, then stop engine.
- Remove engine fill cap (at dipstick).

NOTE: Drain plug location may vary slightly depending on application.

- Remove engine oil drain plug (A), Independent Link Suspension crankcase shown, and drain crankcase oil while engine is warm.

NOTE: Do not remove plug (E). Oil will automatically drain back into crankcase when filter is removed.

- Using a 32 mm wrench, unscrew oil filter cover (B) and lift as shown to allow filter to drain into crankcase.
- Remove filter cover with filter (C) attached.
- While holding cover, strike filter against solid surface to remove. Discard used filter.
- Remove old O-ring (D), and replace with new O-ring provided with new filter element.
- Press new filter into cover until it snaps into place.
- Insert cover and filter into oil filter housing, then tighten cover to torque specification.

Oil Filter Cover—Specification

Cover—Torque 40 N·m (30 lb-ft)

- Install drain plug after oil has been drained from crankcase.
- Refill crankcase with seasonal viscosity grade oil.

Crankcase capacity with Filter

	2WD/1300 MFWD	1500 MFWD/Independent Link Suspension
8130-8330	24 L (25.5 qt)	24.5 L (26 qt)
8430	25.5 L (27 qt)	28 L (29.5 qt)
8530	—	28 L (29.5 qt)

- Start engine and check for leaks.
- Stop engine. Recheck oil level.

FXA0098558 —UN—16JUN08

OURX935.00002B4 -19-19JUN08-1/1

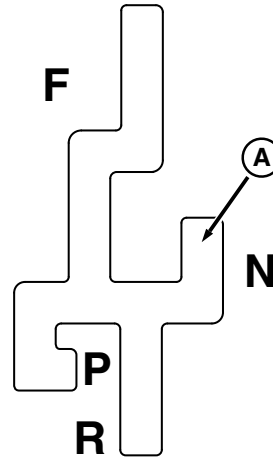
Inspecting Neutral Start System—AutoPowr Transmission

1. Make sure everyone is clear of tractor.
2. Fully depress clutch and brake pedals.
3. Move left-hand reverser to any position except NEUTRAL or PARK position.
4. Start engine. If engine starts in any of these positions, neutral start system should be repaired. See your John Deere Dealer **immediately**.

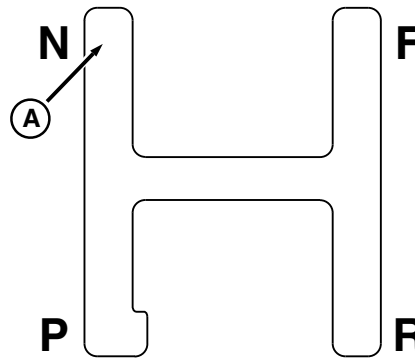
For AutoPowr tractors equipped with left-hand reverser, engine will start in NEUTRAL or PARK positions.

For AutoPowr tractors equipped with right-hand shift controls, engine will only start in PARK.

A—Shift Lever in Neutral



AutoPowr Transmission Right-Hand Reverser in Neutral



AutoPowr Transmission Left-Hand Reverser in Neutral

RXA0082370 —UN—21JUL05

RXA0082368 —UN—21JUL05

OURX935,00004CA -19-03SEP08-1/1

Checking Neutral Start System—PowerShift Transmission

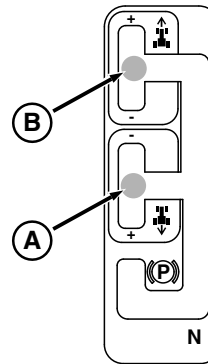
Fully depress clutch and brake pedals. Move shift lever (B) from PARK to a forward gear. Attempt to start engine. Starter should NOT engage.

If starter engages, neutral start system should be repaired by your John Deere Dealer **immediately**.

Repeat this step by placing shift lever (A) into a reverse gear.

A—Shift Lever (In Reverse Gear)

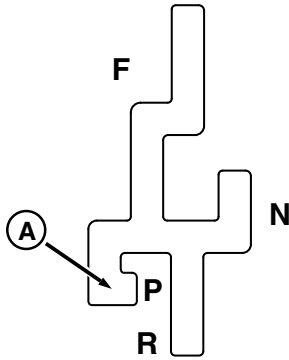
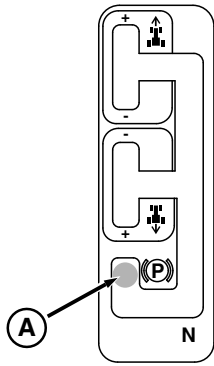
B—Shift Lever (In Forward Gear)



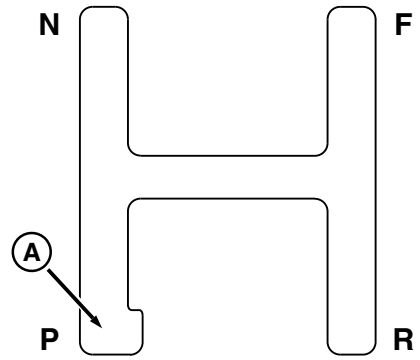
RXA0082674 —UN—15AUG05

OURX935,00002B6 -19-19JUN08-1/1

Checking Transmission PARK Position



PowerShift Transmission, IVT Left-Hand And IVT Right-Hand Reverser In Park Position



A—Shift Lever in PARK

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.

Move shift lever (A) to PARK position.

Transmission should be repaired **immediately** by your John Deere Dealer, if tractor does not hold on incline with shift lever in PARK position.

OURX935,0002B7 -19-05AUG08-1/1

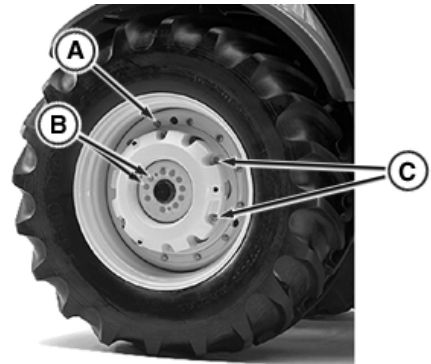
RXA0086598 —UN—09FEB06

Checking Wheel and Wheel Weight Bolts

Torque rim to wheel bolts (A) and hub bolts (B) per torquing procedure listed in the Wheels, Tires and Treads section. Torque weight bolts (C) per torquing procedure listed in the Performance Ballasting section.

A—Rim to Wheel Bolts
B—Hub Bolts

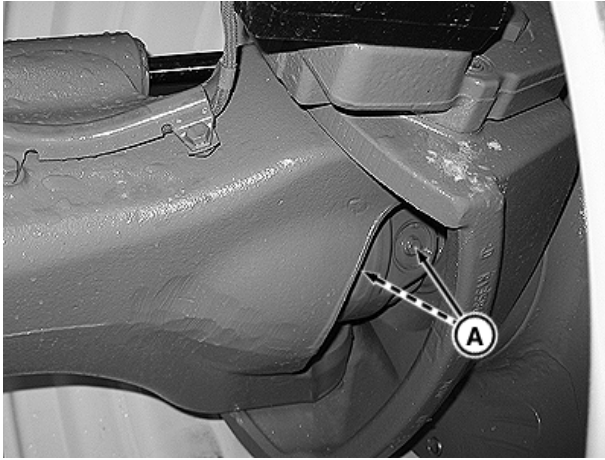
C—Weight Bolts



OURX935,0002B8 -19-19JUN08-1/1

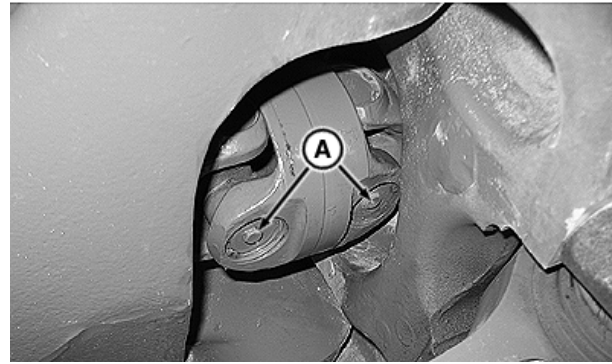
RXA0086559 —UN—16JUN08

Lubricating MFWD U-Joints



1300 MFWD Axle

RXA0095783 —UN—21AUG07



1500 MFWD Axle

RXA0095780 —UN—21AUG07

A—Plug

Use John Deere SD Polyurea grease or other grease as specified in Fuel, Lubricants and Coolant section. *In extremely wet conditions service daily or every 10 Hours.*

Apply grease to both U-joints, using fitting (A).

Drilled passages in the cross allow grease to reach all four bearings from a single grease fitting.

For normal operations, outboard U-joints are sealed and not equipped with grease fittings. For extremely wet conditions:

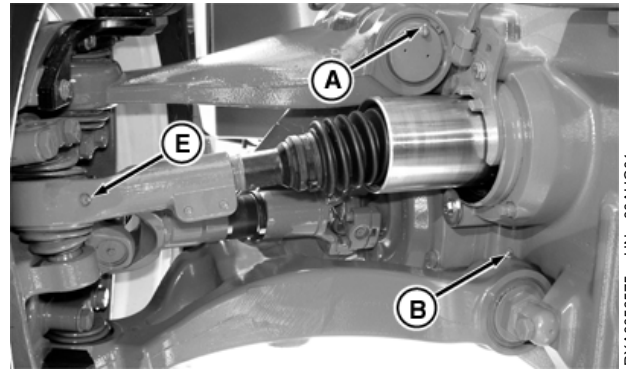
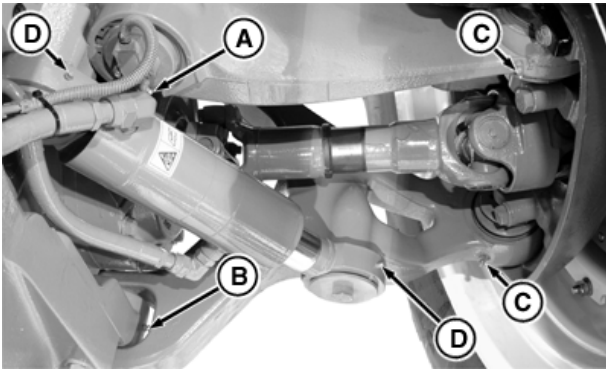
1. Replace plugs (A) with M10 thread 90° grease fittings, part number 58M5580.
2. Lubricate U-joints daily or every 10 hours.
3. Replace grease fitting with plug and tighten to torque specification.

Specification

Plug—Torque..... 0.904 N·m (8 lb-in)

OURX935.00002BC -19-13AUG08-1/1

Lubricating Independent Link Suspension Axle—External Fittings



- A—Upper Control Arm Fittings
- B—Lower Control Arm Fittings
- C—Kingpin Fittings
- D—Suspension Cylinder Fittings

- E—Tie Rod Fittings

Use John Deere SD Polyurea grease or other grease as specified in Fuel, Lubricants and Coolant section.

Suspension Cylinders—Lubricate fittings (D) for both ends of each suspension cylinder.

Upper Control Arms—Lubricate fittings (A) on each side of suspension.

Tie Rods—Lubricate fittings* (E) for each tie rod.

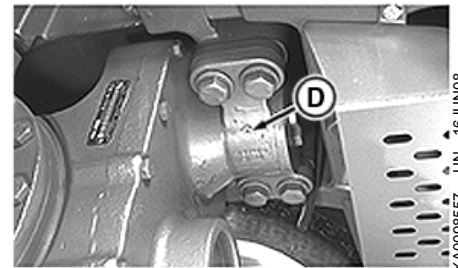
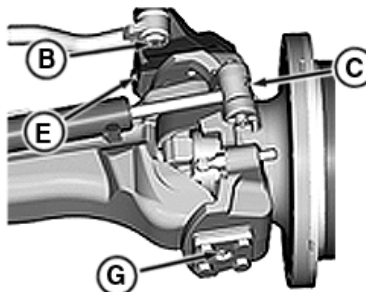
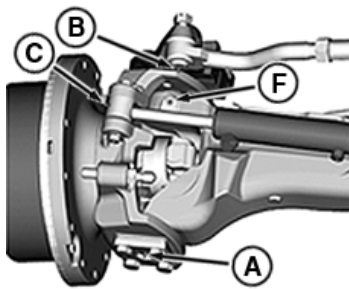
Lower Control Arms—Lubricate fittings (B) on each side of suspension.

* *Daily or 10 Hours in extremely wet conditions or where Auto Trac is used*

Kingpins—Lubricate fittings* (C) for each kingpin bearing.

OURX935,00002BD -19-13AUG08-1/1

Lubricating MFWD Axle



Kingpins, Tie Rods and Steering Cylinder

- A—Kingpin Fittings, Bottom
- B—Tie Rod Fittings
- C—Steering Cylinder Fittings
- D—Axle Pivot Fittings
- E—Kingpin Fitting, Top, Right Side
- F—Kingpin Fittings, Top, Left Side

Use John Deere SD Polyurea grease or other grease as specified in Fuel, Lubricants and Coolant section. *In extremely wet conditions or where AutoTrac is used, service daily or every 10 Hours.*

Tie Rods—Lubricate fittings (B).

Steering Cylinder—Lubricate fittings (C).

Kingpins—Lubricate fittings (A, E, and F) until grease appears at orifice on bottom end of each kingpin bearing.

Axle Pivot—Lubricate front and rear fittings (D).

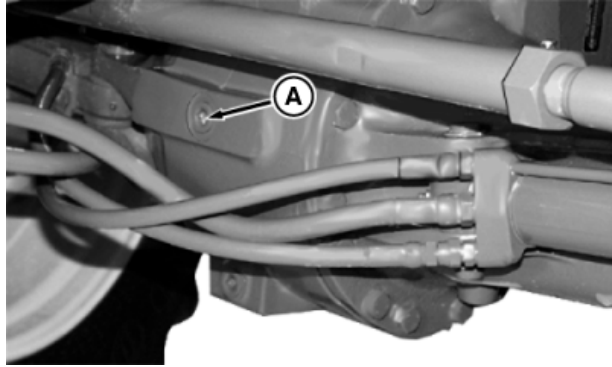
OURX935,0000453 -19-05AUG08-1/1

Checking MFWD Differential Case Oil Level

Check differential case oil level. Oil level should be just below plug hole (A). If low, add through same hole.

John Deere HY-GARD is recommended.

A—Plug Hole



RXA0062918 —UN—17APR01

OURX935,00002BF -19-19JUN08-1/1

Cleaning or Replacing Cab Air Filters

CAUTION: Cab air filters are not designed to filter out harmful chemicals. Follow the instructions in the implement operator's manual and those given by the chemical manufacturer when using agricultural chemicals. * *Interval can vary according to operating conditions*

Recirculation Filter

Remove filter cover (A) behind seat and remove air filter (B). Replace or clean using compressed air. In dusty conditions, this service may be required more often.

Cab Air Filter

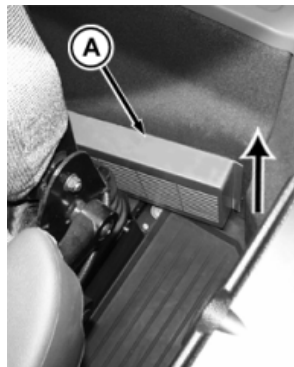
IMPORTANT: Thoroughly clean inside of housing before installing filter (E).

Remove cover (C) under right-hand corner of cab and retaining nut (D).

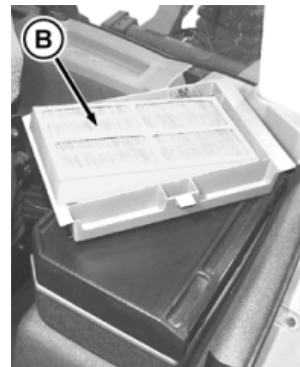
Replace or clean filter (E) using compressed air.

A—Filter Cover
B—Air Filter
C—Cover

D—Retaining Nut
E—Filter



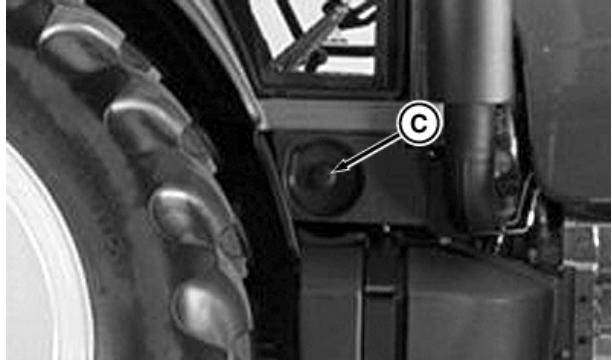
Air Filter Cover



Air Filter Cover Removed

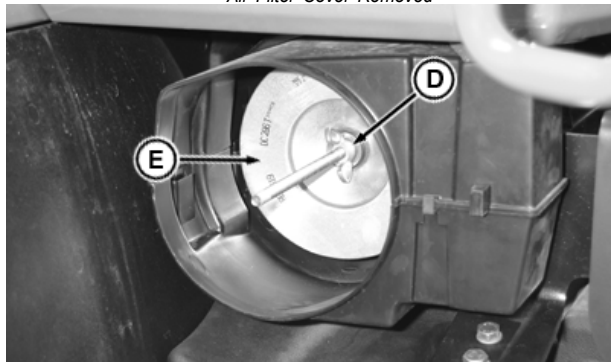
RW26590 —UN—01OCT99

RW26591 —UN—01OCT99



Air Filter Cover Removed

RXA0080148 —UN—11APR05

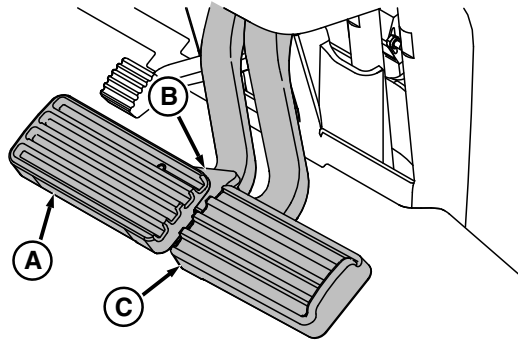


Cab Air Filter

RXA0079887 —UN—11APR05

OURX935,00002C0 -19-19JUN08-1/1

Checking Manual Brakes



A—Left Brake

B—Latch Bar

C—Right Brake

With engine stopped, check manual brakes for correct function:

1. Pump individually the left brake (A) and right brake (C). If pedals have no resistance, see your John Deere dealer.
2. Check to make sure that the pedals do not settle to the end of stroke within 10 seconds after being applied. If leakage exceeds this rate or if one pedal settles faster than the other, see your John Deere dealer.
3. Press both pedals simultaneously. Resistance should be felt on both pedals at approximately the same pedal

height. If height varies more than 51 mm (2 in.), see your John Deere dealer.

IMPORTANT: Any noticeable pedal drift downward from the point of resistance indicates brake leakage. See your John Deere dealer.

A solid pedal and balance between the left and right pedals are important for emergency braking conditions when the latch bar (B) is used.

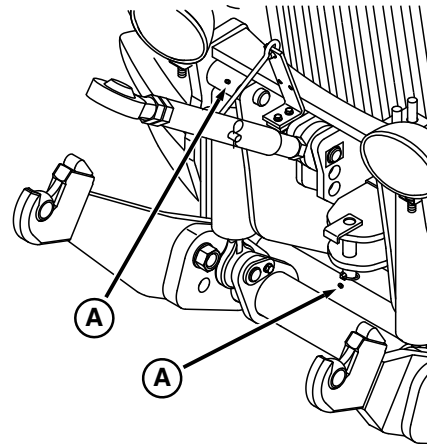
OURX935,00002C1 -19-13AUG08-1/1

RXA0088661 —UN—16JUN08

Lubricating Front Hitch (If Equipped)

Use John Deere SD Polyurea grease or other grease as specified in Fuel, Lubricants and Coolant section to lubricate front hitch fittings (A). Daily or 10 Hours in extremely wet conditions.

A—Front Hitch Fittings



OURX935,00002C2 -19-19JUN08-1/1

RXA0085964 —UN—10MAR06

Draining Fuel Tank Sump

IMPORTANT: Use wrench to hold drain fitting before opening tee or damage to tank threads can occur.

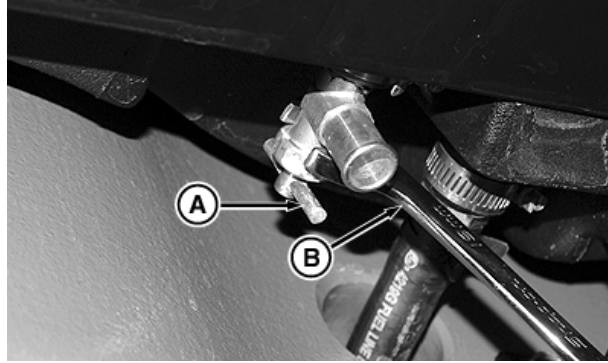
Open drain tee (A) while holding drain fitting with wrench (B).

Drain fuel from tanks until clean fuel appears from tank.

Hold fitting with wrench to close drain tee.

A—Drain Tee

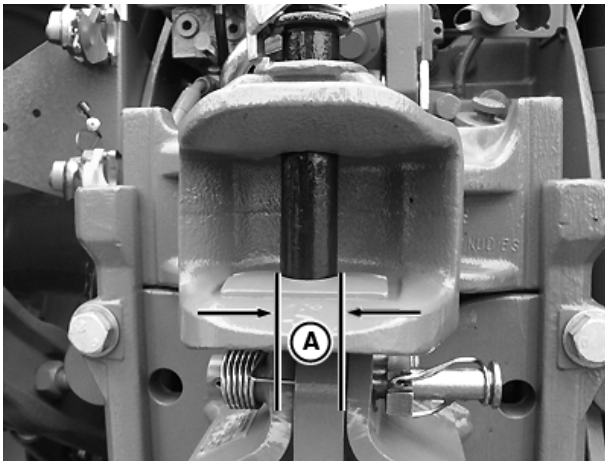
B—Wrench



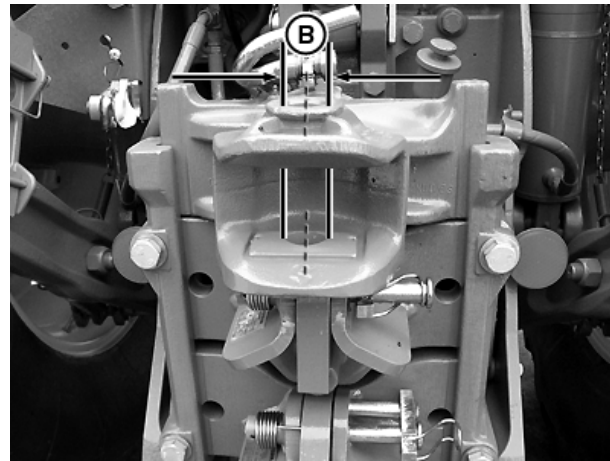
RXA0078628 —UN—04FEB05

OURX935,00002C3 -19-19JUN08-1/1

Checking the Manually-Operated Hitch for Wear



RXA0095855 —UN—29AUG07



RXA0095856 —UN—29AUG07

A—Diameter (A)

B—Diameter (B)

CAUTION: Parts that have reached or exceeded their wear limit must be replaced with new parts.

Check diameter (A) of the hitch pin.

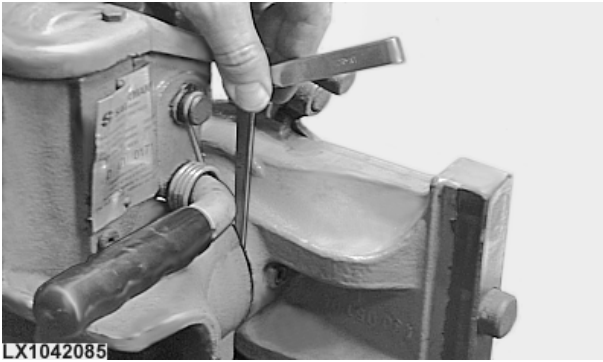
Specification	
Hitch pin—Wear limit or minimum diameter.....	29.0 mm 1.14 in.

Check diameter (B) of the receiver hole.

Specification	
Top and bottom receiver holes (measured in direction of travel)—Wear limit or maximum permitted diameter.....	35.0 mm (oval) 1.38 in. (oval)

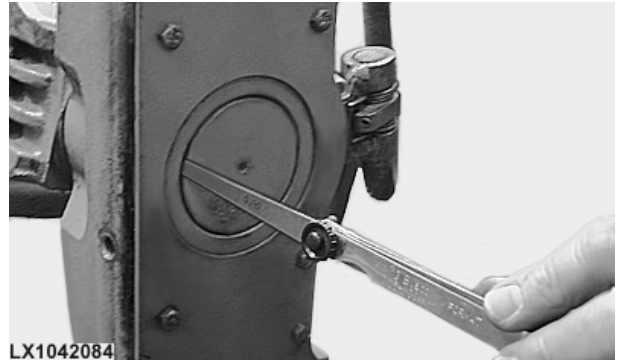
Continued on next page

OURX935,0000329 -19-13JUN08-1/2



LX1042085 —UN—26FEB07

Gap "X"



LX1042084 —UN—26FEB07

Bearing Play "Y"

Replace retaining wire if:
Gap (X) is greater than 3 mm (0.118 in.)

IMPORTANT: If bearing play (Y) is greater than 1.5 mm (0.059 in.) the entire trailer hitch must be replaced with a new hitch.

OURX935.0000329 -19-13JUN08-2/2

Check Remote Controlled Hitch for Wear

⚠ CAUTION: Parts that have reached or exceeded their wear limit must be replaced with new parts.

Check diameters (A and B) of the hitch pin

Specification	
Ball-shaped hitch pin—Wear limit or minimum diameter (B).....	36 mm 1.42 in.
Ball-shaped hitch pin—Wear limit or minimum diameter (C).....	27 mm 1.06 in.

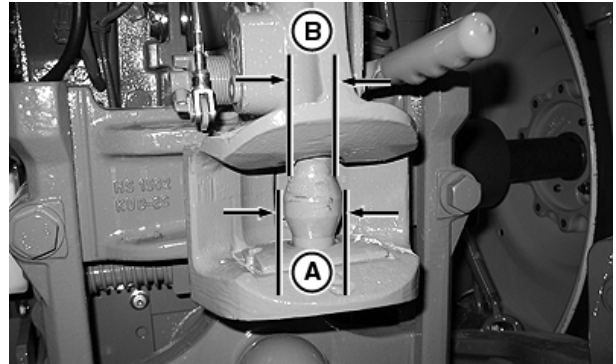
Check diameter (C) of the receiver hole.

Specification	
Bottom receiver hole (in direction of travel)—Wear limit or maximum permitted diameter.....	34 mm (oval) 1.33 in. (oval)

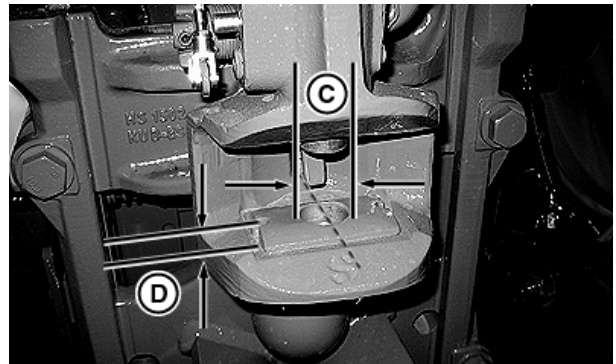
Check thickness (D) of wear plate.

Specification	
Wear plate—Wear limit or maximum permitted thickness (E).....	6 mm 0.24 in.

A—Hitch Pin Diameter (A) C—Receiver Diameter (C)
B—Hitch Pin Diameter (B) D—Wear Plate Thickness (D)



RXA0095843 —UN—29AUG07



RXA0095844 —UN—29AUG07

Continued on next page

OURX935.000032A -19-13JUN08-1/2



LX1042085

Gap "X"

LX1042085 —UN—26FEB07



LX1042084

Bearing Play "Y"

LX1042084 —UN—26FEB07

Replace retaining wire if: Gap (X) is greater then 3 mm (0.118 in.)
--

IMPORTANT: If bearing play (Y) is greater than 1.5 mm (0.059 in.) the entire trailer hitch must be replace with a new hitch.

OURX935,000032A -19-13JUN08-2/2

Check for Wear at Tow Hitch (Piton Fix)

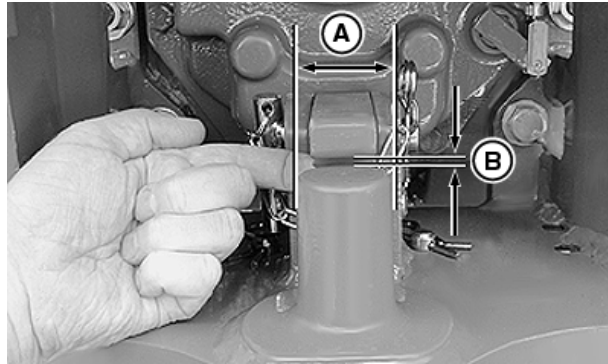
CAUTION: Parts that have reached or exceeded their wear limit must be replaced with new parts.

Check gap (B) at catch.

Specification	
Gap at catch—Maximum permissible clearance.....	10.0 mm 0.39 in.

Check diameter (A) of the pin.

Specification	
Pin—Wear limit or minimum diameter.....	41.5 mm 1.63 in.



A—Pin Diameter

B—Gap

FXA0095664 —UN—29AUG07

OURX935,000032B -19-13JUN08-1/1

Check for Wear at Ball-Type Tow Hitch

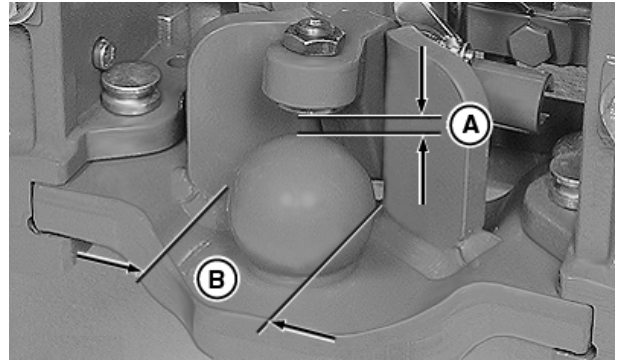
CAUTION: Parts that have reached or exceeded their wear limit must be replaced with new parts.

Check gap (A) at catch.

Specification	
Gap at catch—Maximum permissible clearance.....	4.0 mm 0.16 in.

Check diameter (B) of the ball.

Specification	
Ball diameter—Wear limit or minimum diameter.....	78.0 mm 3.07 in.



A—Gap

B—Ball Diameter

RXA0095865 —UN—29AUG07

OURX935,000032C -19-12JUN08-1/1

Checking Swinging Drawbar for Wear

CAUTION: Parts that have reached or exceeded their wear limit must be replaced with new parts.

Check diameter (A) of the pin.

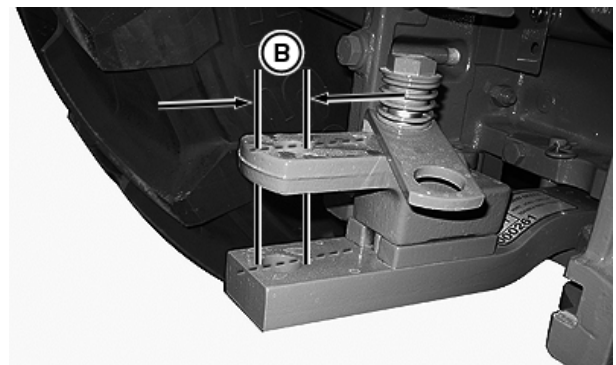
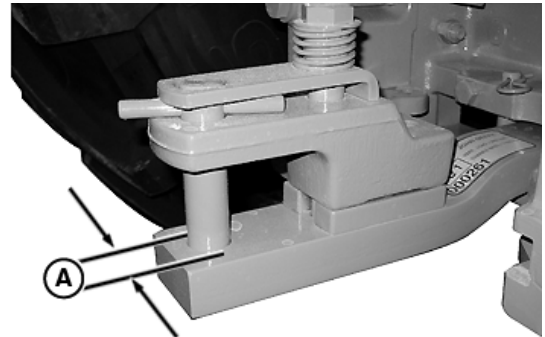
Specification	
Swinging drawbar, pin—Wear limit or minimum diameter.....	29.5 mm 1.16 in.

Check diameter (B) of the pin receiver hole.

Specification	
Top and bottom receiver holes (measured in direction of travel)—Wear limit or maximum permitted diameter.....	35.0 mm (oval) 1.38 in. (oval)

A—Pin Diameter

B—Receiver Hole Diameter



RXA0095851 —UN—29AUG07

RXA0095853 —UN—29AUG07

OURX935,000032D -19-12JUN08-1/1

Check Tow-Hook on Pick-Up Hitch for Wear

CAUTION: Parts that have reached or exceeded their wear limit must be replaced with new parts.

Check gap (A) at catch.

Specification

Gap at catch—Maximum permissible clearance.....	10.0 mm 0.39 in.
---	---------------------

Read the “D”-value (unit of measurement = kN) from pick-up hitch type plate.

If the “D”-value indicated on the type plate is 65 or less, observe the following wear tolerances (A).

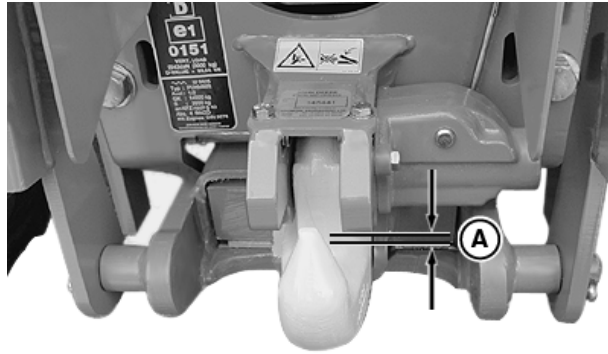
Specification

Tow hook, diameter (D = 65 or less)—Minimum value (A), diameter	
1.....	43.5 mm 1.71 in.
Minimum value (A), diameter 2.....	42.0 mm 1.65 in.
Minimum value (A), diameter 3.....	40.5 mm 1.59 in.

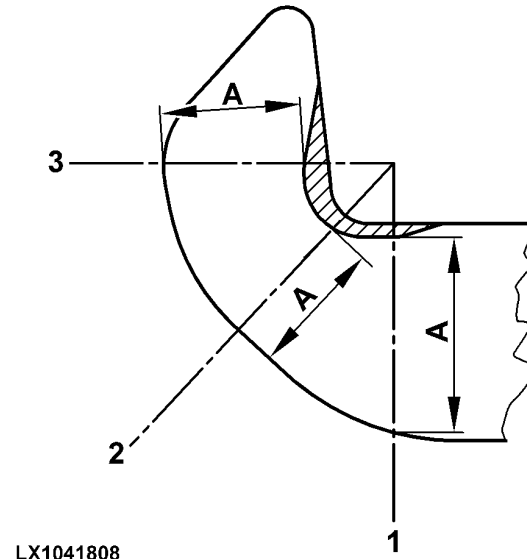
If the “D”-value indicated on the type plate is greater than 65, observe the following wear tolerances (A).

Specification

Tow hook, diameter (D = more than 65)—Minimum value (A), diameter	
1.....	45.0 mm 1.77 in.
Minimum value (A), diameter 2.....	43.5 mm 1.71 in.
Minimum value (A), diameter 3.....	42.0 mm 1.65 in.



RXA0095866 —UN—29AUG07



LX1041808

A—Gap

LX1041808 —UN—27NOV06

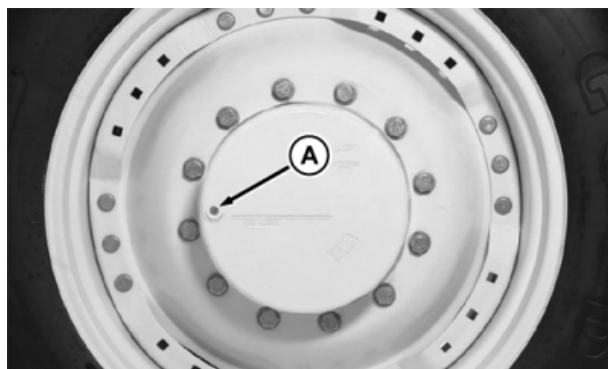
OURX935,000032E -19-12JUN08-1/1

Checking MFWD or Independent Link Suspension Wheel Hub Oil Level

Put the tractor on level ground. Turn wheel hubs until the words OIL LEVEL are horizontal. Remove plug (A). Oil level should be just below plug hole. If low, add oil through same hole.

John Deere GL-5 Gear Lubricant is recommended.

A—Plug

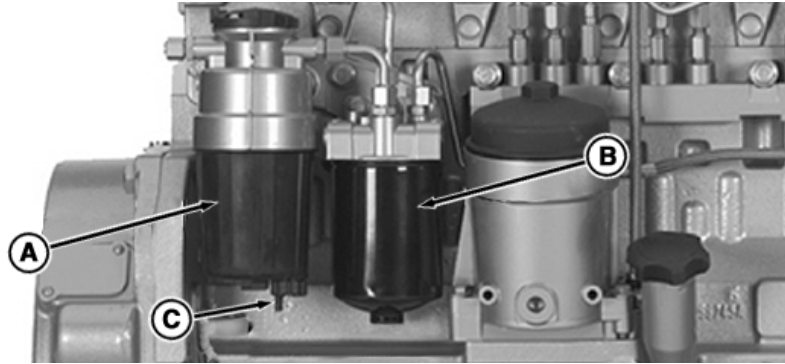


RW26335 —UN—25JUN99

OURX935,0000335 -19-19JUN08-1/1

500 Hour Service

Replacing Fuel Filter Elements



A—Primary Fuel Filter

B—Final Fuel Filter

C—Drain Valves

IMPORTANT: Replace fuel filter elements anytime audible alarm sounds and diagnostic trouble codes indicate plugged fuel filters (low fuel pressure). If no alarm sounds during the 12 month service interval, replace elements at that time, or after 500 hours operation, whichever comes first.

1. Thoroughly clean exterior of fuel filters and surrounding area.
2. Drain water and contaminants from primary fuel filter (A) into suitable container by opening drain valves (C) on bottom of filter.
3. Disconnect the water-in-fuel (WIF) sensor connector from primary filter.

IMPORTANT: Always replace both filters at the same time.

4. Remove the final fuel filter (B) first, for clearance, using a suitable filter wrench. Then remove primary fuel filter (A) 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 60 seconds before starting engine to provide time to prefill fuel filters. Fuel system is self-bleeding.

9. Turn key switch to ON position for 60 seconds to allow transfer pump to prefill fuel filters.
10. Turn key switch clockwise to START position, and run engine at fast idle for 2 minutes.

OURX935,00004C8 -19-29AUG08-1/1

RXA0098950 —UN—28AUG08

750 Hour Service

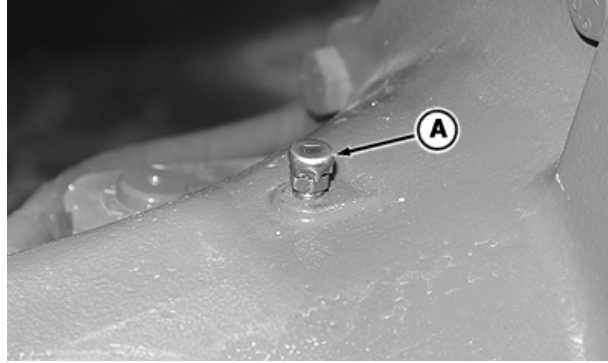
Cleaning MFWD Axle Vent Filter

NOTE: If vent filter is packed with dirt, soak in solvent before blowing air through breather vent. Interval may vary according to operating conditions.

IMPORTANT: Allowing excess dirt and foreign material to build up in vent filter may cause damage to axle seals.

Remove axle vent filter (A). Clean by blowing air through vent filter (bottom to top).

A—MFWD Axle Vent Filter

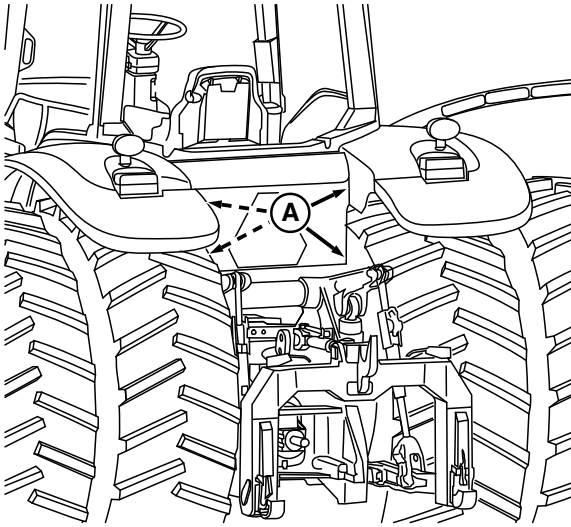


RXA0078357 —UN—08DEC04

OURX935,00002D4 -19-11JUN08-1/1

Cleaning Fuel Tank Vent Filter

Remove four cap screws and lift off back panel (A).

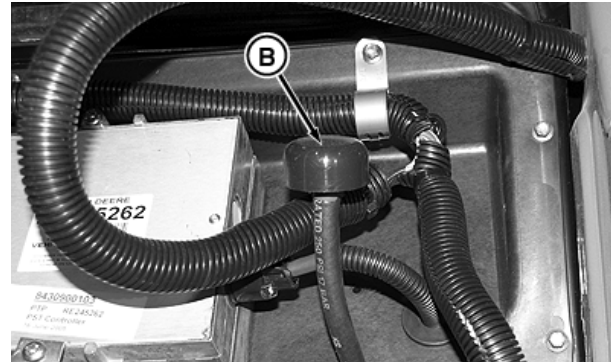


Remove Panel

A—Back Panel

B—Fuel Tank Vent Filter

Remove fuel tank vent filter (B) and clean in soapy detergent solution.



Remove Fuel Tank Vent Filter

RXA0081961 —UN—30JUN05

Blow dry with compressed air and replace.

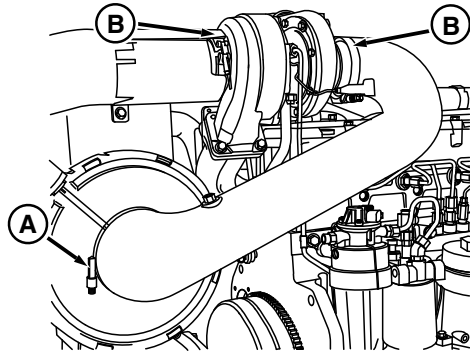
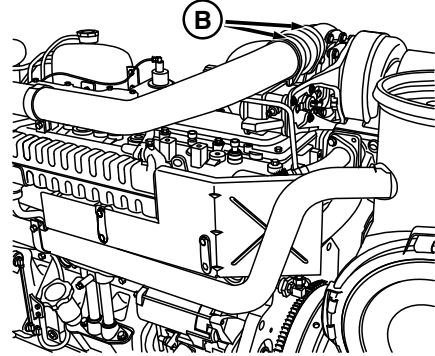
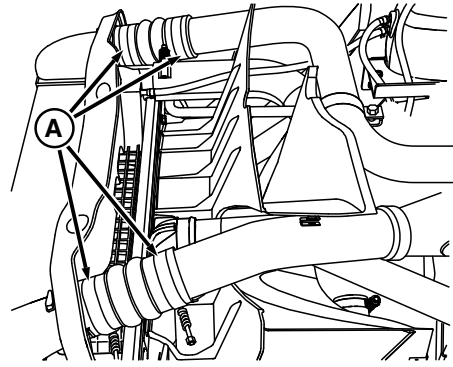
OURX935,0000336 -19-17JUN08-1/1

Servicing Air Intake System

Check all air intake system joints (A) to make sure that they are not damaged and have tight connections with no air leaks. Interval can vary according to operating conditions

Check hose clamps (B) at turbocharger to make sure that they are not damaged and have a tight connection.

A—Air Intake System Joint **B**—Hose Clamps



RXA0080176 —UN—07APR05

RXA0079201 —UN—22FEB05

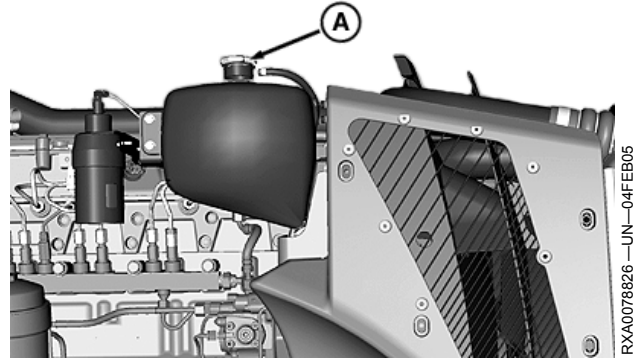
RXA0079202 —UN—22FEB05

OURX935,00002D5 -19-11JUN08-1/1

Testing Coolant



TS281 —UN—23AUG88



RXA0078826 —UN—04FEB05

A—De-aeration Tank Cap

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.

1. Raise hood.
2. Slowly turn de-aeration tank cap (A) to relieve pressure. Remove cap.

NOTE: De-aeration tank will not be full of coolant when cap is removed. When inspecting tank, if it is at least half full, do not add additional coolant.

3. Test coolant using TY26605 COOL-GARD™II 3-way test strips available from your John Deere dealer.

COOL-GARD is a trademark of Deere & Company

NOTE: Follow instructions on back of reader card in test strip pack when testing coolant.

4. Add TY26603 COOL-GARD II Coolant Extender available from your John Deere dealer as indicated by the color matrix on reader card in test strip pack. If tank is too full, drain a small amount of coolant from system before extender is added.

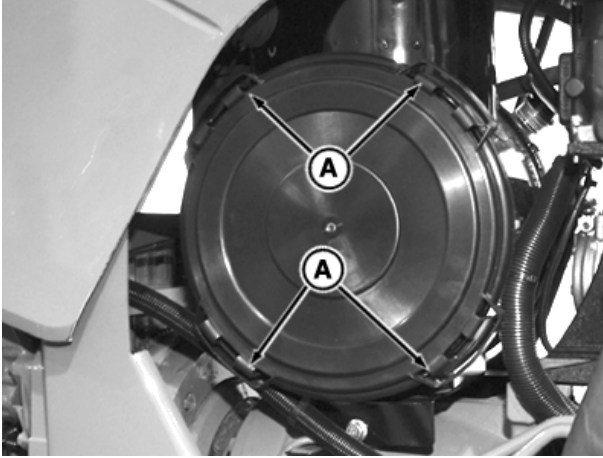
NOTE: Cap gasket should be visually checked for sealing effectiveness. A good functioning gasket should have the imprint of the mating surface with no apparent scratches or leak paths.

5. Install de-aeration tank cap and lower hood.

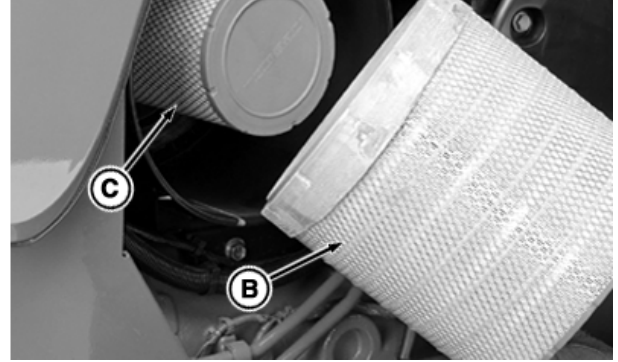
OURX935,00002D6 -19-11DEC08-1/1

Annual Service

Cleaning, Inspecting, Replacing Primary Engine Air Filter



Remove Cover



Secondary Filter

NOTE:

Service primary air filter if service alert light is ON. Replace filters **at least** once a year or after six cleanings or if air filter service alert remains ON after cleaning.

1. Unfasten plastic clips (A), and remove filter cover. Interval can vary according to operating conditions.
2. Turn and pull to remove primary filter (B).
3. Clean filter using compressed air. Hold nozzle next to **inner** surface and move up and down pleats.
4. Hold a bright light inside filter and check carefully for damage. Discard filter if screen is damaged or filter shows the slightest rupture or hole.

IMPORTANT: Do not attempt to clean secondary filter (C). Replace secondary filter annually or every second primary filter change. Install new secondary filter immediately to prevent dust from entering air intake system.



Clean And Inspect Primary Filter

A—Clips
B—Primary Filter

C—Secondary Filter

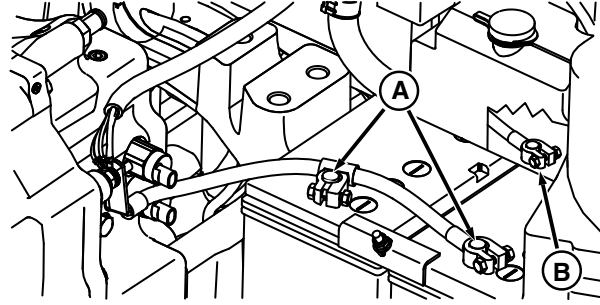
5. make sure that gasket is in good condition.
6. Replace filter elements and install cover.

OURX935,00002D8 -19-05AUG08-1/1

Servicing Batteries



RXA0086786 —UN—14FEB06



RXA0086787 —UN—14FEB06

Disconnect Negative Battery Cables Before Positive Cables

A—Negative Battery Cables B—Positive Battery Cables

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.

⚠ CAUTION: Never use compressed air to clean batteries. It can cause a build up 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.

NOTE: For optimum battery performance, keep battery terminals clean and tight.

For replacement batteries, follow manufacturer's recommendations.

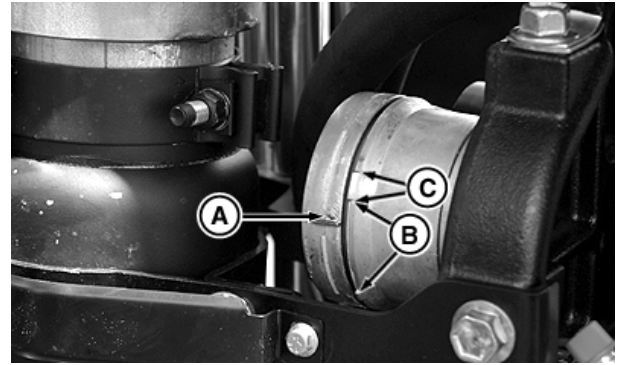
1. Remove battery compartment cover.
2. Remove battery hold down clamp and slide batteries forward.
3. **Disconnect negative battery cables (A), then positive battery cables (B).**
4. Remove any corrosion with a terminal brush, then clean terminals and battery posts using a baking soda and water solution.
5. Rinse with clean water and air dry.
6. Connect positive battery terminals, then connect negative battery terminal.
7. Apply thin coat of grease to cable ends.
8. Slide batteries back into compartment and install battery hold down clamp.
9. Install battery compartment cover.

OURX935,00002E2 -19-05AUG08-1/1

Inspecting Auxiliary Drive Belt

Inspect auxiliary drive belt as outlined below.

1. Inspect auxiliary drive belt indicator.
2. If indicator (A) is within normal operating band (B), do NOT change auxiliary drive belt. If indicator (A) is within stretch indicator band (C), change auxiliary drive belt.
3. Release belt, then check to see that tensioner pulley turns smoothly without binding. See Replacing Auxiliary Drive Belt in this section.
4. If tensioner pulley appears damaged or worn, replace it.



A—Indicator
B—Normal Operating Band

C—Stretch Indicator Band

RXA0078787 —UN—08APR05

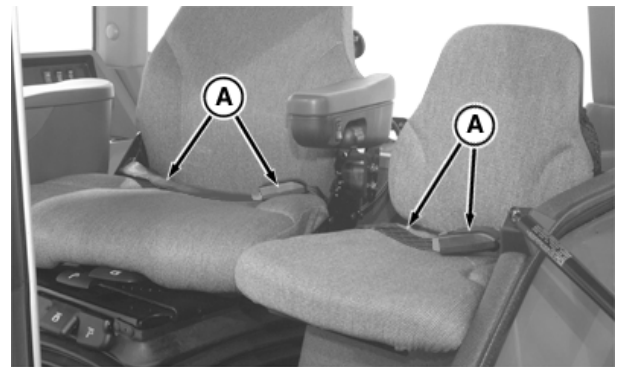
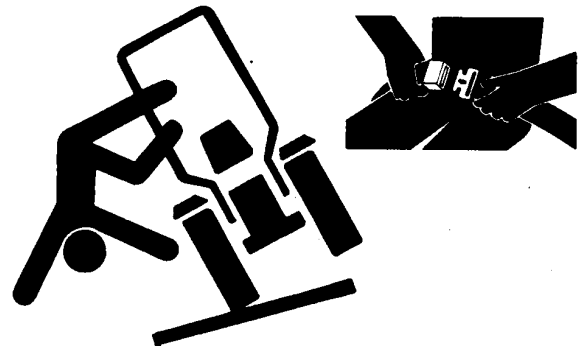
OURX935.00002E3 -19-11JUN08-1/1

Inspecting Seat Belts

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.

Inspect seat belts (A) and mounting hardware. If seat belts need to be replaced, see your John Deere Dealer.

A—Seat Belts



TIS205 —UN—23AUG88

RXA0062690 —UN—20SEP02

OURX935.00002E4 -19-19JUN08-1/1

Replacing Cab Air Filters

CAUTION: Cab air filters are not designed to filter out harmful chemicals. Follow the instructions in the implement operator's manual and those given by the chemical manufacturer when

using agricultural chemicals. * *Interval can vary according to operating conditions*

See Cleaning Cab Air Filters in section 102 of this Operator's Manual.

OURX935.000036D -19-19JUN08-1/1

**Checking Independent Link Suspension
Upper and Lower Rod and Head End
Accumulator Charge Pressure**

See your John Deere dealer for details.

OURX935,0000373 -19-24JUN08-1/1

1500 Hour Service

Draining Clean Oil Reservoir

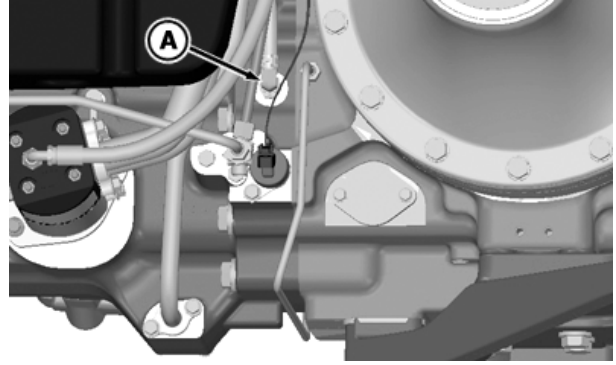
IMPORTANT: Change oil in clean oil reservoir immediately if oil is contaminated with water.

Drain transmission-hydraulic oil.

Remove plug (A) and drain oil in a catch pan. Drain approximately 34 L (9 gal) of oil from reservoir.

NOTE: If tractor is equipped with Active Seat, it will have an elbow and a return oil hose, instead of a plug, and they will have to be disconnected to drain oil.

IMPORTANT: Fill differential housing with oil. Start engine and run at slow idle until clean oil reservoir level indicator light goes off (approximately 2 minutes). Refilling clean oil reservoir will take a few minutes.

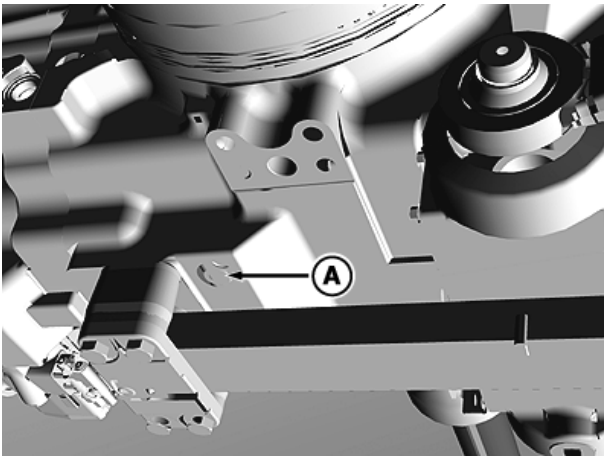


A—Plug/Elbow

RXA0084662 —UN—19OCT05

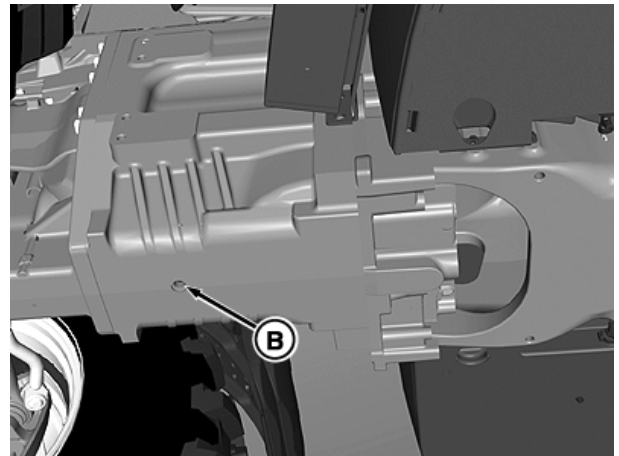
OURX935.00002D9 -19-19JUN08-1/1

Changing Transmission/Hydraulic Oil and Transmission Filter Screen



Differential Case

RXA0078660 —UN—21JAN05



Transmission Housing Drain Plug

RXA0078662 —UN—21JAN05

A—Differential Case Drain Plug B—Transmission Housing Drain Plug

1. Drive tractor to warm oil, then park tractor on level ground.

NOTE: Have drain pan to catch rear differential oil.

2. Remove drain plug (A) on bottom of rear differential case.

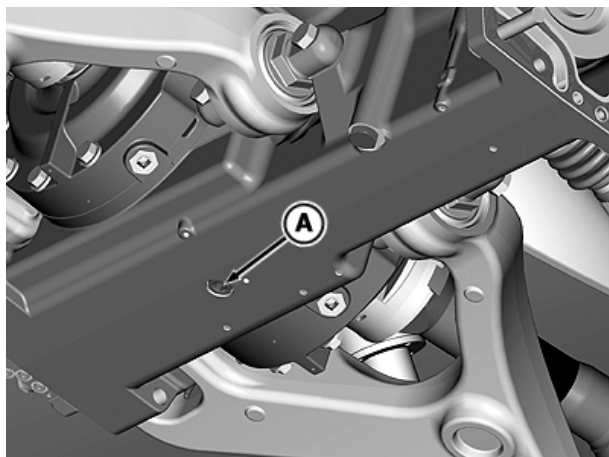
NOTE: Have drain pan to catch transmission housing oil.

3. Remove transmission housing drain plug (B).

NOTE: Have drain pan to catch Independent Link Suspension differential oil.

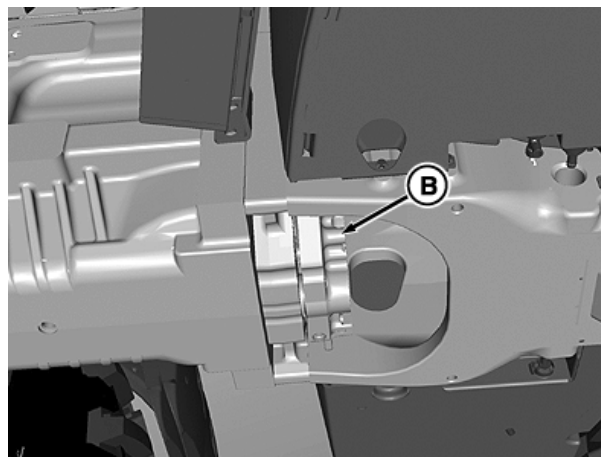
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OURX935.00004B4 -19-04SEP08-1/3



RXA0098560 —UN—16JUN08

Independent Link Suspension Front Axle



RXA0078663 —UN—15JUN05

Transmission Filter Plug In PST Transmission Shown

A—Differential Plug

B—Filter Screen Plug

4. Remove Independent Link Suspension differential plug (C) if equipped.

IMPORTANT: On PowerShift tractors, the control unit must be recalibrated when changing oil from one viscosity to another. See your John Deere Dealer.

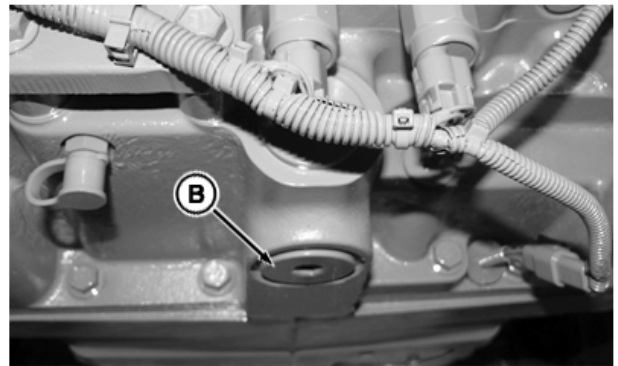
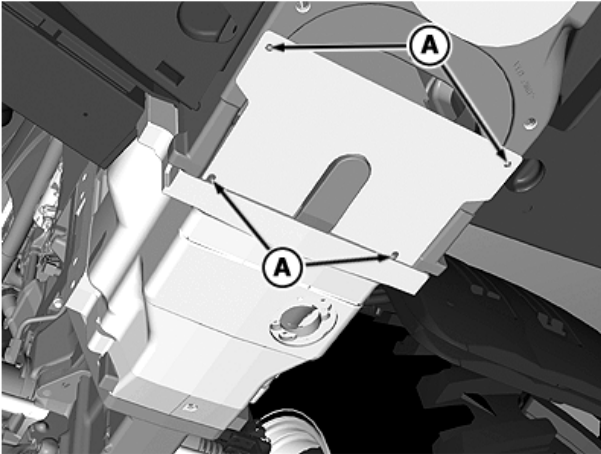
5. For tractors with PST Transmission, follow steps 6, 7 and 11 through 13.

For tractors with AutoPowr transmission, follow steps 8 through 13.

6. Remove large transmission filter screen plug (B).

Continued on next page

OURX935,00004B4 -19-04SEP08-2/3



FXA0098957—UN—03SEP08

AutoPowr Transmission Cover And With CU Hydro Control Valve and Screen Plug Shown

A—Cap Screws

B—Bottom Drain Plug

7. Remove filter screen and wash carefully in solvent. Blow dry with compressed air before reinstalling screen.
8. Remove four cap screws (A) and cover.
9. Remove bottom drain plug (B), then using a work light inspect the filter through the bottom drain plug opening.
10. If the filter screen appears clean, reinstall plug and proceed with step 11.
If the filter is dirty, see Cleaning Transmission Filter Screen in this section.
11. Reinstall plugs after oil has drained.
12. Refill with Transmission/Hydraulic oil specified in Fuels, Lubricants, and Coolant section.

Drain and Fill Capacity *

MFWD Axle:

.. System	150 L (40 gal)
.. System (Less Clean Oil Reservoir)	117 L (30 gal)

Independent Link Suspension Axle:

.. System	160 L (42 gal)
.. System (Less Clean Oil Reservoir)	127 L (34 gal)

* Capacities are average values and can vary between oil changes

13. Start and operate engine several minutes. Check for leaks. Stop engine and recheck oil level after a minimum of five minutes. Add oil as necessary.

OURX935.00004B4 -19-04SEP08-3/3

Cleaning Transmission Filter Screen (AutoPowr Only)

IMPORTANT: For tractors with AutoPowr refer to your John Deere dealer with any question you have on removing hydro control valve and/or transmission filter screen.

When working with hydraulic components, cleanliness is essential and ANY FOREIGN MATERIAL (DIRT) can damage equipment! Clean area around the hydro control valve thoroughly with steam cleaner prior to removing it, then make sure valve is clean before installing it. On AutoPowr transmissions, do not remove screen unless it is dirty.

IMPORTANT: Removing hydro control valve requires a 1 1/4 in. (deep broach) deep well socket to avoid damaging control valve.

1. Remove AutoPowr transmission bottom cover shield if not already removed.

IMPORTANT: Make sure wiring harness (B) is disconnected and kept out of the way of any dripping oil before removing screen access plug. Oil in wiring harness connectors will damage equipment.

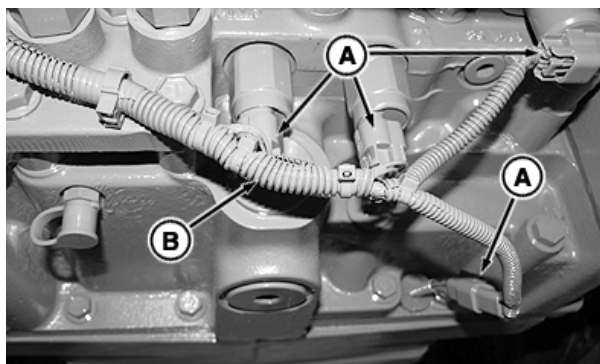
2. Remove connectors (A) on control valves then tuck wiring harness out of the way.

NOTE: Make sure 1 1/4 in. deep well socket has a broach (C) deep enough that control valve is not damaged when it is removed.

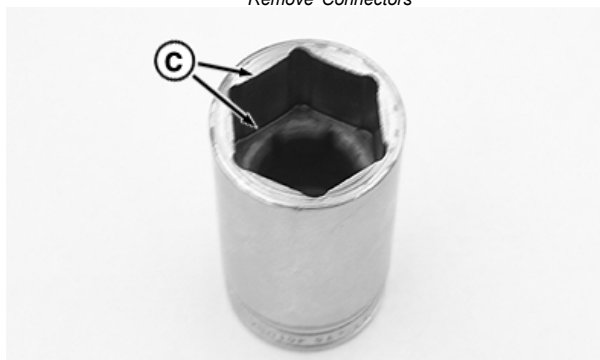
3. Using a 1 1/4 in. deep broach deep well socket, remove CU hydro valve (D).
4. Remove screen access plug (E) at front of transmission, then remove screen (F).

NOTE: For tractors with Independent Link Suspension, carefully flex Independent Link Suspension tube (G) down enough to remove screen (F).

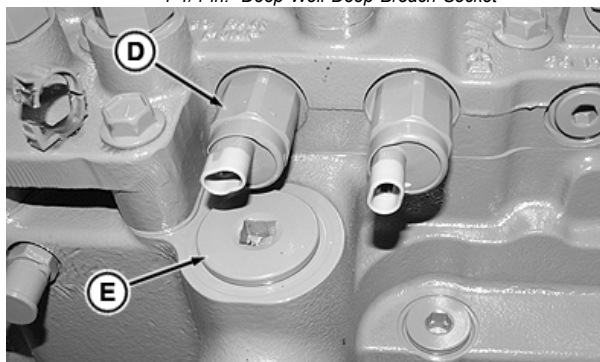
5. Flex steel tube across the front of the screen slightly to allow screen to be pulled out of transmission case.
6. Remove filter screen and wash carefully in solvent. Blow dry with compressed air before reinstalling screen.
7. Install screen in transmission, front screen plug, and bottom drain plug.
8. Reinstall control valve and wiring harness connectors.
9. Reinstall all drain plugs after oil has drained.
10. Refill with transmission/hydraulic oil specified in Fuels, Lubricants, and Coolant section.



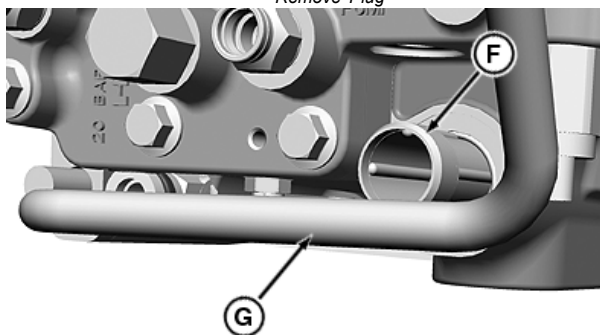
Remove Connectors



1 1/4 in. Deep Well Deep Broach Socket



Remove Plug



- | | |
|--------------------------------|------------------------------------|
| A—Connectors | E—Screen Access Plug |
| B—Wiring harness | F—Screen |
| C—Deep Well Deep Broach Socket | G—Independent Link Suspension Tube |
| D—Hydro Valve | |

Continued on next page

OURX935,00004B5 -19-03SEP08-1/2

RXA0083068 —UN—03AUG05

RXA0083064 —UN—03AUG05

RXA0083072 —UN—03AUG05

RXA0086863 —UN—21FEB06

Drain and Fill Capacity *

2WD and MFWD Axle:

- .. System 150 L (40 gal)
- .. System (Less Clean Oil Reservoir) 117 L (30 gal)

Independent Link Suspension Axle:

- .. System 160 L (42 gal)
- .. System (Less Clean Oil Reservoir) 127 L (34 gal)

* Capacities are average values and can vary between oil changes

11. Start and operate engine several minutes. Check for leaks. Stop engine and recheck oil level after a minimum of five minutes. Add oil as necessary.

OURX935,00004B5 -19-03SEP08-2/2

Replacing Transmission/Hydraulic Filter

IMPORTANT: Make sure old packings are removed before installing new filters.

- Remove **both** filters (A).
- Lubricate the new filter packing with hydraulic oil only.
- Install and hand tighten both new filter elements.
- Check oil level and add as required.

A—Transmission/Hydraulic Filters



Transmission/Hydraulic Filters

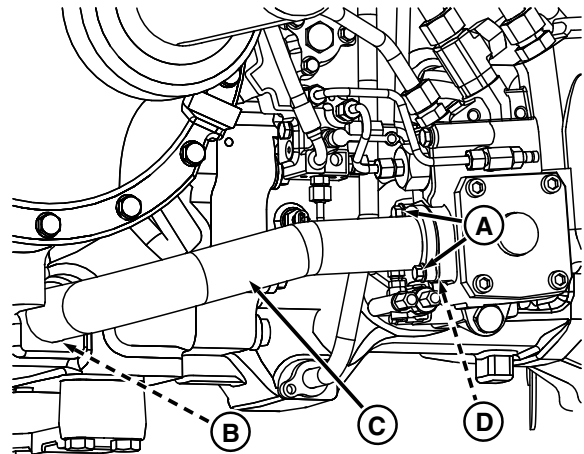
RXA0078381 —UN—09DEC04

OURX935,00002DC -19-19JUN08-1/1

Cleaning Hydraulic Oil Suction Screen

- Drain transmission/hydraulic oil.
- Remove cap screws (A) and tube on differential case front left side. Remove suction screen (B) and wash carefully in solvent, then blow dry screen with compressed air.
- Install tube (C) making sure O-ring (D) is correctly positioned.

A—Cap Screws C—Tube
B—Suction Screen D—O-Ring



RXA0082965 —UN—04AUG05

OURX935,00002DD -19-11JUN08-1/1

Changing MFWD Differential Case Oil

NOTE: The differential case for MFWD axle with Independent Link Suspension is connected to the transmission case and operates using the same oil. There is no fill location.

1. Put the tractor on level surface.
2. Remove differential case drain plug (A). Replace plug after oil has drained.
3. For 1300 Axle, add John Deere HY-GARD through fill hole (B) until oil is even with bottom of hole. Install the plug.

For 1500 Axle, remove check plug (C), add John Deere HY-GARD through fill hole (B) until oil is even with bottom of check hole. Install the fill and check plugs.

Differential Case

1300 Axle Oil Capacity	13.6 L (14.2 qt)
1500 Axle Oil Capacity	18.7 L (19.74 qt)

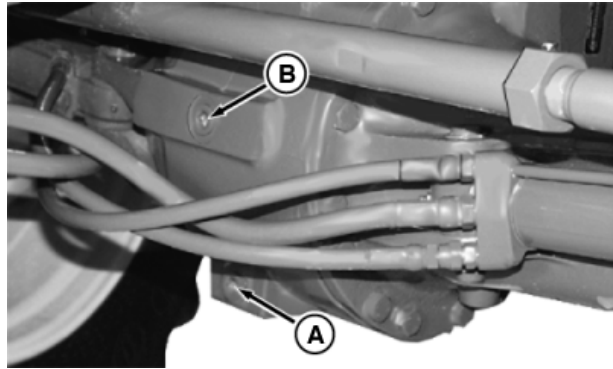
4. After a few minutes of operation, recheck oil level. Add oil if necessary.
5. Tighten plugs.

MFWD Drain Plugs—Specification

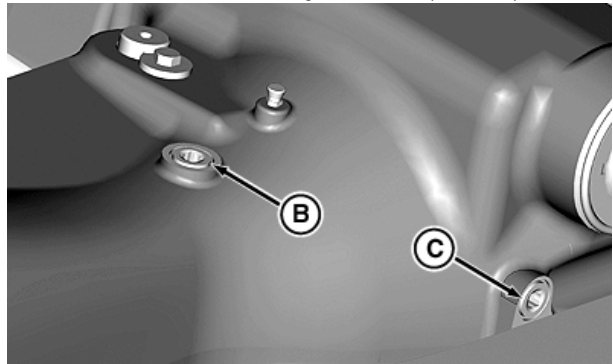
Drain Plug—Torque 70 N·m (52 lb-ft)

A—Drain Plug
B—Fill Hole

C—Check Plug



Differential Case Plug and Fill Hole (1300 Axle)



Differential Case Plug and Fill Hole (1500 Axle)

FXA0052919—JUN—17APR01

FXA0087868—JUN—16MAR06

Lubricating Independent Link Suspension Axle—Tie Rod Internal Ball Joints

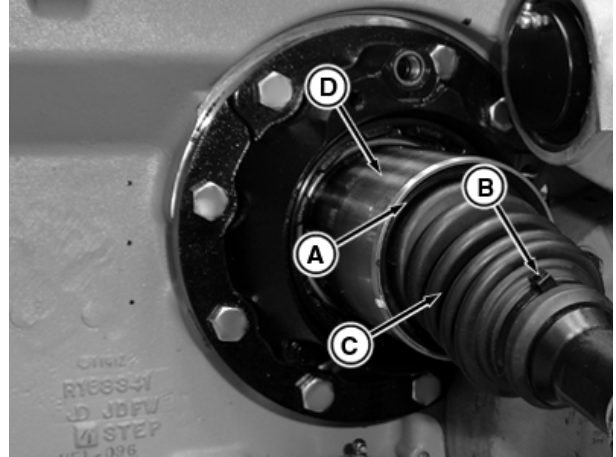
NOTE: Contact your John Deere dealer for questions or assistance in lubricating the tie rod internal ball joints.

1. Remove boot retaining snap ring (A).
2. Remove tie band (B).
3. Slide boot (C) from inside steering rod (D) exposing ball joint.
4. Remove outer snap ring (E) from steering rod.

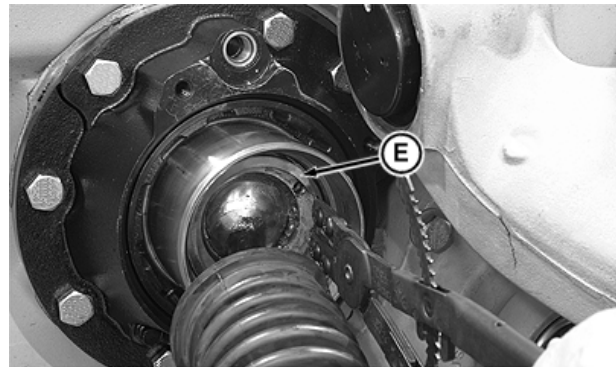
IMPORTANT: Remove any burrs in snap ring grooves using fine sand paper or Emery cloth. If not removed, damage to components will result. Thoroughly clean area inside steering rod removing all dirt and filings. If not, damage to components will result.

5. Remove snap ring retainer (F).

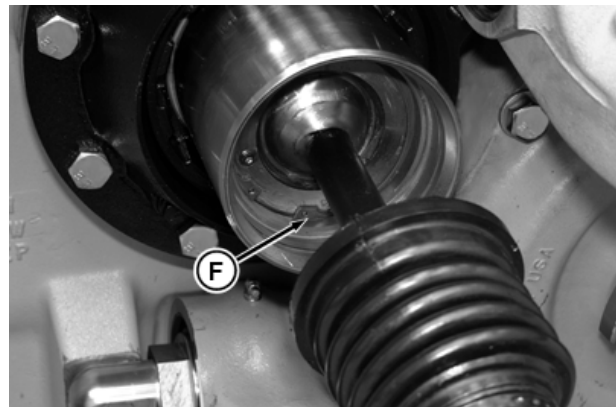
A—Boot Retaining Snap Ring	D—Steering Rod
B—Tie Band	E—Outer Snap Ring
C—Boot	F—Snap Ring Retainer



RXA0085956 —UN—18JAN06



RXA0085957 —UN—18JAN06



RXA0085958 —UN—18JAN06

Continued on next page

OURX935.00002DE -19-19JUN08-1/2

NOTE: Do not remove inner snap ring. Grease may push ball joint from guide resulting in disassembling and reassembling components.

6. Compress snap ring enough to rotate in slot until it aligns with grease fitting hole.
7. Remove plug from hole (H) and install grease fitting (A).

IMPORTANT: Too much grease may damage O-ring (B).

NOTE: Use John Deere SD Polyurea grease or other grease as specified in Fuel, Lubricants and Coolant section.

8. Grease inner ball joint until grease (C) is visible around ball joint.
9. Remove grease fitting, install original Allen head plug and tighten to torque.

Specification

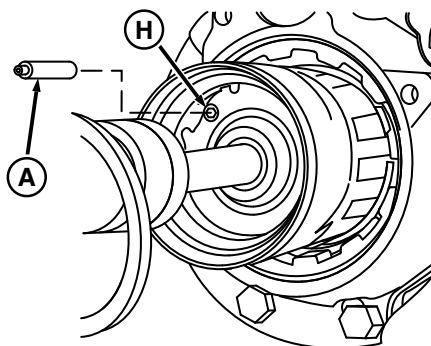
Allen Head Plug—Torque 0.904 N·m (8 lb-in)

10. Install snap ring retainer.
11. Install outer snap ring.
12. Slide boot (G) back into steering rod (F).
13. Replace boot retaining snap ring (D).

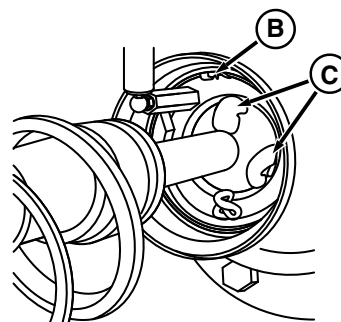
IMPORTANT: If tie band is not pulled tight, dirt and other foreign material will damage components.

14. Attach tie band (E) to boot, then pull tight.

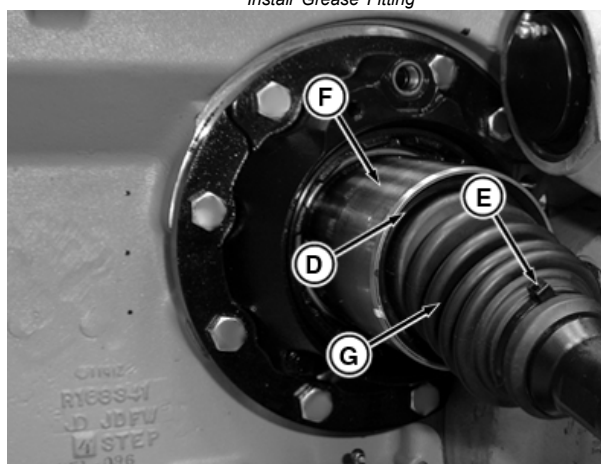
- | | |
|----------------------------|----------------|
| A—Grease fitting | E—Tie Band |
| B—O-ring | F—Steering Rod |
| C—Grease | G—Boot |
| D—Boot Retaining Snap Ring | H—Hole |



Grease Fitting



Install Grease Fitting



Replace Boot

RXA0089500 —UN—23APR07

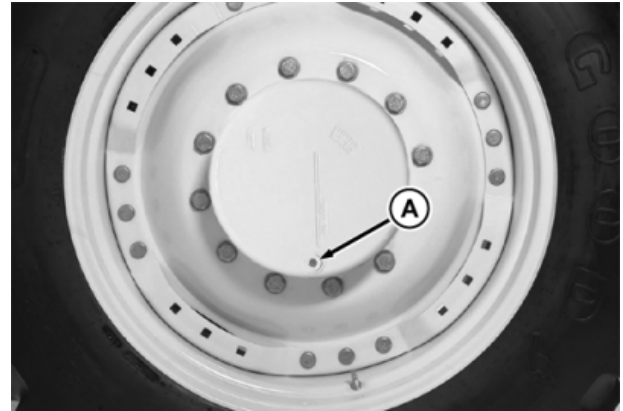
RXA0089569 —UN—18JAN06

RXA0089560 —UN—18JAN06

OURX935,00002DE -19-19JUN08-2/2

Changing MFWD Or Independent Link Suspension Wheel Hub Oil

1. Put the tractor on level surface.
2. Rotate wheel until drain/fill hole (A) is at bottom of hub. Remove plug and drain oil.
3. Rotate wheel with drain/fill plug positioned horizontally after oil has drained.
4. Add John Deere GL-5 Gear Lubricant through drain-fill hole until oil is even with bottom of hole. Replace plug.



RW26336 —UN—25JUN99

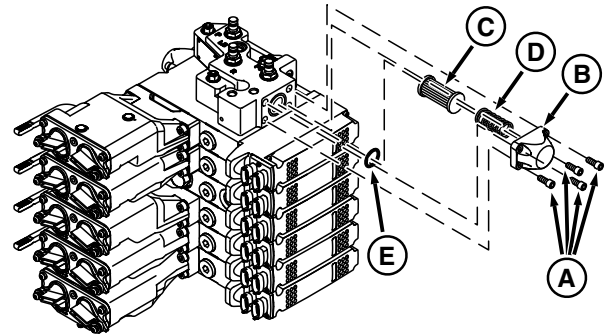
Wheel Hub Capacity (Each)

Standard MFWD Axle	3.4 L (3.6 qt)
MFWD Axle with Independent Link Suspension	4.0 L (4.2 qt)

OURX935.00002DF -19-19JUN08-1/1

Replacing SCV Stack Filter

1. Remove four cap screws (A).
 2. Remove cover (B).
- NOTE: Filter kit comes with filter (C), O-ring (D) and spring (E). Install new filter, open end first, into front SCV filter housing.*
3. Remove old SCV filter, O-ring and spring replace with new O-ring, spring and filter.
 4. Replace cover, install cap screws and tighten alternately and evenly to torque specification.



RXA0097.300 —UN—19FEB08

Specification

Filter Cover Cap Screws—Torque	6 N·m (53 lb-in.)
--------------------------------------	-------------------

A—Cap Screws
B—Cover
C—Filter

D—O-Ring
E—Spring

OURX935.0000301 -19-19JUN08-1/1

Replacing Front Hitch SCV Filter—If Equipped

1. Remove two cap screws (C).
2. Remove cover (B).

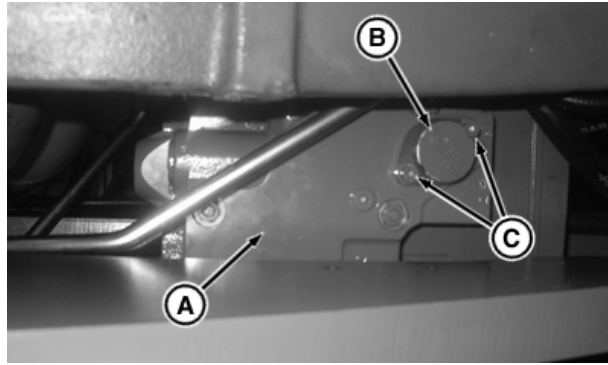
NOTE: Filter kit comes with filter (E), O-ring (F) and spring (D). Install new filter, open end first, into front SCV filter housing.

3. Remove old filter, O-ring and spring, then replace with new O-ring, spring and filter.
4. Replace cover, install cap screws and tighten alternately and evenly to torque specification.

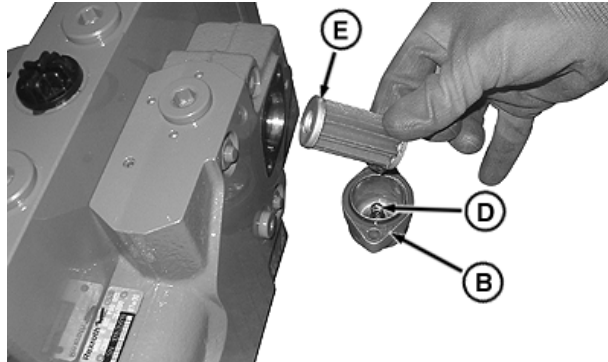
Specification

Filter Cover Cap Screws—Torque 6 N·m (53 lb-in.)

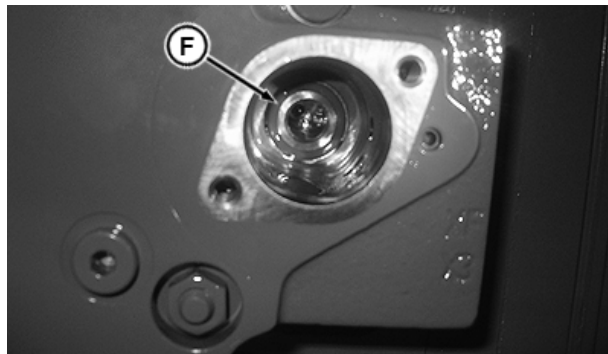
- | | |
|--------------|----------|
| A—SCV | D—Spring |
| B—Cover | E—Filter |
| C—Cap Screws | F—O-Ring |



RXA0097145 —UN—18FEB08



RXA0097147 —UN—18FEB08



RXA0097186 —UN—18FEB08

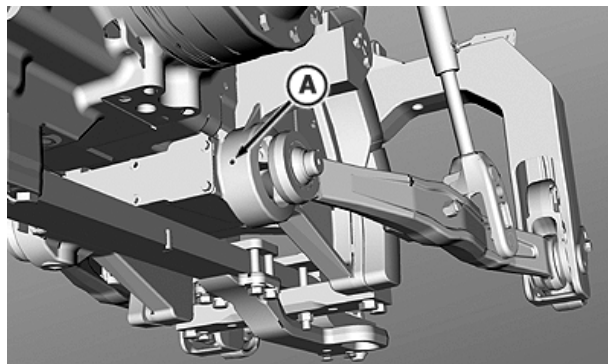
OURX935,0000303 -19-19JUN08-1/1

Lubricating Draft Link Support Shaft Bushing

Use John Deere SD Polyurea grease or other grease as specified in Fuel, Lubricants and Coolant section.

Apply one or two shots of grease to support shaft bushing (A).

- A—Support Shaft Bushing



RXA0078654 —UN—21JAN05

OURX935,00002E0 -19-19JUN08-1/1

2000 Hour Service

Adjusting Engine Valve Clearance

See your John Deere dealer for correct engine valve clearance.

OURX935.000030A -19-12JUN08-1/1

Draining, Flushing and Refilling Cooling System

IMPORTANT: Thermostats and de-aeration tank cap should be replaced whenever system is flushed.

INITIAL change interval is 6 years or 6000 hours, provided cooling system is topped off using only John Deere Cool-GARD II and premix and coolant is tested at recommended intervals. After initial service, the **SCHEDULED** interval (2 years or 2000 hours) can be extended up to 6 years or 6000 hours depending on coolant used and if coolant is tested at recommended intervals. Follow recommendations in "Drain Intervals for Diesel Engine Coolant" in Fuels, Lubricants and Coolant section of this manual. COOL-GARD™

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.

COOL-GARD is a trademark of Deere & Company



TS281—UN—23AUG88

Check de-aeration tank level. If tank is empty and recovery tank has been kept at least full cold, this indicates a leak that prevents system from recovering coolant from recovery tank. If recovery tank level does not change when engine is being warmed up, this is a sign of a leak or of a very low coolant level in the pressurized circuit.

After flushing system, cooling system should be checked for leaks and de-aeration cap should be pressure checked. See your John Deere dealer for testing.

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OURX935.00004A7 -19-12DEC08-1/6

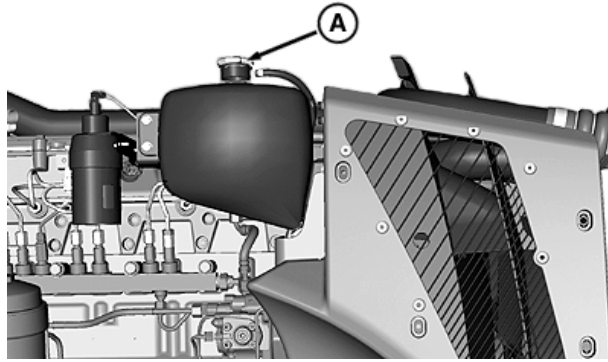
1. Open hood.
2. Remove de-aeration tank cap (A).

*NOTE: For tractors equipped with Automatic Temperature Control, temperature readout must say "HI" and key must be in **RUN** position. This prevents trapping old coolant in the heater.*

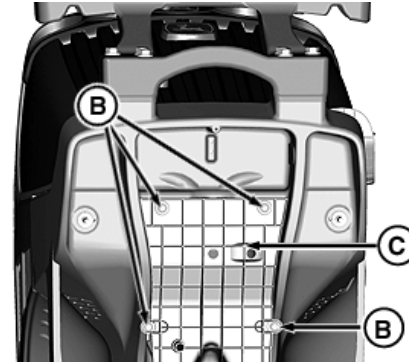
3. For tractors equipped with Automatic Temperature Control (ATC), turn key to Run. Turn ATC controls to ON; ATC indicator must show "HI".
4. Remove side panel.
5. Remove four cap screws (B), then remove deflector (C) beneath radiator drain valve.
6. Open radiator drain valve (D) and drain coolant into catch pan.
7. Open engine drain valve (E) and drain coolant into catch pan.

A—De-aeration Tank Cap
B—Cap Screws
C—Deflector

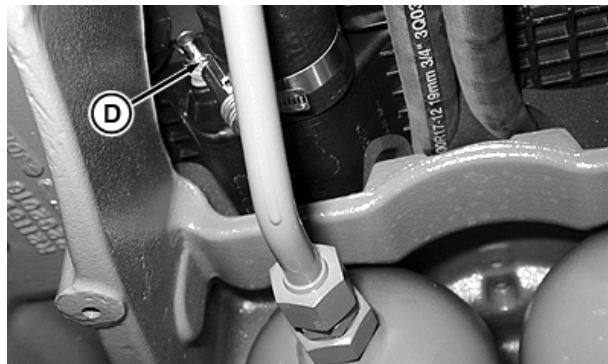
D—Radiator Drain Valve
E—Engine Drain Valve



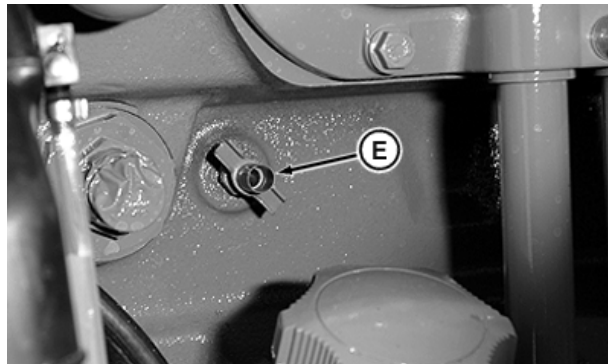
RXA0078826 —UN—04FEB05



RXA0080165 —UN—08APR05



RXA0078793 —UN—08APR05



RXA0078791 —UN—14JUN05

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OURX935,00004A7 -19-12DEC08-2/6

NOTE: Non emission certified (PowerTech) engines do not have EGR coolers. For those tractors, skip any step requiring EGR valve plug to be installed or removed though out this procedure. Tractors with non emission certified engines can easily be identified because those tractor's engine serial plate numbers have a "B" in the center of the engine serial number. An example of an engine serial number is RG6090BXXXXXX.

8. Remove EGR cooler vent plug (A).
9. Remove charge air hose clamps (B) and slide rubber hose (C) toward tractor front and off of charge air tube.
10. Remove cap screw (D), then move charge air tube (E) out of the way.
11. Remove cap screw (F) and move radiator brace (G) out of the way.
12. Remove worm gear clamp (H) and upper radiator hose (I).
13. Remove three cap screws (J) and lift thermostat cover (K) out of the way.
14. Remove and discard old thermostats.
15. Install cover, O-ring and gasket without thermostats. Tighten cap screws to specifications.

Specification

Thermostat Cover Cap
 Screws—Torque 48 N-m
 (35 lb-ft)

16. Replace previously removed radiator hoses and clamps, brace and tube.
17. Close engine drain valve, and radiator drain valve.

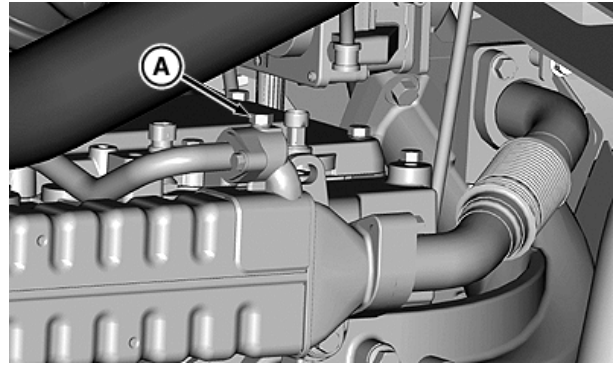
NOTE: See your John Deere Dealer for recommendations on cleaning solutions.

IMPORTANT: Never pour cold water or coolant into hot engine.

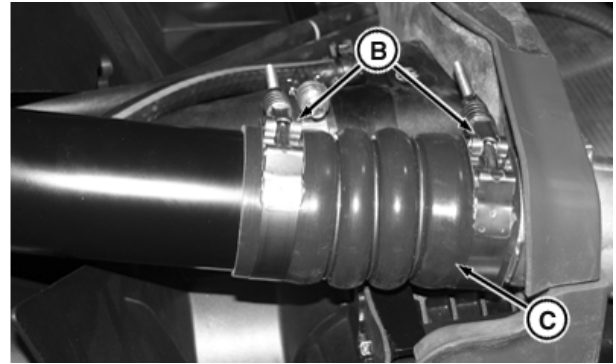
18. Begin filling system with cooling system cleaning solution. When air is purged and system cleaning solution appears at the EGR port, install EGR cooler vent plug and finish filling system.
19. Install de-aeration cap, side panel and close hood.

CAUTION: Make sure side panel is installed and hood is closed before starting engine.

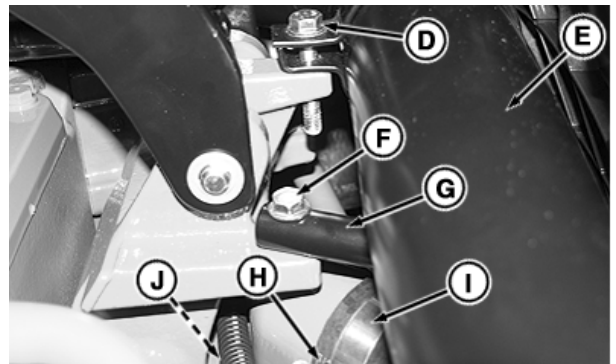
- | | |
|------------------------|-----------------------|
| A—EGR Cooler Vent Plug | G—Radiator Brace |
| B—Hose Clamps | H—Worm Gear Clamp |
| C—Radiator Hose | I—Upper Radiator Hose |
| D—Cap Screw | J—Cap Screws |
| E—Charge Air Tube | K—Thermostat Cover |
| F—Cap Screw | |



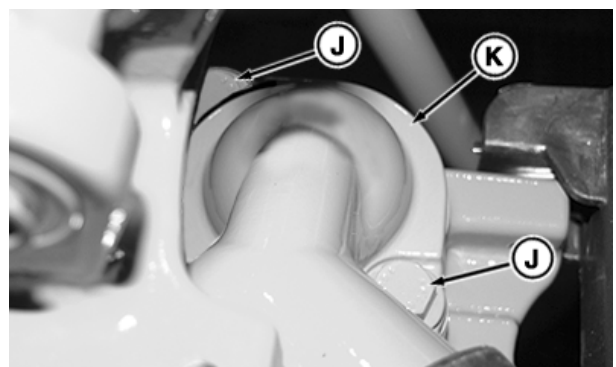
RXA0078827 —UN—04FEB05



RXA0081511 —UN—14JUN05



RXA0081515 —UN—14JUN05



RXA0081513 —UN—14JUN05

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OURX935.00004A7 -19-12DEC08-3/6

20. Start engine and run at a minimum of 1500 rpm for 15 minutes.

⚠ 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.

21. Shut off engine and allow to cool.

22. Open hood, remove de-aeration cap, put drain pans in place, then open radiator and engine drain valves. Remove EGR cooler vent plug.

NOTE: For tractors equipped with Automatic Temperature Control, temperature readout must say "HI" and key must be in RUN position. This prevents trapping cleaning solution in the heater.

23. For tractors with ATC, Start engine and turn ATC to High. When High is displayed on readout, turn off engine and finish draining system.

24. Install radiator and engine drain plugs.

25. Using clean water, begin filling coolant system. When air is purged and water appears at the EGR port, install EGR cooler vent plug and finish filling the system.

⚠ CAUTION: Make sure fan guard and side panel are installed and hood is closed before starting engine.

26. Close hood, start engine and run for a minimum of 1500 rpm for 15 minutes.



TS281—UN—23AUG88

⚠ 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.

27. Turn off engine, allow coolant to cool, then using previously listed steps, drain system.

28. Close engine drain valve and radiator drain valve.

29. Begin filling system with proper mix of coolant and distilled water or demineralized water. When air is purged and water is visible in the EGR valve port, close EGR cooler vent plug.

⚠ CAUTION: Make sure fan guard and side panel are installed and hood is closed before starting engine.

Continued on next page

OURX935,00004A7 -19-12DEC08-4/6

30. Start engine and run at 1500 rpm for a minimum of 15 minutes.

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.



TS281 —UN—23AUG88

31. Turn off engine, allow coolant to cool, raise hood, remove side panel, then using previously listed steps, drain system.

32. Using previous steps, remove clamps, hoses, tube and braces.

Install New Thermostats

1. Remove thermostat cover and clean sealing area.
2. Apply RTV silicone sealant to new gasket.
3. Install new thermostats, new gasket and cover. Tighten cap screws to specifications.

Specification

Thermostat Cover Cap	
Screws—Torque	48 N·m (35 lb·ft)

4. Using previously listed sequence, install hoses, clamps, tube, cap screws and brace.
5. Install fan guard and side panel.
6. Close radiator and engine drain valves.

Fill Cooling System

IMPORTANT: Use coolant as specified in Fuel, Lubricants and Coolant section.

1. Fill high pressure coolant circuit at de-aeration tank.
2. Begin filling coolant recovery tank. When air is purged and coolant is visible, close EGR cooler vent plug.
3. Finish filling coolant recovery tank to Full Hot mark.

NOTE: Coolant level in recovery tank will drop the first few cycles unless there is a leak.

4. With de-aeration tank cap **ON** and hood closed, start engine and run at idle for 1 to 5 minutes.
5. Shut off engine, raise hood, remove de-aeration tank cap. Top off high pressure circuit at de-aeration tank and reinstall cap.
6. Close hood, start engine and warm up for 15 minutes. If the coolant recovery tank loses coolant to the ground, repeat previous step and top off until it does not. Loosing coolant to the ground indicates air in high pressure circuit is being discharged through coolant recovery bottle.
7. Shut off engine and allow to cool. Observe coolant level dropped below **Full Hot** in the recovery tank.

NOTE: If coolant level did not drop below Full Hot, there is a leak in cooling system that could lead to engine damage.

8. Monitor coolant recovery tank level for the next two days of use. Refill coolant recovery tank as required.

NOTE: It is normal for level to go down with the first few cycles and then range somewhere between Full Hot and Full Cold.

NOTE: It is normal for de-aeration tank to be partially full of air when cap is removed and system completely de-aerated. When inspecting tank, if it is at least half full, do not add additional coolant. Topping off tank may cause coolant to be expelled onto the ground and/or cavitation of water pump.

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OURX935,00004A7 -19-12DEC08-5/6

Check Cooling System for Leaks

1. Raise hood.
2. Check radiator for leaks or damage.
3. Slowly turn de-aeration tank cap (A) to relieve pressure. Remove cap.
4. Attach radiator tester (B) to filler neck.
5. Pressurize system.

Specification

Radiator—Pressure Test 60 kPa (0.6 bar)
(9 psi)

6. If pressure drops immediately, or will not build pressure, have John Deere dealer check and repair system.
7. Test and/or replace de-aeration cap whenever cooling system is flushed. Use suitable equipment or see your John Deere dealer for testing equipment.

NOTE: Cap gasket should be visually checked for sealing effectiveness. A good functioning gasket should have the imprint of the mating surface with no apparent scratches or leak paths. If gasket is damaged, replace cap and test new cap.

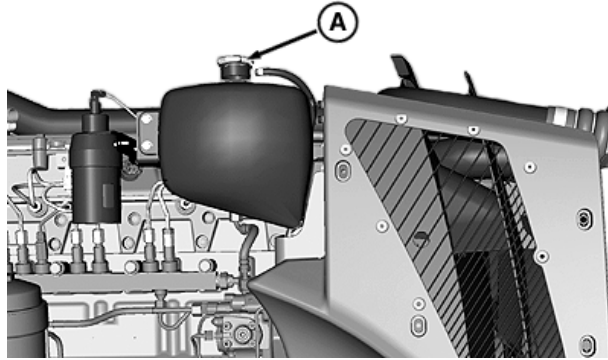
NOTE: Cap should hold pressure within specifications. Relief occurs at top of range.

NOTE: Replace cap if test result is out of specifications.

8. Pressurize cap.

Specification

Radiator Cap—Pressure Test..... 60–80 kPa
(0.6–0.8 bar)
(9–12 psi)



Remove De-aeration Tank Cap



Attach Radiator Tester

A—De-aeration Tank Cap B—Radiator Tester

9. Remove tester and install radiator cap.
10. Close hood.

RXA0078626 —UN—04FEB05

RXA0078605 —UN—07MAR05

OURX935,00004A7 -19-12DEC08-6/6

4500 Hour Service

Replacing Engine Crankshaft Damper

Have your John Deere Dealer replace engine crankshaft damper.

OURX935.0000331 -19-19JUN08-1/1

General Services

Servicing and Connecting Snap to Connect STC® Fittings

CAUTION: Do not disconnect STC fitting when under pressure. Failure to relieve pressure before disconnecting fitting may result in personal injury, damage to equipment or both.

NOTE: Snap to Connect 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). JDG1885 STC tool can be purchased through your John Deere dealer.

IMPORTANT: Do not use tool to pry fittings apart. Prying with tool may damage fitting and tool.

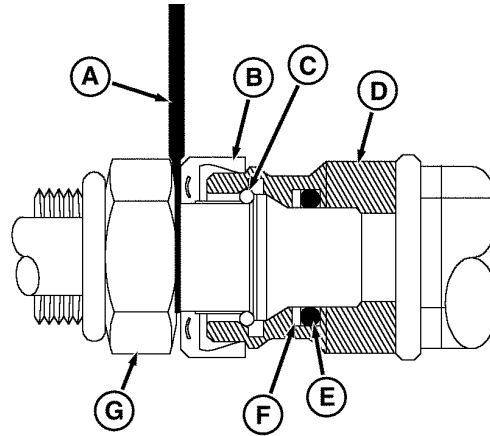
1. Insert correct STC tool between release ring and fitting.
2. Remove hose or line from connector.

NOTE: If retaining ring (C), backup ring (F) or O-ring (E) are damaged, see your John Deere dealer for replacement kit and replace all three parts.

Before connecting Snap to Connect Fitting:

1. Check mating surfaces for nicks, scratches or flat spots.
2. Check O-ring, backup ring and retaining ring for wear or damage.

STC is a registered trademark of Aeroquip Corporation



- | | |
|----------------------------|--------------------------|
| A—JDG1885 STC Tool | E—O-Ring |
| B—Release Ring | F—Backup Ring |
| C—Retaining Ring | G—Male End (STC Fitting) |
| D—Female End (STC Fitting) | |

3. make sure that female end (D) and male end (G) are clean and free of contaminants.
4. make sure that release ring (B) is on male end fitting.
5. Push fitting halves together until a definite snap and solid stop is felt.
6. Pull back on hose to make sure that fitting halves are locked together.

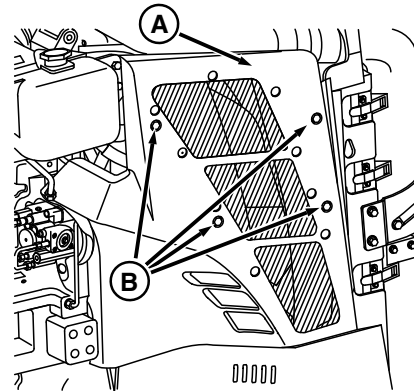
RXA0080095 —UN—31MAR05

OURX935,000030B -19-12JUN08-1/1

Cleaning Radiator, Coolers and Air Conditioning Condenser

1. Stop engine and raise hood.
2. Remove four cap screws (B) and front side shield (A).

A—Front Side Shield B—Cap Screws



RXA0074933 —UN—26MAY04

Continued on next page

OURX935,000030C -19-12JUN08-1/2

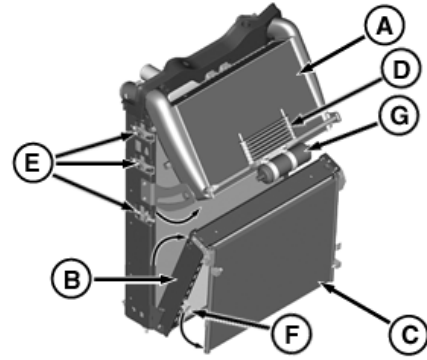
3. Release three spring latches (E) per side.

NOTE: To avoid damaging receiver/dryer (G), charge air cooler (A) must swing up first, then Hydraulic oil cooler (B) can swing down.

4. Swing open charge air cooler, then hydraulic oil cooler.
5. Release plastic latches (F), then swing air conditioner condenser (C) forward.

NOTE: Using an air hose, clean radiator and cooler units by blowing out any foreign material from back to front.

6. Clean radiator, charge air cooler and hydraulic oil cooler by blowing air through each of them.
7. Blow air through air conditioner condenser.
8. Close hydraulic oil cooler and latch.
9. Return condenser to original position and latch.
10. Close charge air cooler, close latches, then remove any remaining debris on fuel cooler (D) front.



A—Charge Air Cooler	E—Latches
B—Hydraulic Oil Cooler	F—Plastic Latches
C—Air Conditioner Condenser	G—Receiver/Dryer
D—Fuel Cooler	

RXA0078741 —UN—29MARC05

OURX935,000030C -19-12JUN08-2/2

Checking Air Conditioning System

⚠ CAUTION: Avoid possible injury. Improper servicing may cause refrigerant to penetrate eyes and skin or cause burns.

IMPORTANT: R134a refrigerant must be used. This requires special equipment and procedures. See your John Deere Dealer.

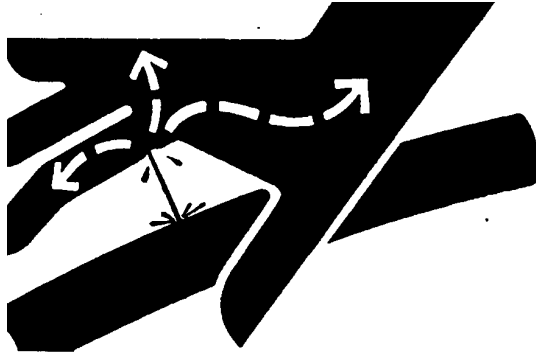
NOTE: Some oil seepage from compressor shaft seal is normal.

Check the following if air conditioner will not cool, or cooling is intermittent:

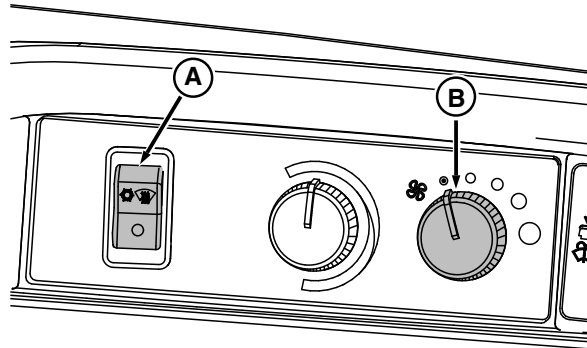
- Clean grille, radiator, and refer to Cleaning Radiator, Coolers and Air Conditioning Condenser in this section.
- Inspect and clean cab air filters. Replace filters if required. Refer to Cleaning or Replacing Cab Air Filters in this section.
- For standard air conditioning, operate engine at 2000 rpm and set compressor switch (A) to ON position and blower knob (B) to HIGH position.
For ClimaTrak, operate engine at 2000 rpm and set compressor knob (A) to ON position and blower knob (B) to HIGH position.

If problems persist, see your John Deere Dealer.

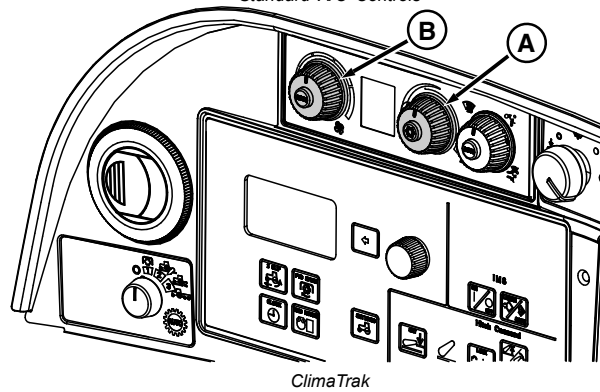
A—Compressor Switch/Knob B—Blower Knob



Caution for Escaping Fluid



Standard A/C Controls



ClimaTrak

X9811 —JUN—23AUG88

RXA0078794 —JUN—01FEB05

RXA0078795 —JUN—06JUN05

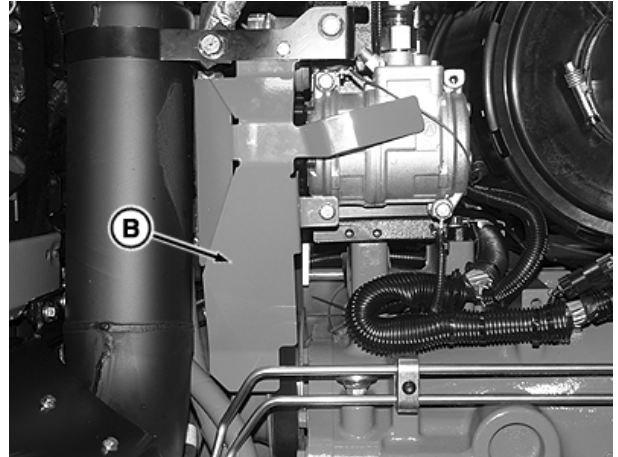
OURX935,000030D -19-12JUN08-1/1

Replacing Auxiliary Drive Belt



RXA0078781 —UN—01FEB05

Auxiliary Drive Left-Hand Shield



RXA0081517 —UN—13JUN05

Auxiliary Drive Right-Hand Shield

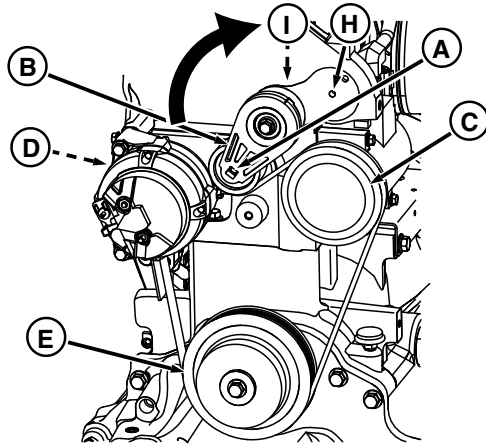
A—Left-Hand Shield

B—Right-Hand Shield

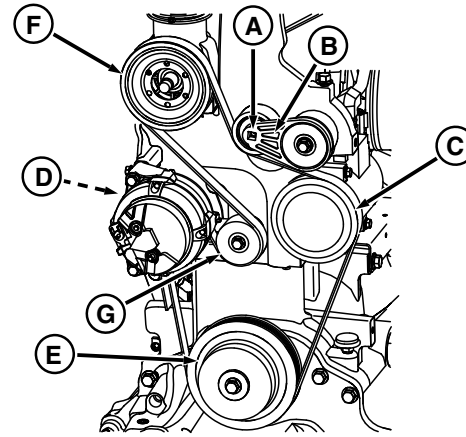
1. Open hood. Remove left-hand shield (A) and right-hand shield (B).

Continued on next page

OURX935.000030E -19-12JUN08-1/2



Auxiliary Drive Belt Installed on Tractor Without Air Brake



Auxiliary Drive Belt Installed on Tractor With Air Brake

RXA0085936 —UN—18JAN06

RXA0085937 —UN—18JAN06

- A—Square Hole
- B—Tensioner Arm
- C—Air Conditioner Pulley
- D—Alternator Pulley
- E—Auxiliary Drive Pulley
- F—Air Brake Pulley

- G—Idler
- H—Tension Arm Mounting Hole
- I— Tension Arm Mounting Hole

IMPORTANT: Keep tension off belt during removal.

2. Insert 1/2 in. drive tool into square hole (A) in tensioner arm (B).
3. Push up on tool handle to relieve tension on drive belt.
4. Remove belt from air conditioner pulley (C).

NOTE: Tractors with air brake have tension arm installed in tension arm hole (H). Tractors without air brake have tension arm installed in tension arm hole (I).

5. For tractors with air brake only, remove belt from air brake pulley (F) and idler (G).
6. Remove belt from alternator pulley (D).

NOTE: Clearance between transmission auxiliary drive pulley and tractor frame is minimal.

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 the 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.

OURX935,000030E -19-12JUN08-2/2

Removing and Installing Fan Belt

1. Raise hood.
2. Remove four cap screws (B) and right-hand front side panel (A).
3. Remove three cap screws (C) and lift diverter panel (D) out.
4. Loosen jam nut (E) on bleed screw (F).

IMPORTANT: Removing bleed screw will drain oil. Loosen bleed screw only enough to bleed oil back into reservoir (a maximum of two full turns).

5. Loosen bleed screw.

IMPORTANT: When prying rear pulley rearward, make sure that belt contact surfaces of pulley are not damaged .

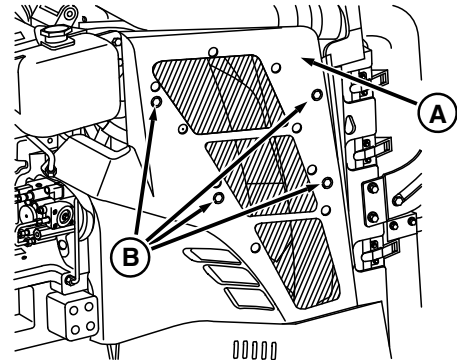
6. Insert flat tipped tool between drive pulleys and carefully push rear pulley (G) rearward until it stops.

NOTE: Bleed screw must be closed for proper tension to be applied to belt once tractor is started.

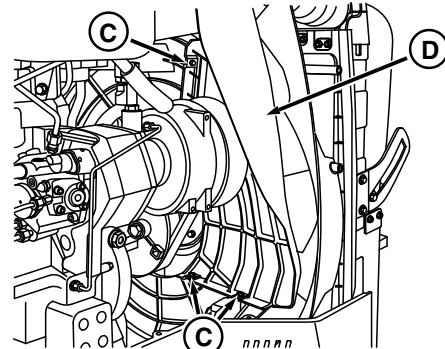
7. Close bleed screw, tighten to specification and tighten jam nut.

Specification	
Bleed Screw—Torque.....	25 N·m 221 lb-in.

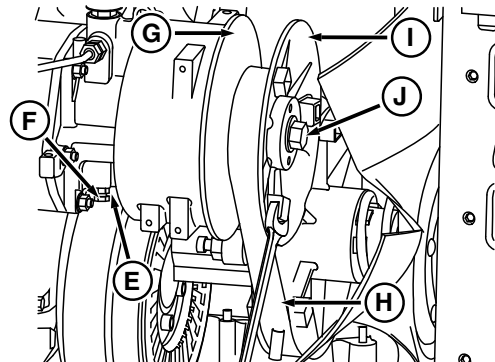
- | | |
|------------------|-----------------|
| A—Side Panel | F—Bleed Screw |
| B—Cap Screws | G—Rear Pulley |
| C—Cap Screws | H—Wrench |
| D—Diverter Panel | I— Front Pulley |
| E—Jam Nut | J— Cap Screw |



Remove Front Side Panel



Diverter Panel



Bleeding Drive Assembly

Continued on next page

OURX935.000050F -19-16SEP08-1/3

RXA0085938 —UN—18JAN06

RXA0085939 —UN—18JAN06

RXA0085940 —UN—18JAN06

- Using wrench (H) on square tab, hold front pulley (I) and remove cap screw (J).

IMPORTANT: When prying front pulley forward, make sure that roll pins and belt contact surface of pulley are not damaged.

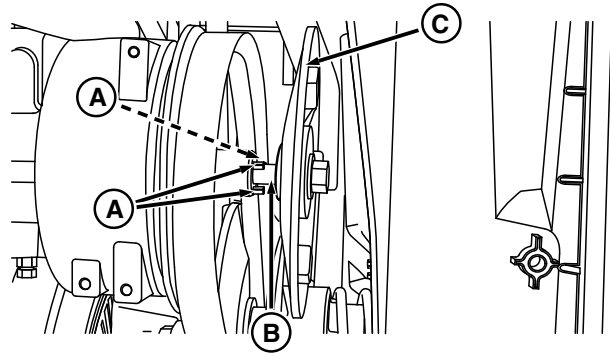
NOTE: make sure that roll pins (A) are not damaged when prying front pulley forward or if they come off with pulley, that they are not lost.

- Pry front pulley (C) evenly off shaft (B).
- Remove six nuts (D) and carefully position fan (E) forward against radiator.
- Remove belt (F) through opening between fan and fan hub (G).
- Discard old belt.
- Install new fan belt between fan and fan hub so that it is positioned between lower pulley halves.
- Slide fan into place, install nuts and torque to specification.

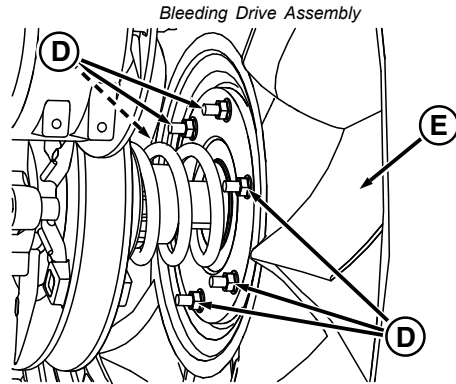
Fan-to-Drive Assembly —Specification

Nut—Torque 35 N·m
(26 lb·ft)

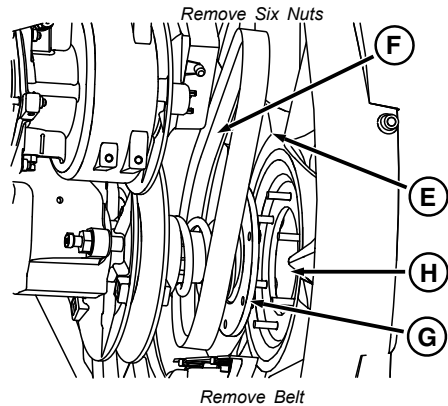
- | | |
|----------------|-----------|
| A—Roll Pins | E—Fan |
| B—Shaft | F—Belt |
| C—Front Pulley | G—Fan Hub |
| D—Nuts | |



RXA0085942 —UN—18JAN06



RXA0085951 —UN—18JAN06



RXA0085952 —UN—18JAN06

Continued on next page

OURX935,000050F -19-16SEP08-2/3

15. Pull or gently pry belt (A) onto drive shaft (B) and against rear pulley.

16. Replace any damaged roll pins.

IMPORTANT: When installing front pulley (C), make sure that belt remains loose and is not pinched between pulleys.

Clean mating surfaces of front pulley and shaft.

17. Install front pulley making sure roll-pins (D) align with holes in pulley and shaft.

18. Hold front drive pulley with wrench and tighten cap screw (E) to specification.

Drive Pulley-to-Drive —Specification

Cap Screw—Torque 375 N·m
(276 lb-ft)

19. Check bleed screw to make sure that it is closed and belt is loose between pulleys.

20. Install diverter panel and right-hand side front shield and torque to specification.

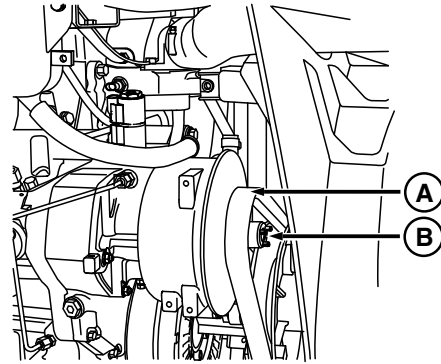
Diverter Panel Cap Screws —Specification

Cap Screw—Torque 20 N·m
(15 lb-ft)

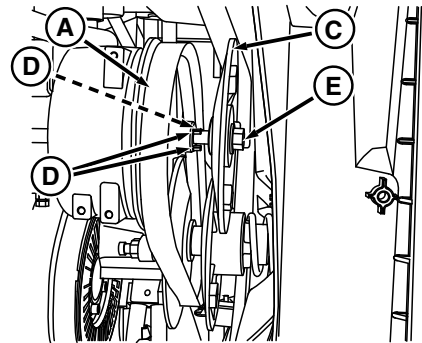
NOTE: Starting engine with belt loose between pulleys allows belt to climb out of groove between pulleys. Belt will correctly position itself within a few seconds after engine is started.

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 pulleys.



Install Belt



Install Front pulley

- A—Belt
- B—Drive Shaft
- C—Front Pulley
- D—Roll-Pins (3 Used)
- E—Cap Screw

CAUTION: Keep hands away from exposed fan blades. Blades have sharp edges which may result in personal injury.

23. Install right-hand front side panel.

OURX935.000050F -19-16SEP08-3/3

RXA0079205 —UN—22FEB05

RXA0085953 —UN—18JAN05

Checking Weep Hole

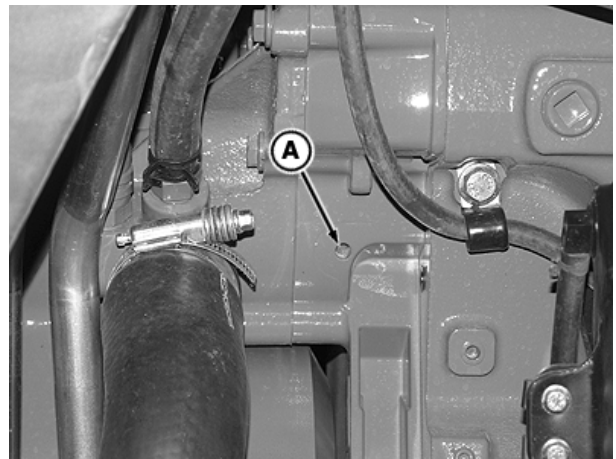
1. Remove left-hand side panel.

2. Inspect weep hole (A) 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 to replace complete coolant pump assembly (repair parts are not available).

A—Weep Hole

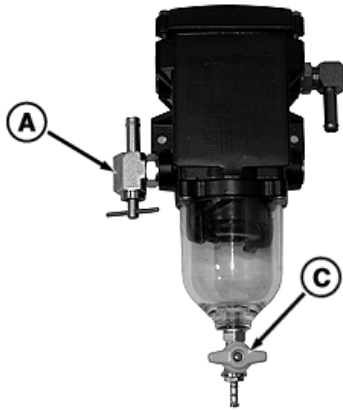


Coolant Pump Weep Hole

OURX935.0000312 -19-12JUN08-1/1

RXA0082662 —UN—28JUL05

Back Flushing the Optional Fuel Water Separator—If Equipped



A—Fuel Shut-Off Valve

B—Bleed Screw

C—Drain Valve



NOTE: Optional fuel water separator should be back flushed whenever bowl is half full of water or when diagnostic trouble code ECU 94.17, “Low fuel pressure out of lift pump”, appears. If trouble code is still displayed, wash filter element, see **CLEANING FILTER ELEMENT**. If code persists, change both fuel filters.

1. Close fuel shut-off valve (A).
2. Open bleed screw (B) on top of water separator lid. Allow water and dirt to be released from filter element and settle in bottom of bowl.
3. Push IN on drain valve (C) and turn COUNTER-CLOCKWISE to drain out water and dirt from bowl.

NOTE: As fuel, water, and dirt is drained from bowl in step 3, more water and dirt will be flushed from filter element and collect in bottom of bowl.

4. Close drain valve (C) and allow water and dirt to settle again.
5. Repeat steps 3 and 4 until all dirt and water is removed.
6. Close bleed screw (B) and open fuel shut-off valve (A).
7. Start and run engine at fast idle for 2 minutes. If engine won't start or dies, see **REPLACING FUEL FILTER ELEMENTS** in tractor Operator's Manual and follow instructions for priming the engine.

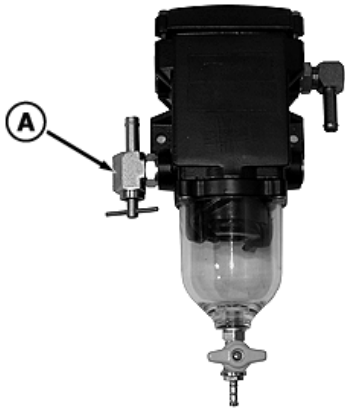
NOTE: Filter element in water separator can be back flushed up to five times before being cleaned replaced.

RXA0084314 —UN—26SEP05

RXA0084316 —UN—26SEP05

OURX935,0000313 -19-17JUN08-1/1

Maintaining Optional Fuel Water Separator Filter Element—If Equipped



A—Fuel Shut-Off Valve

NOTE: After filter element has been back flushed up to five times, clean filter. Replace filter when light is no longer visible while holding filter up to the light.

RXA0084318 —UN—26SEP05



RXA0084320 —UN—26SEP05

1. Close fuel shut-off valve (A).
2. Loosen lid screws evenly in sequence shown.

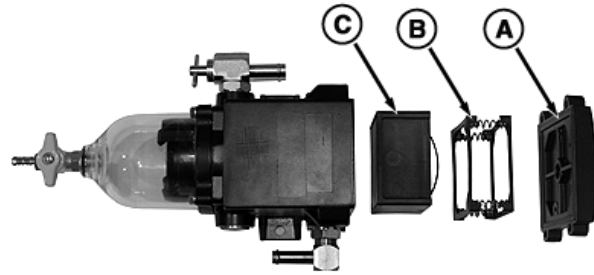
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OURX935,0000314 -19-17JUN08-1/2

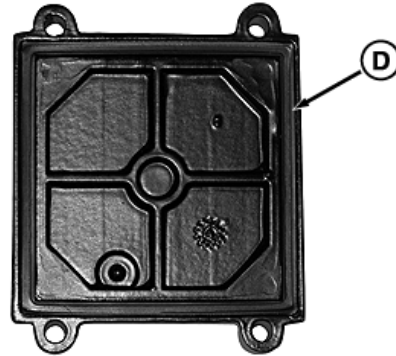
3. Remove lid (A), spring cassette (B), and filter element (C). Save lid and spring cassette.
4. Install new filter element and spring cassette (B) from step 3.
5. Inspect lid gasket (D) condition and replace if necessary.
6. Install lid (A) and tighten in sequence shown.
7. Open fuel shut-off valve.
8. Start and run engine at fast idle for 2 minutes. If engine won't start or dies, see REPLACING FUEL FILTER ELEMENTS in tractor Operator's Manual and follow instructions for priming engine.

A—Lid
B—Spring Cassette

C—Filter Element
D—Lid Gasket



RXA0084322 —UN—26SEP05



RXA0084324 —UN—26SEP05



RXA0084320 —UN—26SEP05

OURX935,0000314 -19-17JUN08-2/2

Cleaning Optional Fuel Water Separator Filter Element—If Equipped

NOTE: To replace filter element and filter housing gasket, See your John Deere dealer.

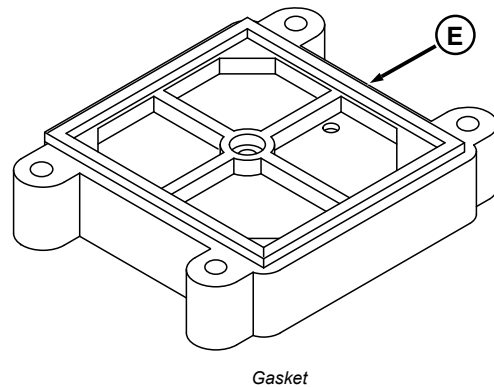
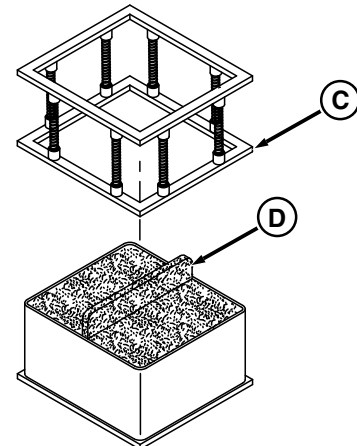
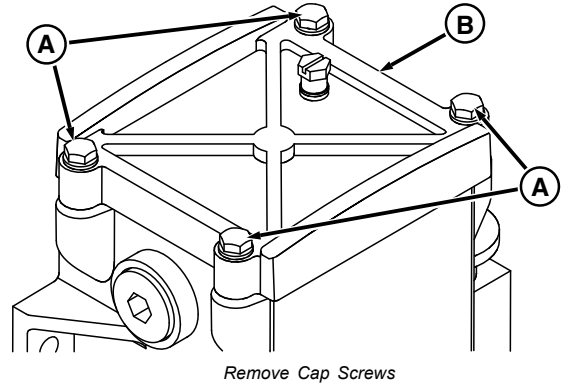
1. Turn off engine.

NOTE: Drain fuel into an appropriate container and dispose of properly.

2. Open drain valve and drain fuel from bowl.
3. Remove cap screws (A) and lid (B).
4. Remove spring cassette (C).
5. Lift out filter element by the handle (D).
6. Wash filter in clean diesel fuel or mineral spirits.
7. Inspect filter for damage. If damage, replace with new filter.
8. Install filter element.
9. Install spring cassette.
10. Inspect lid gasket (E) and replace if necessary.

A—Cap Screws
B—Cover
C—Spring Cassette

D—Handle
E—Gasket



RXA0089770 —UN—14JUL06

RXA0089818 —UN—14JUL06

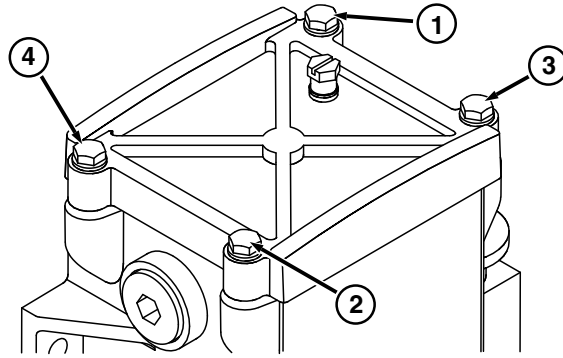
RXA0089773 —UN—14JUL06

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OURX935.0000315 -19-12JUN08-1/2

General Services

11. Install new filter, spring cassette, lid and four cap screws. Leave cap screws finger tight.
12. Tighten cap screws in sequence as shown.
13. Prime fuel system and check for leaks.



Install Cap Screws

RXA0089820 —UN—14JUL06

OURX935,0000315 -19-12JUN08-2/2

Electrical Services

Introduction to Electrical System Section

In addition to the fuses and relays mounted in the fuse panel (behind the operators seat), these tractors are also equipped with solid state load centers located in two of the electronic controllers.

These solid-state load centers replace fused relay circuits previously used. The primary function is to control the majority of high current loads such as fender flood lights and the horn. This electronic circuitry will monitor loads and voltages to provide fast reaction time and the ability to alert the operator if a circuit overloads or if voltage is out of specifications, i.e. open circuit (undercurrent) or short circuit (over-current).

If circuit is faulty and a diagnostic trouble code is generated, the circuit will stay in the OFF state and diagnostic trouble code will remain active until the circuit is shut off by the operator. If the circuit or one of its components is turned back ON and the problem is not present, the system will function normally.

As an example, if a light circuit is determined to have an over-current condition, it will shut off. If the operator turns the light switch off and then back on to clear the fault, and

the current sense reading is zero amps with the light off, the logic circuit will turn back on.

If the total current load of the solid state load center exceeds a preset level, the software will begin to shut down the system, turning off one circuit at a time. The logic circuit will wait a few seconds between circuit shutdowns to determine if the 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 any additional electrical devices need to be added to the tractor, we 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 the circuit to overload and shut the circuit down.

If extra implement lights and controls, such as switches are needed, contact your John Deere dealer. He can provide information on methods to tie in the light switch with one of the accessory wires located in the 7 pin terminal on the back of the tractor.

OURX935,0000316 -19-12JUN08-1/1

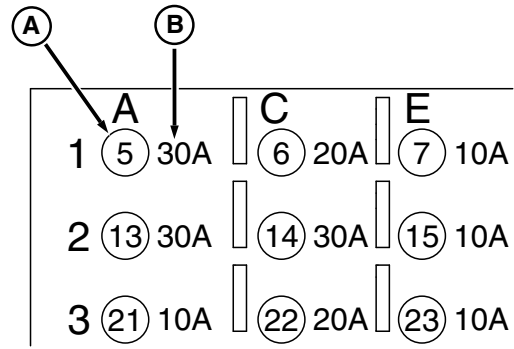
Load Center Fuses

IMPORTANT: Fuse replacement must be the same rating as the original.

This key will help identify appropriate fuse location, fuse size and which slot goes with which fuse.

A—Fuse Location

B—Fuse Size

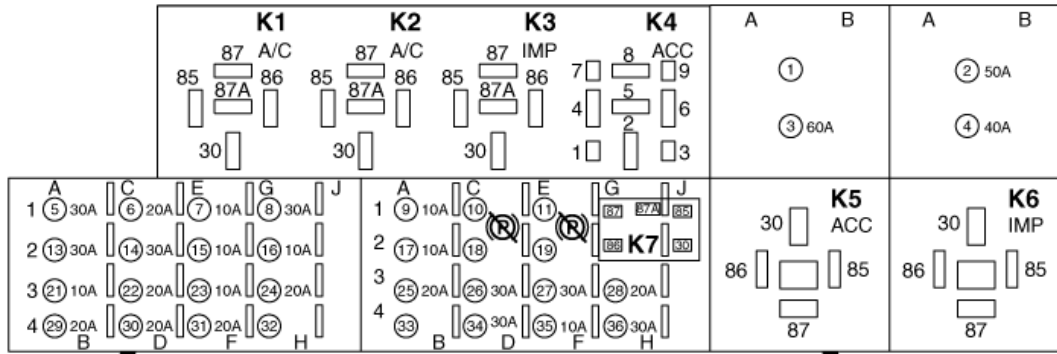


Load Center Key

RXA0081529 —UN—16AUG05

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OURX935,0000390 -19-25JUN08-1/3



RXA008292—UN—12JUL05

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OURX935,0000390 -19-25JUN08-2/3

Electrical Services

- | | | | |
|--|---|--|--|
| <p>1— Not Used
2— Accessories
3— Implement Power
4— Blower Motor
5— Key Switch
6— ATC and Pressurizer Blower
7— Radio, Steering Column, Horn, Clock and Dome Light—Unswitched Power
8— Right-Hand Junction Block, Convenience Outlet and Lighter—Battery Power
9— Alternator</p> | <p>10— Reserved—Used for AutoPowr Only
11— Reserved—Used for AutoPowr Only
12— None
13— Implement ELX, Controllers
14— Accessory Relay/7 Pin
15— Beacon and Power Mirrors
16— Hazard and Light Switch
17— Not Used
18— Come Home Mode—AutoPowr Only</p> | <p>19— Not Used
20— Not Used
21— Operator Presence Seat Switch
22— Flex Cab Controller
23— SSU Power
24— Engine Control Unit (ECU)
25— Seat Controls
26— Business Band Radio, CB Radio, Field Office, Left-Hand Junction Block—Acc Key Switch
27— Convenience Right-Hand Junction Block, Accessories</p> | <p>28— Spare
29— Hydraulic Controller (Optional)
30— SCU
31— Not Used
32— Electric Fuel Pump
33— Not Used
34— Field Lights, Inner and Outer Cab Roof
35— Spare
36— Spare</p> |
|--|---|--|--|
-
- | | |
|--|--|
| <p>K1 — AC Relay, ATC
K2 — AC Relay Pressurizer Blower Motor
K3 — Not Used
K4 — Not Used</p> | <p>K5 — Accessory Relay
K6 — Implement Power
K7 — Trailer Brake Lights</p> |
|--|--|

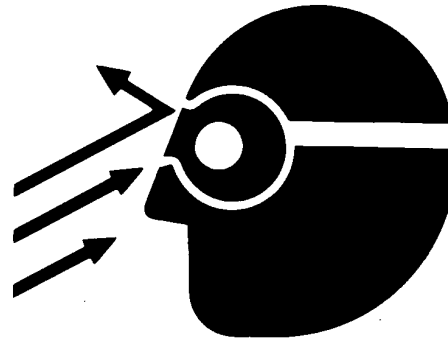
OURX935.0000390 -19-25JUN08-3/3

Handling Halogen Light Bulbs Safely

⚠ 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.

A—Halogen Bulb



TS266 —UN—23AUG88

H39474 —UN—30JUN00

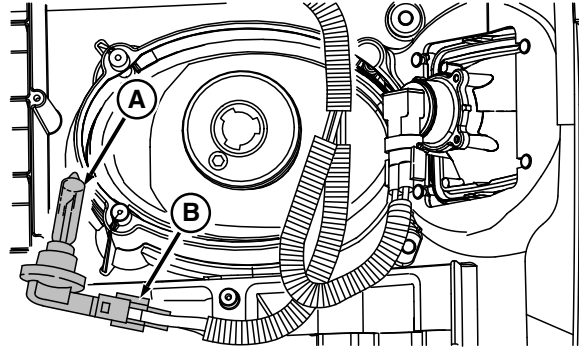
OURX935.0000318 -19-12JUN08-1/1

Replacing Front Grille Flood Light Bulb—Standard Lighting

1. Raise hood.
2. Disconnect wiring harness plug (B).
3. Rotate bulb (A) counterclockwise approximately 1/4 turn and remove.
4. Install bulb in reverse order of removal.

A—Bulb

B—Wiring Harness Plug



Right-Hand Side Shown

RXA0068499 —UN—09SEP03

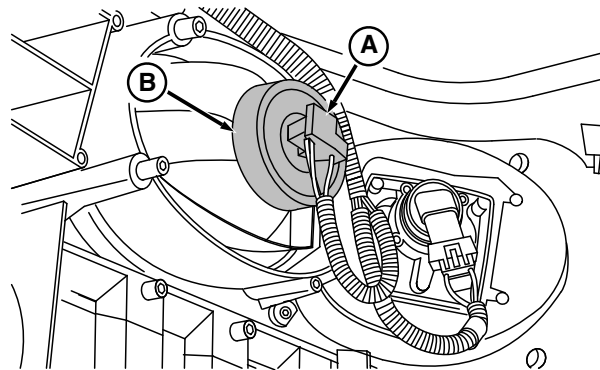
OURX935,0000319 -19-12JUN08-1/1

Replacing Road Light Bulb

1. Raise hood.
2. Disconnect wiring harness plug (A).
3. Remove dust boot (B).
4. Unlatch retaining spring (C) and remove bulb (D).
5. Install new bulb in reverse order of removal.
6. Adjust headlights, if necessary. (See procedure in this section.)

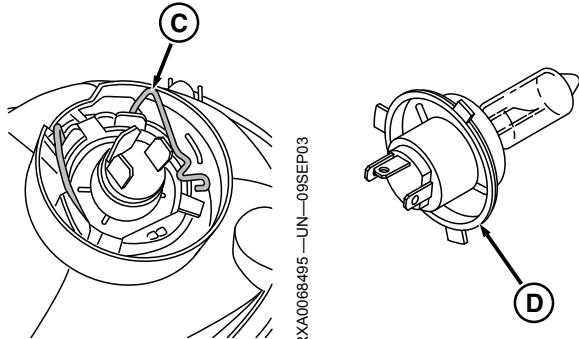
A—Wiring Harness Plug
B—Dust Boot

C—Retaining Spring
D—Bulb



Right-Hand Side Shown

RXA0068494 —UN—09SEP03



RXA0068495 —UN—09SEP03

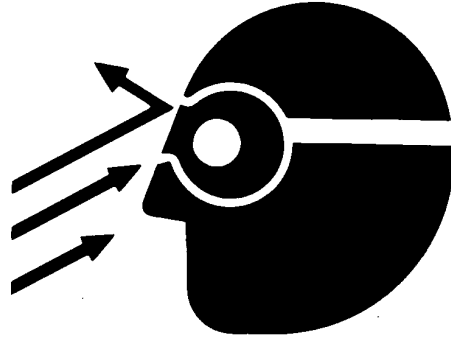
RXA0068496 —UN—09SEP03

OURX935,000031A -19-14OCT08-1/1

Handling HID Light Bulbs Safely

⚠ CAUTION: Handling a bulb improperly could cause it to shatter into flying fragments. To avoid possible injury:

- High voltage is conducted by electrical connection between worklights and ballast unit; this connection must never be broken.
- Handle bulb by its base. Keep bulb oil free; wear gloves to avoid touching glass. Use a clean cloth and alcohol to remove any fingerprints from the glass bulb before installing. Skin oil deposited on bulb will cause overheating and premature failure.
- Do not operate bulb outside of enclosure. When operating, HID bulbs have high internal pressure and if they are cracked or broken, they could explode and cause injury.
- Turn light switch off and allow bulbs to cool before changing. Leave switch off until bulb change is done.



- Wear eye protection.
- 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.

OURX935.000031B -19-12JUN08-1/1

TSS266 —UN—23AUG88

HID Bulbs

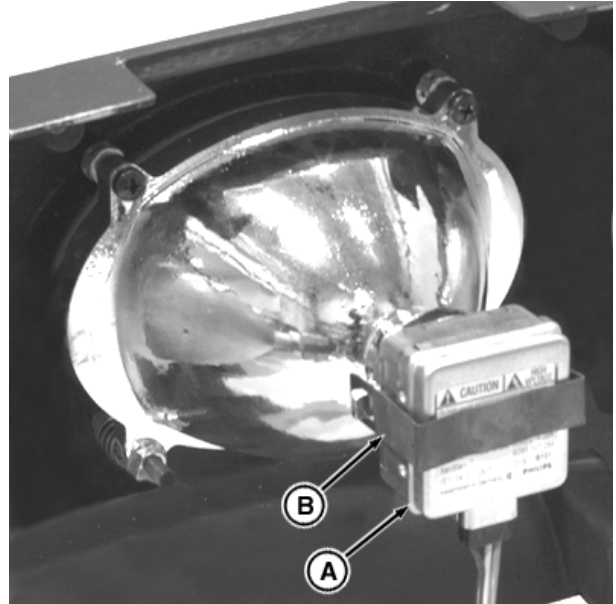
Front HID Bulb Replacement:

⚠ CAUTION: Wear gloves and safety glasses when handling bulbs. Dangerous voltage spark-over may occur and cause damage/injury at the connector. See manufacturer warning packaged with replacement bulb.

1. Disconnect wiring harness from HID assembly.
2. Press in on HID assembly (A) and remove retainer (B) using a screwdriver.

A—HID Assembly

B—Retainer



Front HID Bulb Replacement

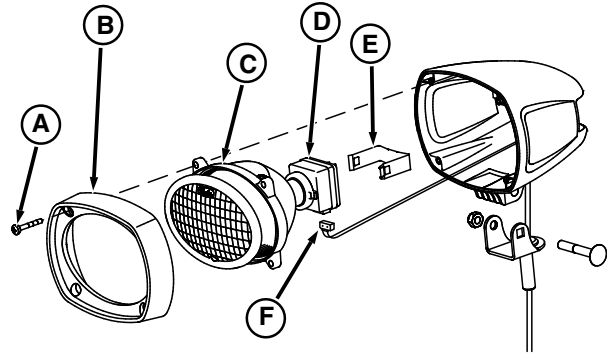
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OURX935.000031C -19-12JUN08-1/2

RXA0062294 —UN—12JUL05

Rear Fender HID Bulb Replacement:

1. Remove cap screws (A) and bezel (B).
2. Carefully pull reflector (C) with lamp (D) out of cover far enough to unplug wiring harness (F).
3. Press in on HID light assembly and remove retainer (E) with a screw driver. Remove lamp from reflector.
4. Install new lamp in reflector and install retainer.
5. Connect wiring harness plug to new HID light assembly. Install HID light assembly in cover and install bezel and cap screws.



RXA0085596 —UN—13FEB06

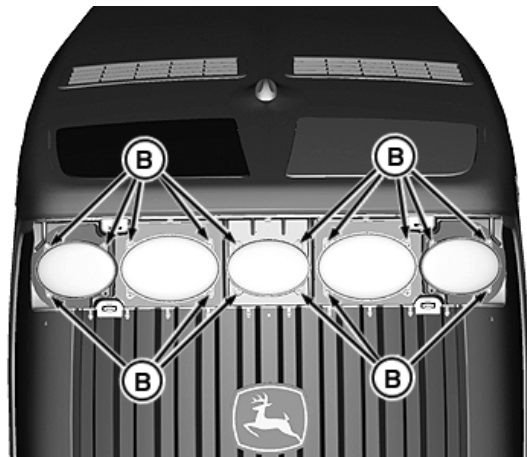
- | | |
|-------------|------------------|
| A—Cap Screw | D—Lamp |
| B—Bezel | E—Retainer |
| C—Reflector | F—Wiring Harness |

OURX935,000031C -19-12JUN08-2/2

Adjusting Front Grille Lights



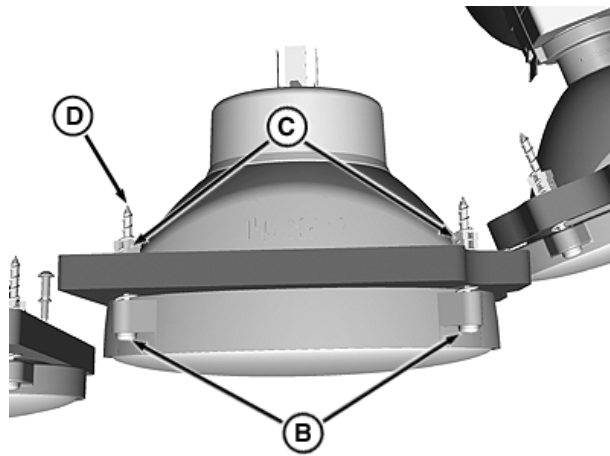
RXA0080172 —UN—08APR05



RXA0080168 —UN—08APR05

1. To remove bezel, place one hand on each side of bezel (A) and pull straight back.
2. Adjust the light beam by turning aiming screws (B).
3. To return light to factory setting, adjust cap screws so the screw tips (D) are flush with plastic retainers (C), then adjust light beams from there.

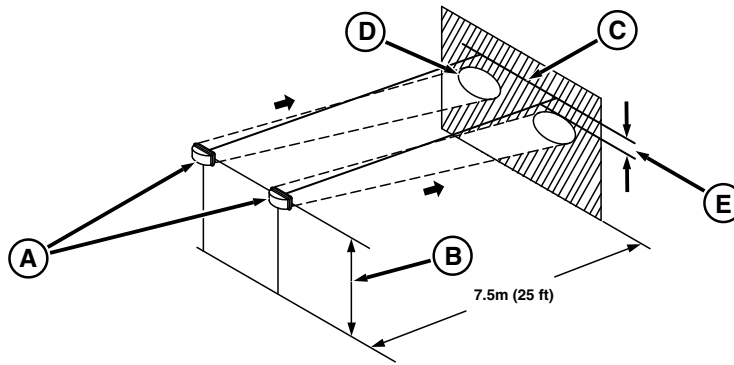
- | | |
|---------------------|---------------------|
| A—Position | C—Plastic Retainers |
| B—Aiming Cap Screws | D—Screw Tips |



RXA0080565 —UN—02AUG05

OURX935,000031D -19-12JUN08-1/1

Aiming Head Lights



A—Head Lights C—Horizontal Line on Wall
 B—Distance from Center of Head Light to Ground D—Border of Bright Area
 E—10% of Distance (B)

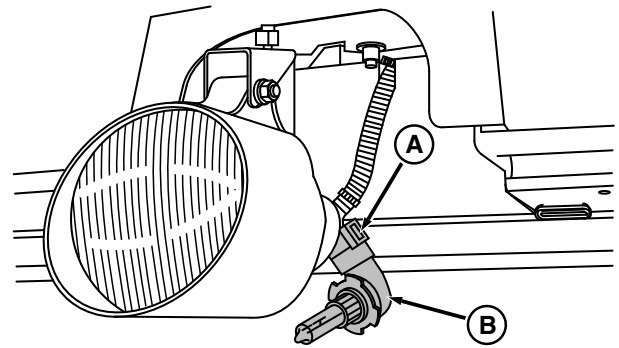
1. Park tractor on a level surface with head lights (A) 7.5 meters (25 ft) from a vertical wall.
2. Measure the distance (B) from the center of a head light to the ground.
3. Mark a horizontal line (C) on the wall, at the same distance from the ground as (B).
4. Set head lights on low beam and observe bright areas on the wall.
5. Adjust head lights so the upper border of bright area (D) is **at least** one tenth of distance (B) **below** line (C).

OURX935,000031E -19-12JUN08-1/1

RXA008628 —UN—13FEB06

Replacing Front Belt-Line, Cab Roof Rear and Side or Rear Fender Flood Light Bulb

1. Rotate flood light as necessary, to access backside of light.
2. **Belt-line and rear fender flood lights;** Remove rubber cover.
3. Disconnect wiring harness plug (A).
4. Rotate bulb (B) counterclockwise approximately 1/4 turn and remove.
5. Install bulb in reverse order of removal.



Rear Cab Roof Flood Light Shown

A—Wiring Harness Plug B—Bulb

OURX935,000031F -19-12JUN08-1/1

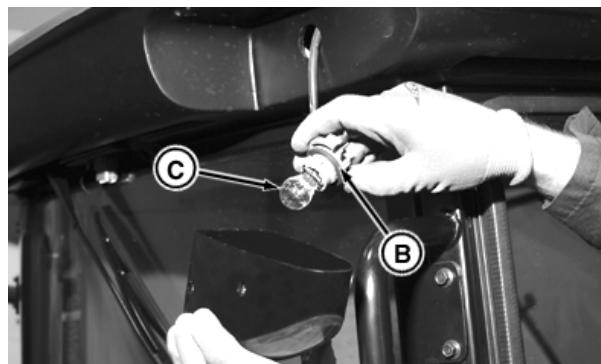
RXA0068500 —UN—09SEP03

Replacing Cab Roof Hazard Light Bulbs



Cab Roof Light

RXA0080421 —UN—23APR05



Remove Retainer

RXA0080420 —UN—23APR05

A—Screws

B—Light Bulb Retainer

C—Light Bulb

1. Remove screws (A) and light assembly.

NOTE: Do not drop light bezel.

2. Grasp light bulb retainer (B) as shown and turn counterclockwise approximately 1/4 turn to remove.

3. Remove light bulb (C) by pulling straight out of retainer.

4. Install new bulb in reverse order of removal.

OURX935,0000320 -19-05AUG08-1/1

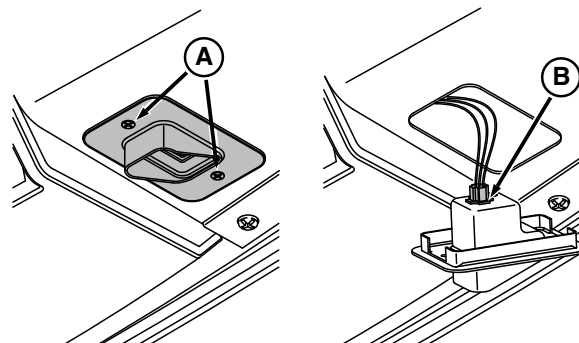
Replacing Instrument and Display Illumination Light Bulb

1. Remove screws (A) and light assembly.

2. Rotate retainer (B) counterclockwise approximately 1/4 turn and remove.

3. Pull out light bulb.

4. Install new bulb in reverse order of removal.



Remove Screws And Rotate Retainer

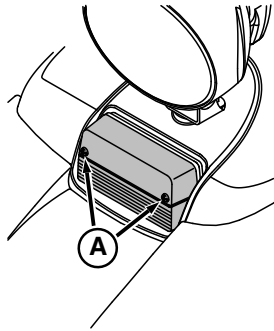
RXA008887 —UN—14AUG08

A—Screws

B—Light Bulb Retainer

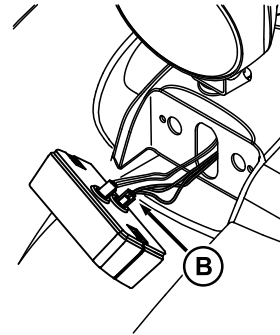
OURX935,0000321 -19-14AUG08-1/1

Replacing Brake Light Bulb



Tail Light

RXA0089966 —UN—26JUL06



Rotate Retainer Counterclockwise To Remove

RXA0084005 —UN—15SEP05

A—Screws

B—Light Bulb Retainer

NOTE: Early model tractors are equipped with a red tail light and a single bulb. Late model tractors are equipped with brake lights, a amber/red tail light cover and have two light bulbs in the fixture instead of the one found on early model tractors.

1. Remove screws (A) and light assembly.

2. Rotate retainer (B) counterclockwise approximately 1/4 turn and remove.
3. Pinch and pull light bulb out.
4. Install new bulb in reverse order of removal.

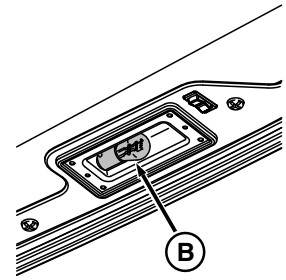
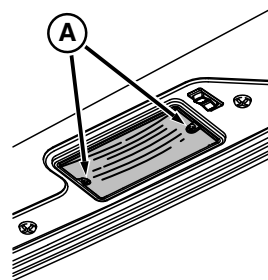
OURX935.000035B -19-16JUN08-1/1

Replacing Dome Light Bulb

1. Remove screws (A) and lens cover.
2. Push in and turn counterclockwise to remove light bulb (B).
3. Install new bulb in reverse order of removal.

A—Screws

B—Light Bulb

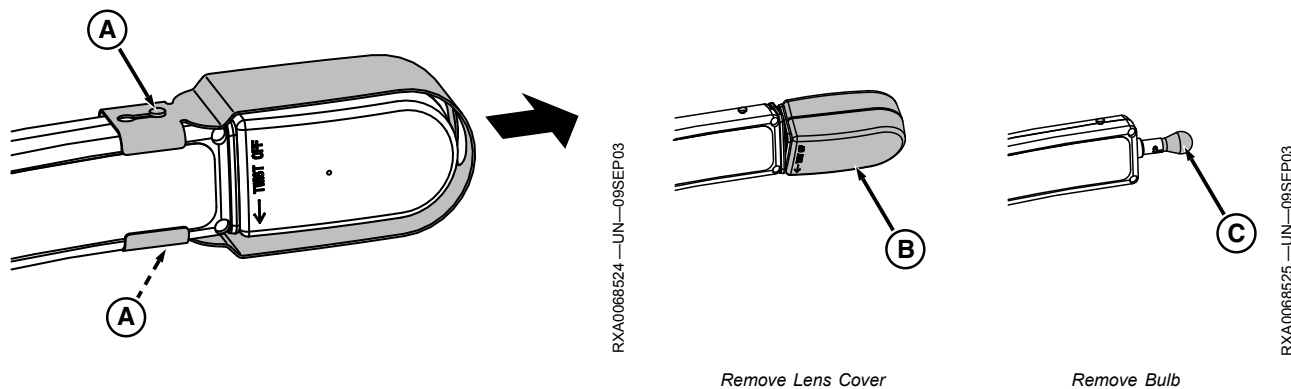


Dome Light Replacement

RXA0098889 —UN—14AUG08

OURX935.0000323 -19-15AUG08-1/1

Replacing Extremity Warning Light Bulb (if Equipped)



1. Loosen screws (A).
2. Slide shield away from lens cover to remove.
3. Turn lens cover (B) counterclockwise to remove light bulb (C).
4. Install new bulb in reverse order of removal

A—Screws
B—Lens Cover

C—Light Bulb

OURX935,0000324 -19-05AUG08-1/1

Troubleshooting

Engine Troubleshooting

Symptom	Problem	Solution
Engine hard to start or will not start	Incorrect starting procedure	Review starting procedure
	No fuel	Check fuel tank
	Air in fuel line	Bleed fuel line (Turn key to "RUN" for 60 seconds with engine off)
	Cold weather	Use cold weather starting aids
	Slow starter speed	See Starter Cranks Slowly
	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	Have your John Deere dealer check injectors
	Injection pump shut-off not reset	Turn key switch to OFF then to ON
Engine knocks	Insufficient oil	Add oil
	Low coolant temperature	Replace thermostats
	Engine overheating	See Engine Overheats
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
	Dirty or faulty injectors	Have your John Deere dealer check injectors
Below normal engine temperature	Defective thermostat	Replace thermostats
	Defective temperature gauge or sender	See your John Deere dealer
	Variable speed fan running too fast	See your John Deere dealer
Throttle does not allow full engine rpm	AutoPowr load control knob may not be set properly	See section 42, Operating AutoPowr transmission

Continued on next page

OURX935.0000186 -19-03AUG05-1/3

Troubleshooting

Symptom	Problem	Solution
	Field Cruise may be on and limiting max engine rpm	Check the settings for Field Cruise in the CommandCenter. Insure full rpm has been selected on the display
	Cold oil can limit engine speed to 1500 rpm	Warm up transmission/hydraulic oil. Contact your John Deere dealer if problem persists
Lack of power	Engine overloaded	Reduce load or shift to lower gear
	Low fast idle speed	Insure Field Cruise is set to max rpm
		Insure AutoPowr selector is set correctly
		See your John Deere dealer if problem persists
	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
	Below normal engine temperature	Remove and check thermostats
	Incorrect valve clearance	See your John Deere dealer
	Dirty or faulty injectors	Have your John Deere dealer check injectors
	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
Low oil pressure	Restricted inlet on tank	Clean or replace fuel line
	Incorrect ballast	Adjust ballast to load. See section 75, Performance Ballasting
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

Continued on next page

OURX935,0000186 -19-03AUG05-2/3

Troubleshooting

Symptom	Problem	Solution	
Engine emits smoke	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	
	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	
Engine overheats	Turbocharger not functioning	See your John Deere dealer	
	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	Check oil level. Add oil as required	
	Low coolant level	Fill de-aeration tank and recovery 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	
	Fan drive running too slow	Make sure bleed screw under fan drive is fully closed	
	Cooling system needs flushing	Flush cooling system	
	Defective thermostat	Replace thermostats	
	Defective temperature gauge or sender	See your John Deere dealer	
	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 section 75, Performance Ballasting	

OURX935,0000186 -19-03AUG05-3/3

Transmission Troubleshooting

Symptom	Problem	Solution
PST transmission vent between engine and transmission yoke leaks oil	Clogged transmission filter screen	Clean screen
AutoPowr transmission external vent leaks oil	Clogged transmission filter screen	Clean screen
Transmission warning displays	Diagnostic trouble code has been stored	See PTI or PTP in the Diagnostic Trouble Codes section
PST transmission skips gears	No problem	See Shifting the Transmission in Operating the Tractor section
Transmission shifts slowly and tractor steers hard	Cold oil	See Transmission/Hydraulic System Warm-Up in Operating the Tractor section
Transmission slips, shifts rough or abruptly (jerky) after oil change	Recalibrate transmission (PST only)	See Changing Transmission/Hydraulic Oil in the Lubrication section Have dealer recalibrate See your John Deere dealer
Transmission starts out too fast/slow	No problem	Start-up gear can be changed. See Shifting the Transmission in Operating the Tractor section See your John Deere dealer

OURX935,0000187 -19-03AUG05-1/1

Hydraulic System Troubleshooting

Symptom	Problem	Solution
Entire hydraulic system fails to function	Low oil supply	Check sight glass and fill system with correct oil
	Clogged hydraulic filters	Replace BOTH hydraulic filters
	Clogged charge pump suction screen	Clean screen
	High-pressure internal leak	See your John Deere dealer
Hydraulic oil overheats	Low or high oil supply	Fill system to correct level
	Oil cooler air passages clogged	Clean oil cooler
	Clogged transmission oil filter element	Replace transmission filter element
	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 Remote Hydraulic Connections

OURX935,0000188 -19-03AUG05-1/1

Hitch Troubleshooting

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 Hitch section
	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
	Independent Link Suspension leveling not functioning correctly or extended above level	Induce leveling with engine operating by depressing clutch and putting transmission in gear for four seconds. Repeat until suspension is in normal operating position
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 load/depth mix control in the CommandCenter to the left
	System is reset	Enable system
	Malfunction in lever position sensor circuit or hitch position sensor	See your John Deere dealer
	Independent Link Suspension leveling not functioning correctly during large draft changes	Induce leveling with engine operating by depressing clutch and putting transmission in gear for four seconds. Repeat until suspension is in normal operating position
Hitch drops slowly	Hitch rate-of-drop control not correctly set	Adjust rate-of-drop through settings in CommandCenter
Hitch fails to lift or lifts slowly	Excessive load on hitch	Reduce load
	Center link in wrong position	Put center link in correct hole
	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

Continued on next page

OURX935,00003AD -19-03SEP08-1/2

Troubleshooting

Symptom	Problem	Solution
Insufficient or no hitch response to draft load	Load/depth mix control in wrong setting	Adjust load/depth mix control in the CommandCenter hitch settings
	Rate-of-drop too slow	Adjust rate-of-drop in the CommandCenter hitch settings
Hitch too responsive	Load/depth mix control not correctly set	Adjust load/depth mix control in the CommandCenter hitch settings
Hitch settles too fast after tractor is parked and engine is shut off	Internal circuit leakage	See your John Deere Dealer
Hitch will not move (controls not working, including rear raise/lower switch)	Fuse blown	Replace fuse 30
	Failure of raise/lower switch, connector, or wiring harness	See your John Deere Dealer
External raise/lower switch will not move hitch	Lever in transport lock	Move lever out of transport. Unlock hitch at CommandCenter
	SCV stack filter plugged	Replace SCV stack filter

OURX935,00003AD -19-03SEP08-2/2

Selective Control Valve Troubleshooting

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 transport lock engaged	Release SCV transport 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
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
	SCV lever is not being released to neutral	Release SCV lever from detent to neutral in less than 0.8 seconds
SCV lever does not release	SCV float is being "commanded"	Do not push lever down in forward position
	Lever mechanism failed	See your John Deere Dealer
Implement does not operate or does not operate correctly	Incorrect hose connections	See implement operator's manual
		See your John Deere Dealer
Implement is sluggish	SCV stack filter plugged	Replace SCV stack filter

OURX935,00003AC -19-03SEP08-1/1

TouchSet Depth Control Troubleshooting

Symptom	Problem	Solution
Depth control does not function correctly	Implement transport lock-up valve closed	Open valve
	Cylinders not "rephased" (synchronized)	"Rephase" (synchronize) cylinders IMPORTANT: Be sure all air is bled from depth control system
	Machine operating at different depths	Hard ground or adverse operating conditions 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

OURX935,000018C -19-03AUG05-1/1

Electrical System Troubleshooting

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	Have your John Deere dealer check charging circuit
	High resistance in charging circuit	Have your John Deere dealer check charging circuit
	Indicator malfunction	Have your John Deere dealer check indicator
Voltage symbol displayed and service alert indicator flashing indicating low charging voltage (engine running)	Low engine speed	Increase speed
	Auxiliary drive belt slipping, not charging alternator	Check auxiliary drive belt tension
	Defective battery	Check electrolyte level and specific gravity
	Defective alternator	Have your John Deere dealer check alternator
	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	Have your John Deere dealer check alternator
Voltage indicator flashing indicating excessive charging voltage	Faulty connection to alternator	Check wiring connections
	Bad/faulty alternator ground	Clean mounting contact points
"Chirping" noise from side console	Noise is normal	Because 8030 series tractors use solid state electronic drivers instead of relays, the tractor warning system provides a short turn signal indicator beep replacing the normal 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 auxiliary belt tension or replace belt

Continued on next page

OURX935,000018D -19-03AUG05-1/2

Troubleshooting

Symptom	Problem	Solution
Starter inoperative	Transmission in gear	Place transmission in Park
	Faulty or maladjusted 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
Starter cranks slowly	Blown F5 fuse	Replace fuse
	Low battery output	Check electrolyte level and specific gravity
	Crankcase oil too heavy	Use correct viscosity oil
Light system does not function; rest of electrical system functions Entire electrical system does not function	Loose or corroded connections	Clean and tighten loose connections
	Blown F16 fuse	Replace fuse
	Faulty battery connection	Clean and tighten connections
	Sulfated or worn out batteries	Check electrolyte level and specific gravity
	Blown master fuse	Replace master fuse (in battery compartment)
Blower malfunctioning	Blower does not work	Check for stored codes, total cab electrical load may be exceeding solid state load center capacity
	Blown F4 and/or F6	Replace fuses
Blower operates only in PURGE	Blown blower resistance assembly	See your John Deere dealer

OURX935,000018D -19-03AUG05-2/2

Operator Enclosure Troubleshooting

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
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
	Valve cable/water valve not adjusted properly	See your John Deere dealer
Air conditioner not cooling	Low voltage	See your John Deere dealer
	Low refrigerant	See your John Deere dealer
	Belt slipping	Check belt tension
	Compressor not turned ON	Switch compressor ON
Intermittent cooling	Air restriction in front corners	Clean radiator, oil cooler, and air conditioner condenser
Seat suspension not working	Blown F25 fuse	Replace fuse
Radio does not function	Blown F7 fuse	Replace fuse

OURX935,000018E -19-03AUG05-1/1

Tractor Operation Troubleshooting

Symptom	Problem	Solution
Tractor bounces or jumps	Power hop/wheel hop	Check weight split Check ballast Check inflation pressures See Controlling Wheel Hop in the Performance Ballasting section See your John Deere dealer
	Loose wheel hardware	Tighten all wheel hardware to correct torque

OURX935,000018F -19-03AUG05-1/1

Independent Link Suspension Troubleshooting

Symptom	Problem	Solution
Suspension settles	Suspension cylinder leaking	See your John Deere dealer
	Check valve leaking	See your John Deere dealer
Suspension does not level	Position sensor failure	See your John Deere dealer
	Blown F30 fuse	Replace fuse
	Wheel speed less than 0.5 km/h (0.3 mph)	Increase speed
	Auto-leveling disabled	See your John Deere dealer
Suspension does not lock during hitch operation	Excess leakage, valve stuck, or solenoid failure	See your John Deere dealer
	Wheel speed greater than 30 km/h (18.6 mph)	Reduce speed to less than 20 km/h (12.4 mph)
	Auto-leveling disabled	See your John Deere dealer
Excessive suspension damping or suspension does not unlock	Wheel speed less than 0.5 km/h (0.3 mph)	Increase speed
	Auto-leveling disabled	See your John Deere dealer
Tractor bounces or jumps	Independent Link Suspension is locked	See your John Deere dealer
	Tires not correctly inflated or out of round	Check tires and inflation pressure
	Tires cold and out of round	Drive tractor 3.2 km (2 miles) to determine if condition still exists

OURX935,0000190 -19-17JUN05-1/1

Diagnostic Trouble Codes

Introduction To Diagnostic Trouble Codes

When either a Service Alert or Information indicator is displayed, the tractor should be placed in park and engine shut off. Before contacting your John Deere dealer, restart the engine to verify the active Diagnostic Trouble Code will reappear. Sometimes, the code can be corrected by resetting the communication messages when tractor is restarted.

Some Service Alerts and Information indicators can be acknowledged and display cleared by pressing the

SELECT switch on the CommandCenter. The display will return to a normal mode. This will allow tractor function to continue however Diagnostic Trouble Code may reappear at a later date if condition still exists.

If a code is not in this section, contact your John Deere dealer.

OURX935,00004E3 -19-19DEC07-1/1

Armrest Control Unit (ACU) Diagnostic Trouble Codes

Armrest Control Unit (ACU) Diagnostic Trouble Codes		
Diagnostic Trouble Code	Display	Solution
ACU 000158.04	Rear PTO system	ACU Switched Supply Voltage Low. Visually inspect around the batteries and alternator for any visual signs of damage or accumulated debris. Have your John Deere dealer repair as soon as possible.
ACU 000177.17	Transmission oil temperature	Engine Speed Limited Due to Cold Oil. Slow engine speed to less than 1500 rpm until hydraulic temp is above -5°C (23°F).
ACU 000237.02 ACU 000237.14 ACU 000237.31	Identification System	VIN Security Problem. Have your John Deere dealer repair as soon as possible.
ACU 000581.07	Transmission System	Transmission Not Responding to Command. Have your John Deere dealer repair as soon as possible.
ACU 000628.02 ACU 000628.12 ACU 000629.11 ACU 000629.12 ACU 000630.02 ACU 000630.13	Operator Controls	Control Unit Fault. Restart tractor. If code still exists, have your John Deere dealer repair as soon as possible.
ACU 000639.12	Communication System	ACU CAN Message Overflow. Have your John Deere dealer repair as soon as possible.
ACU 000639.14	Communication system	ACU CAN Error Limit Exceeded. Have your John Deere dealer repair as soon as possible.
ACU 000974.02 ACU 000974.03 ACU 000974.04	Operator Controls	Hand Throttle Sensor Circuit Voltage Problem. Foot throttle may still function (if equipped). Have your John Deere dealer repair as soon as possible.
ACU 001079.02 ACU 001079.03 ACU 001079.04	Operator Controls	ACU Sensor Supply 1 Voltage Problem. Have your John Deere dealer repair as soon as possible.
ACU 001080.02 ACU 001080.03 ACU 001080.04	Operator Controls	ACU Sensor Supply 2 Voltage Problem. Have your John Deere dealer repair as soon as possible.
ACU 002000.09	Communication System	ECU Message Missing. Check fuse F24.
ACU 002003.09	Communication System	PTI or PTP Message Missing. Have your John Deere dealer repair as soon as possible.
ACU 002020.09	Communication System	SFA Message Missing. Have your John Deere dealer repair as soon as possible.
ACU 002049.09	Communication System	CAB Message Missing. Check fuse F22.
ACU 523664.02	Operator Controls	Speed Band 1 and 2 Switches Conflict. Have your John Deere dealer repair as soon as possible.
ACU 523775.02 ACU 523775.09	Single Lever Control	Single Lever Control (if equipped) Hand Presence Switch Problem. Move hand to show operator is in place. If code still exists, have your John Deere dealer repair as soon as possible.
ACU 523776.02 ACU 523801.02 ACU 523804.02 ACU 523804.03 ACU 523804.04 ACU 523805.02 ACU 523805.03 ACU 523805.04	Single Lever Control	Single Lever Control Problem. To keep working, use SCV controls 3 and 4. Go to CommandARM and disable single lever control. Have your John Deere dealer repair as soon as possible.
ACU 523923.02 ACU 523923.03 ACU 523923.04	Operator Controls	SCV I Control Lever Switch/Sensor Problem. Have your John Deere dealer repair as soon as possible.
ACU 523953.02	Operator Controls	Speed Control Lever Sensor Circuit Conflict (IVT Only). Have your John Deere dealer repair as soon as possible.
ACU 523953.03 ACU 523953.04	Operator Controls	Speed Control Lever Sensor Voltage Problem (IVT Only). Have your John Deere dealer repair as soon as possible.
ACU 523954.07	Operator Controls	Speed Band 1 Adjustment Fault. Have your John Deere dealer repair as soon as possible.
ACU 523954.11	Operator Controls	Set Speed Adjuster Conflict. Have your John Deere dealer repair as soon as possible.
ACU 523955.31	Transmission Load High	Engine Overload. Reduce load on tractor.
ACU 523958.31	Operator Controls	Reversing Ratio Fault. Have your John Deere dealer repair as soon as possible.
ACU 523960.31	Operator Not In Seat	Operator Not Seated During Reverser Command. Change position in seat or depress clutch or brake pedals to indicate operator is present.

Continued on next page

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Diagnostic Trouble Codes

Armrest Control Unit (ACU) Diagnostic Trouble Codes

Diagnostic Trouble Code	Display	Solution
ACU 523960.17	Operator Not In Seat	Operator Not Present at low speeds. Change position in seat or depress clutch or brake pedals to indicate operator is present.
ACU 523961.02	Transmission system	Park Engaged While In Gear. Restart tractor, operate in forward gear. If code returns, have your John Deere dealer repair as soon as possible.
ACU 523961.07	Transmission Not In Park	Park Lock Engagement Fault. Have your John Deere dealer repair as soon as possible.
ACU 523962.31	MFWD System	MFWD Speed Incorrect. Is a function of traction control. Very important if pulling trailers. Have your John Deere dealer repair as soon as possible.
ACU 523963.02	Speed Band 1	Switch Voltage Conflict. Have your John Deere dealer repair as soon as possible.
ACU 523966.31	Transmission Come Home active	Transmission Come Home Mode. See IVT Operating section.
ACU 523968.02	IMS Controls	IMS Switch Circuit Conflict. Cycle IMS switch ON and then OFF. If code still exists, have your John Deere dealer repair as soon as possible.
ACU 523968.03 ACU 523968.04	IMS Controls	IMS Switch Circuit Voltage Problem. Cycle IMS switch ON and then OFF. If code still exists, have your John Deere dealer repair as soon as possible.
ACU 524017.31	Right-Hand Reverser	Power circuit fault. Have your John Deere dealer repair as soon as possible.
ACU 524018.31	Right-Hand Reverser	RHR Neutral/Not Neutral Transition Fault. Have your John Deere dealer repair as soon as possible.
ACU 524019.13	Lever Not in Park	Tractor transmission will default to PARK.
ACU 524019.31	Lever not in park	RHR Neutral/Not Neutral Transition Fault. Have your John Deere dealer repair as soon as possible.
ACU 524020.31	Lever not in park	Transmission In Gear at Power Up. Move shift lever to PARK and restart vehicle.
ACU 524021.31	Operator Controls	Multiple Reverser Switches Conflict. Have your John Deere dealer repair as soon as possible.
ACU 524101.02	Operator Controls	Front Hitch Valve Control Lever Switch/Sensor Circuit Conflict. Have your John Deere dealer repair as soon as possible.
ACU 524101.03 ACU 524101.04	Operator Controls	Front Hitch Valve Control Lever Sensor Circuit Voltage Problem. Have your John Deere dealer repair as soon as possible.
ACU 524102.02	Operator Controls	SCV V Control Lever Switch/Sensor Circuit Conflict. Have your John Deere dealer repair as soon as possible.
ACU 524102.03 ACU 524102.04	Operator Controls	SCV V Control Lever Sensor Circuit Voltage Problem. Have your John Deere dealer repair as soon as possible.
ACU 524103.02	Operator Controls	SCV IV Control Lever Switch/Sensor Circuit Conflict. Have your John Deere dealer repair as soon as possible.
ACU 524103.03 ACU 524103.04	Operator Controls	SCV IV Control Lever Sensor Circuit Voltage Problem. Have your John Deere dealer repair as soon as possible.
ACU 524104.02	Operator Controls	SCV III Control Lever Switch/Sensor Circuit Conflict. Have your John Deere dealer repair as soon as possible.
ACU 524104.03 ACU 524104.04	Operator Controls	SCV III Control Lever Sensor Circuit Voltage Problem. Have your John Deere dealer repair as soon as possible.
ACU 524105.02	Operator Controls	SCV II Control Lever Switch/Sensor Circuit Conflict. Have your John Deere dealer repair as soon as possible.
ACU 524105.03 ACU 524105.04	Operator Controls	SCV II Control Lever Sensor Circuit Voltage Problem. Have your John Deere dealer repair as soon as possible.
ACU 524212.02	Operator Controls	Rear Hitch Control Lever Switch/Sensor Circuit Conflict. Have your John Deere dealer repair as soon as possible.
ACU 524212.03 ACU 524212.04	Operator Controls	Rear Hitch Control Lever Sensor Circuit Voltage Problem. Have your John Deere dealer repair as soon as possible.
ACU 524222.02	Operator Controls	Resume Switch Circuit Conflict. Have your John Deere dealer repair as soon as possible.
ACU 524224.02	Operator Controls	Rear PTO Switch Circuit Conflict. Cycle PTO switch (s) OFF and then ON. If code still exists, have your John Deere dealer repair as soon as possible.
ACU 524224.02	Operator Controls	Rear PTO Switch Circuit Conflict. Cycle PTO switch (s) OFF and then ON. If code still exists, have your John Deere dealer repair as soon as possible.
ACU 524224.14	Operator Controls	Rear PTO Disabled. Make sure PTO switch is OFF when tractor is started. Cycle switch OFF then ON. If code still exists, have your John Deere dealer repair as soon as possible.
ACU 524254.31	Operator Controls	Transmission Enable Relay Circuit Fault. Have your John Deere dealer repair as soon as possible.

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Active Seat Control Unit (ASU) Diagnostic Trouble Codes

Active Seat Control Unit (ASU) Diagnostic Trouble Codes		
Diagnostic Trouble Code	Display	Solution
ASU 000629.12	Active Seat System	ASU Control Unit Fault. Have your John Deere dealer repair as soon as possible.
ASU 524002.31	Active Seat System	Active Seat Pressure Control Solenoid Fault. Have your John Deere dealer repair as soon as possible.
ASU 524003.02	Operator Controls	Active Seat Firmness Control Switch Circuit Fault. Cycle the seat firmness switch. If code still exists, have your John Deere dealer repair as soon as possible.
ASU 524004.02	Operator Controls	Active Seat Height Control Switch Circuit Fault. Cycle the seat height switch. If code still exists, have your John Deere dealer repair as soon as possible.
ASU 524006.30	Active Seat System	Active Seat Vent On Too Long. Have your John Deere dealer repair as soon as possible.
ASU 524007.30	Active Seat System	Active Seat Compressor On Too Long. Have your John Deere dealer repair as soon as possible.
ASU 524008.13	Active Seat System	ASU Not Calibrated. Have your John Deere dealer repair as soon as possible.
ASU 524010.31	Active Seat System	Active Seat Raise/Lower Solenoid Circuit Fault. Have your John Deere dealer repair as soon as possible.
ASU 524011.03 ASU 524011.04	Active Seat System	Active Seat Accelerometer Circuit Voltage Problem. Have your John Deere dealer repair as soon as possible.
ASU 524011.08	Active Seat System	Active Seat Accelerometer Circuit Fault. Have your John Deere dealer repair as soon as possible.
ASU 524012.03 ASU 524012.04	Active Seat System	Active Seat Position Sensor Circuit Voltage Problem. Have your John Deere dealer repair as soon as possible.

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Automatic Temperature Control Unit (ATC) Diagnostic Trouble Codes

IMPORTANT: Check the cleanliness of the condenser at the front of the tractor and make sure

the cab recirculation air filter is not plugged for all ATC diagnostic trouble codes. If the codes return, contact your John Deere dealer as soon as possible.

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Brake Control Unit (BRC) Diagnostic Trouble Codes

Brake Control Unit (BRC) Diagnostic Trouble Codes		
Diagnostic Trouble Code	Display	Solution
BRC 000158.04 BRC 000168.04	Brake System	BRC Supply Voltage Problem. Visually inspect around the batteries and alternator for any visual signs of damage or accumulated debris. Check fuse F30. If code returns, have your John Deere dealer repair as soon as possible.
BRC 000628.2	Brake Control Circuit Error	See your John Deere dealer as this code could effect braking performance.
BRC 000629.12	Brake System	BRC Control Unit Fault. Have your John Deere dealer repair
BRC 000630.13	Brake System	BRC Calibration Fault/Not Calibrated. Have your John Deere dealer repair as soon as possible.
BRC 001079.03 BRC 001079.04	Brake Control Circuit Error	See your John Deere dealer as this code could effect braking performance.
BRC 001079.05 BRC 001079.06	Brake System	BRC Calibration Fault/Sensor Supply Current Problem. Have your John Deere dealer repair as soon as possible.
BRC 002049.09	Communication System	CAB Message Missing. Have your John Deere dealer repair as soon as possible.
BRC 002071.9	Brake Control Circuit Error	See your John Deere dealer as this code could effect braking performance.
BRC 522279.05 BRC 522279.06	Secondary Brake System	Secondary Brake Control Valve Current Problem. Have your John Deere dealer repair as soon as possible.
BRC 522279.13	Secondary Brake System	Secondary Brake Control Valve Not Calibrated. Have your John Deere dealer repair as soon as possible.
BRC 522280.00 BRC 522280.01 BRC 522280.03 BRC 522280.04	Secondary Brake System	Secondary Brake Pressure Sensor Voltage Problem. Have your John Deere dealer repair as soon as possible.
BRC 522280.13	Secondary Brake System	Secondary Brake Pressure Not Calibrated. Have your John Deere dealer repair as soon as possible.
BRC 523652.02	Hydraulic System	Control Unit Connected to Wrong Harness. Have your John Deere dealer repair as soon as possible.
BRC 523837.0 BRC 523837.3 BRC 523837.4	Brake Control Circuit Error	See your John Deere dealer as this code could effect braking performance.
BRC 523837.13	Brake System	BRC Calibration Fault/Rear Brake Pressure Sensor. Have your John Deere dealer repair as soon as possible.
BRC 523840.0 BRC 523840.1 BRC 523840.03 BRC 523840.04	Brake Control Circuit Error	See your John Deere dealer as this code could effect braking performance.
BRC 523841.19 BRC 523841.31	Secondary Brake System	Secondary Hand Brake Position Message Problem. Have your John Deere dealer repair as soon as possible.
BRC 523844.05 BRC 523844.06	Brake System	Front Brake Solenoid Fault. Have your John Deere dealer repair as soon as possible.
BRC 523844.13	Brake System	BRC Calibration Fault/Front Brake Valve Fault. Have your John Deere dealer repair as soon as possible.
BRC 523910.02	Brake System	BRC Control Unit Fault. Have your John Deere dealer repair as soon as possible.
BRC 523916.04	Brake System	Brake Solenoid Supply Voltage Low. Have your John Deere dealer repair as soon as possible.
BRC 524157.19	Front Brake System	Right Brake Pedal Switch Fault Message Received. Have your John Deere dealer repair as soon as possible.
BRC 524162.19	Front Brake System	Left Brake Pedal Switch Fault Message Received. Have your John Deere dealer repair as soon as possible.

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Cab Control Unit (CAB) Diagnostic Trouble Codes

Cab Control Unit (CAB) Diagnostic Trouble Codes		
Diagnostic Trouble Code	Display	Solution
CAB 000091.02 CAB 000091.03 CAB 000091.04	Operator Controls	Foot Throttle Sensor Circuit Voltage Problem. Have your John Deere dealer repair as soon as possible.
CAB 000158.03 CAB 000158.04	Electrical System Voltage	CAB Switched Supply Voltage Problem. Check alternator cable, and battery cables. If code still exists, have your John Deere dealer repair as soon as possible.
CAB 000628.02	Programming	CAB EOL Data Fault. Have your John Deere dealer repair as soon as possible.
CAB 000628.12	Programming	CAB Programming. Have your John Deere dealer repair as soon as possible.
CAB 000629.11 CAB 000629.12	Electrical System	CAB Control Unit Fault. Have your John Deere dealer repair as soon as possible.
CAB 001079.02 CAB 001079.03 CAB 001079.04	Transmission System	CAB Sensor Supply Voltage Problem. Have your John Deere dealer repair as soon as possible.
CAB 001504.30	Operator Controls	Seat Switch Circuit Fault. Have your John Deere dealer repair as soon as possible.
CAB 523839.02 CAB 523839.13 CAB 523841.02 CAB 523841.03 CAB 523841.04	Secondary Hand Brake	See your John Deere dealer as this could effect braking performance.
CAB 523908.02	Rear PTO External Switch Conflict	Have your John Deere dealer repair as soon as possible.
CAB 523922.31	Secondary Hand Brake On While Moving	Take secondary hand brake off before continuing.
CAB 524016.04	Cab Switched Supply Voltage Low	Have your John Deere dealer repair as soon as possible.
CAB 524017.13 CAB 524017.31 CAB 524020.31 CAB 524021.31	Left-Hand Reverser Error	Check left-hand reverser lever position. If code still exists, have your John Deere dealer repair as soon as possible.
CAB 524016.04	Operator Controls	CAB Switched Supply Voltage Low. Have your John Deere dealer repair as soon as possible.
CAB 524017.13	Operator Controls	Left-Hand Reverser Lever Type Not Selected. Have your John Deere dealer repair as soon as possible.
CAB 524017.31	Operator Controls	Left-Hand Reverser Power Circuit Fault. Have your John Deere dealer repair as soon as possible.
CAB 524018.31 CAB 524019.31	Operator Controls	Left-Hand Reverser Transition Fault. Lever is held in an invalid position. Move lever to PARK. Have your John Deere dealer repair as soon as possible.
CAB 524020.31	Lever not in park	Left-Hand Reverser in Gear at Power Up. Move left-hand reverser to NEUTRAL or PARK before starting.
CAB 524021.31	Operator Controls	LHR Multiple Switch Circuit Fault. Have your John Deere dealer repair as soon as possible.
CAB 524166.02	Operator Controls	Right Brake Pedal Switch/Sensor Circuit Conflict. Have your John Deere dealer repair as soon as possible.
CAB 524166.03 CAB 524166.04	Operator Controls	Right Brake Pedal Sensor Circuit Voltage Problem. Have your John Deere dealer repair as soon as possible.
CAB 524166.30	Operator Controls	Right Brake Pedal Sensor Adjustment Fault. Have your John Deere dealer repair as soon as possible.
CAB 524169.02	Operator Controls	Left Brake Pedal Switch/Sensor Circuit Conflict. Have your John Deere dealer repair as soon as possible.
CAB 524169.03 CAB 524169.04 CAB 524169.13 CAB 524169.30	Operator Controls	Left Brake Pedal Sensor Circuit Voltage Problem. Have your John Deere dealer repair as soon as possible.
CAB 524172.04 CAB 524173.02 CAB 524173.03	Operator Controls	Clutch Pedal Sensor Circuit Voltage Problem. Have your John Deere dealer repair as soon as possible.

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Central Control Unit (CCU) Diagnostic Trouble Codes

Central Control Unit (CCU) Diagnostic Trouble Codes		
Diagnostic Trouble Code	Display	Solution
CCU 000096.03	Fuel Level System	Fuel Level Sensor Circuit Voltage Problem. Have your John Deere dealer repair as soon as possible.
CCU 000096.17	Fuel Level Low	Fuel Level Low. Check fuel level.
CCU 000237.02 CCU 000237.14 CCU 000237.31	Identification System	VIN Security Problem. Have your John Deere dealer repair as soon as possible.
CCU 000567.05	Differential lock system	Front Differential Lock Circuit Current Low. Cycle switch. If code still exists, have your John Deere dealer repair as soon as possible.
CCU 000569.05	Differential Lock System	Rear Differential Lock Solenoid Circuit Fault. Cycle switch. If code still exists, have your John Deere dealer repair as soon as possible.
CCU 000630.14	Rear PTO System	Rear PTO Configuration Invalid. Have your John Deere dealer repair as soon as possible.
CCU 001079.03 CCU 001079.04	Electrical system	CCU Sensor Supply Voltage Problem (PTP Only). Have your John Deere dealer repair as soon as possible.
CCU 001086.18	Air Brake Pressure Low	Air Brake Pressure Low. This code will generate when vehicle is started and air brake pressure is insufficient to disengage trailer brakes. It may be necessary to wait over 1 minute for brakes to release. Bleed excess moisture from air brake reservoir.
CCU 001638.00	Hydraulic Oil Temperature Very High	Hydraulic Oil Temperature Very Hot. Check hydraulic oil level. Inspect transmission/hydraulic cooler and front grill for debris. If code returns, have your John Deere dealer repair immediately.
CCU 001638.03 CCU 001638.04	Hydraulic System	Hydraulic Oil Temperature Sensor Circuit Voltage Problem. Have your John Deere dealer repair as soon as possible.
CCU 001638.16	Hydraulic Oil Temperature High	Hydraulic Oil Temperature Hot. Check hydraulic oil level. Inspect transmission/hydraulic cooler. Restart vehicle and operate at rated speed for 1-2 minutes and if code returns, have your John Deere dealer repair as soon as possible.
CCU 1713.0	PowerShift Hydraulic Oil Filter Restricted	Replace Hydraulic oil filters. If problem continues, see your John Deere dealer.
CCU 001883.00	Rear PTO Speed High	Rear PTO Overspeed. Check throttle setting and make sure the correct shaft is installed. Restart vehicle. If code returns, have your John Deere dealer repair as soon as possible.
CCU 001883.01	Rear PTO System	Rear PTO Underspeed. Make sure correct shaft is installed. Restart vehicle and select proper PTO engagement rate in the CommandCenter. If code returns, have your John Deere dealer repair as soon as possible.
CCU 001883.13	Rear PTO System	Rear PTO Not Calibrated. Have your John Deere dealer repair as soon as possible.
CCU 002392.05	Backup alarm system	Back Up Alarm Circuit Fault. Have your John Deere dealer repair as soon as possible.
CCU 002602.01	Hydraulic oil level low	Hydraulic Oil Level Very Low. Check hydraulic oil level.
CCU 002602.02	Hydraulic System	Hydraulic Oil Level Sensor Fault. Have your John Deere dealer repair as soon as possible.
CCU 002602.18	Hydraulic oil level low	Hydraulic Oil Level Low. Check hydraulic oil level.
CCU 522260.02	Park System	Wheel Speed Sensor Mismatch (PTP Only). Have your John Deere dealer repair as soon as possible.
CCU 522384.14	Rear PTO System	4R PTO Inhibited (PTP Only). Vehicle is in a high reverse gear and is attempting to turn PTO ON. Slow engine and shift to a lower gear.
CCU 523698.09	IMS Message Missing	Have your John deere dealer repair.
523749.16	Electrical System	PTO overload. Cycle PTO off, then back on.
CCU 523851.02	Implement Mgmt System	IMS Disabled Due to HCC. Have your John Deere dealer repair as soon as possible.
CCU 523916.00	Hydraulic oil filter bypassed	Hydraulic Oil Filter Bypassed Under 1500 rpm. Engine will go to low idle. Check/replace both hydraulic filters. If code returns, have your John Deere dealer repair immediately.
CCU 523916.03 CCU 523916.04	Hydraulic oil filter system	Hydraulic Oil Filter Restriction Sensor Circuit Voltage Problem. Have your John Deere dealer repair as soon as possible.
CCU 523916.15	Hydraulic oil filter restricted	Hydraulic Oil Filter Restricted. Check/replace both hydraulic filters. Have your John Deere dealer repair as soon as possible.
CCU 523916.16	Hydraulic oil filter bypassed	Hydraulic Oil Filter Bypassed Over 1500 rpm. Engine will be limited to 1500 rpm. Check/replace both hydraulic filters. If code returns, have your John Deere dealer repair immediately.
CCU 524016.04	Electrical system	CCU Switched Supply Voltage Low. Have your John Deere dealer repair as soon as possible.

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Diagnostic Trouble Codes

Central Control Unit (CCU) Diagnostic Trouble Codes

Diagnostic Trouble Code	Display	Solution
CCU 524223.03	Differential lock system	Differential Lock Switch Circuit Voltage High. Make sure the floor mat is NOT holding switch down. If code still exists, have your John Deere dealer repair as soon as possible.
CCU 524224.02	Rear PTO System	PTO Switch Voltage Mismatch. Have your John Deere dealer repair as soon as possible.
CCU 524224.14	PTO Switch	Rear PTO Disabled. Turn all PTO switches off. Restart vehicle and if code returns, have your John Deere dealer repair as soon as possible.
CCU 524235.05	MFWD System	MFWD Solenoid Circuit Fault. Have your John Deere dealer repair as soon as possible.
CCU 524236.31	MFWD Switch	MFWD Switch/IMS Conflict. Have your John Deere dealer repair as soon as possible.
CCU 524251.31	Rear PTO on	Alert to Indicate Operator Not Present With Rear PTO On. Does not change PTO performance.
CCU 524252.05	Rear PTO System	Rear PTO Solenoid Circuit Fault. Have your John Deere dealer repair as soon as possible.
CCU 524255.31	Rear PTO Remote Enabled	Have your John Deere dealer repair as soon as possible.

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Cab Load Center (CLC) Diagnostic Trouble Codes

Cab Load Center (CLC) Diagnostic Trouble Codes		
Diagnostic Trouble Code	Display	Solution
CLC 000158.00 CLC 000158.01 CLC 000158.17 CLC 000158.18	Electrical System	CAB Switched Supply Voltage Problem. Have your John Deere dealer repair as soon as possible.
CLC 000628.02	Operator Controls	CAB EOL Data Fault. Have your John Deere dealer repair as soon as possible.
CLC 000628.12	Programming	CLC Programming. Have your John Deere dealer repair as soon as possible.
CLC 000629.11 CLC 000629.12	Operator Controls	CAB Control Unit Fault. Shift to PARK. If code returns, have your John Deere dealer repair as soon as possible.
CLC 001079.03 CLC 001079.04	Electrical System	CLC Sensor Supply Fault. Have your John Deere dealer repair as soon as possible.
CLC 002050.06	Electrical System	CLC Circuit Current High. Remove all operator customized accessories such as flood lights, hazard lights and window wipers. Have your John Deere dealer repair as soon as possible.
CLC 002360.05 CLC 002360.06	Lighting System	Rear Fender Flood Light Circuit Current Problem. Check condition of light bulb. If code still exists, have your John Deere dealer repair as soon as possible.
CLC 002362.05 CLC 002362.06	Lighting System	Rear Roof Flood Light Circuit Current Problem. Check condition of light bulb. If code still exists, have your John Deere dealer repair as soon as possible.
CLC 002364.05 CLC 002364.06	Lighting System	Mid Body Flood Light Circuit Current Problem. Check condition of light bulb. If code still exists, have your John Deere dealer repair as soon as possible.
CLC 002366.05 CLC 002366.06	Lighting System	Side Roof Flood Light Circuit Current Problem. Check condition of light bulb. If code still exists, have your John Deere dealer repair as soon as possible.
CLC 002368.05 CLC 002368.06	Lighting System	Left Turn Signal Light Circuit Current Problem. Check condition of light bulb. If code still exists, have your John Deere dealer repair as soon as possible.
CLC 002370.05 CLC 002370.06	Lighting System	Right Turn Signal Light Circuit Current Problem. Check condition of light bulb. If code still exists, have your John Deere dealer repair as soon as possible.
CLC 002372.06	Lighting System	Brake Light Circuit Current Problem. Check condition of light bulb. If code still exists, have your John Deere dealer repair as soon as possible.
CLC 002378.05 CLC 002378.06	Lighting System	Tail Light Circuit Current Problem. Check condition of light bulb. If code still exists, have your John Deere dealer repair as soon as possible.
CLC 002386.6	Roof Beacon Circuit Fault	Have your John Deere dealer repair.
CLC 002394.06	Lighting System	Trailer Flood Light Circuit Overload or Short Circuit. Unplug 7-pin connector to verify code still exists. Have your John Deere dealer repair as soon as possible.
CLC 002863.02	Wiper System	Front Wiper Switch Circuit Fault. Cycle switch ON and OFF. If code still exists, have your John Deere dealer repair as soon as possible.
CLC 002865.02	Wiper System	Rear Wiper Switch Circuit Fault. Cycle switch ON and OFF. If code still exists, have your John Deere dealer repair as soon as possible.
CLC 002872.02	Lighting System	Main Light Switch Circuit Fault. Cycle switch ON and OFF. If code still exists, have your John Deere dealer repair as soon as possible.
CLC 522310.06	Electrical System	ELX Output Circuit Current High. Have your John Deere dealer repair as soon as possible.
CLC 522433.05 CLC 522433.06	Wiper System	Rear Wiper Motor Circuit Current Problem. Have your John Deere dealer repair as soon as possible.
CLC 523907.2	PTO Remote Enable Fault	Have your John Deere dealer repair.
CLC 522434.05 CLC 522434.06	Wiper System	Front Wiper Motor Low Speed Circuit Current Problem. Have your John Deere dealer repair as soon as possible.
CLC 522435.05 CLC 522435.06	Wiper System	Front Wiper Motor High Speed Circuit Current Problem. Have your John Deere dealer repair as soon as possible.
CLC 523907.2	PTO Remote Enable Switch Conflict	PTO Remote Enable Switch. Have your John Deere dealer repair as soon as possible.
CLC 524016.06	Electrical System	Communication Bus or Vehicle Load Center Wakeup Circuit Current High. Have your John Deere dealer repair as soon as possible.
CLC 524035.02	Operator Controls	Transmission Selector Circuit Fault. Have your John Deere dealer repair as soon as possible.
CLC 524037.02	Operator Controls	Auto Mode and Brake Assist Mode High. Have your John Deere dealer repair as soon as possible.
CLC 524259.00	Temperature High	

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Diagnostic Trouble Codes

Cab Load Center (CLC) Diagnostic Trouble Codes

Diagnostic Trouble Code	Display	Solution
CLC 524259.15	Temperature High	
CLC 524259.15	Temperature High	

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Diagnostic Trouble Codes

Engine Control Unit (ECU) Diagnostic Trouble Codes

Diagnostic Trouble Code	Display	Solution
ECU 000094.03 ECU 000094.04	Engine System	Fuel Pressure Sensor Input Voltage Problem. Have your John Deere dealer repair as soon as possible.
ECU 000094.17	Engine System	Low Fuel Pressure Out of Lift Pump. Change fuel filters. If problem continues, have your John Deere dealer repair as soon as possible.
ECU 000097.03 ECU 000097.04	Engine System	Water in Fuel Signal Voltage Problem. Have your John Deere dealer repair as soon as possible.
ECU 000097.16	Engine Water Separator Full	Water In Fuel Detected. Drain both filters. If code returns, have your John Deere dealer repair immediately.
ECU 000100.01	Engine Oil Pressure Very Low	Engine Oil Pressure Extremely Low. If code returns, have your John Deere dealer repair immediately.
ECU 000100.03 ECU 000100.04	Engine System	Engine Oil Pressure Input Voltage Problem. Have your John Deere dealer repair as soon as possible.
ECU 000100.18	Engine Oil Pressure Low	Engine Oil Pressure Moderately Low. Check engine oil level. If code returns, have your John Deere dealer repair as soon as possible.
ECU 000100.31	Engine Oil Pressure	Sensor Indicates Oil Pressure When Engine Is OFF. Have your John Deere dealer repair as soon as possible.
ECU 000102.02	Engine System	Manifold Air Pressure Sensor Problem. Have your John Deere dealer repair as soon as possible.
ECU 000102.03 ECU 000102.04	Engine System	Manifold Air Pressure Input Voltage Problem. Have your John Deere dealer repair as soon as possible.
ECU 000103.00	Engine System	Turbo Speed Overspeed. If operating at high altitude, reduce load on engine. If problem continues, have your John Deere dealer repair immediately.
ECU 000103.02 ECU 000103.05 ECU 000103.06 ECU 000103.08 ECU 000103.31	Engine System	Turbo Speed Error. Have your John Deere dealer repair as soon as possible.
ECU 000105.00 ECU 000105.15 ECU 000105.16	Engine Air Intake Temperature High	Intake Air Temperature High. Check coolant level. Inspect and clean radiator. If code returns, have your John Deere dealer repair immediately.
ECU 000105.03 ECU 000105.04	Engine System	Intake Air Temperature Input Voltage Problem. Have your John Deere dealer repair as soon as possible.
ECU 000107.00	Engine Air Filter Restricted	Air Filter Restriction High. Inspect and clean engine air filter. Check to see if code returns. Have your John Deere dealer repair as soon as possible.
ECU 000108.02	Engine System	Barometric Pressure Sensor Problem. Have your John Deere dealer repair as soon as possible.
ECU 000110.00	Engine Coolant Temperature High	Engine Coolant Temperature Extremely High. Check coolant level. Inspect and clean radiator. If code returns, have your John Deere dealer repair immediately.
ECU 000110.03 ECU 000110.04	Engine System	Engine Coolant Temperature Input Voltage Problem. Have your John Deere dealer repair as soon as possible.
ECU 000110.15 ECU 000110.16	Engine Coolant Temperature High	Engine Coolant Temperature Moderately High. Check coolant level. Inspect and clean radiator. Check to see if code returns. Have your John Deere dealer repair as soon as possible.
ECU 000110.17	Engine Coolant Temperature Low	Engine Coolant Temperature Low. Warm up engine. If problem continues, have your John Deere dealer repair as soon as possible.
ECU 000157.03 ECU 000157.04	Engine System	Fuel Rail Pressure Input Voltage Problem. Have your John Deere dealer repair immediately.
ECU 000157.10	Engine System	Fuel Rail Pressure Loss Detected. Have your John Deere dealer repair as soon as possible.
ECU 000157.17	Engine System	Fuel Rail Pressure Not Developed. Have your John Deere dealer repair as soon as possible.
ECU 000158.17	Engine System	ECU Power Down Error. Could result in poor battery performance. Have your John Deere dealer repair as soon as possible.
ECU 000174.00	Fuel Temperature High	Fuel Temperature High. Check coolant level. Inspect and clean radiator. Check to see if code returns. Have your John Deere dealer repair immediately.
ECU 000174.03 ECU 000174.04	Engine System	Fuel Temperature Input Voltage Problem. Have your John Deere dealer repair as soon as possible.
ECU 000174.16	Fuel Temperature High	Fuel Temperature High - Moderately severe. Check coolant level. Inspect and clean radiator. Check to see if code returns. Have your John Deere dealer repair as soon as possible.

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Diagnostic Trouble Codes

Diagnostic Trouble Code	Display	Solution
ECU 000189.00	No text	Engine Speed Derate.
ECU 000190.00	Engine Speed High	Engine Overspeed Extreme. Result of downshifting. Throttle back.
ECU 000237.02 ECU 000237.13 ECU 000237.31	Identification System	VIN Security Problem. Have your John Deere dealer repair as soon as possible.
ECU 000412.03 ECU 000412.04	Engine System	EGR Temperature Sensor Input Voltage Problem. Have your John Deere dealer repair as soon as possible.
ECU 000412.16	Engine System	EGR Temperature Higher than Expected. Have your John Deere dealer repair as soon as possible.
ECU 000412.18	Engine System	EGR Temperature Lower than Expected. Have your John Deere dealer repair as soon as possible.
ECU 000611.03	Engine System	Injector Wiring Shorted to Power Source. Have your John Deere dealer repair as soon as possible.
ECU 000611.04	Engine System	Injector Wiring Shorted to Ground. Have your John Deere dealer repair as soon as possible.
ECU 000620.03 ECU 000620.04	Engine System	Sensor Supply 1 Voltage Problem. Have your John Deere dealer repair as soon as possible.
ECU 000627.01	Engine System	Injector Supply Voltage Problem. Have your John Deere dealer repair as soon as possible.
ECU 000629.12	Engine System	ECU Memory Problem. Have your John Deere dealer repair as soon as possible.
ECU 000629.13	Engine System	ECU Programming Error. Have your John Deere dealer repair immediately.
ECU 000636.02	Engine System	Cam Position Sensor Input Noise. Have your John Deere dealer repair as soon as possible.
ECU 000636.05	Engine System	Cam Sensor Open. Have your John Deere dealer repair as soon as possible.
ECU 000636.06	Engine System	Cam Sensor Shorted. Have your John Deere dealer repair as soon as possible.
ECU 000636.08	Engine System	Cam Position Sensor Input Missing. Could result in excessive cranking. Have your John Deere dealer repair as soon as possible.
ECU 000636.10	Engine System	Cam Position Input Pattern Error. Have your John Deere dealer repair as soon as possible.
ECU 000637.02 ECU 000637.05 ECU 000637.06 ECU 000637.08 ECU 000637.10	Engine System	Crank Position Sensor Problem. Have your John Deere dealer repair as soon as possible.
ECU 000637.07	Engine System	ECU/Pump Timing Moderately Out Of Sync. Have your John Deere dealer repair as soon as possible.
ECU 000641.05 ECU 000641.13	Engine System	Have your John Deere dealer repair as soon as possible.
ECU 000641.04	Engine System	Turbo Actuator Supply Voltage Low or Intermittent. Have your John Deere dealer repair as soon as possible.
ECU 000641.12	Engine System	Communication on Error to Turbo. Have your John Deere dealer repair as soon as possible.
ECU 000641.16	Engine System	Turbo Actuator Over Temperature. Have your John Deere dealer repair as soon as possible.
ECU 000647.05	Fan System	Upper Fan Drive Output 1 Shorted or Open. Inspect wiring leads on solenoid coil above fan drive piston housing. Have your John Deere dealer repair as soon as possible.
ECU 000647.07	Fan System	Lower Fan Drive Output 2 short or open. Inspect wiring leads on solenoid coil above fan drive piston housing. Have your John Deere dealer repair as soon as possible.
ECU 000651.02 ECU 000656.13	Engine System	Electronic Fuel Injector Problem. Have your John Deere dealer repair as soon as possible.
ECU 001075.05	Fuel Supply System	Electric Lift Pump in Fuel Filter Base Short/Open. Have your John Deere dealer repair as soon as possible.
ECU 001075.12	Fuel Supply System	Electric Lift Pump Signal Indicates Fault. Have your John Deere dealer repair as soon as possible.
ECU 001079.03 ECU 001079.04	Engine System	Engine Oil Pressure Sensor Out of Range. Have your John Deere dealer repair as soon as possible.
ECU 001080.03 ECU 001080.04	Engine System	Fuel Rail Pressure Sensor Supply Voltage Problem. Have your John Deere dealer repair immediately.
ECU 001110.31	Engine System	Engine Protection Shutdown. Have your John Deere dealer repair as soon as possible.
ECU 001136.00	Engine System	ECU Temperature High. Check area around ECU for adequate air flow. If problem continues, have your John Deere dealer repair immediately.
ECU 001172.03 ECU 001172.04	Engine System	Compressor Inlet Temperature Input Voltage Problem. Have your John Deere dealer repair as soon as possible.

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Diagnostic Trouble Codes

Diagnostic Trouble Code	Display	Solution
ECU 001180.00 ECU 001209.02	Engine System	Exhaust Pressure Sensor Problem. Have your John Deere dealer repair as soon as possible.
ECU 001180.16	Engine System	Exhaust Temperature High. Have your John Deere dealer repair as soon as possible.
ECU 001209.03 ECU 001209.04	Engine System	Exhaust Pressure Sensor Input Voltage Problem. Have your John Deere dealer repair as soon as possible.
ECU 001347.03	Engine System	Pump Return Shorted High. Have your John Deere dealer repair as soon as possible.
ECU 001347.05	Engine System	Fuel Pump Control Valve 1 Error. Have your John Deere dealer repair as soon as possible.
ECU 001347.07	Engine System	Fuel Rail Pressure Control Error. Have your John Deere dealer repair as soon as possible.
ECU 001568.02	Engine System	Torque Curve Selection Error. Have your John Deere dealer repair as soon as possible.
ECU 001569.31	Engine Power Derated	Fuel Derate. Have your John Deere dealer repair as soon as possible.
ECU 001639.01	Fan System	Fan Speed Signal Missing. Have your John Deere dealer repair as soon as possible.
ECU 001639.16	Fan Speed High	Fan Speed Higher Than Expected. Have your John Deere dealer repair as soon as possible.
ECU 001639.18	Fan Speed Low	Fan Speed Lower Than Expected. Make sure bleed screw under fan drive is fully closed. See General Maintenance and Inspection section. Have your John Deere dealer repair as soon as possible.
ECU 002005.09	Communication System	ACU Message Missing. Have your John Deere dealer repair as soon as possible.
ECU 002005.14 ECU 002005.19	Communication Error	Have your John Deere dealer repair as soon as possible.
ECU 002030.09	Communication System	CAB Message Missing. Have your John Deere dealer repair as soon as possible.
ECU 002071.09	Communication System	CCU Message Missing. Have your John Deere dealer repair as soon as possible.
ECU 002630.00 ECU 002630.15 ECU 002630.16	Engine System	Charge Air Outlet Temperature Higher than Expected. Have your John Deere dealer repair immediately.
ECU 002659.02 ECU 002659.15 ECU 002659.17	EGR Mass Flow Rate	Have your John Deere dealer repair immediately.
ECU 002630.03 ECU 002630.04	Engine System	Charge Air Outlet Temperature Input Voltage Problem. Have your John Deere dealer repair as soon as possible.
ECU 002790.16	Engine System	Compressor Outlet Temperature High. Have your John Deere dealer repair as soon as possible.
ECU 002791.02 ECU 002791.03 ECU 002791.04 ECU 002791.07 ECU 002791.13 ECU 002791.14 ECU 002791.31	Engine System	EGR Valve Error. Have your John Deere dealer repair as soon as possible.
ECU 002795.07	Engine System	Variable Geometry Turbo Control Error. Have your John Deere dealer repair as soon as possible.
ECU 003509.03 ECU 003509.04	Sensor Supply #1 Voltage Out Of Range	Have your John Deere dealer repair as soon as possible.
ECU 003509.03 ECU 003509.04	Sensor Supply #2 Voltage Out Of Range	Have your John Deere dealer repair as soon as possible.

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Hitch Control Unit (HCC) Diagnostic Trouble Codes

Hitch Control Unit (HCC) Diagnostic Trouble Codes		
Diagnostic Trouble Code	Display	Solution
HCC 000158.04	Rear Hitch System	HCC Switched Supply Voltage Low. Visually inspect around the batteries and alternator for any visual signs of damage or accumulated debris. Have your John Deere dealer repair as soon as possible.
HCC 000168.04	Electrical System	HCC Unswitched Supply Voltage Low. Visually inspect around the batteries and alternator for any visual signs of damage or accumulated debris. Check fuse F30. If code still exists, have your John Deere dealer repair as soon as possible.
HCC 000190.02	Rear Hitch System	Rear Hitch Calibration Fault/Engine Speed Low. Have your John Deere dealer repair as soon as possible.
HCC 000629.12	Rear Hitch System	HCC Control Unit Fault. Have your John Deere dealer repair as soon as possible.
HCC 000630.13	Rear Hitch System	Rear Hitch Not Calibrated. Have your John Deere dealer calibrate as soon as possible.
HCC 001079.03 HCC 001079.04	Rear Hitch System	HCC Sensor Supply Voltage Problem. Have your John Deere dealer repair as soon as possible.
HCC 001638.02	Rear Hitch System	HCC Calibration Fault/Hydraulic Oil Temperature Low. Have your John Deere dealer repair as soon as possible.
HCC 001873.02 HCC 001873.03 HCC 001873.04	Rear Hitch System	Rear Hitch Position Sensor Circuit Voltage Problem. Have your John Deere dealer repair as soon as possible.
HCC 001873.13	Rear Hitch System	HCC Calibration Fault/Rear Hitch Position Sensor Circuit. Have your John Deere dealer calibrate hitch as soon as possible.
HCC 001881.03 HCC 001881.04	Rear Hitch System	Rear Hitch Draft Sensor Circuit Voltage Problem. May have manual switch control. Have your John Deere dealer repair as soon as possible.
HCC 001881.13	Rear Hitch System	HCC Calibration Fault/Rear Hitch Draft Sensor Circuit. May still have manual switch control. Have your John Deere dealer calibrate hitch as soon as possible.
HCC 002003.09	Rear Hitch System	Vehicle Speed Update Fault. Have your John Deere dealer repair as soon as possible.
HCC 002005.09	Communication System	ACU Message Missing. Have your John Deere dealer repair as soon as possible.
HCC 002071.9	Communication System	CCU Message Missing. Have your John Deere dealer repair as soon as possible.
HCC 002152.9	Communication System	HV1 Message Missing. Have your John Deere dealer repair as soon as possible.
HCC 002602.18	Hydraulic System	Hydraulic Oil Level Low. Check hydraulic oil level. If code still exists, have your John Deere dealer repair as soon as possible.
HCC 004084.18	Spool Deflection Too Short	Stored Code. Displayed when hitch lever is manipulated, key is on, but tractor is off. Clear codes and if this code returns, contact you John Deere dealer.
HCC 521000.02 HCC 521000.31	Rear Hitch System	Rear Hitch External Switch Circuit Fault. Have your John Deere dealer repair as soon as possible.
HCC 521001.02	Rear Hitch System	HCC Calibration Fault/Rear Hitch Pressure Valve Gain. Have your John Deere dealer calibrate hitch as soon as possible.
HCC 521001.05 HCC 521001.06	Rear Hitch System	Rear Hitch Raise Valve Fault. Hitch will not raise. Have your John Deere dealer repair as soon as possible.
HCC 521001.07 HCC 521001.11 HCC 521001.13	Rear Hitch System	Hitch Raise Valve Fault. Raise valve not calibrated. Hitch will work in manual mode. Have your John Deere dealer calibrate as soon as possible.
HCC 521002.05 HCC 521002.06	Rear Hitch System	Rear Hitch Lower Valve Fault. Hitch will not lower. Have your John Deere dealer repair as soon as possible.
HCC 521002.07 HCC 521002.11 HCC 521002.13	Rear Hitch System	Rear Hitch Return Valve Fault. Return valve not calibrated. Hitch will work in manual mode. Have your John Deere dealer calibrate as soon as possible.
HCC 523652.02	Hydraulic System	Wire Connector Fault. Have your John Deere dealer repair as soon as possible.
HCC 523788.02 HCC 523788.14	Rear Hitch System	Hydraulic Option Configuration Problem. Hook up last used implement and cycle key switch ON and OFF to reset.
HCC 523910.02	Rear Hitch System	HCC Control Unit Fault. May not have all hitch features. Have your John Deere dealer calibrate as soon as possible.
HCC 523952.31	Rear Hitch Disabled	Rear Hitch Disabled/HCC Configuration. Have your John Deere dealer repair as soon as possible.

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Diagnostic Trouble Codes

Hitch Control Unit (HCC) Diagnostic Trouble Codes

Diagnostic Trouble Code	Display	Solution
HCC 524016.04	Rear Hitch System	HCC Valve Supply Voltage Low/Rear Hitch Solenoids. Visually inspect around the batteries and alternator for any visual signs of damage or accumulated debris. Check fuse F30. Have your John Deere dealer repair as soon as possible.
HCC 524212.19 HCC 524212.31	Hydraulic System	Rear Hitch Control Lever Fault Message Received. Have your John Deere dealer repair as soon as possible.

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(HV I) Diagnostic Codes

(HV I) Diagnostic Trouble Codes

Diagnostic Trouble Code	Display	Solution
HV I 000158.03	Electrical System	HV I Switched Supply Voltage High. Have your John Deere dealer repair as soon as possible.
HV I 000158.04	Electrical System	HV I Switched Supply Voltage Low. Have your John Deere dealer repair as soon as possible.
HV I 002035.09	Communications System	HCC Message Missing. Have your John Deere dealer repair as soon as possible.
HV I 004084.07	HV I Not in FLOAT Position	
HV I 004084.16	HV I Overshot Commanded Position	
HV I 004084.18	HV I Failed to Reach Commanded Position	
HV I 004085.07	HV I Not in Neutral Position	
HV I 004085.12	HV I Control Unit Fault	

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Diagnostic Trouble Codes

**Instrument Control Unit (ICU)
Diagnostic Codes**

Instrument Control Unit (ICU) Diagnostic Trouble Codes		
IMPORTANT: Contact your John Deere dealer for ICU codes not listed below.		
ICU 000237.02 ICU 000237.14 ICU 000237.31	Identification System	VIN Security Problem. Have your John Deere dealer repair as soon as possible.
ICU 000251.12	Electrical System	ICU Clock Fault. Have your John Deere dealer repair as soon as possible.
ICU 000628.12	Programming	ICU Programming. Have your John Deere dealer repair as soon as possible.
ICU 000629.09	Communication System	CPT Message Missing. Have your John Deere dealer repair as soon as possible.
ICU 000629.12	Electrical System	ICU Control Unit Fault. Have your John Deere dealer repair as soon as possible.
ICU 000630.02	Electrical System	ICU Calibration Fault/Data Invalid. Have your John Deere dealer repair as soon as possible.
ICU 002000.09	Communication System	ECU Message Missing. Check fuse F24. If code still exists, have your John Deere dealer repair as soon as possible.
ICU 002003.09	Communication System	PTI or PTP Message Missing. Have your John Deere dealer repair as soon as possible.
ICU 002005.09	Communication System	ACU Message Missing. Have your John Deere dealer repair as soon as possible.
ICU 002011.09	Communication System	BRC Message Missing. Have your John Deere dealer repair as soon as possible.
ICU 002019.09	Communication System	SSU Message Missing. Check fuse F23. Have your John Deere dealer repair as soon as possible.
ICU 002019.12	Communication System	SST Message Missing. Have your John Deere dealer repair as soon as possible.
ICU 002020.09	Communication System	SFA Message Missing. Check fuse F30. Have your John Deere dealer repair as soon as possible.
ICU 002025.09	Communication System	ATC Message Missing. Check fuse F6. Have your John Deere dealer repair as soon as possible.
ICU 002030.09	Communication System	VLC Message Missing. Have your John Deere dealer repair as soon as possible.
ICU 002034.09	Communication System	SCU Message Missing. Check fuse F30. Have your John Deere dealer repair as soon as possible.
ICU 002035.09	Communication System	HV I Message Missing. Check fuse F30. Have your John Deere dealer repair as soon as possible.
ICU 002049.09	Communication System	CAB Message Missing. Check fuse F22. Have your John Deere dealer repair as soon as possible.
ICU 002050.09	Communication System	CLC Message Missing. Have your John Deere dealer repair as soon as possible.
ICU 002054.09	Communication System	ASU Message Missing. Check fuse F22. Have your John Deere dealer repair as soon as possible.
ICU 002071.09	Communication System	CCU Message Missing. Have your John Deere dealer repair as soon as possible.
ICU 002129.09	Communication System	ICU Message Missing. Have your John Deere dealer repair as soon as possible.
ICU 002213.09	Communication System	SCO Message Missing. Check fuse F29. Have your John Deere dealer repair as soon as possible.
ICU 002227.09	Communication System	SUP Message Missing. Have your John Deere dealer repair as soon as possible.
ICU 002240.09	Communication System	TEC Message Missing. Have your John Deere dealer repair as soon as possible.
ICU 002255.09	Communication System	CAN Bus Fault. Have your John Deere dealer repair as soon as possible.
ICU 524013.03	Electrical System	ICU Switch Fault. Verify CommandCenter is clear of all equipment and personal items. Have your John Deere dealer repair as soon as possible.

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AutoPowr Transmission Control Unit (PTI) Diagnostic Trouble Codes

AutoPowr Transmission Control Unit (PTI) Diagnostic Trouble Codes		
Diagnostic Trouble Code	Display	Solution
PTI 000158.01 PTI 000168.01	Transmission system	PTI Supply Voltage Low. Have your John Deere dealer repair as soon as possible.
PTI 000177.17	Transmission Oil Temperature	Engine Speed Limited Due to Cold Oil. Warm up hydraulic system.
PTI 000190.00	Engine speed high	Engine Overspeed. Slow engine.
PTI 000190.02	Transmission System	Engine Speed Mismatch. Have your John Deere dealer repair as soon as possible.
PTI 000191.00	Transmission speed high	Transmission Overspeed. Have your John Deere dealer repair as soon as possible.
PTI 000191.02	Transmission system	Wheel Speed Mismatch. Have your John Deere dealer repair as soon as possible.
PTI 000619.05	Park System	Park Brake Solenoid Circuit Fault. Have your John Deere dealer repair as soon as possible.
PTI 000628.02	Transmission System	PTI EOL Data Fault. Have your John Deere dealer repair as soon as possible.
PTI 000628.12	Programming	PTI Programming. Displays while programming. If displays any other time, have your John Deere dealer repair as soon as possible.
PTI 000630.13 PTI 000630.14	Transmission Calibration	Calibration Fault/Not Calibrated. Heat transmission oil, set throttle to 1000 rpm, shift to PARK and wait 20 seconds. See Operating the Transmission. If code returns, have your John Deere dealer repair as soon as possible.
PTI 000734.05	Transmission System	Low Clutch Solenoid Circuit Fault. Have your John Deere dealer repair as soon as possible.
PTI 000735.05	Transmission System	High Clutch Solenoid Circuit Fault. Have your John Deere dealer repair as soon as possible.
PTI 000736.05	Transmission system	Reverse Brake Solenoid Circuit Fault. Have your John Deere dealer repair as soon as possible.
PTI 000737.05	Transmission System	Clutch 1 (C1) Solenoid Circuit Fault. Have your John Deere dealer repair as soon as possible.
PTI 000738.05	Transmission System	Clutch 2 (C2) Solenoid Circuit Fault. Have your John Deere dealer repair as soon as possible.
PTI 000739.05	Transmission System	Clutch C3 circuit fault. Have your John Deere dealer repair as soon as possible.
PTI 000754.18	Transmission oil pressure low	Clutch Enable Pressure Low/LC Engaged. Have your John Deere dealer repair as soon as possible.
PTI 000755.18	Transmission oil pressure low	Clutch Enable Pressure Low/HC Engaged. Have your John Deere dealer repair as soon as possible.
PTI 000756.18	Transmission oil pressure low	Clutch Enable Pressure Low/RB Engaged. Have your John Deere dealer repair as soon as possible.
PTI 001079.04	Transmission System	PTI Sensor Supply Voltage Low. Have your John Deere dealer repair as soon as possible.
PTI 002000.09	Communication System	ECU Message Missing. Have your John Deere dealer repair as soon as possible.
PTI 002005.09	Communication System	ACU Message Missing. Have your John Deere dealer repair as soon as possible.
PTI 523911.05	Transmission System	Ring Unit Hydro Control Solenoid Circuit Fault. Have your John Deere dealer repair as soon as possible.
PTI 523911.13	Transmission System	Ring Unit Hydro Valve Not Calibrated. Have your John Deere dealer repair as soon as possible.
PTI 523912.05	Transmission System	Clutch Unit Hydro Control Solenoid Circuit Fault. Have your John Deere dealer repair as soon as possible.
PTI 523912.13	Transmission System	Clutch Unit Hydro Valve Not Calibrated. Have your John Deere dealer repair as soon as possible.
PTI 523913.05	Transmission System	Loop Flush Cut Off Solenoid Circuit Fault. Have your John Deere dealer repair as soon as possible.
PTI 523917.07	Transmission System	Speed Synchronizer Mismatch. Have your John Deere dealer repair as soon as possible.
PTI 523917.11	Transmission System	Clutch 1 (C1) Engagement Fault. Have your John Deere dealer repair as soon as possible.
PTI 523917.17	Transmission System	CU Idler Speed Low at Start-up
PTI 523917.30	Transmission System	523917.30 Synchronizer Engagement Fault
PTI 523917.31	Transmission System	Clutch C1/C2 engagement fault. Have your John Deere dealer repair as soon as possible.
PTI 523918.02	Transmission System	Ring Unit Position Sensor Invalid. Have your John Deere dealer repair as soon as possible.
PTI 523918.03 PTI 523918.04	Transmission System	Ring Unit Position Sensor Voltage Problem. Have your John Deere dealer repair as soon as possible.
PTI 523918.13	Transmission System	Ring Unit Position Sensor Calibration Invalid. Have your John Deere dealer repair as soon as possible.
PTI 524226.08	Transmission system	Direction Sensing Incorrect. Have your John Deere dealer repair as soon as possible.

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Diagnostic Trouble Codes

AutoPowr Transmission Control Unit (PTI) Diagnostic Trouble Codes		
Diagnostic Trouble Code	Display	Solution
PTI 524228.05	Park System	Park Sump Block Solenoid Circuit Fault. Have your John Deere dealer repair as soon as possible.
PTI 524228.11	Park System	Park Sump Block Valve Fault. Have your John Deere dealer repair as soon as possible.
PTI 524230.03	Transmission system	Unexpected Enable Pressure
PTI 524230.05	Transmission system	Clutch Enable Solenoid Circuit Fault. Have your John Deere dealer repair as soon as possible.
PTI 524232.01	Park System	Park Brake Pressure Low/Gear Commanded. Have your John Deere dealer repair immediately.
PTI 524232.02	Transmission system	Park Brake Pressure/Transmission Pump and Enable Pressure Sensor Conflict. Have your John Deere dealer repair as soon as possible.
PTI 524232.04	Park System	Park Brake Pressure Sensor Circuit Voltage Low. Have your John Deere dealer repair as soon as possible.
PTI 524232.14	Park Oil Pressure Low	Park Brake Pressure Low in Come Home Mode. Stop tractor.
PTI 524232.16	Park System	Park Brake Pressure High/Park Commanded. Have your John Deere dealer repair as soon as possible.
PTI 524232.17	Park System	Park Brake Pressure Low/Park Not Commanded. Have your John Deere dealer repair as soon as possible.
PTI 524232.18	Park oil pressure low	Park Brake Pressure Low. Have your John Deere dealer repair as soon as possible.
PTI 524233.00	Transmission System	Hydro Ring Unit Overspeed. Have your John Deere dealer repair as soon as possible.
PTI 524233.02	Transmission System	Ring 2 Speed Sensor Circuit Fault. Have your John Deere dealer repair as soon as possible.
PTI 524233.07	Transmission System	Hydro Speed Fault. Have your John Deere dealer repair as soon as possible.
PTI 524233.15	Transmission system	Hydro Speed Incorrect/Park Engaged. Have your John Deere dealer repair as soon as possible.
PTI 524233.16	Transmission system	Hydro Speed Incorrect/Park Not Engaged. Have your John Deere dealer repair as soon as possible.
PTI 524233.17	Transmission System	Ring Unit Speed Low At Start Up. Have your John Deere dealer repair as soon as possible.
PTI 524234.02	Transmission system	Clutch Enable Pressure Sensor Circuit Fault. Have your John Deere dealer repair as soon as possible.
PTI 524234.04	Transmission system	Clutch Enable Pressure Sensor Circuit Voltage Low. Have your John Deere dealer repair as soon as possible.
PTI 524237.31	Operator Controls	LHR Park and Neutral Switches Both On. Have your John Deere dealer repair as soon as possible.
PTI 524238.31	Transmission Lever Not in Park	LHR Park and Neutral Switches Off At Power Up. Have your John Deere dealer repair as soon as possible.
PTI 524239.31	Transmission system	No Motion/Engine Running. Have your John Deere dealer repair as soon as possible.
PTI 524240.14	Transmission System	No Motion/Come Home Mode. Have your John Deere dealer repair as soon as possible.
PTI 524241.02	Transmission system	Carrier or Ring Unit Speed Incorrect. Have your John Deere dealer repair as soon as possible.
PTI 524241.11	Transmission System	Have your John Deere dealer repair as soon as possible.
PTI 524242.00	Transmission oil pressure high	Transmission, Park, and Enable Pressure High. Have your John Deere dealer repair as soon as possible.
PTI 524243.31	Operator Controls	PTI Park/ACU Gear Command Conflict. Have your John Deere dealer repair as soon as possible.
PTI 524244.31	Operator Controls	PTI Park/ACU Neutral Command Conflict. Have your John Deere dealer repair as soon as possible.
PTI 524245.31	Operator Controls	PTI Neutral/ACU Gear Command Conflict. Have your John Deere dealer repair as soon as possible.
PTI 524247.02	Transmission system	Carrier Speed Sensor Circuit Fault. Have your John Deere dealer repair as soon as possible.
PTI 524247.17	Transmission system	Carrier Speed Low at Start-Up. Check hydraulic oil level. Have your John Deere dealer repair as soon as possible.
PTI 524248.31	Park System	Vehicle Motion With Park Brake Engaged. Have your John Deere dealer repair as soon as possible.
PTI 524249.31	Transmission not in Park	Operator Not Seated/Transmission In Neutral.
PTI 524250.31	Park System	Park Brake Previously Failed/May Not Hold. Have your John Deere dealer repair as soon as possible.

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Diagnostic Trouble Codes

AutoPowr Transmission Control Unit (PTI) Diagnostic Trouble Codes

Diagnostic Trouble Code	Display	Solution
PTI 524253.02	Transmission system	ACU Not Commanding Park At Power Up. Have your John Deere dealer repair as soon as possible.
PTI 524254.03 PTI 524254.04	Transmission System	Transmission Enable Circuit Voltage Problem. Have your John Deere dealer repair as soon as possible.

Continued on next page

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Diagnostic Trouble Codes

PowerShift Transmission Control Unit (PTP) Diagnostic Trouble Codes

PowerShift Transmission Control Unit (PTP) Diagnostic Trouble Codes		
Diagnostic Trouble Code	Display	Solution
PTP 000084.07	Transmission Calibration	Vehicle Motion During Calibration. Have your John Deere dealer repair as soon as possible.
PTP 000084.18	Transmission System	Vehicle Slow Motion Fault. May happen when overloading or stalling the tractor. Reduce load. If code returns, have your John Deere dealer repair as soon as possible.
PTP 000092.16	Transmission System	Engine Load Excessive In 4R/5R. Transmission will downshift to 3R. Check fuel filters. Reduce load on engine.
PTP 000123.03 PTP 000123.04	Transmission System	Clutch Pressure Sensor/Switch Circuit Voltage Problem. Have your John Deere dealer repair as soon as possible.
PTP 000123.18	Clutch Partially Engaged	Clutch Pressure Low. Make sure clutch pedal is fully released. If code returns, have your John Deere dealer repair as soon as possible.
PTP 000127.01	Transmission oil pressure low	Transmission Oil Pressure Very Low. Check transmission/hydraulic oil level.
PTP 000158.01 PTP 000168.03 PTP 000168.04	Transmission System	PTP Supply Voltage Problem. Visually inspect around the batteries and alternator for damage or accumulated debris. Have your John Deere dealer repair as soon as possible.
PTP 000177.17	Transmission Oil Temperature	Gear Limited to 14F Due to Cold Oil. Slow engine speed to less than 1500 rpm and heat hydraulic oil with a jumper hose as soon as possible.
PTP 000190.18	Transmission System	Engine Speed Low. Speed up engine.
PTP 000598.02	Transmission System	Clutch Pedal Switch/Sensor Circuit Conflict. Have your John Deere dealer repair as soon as possible.
PTP 000619.05	Park System	Park Brake Solenoid Circuit Fault. Have your John Deere dealer repair as soon as possible.
PTP 000628.02	Transmission System	PTP EOL Data Fault. Have your John Deere dealer repair as soon as possible.
PTP 000628.12	Programming	PTP Programming.
PTP 000629.12	Transmission System	PTP Control Unit Fault. Have your John Deere dealer repair as soon as possible.
PTP 000630.02	Transmission System	PTP Calibration Fault/Data Invalid. Have your John Deere dealer repair as soon as possible.
PTP 000630.14	Transmission Calibration	Transmission Not Calibrated. Have your John Deere dealer repair as soon as possible.
PTP 000734.05	Electrical Clutch	Clutch C1 Solenoid Circuit Fault. Have your John Deere dealer repair as soon as possible.
PTP 000735.05	Clutch Electrical	Clutch C2 Solenoid Circuit Fault. Have your John Deere dealer repair as soon as possible.
PTP 000736.05	Clutch Electrical	Clutch C3 Solenoid Circuit Fault. Have your John Deere dealer repair as soon as possible.
PTP 000737.05	Clutch Electrical	Clutch 4 (C4) Valve Circuit Fault. Have your John Deere dealer repair as soon as possible.
PTP 000738.05	Clutch Electrical	Clutch R (CR) Valve Circuit Fault. Have your John Deere dealer repair as soon as possible.
PTP 000739.05	Clutch Electrical	D Clutch (DC) Valve Circuit Fault. Have your John Deere dealer repair as soon as possible.
PTP 000810.02	Transmission System	Countershaft Speed Sensor Fault. Have your John Deere dealer repair as soon as possible.
PTP 002000.09	Communication System	ECU Message Missing. Check fuses F24.
PTP 002005.09	Communication System	ACU Message Missing. Shift in and out of Neutral. If code returns, have your John Deere dealer repair as soon as possible.
PTP 002020.09	Communication System	SFA Message Missing. Have your John Deere dealer repair as soon as possible.
PTP 523953.02	Operator Controls	Speed Control Lever Sensor Circuit Conflict. Shift to PARK. If code returns, have your John Deere dealer repair as soon as possible.
PTP 523960.31	Operator not in seat	Operator Not Seated During Reverser Command. Be sure operator is firmly seated in the seat. If code returns, have your John Deere dealer repair as soon as possible.
PTP 524020.31	Operator Controls	Transmission In Gear at Power Up. Move shift lever to PARK and restart.
PTP 524228.05	Park System	Park Sump Block Solenoid Circuit Fault. Have your John Deere dealer repair as soon as possible.
PTP 524228.11	Park System	Park Sump Block Valve Fault. Have your John Deere dealer repair as soon as possible.
PTP 524232.03 PTP 524232.04	Park System	Park Brake Pressure Sensor Circuit Voltage Problem. Have your John Deere dealer repair as soon as possible.
PTP 524232.16	Park System	Park Brake Pressure High/Park Commanded. Have your John Deere dealer repair as soon as possible.
PTP 524232.17	Park System	Park Brake Pressure Low/Park Not Commanded. Have your John Deere dealer repair as soon as possible.
PTP 524239.31	Transmission System	No Motion with Engine Running and Transmission in Gear. Have your John Deere dealer repair as soon as possible.
PTP 524248.31	Park System	Vehicle Motion With Park Brake Engaged. Have your John Deere dealer repair as soon as possible.

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Diagnostic Trouble Codes

PowerShift Transmission Control Unit (PTP) Diagnostic Trouble Codes		
Diagnostic Trouble Code	Display	Solution
PTP 524250.31	Park System	Park Brake Previously Failed/May Not Hold. Have your John Deere dealer repair as soon as possible.
PTP 524267.15	Clutch Partially Engaged	C Clutch (CC) or D Clutch (DC) Slipping Too Long. Transmission may downshift to A or B. Insure foot is not resting on clutch pedal. If code returns, have your John Deere dealer repair as soon as possible.
PTP 524267.16	Clutch Partially Engaged	Clutch Slipping Too Long. Insure foot is not resting on clutch pedal. If code returns, have your John Deere dealer repair as soon as possible.
PTP 524267.31	Clutch Partially Engaged	A Brake (AB) or B Clutch (BC) Slipping Too Long. Insure foot is not resting on clutch pedal. If code returns, have your John Deere dealer repair immediately.
PTP 524271.05	Clutch Electrical	C Clutch (CC) Valve Circuit Fault. Shift to Neutral. If code returns, have your John Deere dealer repair as soon as possible.
PTP 524272.05	Clutch Electrical	B Clutch (BC) Valve Circuit Fault. Shift to Neutral. If code returns, have your John Deere dealer repair as soon as possible.
PTP 524273.05	Clutch Electrical	A Brake (AB) Valve Circuit Fault. Shift to Neutral. If code returns, have your John Deere dealer repair as soon as possible.
PTP 524277.00	Engine Overspeed	Engine Speed Too High For Downshift. Slow vehicle before downshifting. Have your John Deere dealer repair as soon as possible.
PTP 524279.31	Transmission in neutral	Operator Not Seated With Transmission In Neutral. Be sure operator is firmly seated in the seat. Have your John Deere dealer repair as soon as possible.
PTP 524280.31	Park Delayed	Vehicle Motion While Shifting to Park. Lever has been placed in PARK and is coming ON when vehicle speed is less than 4 km/h (2.5 mph).

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Diagnostic Trouble Codes

SCV Can Controller (SCC) Diagnostic Trouble Codes

SCV Can Controller (SCC) Diagnostic Trouble Codes		
Diagnostic Trouble Code	Display	Solution
SCC 000158.4	SCC Switched Supply Voltage Low	Selective Control Unit (SCC) switched supply voltage is below 9.0 Volts.
SCC 000168.4	SCC Switched Supply Voltage High	Selective Control Unit (SCC) unswitched supply voltage above 18.0 V.
SCC 000629.12	SCC Control Unit Fault	Selective Control Unit (SCC) software failed to execute in allotted time.
SCC 000630.13	SCC Calibration Fault/Not Calibrated	Selective Control Unit (SCC) valves SV-SV VII not calibrated or a failed calibration was saved.
SCC 000639.12	SCC CAN Message Overflow	Bad intelligent device or component. SCC has not received expected messages from other components.
SCC 000639.14	SCC CAN Error Limit Exceeded	Too many errors received by SCC Control Unit.
SCC 001079.3	SCC Sensor Supply Voltage High	Selective Control Unit (SCC) sensor supply voltage for Option Configuration Connector above 5.25 Volts.
SCC 001079.4	SCC Sensor Supply Voltage Low	Selective Control Unit (SCC) sensor supply voltage is below 4.55 Volts.
SCC 002005.9	ACU Message Missing	Selective Control Unit (SCC) not receiving required messages from the Armrest Control Unit (ACU).
SCC 002049.9	CAB Message Missing	Selective Control Unit (SCC) not receiving required messages from the Cab Control Unit (CAB).
SCC 002161.09.9	SV I Message Missing	Selective Control Unit (SCC) not receiving required messages from the Selective Control Valve I (SV I).
SCC 002162.09	SV II Message Missing	Selective Control Unit (SCC) not receiving required messages from the Selective Control Valve II (SV II).
SCC 002163.09	SV III Message Missing	Selective Control Unit (SCC) not receiving required messages from the Selective Control Valve III (SV III).
SCC 002164.09	SV IV Message Missing	Selective Control Unit (SCC) not receiving required messages from the Selective Control Valve IV (SV IV).
SCC 002165.09	SV V Message Missing	Selective Control Unit (SCC) not receiving required messages from the Selective Control Valve V (SV V).
SCC 002166.09	SV VI Message Missing	Selective Control Unit (SCC) not receiving required messages from the Selective Control Valve VI (SV VI).
SCC 002167.09	SV VII Message Missing	Selective Control Unit (SCC) not receiving required messages from the Selective Control Valve VII (SV VII).
SCC 002602.18	Hydraulic Oil Level Low	Hydraulic oil level low. All SCVs will respond to open loop control only.
SCC 521000.02	Front External Switch Circuit Fault	Front Hitch External Switch failure.
SCC 523216.03	SCC Unswitched Supply Voltage High to SV I and SV II	Unswitched supply voltage for SV I and SV II is above 18.0 Volts.
SCC 523216.04	SCC Unswitched Supply Voltage Low to SV I and SV II	Unswitched supply voltage for SV I and SV II is below 9.0 Volts.
SCC 523217.03	SCC Unswitched Supply Voltage High to SV VI (Front Hitch)	Unswitched supply voltage for SV VI (Front Hitch) is above 18.0 Volts.
SCC 523217.04	SCC Unswitched Supply Voltage Low to SV VI (Front Hitch)	Unswitched supply voltage for SV VI (Front Hitch) is below 9.0 Volts.
SCC 523219.03	SCC Unswitched Supply Voltage High to SV III and SV IV	Unswitched supply voltage for SV III and IV is above 18.0 Volts.
SCC 523219.04	SCC Unswitched Supply Voltage Low to SV III and SV IV	Unswitched supply voltage for SV III and IV is below 9.0 Volts.
SCC 523652.2	Wire Connector Fault	Control unit is connected to wrong harness.
SCC 523693.2	Missing SV I Extend Control Message for 10 Seconds	SV I external control message missing for longer than 10 seconds.
SCC 523693.9	Missing SV I Extend Control Message for 1 Seconds	SV I external control message missing for longer than 1 second.
SCC 523693.19	Missing SV I Fault I Message Received	SV I external control data has been received via CAN message with a failure indication.
SCC 523694.2	Missing SV II Extend Control Message for 10 Seconds	SV II external control message missing for longer than 10 seconds.

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Diagnostic Trouble Codes

SCV Can Controller (SCC) Diagnostic Trouble Codes		
Diagnostic Trouble Code	Display	Solution
SCC 523694.9	Missing SV II Extend Control Message for 1 Seconds	SV II external control message missing for longer than 1 second.
SCC 523694.19	SV II External Control Fault Message Received	SV II external control data has been received via CAN message with a failure indication.
SCC 523695.2	Missing SV I Extend Control Message for 10 Seconds	SV I external control message missing for longer than 10 seconds.
SCC 523695.09	SV V External Control Fault Message Received	SV V external control message missing for longer than 1 second.
SCC 523695.19	Missing SV V Extend Control Message for 1 Seconds	SV V external control data has been received via CAN message with a failure indication.
SCC 523696.02	Missing Front Hitch External Control Message for 10 Seconds	Front Hitch (SV VI) external control message missing for longer than 10 seconds.
SCC 523696.09	Front Hitch External Control Message Rate Fault	Front Hitch (SV VI) external control message missing for longer than 1 seconds.
SCC 523696.19	Front Hitch External Control Fault Message Received	Front Hitch (SV VI) external control data has been received via CAN message with a failure indication.
SCC 523775.19	Single Lever Control Hand Presence Switch Fault Message Received	Single lever control hand presence switch failure.
SCC 523776.19	Single Lever Control Transport Lock Switch Fault Message Received	Single lever control transport lock switch failure.
SCC 523785.1	Deluxe Hydraulic Control Unit/Auxiliary Valve 1	Front scraper has lost laser signal input.

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Suspended Front Axle Control Unit (SFA) Diagnostic Trouble Codes

Suspended Front Axle Control Unit (SFA) Diagnostic Trouble Codes		
Diagnostic Trouble Code	Display	Solution
SFA 000158.04 SFA 000168.04	Front Suspension System	SFA Supply Voltage Problem. Visually inspect around the batteries and alternator for any visual signs of damage or accumulated debris. Check fuse F30. If code returns, have your John Deere dealer repair as soon as possible.
SFA 000629.12	Front Suspension System	SFA Control Unit Fault. Have your John Deere dealer repair as soon as possible.
SFA 000630.02	Front Suspension System	SFA Calibration Fault/Data Invalid. Have your John Deere dealer repair as soon as possible.
SFA 000630.13	Front Suspension System	SFA Calibration Fault/Not Calibrated. Have your John Deere dealer repair as soon as possible.
SFA 001079.03 SFA 001079.04	Front Suspension System	SFA Sensor Supply Voltage Problem. Suspension may not pressurize. Have your John Deere dealer repair as soon as possible.
SFA 002003.09	Communication System	PTI or PTP Message Missing. Have your John Deere dealer repair as soon as possible.
SFA 002005.09	Communication System	ACU Message Missing. Restart vehicle, if code returns, have your John Deere dealer repair as soon as possible.
SFA 002049.09	Communication System	CAB Message Missing (Left-hand reverser IVT only). Have your John Deere dealer repair as soon as possible.
SFA 002602.18	Front Suspension System	Hydraulic Oil Level Low. Check transmission/hydraulic oil level.
SFA 522287.05 SFA 522287.06	Front Suspension System	Front Axle Unlocking Solenoid Circuit Current Problem. Remove debris and clean Independent Link Suspension manifold. Have your John Deere dealer repair as soon as possible.
SFA 522288.05 SFA 522288.06	Front Suspension System	Front Axle Locking Solenoid Circuit Current problem. Remove debris and clean Independent Link Suspension manifold. Have your John Deere dealer repair as soon as possible.
SFA 522290.02 SFA 522290.03 SFA 522290.04	Front Suspension System	Right-Hand Front Axle Position Sensor Problem. Have your John Deere dealer repair as soon as possible.
SFA 523652.02	Hydraulic System	Controller connected to wrong harness. Have your John Deere dealer repair as soon as possible.
SFA 523902.07	Front Suspension System	SFA Not Responding To Raise Command. Have your John Deere dealer repair as soon as possible.
SFA 523903.07	Front Suspension System	SFA Not Responding To Lower Command. Have your John Deere dealer repair as soon as possible.
SFA 523910.02	Front Suspension System	SFA Control Unit Fault. Have your John Deere dealer repair as soon as possible.
SFA 523948.05 SFA 523948.06	Front Suspension System	Front Axle Direction Solenoid Circuit Current Problem. Have your John Deere dealer repair as soon as possible.
SFA 523949.05 SFA 523949.06	Front Suspension System	Front Axle Flow Control Solenoid Circuit Problem. Have your John Deere dealer repair as soon as possible.
SFA 523950.02 SFA 523950.03 SFA 523950.04	Front Suspension System	Left-hand Front Axle Position Sensor Problem. Have your John Deere dealer repair as soon as possible.
SFA 523950.13	Front Suspension System	SFA Calibration Fault/Front Axle Position Sensor Circuit Voltage. Have your John Deere dealer repair as soon as possible.
SFA 524016.04	Front Suspension System	SFA Switched Supply Voltage Low/Front Axle Direction Solenoid. Visually inspect around the batteries and alternator for any visual signs of damage or accumulated debris. Check fuse F30. If code returns, have your John Deere dealer repair as soon as possible.

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Diagnostic Trouble Codes

SV Diagnostic Trouble Codes

In column one of the following table only SV and the trouble code is listed without being followed by a Roman

numeral. That is because the same trouble codes are available for each of the seven select control valves available on this tractor.

SV Diagnostic Trouble Codes (SCV 1 Through SCV VII)

Diagnostic Trouble Code	Display	Solution
SV 000158.03	Switched Supply Voltage High	Switched supply voltage to Selective Control Valve Unit I (SV) above 16.0 V.
SV 000158.04	SV Switched Supply Voltage Low	Switched supply voltage to Selective Control Valve Unit I (SV) below 9.0 V.
SV 002034.09	SCC Message Missing	Code Caused By: Selective Control Valve Unit I (SV) not receiving required messages from the SCC.
SV 004084.07	SV Not in Float Position	Selective Control Valve Unit I (SV) not going into FLOAT position.
SV 004084.16	SV Overshot Commanded Position	Selective Control Valve Unit I (SV) valve spool is over-shooting it's desired position.
SV 004084.18	SV Failed to Reach Commanded Position	Selective Control Valve Unit I (SV) valve spool is under-shooting it's desired position.
SV 004085.07	SV Not in NEUTRAL Position	Selective Control Valve Unit I (SV) valve is not in NEUTRAL position.
SV 004085.12	SV Control Unit Fault	Selective Control Valve Unit I (SV) software failed to execute in allotted time.

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Setup Panel (SUP), Tractor Electronic Control Unit (TEC) and Tractor Electronic Interface (TEI) Diagnostic Trouble Codes

Setup Panel (SUP) Diagnostic Trouble Codes

Diagnostic Trouble Code	Display	Solution
SUP 000628.12	Programming	SUP Programming.
SUP 000629.12	Electrical System	SUP Control Unit Fault. Have your John Deere dealer repair as soon as possible.
SUP 524013.03	Electrical System	SUP Switch Fault. Have your John Deere dealer repair as soon as possible.

Tractor Electronic Control Unit (TEC) Diagnostic Trouble Codes

TEC 000628.12	Electrical System	TEC Programming.
TEC 000630.02	Electrical System	TEC Calibration Fault/Data Invalid. Have your John Deere dealer repair as soon as possible.
TEC 522550.14	Incompatible Device	ISO Compliant and Non-ISO Compliant Devices on Implement Bus. Remove devices. If code returns, have your John Deere dealer repair as soon as possible.

Tractor Electronic Interface (TEI) Diagnostic Trouble Codes

TEI 000628.12	Electrical System	TEI Programming.
TEI 000630.02	Electrical System	TEI Calibration Fault/Data Invalid. Have your John Deere dealer repair as soon as possible.
TEI 522550.14	Incompatible Device	ISO Compliant and Non-ISO Compliant Devices on Implement Bus. Remove devices. If code returns, have your John Deere dealer repair as soon as possible.

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Vehicle Load Center Control Unit (VLC) Diagnostic Trouble Codes

Vehicle Load Center Control Unit (VLC) Diagnostic Trouble Codes		
Diagnostic Trouble Code	Display	Solution
VLC 000628.02	Electrical System	VLC EOL Data Fault. Have your John Deere dealer repair as soon as possible.
VLC 000628.12	Electrical System	VLC Programming.
VLC 000629.12	Electrical System	VLC Control Unit Fault. Have your John Deere dealer repair as soon as possible.
VLC 001542.04	Electrical System	Wake Up Signal Voltage Low. Likely an open circuit. Have your John Deere dealer repair as soon as possible.
VLC 001550.05 VLC 001550.06	A/C System	A/C Compressor Clutch Circuit Current Problem. Have your John Deere dealer repair as soon as possible.
VLC 002030.06	Electrical System	VLC Circuit Current High. Remove all operator customized accessories such as flood lights, hazard lights and window wipers. Total output excessive. Have your John Deere dealer repair as soon as possible.
VLC 002348.06	Lighting System	High Beam Light Circuit Current Problem. Have your John Deere dealer repair as soon as possible.
VLC 002350.06	Lighting System	Low Beam Light Circuit Current Problem. Have your John Deere dealer repair as soon as possible.
VLC 002354.06	Lighting System	Front Outer Flood Light Circuit Current Problem. Have your John Deere dealer repair as soon as possible.
VLC 002356.06	Lighting System	Front Inner Flood Light Circuit Current Problem. Have your John Deere dealer repair as soon as possible.
VLC 002388.06	Lighting System	Center Spot Light Circuit Current Problem. Have your John Deere dealer repair as soon as possible.
VLC 522310.06	Electrical System	ELX Output Circuit Current High. Have your John Deere dealer repair as soon as possible.
VLC 522311.06	Washer System	Rear Washer Pump Circuit Current Problem. Have your John Deere dealer repair as soon as possible.
VLC 522312.06	Washer System	Front Washer Pump Circuit Current Problem. Have your John Deere dealer repair as soon as possible.
VLC 522620.06	Electrical System	Horn Circuit Current Problem. Have your John Deere dealer repair as soon as possible.

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Storage

Placing 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 bio-diesel fuel if placing tractor in storage.

3. Drain fuel tank and add back approximately 19 L (5 gal) of fuel.
4. 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.
5. Remove and store batteries in a cool dry location—(keep batteries charged).¹

¹Disconnect battery ground cable for short-term storage periods (20 to 90 days)

6. Coat all exposed (machined) metal surfaces such as lift cylinders and steering cylinder rods with light coat of grease.
7. Lubricate all grease fittings.
8. Release tension on auxiliary drive belt and remove belt from air conditioner pulley.

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 off the ground and/or cover them to protect from heat and sunlight.

OURX935,0000445 -19-10AUG05-1/1

Removing Tractor from Storage

1. Remove all coverings placed in or on tractor while preparing for storage.

IMPORTANT: To avoid engine damage, make sure crankcase vent tube is unsealed after storage.

2. Unseal all openings sealed during storage.
3. Check auxiliary drive belt for cracking and if serviceable, install auxiliary drive belt on air conditioner pulley.
4. Check all fluid levels.
5. Fill fuel tank.
6. Check tire inflation pressures. (See Wheels, Tires and Treads section.)

7. Install batteries and connect cables.
8. Turn key to **RUN** position for one minute to allow fuel system to prime, then start engine.

NOTE: While operating engine at slow idle, visually check all instruments and indicators to ensure they function properly.

9. Operate engine at slow idle for several minutes.
10. Perform all daily/10 Hour services and any other scheduled services as required. (See Service sections.)
11. Warm up tractor before putting tractor under load.

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Paint Finish Care

Washing tractor regularly will preserve the finish. Wash tractor in indirect sunlight. All cleaning agents should be flushed promptly and not allowed to dry on the paint surface.

IMPORTANT: Do not use hot water, strong soaps or chemical detergents. Use liquid hand, dish or car washing (non detergent) soaps. Cleaning agents containing acid or abrasives should not be used.

Waxing tractor occasionally may be necessary to remove residue from paint finish. Do not use waxes containing abrasive compounds.

Inspect paint surface, during washing or waxing, for chips and scratches. Repaint any areas where paint has been removed. Paint materials are available from your John Deere dealer.

OURX935,0000447 -19-20JAN05-1/1

Specifications

General Specifications

	8130	8230	8330	8430	8530
Power:					
PTO (Factory Observed)	180 hp (132 kW)	200 hp (149 kW)	225 hp (168 kW)	250 hp (186 kW)	275 hp (205 kW)
Rated Speed	2100 rpm	2100 rpm	2100 rpm	2100 rpm	2100 rpm
Engine Speed at PTO Operating Speed:					
.. 1000 rpm	2000 rpm	2000 rpm	2000 rpm	2000 rpm	2000 rpm
.. 540 rpm	1817 rpm	1817 rpm	1817 rpm	1817 rpm	1817 rpm
Governed Speed Range	900—2200 rpm	900—2200 rpm	900—2200 rpm	900—2200 rpm	900—2200 rpm
Operating Speed Range	1500—2100 rpm	1500—2100 rpm	1500—2100 rpm	1500—2100 rpm	1500—2100 rpm
Slow Idle	900±10 rpm	900±10 rpm	900±10 rpm	900±10 rpm	900±10 rpm
Fast Idle	2200±25 rpm	2200±25 rpm	2200±25 rpm	2200±25 rpm	2200±25 rpm
Engine:					
Type	Diesel	Diesel	Diesel	Diesel	Diesel
Cylinders	In-line 6	In-line 6	In-line 6	In-line 6	In-line 6
Aspiration	Turbocharged and Air-to-Air Aftercooled	Turbocharged and Air-to-Air Aftercooled	Turbocharged and Air-to-Air Aftercooled	Turbocharged and Air-to-Air Aftercooled	Turbocharged and Air-to-Air Aftercooled
Lubrication	Full-Flow Filtration with Bypass	Full-Flow Filtration with Bypass	Full-Flow Filtration with Bypass	Full-Flow Filtration with Bypass	Full-Flow Filtration with Bypass
Displacement	9L (548 in. ³)	9L (548 in. ³)	9L (548 in. ³)	9L (548 in. ³)	9L (548 in. ³)
Bore	118 mm (4.66 in.)	118 mm (4.66 in.)	118 mm (4.66 in.)	118 mm (4.66 in.)	118 mm (4.66 in.)
Stroke	136 mm (5.35 in.)	136 mm (5.35 in.)	136 mm (5.35 in.)	136 mm (5.35 in.)	136 mm (5.35 in.)
Compression Ratio	16.3:1	16.3:1	16.3:1	16.3:1	16.3:1
Capacities:					
	8130	8230	8330	8430	8530
Fuel Tank	681 L (180 gal)	681 L (180 gal)	681 L (180 gal)	681 L (180 gal)	681 L (180 gal)
Cooling System	40 L (42.3 qt)	40 L (42.3 qt)	40 L (42.3 qt)	40 L (42.3 qt)	40 L (42.3 qt)
Crankcase (1300 MFWD Axle)*	24L (25.5 qt)	24L (25.5 qt)	24L (25.5 qt)	25.5L (27 qt)	—
Crankcase (Non Emission Certified (PowerTech) Engines ^a , 1300 MFWD)*	25.5 L (27 qt.)	25.5 L (27 qt.)	25.5 L (27 qt.)	25.5 L (27 qt.)	25.5 L (27 qt.)
Crankcase (1500 MFWD or Independent Link Suspension)*	24.5 L (26 qt.)	24.5 L (26 qt.)	24.5 L (26 qt.)	28 L (29.5 qt)	28 L (29.5 qt.)
Crankcase (Non Emission Certified (PowerTech) Engines ^a , 1500 MFWD or Independent Link Suspension)*	28 L (29.5 qt)	28 L (29.5 qt.)	28 L (29.5 qt)	28 L (29.5 qt.)	28 L (29.5 qt.)
Trans-Hyd System:					
.. MFWD ^b	150 L (40 gal)	150 L (40 gal)	150 L (40 gal)	150 L (40 gal)	150 L (40 gal)
.. Independent Link Suspension ^b	160 L (42 gal)	160 L (42 gal)	160 L (42 gal)	160 L (42 gal)	160 L (42 gal)
MFWD Axle:					
1300 Axle Differential Case	13.6 L (14.2 qt.)	13.6 L (14.2 qt.)	13.6 L (14.2 qt.)	13.6 L (14.2 qt.)	13.6 L (14.2 qt.)
1500 Axle Differential Case	18.7 L (19.7 qt.)	18.7 L (19.7 qt.)	18.7 L (19.7 qt.)	18.7 L (19.7 qt.)	18.7 L (19.7 qt.)
.. Wheel Hub	3.4 L (3.6 qt)	3.4 L (3.6 qt)	3.4 L (3.6 qt)	3.4 L (3.6 qt)	3.4 L (3.6 qt)
.. Independent Link Suspension Wheel Hub	4.0 L (4.2 qt)	4.0 L (4.2 qt)	4.0 L (4.2 qt)	4.0 L (4.2 qt)	4.0 L (4.2 qt)

* Includes Filter

^a Non emission certified (PowerTech) engines can be identified by the letter "B" with in the engine serial number. An example is RG6090BXXXXXX

^b Includes 33L (8.7 gal.) in Clean Oil Reservoir

Continued on next page

OURX935,000052A -19-18SEP07-1/3

Specifications

Fuel System:

Injection Pump Type Self Priming, Electronically Injected and Governed—High Pressure Common Rail with Electric Fuel Transfer Pump
 Air Cleaner Dry-Type with Secondary Element

Cooling System:

Type 70 kPa (0.7 bar) (10 psi) with Centrifugal Pump
 Fan Drive Variable Ratio Belt Drive
 Thermostats Two Heavy-Duty

Hydraulic System:

Type Pressure/Flow Compensated
 PST Transmission Pump — Single Section Gear Pump
 AutoPowr Transmission Pump — Two Section Gear Pump
 Charge Pump Integrated with Main Hydraulic Pump Maximum Pressure 20 000 kPa (200 bar) (2900 psi)
 Main Hydraulic Pump (Steering, Brakes, Hitch and SCVs) Axial Piston Pump
 Rated Pump Flow:
 .. Standard 63 cm³ 167.5 L/min (44.2 gpm)
 .. Optional 85 cm³ 226 L/min (59.7 gpm)
 Available Flow at one SCV 120 L/min (31.7 gpm)
 Selective Control Valves (SCVs) Electro-Hydraulic

Hitch Lift Capacity:

. Standard:
 .. 8130-8230 5625 kg (12400 lb)
 .. 8330 6260 kg (13800 lb)
 .. 8430 (Cat 3) 6894 kg (15200 lb)
 .. 8530 8300 kg (18300 lb)
 . Optional:
 .. 8130-8230-8330 (Cat 3) 6894 kg (15200 lb)
 .. 8130-8230-8330 (Cat 4N) 8300 kg (18300 lb)
 .. 8430 (Cat 3) 7847 kg (17300 lb)
 .. 8430 (Cat 4N) 8300 kg (18300 lb)
 .. Front Hitch (at hook points) 4990 kg (11000 lb)

Hitch:

Maximum Permissible Vertical Static Load
 Drawbar (Extended Position) 1430 kg (3150 lb)
 Drawbar (Fully Retracted) 2800 kg (6174 lb)
 Pickup Hitch (Hook) 3000 kg (6600 lb)
 3 In 1 Hitch, Wagon Coupling 2000 kg (4400 lb)
 3 In 1 Hitch, Ball Coupling 3000 kg (6600 lb)
 3 In 1 Hitch, Piton Coupling 3000 kg (6600 lb)

Electrical System:

Type 12 Volt
 Alternator 200 amp
 Batteries Two 12 Volt
 Cold Cranking Amps 1850

Brakes:

Continued on next page

OURX935,000052A -19-18SEP07-2/3

Specifications

Type Power Hydraulically Operated Wet Disk

Powershift Transmission (PST):

Type Automatic Powershift, Electronically Controlled, Hydraulically Activated Wet Disk Clutches

Gear Selections 16 Forward – 4 Reverse

Infinitely Variable Transmission (AutoPowr):

Type:Hydro-mechanical, hydrostatic module, wet disk clutches and brakes

Shifting:Automatic shifting under load

Speed Selections 40K, Infinitely variable speed, depending on engine load

Power Take Off:

Type Fully Independent

Size:

.. Standard 45 mm (1-3/4 in.) 1000 rpm

.. Optional 45 mm (1-3/4 in.) 1000 rpm—35 mm (1-3/8 in.) 1000 rpm—35 mm (1-3/8 in.) 540 rpm Adapter^a

Clutch Multiple Wet-Disk Hydraulically Activated

Sound Level:

Maximum sound level at operator's ear in accordance with Directive 86/188 EEC. Measurement method in accordance with Directive 77/311 EEC, Annex II, with cab closed.

All Models 75 dBA

^aNot available on 8430 or 8530 tractors.

Tractor weights are based on a tractor equipped with 620/70R42 rear tires, a full fuel tank and a quick coupler.

	8130	8230	8330	8430	8530
Average Base Weight less weights					
1300 MFWD Axle	9889 kg (21800 lbs)	9889 kg (21800 lbs)	9889 kg (21800 lbs)	9889 kg (21800 lbs)	
1500 MFWD Axle	10179 kg (22440)	10179 kg (22440)	10179 kg (22440)	10179 kg (22440)	10179 kg (22440)
Independent Link Suspension (With PST Transmission)	11027 kg (24310 lbs)	11027 kg (24310 lbs)	11027 kg (24310 lbs)	11027 kg (24310 lbs)	11027 kg (24310 lbs)
Independent Link Suspension (With AutoPowr Transmission)	11298 kg (24907 lbs)	11298 kg (24907 lbs)	11298 kg (24907 lbs)	11298 kg (24907 lbs)	11298 kg (24907 lbs)
Overall Length (MFWD)	5739 mm (225.9 in.)	5739 mm (225.9 in.)	5739 mm (225.9 in.)	5739 mm (225.9 in.)	5739 mm (225.9 in.)
Overall Height (Top of Cab)	3053 mm (120.2 in.)	3053 mm (120.2 in.)	3053 mm (120.2 in.)	3053 mm (120.2 in.)	3053 mm (120.2 in.)
Wheel Base					
1300 MFWD Axle	3050 mm (120 in.)	3050 mm (120 in.)	3050 mm (120 in.)	3050 mm (120 in.)	
1500 MFWD and Independent Link Suspension	3020 mm (119 in.)	3020 mm (119 in.)	3020 mm (119 in.)	3020 mm (119 in.)	3020 mm (119 in.)

OURX935,000052A -19-18SEP07-3/3

Specifications

Ground Speeds With PST

Group 48
800/70R38, 710/70R42, 520/85R46, 620/70R46,
and 480/80R50 Tires

Engine rpm	Gear	km/h	mph
2100	1	2	1.2
2100	2	2.6	1.6
2100	3	3.5	2.2
2100	4	4.7	2.9
2100	5	5.3	3.3
2100	6	6.1	3.8
2100	7	7.1	4.4
2100	8	8.2	5.1
2100	9	9.4	5.8
2100	10	10.9	6.8
2100	11	13.7	8.5
2100	12	14.6	9.1
2100	13	17.2	10.7
2100	14	23.8	14.3
2100	15	30.6	19
2100	16	40.1	24.9
2100	R1	1.9	1.1
2100	R2	4.9	3.1
2300	R3	6.2	3.9
1500	R4	11.5	7.1
2100	R5	16.1	10

OURX935,000026B -19-29JUL05-1/1

Specifications

Ground Speeds—AutoPowr

Travel speed is infinitely variable from -18 to 40 or 50 km/h¹ (-11.19 to 24.86 or 31.07 mph).

The chart lists minimum engine speed needed to maintain 40 or 50 km/h (24.86 or 31.07 mph) travel speed using maximum 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 with group 48 tires and load pulls engine RPM down to 1625 RPM,

ground speed will be 40 or 50 km/h (24.86 or 31.07 mph). If the load pulls engine RPM below 1625, ground speed will decrease.

In manual mode at full throttle, ground speed would also be 40 km/h (25 mph). The transmission would ratio back to give a top speed of 40 km/h (25 mph).

IMPORTANT: It is not recommended that tractor be driven greater than 40km/h (25 mph) with dual wheel equipment.

Travel Speed of 40 km/h (24.86 mph)		
	Group 47 Tires RC = 5967 mm (234.9 in.)	Group 48 Tires RC = 6330 mm (249.2 in.)
Minimum Engine Speed	1415 rpm	1335 rpm
Travel Speed of 50 km/h (31.07 mph)		
	Group 47 Tires RC = 5967 mm (234.9 in.)	Group 48 Tires RC = 6330 mm (249.2 in.)
Minimum Engine Speed	1770 rpm	1670 rpm

NOTE: Tire sizes used are group nominal. Actual tires sizes can vary up to 2%.

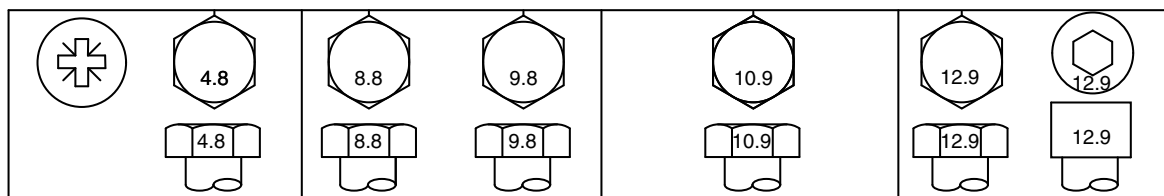
¹AutoPowr transmission must be equipped with additional package to reach 50 km/h (31.07 mph)

OURX935,000052F -19-23AUG06-1/1

Specifications

Metric Bolt and Screw Torque Values

TS1670 —UN—01MAY03



Bolt or Screw	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	
Size	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.

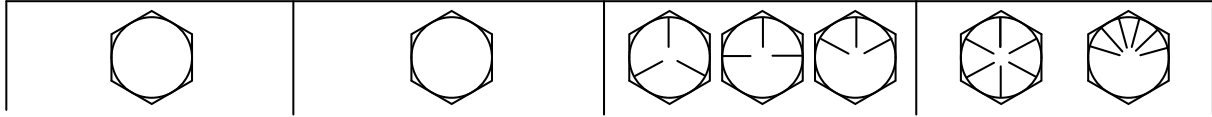
^a“Lubricated” means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or M20 and larger fasteners with JDM F13C zinc flake coating.

^b“Dry” means plain or zinc plated without any lubrication, or M6 to M18 fasteners with JDM F13B zinc flake coating.

DX,TORQ2 -19-24APR03-1/1

Unified Inch Bolt and Screw Torque Values

TS1671 —UN—01MAY03



Bolt or Screw	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	
Size	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.

^aGrade 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 zinc flake coating.

^c"Dry" means plain or zinc plated without any lubrication, or 1/4 to 3/4 in. fasteners with JDM F13B zinc flake coating.

DX,TORQ1 -19-24APR03-1/1

Identify Zinc-Flake Coated Fasteners

Standard cap screws (A) are a reflective silver color.

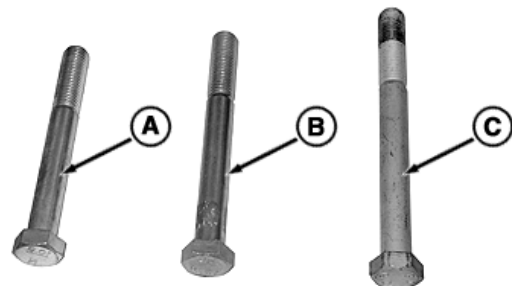
Zinc plated cap screws (B) are a reflective gold color.

Zinc-Flake Coated cap screws (C) are a dull silver color.

NOTE: Zinc-Flake Coated fasteners are tightened to lubricated specifications, unless otherwise noted. (See Torque Value Charts in this group.)

A—Standard Cap Screws
B—Zinc-plated Cap Screw

C—Zinc-Flake Cap Screw (20 mm and larger)



RXA0073812 —UN—03MAR04

RW29387,0000675 -19-22NOV04-1/1

Declaration of Conformity

DECLARATION OF CONFORMITY
John Deere Waterloo Works
3500 East Donald Street
Waterloo, IA 50703-9322
USA

The Tractors

Models.....8130, 8230, 8330, 8430 and 8530 comply
with the EU Provision: 89/336/EEC.....EMC Directive

Waterloo, 1 November 2005



James W. Wienkes

*Manager, 7000, 8000, 9000 Series
Worldwide Tractor Engineering*

RXA0082202 —UN—22AUG05

OURX935,0000226 -19-17JUL05-1/1

Identification Numbers

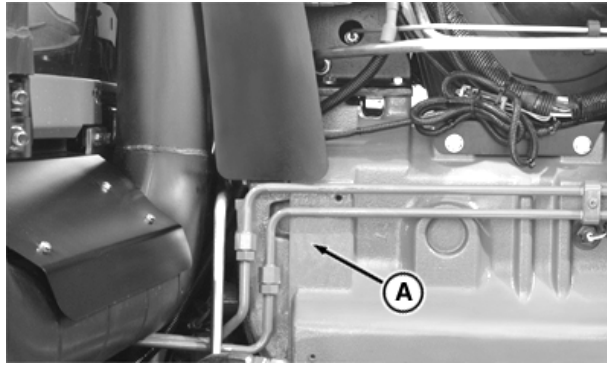
Record PST Transmission Serial Number

Identification number (A) is located on right rear side of transmission below air conditioner compressor.

Serial Number

* _____ *

A—Identification Number



RXA007134 —UN—01OCT03

Record Transmission Serial Number

OURX935,00004ED -19-14JUN05-1/1

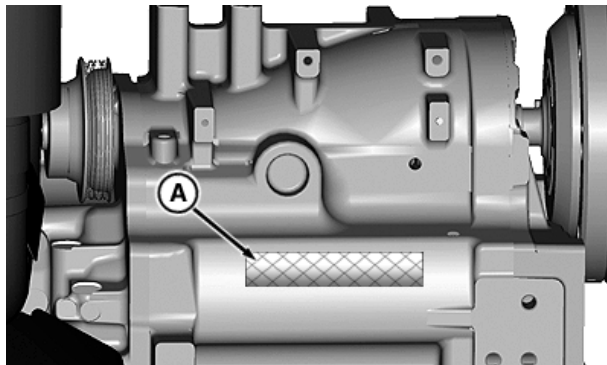
Record AutoPowr Transmission Serial Number

Identification number (A) is located on the transmission right side approximately 15.2 cm (6 in.) below air cleaner mounting bracket.

Serial Number

* _____ *

A—Identification Number



RXA0079746 —UN—10AUG05

Record Transmission Serial Number

OURX935,0000548 -19-27MAR06-1/1

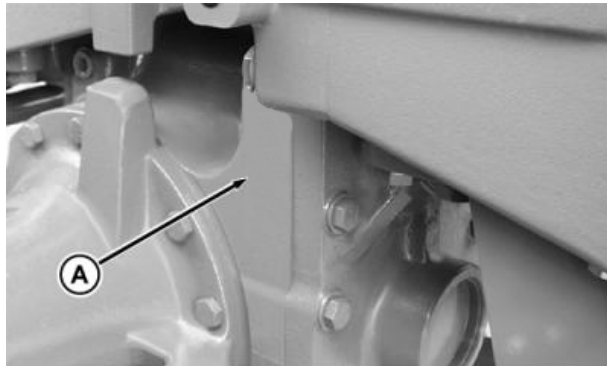
Record 1300 MFWD Axle Serial Number

Identification number (A) is located on right side of the 1300 MFWD axle housing.

Serial Number

* _____ *

A—Identification Number



RXA007136 —UN—01OCT03

Record MFWD Serial Number

OURX935,0000518 -19-09AUG06-1/1

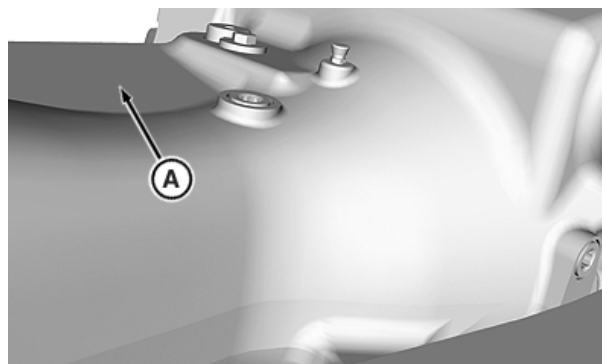
Record 1500 MFWD Axle Serial Number

Identification number (A) is stamped on right-side of the 1500 MFWD axle housing.

Serial Number

* _____ *

A—Identification Number



Record MFWD Serial Number

RXA0087889 —UN—16MAR06

OURX935.0000519 -19-27JUL06-1/1

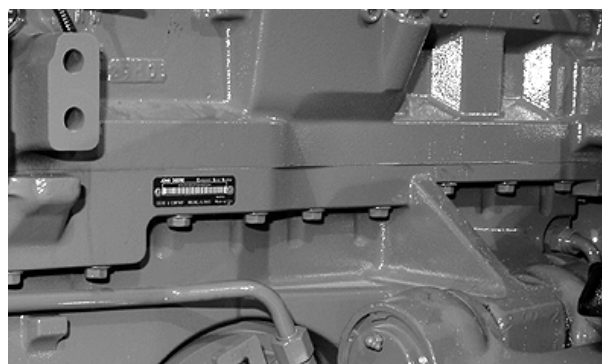
Record Independent Link Suspension Axle Serial Number

Identification number (A) is located on right side of the tractor.

Serial Number

* _____ *

A—Identification Number



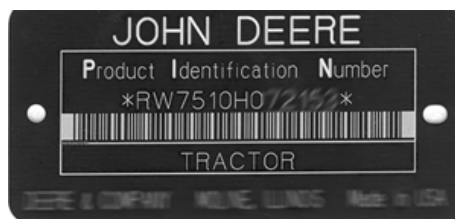
Record Independent Link Suspension Serial Number

RXA0078601 —UN—20JAN05

OURX935.0000596 -19-14JUN05-1/1

Keep Proof of Ownership

1. Maintain in a secure location an up-to-date inventory of all product and component serial numbers.
2. Regularly verify that identification plates have not been removed. Report any evidence of tampering to law enforcement agencies and order duplicate plates.
3. Other steps you can take:
 - Mark your machine with your own numbering system
 - Take color photographs from several angles of each machine

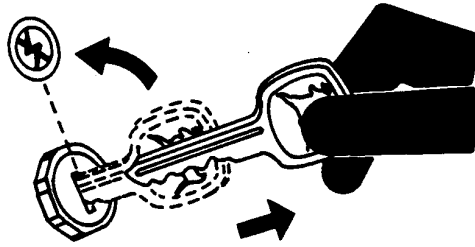


TS1680 —UN—09DEC03

DX,SECURE1 -19-18NOV03-1/1

Keep Machines Secure

1. Install vandal-proof devices.
2. When machine is in storage:
 - Lower equipment to the ground
 - Set wheels to widest position to make loading more difficult
 - Remove any keys and batteries
3. When parking indoors, put large equipment in front of exits and lock your storage buildings.
4. When parking outdoors, store in a well-lighted and fenced area.
5. Make note of suspicious activity and report any thefts immediately to law enforcement agencies.
6. Notify your John Deere dealer of any losses.



TS230—UN—24MAY89

DX.SECURE2 -19-18NOV03-1/1

Lubrication and Maintenance Records

250 Hour Service Records

- Change engine oil and filter ¹
- Check NEUTRAL start system
- Check transmission PARK position
- Check wheel weight bolts and wheel bolts
- Lubricate MFWD or Independent Link Suspension front axle components and U-joints
- Lubricate Independent Link Suspension external fittings
- Check MFWD differential case oil level
- Clean cab air and recirculation filters
- Check manual brakes
- Lubricate front hitch components
- Drain fuel tank and sump
- Checking Manually-Operated Hitch For Wear
- Checking Remote Controlled Hitch For Wear
- Check Wear At Tow Hitch (Piton or Ball)
- Check Swinging Drawbar For Wear
- Check tow-Hook On Pick-Up Hitch For Wear
- Check MFWD and/or Independent Link Suspension wheel hub oil level

Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				

¹Scheduled interval can be extended to 375 hours if John Deere Plus-50 oil and John Deere filter are used. If fuel sulfur level is 0.20 —).50% (2000 to 5000 PPM), regular interval of 250 hours between oil changes should be reduced to 150 hours.

OURX935,0000391 -19-25JUN08-1/1

500 Hour Service Records

- Replace BOTH fuel filters¹

Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				

¹Or annually whichever comes first.

OURX935,000062C -19-02AUG05-1/1

750 Hour Service Records

- Clean MFWD axle vent filter
- Clean fuel tank vent filter
- Check air intake system
- Test coolant condition with test strips and add extender if needed

Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				

OURX935,0000376 -19-02DEC08-1/1

Lubrication and Maintenance Records

Annual Service Records

- Replace engine air filters
- Replace cab air and recirculation filters
- Inspect seat belts
- Service battery terminals
- Check auxiliary belt
- Check Independent Link Suspension upper and lower rod and head end accumulator charge pressure

Hours					Hours					
Date					Date					
Hours					Hours					
Date					Date					
Hours					Hours					
Date					Date					
Hours					Hours					
Date					Date					

OURX935,0000377 -19-24JUN08-1/1

1500 Hour Service Records

- Drain clean oil reservoir
- Change transmission/hydraulic oil and both filters
- Clean hydraulic oil suction screen
- Inspect transmission filter screen
- Change MFWD or Independent Link Suspension hub oil and MFWD differential case oil
- Lubricate Independent Link Suspension internal ball joints
- Replace SCV stack filter
- Replace front hitch SCV filter (if equipped)
- Lubricate draft link support shaft bushing

Hours					Hours					
Date					Date					
Hours					Hours					
Date					Date					
Hours					Hours					
Date					Date					
Hours					Hours					
Date					Date					

OURX935,0000392 -19-25JUN08-1/1

2000 Hour Service Records

- Adjust engine valve clearance
- Drain, flush and refill cooling system

Hours					Hours					
Date					Date					
Hours					Hours					
Date					Date					
Hours					Hours					
Date					Date					
Hours					Hours					
Date					Date					

OURX935,000062F -19-11DEC08-1/1

4500 Hour Service Records

- Replace engine crankshaft damper

Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				

OURX935,0000632 -19-24MAR05-1/1

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
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
Independent Link Suspension	ILS	Front axle suspension
Implement Management System	IMS	Computerized system used to perform multi-functional tractor tasks
International Standards Organization	ISO	Standards organization
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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