



DCY

6215, 6415, 6615 and 6715 Tractors

(Serial No. 398791-)

OPERATOR'S MANUAL 6215, 6415, 6615 and 6715 Tractors (Serial No. 398791 -)

OMAL162074 Issue G5 (ENGLISCH)

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 Werke Mannheim
(This manual replaces OMAL162074 A5)
North American Version
LITHO IN U.S.A.



OMAL162074

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.

DX,IFC1 -19-16NOV01-1/1

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Identification Views

Identification Views



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OU12401,00104A8 -19-01AUG03-1/2

Identification Views



LX1033476

LX1033476 -UN-08OCT03

OU12401,00104A8 -19-01AUG03-2/2

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.



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

T81389 -UN-07DEC88

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.

⚠ DANGER

⚠ WARNING

⚠ CAUTION

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

TS187 -19-30SEP88

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.



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

TS201 -UN-23AUG88

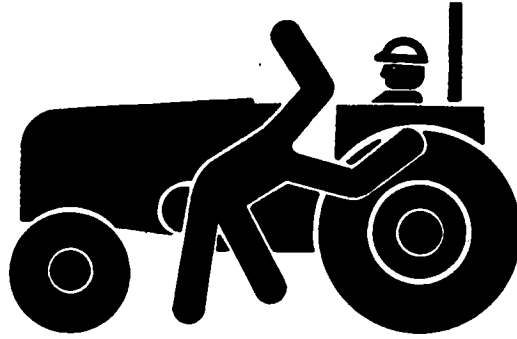
Stay Clear of Moving Tractor

Always place transmission in PARK before dismounting. Leaving transmission in gear with engine stopped will NOT prevent the tractor from moving.

Be sure everyone is clear of tractor and attached equipment before starting engine. Some movement may occur as engine starts.

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.



TS213 -UN-23AUG88

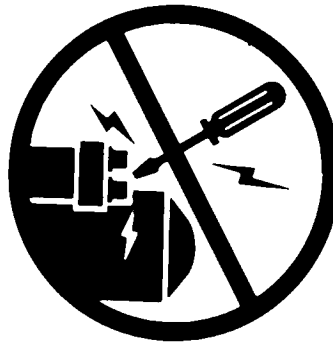
RX,STAY,CLEAR -19-25JUL89-1/1

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

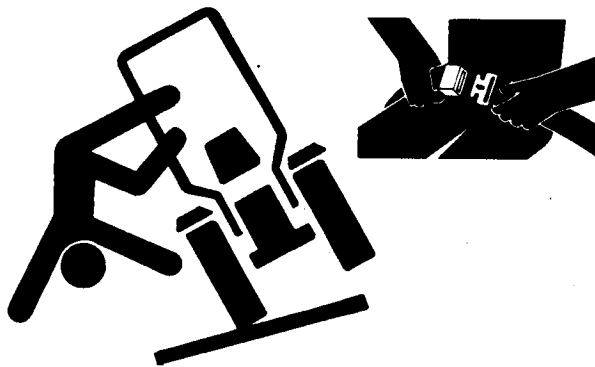
Use Seat Belt Properly (If Equipped)

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.

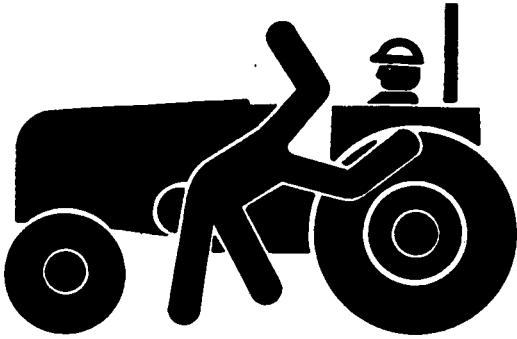
Inspect seat belt and mounting hardware at least once a year. Look for signs of loose hardware or belt damage, such as cuts, fraying, extreme or unusual wear, discoloration, or abrasion. Replace only with replacement parts approved for your machine. If there is any doubt, contact your John Deere Dealer.



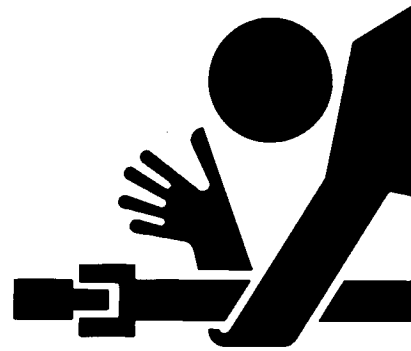
TS205 -UN-23AUG88

LX,ROPS1 -19-02JAN03-1/1

Operating the Tractor Safely



TS213 -UN-23AUG88



TS276 -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:

Before leaving the tractor, apply the handbrake and put the transmission in NEUTRAL (or in PARK position, if equipped). Leaving transmission in gear

with engine stopped will NOT prevent 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, apply the handbrake and put the transmission in NEUTRAL or PARK position, lower implements to the ground, stop the engine and remove the key.

Never go near an operating PTO or an operating implement.

If a seat belt is equipped, always fasten it in a ROPS-equipped tractor.

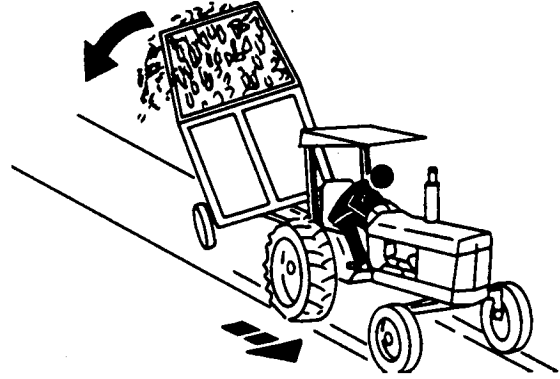
LX,HAZARD,S -19-02JAN03-1/1

Shift to Low Gear on Hills

Shift to a low gear before descending a steep hill to improve your control of the tractor with little or no braking. Use engine braking to reduce speed before applying tractor brakes. Run-away tractors often tip over. Never coast downhill.

When driving on icy, wet, or graveled surfaces, reduce speed and be sure tractor is properly ballasted to avoid skidding and loss of steering control. For best control, engage front-wheel drive for four-wheel braking.

Additional ballast may be needed for transporting heavy integral implements. When implement is raised, drive slowly over rough ground, regardless of how much ballast is used.



TS216 -UN-23AUG88

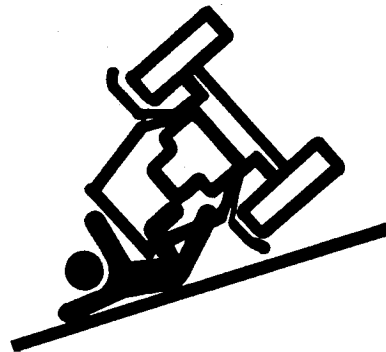
LX,DRIVE,SAFE1 -19-01OCT92-1/1

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

RX,HILL,SIDE1 -19-22SEP92-1/1

Parking and Leaving the Tractor

Lower mounted implement(s) or equipment to the ground before leaving the tractor.

When leaving the tractor, shut off the engine, apply the handbrake and engage the park lock (if equipped), remove the ignition key and lock the cab (if equipped). Put chock blocks in position.

Never leave tractor unattended while the engine is still running.

Never leave the operator's platform/cab when driving.



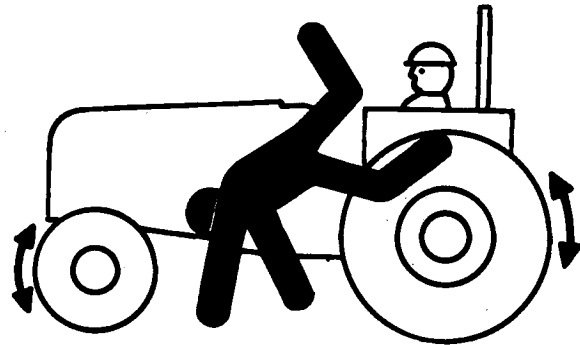
LX002510 -UN-17JAN95

LX,PARK -19-02JAN03-1/1

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

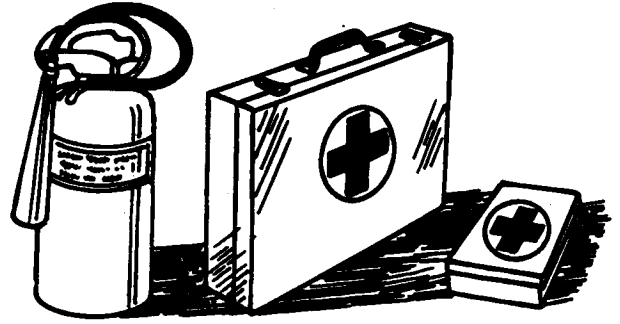
DX,FIRE1 -19-03MAR93-1/1

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

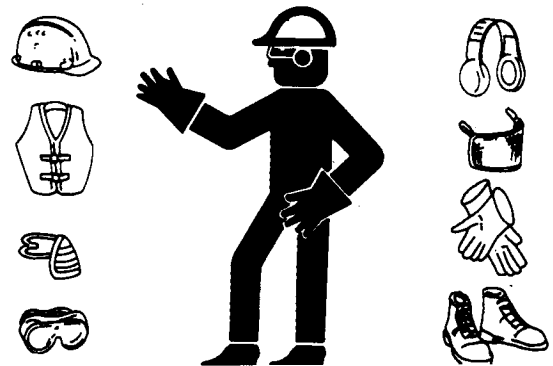
Wear Protective Clothing

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

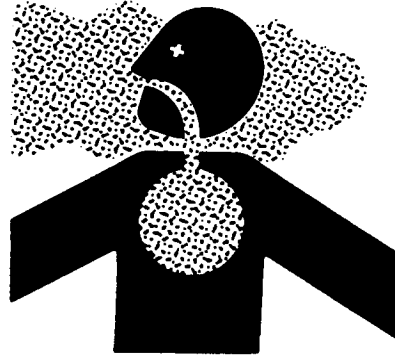
DX,WEAR -19-10SEP90-1/1

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.



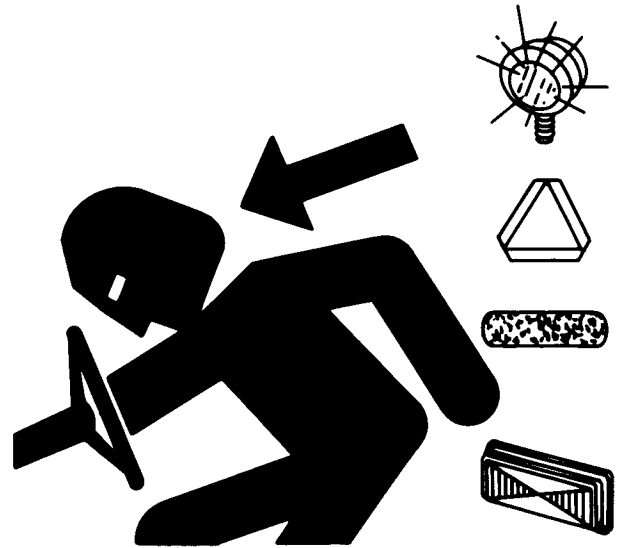
TS1644 -UN-22AUG95

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

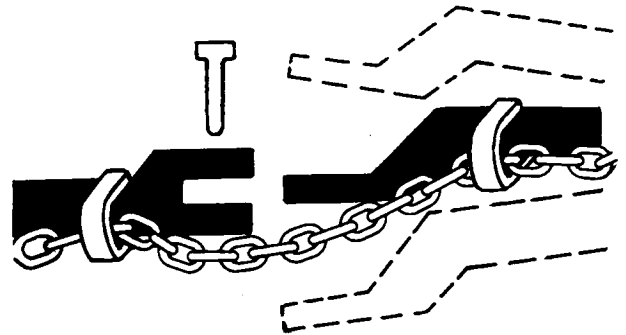
DX,FLASH -19-07JUL99-1/1

Use a Safety Chain

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

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

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



TS217 -UN-23AUG88

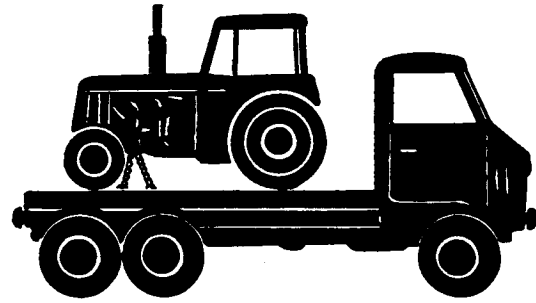
DX,CHAIN -19-03MAR93-1/1

Safely Transporting the Tractor

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

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

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



RW13090 -UN-07DEC88

OU12401,0000CBA -19-02JAN03-1/1

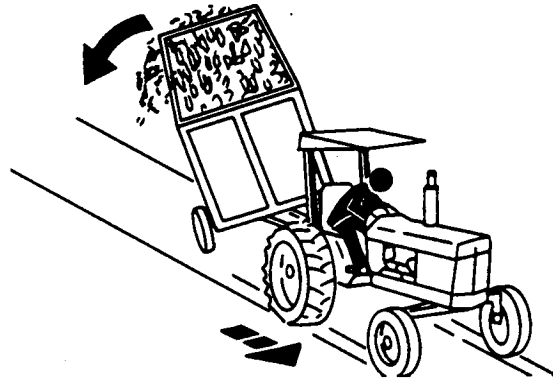
Tow Loads Safely

Stopping distance increases with speed and weight of towed loads, and on slopes. Towed loads with or without brakes that are too heavy for the tractor or are towed too fast can cause loss of control. Consider the total weight of the equipment and its load.

Observe these recommended maximum road speeds, or local speed limits which may be lower:

- If towed equipment does not have brakes, do not travel more than 32 km/h (20 mph) and do not tow loads more than 1.5 times the tractor weight.
- If towed equipment has brakes, do not travel more than 40 km/h (25 mph) and do not tow loads more than 4.5 times the tractor weight.

Ensure the load does not exceed the recommended weight ratio. Add ballast to recommended maximum for tractor, lighten the load, or get a heavier towing unit. The tractor must be heavy and powerful enough with adequate braking power for the towed load. Use additional caution when towing loads under adverse surface conditions, when turning, and on inclines.



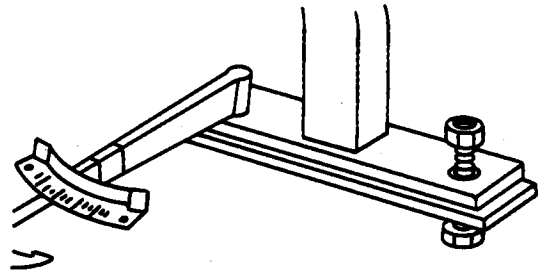
TS216 -UN-23AUG88

DX,TOW -19-02OCT95-1/1

Keep ROPS Installed Properly

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

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



TS212 -UN-23AUG88

DX,ROPS3 -19-03MAR93-1/1

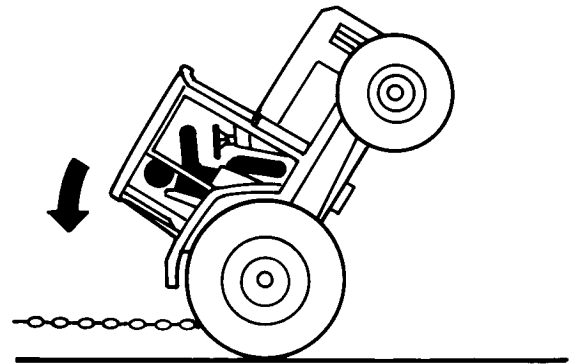
Freeing a Mired Machine

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

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

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

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



TS1645 -UN-15SEP95



TS263 -UN-23AUG88

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

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

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.

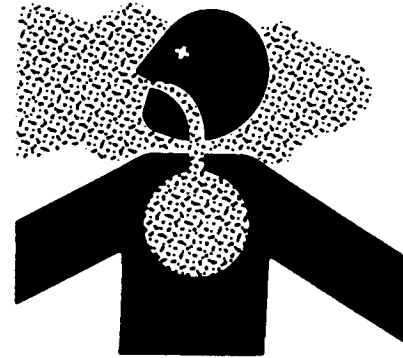
Remove paint before heating:

- 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.

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

Dispose of paint and solvent properly.



TS220 -UN-23AUG88

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

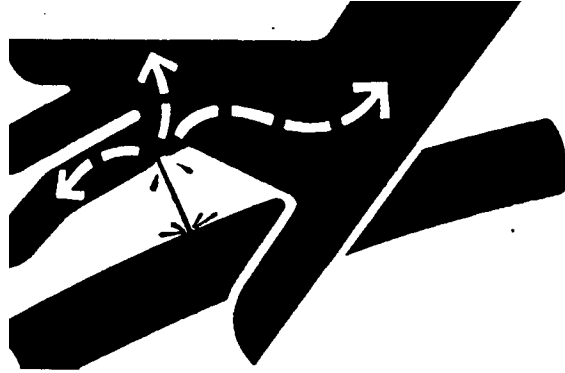
Avoid High-Pressure Fluids

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.



X9611 -UN-23AUG88

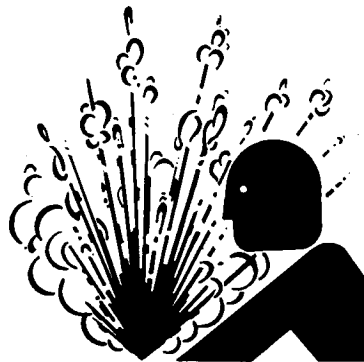
DX,FLUID -19-03MAR93-1/1

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 relieve pressure before removing completely.

Add coolant only when the engine is shut off.



TS281 -UN-23AUG88

LX,RCAP -19-01SEP95-1/1

Store Attachments Safely

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

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



TS219 -UN-23AUG88

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

Dispose of Waste Properly

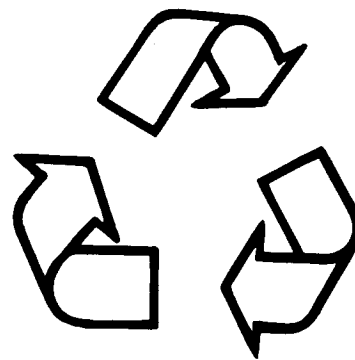
Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste used with John Deere equipment include such items as oil, fuel, coolant, brake fluid, filters, and batteries.

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

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

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

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

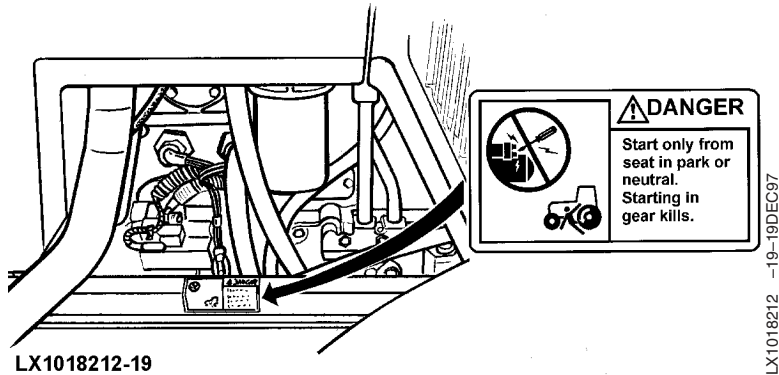


TS1133 -UN-26NOV90

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

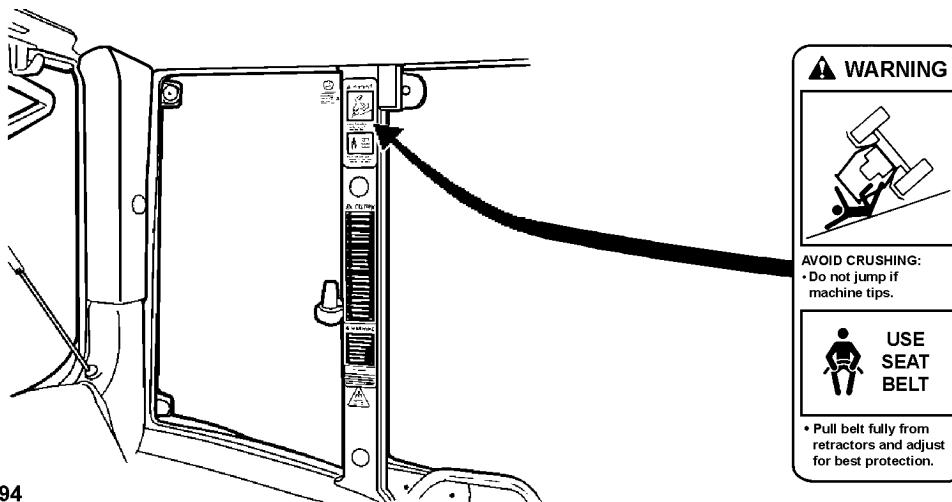
Safety Decals

Prevent Machine Runaway



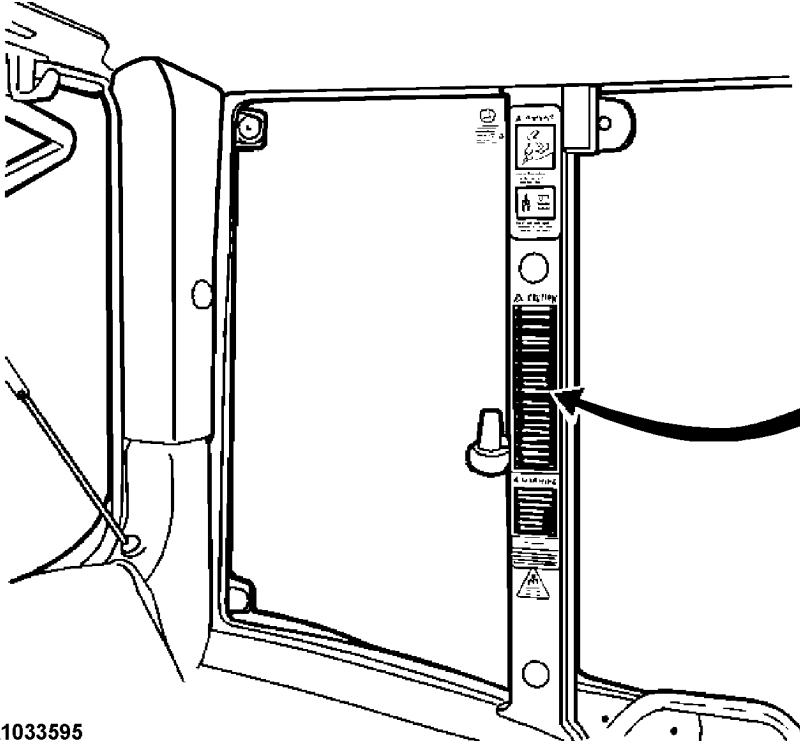
LX,OMLAB 013496 -19-01OCT97-1/1

Use Seat Belt



OU12401,0001067 -19-01APR04-1/1

Operate Tractor Safely



LX1033595

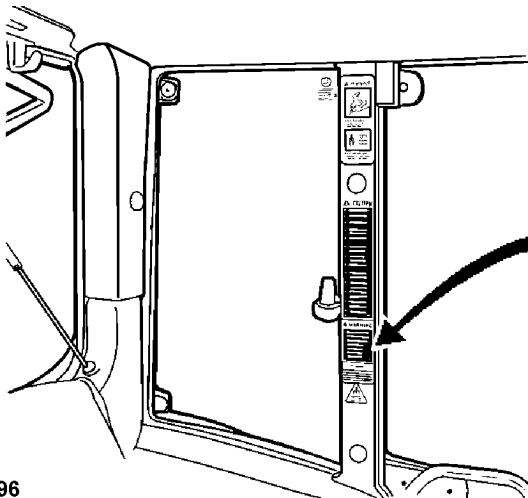
CAUTION

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

LX1033595 -19-19APR04

OU12401.0001068 -19-01APR04-1/1

Do Not Modify ROPS



LX1033596

WARNING

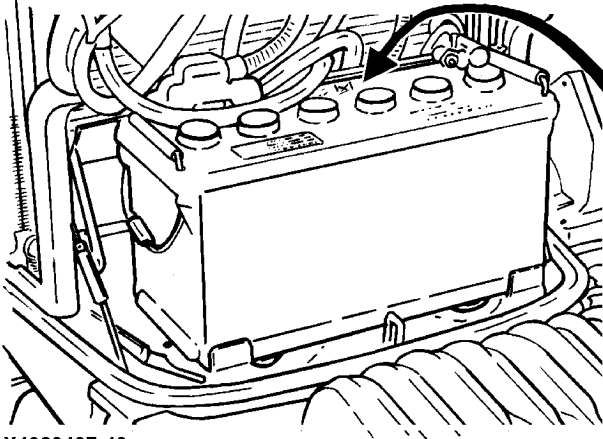
To maintain unimpaired operator protection and manufacturer's ROPS certification:

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

LX1033596 -19-19APR04

OU12401.0001069 -19-01APR04-1/1

Avoid Explosive Gases



LX1029197-19



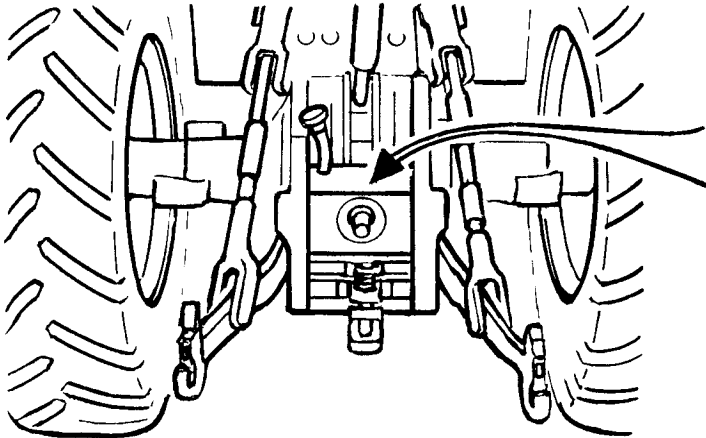
DANGER! POISON! **Explosive Gases Causes Severe Burns**

Contains sulfuric acid. Avoid contact with skin, eyes or clothing. Antidote: **External**—Flush with water. **Internal**—Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg or vegetable oil. Call a physician immediately. **Eyes**—Flush with water for 15 minutes and get prompt medical attention. Cigarettes, flames or sparks could cause battery to explode. Always shield eyes and face from battery. Do not charge or use booster cables or adjust post connections without proper instruction and training. Ventilate when charging or using in enclosed space. **Keep vent caps tight and level. Keep out of reach of children.**

LX1029197 -19-10SEP02

OU12401,001036F -19-01JUL02-1/1

Stay Clear of PTO



WARNING

TO AVOID BODILY INJURY:

1. Keep PTO master shield and all power drive system safety shields in place.
2. When operating PTO driven implements, install drawbar in the down position if offset, and use the following drawbar instructions:

PTO Shaft	PTO Shaft End to Hitch Pin Hole
540 rpm · 6 spline	14.00 in. (356 mm)
1000 rpm · 21 spline	16.00 in. (407 mm)
*1000 rpm · 20 spline	20.00 in. (508 mm)
*1.75 in. (44.5 mm) dia. shaft	

S

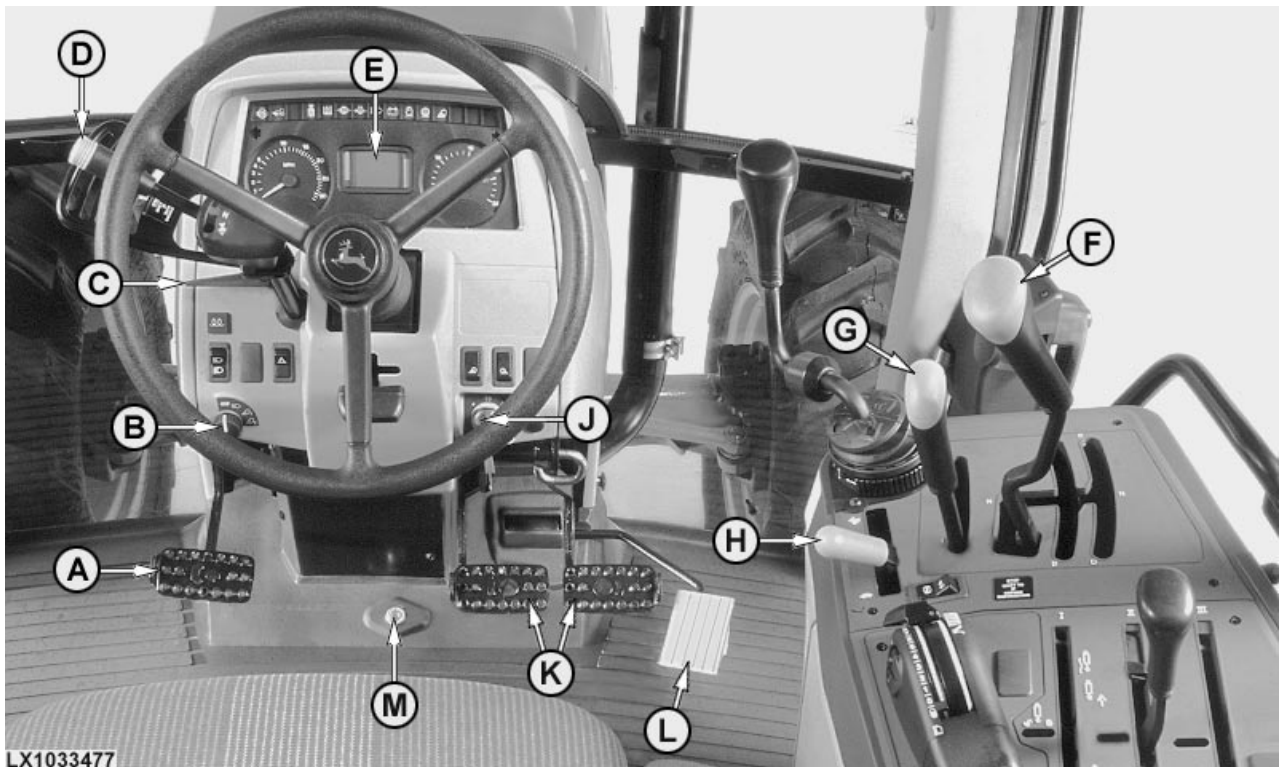
LX002855 - 19

LX002855 -19-01SEP94

LX,OLABEL003267 -19-01JUL92-1/1

Controls and Instruments

Vehicle Controls



A—Clutch pedal
B—Light switch
C—Turn signal switch
D—Reverse drive lever (if equipped)

E—Instruments
F—Range shift lever
G—Gear shift lever

H—Hand throttle
J—Main switch
K—Brake pedals

L—Foot throttle
M—Differential lock

OU12401,00104A9 -19-01AUG03-1/1

Attachment Controls

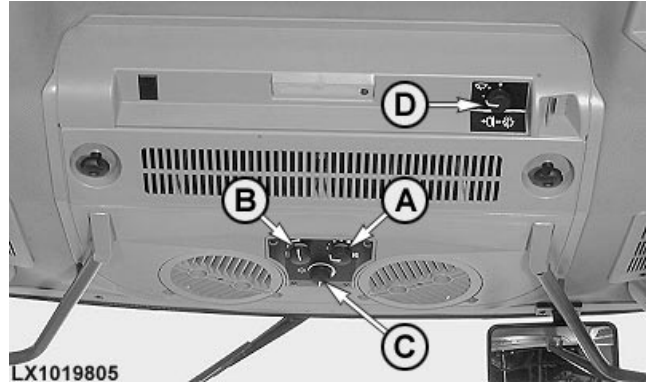
A—Three-point hitch control unit
B—Lever for selective control valves
C—Rear PTO switch



LX,OMCONT014907 -19-01DEC97-1/1

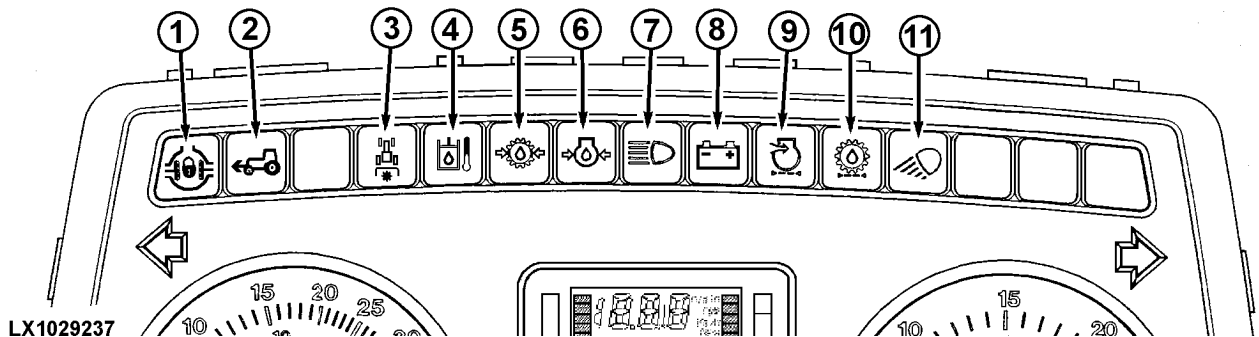
Heater, Air-Conditioning and Windshield Wiper Controls

- A—Blower switch
- B—Heater regulator
- C—Air-conditioning regulator
- D—Windshield wiper switch



AG,OU12401,10114 -19-29AUG00-1/1

Indicator Lights and Displays



Indicator lights

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

2-This light comes on when front-wheel drive is selected.

3-This light comes on when the rear PTO is selected.

4-This warning light glows when transmission/hydraulic oil temperature is too high.

5-If this warning light glows, transmission/hydraulic oil pressure is too low. See your John Deere dealer.

6-If engine oil pressure warning light glows with engine running, shut off engine and check the level of engine oil.

7-The full beam indicator light will glow whenever the headlights are switched on at full beam.

8-If alternator indicator light glows with engine running, this indicates a defect at alternator. Check alternator cables. If necessary, have alternator checked by your John Deere dealer.

9-If air cleaner indicator light glows with engine running, the air cleaner element must be cleaned or replaced.

10-This light glows when the transmission oil filter is clogged or the oil temperature is too low.

11-This light comes on when the work lights are selected.

Bulb test: As the engine is started, indicator lights 4, 5, 6, 9 and 10 should glow for approx. 1 second. If this is not the case, a defective bulb or blown fuse may be the cause. Check and replace parts as necessary.

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

Continued on next page

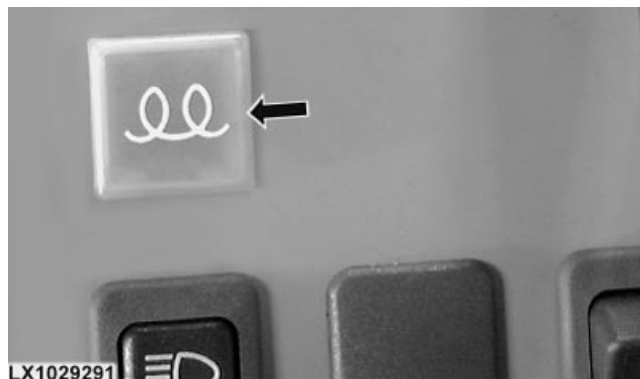
OULXE59,00107D1 -19-30JUN05-1/8

Additional indicator light

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

Malfunctions in the fuel system and/or engine are indicated by the light flashing.

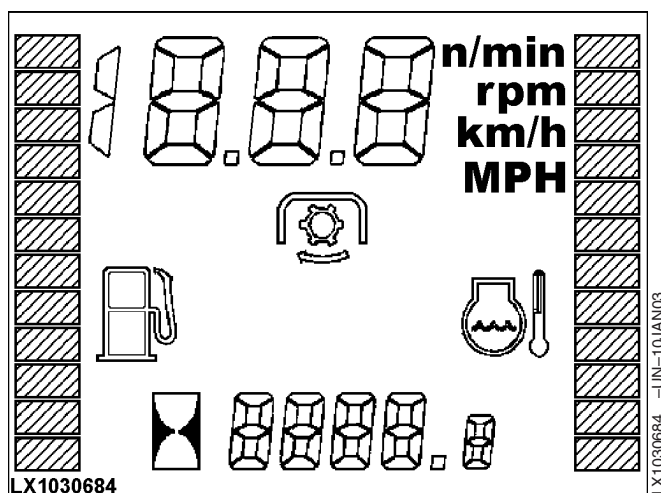
NOTE: This light flashes also as soon as water deposits have settled in fuel filter.



OULXE59,00107D1 -19-30JUN05-2/8

Digital display

The digital display shows travel speed, PTO speed, hours of operation, coolant temperature and the amount of fuel left in reserve.

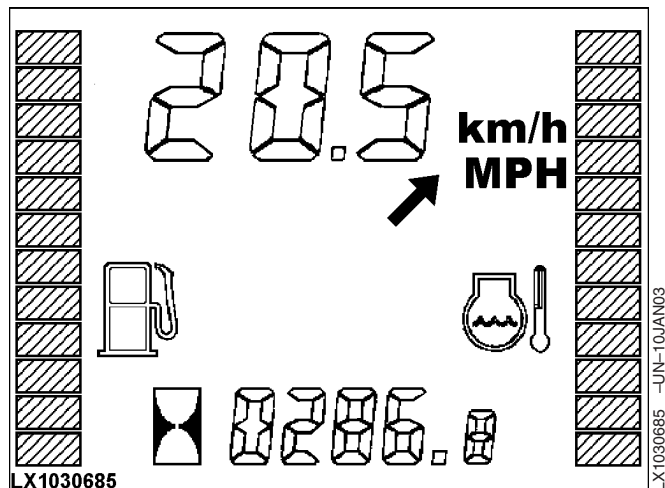


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OULXE59,00107D1 -19-30JUN05-3/8

Travel speed display

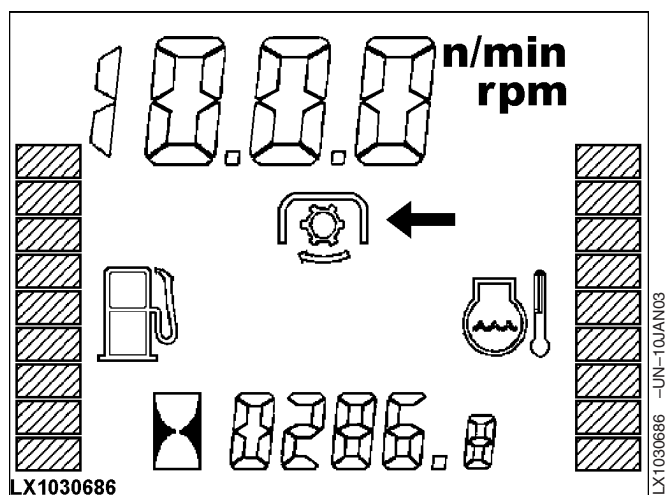
Provided that the rear PTO is switched off, "km/h" or "MPH" appears on the display and travel speed is displayed.



OULXE59,00107D1 -19-30JUN05-4/8

PTO speed display

When the rear PTO is switched on, the PTO symbol appears. The PTO speed is displayed if the tractor is equipped with a PTO speed sensor.

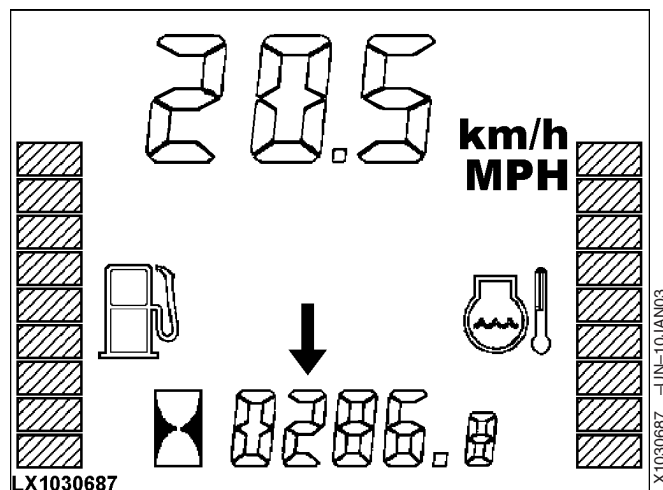


Continued on next page

OULXE59,00107D1 -19-30JUN05-5/8

Operating hours display

When the ignition is switched on, the display shows the number of hours operated by the engine.



OULXE59,00107D1 -19-30JUN05-6/8

Coolant temperature display

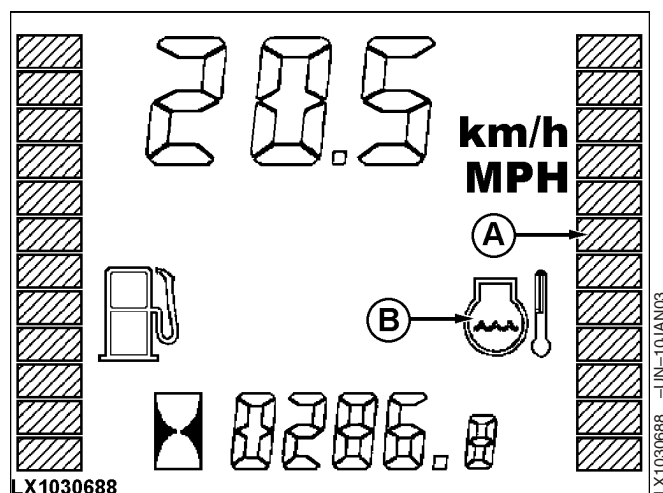
Temperature is represented by a vertical bar with a total of 12 blocks (A):

1-10 blocks = temperature is normal.

11 (flashing) blocks = coolant is too hot. Reduce load on engine or shift to a lower gear.

12 (flashing) blocks = coolant is very hot. Shut off the engine and rectify the cause of the overheating (coolant level too low, dirty radiator or clogged screen).

If none of the blocks appear on the display and icon (B) is flashing, then the temperature sensor is defective.



Continued on next page

OULXE59,00107D1 -19-30JUN05-7/8

Fuel reserve display

The amount of fuel left in reserve is represented by a vertical bar with a total of 12 blocks (A):

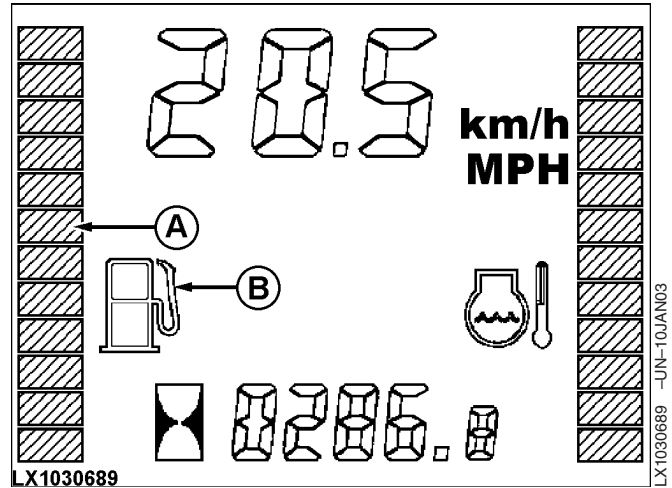
3-12 blocks = sufficient fuel left in reserve.

2 blocks = fuel reserve warning.

1 (flashing) block = less than 8% fuel left in reserve.

If none of the blocks appear on the display and icon (B) is flashing, then the tank sensor is defective.

NOTE: *Never run the tank completely dry, otherwise you will have to bleed the fuel system.*



OULXE59,00107D1 -19-30JUN05-8/8

Lights

Light Switches

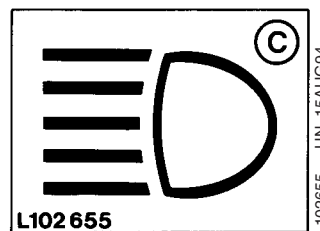
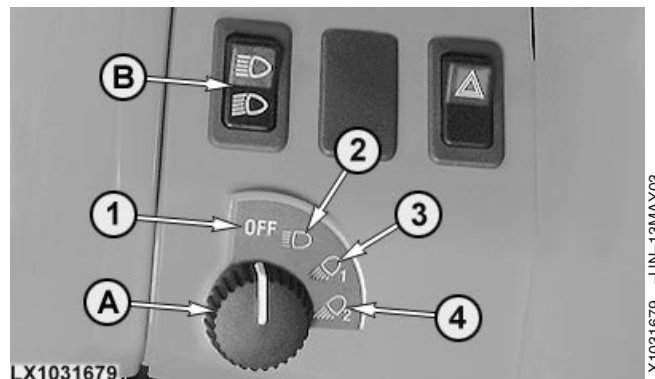
Light switch (A) can be set to the following positions:

- 1-Light switch in "off" position
- 2-Headlights, tail lights and warning lights "on"
- 3-Headlights "on"
- 4-Headlights "on" and
 - work light "on" if tractor is equipped with one work light only
 - work lights can be switched on if tractor is equipped with more than one work light

Switch (B) can be set to the following positions:

- Switch down = Low beam
- Switch up = High beam

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

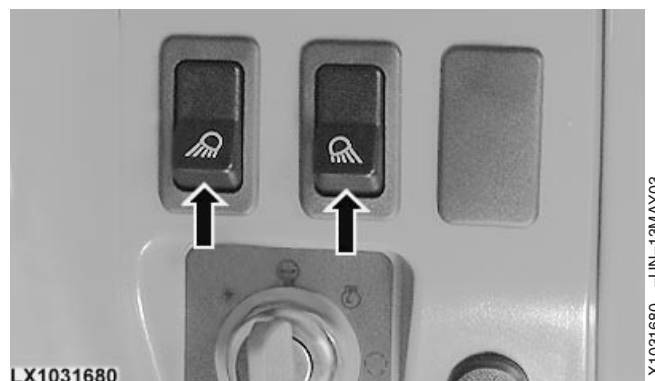


OU12401,0000D47 -19-01MAR03-1/1

Work Light Switches

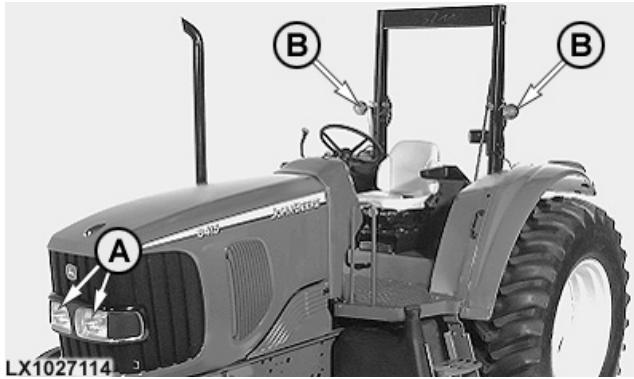
The work lights can be switched on and off using the switches shown here.

The main light switch must first be set to position 4.

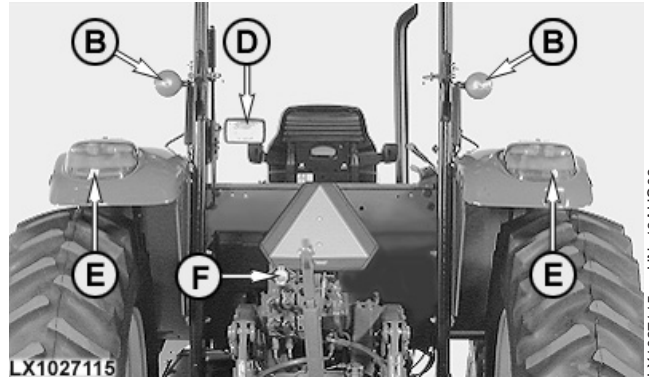


OU12401,0000D48 -19-01MAR03-1/1

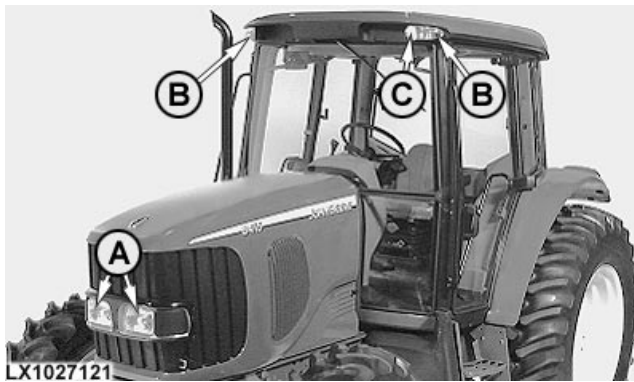
Lights



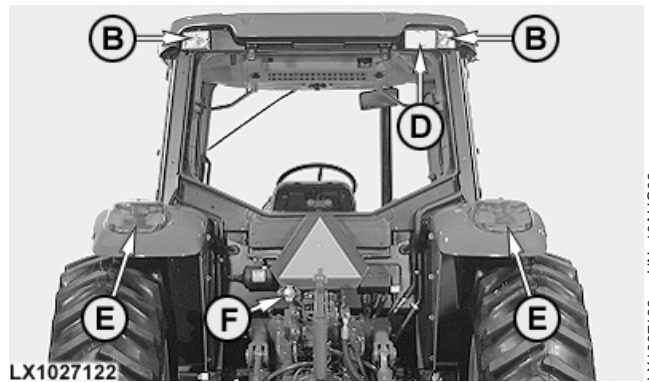
Tractors without Cab - Front



Tractors without Cab - Rear



Tractors with Cab - Front



Tractors with Cab - Rear

- A—Headlights
B—Turn signal and warning lights
C—Front work light
D—Rear work light

E—Tail lights

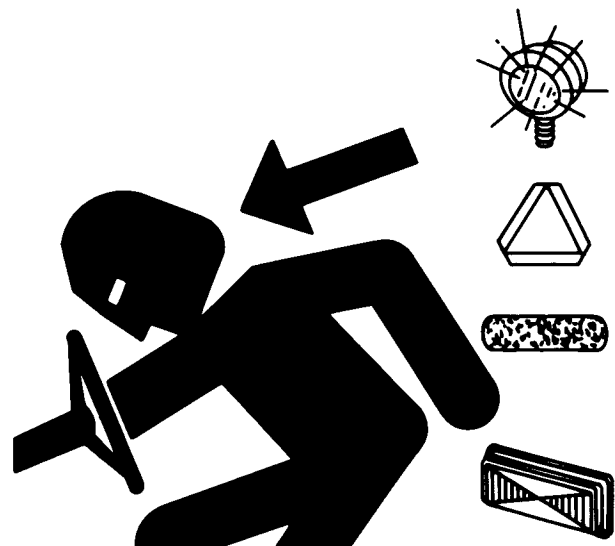
F—Socket for trailer lighting

OU12401,0000B72 -19-01JUL02-1/1

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.

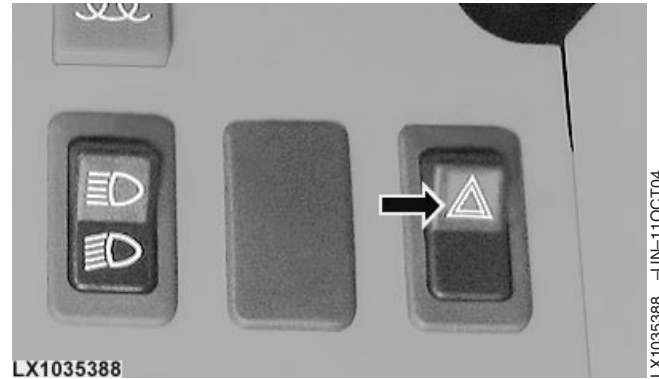


DX,FLASH -19-07JUL99-1/1

Operating the Hazard Warning Light Switch

⚠ CAUTION: To prevent possible personal injury, always operate flashing warning lights when traveling on a highway or public roads except where prohibited by law.

NOTE: On tractors with cab only the warning lights in the roof will flash.



OU12401,000111A -19-11OCT04-1/1

Switch for Turn Signal Lights

Positions of switch (A):

1 = Turn signal, left-hand turn

2 = Turn signal, right-hand turn



OU12401,0010340 -19-01JUL02-1/1

Switch for Horn

Push in switch (A) to sound horn.



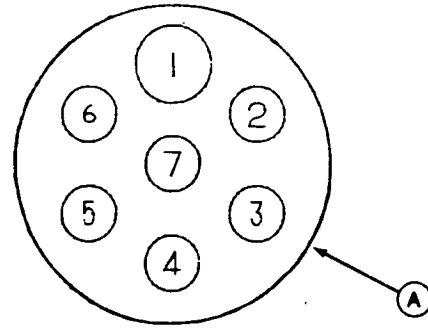
OU12401,0010341 -19-01JUL02-1/1

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.

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

Terminal	Function	Wire Color
1	Ground	White
2	not used	
3	Left Turn	Yellow
4	Accessory	Red
5	Right Turn	Dark Green
6	Tail Lights	Brown
7	Accessory	Blue



RW21249 -JUN-17JUN92

AG,OU12401,29 -19-13DEC99-1/1

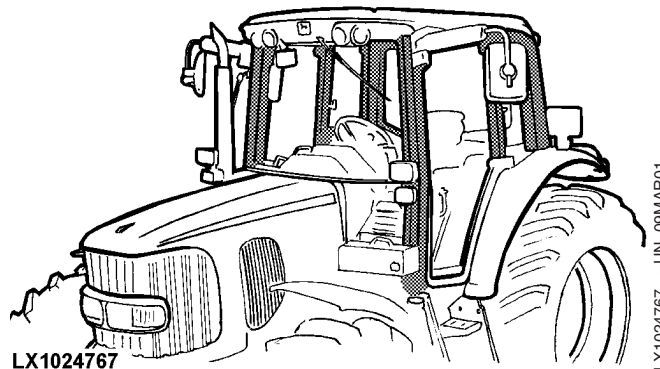
Operator's Platform and Cab

Roll-Over Protective Structure



CAUTION: A four-post roll-over protective structure (ROPS) is incorporated into each operator's cab. On this construction, as well as on ROPS on tractors without cab, do not under any circumstances modify structural members by welding on additional parts, drilling holes, cutting or grinding etc. Disregarding this instruction will affect the rigidity of the ROPS.

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



OU12401.0010375 -19-01JUL02-1/1

Operating Foldable ROPS



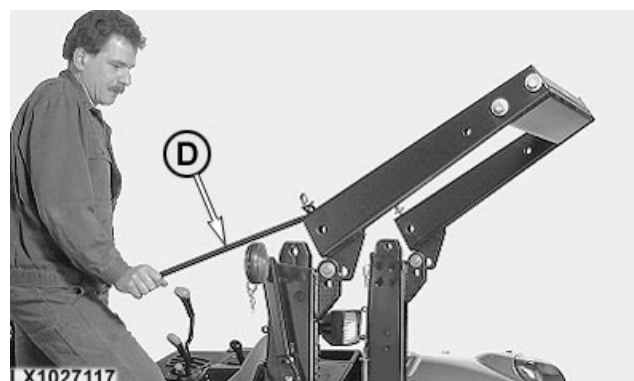
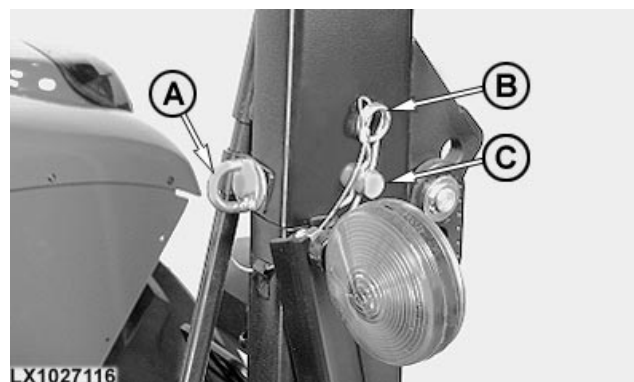
CAUTION: If the tractor is ever operated with ROPS folded (e.g. to enter a low building) drive with extreme caution. Do NOT use seat belt in this case.

Fold the ROPS up again as soon as the tractor is operated under normal conditions.

Loosen screw (A). Remove pin (B) and bolt (C) on both sides of ROPS. From operator's platform use handle (D) and fold upper half of ROPS down.

Secure ROPS with bolt (C) and pin (B) on both sides. Fasten screw (A) on both sides.

Reverse this procedure to bring ROPS up.

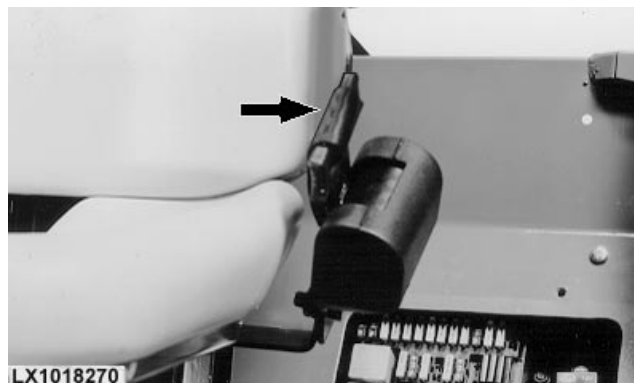


OU12401.0010376 -19-01JUL02-1/1

Seat Belt



CAUTION: Always use the seat belt (if equipped) when the ROPS is up.



LX,OMPLAT014918 -19-01DEC97-1/1

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.



TS220 -UN-23AUG88

TS272 -UN-23AUG88

Clean Vehicle of Hazardous Pesticides

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

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

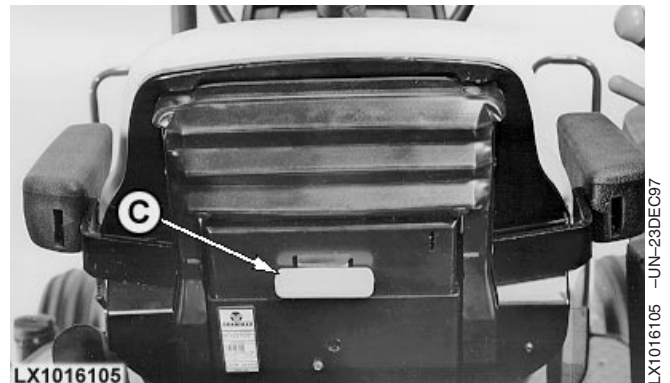
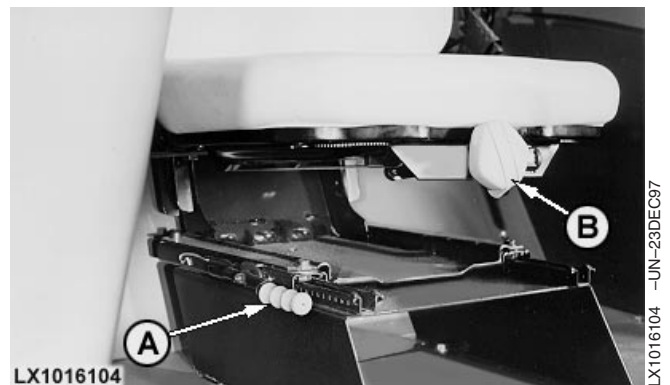
1. Sweep or vacuum the floor of cab.
2. Clean headliners and inside cowlings of cab.
3. Wash entire exterior of vehicle.
4. Dispose of any wash water with hazardous concentrations of active or non-active ingredients according to published regulations or directives.

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

Comfort Seat (Tractors without Cab)

To adjust height, lift all weight off the seat and pull lever (C) up. At the same time, raise the seat at the front edge. The seat may be raised in four stages. To lower the seat, pull it to its highest stage and then bring it down.

- A—Lever for horizontal adjustment
- B—Handwheel for seat adjustment according to operator's weight
- C—Lever for height adjustment



LX,OMPLAT014921 -19-01OCT00-1/1

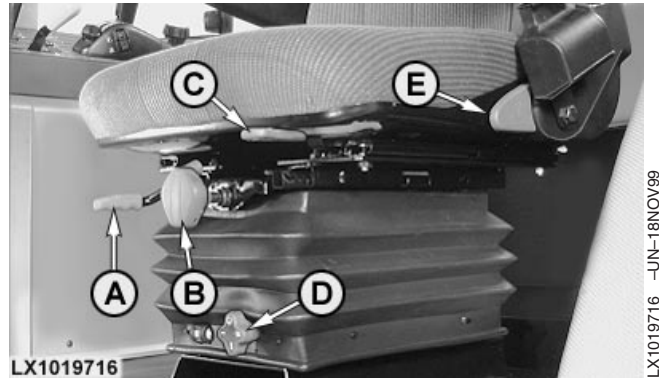
Comfort Seat (Tractors with Cab)

To adjust the seat to suit a weight put upon it, turn knob (B). When the seat is set to the weight of the operator, a green mark appears in the display window.

To adjust the height, move knob (D) to one of four possible positions.

Fore/aft spring:

- Lever (C) to the right - Fore/aft suspension
- Lever (C) to the left - No fore/aft suspension

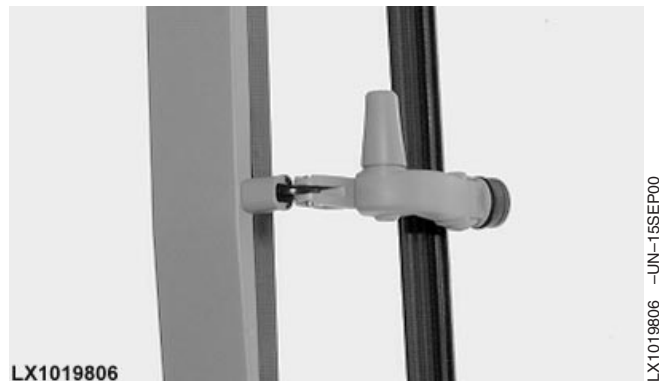


- A—Fore-and-aft adjustment
- B—Weight adjustment
- C—Lever for fore/aft spring
- D—Knob for height adjustment
- E—Backrest tilt

AG,OU12401,10116 -19-29AUG00-1/1

Opening Windows

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



AG,OU12401,10117 -19-29AUG00-1/1

Windshield Wiper

Windshield wiper switch (A) has two positions:

- 1 = Slow wipe
- 2 = Fast wipe

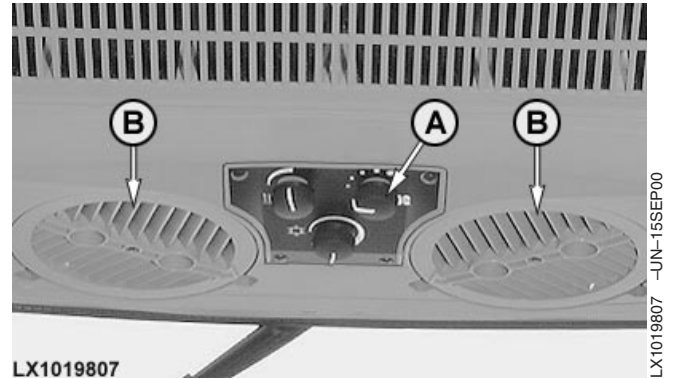
A—Switch for windshield wiper



AG,OU12401,10118 -19-29AUG00-1/1

Blower and Air Louvers

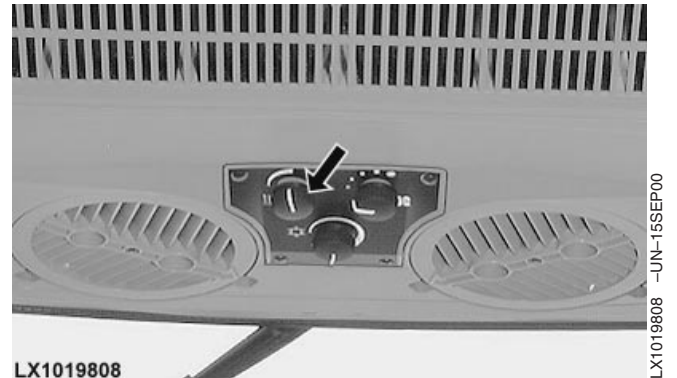
The four blower speeds are controlled by a switch (A). The general direction of the airflow can be altered by means of air louvers (B).



AG,OU12401,10119 -19-29AUG00-1/1

Heater

Heating is infinitely variable by means of the heater switch. To increase heating effect, turn switch clockwise. Set blower and air louvers to the desired positions.



AG,OU12401,10120 -19-29AUG00-1/1

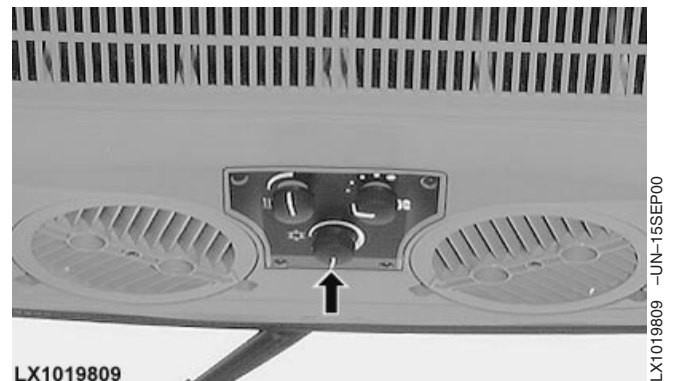
Air Conditioning System

Regulate the air conditioning system via the control. The cooling effect is increased by turning the knob further clockwise.

Set blower and air louvers to the desired positions.

IMPORTANT: To maintain a consistently high performance, the air-conditioning system should be switched on for two or three minutes once every month, regardless of weather conditions or season (with engine at low idle). The control should be set for maximum cooling effect.

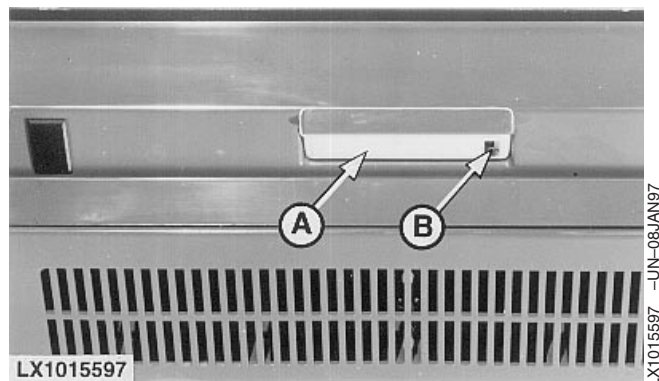
At ambient temperatures below 4° C (39° F), the cab should first be heated (using the heating system) so that the temperature inside the cab is as high as possible.



AG,OU12401,10121 -19-29AUG00-1/1

Dome Light

Dome light (A) is operated via switch (B).



LX,OKAB 010687 -19-01DEC96-1/1

Adjusting Steering Wheel

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

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

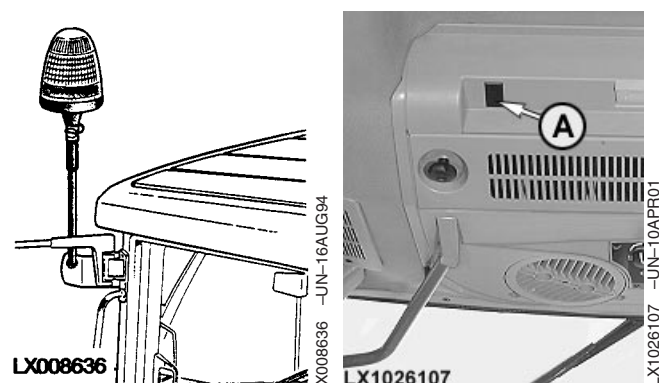
To adjust steering wheel height, loosen ring (B). Retighten the ring once the adjustment is completed.



OU12401,0010342 -19-01JUL02-1/1

Beacon Light (Option)

The beacon light should be used when driving extremely slowly and when tractor width is excessive. Switch it on at switch (A).

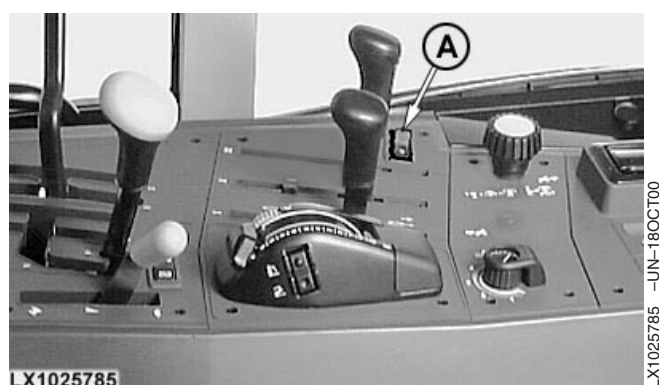


OU12401,00005C6 -19-01APR01-1/1

Back-up Alarm (Option)

On tractors equipped with this option, the alarm sounds when a reverse gear is engaged.

Switch (A) shuts the alarm off.



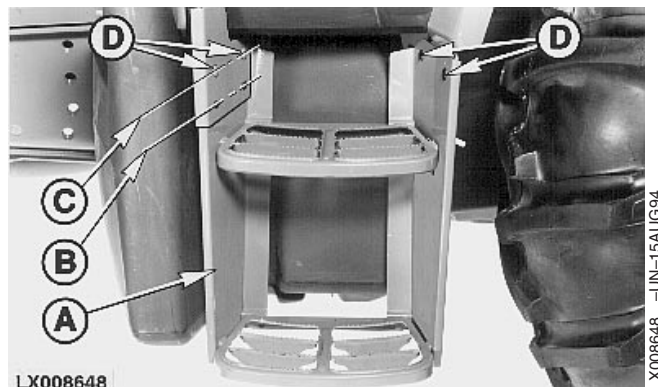
OU12401,00005C7 -19-01APR01-1/1

Step Adjustment

The steps are vertically adjustable, if required.

Remove screws (D). Move steps to desired position. Install screws (D).

- A—Step
- B—Lower position
- C—Higher position
- D—Screws



LX,OKAB 006350 -19-01JUL94-1/1

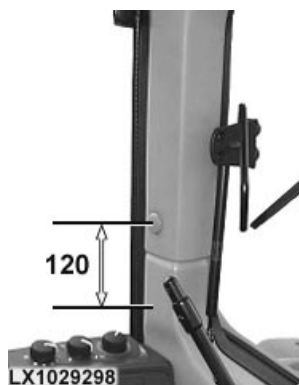
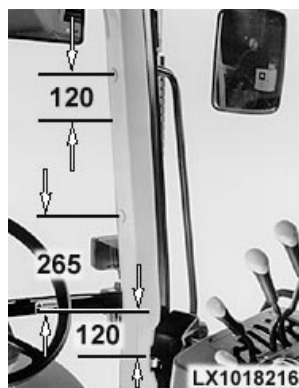
Installing Additional Controls

Attaching additional controls

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

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

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



OU12401,0010343 -19-01JUL02-1/1

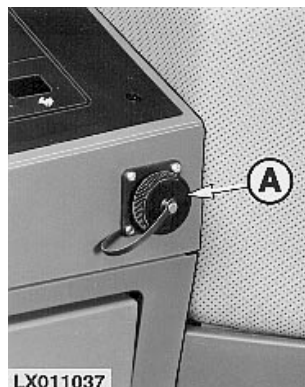
3-Terminal Power Outlet Socket

3-terminal power outlet socket (A) is protected by a 30A fuse (F 120) at terminal 1. Terminal 2 is protected by a 30A fuse (F119). Terminal 31 is ground.

3-terminal power outlet socket (A) is used to connect electrical equipment.

Turn key in main switch clockwise to provide power to the 3-terminal power outlet socket (A).

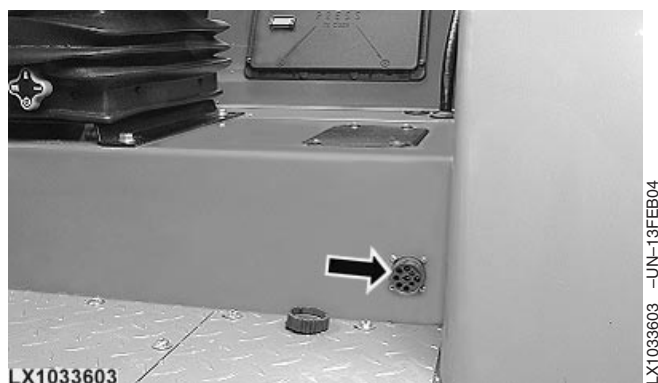
NOTE: If equipment needs a permanent power supply, see your John Deere dealer for a kit.



OU12401,0010378 -19-01JUL02-1/1

Service ADVISOR™ - Socket

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



SERVICE ADVISOR is a trademark of Deere & Company

OU12401,0001070 -19-01APR04-1/1

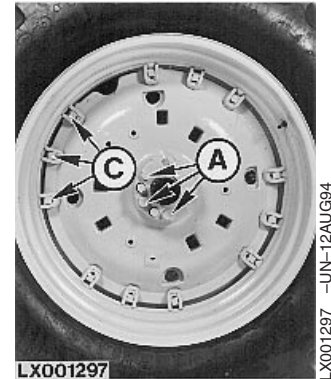
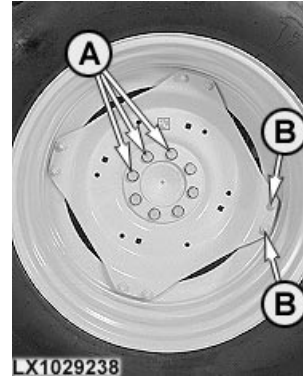
Break-In Period

After First 4 and 8 Hours of Operation

Tighten Rear Wheel Retaining Bolts/Nuts

(Bolt torques vary depending on tractor equipment)

- A—500 N•m (370 lb-ft)
- B—250 N•m (185 lb-ft)
- C—230 N•m (170 lb-ft)

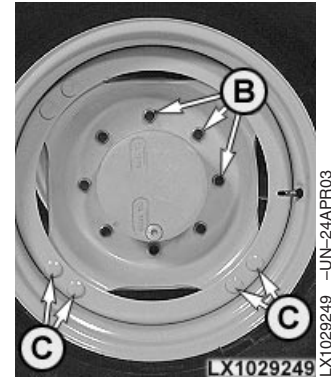
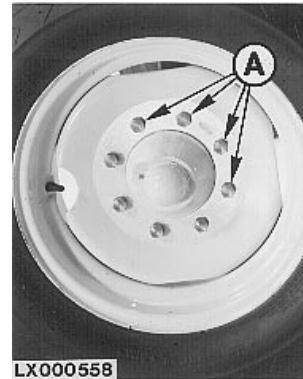


OU12401,001044B -19-01MAR03-1/3

Tighten Front Wheel Retaining Bolts/Nuts

(Bolt torques vary depending on tractor equipment)

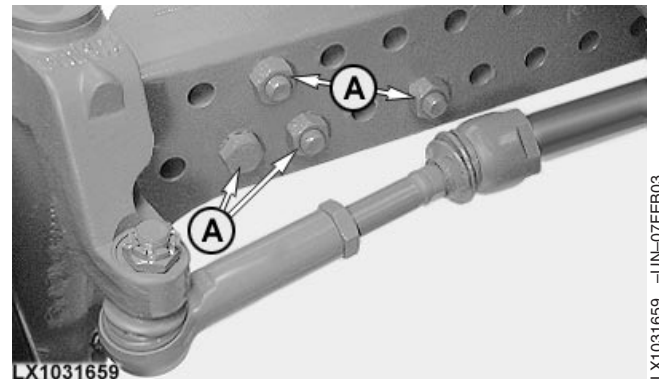
- A—250 N•m (185 lb-ft)
- B—300 N•m (220 lb-ft)
- C—250 N•m (185 lb-ft)



OU12401,001044B -19-01MAR03-2/3

Adjustable Front Axle

Tighten attaching screws (A) to 400 N•m (300 lb-ft).



OU12401,001044B -19-01MAR03-3/3

Within the First 100 Hours of Operation

Wheel retaining bolts

Check torque of wheel retaining bolts frequently.

Engine

The engine is filled with John Deere ENGINE BREAK-IN OIL (SAE 10W-30). To break in the engine properly, comply with the following points:

- Operate the engine in the mid- to upper load range, and do not idle it for long periods of time.
- Check oil level in engine frequently.

IMPORTANT: Top up with oil only when the level has dropped to the “ADD” mark.

NOTE: During the break-in period a higher-than-usual oil consumption should be considered as normal.

- If necessary, top up with John Deere ENGINE BREAK-IN OIL to the “XXX” mark. If John Deere ENGINE BREAK-IN OIL is not available, use a diesel engine oil (SAE 10W-30) meeting one of the following:

- API specification CC

- API specification CD
- ACEA specification E1

If no oil meeting the CC, CD or E1 specifications is available, use an oil that complies with the CE or E2 specifications.

IMPORTANT: During the first 100 hours, under NO circumstances use John Deere PLUS-50 oil or any oil that meets the following:

- API CI-4
- ACEA E5
- API CH-4
- ACEA E4
- API CG4
- ACEA E3

These oils do not satisfy the requirements for breaking in the engine.

- After the first 100 hours, use a type of oil described in the “Fuel, Lubricants, Hydraulic Oil and Coolant” section.

After First 100 Hours of Operation

Change engine oil. See “Service - Every 500 Hours”.

Renew engine oil filter element. See “Service - Every 500 Hours” .

Tighten air intake hoses and hose clamps. See “Service - Every 500 Hours”.

Change transmission/hydraulic oil filters. See “Service - Every 750 Hours”.

Change oil in front-wheel drive axle. See “Service - Every 1500 Hours”.

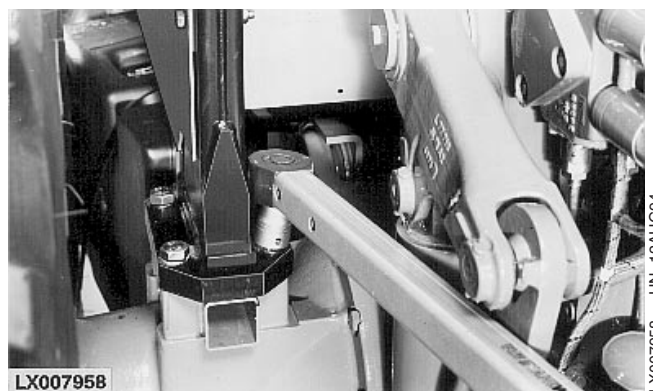
OU12401,001035C -19-01JUL02-1/3

Check Mounting Torques

Tractors without Cab

Check all roll guard attaching screws for tightness.

Specified torques are 400 N•m (300 lb-ft).



LX007958

-UN-12AUG94

OU12401,001035C -19-01JUL02-2/3

Tractors with Cab

Check all cab attaching screws for tightness.

Specified torques are as follows:

- front attaching screws: 220 N•m (160 lb-ft)
- rear attaching screws: 200 N•m (145 lb-ft)



LX 000378

-UN-05APR00

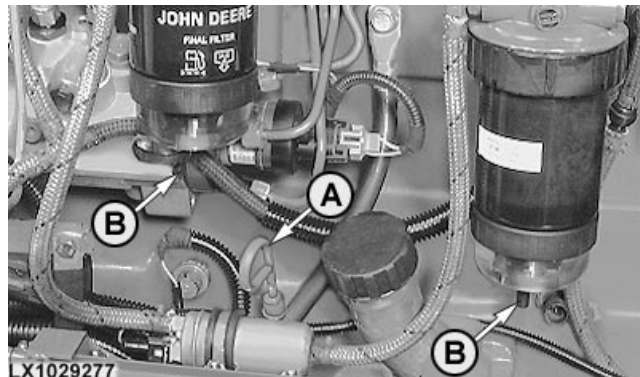
OU12401,001035C -19-01JUL02-3/3

Prestarting Checks

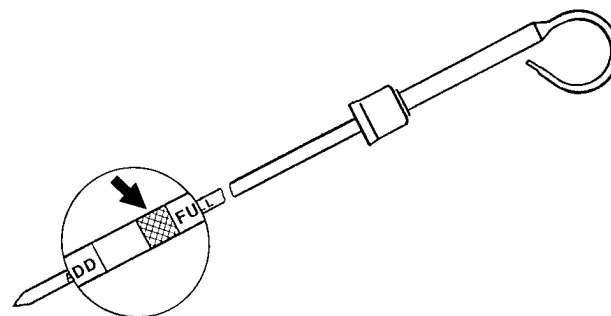
Prestarting Check

Engine oil level should be at the “XXX” marks on dipstick (A). Do not start engine when oil level is below the “ADD” mark.

Drain water and sediment deposits from fuel filter at drain screw (B).



LX1029277 -UN-12MAY03



FD000047

FD000047 -UN-13MAR96

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

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

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

- Lubricate front axle and FWD drive shaft (if equipped).
- Lubricate three-point hitch.

These operations are described in “Service - Every 250 Hours”.

- Lubricate rear axle.

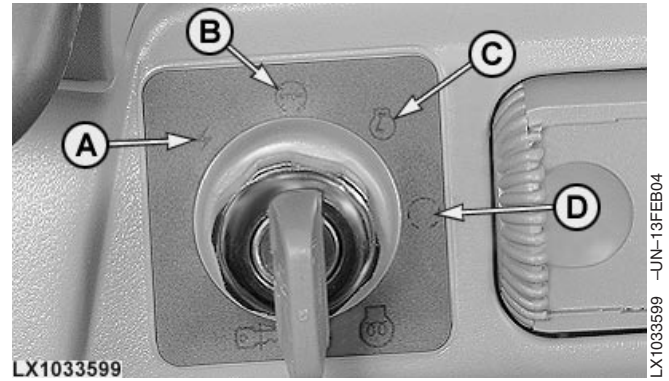
This operation is described in “Service - Every 500 Hours”.

OU12401,00104AB -19-01AUG03-1/1

Operating the Engine

Positions of Main Switch

- A—Electrical power with engine off
- B—"Off" position
- C—"On" position (engine runs)
- D—Start position



OU12401,000106C -19-01APR04-1/1

Starting the Engine

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

Danger of asphyxiation!

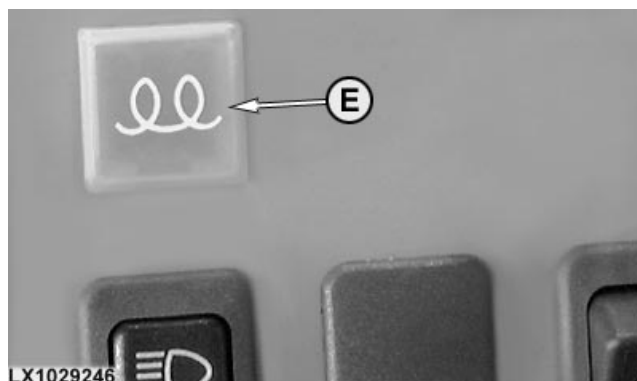
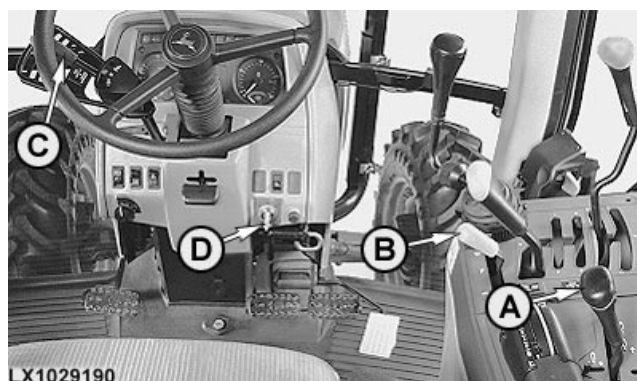
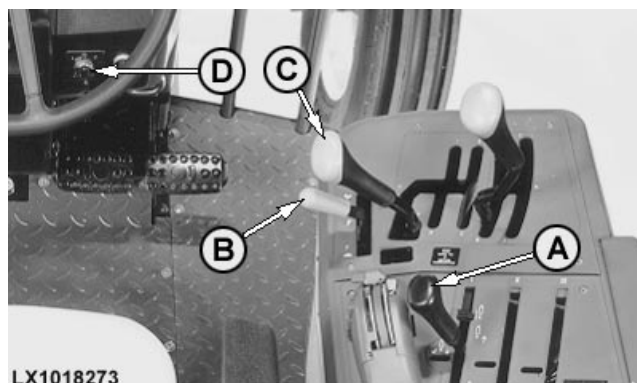
1. Set selective control valve lever (A) to neutral position.
2. Move hand throttle lever (B) to a medium speed setting (first third of lever travel).
3. Set reverse drive lever (C) - or gear lever in the case of tractors without reverse drive - to neutral position.
4. Turn key in main switch (D) one position to the right. Wait until light (E) goes out.
5. Turn key in main switch (D) clockwise to end position. Release key as soon as engine starts.

Do not operate starter for more than 30 seconds at a time. Turn main switch key to "OFF" position and wait at least one minute before trying again.

Do not adjust hand throttle lever. Run engine for a few minutes. At temperatures below 0°C (32°F), extend warm-up period accordingly.

NOTE: The engine runs at a higher idle speed (1050 rpm) until coolant temperature rises to 20°C (68°F).

- A—Selective control valve lever
- B—Hand throttle lever
- C—Gear shift lever / Reverse drive lever
- D—Main switch
- E—Glow-plug indicator light



Cold Weather Starting Aids

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

AG,OU12401,17 -19-12DEC99-1/1

Using Auxiliary Heaters



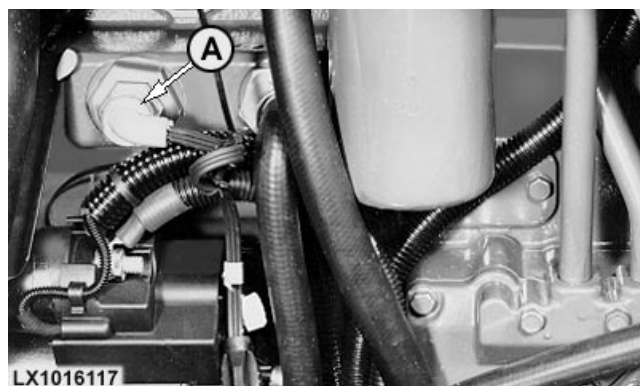
CAUTION: Avoid electrical shock or fire. Use a 3-wire, heavy-duty, electrical cord with a minimum 15-amp rating (14 gauge), suitable for outdoor use. Always plug electrical cord into a ground-fault protected, 110-volt outlet.

NOTE: Auxiliary heaters are used for cold-weather starting.

Auxiliary heaters are available from your John Deere Dealer.

Connect plug of coolant heater (A) and transmission heater to a 110-volt outlet.

At an ambient temperature of -15°C (5°F), the coolant heating process takes approx. 2 hours. Extend the heating period if the ambient temperature is lower.



OU12401,0000404 -19-01OCT00-1/1

Starting With a Booster Battery



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

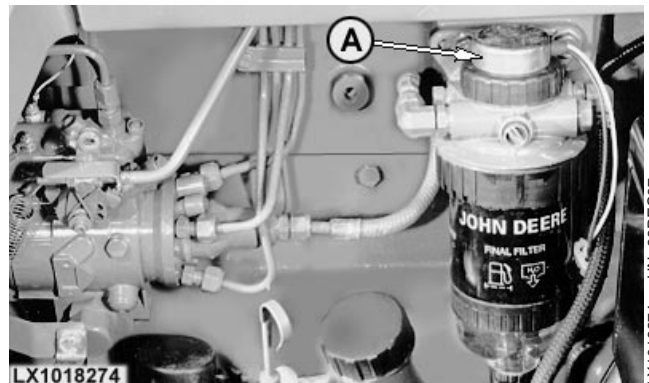
Reversed polarity will damage the electrical system. Always connect positive cable first and then negative cable!

Connect an additional (booster) battery to battery in front of tractor. See "Access to Battery" in "Lubrication and Periodic Service" section. Connect positive poles before connecting negative poles.

AG,OU12401,10082 -19-26JUL00-1/1

Fuel Preheater

Fuel preheater (A) switches on and off automatically in relation to the ambient temperature.



LX,OMENG 014928 -19-01DEC97-1/1

Engine Warm-Up Period

The engine runs at a higher idle speed (1050 rpm) until coolant temperature rises to 20°C (68°F).

Do not operate the tractor under full load until the engine has reached its operating temperature.

OU12401,0000EF3 -19-01JUL03-1/1

Engines with Turbocharger

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

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

LX,OMMOT 013413 -19-01SEP97-1/1

Engine Protection

Malfunctions in the fuel system and engine are indicated by the light (see arrow) flashing.

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



Malfunction

Fuel temperature too high
 Fuel temperature too high
 Engine oil pressure too low
 Engine oil pressure too low
 Fuel filter clogged
 Coolant too hot
 Coolant too hot
 Other malfunctions

Effect

Engine power is reduced to 25%
 Engine power is reduced to less than 25%
 Engine power is reduced to 80%
 Engine power is reduced to 40%
 Engine speed is reduced to 1200 rpm
 Engine power is reduced to 80%
 Engine power is reduced to 60%
 Engine power is reduced to 50%

NOTE: This light flashes also as soon as water deposits have settled in fuel filter.

OU12401,00010C0 -19-01JUN04-1/1

Towing the Tractor

IMPORTANT: Never attempt to tow the tractor to start it!

The best method for transporting a disabled tractor is to haul it on a flatbed carrier. Comply with information given in “Transport” section.

AG,OU12401,20 -19-12DEC99-1/1

Parking the Tractor

IMPORTANT: Be sure tractor is stopped before shifting into PARK.

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



OU12401,0010346 -19-01JUL02-1/1

Stopping the Engine



CAUTION: Before leaving the tractor, lower equipment to the ground and remove key from main switch.

Stop tractor. Engage parking lock.

Run engine for one to two minutes at slow idle. Turn main switch to “off” position.

LX,OMENG 014930 -19-01DEC97-1/1

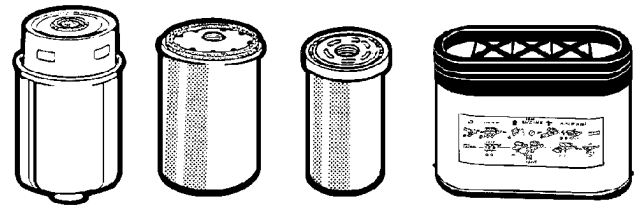
Operating the Tractor

Reduce Fuel Consumption

Service Correctly

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

Use only John Deere filters!

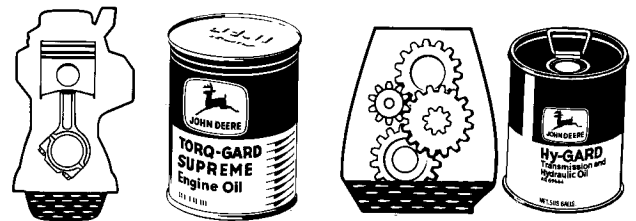


LX1031683

LX1031683 -UN-27MAR03

OU12401,0000D4C -19-01MAR03-1/7

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

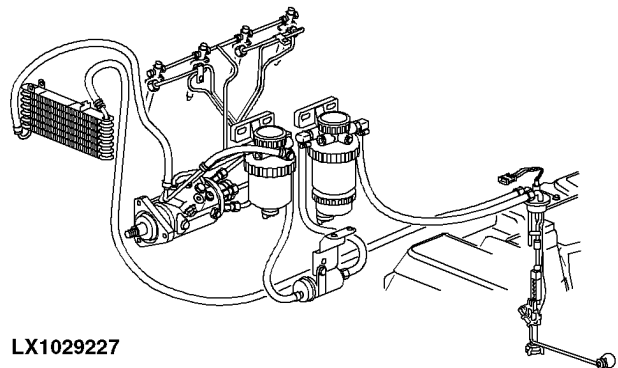


L103 642

L103642 -UN-15AUG94

OU12401,0000D4C -19-01MAR03-2/7

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

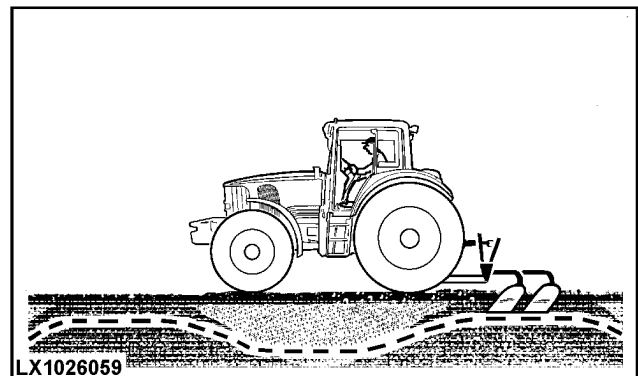


LX1029227

LX1029227 -UN-07MAY03

OU12401,0000D4C -19-01MAR03-3/7

Have function of rockshaft control checked regularly by your John Deere dealer.



LX1026059

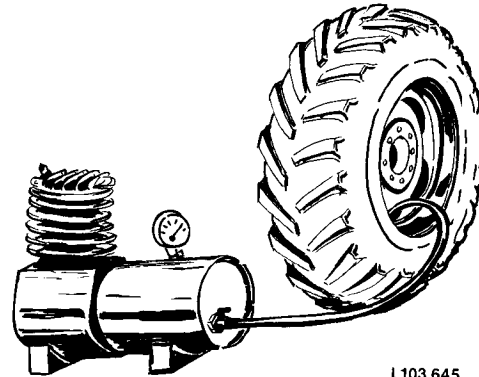
LX1026059 -UN-18MAY01

Continued on next page

OU12401,0000D4C -19-01MAR03-4/7

Drive with Correct Tire Pressures

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



L103 645

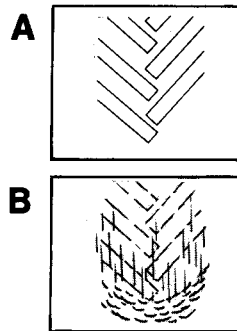
OU12401,0000D4C -19-01MAR03-5/7

L103645 -UN-15AUG94

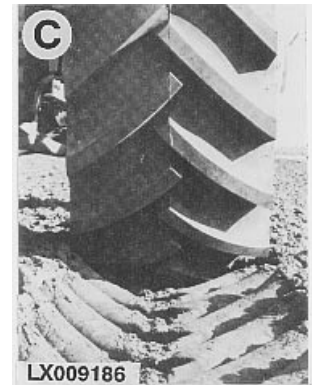
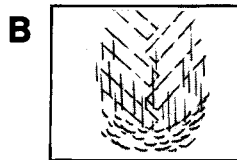
Choose Correct Ballast

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

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



LX009185



LX009186

LX009185 -UN-01SEP94

LX009186 -UN-01SEP94

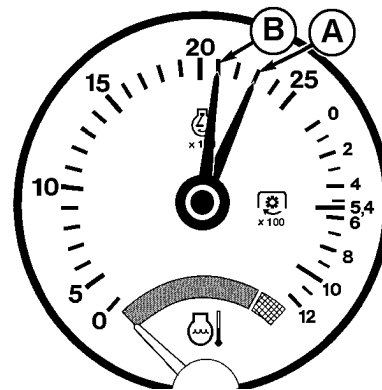
OU12401,0000D4C -19-01MAR03-6/7

Select Correct Gear

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

Choose a gear so that engine speed (A) with engine not under load drops 150 to 250 rpm when the tractor is operating and the engine is under load (B).

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



LX1017710

LX1017710 -UN-01OCT97

OU12401,0000D4C -19-01MAR03-7/7

Select Correct Ground Travel Speed

Number of gears on tractors with:

SYNCRPLUS™ transmission (30 km/h; 18.5 mph):
12 forward gears, 4 reverse gears

POWRREVERSER™ (30 km/h; 18.5 mph): 16 forward
gears, 16 reverse gears

POWRQUAD™ transmission (30 km/h; 18.5 mph): 16
forward gears, 16 reverse gears

The tractor can be equipped with an additional creeper
transmission that provides a further 9 forward gears
(SYNCRPLUS transmission) or 12 forward gears
(POWRREVERSER or POWRQUAD transmission).

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

Should you wish to determine ground speed travel at
other engine speeds, then proceed as follows:

$$\frac{\text{Desired engine speed}}{2300 \text{ rpm}} = \text{Conversion factor}$$

The conversion factor multiplied by the ground speed
shown in the table opposite gives the ground travel
speed at the desired engine speed.

Example:

Ground travel speed at 2300 rpm according to table
opposite: 8.2 km/h; desired speed: 1400 rpm

$$\frac{1400 \text{ rpm}}{2300 \text{ rpm}} = 0.61$$

$$8.2 \text{ km/h} \times 0.61 = 5.0 \text{ km/h}$$

Should you wish to determine engine speed at a
desired ground travel speed, proceed as follows:

$$\frac{\text{Desired ground travel speed}}{\text{Desired ground travel speed in table opposite}} = \text{Conversion factor}$$

The conversion factor multiplied by the rated speed
gives you the desired engine rpm.

Example:

$$\frac{5.0 \text{ km/h}}{8.2 \text{ km/h}} = 0.61$$

$$\text{Example: } 2300 \text{ rpm} \times 0.61 = 1400 \text{ rpm}$$

*SYNCRPLUS is a trademark of Deere & Company.
POWRREVERSER is a trademark of Deere & Company
POWRQUAD is a trademark of Deere & Company.*

OU12401.0000D4F -19-01MAR03-1/1

Travel Speeds for 6215 and 6415 Tractors, SyncroPlus Transmission (12/4)

Rated engine speed 2300 rpm; 18.4-34 tires

				Additional gears with creeper transmission			
Range	Gear	km/h	mph	Range	Gear	km/h	mph
A	1	2.4	1.5	A	1	0.24	0.15
	2	3.3	2.1		2	0.33	0.21
	3	4.2	2.6		3	0.43	0.26
B	1	4.8	3.0	B	1	0.48	0.30
	2	6.7	4.1		2	0.67	0.42
	3	8.5	5.3		3	0.85	0.53
C	1	7.9	4.9	C	1	0.79	0.49
	2	10.9	6.8		2	1.10	0.68
	3	13.9	8.7		3	1.40	0.87
D	1	16.2	10.1	A	R	0.29	0.18
	2	22.5	14.0		R	0.59	0.36
	3	28.7	17.9		R	0.97	0.60
A	R	2.9	1.8				
B	R	5.8	3.6				
C	R	9.6	6.0				
D	R	19.8	19.8				

NOTE: The ground travel speeds shown in the table are theoretical. The actual speeds vary with rolling circumference, differential type, load, tire pressure, make of tire, wheel slip etc. If the

precise speed is required for specific applications, it must be obtained by measurement.

OU12401,0010369 -19-01MAR03-1/1

Travel Speeds for 6615 and 6715 Tractors, SyncroPlus Transmission (12/4)

Rated engine speed 2300 rpm; 18.4-38 tires

				Additional gears with creeper transmission			
Range	Gear	km/h	mph	Range	Gear	km/h	mph
A	1	2.5	1.6	A	1	0.26	0.16
	2	3.5	2.2		2	0.36	0.22
	3	4.5	2.8		3	0.45	0.28
B	1	5.1	3.2	B	1	0.51	0.32
	2	7.1	4.4		2	0.71	0.44
	3	9.0	5.6		3	0.91	0.56
C	1	8.4	5.2	C	1	0.84	0.52
	2	11.7	7.2		2	1.17	0.73
	3	14.9	9.2		3	1.49	0.93
D	1	17.3	10.7	A	R	0.31	0.19
	2	24.0	14.9		R	0.63	0.39
	3	30.6	19.0		R	1.03	0.64
A	R	3.1	1.9				
B	R	6.2	3.9				
C	R	10.2	6.4				
D	R	21.1	13.1				

NOTE: The ground travel speeds shown in the table are theoretical. The actual speeds vary with rolling circumference, differential type, load, tire pressure, make of tire, wheel slip etc. If the

precise speed is required for specific applications, it must be obtained by measurement.

OU12401,001036A -19-01MAR03-1/1

Travel Speeds, PowrReverser Transmission (16/16)

Rated engine speed 2300 rpm; 18.4-34 tires

				Additional gears with creeper transmission			
Range	Gear	km/h	mph	Range	Gear	km/h	mph
A	1	1.8	1.1	A	1	0.18	0.11
	2	2.4	1.5		2	0.24	0.15
	3	3.3	2.1		3	0.33	0.21
	4	4.2	2.6		4	0.43	0.26
B	1	3.7	2.3	B	1	0.37	0.23
	2	4.8	3.0		2	0.48	0.30
	3	6.7	4.1		3	0.67	0.42
	4	8.5	5.3		4	0.85	0.53
C	1	6.1	3.8	C	1	0.61	0.38
	2	7.9	4.9		2	0.79	0.49
	3	10.9	6.8		3	1.10	0.68
	4	13.9	8.7		4	1.40	0.87
D	1	12.5	7.8	A	R1	0.19	0.12
	2	16.2	10.1		R2	0.25	0.16
	3	22.5	14.0		R3	0.35	0.22
	4	28.7	17.9		R4	0.44	0.28
A	R1	1.9	1.2	B	R1	0.39	0.24
	R2	2.5	1.6		R2	0.50	0.31
	R3	3.5	2.2		R3	0.70	0.43
	R4	4.4	2.7		R4	0.89	0.55
B	R1	3.9	3.9	C	R1	0.64	0.40
	R2	5.0	3.1		R2	0.83	0.51
	R3	6.9	4.3		R3	1.15	0.71
	R4	8.9	5.5		R4	1.46	0.91
C	R1	6.3	3.9				
	R2	8.2	5.1				
	R3	11.4	7.1				
	R4	14.6	9.0				
D	R1	13.0	8.1				
	R2	16.9	10.5				
	R3	23.5	14.6				
	R4	30.0	18.6				

NOTE: The ground travel speeds shown in the table are theoretical. The actual speeds vary with rolling circumference, differential type, load, tire pressure, make of tire, wheel slip etc. If the

precise speed is required for specific applications, it must be obtained by measurement.

OU12401.001036B -19-01MAR03-1/1

Shifting SyncroPlus Transmission/PowrReverser Transmission

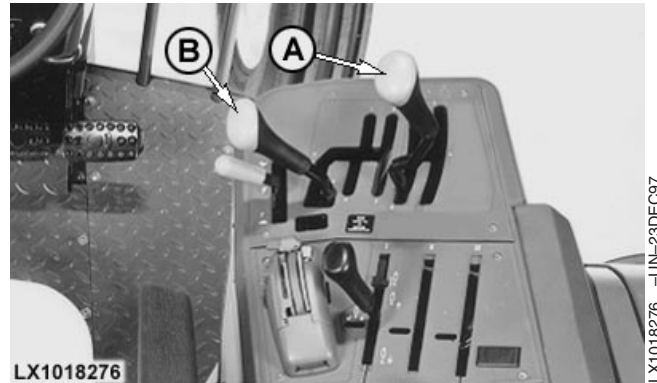
Gears are shifted by means of range shift lever (A) and gear shift lever (B). The PowrReverser also has reverse drive lever (C).

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

NOTE: After the engine has been started, wait for 5 seconds before moving the gear shift lever (B) out of neutral position.

Optimum Gear-Shifting for Driving Under Load (Transport)

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



OU12401,0000D51 -19-01MAR03-1/1

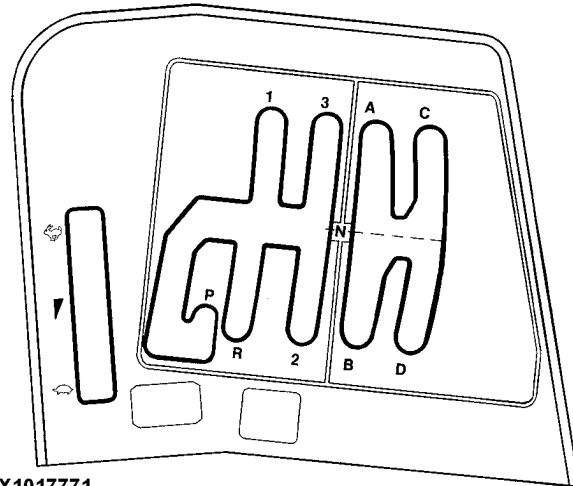
Shift Lever Positions, SyncroPlus Transmission/PowrReverser Transmission

The SyncroPlus transmission has 4 ranges. 3 forward gears and 1 reverse gear can be selected in each range.

The PowrReverser has 4 ranges and 4 gears. Reverse travel may be selected in any of the ranges/gears.



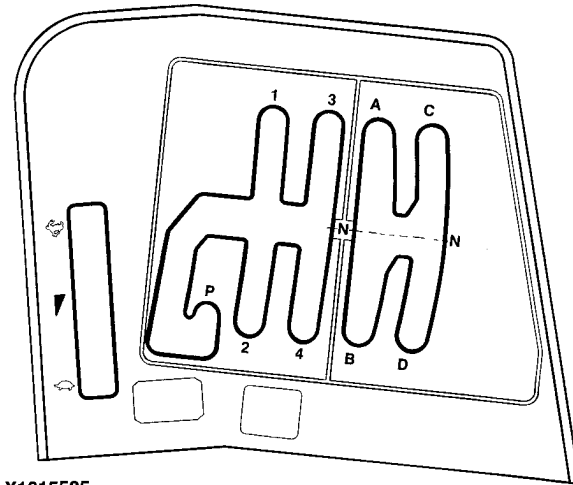
CAUTION: High speeds can be achieved when reversing in the higher ranges, so take great care.



LX1017771

SyncroPlus transmission

LX1017771 -JUN-15DEC97



LX1015585

PowrReverser

LX1015585 -JUN-11DEC96

Travel Speeds, PowrQuad Transmission (16/16)

30 km/h (18.5 mph); rated engine speed 2300 rpm; 18.4-34 tires

Additional gears with creeper transmission

Range	Gear	km/h	mph	Range	Gear	km/h	mph
A	1	2.4	1.5	A	1	0.24	0.15
	2	2.9	1.8		2	0.29	0.18
	3	3.5	2.2		3	0.35	0.22
	4	4.2	2.6		4	0.43	0.27
B	1	4.8	3.0	B	1	0.48	0.30
	2	5.8	3.6		2	0.58	0.36
	3	6.9	4.3		3	0.70	0.44
	4	8.5	5.3		4	0.85	0.53
C	1	7.9	4.9	C	1	0.79	0.49
	2	9.5	5.9		2	0.96	0.60
	3	11.4	7.1		3	1.14	0.71
	4	13.9	8.6		4	1.40	0.87
D	1	16.3	10.1	A	R1	0.25	0.16
	2	19.6	12.2		R2	0.30	0.19
	3	23.5	14.6		R3	0.36	0.22
	4	28.7	17.8		R4	0.44	0.27
A	R1	2.5	1.6	B	R1	0.50	0.31
	R2	3.0	1.9		R2	0.61	0.38
	R3	3.6	2.2		R3	0.73	0.45
	R4	4.4	2.7		R4	0.89	0.55
B	R1	5.0	3.1	C	R1	0.83	0.52
	R2	6.0	3.7		R2	1.00	0.62
	R3	7.2	4.5		R3	1.19	0.74
	R4	8.9	5.5		R4	1.46	0.91
C	R1	8.2	5.1				
	R2	9.9	6.2				
	R3	11.9	7.4				
	R4	14.6	9.1				
D	R1	17.0	10.6				
	R2	20.4	12.7				
	R3	24.5	15.2				
	R4	30.0	18.6				

NOTE: The ground travel speeds shown in the table are theoretical. The actual speeds vary with rolling circumference, differential type, load, tire pressure, make of tire, wheel slip etc. If the

precise speed is required for specific applications, it must be obtained by measurement.

Shifting the PowrQuad Transmission

Gears are shifted by means of the range shift lever (A), gear shift lever (B) and reverse drive lever (C). Slightly lift the reverse drive lever (C) to move it out of the neutral position.

NOTE: After the engine has been started wait for 5 seconds before moving the reverse drive lever (C) out of neutral position.

The clutch pedal must be depressed to change the ranges. There is no need to depress the clutch pedal to shift gear or to change the direction of travel.

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

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

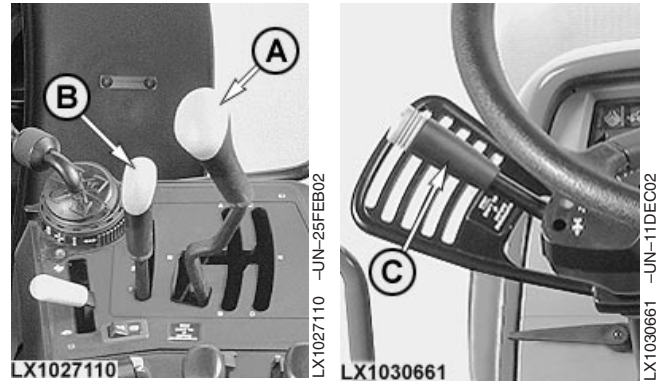
Optimum Gear-Shifting for Driving under Load (Transport):

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

COLD-WEATHER OPERATION

If the oil is cold (0°C, 32°F), it may affect how the reverse drive lever operates. At temperatures below -10°C (14°F), it may take longer to change the direction of travel.

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



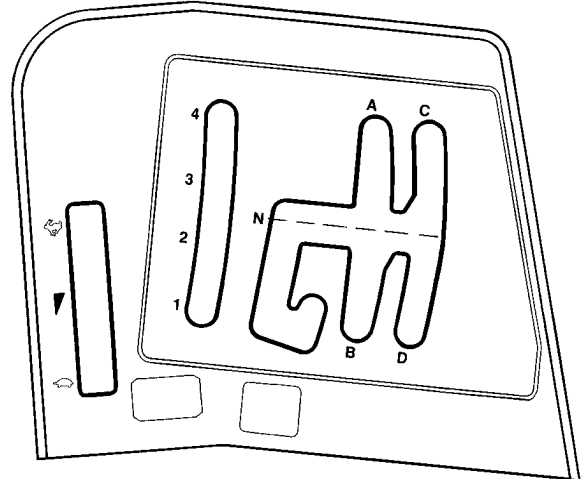
A—Range shift lever
B—Gear shift lever
C—Reverse drive lever

Shift Lever Positions, PowrQuad Transmission

The PowrQuad transmission has 4 ranges. 4 gears can be selected in each range. Reverse travel may be selected in any range.



CAUTION: High speeds can be achieved when reversing in the higher ranges, so take great care.



LX1030662

LX1030662 -UN-11DEC02

OU12401,0000BEB -19-01JAN03-1/1

Engaging Creeper Transmission

Creeper transmission can be engaged in ranges A, B and C.

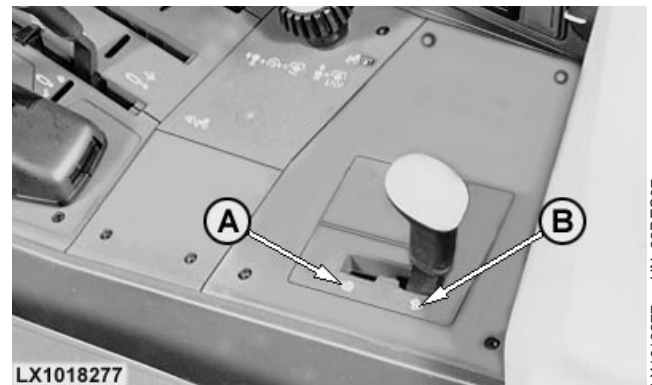
To engage or disengage creeper transmission, depress clutch pedal.

To engage creeper transmission:

1. Select range.
2. Engage creeper.

Never engage creeper transmission with engine speed higher than 1000 rpm.

IMPORTANT: Do not use creeper transmission when working with implements that penetrate the soil and require high traction.



LX1018277

LX1018277 -UN-23DEC97

A—Creeper speed
B—High speed

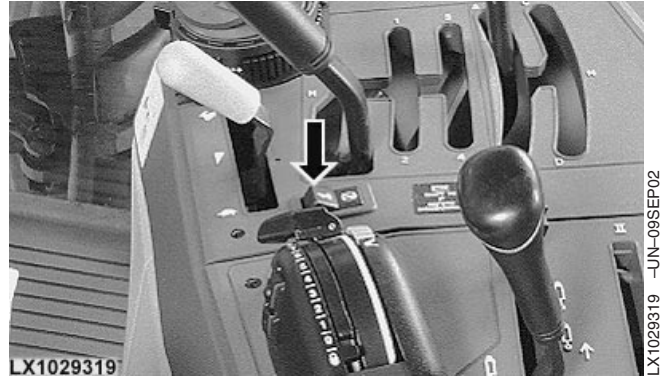
OU12401,00010C7 -19-01JUN04-1/1

Engaging Front Wheel Drive

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

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

NOTE: When the brakes are applied (both pedals pressed), front wheel drive cuts in automatically regardless of the position selected at the front wheel drive switch. The FWD indicator light comes on.



OU12401,0000F6A -19-11OCT04-1/1

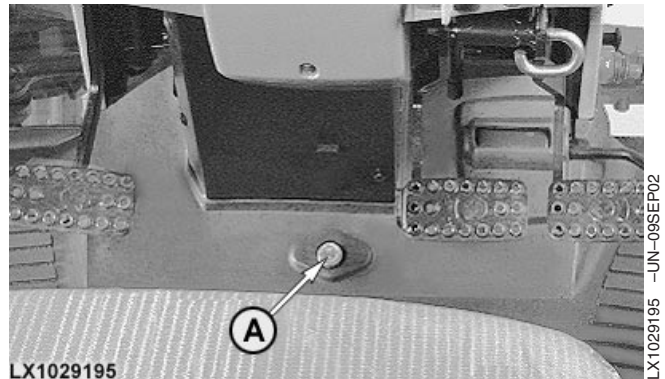
Engaging Differential Lock



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

If wheel slip varies greatly between rear wheels, engage differential lock by means of button (A). Do not press the button if the difference in wheel rotation speeds is very high. To disengage the differential lock, depress brake pedal or actuate button (A) again.

NOTE: The differential lock will automatically disengage at speeds above 12 km/h (7.5 mph).



OU12401,00010C5 -19-01JUN04-1/1

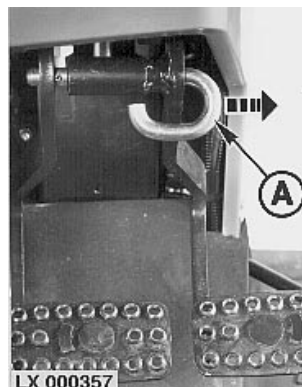
Hydraulic Foot Brakes

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

For field operation, pull pedal coupler (A) outward. The brake pedals can now be operated individually. Use brake to assist steering at low tractor speeds only.

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

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



OU12401,0000F6B -19-11OCT04-1/1

Rockshaft and Three-Point Hitch

Rockshaft Control

The rockshaft is controlled by means of hitch control lever (A) and raise/lower switch (B). The lift height can be limited by means of the height-limit control (C).

To make the rockshaft ready for operation, start the engine and either:

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

Pull control towards "0" - raise implement (Fig. I)

Push control towards "9" - lower implement (Fig. II)

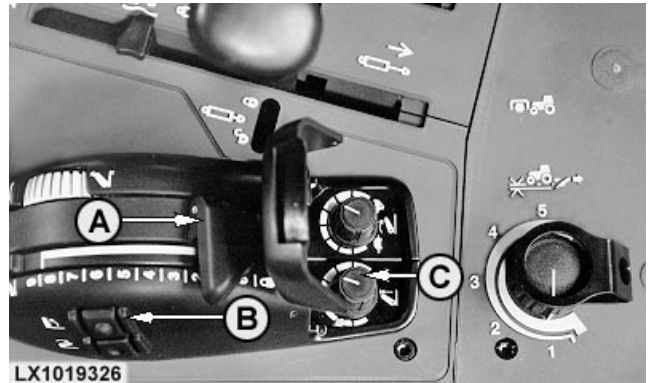
Pull control lever as far as it will go (beyond "0") - rockshaft is locked.

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

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

This "quick lower" function will only work if:

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



A—Hitch control lever
B—Raise/lower switch
C—Height limit control

Height Adjustment

The height to which implement is raised can be limited at height-limit control (A) to any desired value between minimum height (turn counter-clockwise) and maximum height (turn clockwise).



LX,OREGEL007043 -19-01APR98-1/1

Transporting Mounted Implements

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

For a towed implement, push the hitch control lever as far as it will go to the front (to setting "9").



AG,OU12401,89 -19-07JAN00-1/1

Adjusting Rate of Implement Drop

The rate at which the rockshaft and mounted implement will drop is controlled by turning control (A).

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



LX,OROCK 003208 -19-01APR98-1/1

Depth Adjustment

Push down the hitch control stop wheel (A) to set stop (B) to the desired working depth.

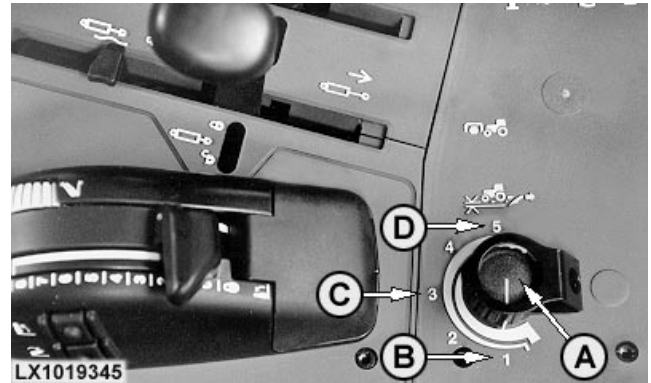
After lifting the implement, the same working depth will be selected the next time the implement is lowered. This depth is indicated by resistance at hitch control lever (C).



AG,OU12401,25 -19-13DEC99-1/1

Load/Depth Adjustment (If Equipped)

- A—Load/depth control
- B—1=Depth control
- C—2-4=Mixed control
- D—5=Load control



AG,OU12401,26 -19-13DEC99-1/5

CAUTION: Before connecting implements to the three-point hitch, the load/depth control must be moved to position “1” (depth control) to prevent unintentional raising or lowering of rockshaft.

1 Depth Control

With load/depth control in this position, the implement is held at the selected position.



AG,OU12401,26 -19-13DEC99-2/5

2-4 Mixed Control

The intermediate positions of the load/depth control allow the effects of depth control and/or load control to be infinitely varied as the ground conditions require.



AG,OU12401,26 -19-13DEC99-3/5

5 Load Control

With load/depth control in this position, the implement is raised as resistance (soil density) increases and lowered as resistance decreases, thus maintaining the preselected load.



Continued on next page

AG,OU12401,26 -19-13DEC99-4/5

Float Position

In “Float” position (for rockshaft-controlled implements with gauge wheel), implement can move freely up and down to follow ground contours independently of the tractor. To obtain a “floating” action, set load/depth control (A) to “1” and push hitch control lever (B) fully to the front.



AG,OU12401,26 -19-13DEC99-5/5

Direct Actuation

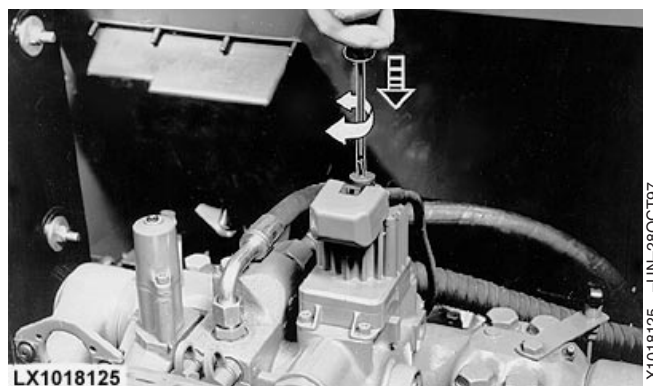
In the event of an electrical failure, the rockshaft can be actuated as follows:

Disconnect wiring harness.

Run the engine. Take off the protective cap.

From the operator's seat, press down the screw with a screwdriver until it engages in the detent, and then turn to the right until the three-point hitch rises.

See your John Deere dealer.



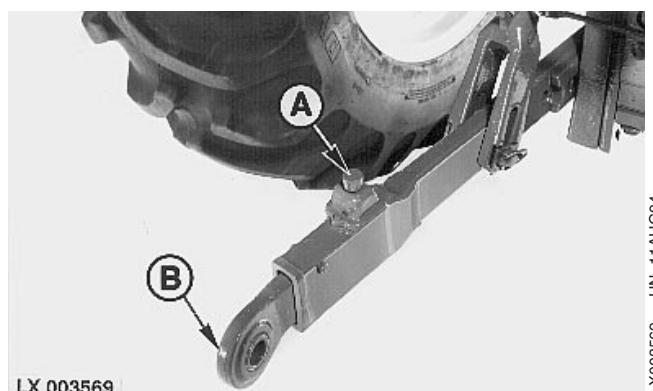
LX,OMROCK014945 -19-01FEB00-1/1

Draft Links

The left draft link can be extended to the rear to facilitate hitching of implements.

1. Lift lock pin (A).
2. Pull telescopic draft link (B) to the rear.

After attaching and securing implements to draft links, reverse the tractor until the lock pins snap into place.



LX,OMROCK014946 -19-01DEC97-1/1

Attaching Three-Point Hitch and Drawn Implements

CAUTION: Do not stand between tractor and implement unless parking lock is engaged.

Be sure not to damage exposed parts of tractor when attaching three-point hitch mounted or drawn implements.

IMPORTANT: When attaching three-point hitch mounted or drawn implements for the first time, conduct a trial to ensure that implement will not damage tractor in any position. With hitch-mounted implements, pay attention to the highest lift position; with drawn implements, be careful when turning sharply.

If a swinging drawbar is installed, set it in the front, short position. The swinging drawbar can also be swung to the right or left and secured there.

When attaching an implement, first make sure that the rockshaft load/depth control is set to "1" (depth control).



AG,OU12401,27 -19-13DEC99-1/1

Leveling the Implement

To level implement from side-to-side, adjust the right-hand lift link. Adjust center link to level fore-and-aft.

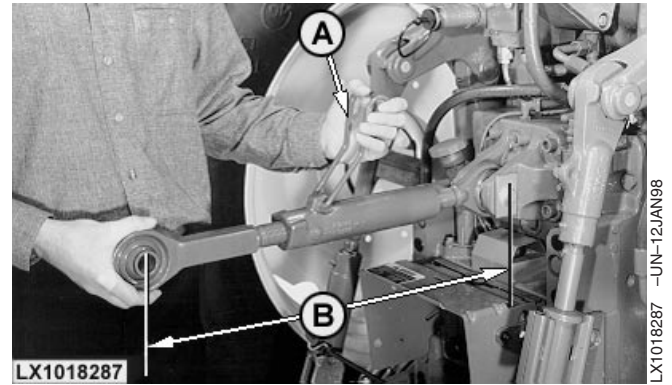
LX,OREG 000325 -19-01OCT90-1/1

Center Link Adjustment

Length of center link can be adjusted by means of adjusting handle (A). Lift up adjusting handle and turn it until the required length is achieved.

Length (B) must be between 530 mm (20.9 in.) and 725 mm (28.5 in.).

Do not deviate from the specified dimensions. Grooves in the thread indicate the maximum permitted setting. The threads must not be unscrewed any further out of the receiver. After adjusting, push handle down again over center link. Insert attaching pin through implement mast and center link, and secure.



OU12401,00104C9 -19-01AUG03-1/1

Lift Links

A greater transport clearance is obtained by shortening the links. Extra working depth is obtained by lengthening the links.

To level implement from side-to-side, only the right-hand link needs to be adjusted. Use handle (A) to adjust the link. Do this by lifting handle (A) out of lock (B) and setting the lift link to the length desired. After adjustment is completed, push handle (A) down and secure it with lock (B).

To adjust left-hand lift link:

- If the link is equipped with an adjusting handle, proceed in the same way as for the right link.
- If the link is not equipped with an adjusting handle, remove the lift link from the draft link and screw yoke end (C) of lift link in or out.

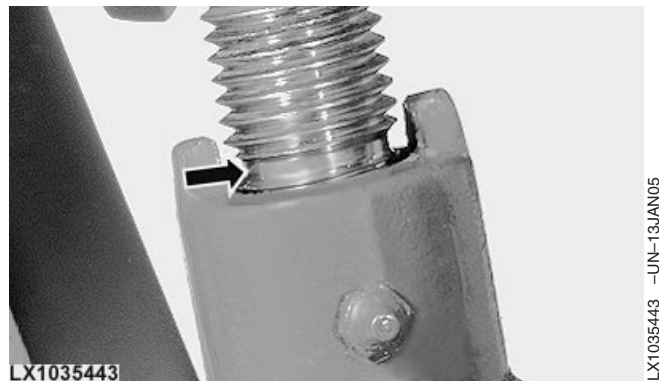
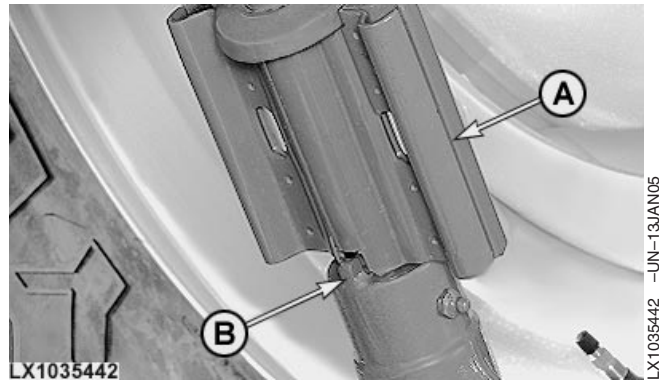
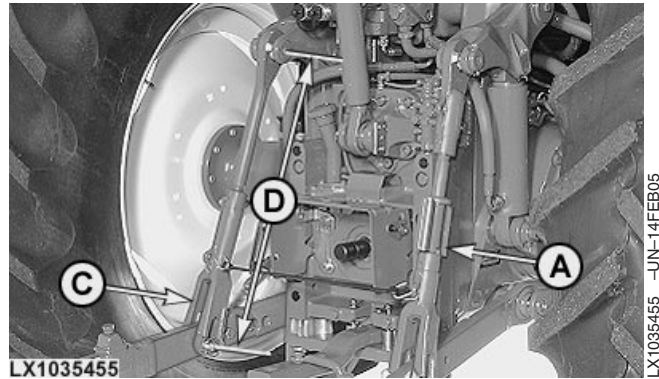
Length (D) of links must be kept within the limits stated. A groove in the thread of each lift link indicates the maximum permitted setting. The threads must not be unscrewed any further out of the receiver.

- Minimum length 705 mm (27.8 in.)
- Maximum length 865 mm (34.1 in.)

NOTE: The lift link dimensions quoted above are with lift links locked in draft links (no vertical float).

NOTE: A short lift link provides a short lifting height and maximum lifting force.

A long lift link provides a long lifting height and less lifting force.

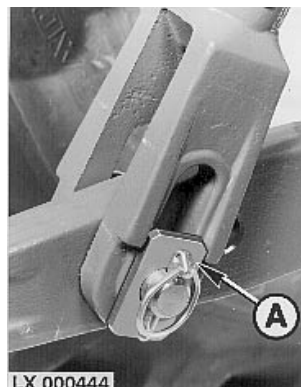


- A—Adjusting handle
- B—Lock
- C—Yoke end
- D—Length of links

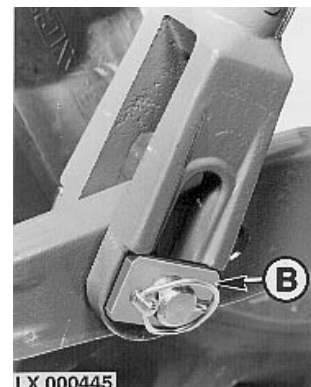
Adjusting for Vertical Float

Depending on the position of the steel plate, draft links can be adjusted to allow for vertical float or to lock out float.

- A—Vertical float
- B—No float



LX000444 -UN-12AUG94



LX000445 -UN-12AUG94

LX,OREG 000329 -19-01OCT90-1/1

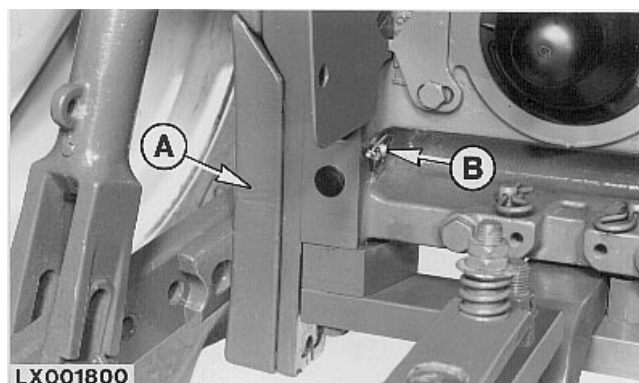
Sway Blocks (If Equipped)

Sway blocks (A) are used to limit sideways motion of draft links during operation and transport.

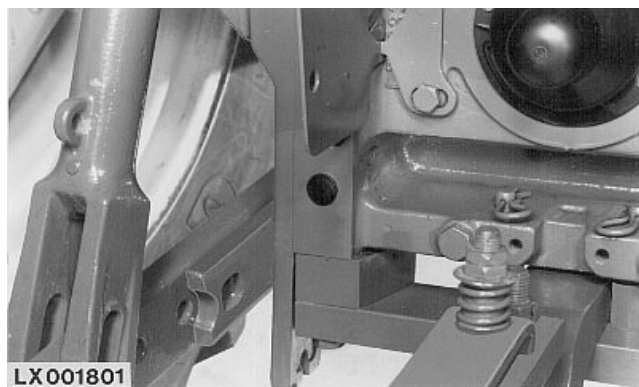
Sway blocks must be fitted when working with attachments which are intended to follow exactly the line of the tractor.

If the attachments (plow, disk harrow etc.) require sideways motion in the operating position, remove quick-lock pins (B) and take off the sway blocks.

With sway blocks removed, draft links will sway in operating position. However, sway is locked out in transport position.



LX001800 -UN-09AUG94



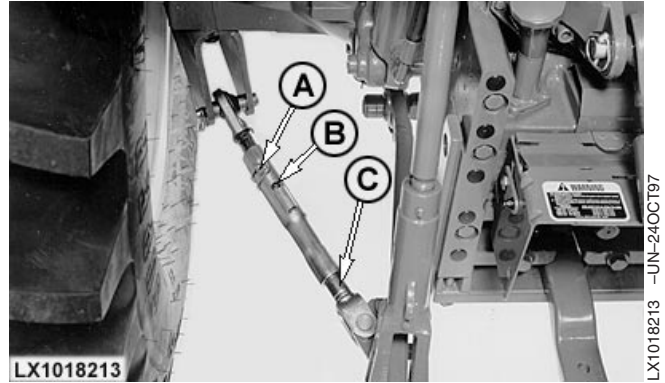
LX001801 -UN-09AUG94

LX,OSTAB 002231 -19-01DEC95-1/1

Stabilizer Bar

The bar can be adjusted to suit any category by means of pin (A) and/or threaded rod (B). Alternative bolt position (C) also alters the category. The different categories are marked on the threaded rod by grooves.

If pin (A) is not required (it must be removed to allow the draft links to sway), it can be stored in the tubular retainer.



LX,OMREG 011309 -19-20SEP97-1/1

Power Take-Off

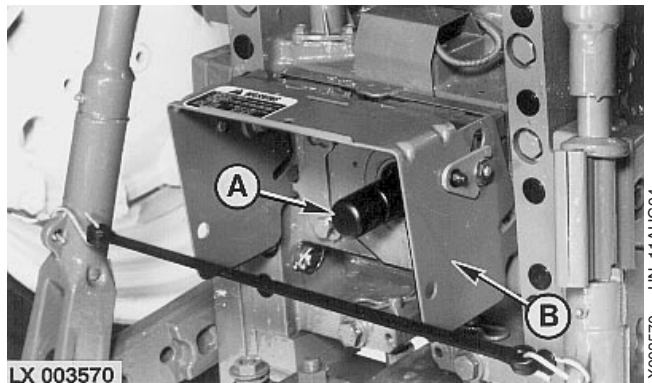
PTO Guard

CAUTION: Remove PTO guard (A) only when the PTO is to be used.

As soon as PTO-driven implement is removed, reinstall guard over PTO stub shaft.

CAUTION: Never operate PTO unless the master shield is in the position shown.

Master shield (B) may be folded up when attaching certain implements to the PTO, but it must be folded down again as soon as the implement is installed.



LX, OPOWER003540 -19-01APR97-1/1

Operating Instructions

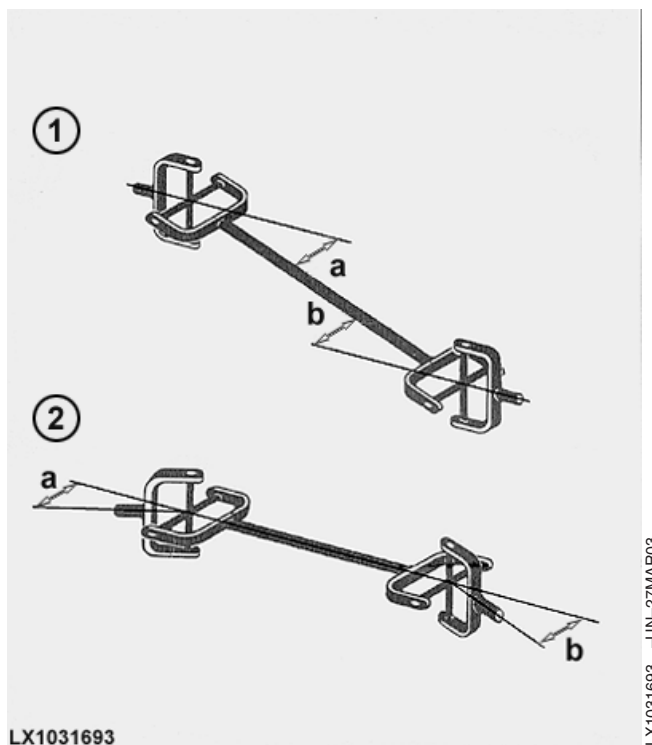
As far as possible, angles (a) and (b) at the universal joints should be the same at both ends of the drive shaft.

In applications where this is frequently not the case (e.g. lots of sharp turns), it is recommended to use a continuous-velocity drive shaft.

NOTE: The two schematic drawings do not show any guards on the drive shaft. A guard is mandatory when using drive shafts.

IMPORTANT: When using drive shafts of the "plug-in" type, the forks on either end of the intermediate shaft must be aligned in the same plane.

- 1—Z-shaped layout
2—W-shaped layout



OU12401,0000CD6 -19-01MAR03-1/1

PTO

The tractor is equipped with reversible PTOs for 540/1000 rpm.

IMPORTANT: Implements may be driven at 540 rpm only if their power input never exceeds 70 kW (95 hp).

PTO rated speeds are achieved at the following engine speeds:

540 rpm rear PTO	2143 rpm
1000 rpm rear PTO	2208 rpm

AG,OU12401,91 -19-07JAN00-1/1

Operating Rear PTO



CAUTION: Always disengage the PTO when not in use.

High-inertia implements do not come to a standstill the moment the PTO control lever is shifted to the disengaged position. Do NOT approach the implement while it is “coasting down”. Do not work on the implement until it has stopped.

The Electronic System, which controls the PTO, prevents the PTO from engaging during engine start-up. Modifications to the system may defeat this and other safety features.

The PTO can be engaged and disengaged on the move without declutching, even under load. When the PTO is engaged, light (A) comes on.

To switch on the PTO, pull up the switch button and turn it to the right. To switch off the PTO, press the button down.

NOTE: If the engine is switched off and then restarted while the PTO is running, the PTO will not operate. Even so, light (A) still will glow. Switch off PTO and then restart.

If the operator leaves his seat while the PTO is switched on, an audible signal will sound and the light (A) glows, as a warning that the PTO is still engaged.

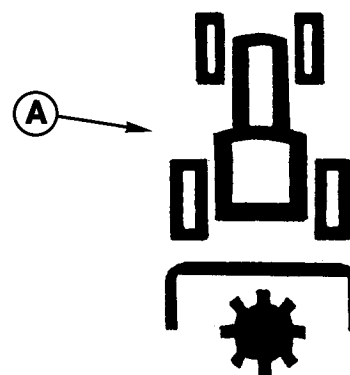
If the PTO does not reach a speed of 100 rpm within 20 seconds of being engaged, PTO will switch off automatically.

If the operator leaves his seat within 15 seconds of engaging the PTO, the system will monitor PTO speed for a further 5 seconds. If 100 rpm have not been reached, the PTO will switch off automatically.



LX1018285

LX1018285 -UN-23DEC97



LX 002796

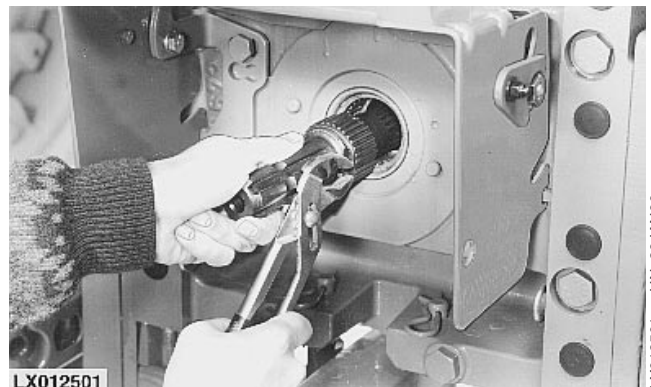
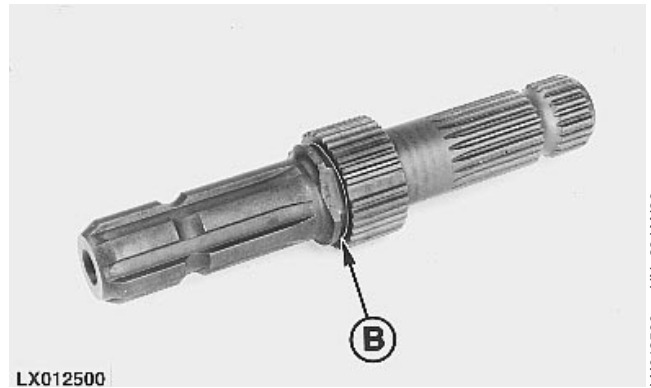
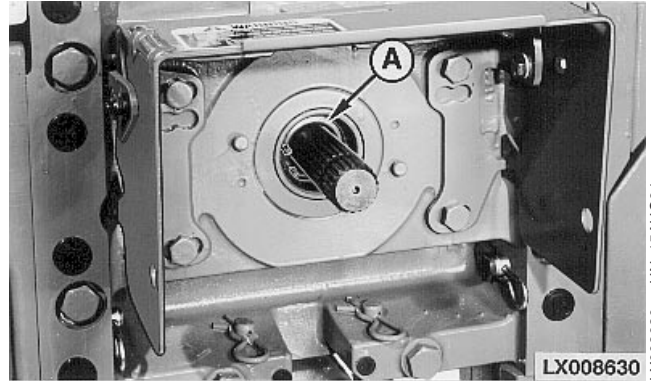
LX002796 -UN-15AUG94

Reversing Rear PTO Shafts

One end of the 540 rpm stub shaft has 6 splines for operating at 540 rpm, and the other end has 21 splines for operating at 1000 rpm. Clean stub shaft thoroughly before installing.

1. Remove snap ring (A) and pull out stub shaft.
2. Clean stub shaft thoroughly and coat it with grease. The groove (B) facilitates installation of snap ring.
3. Insert stub shaft in PTO housing until snap ring (A) fits into the groove.
4. Install snap ring (A).

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



Attaching PTO-Driven Equipment



CAUTION: Shut off engine and disengage PTO before attaching PTO-driven equipment.

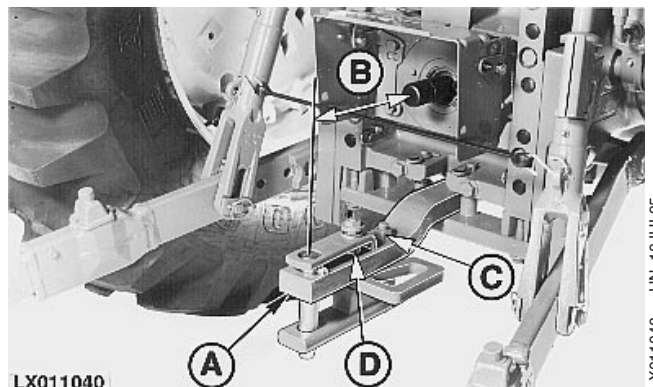


CAUTION: High-inertia implements do not come to a standstill the moment the PTO control lever is shifted to the disengaged position. Allow sufficient time for implements to “coast down” to a halt after disengaging the PTO.



CAUTION: Before attempting to clean, adjust or lubricate a PTO-driven machine, the three-point hitch or the universal jointed shaft, always make sure the PTO is switched off, the tractor engine is shut off and the ignition key is removed.

1. Align swinging drawbar (A) parallel to PTO shaft and lock it in position.
2. If necessary, install hammer strap¹ as shown in the picture. Tighten nut (C) to 520 N•m (280 lb-ft) and nut (D) to 375 N•m (275 lb-ft).
3. Distance (B) from end of PTO shaft to hole in drawbar end should be 350 mm (13.8 in.) for the 540 rpm PTO and 400 mm (15.7 in.) for the 1000 rpm PTO.



¹if equipped

Ballast

Selecting Ballast



CAUTION: When determining front and rear axle ballast, ensure that permissible axle loads and the maximum permissible machine weight are not exceeded (see Specifications).

Comply with local regulations regarding installation and maximum permissible number of weights. In order to maintain steerability, at least 20% of total weight must be on the front axle.



CAUTION: Use suitable lifting tackle/hoists when handling weights.

Safety and performance of your tractor depend on correct ballasting of front axle (front weights) and rear axle (wheel weights, filling tires with liquid ballast, pick-up weight).

OU12401,0000CBD -19-02JAN03-1/1

Ballasting Rear Wheels

Rear wheel ballast should be chosen so as to give 10 to 15% wheel slippage when operating. Field tests have shown that maximum horsepower available at the drawbar occurs in this range.

Rear wheel ballast should never be such that the engine cannot be fully loaded at rated engine speed while the tractor is moving at 7 km/h (4.3 mph). If the engine labors or stalls below 7 km/h (4.3 mph), there is too much ballast on the rear wheels.

Too little ballast leads to:

- Excessive wheel spin and thereby loss of power

- Increased tire wear
- High fuel consumption

Too much ballast leads to:

- Increased load and thereby loss of power
- Overloading of tires and gearbox
- Soil compaction
- High fuel consumption

NOTE: *Do not use more than 3 weights on each rear wheel. Comply with the legal limits on tractor width.*

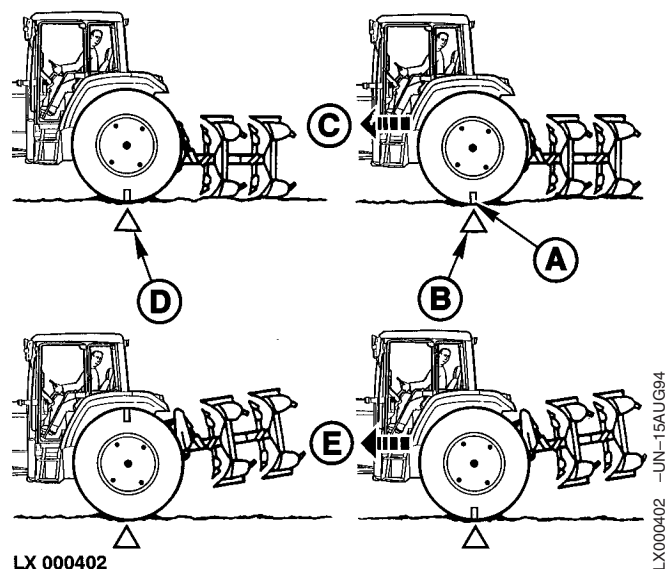
OU12401,0000CBE -19-02JAN03-1/1

Measuring Rear Wheel Slip

1. Mark tire (A).
2. Mark starting point on the ground (B).
3. Drive tractor forward with implement lowered until ten revolutions of the rear wheel have been made (C).
4. Again place a marker on the ground (D).
5. Now raise implement and again drive between the two markers on the ground. Note number of revolutions made between the two markers (E).

The number of revolutions gives the following percentage of wheel slip:

- 10.0 revolutions = 0% wheel spin
- 9.5 revolutions = 5% wheel spin
- 9.0 revolutions = 10% wheel spin
- 8.5 revolutions = 15% wheel spin
- 8.0 revolutions = 20% wheel spin
- 7.5 revolutions = 25% wheel spin
- 7.0 revolutions = 30% wheel spin



LX.OSPU 000247 -19-01APR92-1/1

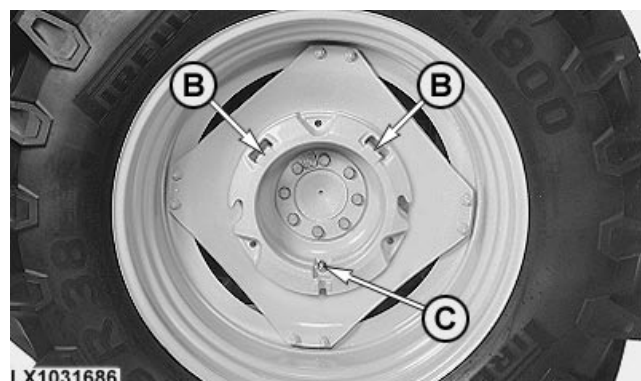
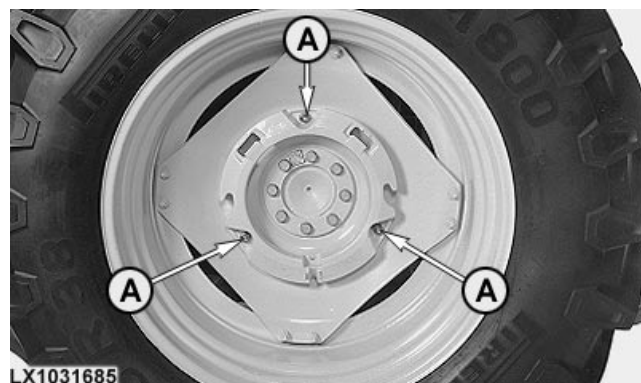
Installing Weights on Flanged Axle



CAUTION: When installing and removing quick-tatch weights, always position wheels so that retainer jaws are at the top. This prevents weights from falling when cap screw is removed.

Attach first weight to wheel disk using three cap screws (A).

When installing further weights, position wheel so that retainer jaws (B) are at the top. Hang weight in retainer jaws and secure with a cap screw (C) at the bottom.



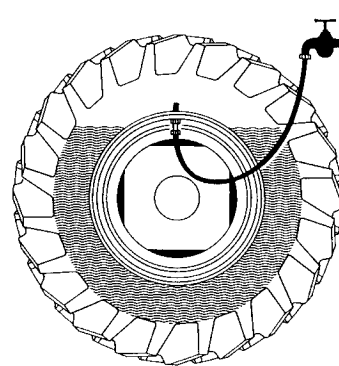
OU12401,0000D12 -19-01MAR03-1/1

Filling Tires with Liquid Ballast

To fill a tire, jack up the wheel and turn it so that the tire valve is at the top. Remove the valve insert and screw water valve onto valve stem. While the water is entering, air escapes through lateral bore in water valve. Stop filling tire when water drains from vent hole of valve. Filling a tire takes 15 to 30 minutes, depending on tire size. Then screw in air valve and pump up tire to the normal inflation pressure. The quantity of liquid ballast required varies depending on tire size and type. If in doubt, consult your John Deere dealer or tire manufacturer.

If low temperatures are expected, an anti-freeze solution should be used. Tire manufacturers recommend a mixture of water and calcium chloride.

The anti-freeze solution may be sucked from an elevated tank. To speed up the filling operation, a pump may be used (flush pump with clear water afterwards). To provide protection down to -25°C (-13°F), dissolve 34 kg (75 lb) of calcium chloride in 86 liters (22.7 U.S. gal.) of water to obtain 100 liters (26.4 U.S. gal.) of anti-freeze solution. This solution produces an increase in weight of 120 kg (269 lb). Add calcium chloride to the water - not vice versa. Do not fill radiator with this anti-freeze solution.



LX009450

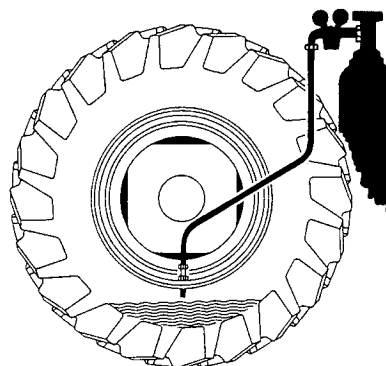
LX009450 -UN-03JAN95

LX,OSPU 000250 -19-01OCT94-1/1

Draining the Tires

Jack up wheel. Remove air valve and allow water to drain out.

To clear the remainder of the water from the tire, insert the drain tube with the hose extension and pump air into the tire. The air pressure will push the remaining water out of the tire.



LX009451

LX009451 -UN-03JAN95

LX,OSPU 000251 -19-01OCT94-1/1

Front Weights

The tractor can be equipped with additional front weights. See your John Deere dealer for details.

LX,OMBAL 017546 -19-01DEC98-1/1

Using Implement Codes

John Deere engineers have developed a code to determine how much front ballast is needed for stability and steering.

1. Find implement code in implement operator's manual.
2. Use the following chart to determine how many QUIK-TATCH™ front weights are required on your tractor model.

To use chart, find the implement code range in the column which your implement code fits. Then move to the right until you are beneath the column which identifies your tractor configuration. The number you find at this point in the chart is the number of QUIK-TATCH™ weights needed.

For example, an implement with a code of 205, to be used with a tractor equipped with MFWD and without a Quik-Coupler and without liquid in the front tires, requires 6 front weights.



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:

240 for tractors with 2WD

250 for tractors with MFWD

Implement Code	NUMBER OF QUIK-TATCH™ WEIGHTS NEEDED							
	Without Quik-Coupler				With Quik-Coupler			
	Without Liquid in Front Tires		With Liquid in Front Tires		Without Liquid in Front Tires		With Liquid in Front Tires	
	2WD	MFWD	2WD	MFWD	2WD	MFWD	2WD	MFWD
140-149					0			
150-159					2	0		
160-169	0				4	2		
170-179	2	0			6	4	2	0
180-189	4	2	0		8	6	4	2
190-199	6	4	2	0	10	8	6	4
200-209	8	6	4	2		10	8	6
210-219	10	8	6	4			10	8
220-229		10	8	6				10
230-239			10	8				
240-249				10				

QUIK-TATCH is a trademark of Deere & Company.

LX,OBALL 003221 -19-01OCT97-1/1

Wheel Treads, Tires

Adjustable Front Axle (Tractors Without Front Wheel Drive)

The front axle can be adjusted at each end in increments of 51 mm (2 in.). The tie-rods allow track widths of 1487 mm (58.5 in.) and 1589 mm (62.6 in.). Tie-rod extensions are available to allow track widths of 1691 mm (66.6 in.) and 1793 mm (70.6 in.).

Maximum wheel tread (additional 40 mm; 1.6 in.) is obtained by reversing the front wheels.

If front wheels are removed to adjust tread, tighten front wheel bolts to 250 N•m (185 lb-ft) once the wheels are replaced.

IMPORTANT: After the first 4 and 8 hours of operation, retighten all front wheel bolts. Check tightness of these bolts frequently during the first 100 hours of operation.

OU12401.0000CB4 -19-01FEB03-1/1

Adjusting Front Wheel Tread

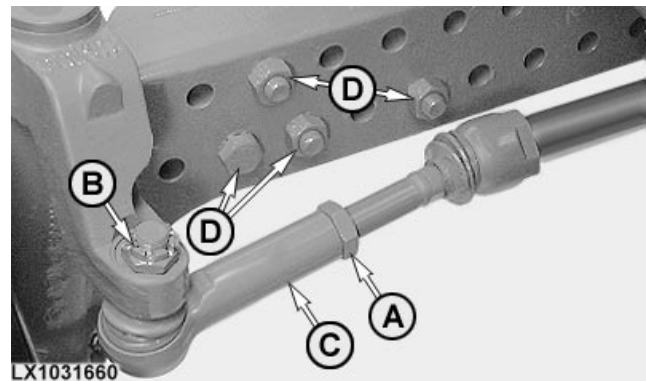
Block up front end of tractor. Do not place jack under engine oil pan!

Slacken off nut (A). Take off slotted nut (B) and remove tie-rod (C) from the knuckle and spindle assemblies.

Remove axle bolts (D). Reposition axle ends to the desired front wheel tread. Re-insert axle bolts and tighten to 400 N•m (295 lb-ft).

Adjust tie-rods to front wheel tread. Re-install the tie-rods, tighten slotted nut (B) to 100 N•m (70 lb-ft), and secure with a cotter pin. Tighten nut (A) to 100 N•m (70 lb-ft) also.

Check toe-in, and adjust if necessary.



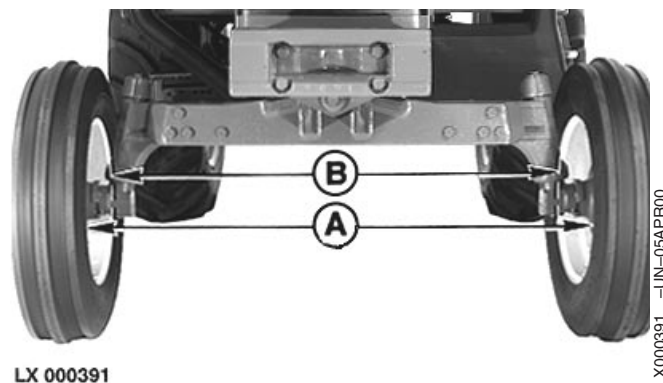
OU12401.0000CAD -19-01FEB03-1/1

Checking Front Wheel Toe-In

Measure front and rear of front wheels from rim flange to rim flange at hub height.

1. Measure dimension (A).
2. Turn front wheels 1/2 turn.
3. At the same point as dimension (A) was previously measured, measure dimension (B).

Dimension (A) must be 3 to 9 mm (0.12 to 0.35 in.) less than dimension (B) at the rear.



AG,OU12401,38 -19-15DEC99-1/1

Adjusting Front Wheel Toe-In

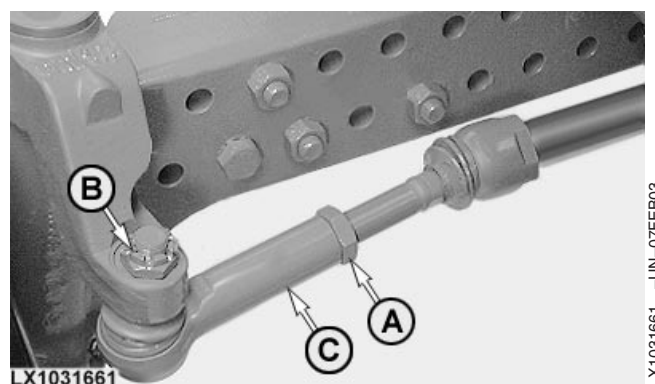
Block up front end of tractor. Do not place jack under engine oil pan!

Slacken off nut (A). Take off slotted nut (B) and remove tie-rod (C) from the knuckle and spindle assemblies.

NOTE: Adjust toe-in equally at both tie-rods.

Tighten or slacken off the tie-rod.

Re-install the tie-rods, tighten slotted nut (B) to 100 N•m (70 lb-ft), and secure with a cotter pin. Tighten nut (A) to 100 N•m (70 lb-ft) also.



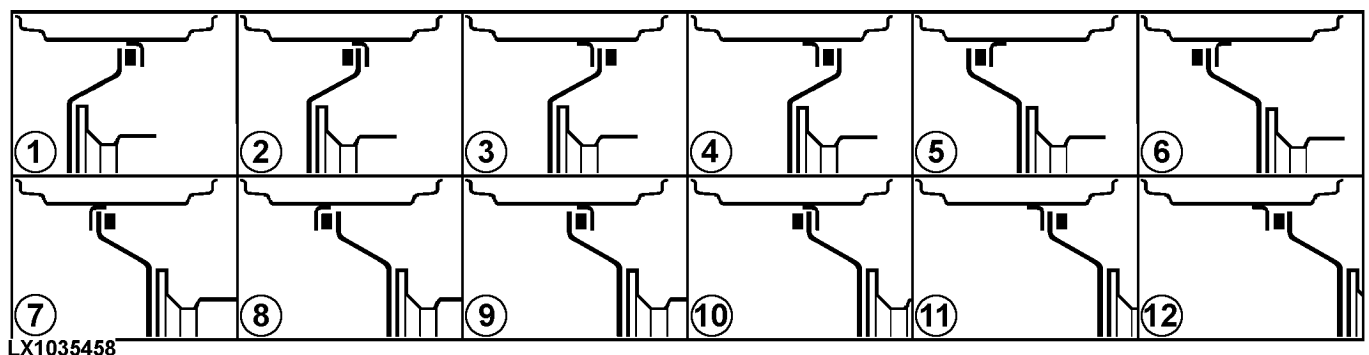
OU12401,0000CAE -19-01FEB03-1/1

Changing Wheels Safely

Remove a wheel on level ground only. The other wheels must be secured by means of chock blocks to prevent tractor runaway.

LX,WHEEL -19-01MAY91-1/1

Adjusting Front Wheel Tread With Adjustable Rims



Front wheel tread can be adjusted by replacing or reversing the wheel rims.

on side wall of tire must then point in the direction of forward travel.

IMPORTANT: Nuts must be installed on outside of wheel.

NOTE: Wheel tread on 6215 and 6415 tractors equipped with a front loader must not exceed 1.80 m (71 in.), wheel tread on 6615 and 6715 tractors equipped with a front loader must not exceed 1.90 m (75 in.).

In addition the complete wheel can be reversed and installed on the opposite side of the tractor. The arrow

Positions of rims, wheel disks and spacers (6215 and 6415 Tractors)

	1	2	3	4	5	6	7	8	9	10	11	12
mm	1524	1552	1584	1616	1720	1748	1782	1812	1924	1952	1984	2016
(in.)	(60.0)	(61.1)	(62.4)	(63.6)	(67.7)	(68.8)	(70.2)	(71.3)	(75.7)	(76.9)	(78.1)	(79.4)
Tire size:												
12.4-24	x	x	x	x	x	x	x	x	x	x	x	x
13.6-24	x	x	x	x	x	x	x	x	x	x	x	x
13.6-38	—	—	—	x	x	x	x	x	x	x	x	x

Positions of rims, wheel disks and spacers (6615 and 6715 Tractors)

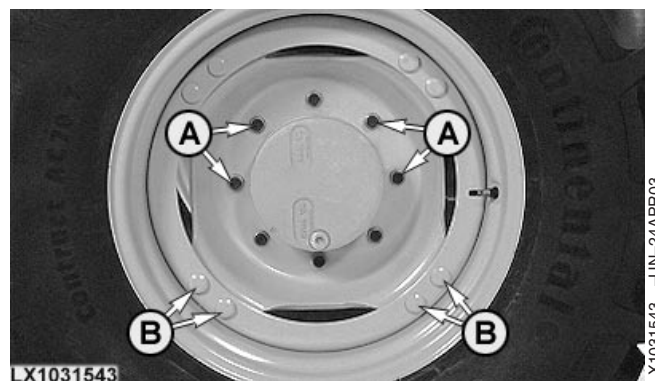
	1	2	3	4	5	6	7	8	9	10	11	12
mm	1622	1652	1688	1716	1818	1848	1882	1912	2022	2052	2086	2116
(in.)	(63.9)	(65.0)	(66.5)	(67.6)	(71.6)	(72.8)	(74.1)	(75.3)	(79.6)	(80.8)	(82.1)	(83.3)
Tire size:												
13.6-24	x	x	x	x	x	x	x	x	x	x	x	x
14.9-24	—	—	—	x	x	x	x	x	x	x	x	x
13.6-28	—	—	—	x	x	x	x	x	x	x	x	x
12.4-42	—	—	—	x	x	x	x	x	x	x	x	x

OULXE59,00107DB -19-07JUL05-1/1

Tighten Front Wheel Attaching Nuts

After adjusting front wheel tread, tighten front wheel attaching nuts (A) to 300 N•m (220 lb-ft). For wheels with adjustable rims, tighten wheel attaching nuts (B) to 250 N•m (185 lb-ft).

IMPORTANT: After the first 4 and 8 hours of operation, retighten all front wheel attaching nuts. Check tightness of these nuts frequently during the first 100 hours of operation.



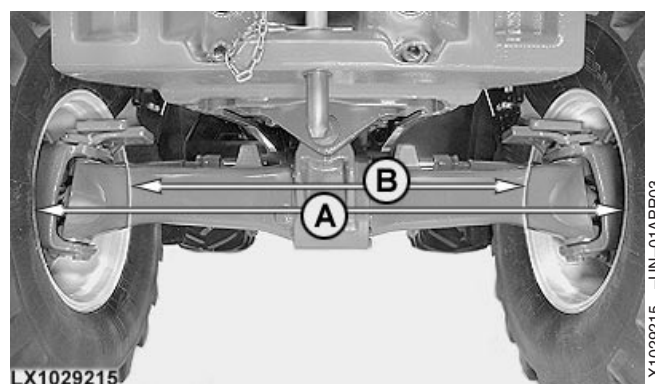
OU12401,0000D31 -19-01MAR03-1/1

Check Front Wheel Toe-In

Measure front and rear of front wheels from rim flange to rim flange at hub height.

1. Measure dimension (A).
2. Turn front wheels 1/2 turn.
3. At the same point as dimension (A) was previously measured, measure dimension (B).

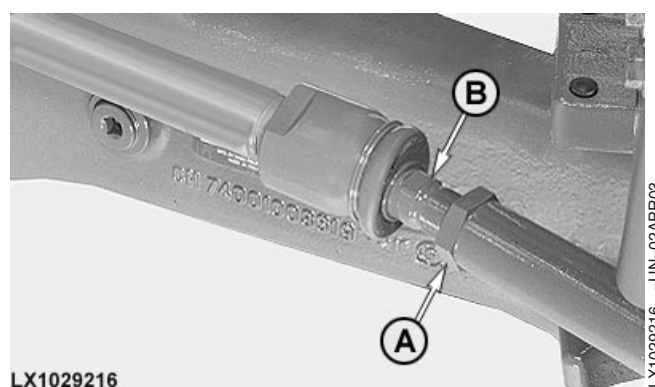
Dimension (A) must not differ from dimension (B) by more than 1.5 mm (0.06 in.).



OU12401,0000BF3 -19-01MAR03-1/1

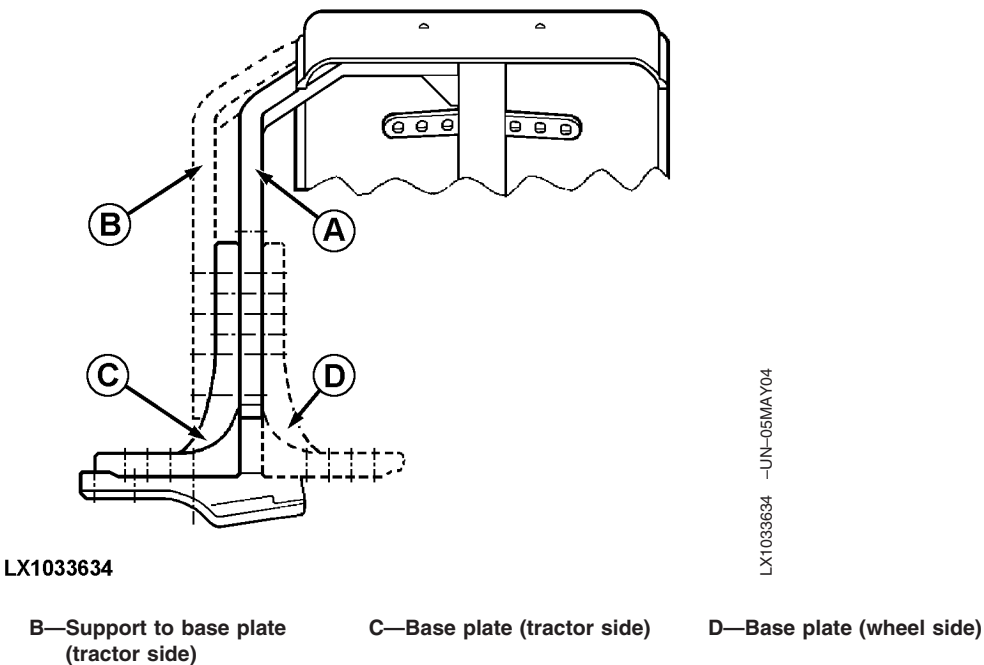
Adjusting Front Wheel Toe-In

Slacken clamping screw (A) and turn threaded rod (B) in or out. After adjustment is completed, tighten clamping screw to 50 N•m (35 lb-ft).



OU12401,0000D13 -19-01MAR03-1/1

Adjusting the Fender



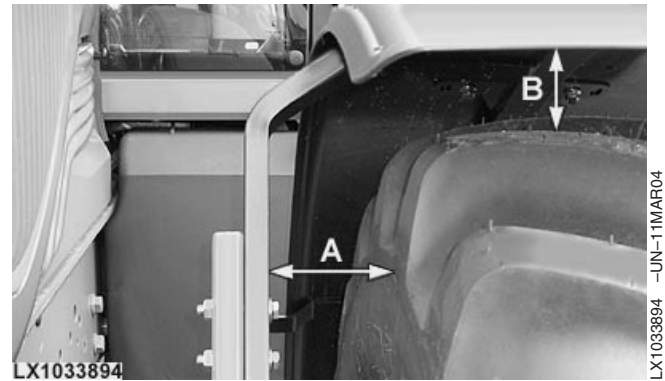
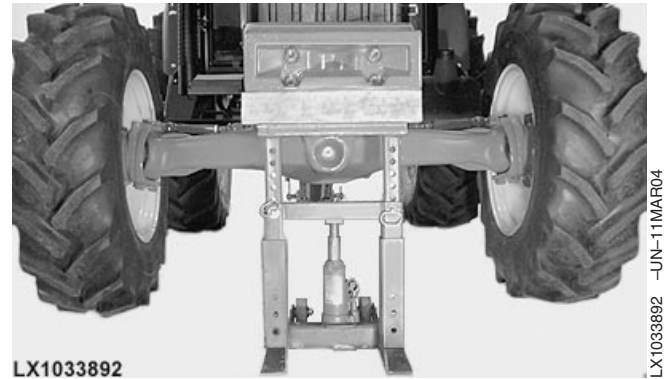
The fenders may be adjusted individually. Several adjusting positions are possible. Tilt, width and height of the fenders can be adjusted depending on tire size,

tread width and steering angle. To do so, proceed as follows:

1. Raise front of tractor so that the front wheel drive axle can pivot freely.
2. Turn steering wheel in both directions and pivot the axle to determine the most suitable fender mounting position.
3. Adjust fender position so that the minimum specified clearances are met. There must not be any contact with the tractor frame.

A = 40 mm (1.57 in.), B = 60 mm (2.36 in.)

4. Also adjust the steering angle to make sure that the wheel or fender does not come into contact with the tractor frame.

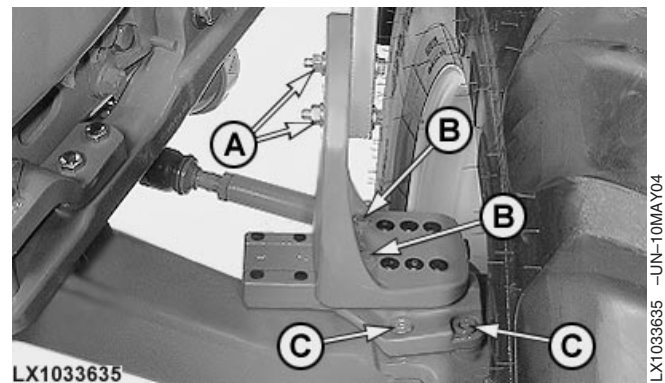


OU12401,00010CE -19-02JUN04-2/3

Tighten screws to the following torques:

Screws (A)	140 N•m (105 lb-ft)
Screws (B)	140 N•m (105 lb-ft)
Screws (C)	190 N•m (140 lb-ft)

- A**—Cap screws, support to base plate
B—Cap screws, base plate to base
C—Hex. socket screws, base to knuckle housing



OU12401,00010CE -19-02JUN04-3/3

Rear Wheel Tread Adjustment With Flanged Axle

IMPORTANT: The distance between the side wall of the tire and the fender must not be less than 50 mm (1.97 in.).

The distance between the running surface (edge) of the tire and the fender must not be less than 60 mm (2.36 in.).

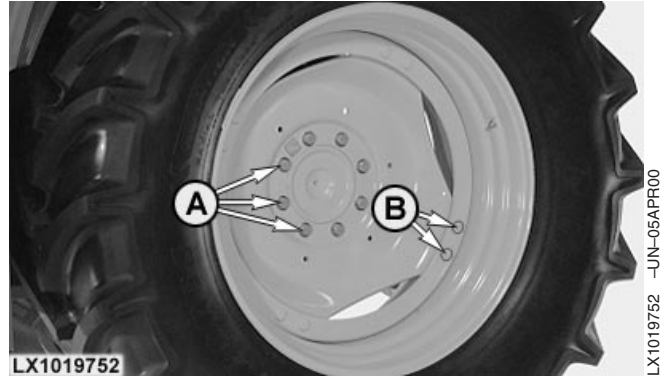
Rear wheel tread can be adjusted by re-positioning or reversing the rims or by reversing the wheel disks. Additional tread widths can be achieved by using spacers.

When reversing wheels, they must be changed from one side to the other so that the arrow on the side wall still points in the direction of forward rotation.

After adjustment has been completed, tighten wheel retaining bolts to specified torque (see "Break-In Period").

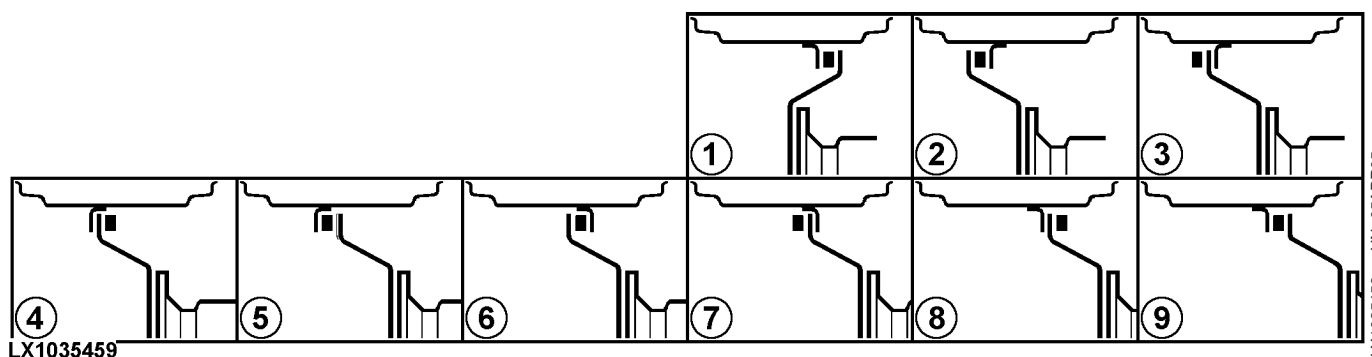
The relationship of the rear wheel disk and rim in obtaining the different tread settings is shown in the following drawings. A study of these drawings before attempting to change tread setting will save time and unnecessary labor.

IMPORTANT: After adjusting wheel tread, retighten all wheel attaching nuts after 4 and 8 hours of operation. Check tightness of these nuts frequently during the next 100 hours of operation.



A—500 N•m (370 lb-ft)
B—250 N•m (185 lb-ft)

Positions of Rims and Wheel Disks



NOTE: Use the drawings to determine the appropriate position of rims and wheel disks. Positions vary depending on type used.

For tread widths, see following tables.

Standard tread widths	Tires for 6215 and 6415 Tractors	1	2	3	4	5	6	7	8	9
	mm	1510	1612	1642	1676	1706	1816	1846	1880	1910
	(in.)	(59.4)	(63.5)	(64.6)	(66.0)	(67.2)	(71.5)	(72.7)	(74.0)	(75.2)
	18.30	—	x	x	x	x	x	x	x	x
	18.4-34	—	x	x	x	x	x	x	x	x
	18.4-38*	—	x	x	x	x	x	x	x	x
	13.6-46	x	x	x	x	x	x	x	x	x

* 6415 tractors only

Standard tread widths	Tires for 6615 and 6715 Tractors	1	2	3	4	5	6	7	8	9
	mm	1510	1612	1642	1676	1706	1816	1846	1880	1910
	(in.)	(59.4)	(63.5)	(64.6)	(66.0)	(67.2)	(71.5)	(72.7)	(74.0)	(75.2)
	18.4-30	—	x	x	x	x	x	x	x	x
	18.4-34	—	x	x	x	x	x	x	x	x
	18.4-38	—	x	x	x	x	x	x	x	x
	13.6-46	x	x	x	x	x	x	x	x	x
	12.4-54	x	x	x	x	x	x	x	x	x

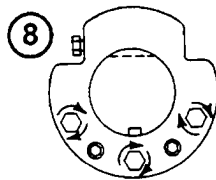
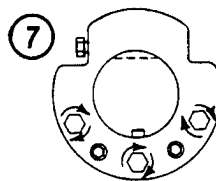
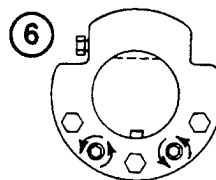
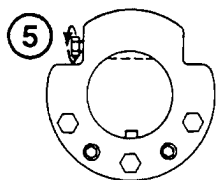
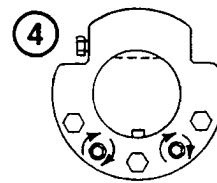
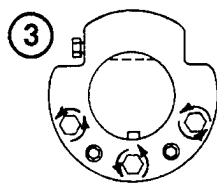
Adjusting Wheel Tread With Rack-and-Pinion Axle

NOTE: Adjustment of wheels is only possible when not more than two weights are attached to each wheel.

1. Clean the axle with a wire brush.
2. Jack up tractor and turn rear wheel so that rack on axle faces upward.
3. Loosen the attaching bolts completely.
4. Tighten the jack screws until the screw heads are flush against the face of the wheel hub.

NOTE: If the sleeve does not break loose at once, also loosen the three special screws on inboard side of wheel. If sleeve still does not break loose, strike end of axle several times with a heavy hammer. Evenly retighten jack screws. It helps to soak the sleeves in penetrating oil.

5. Turn adjusting screw in or out until desired position is reached.
6. Back jack screws all the way out against stop, but do not use force.
7. Lubricate threads and retighten attaching bolts alternately to 400 N•m (300 lb-ft). Retighten bolts several times until all three stay tightened to specified torque. When the attaching bolts are tightened to specified torque, the jack screws should be free to turn. If this is not the case, loosen jack screws and retighten attaching bolts to specified torque.
8. After completing wheel tread adjustment, make sure that tires and wheel ballast weights do not rub against the tractor. Then drive tractor approx. 50 m (160 ft.), stop the tractor and retighten attaching bolts to 400 N•m (300 lb-ft). The bolts must be retightened to torque after 4 hours, after 8 hours and several times within the next 100 hours. See "Break-In Period".



L102 691

L102691 -UN-13APR00

IMPORTANT: The distance between the side wall of the tire and the fender must not be less than 50 mm (1.97 in.).

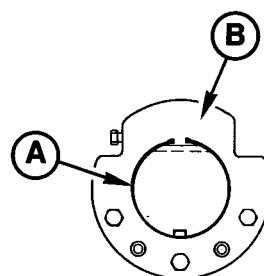
The distance between the running surface (edge) of the tire and the fender must not be less than 60 mm (2.36 in.).

AG,OU12401,10030 -19-18FEB00-2/3

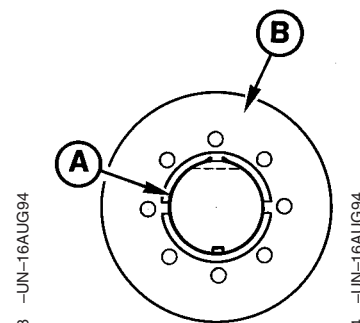
Turn wheel hub (pinion inside)

For loosening, adjusting and tightening wheel hub, see previous page.

1. To facilitate assembly, remove rear wheel.
2. Remove snap ring (A). Turn adjusting screw so that wheel hub (B) is at maximum width. Remove wheel hub (B).
3. Put wheel as desired on axle. Turn wheel hub (B) around and install it.
4. Install wheel and snap ring (A). For further assembly, see previous page.



LX008633



LX008634

LX008633 -UN-16AUG94

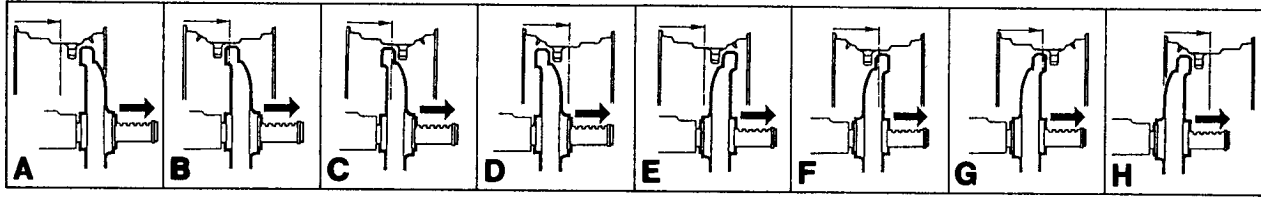
LX008634 -UN-16AUG94

IMPORTANT: The distance between the side wall of the tire and the fender must not be less than 50 mm (1.97 in.).

The distance between the running surface (edge) of the tire and the fender must not be less than 60 mm (2.36 in.).

AG,OU12401,10030 -19-18FEB00-3/3

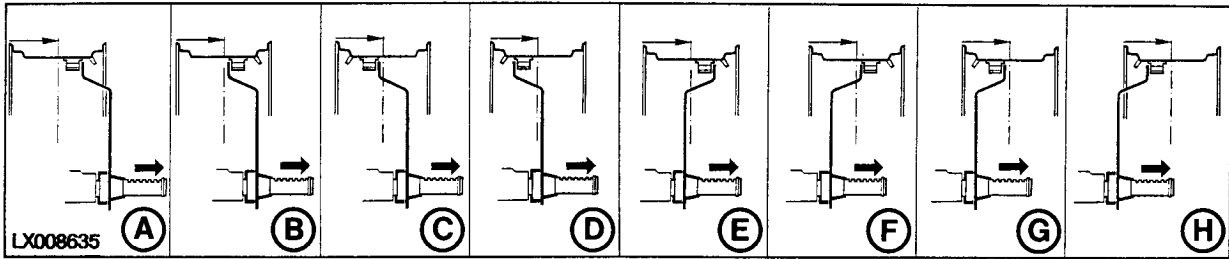
Positions of Rims and Wheel Disks with Rack-and-Pinion Axle



LX009838

LX009838 -UN-03JAN95

Cast wheels



LX008635

LX008635 -UN-16AUG94

Steel wheels, 8 positions

NOTE: Use the drawings to determine the appropriate position of rims and wheel disks. Positions vary depending on type used.

LX,OMTREA015940 -19-01DEC97-1/1

Tread Widths with Rack-and-Pinion Axle

Wheels	Tires	Position	Tread Width	Position	Tread Width
Cast wheels	18.4-38	A	1563-2022 mm (61.5-79.6 in.)	E	1624-2296 mm (63.9-90.4 in.)
		B	1563-2226 mm (61.5-87.6 in.)	F	1828-2500 mm (72.0-98.4 in.)
		C	1563-2222 mm (61.5-87.5 in.)	G	1824-2496 mm (71.8-98.3 in.)
		D	1710-2426 mm (67.3-95.5 in.)	H	2028-2700 mm (79.8-106.3 in.)
Steel wheels	12.4-54 ^a	A	1473-2038 mm (58.0-80.2 in.)	E	1712-2438 mm (67.4-96.0 in.)
		B	1473-2142 mm (58.0-84.3 in.)	F	1816-2542 mm (71.5-100.1 in.)
		C	1492-2214 mm (58.7-87.2 in.)	G	1852-2578 mm (72.9-101.5 in.)
		D	1556-2282 mm (61.3-89.8 in.)	H	1956-2682 mm (77.0-105.6 in.)

^aWheel hub with pinion outside. By turning wheel hub around to put the pinion inside, it is possible to increase tread width by 50 mm (2 in.).

AG,OU12401,10031 -19-19FEB00-1/1

Tire Pressures

Long life and satisfactory performance of the tires depend on proper tire inflation. Under-inflation of tires leads to rapid wear. Over-inflated tires reduce traction and increase wheel slippage.

Since correct tire pressures depend not only on working conditions and load but also on tractor model, tire size and manufacturer, we recommend that you approach your John Deere dealer or tire company for advice.

You may also find helpful information on the following websites:

Manufacturer	Address
FIRESTONE	http://www.firestone.com/
GOODYEAR	http://www.goodyear.com/
MICHELIN	http://www.michelin.com/

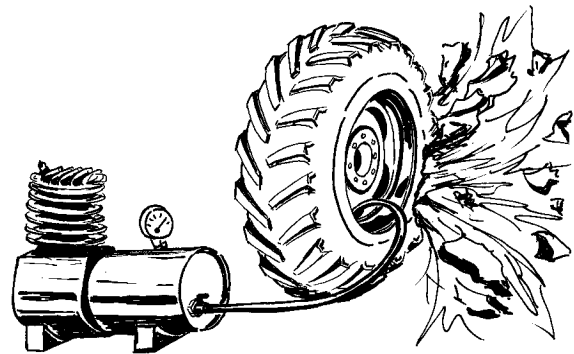
OU12401,0000EF7 -19-01JUL03-1/1

Service Tires Safely

Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious bodily injury or death. DO NOT attempt to mount a tire unless you have the proper equipment and experience to perform the job safely. Have it done by your John Deere dealer or a qualified tire repair service.

When sealing tire beads on rims, never exceed maximum inflation pressures specified by tire manufacturers for mounting tires. Inflation beyond this maximum pressure may break the bead or even the rim, with dangerous explosive force. If both beads are not sealed when the maximum recommended pressure is reached, deflate, reposition tire, relubricate bead and reinflate.

Detailed agricultural tire mounting instructions, including necessary safety precautions, are contained in John Deere Fundamentals of Service (FOS) Manual 55, Tires and Tracks, available through your John Deere dealer. Such information is also available from tire manufacturer agents.



Z 20924

Z20924 -UN-15AUG94

LX,OSPU 000242 -19-01OCT90-1/1

Tire Combinations

The size ratio of the front wheels to the rear ones is precisely determined in order to produce a positive front wheel lead of between 1.5 and 4%. Otherwise the tires will become deformed or suffer undue wear. To ascertain the correct ratio when changing tires, proceed as follows:

Ascertain tractor data:

1. Transmission ratio of the differential gear pair. This information is displayed on the transmission type plate. The following pairs are possible:

Gear pair	Transmission ratio
51/9	5.667
47/8	5.875

2. Transmission ratio of front axle. This figure is displayed on the front axle type plate. The following ratios are possible:

- 15.857
- 15.692
- 17.540
- 19.000

3. Transmission ratio of gear pair for front-wheel drive axle (output). This figure is displayed on the transmission type plate. The following ratios are possible:

- 1.446
- 1.465
- 1.497
- 1.532
- 1.564
- 1.597
- 1.625
- 1.658
- 1.692
- 1.725
- 1.760
- 1.795
- 1.833
- 1.870

- 1.907
- 1.943
- 1.990
- 2.028

Ascertain tire data:

This information must be ascertained from the tire manufacturer's manual.

1. Select tires with suitable load-bearing capability.
2. Select tires appropriate to the tractor's top speed.
3. From the manual, ascertain the rolling circumference of the tire desired for the rear wheel.
4. From the manual, ascertain the rolling circumference of the tire desired for the front wheel.

Ascertain the following data:

1. Calculate the difference between the rolling circumferences of the tires on the front and rear wheels.

The difference in rolling circumferences between the front and rear tires must be between 945 mm (37.2 in.) and 1618 mm (63.7 in.).

2. Calculate the overall transmission ratio using the following formula:

$$I = \frac{A1 * I1 * I3 * 100}{A2 * I2 * 102.75}$$

A1 = Rolling circumference of front tires

A2 = Rolling circumference of rear tires

I1 = Rear axle ratio (7.0714)

I2 = Front axle ratio

I3 = Transmission ratio of the differential gear pair

Ascertain the gear pair that is appropriate for the overall transmission ratio.

Calculated transmission ratio

(corresponds to a pos. front wheel lead of 1.5 - 4.0%)

1.428 — 1.446
1.447 — 1.478
1.479 — 1.512
1.513 — 1.544
1.545 — 1.576
1.577 — 1.617
1.618 — 1.637
1.638 — 1.669
1.670 — 1.703
1.704 — 1.737
1.738 — 1.772
1.773 — 1.810
1.811 — 1.846
1.847 — 1.882
1.883 — 1.918
1.919 — 1.964
1.965 — 2.002
2.003 — 2.062

Transmission ratio of the required gear pair

(corresponds to desired average value of pos. front wheel lead)

1.446
1.465
1.497
1.532
1.564
1.597
1.625
1.658
1.692
1.725
1.760
1.795
1.833
1.870
1.907
1.943
1.990
2.028

2. The transmission ratio of the front axle is 15.692.
3. The transmission ratio of the gear pair for the front wheel drive axle is 1.833.
4. The rolling circumference of the tire on the rear wheel is 4838 mm (190.5 in.).
5. The rolling circumference of the tire on the front wheel is 3393 mm (133.6 in.).
6. The difference between the rolling circumferences of the tires on the rear/front wheels is 1445 mm (52.8 in.), i.e. within the acceptable range.
7. Calculate the overall transmission ratio.

$$\frac{3393 * 7.0714 * 5.667 * 100}{4838 * 15.692 * 102.75} = 1.743$$

Sample calculation

The intention is to fit a 6415 tractor with 18.4-34 and 12.4-24 tires, made by a certain manufacturer.

1. The transmission ratio of the differential gear pair is 5.667.

The gear pair that is required must have a ratio of 1.760.

Additional Equipment

Selective Control Valves

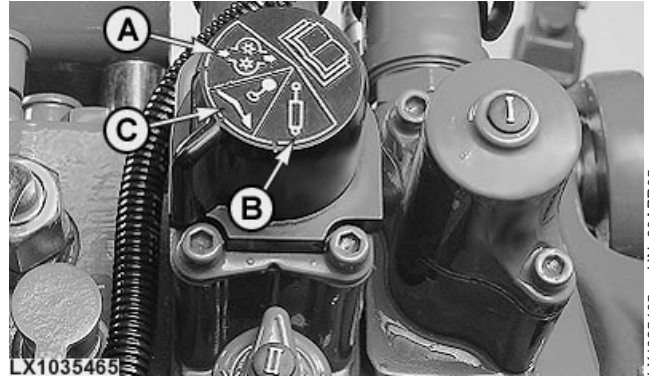
The tractor is equipped with one selective control valve which provides the functions "Raise" and "Lower" plus a "Float Position" (Series 101).

As an option the tractor may be equipped with an additional selective control valve (Series 301). This control valve provides the functions "Raise" and "Lower" plus a "Float Position". In addition, this valve provides a lock function (A) which holds the control lever in the "Raise" or "Lower" position until it is moved manually. It also has a lock function (B) which holds the control lever in the "Raise" or "Lower" position until the pressure in the oil circuit has reached a predetermined value (e.g. when the remote control cylinder has reached its end position). Neither locking function is activated in position (C). The control lever returns to "neutral" as soon as it is released.

Additional selective control valves are available as "Field Kit". See your John Deere dealer.

CAUTION: Help prevent personal injury or death caused by objects falling on the operator. When using SCV to operate loader, SCV must be in loader (no detent) position (C). Movement of the control lever to the detent position may cause the loader to raise to full height unexpectedly and the load to fall back on the operator.

IMPORTANT: For hydraulic motor operation, use left hand-mounted selective control valves only.



Selective Control Valve Series 301

- A—Lock Function 1
- B—Lock Function 2
- C—No Lock

OU12401,00011F8 -19-19APR05-1/1

Adjusting the Kickout Relief Valve Detent - 301 Series SCV

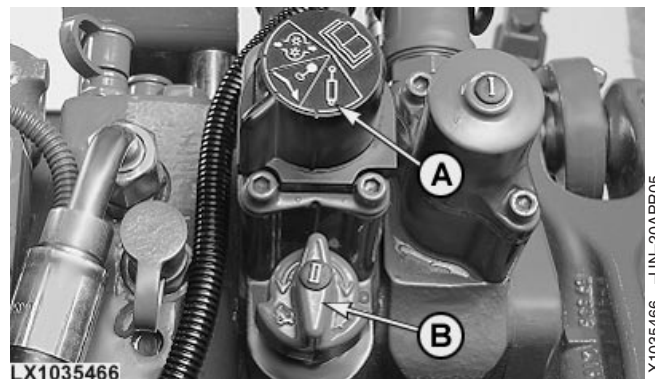
NOTE: The selective control valve is factory adjusted to 18000 kPa (180 bar; 2610 psi).

If the selective control valve in lock function switches off too early (control lever goes to neutral too early), or if it switches off too late or not at all (lever moves to neutral too late or not at all), proceed as follows:

1. Disconnect hydraulic hoses at the connectors (if equipped).
2. Engage the locking function (A) and move flow control valve (B) to the mid-position.
3. Take out the plug and insert a screwdriver.
4. Start the engine and turn the screw clockwise as far as it will go.
5. Move SCV control lever to the "raise" or "lower" position (the control lever remains in the "raise" or "lower" position).
6. Turn the screw counter-clockwise until the control lever jumps into neutral.
7. Slacken off the screw by turning it half a turn counter-clockwise.

NOTE: One full turn changes the pressure by approx. 4600 kPa (46 bar; 670 psi).

8. Take out the screwdriver and re-install the plug.



A—Locking Function
B—Flow Control Valve

Control Lever for Selective Control Valve

The control lever has four settings.

The remote cylinder extends when the lever is moved to the “Raise” position.

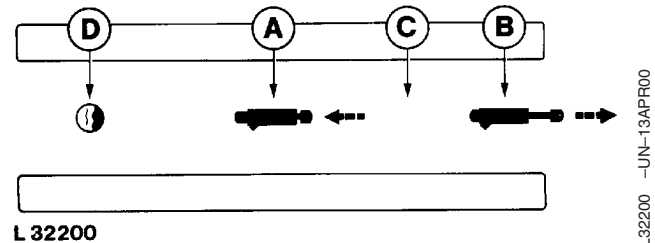
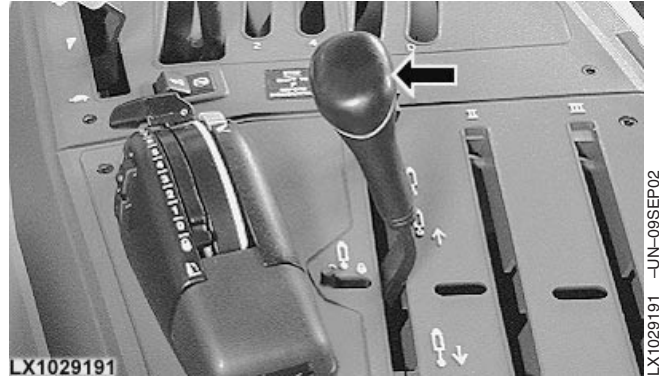
The remote cylinder is held in place when the lever is in “Neutral”.

The remote cylinder retracts when the lever is moved to the “Lower” position.

When the lever is in the “Float” position (i.e. piston moves freely inside remote cylinder), the mounted implement follows the ground contours. To get “Float” position, raise stop.

NOTE: If additional external valves are used, move the control lever to neutral when shutting off each hydraulic function.

- A—Lower
- B—Raise
- C—Neutral position
- D—Float position



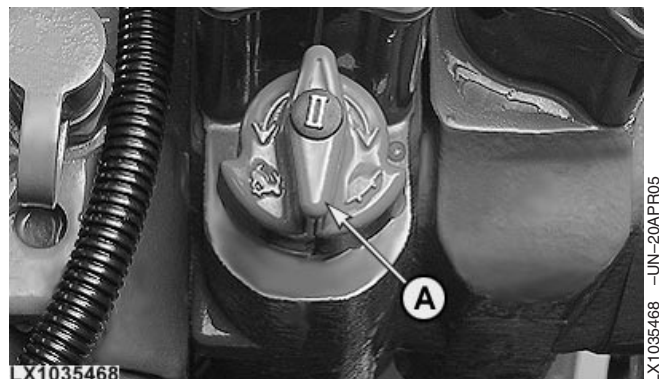
OU12401,0010347 -19-01JUL02-1/1

Rate of Cylinder Operation

The lowering and raising speed can be adjusted at load control valve (A).

IMPORTANT: Full extension and retraction of a remote cylinder should require at least 1.5 to 2 seconds. Faster speeds may cause damage.

- A—Load Control Valve



OU12401,00011FB -19-19APR05-1/1

Couplers

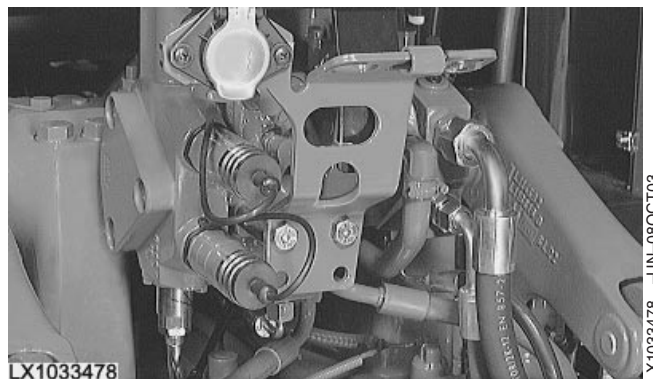
CAUTION: The hydraulic system has a maximum stand-by pressure of 17500 kPa (175 bar; 2540 psi). For your own protection and to assure proper functioning of the system, use only genuine John Deere parts.

Couplers allow hydraulic hoses to be coupled as well as uncoupled without loss of oil. If a malfunction or accident causes the hose to break loose from the coupler, the oil flow through the coupler is stopped immediately.

To connect the hose union, press it firmly into the coupler.

NOTE: When the control lever is pushed forward (or to the right in case of the multi-function lever), pressure is applied to the upper union.

To disconnect the hose, give it a firm pull.



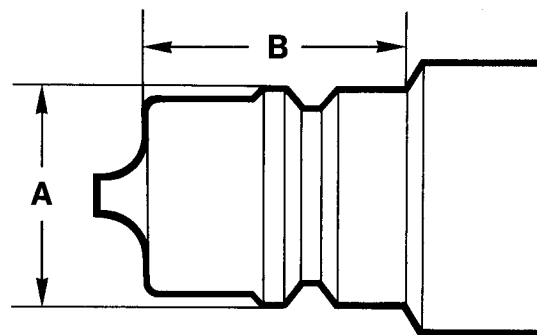
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Hose Unions

The hose unions used must comply with ISO standards.

Dimension (A) must be between 23.66 and 23.74 mm (0.931 and 0.934 in.).

Dimension (B) must be at least 24 mm (0.945 in.).



LX 006613

LX,OZUSAT004842 -19-02AUG93-1/1

Maximum Permissible Oil Withdrawal

To operate large hydraulic cylinders such as those used on tipping trailers, 10 liters (2.6 U.S. gal.) of oil may be drawn from the transmission case through the connecting lines.

This figure applies when the oil in the transmission case is at the minimum mark on the dipstick. If the oil is up to the maximum mark, a further 5 liters (1.3 U.S. gal.) may be withdrawn.

Never perform heavy jobs such as towing, operating a PTO or driving fast when withdrawal results in the oil level dropping below the minimum mark.

If required, a further 10 liters (2.6 U.S. gal.) may be added to the transmission case; this increases the amount that may be withdrawn accordingly.

During oil withdrawal, the tractor should not be inclined in any direction by more than 18°. If the tractor is inclined by more than 18°, only a correspondingly lower quantity of oil may be withdrawn.

For refilling, use only John Deere HY-GARD® Transmission and Hydraulic Oil or its equivalent.

HY-GARD is a registered trademark of Deere & Company.

LX,OZUS 008988 -19-01OCT00-1/1

Oil Withdrawal With Hydraulic Motor

IMPORTANT: Use left hand-mounted selective control valves only.

Maximum obtainable oil flow of transmission/hydraulic oil is 60 l/min (15.9 gpm).

NOTE: Use left hand-mounted selective control valves only.

Shut off the engine. Move the corresponding SCV control lever to the "float" position. Connect the hydraulic hose from the hydraulic motor.

NOTE: When the control lever is pushed forward (or to the right in case of the multi-function lever), pressure is applied to the upper union.

Start the engine. Move the control lever to "lower".

To switch off the hydraulic motor, move the control lever to the "float" position. Shut off the engine and take out the hydraulic hose.

IMPORTANT: Do not move the control lever to the "neutral" position, as this may result in back-pressure causing damage to the hydraulic motor and hoses.

OU12401,00011FC -19-19APR05-1/1

Swinging Drawbar

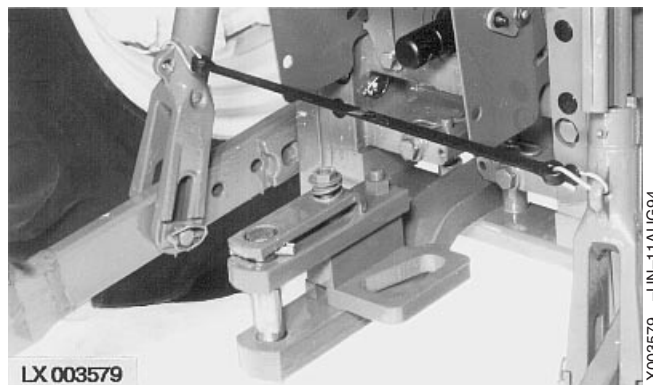
The swinging drawbar is used to pull drawn equipment of all types, particularly PTO-driven implements.

The drawbar hitch point is located so as to increase the rear axle load and at the same time slightly reduce load on the front axle.

Besides having a variable swinging range, the drawbar can also be adjusted lengthwise.

Maximum permissible drawbar loads are stated in the "Specifications" section.

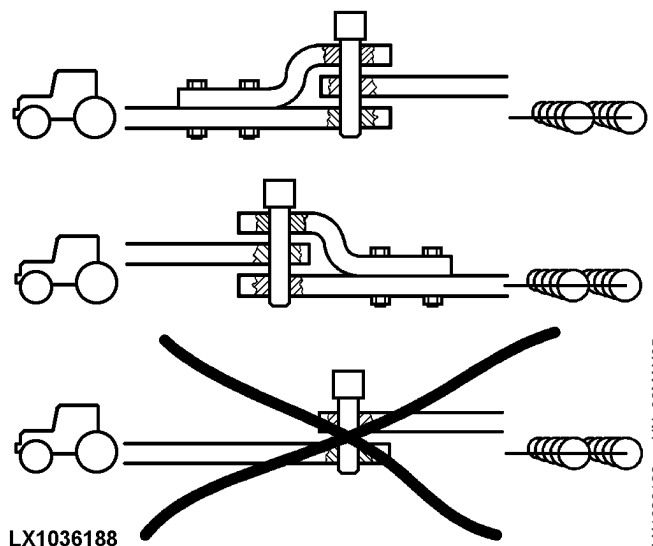
NOTE: Have components that are subject to wear checked and replaced (if necessary) by your John Deere dealer (see "Service / Every 500 Hours").



OU12401,00010A5 -19-28APR04-1/1

Correct Use of Drawbar

IMPORTANT: Comply with local traffic regulations when using the drawbar. Use suitable, approved hitch pins only. Combine drawbars as shown only.



OU12401,0001208 -19-03MAY05-1/1

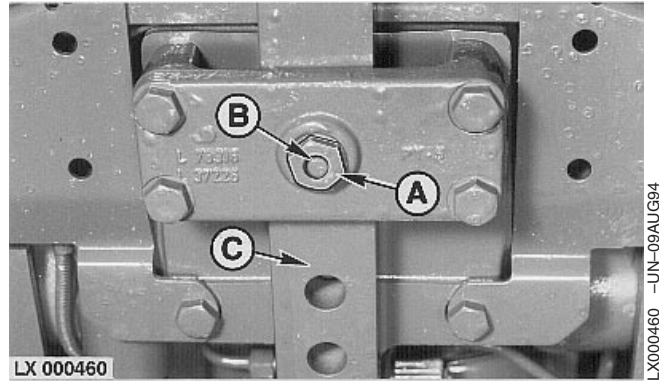
Lengthwise Adjustment of Drawbar

The swinging drawbar can be adjusted to four different positions:

250 mm (9.8 in.), 350 mm (13.8 in.), 400 mm (15.7 in.) and 550 mm (21.7 in.).

These lengths determine the distance from the end of the PTO shaft to the attachment point of the swinging drawbar.

1. Remove hex. stopper (A).
2. Remove locking pin (B).
3. Shift drawbar (C) to desired position and reinstall locking pin.
4. Tighten hex. stopper (A) to 250 N•m (185 lb-ft).



LX,OZUS 000341 -19-01OCT95-1/1

High Clearance Drawbar

IMPORTANT: Use high clearance drawbar with stabilizer chains (B) only.

Adjust stabilizer chains (B) until it is impossible for the draft links in lowered position to move under PTO housing.

The drawbar can be adjusted to three positions (see arrows).

Before swinging the drawbar:

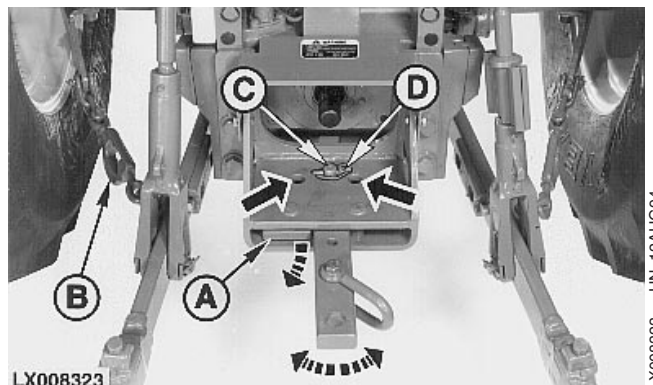
1. Remove locking pin (D) and pin (C).
2. Pull out drawbar and rotate locking device (A) to the rear (see arrow).
3. Push in drawbar and insert pin (C).
4. Secure pin (C) with locking pin (D).

The drawbar can be adjusted lengthwise to two positions:

350 mm (13.8 in.) and 400 mm (15.7 in.)

The lengths determine the distance from the end of the PTO shaft to the attaching point of the drawbar.

NOTE: Have components that are subject to wear checked and replaced (if necessary) by your John Deere dealer (see "Service / Every 500 Hours").



Use a Safety Chain

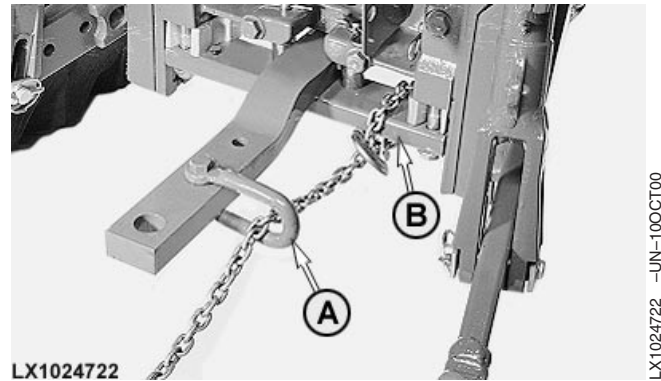
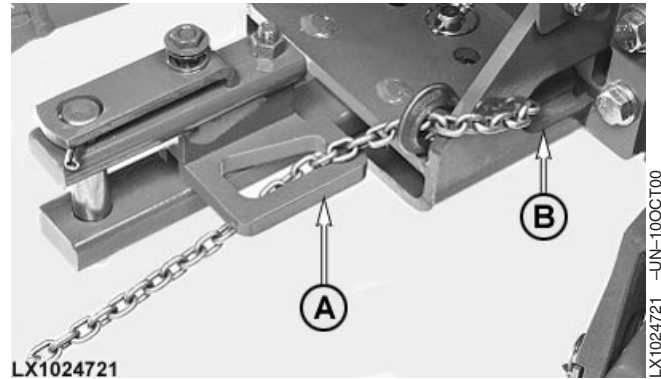
A safety chain will help control drawn equipment should it accidentally separate from the drawbar.

Slide chain through support (A). Then attach the chain to the attaching point (B). Provide only enough slack in the chain to permit turning. Do not use support (A) as attaching point.

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

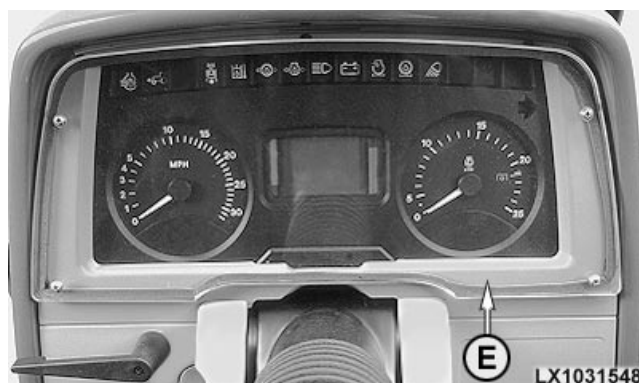
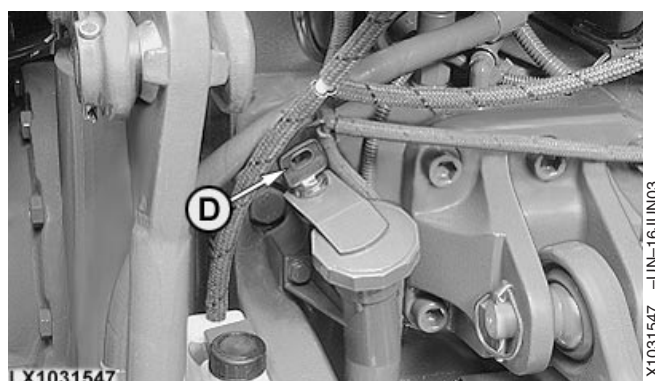
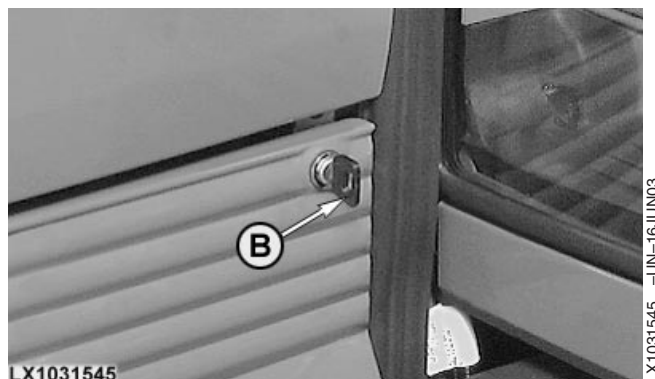
Replace the safety chain if one or more links or end fittings are broken, stretched or otherwise damaged or deformed.

A—Intermediate Support
B—Attaching Point



OU12401,000050D -19-01NOV00-1/1

Vandal Protection



Vandal protection may consist of:

- Lockable tank filler cap (A)
- Lockable side doors (B)
- Lockable hood (C)
- Lockable transmission oil filler cap (D)
- Protection for instrument panel (E)

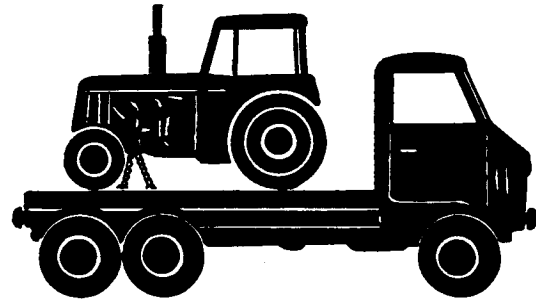
Transport

Safely Transporting the Tractor

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

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

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



RW13090 -JUN-07DEC88

OU12401.0000CBA -19-02JAN03-1/1

Towing the Tractor



CAUTION: Never tow the tractor at a speed greater than 10 km/h (6 mph).

Shift both gear and range shift levers to neutral position.

Make sure that the oil level in the transmission is between the marks on the dipstick. If the tractor is to be towed with the front wheels raised, observe the following points:

Never raise the wheels more than 30 cm (12 in.).

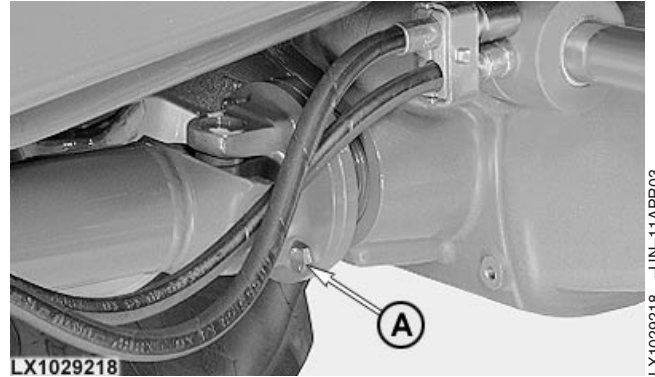
For every 15 cm (6 in.) that the front wheels are raised, add 4 liter (1 U.S. gal.) of transmission/hydraulic oil to the transmission.

When towing is completed, drain off the excess oil.

Continued on next page

OU12401.0000D15 -19-01MAR03-1/2

IMPORTANT: If the engine is running, switch off front-wheel drive. If the engine is not running, disconnect universal-jointed drive shaft by taking out screws (A). This prevents excessive wear on the tires.



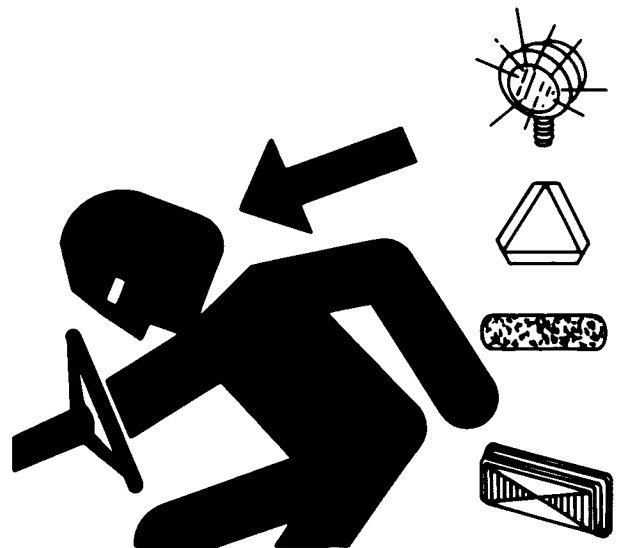
LX1029218 -UN-11APR03

OU12401,0000D15 -19-01MAR03-2/2

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.



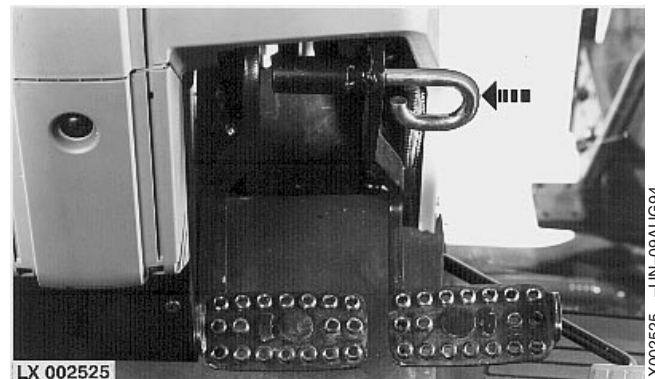
TS951 -UN-12APR90

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

Driving on Public Roads

Check that the lights are working properly before driving on public roads.

Use the coupler to lock the brake pedals together.



LX002525 -UN-09AUG94

LX,TRANSP003033 -19-01MAY92-1/1

Fuel, Lubricants, Hydraulic Oil and Coolant

Diesel Fuel

Consult your local fuel distributor for properties of the diesel fuel available in your area.

In general, diesel fuels are blended to satisfy the low temperature requirements of the geographical area in which they are marketed.

Diesel fuels specified to EN 590 or ASTM D975 are recommended.

Required fuel properties

In all cases, the fuel shall meet the following properties:

Cetane number of 45 minimum. Cetane number greater than 50 is preferred, especially for temperatures below -20°C (-4°F) or elevations above 1500 m (5000 ft).

Cold Filter Plugging Point (CFPP) below the expected low temperature OR **Cloud Point** at least 5°C (9°F) below the expected low temperature.

Fuel lubricity should pass a minimum level of 3100 grams as measured by ASTM D6078 or maximum

scar diameter of 0.45 mm as measured by ASTM D6079 or ISO 12156-1.

Sulfur content:

- Diesel fuel quality and fuel sulfur content must comply with all existing emissions regulations for the area in which the engine operates.
- Sulfur content less than 0.05% (500 ppm) is preferred.
- If diesel fuel with sulfur content greater than 0.05% (500 ppm) is used, crankcase oil service intervals may be affected. (See recommendation for Diesel Engine Oil.)
- Diesel fuel sulfur content greater than 0.5% (5000 ppm) is not recommended.
- DO NOT use diesel fuel with sulfur content greater than 1.0%.

IMPORTANT: Do not mix used diesel engine oil or any other type of lubricating oil with diesel fuel.

IMPORTANT: Improper fuel additive usage may cause damage on fuel injection equipment of diesel engines.

DX,FUEL1 -19-06FEB04-1/1

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.

IMPORTANT: The fuel tank is vented through the filler cap. If a new filler cap is required, always replace it with an original vented cap.

When fuel is stored for an extended period or if there is a slow turnover of fuel, add a fuel conditioner to stabilize the fuel and prevent water condensation. Contact your fuel supplier for recommendations.

DX,FUEL4 -19-19DEC03-1/1

Lubricity of Diesel Fuel

Diesel fuel must have adequate lubricity to ensure proper operation and durability of fuel injection system components.

ASTM D975 specifications do not require fuels to pass a fuel lubricity test.

Sulfur content of diesel fuel for highway use is less than 0.05% (500 ppm) in the United States and Canada, and less than 0.035% (350 ppm) in the European Union.

Experience shows that some low sulfur diesel fuels may have inadequate lubricity and their use may reduce performance in fuel injection systems due to inadequate lubrication of injection pump components. The lower concentration of aromatic compounds in

these fuels also adversely affects injection pump seals and may result in leaks.

Use of low lubricity diesel fuels may also cause accelerated wear, injection nozzle erosion or corrosion, engine speed instability, hard starting, low power, and engine smoke.

Fuel lubricity should pass a minimum load level of 3100 grams as measured by ASTM D6078 or 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.

DX,FUEL5 -19-06FEB04-1/1

Bio-Diesel Fuel

Consult your local fuel distributor for properties of the bio-diesel fuel available in your area.

Bio-diesel fuels may be used **ONLY** if the bio-diesel fuel properties meet the latest edition of ASTM D6751, EN 14214, or equivalent specification.

The maximum allowable bio-diesel concentration is a 5% blend (also known as B5) in petroleum diesel fuel. It has been found that bio-diesel fuels may improve lubricity in concentrations up to this 5% blend.

When using a blend of bio-diesel fuel, the engine oil level must be checked daily when the air temperature is -10°C (14°F) or lower. If oil becomes diluted with fuel, shorten oil change intervals accordingly.

IMPORTANT: Raw pressed vegetable oils are NOT acceptable for use as fuel in any concentration in John Deere engines.

These oils do not burn completely, and will cause engine failure by leaving deposits on injectors and in the combustion chamber.

A major environmental benefit of bio-diesel fuel is its ability to biodegrade. This makes proper storage and handling of bio-diesel fuel especially important. Areas of concern include:

- Quality of new fuel
- Water content of the fuel
- Problems due to aging of the fuel

Potential problems resulting from deficiencies in the above areas when using bio-diesel fuel in concentrations above 5% may lead to the following symptoms:

- Power loss and deterioration of performance
- Fuel leakage
- Corrosion of fuel injection equipment
- Coked and/or blocked injector nozzles, resulting in engine misfire
- Filter plugging
- Lacquering and/or seizure of internal components
- Sludge and sediments
- Reduced service life of engine components

Consult your fuel supplier for additives to improve storage and performance of bio-diesel fuels.

DX,FUEL7 -19-08MAR04-1/1

Diesel Engine Break-In Oil

New engines are filled at the factory with John Deere ENGINE BREAK-IN OIL. During the break-in period, add John Deere ENGINE BREAK-IN OIL as needed to maintain the specified oil level.

Change the oil and filter after the first 100 hours of operation of a new or rebuilt engine.

After engine overhaul, fill the engine with John Deere ENGINE BREAK-IN OIL.

If John Deere ENGINE BREAK-IN OIL is not available, use a diesel engine oil meeting one of the following during the first 100 hours of operation:

- API Service Classification CE
- API Service Classification CD
- API Service Classification CC
- ACEA Oil Sequence E2

- ACEA Oil Sequence E1

After the break-in period, use John Deere PLUS-50™ or other diesel engine oil as recommended in this manual.

IMPORTANT: Do not use PLUS-50 oil or engine oils meeting any of the following during the first 100 hours of operation of a new or rebuilt engine:

API CI-4	API CF
API CH-4	ACEA E5
API CG-4	ACEA E4
API CF-4	ACEA E3
API CF-2	

These oils will not allow the engine to break-in properly.

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DX,ENOIL4 -19-03NOV03-1/1

Diesel Engine Oil

Use oil viscosity based on the expected air temperature range during the period between oil changes.

The following oil is recommended for 500-hour oil changes:

John Deere PLUS-50®

Other oils may be used if they meet one or more of the following:

- ACEA E5
- ACEA E4

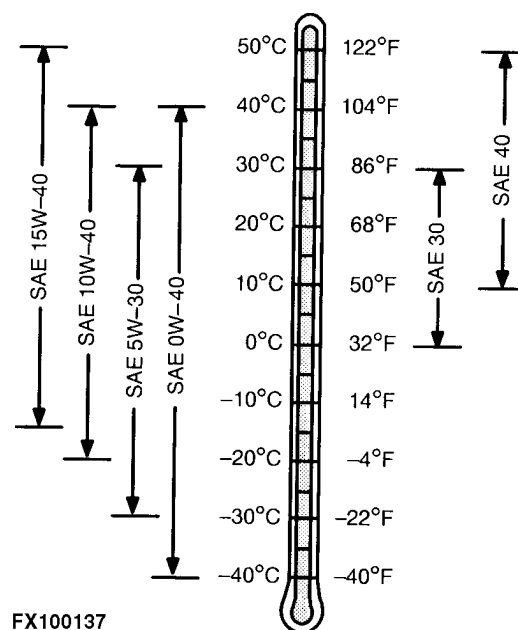
If none of the available oil types meet these specifications, reduce the intervals at which oil is changed to 250 hours.

In this case, John Deere TORQ-GARD SUPREME® is recommended. Other oils may be used if they meet one or more of the following:

- API CG-4
- API CF-4
- ACEA E3
- ACEA E2

Multi-viscosity diesel engine oils are preferred.

If diesel fuel with sulfur content greater than 0.5% is used, reduce the service interval by 50% also.



FX100137

FX100137 -JUN-25SEP97

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TORQ-GARD SUPREME is a trademark of Deere & Company

OU12401,0000C59 -19-01JAN03-1/1

Oil Filters

Filtration of oils is critical to proper operation and lubrication.

Always change filters regularly as specified in this manual.

Use filters meeting John Deere performance specifications.

DX,FILT -19-18MAR96-1/1

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™ Prediluted Coolant is preferred for service.

John Deere COOL-GARD Prediluted Coolant is available in a concentration of either 50% ethylene glycol or 55% propylene glycol.

Additional recommended coolants

The following engine coolant is also recommended:

- John Deere COOL-GARD Coolant Concentrate in a 40% to 60% mixture of concentrate with quality water.

John Deere COOL-GARD coolants do not require use of supplemental coolant additives, except for periodic replenishment of additives during the drain interval.

Other fully formulated coolants

Other fully formulated low silicate ethylene or propylene glycol base coolants for heavy-duty engines may be used if they meet one of the following specifications:

- ASTM D6210 prediluted (50%) coolant
- ASTM D6210 coolant concentrate in a 40% to 60% mixture of concentrate with quality water

Coolants meeting ASTM D6210 do not require use of supplemental coolant additives, except for periodic replenishment of additives during the drain interval.

Coolants requiring supplemental coolant additives

Other low silicate ethylene glycol base coolants for heavy-duty engines may also be used if they meet one of the following specifications:

- ASTM D4985 ethylene glycol base prediluted (50%) coolant
- ASTM D4985 ethylene glycol base coolant concentrate in a 40% to 60% mixture of concentrate with quality water

Coolants meeting ASTM D4985 require an initial charge of supplemental coolant additives, formulated for protection of heavy duty diesel engines against corrosion and cylinder liner erosion and pitting. They also require periodic replenishment of additives during the drain interval.

Other coolants

If a coolant known to meet the requirements of coolant specifications shown in this manual is not available, use either:

- ethylene glycol or propylene glycol base prediluted (40% to 60%) coolant
- ethylene glycol or propylene glycol base coolant concentrate in a 40% to 60% mixture of concentrate with quality water

The coolant concentrate or prediluted coolant shall be of a quality that provides cavitation protection to cast iron and aluminum parts in the cooling system.

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.

IMPORTANT: Do not mix ethylene glycol and propylene glycol base coolants.

DX,COOL3 -19-19DEC03-2/2

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.

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 -19-18MAR96-1/1

Drain Intervals for Diesel Engine Coolant

Drain the factory fill engine coolant, flush the cooling system and refill with new coolant after the first 3 years or 3000 hours of operation.

Subsequent drain intervals are determined by the coolant used for service. At each interval, drain the coolant, flush the cooling system, and refill with new coolant.

When John Deere COOL-GARD is used, the coolant drain interval is 3 years or 3000 hours of operation.

If COOL-GARD is not used, the drain interval is reduced to 2 years or 2000 hours of operation.

LX,COOL11 -19-24NOV03-1/1

Transmission and Hydraulic Oil

Use oil with a viscosity based on the expected air temperature range during the period between oil changes.

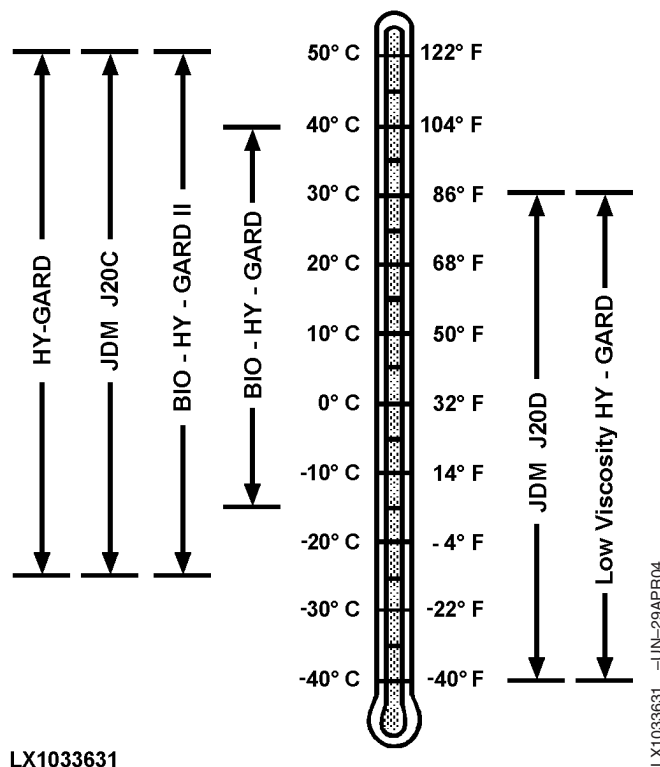
The following oils are preferred:

- John Deere HY-GARD™
- John Deere Low Viscosity HY-GARD™

Other oils may be used if they meet one of the following:

- John Deere Standard JDM J20C
- John Deere Standard JDM J20D

Use John Deere BIO-HY-GARD II™¹ or BIO-HY-GARD™¹ when a biodegradable fluid is required.



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BIO-HY-GARD II is a trademark of Deere & Company.

BIO-HY-GARD is a trademark of Deere & Company.

¹BIO-HY-GARD II meets or exceeds the minimum biodegradability of 80 % within 21 days according to CEC L-33-A-93 test method.

BIO-HY-GARD meets or exceeds the minimum biodegradability of 80 % within 21 days according to CEC L-33-T-82 test method. These oils should not be mixed with mineral oils because this reduces the biodegradability and makes proper oil recycling impossible.

LX,ANTI2 -19-30APR04-1/1

Front-Wheel Drive Axle Oil

Use oil with a viscosity based on the expected air temperature range during the period between oil changes.

The following oil is recommended:

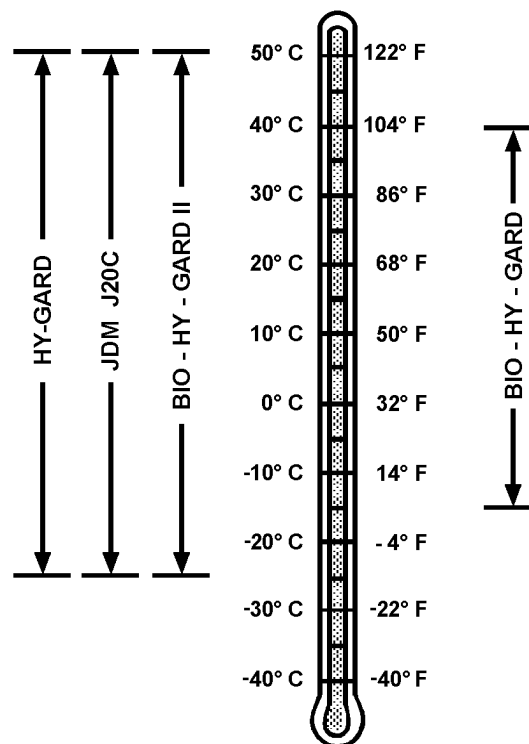
John Deere HY-GARD™

Other oils may be used if they meet the following:

John Deere Standard JDM J20C

Use one of the following oils when a biodegradable fluid is required:

John Deere BIO-HY-GARD II™¹ or BIO-HY-GARD™¹



LX1033632

LX1033632 -UN-29APR04

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BIO-HY-GARD II is a trademark of Deere & Company.

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BIO-HY-GARD meets or exceeds the minimum biodegradability of 80 % within 21 days according to CEC L-33-T-82 test method. These oils should not be mixed with mineral oils because this reduces the biodegradability and makes proper oil recycling impossible.

LX,OILFA2 -19-30APR04-1/1

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.

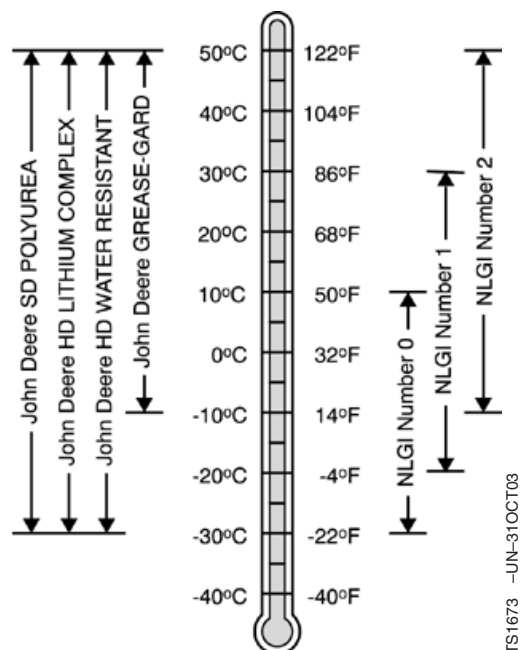
The following greases are also recommended

- 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



GREASE-GARD is a trademark of Deere & Company

DX,GREA1 -19-07NOV03-1/1

Mixing of Lubricants

In general, avoid mixing different brands or types of oil. Oil manufacturers blend additives in their oils to meet certain specifications and performance requirements.

Mixing different oils can interfere with the proper functioning of these additives and degrade lubricant performance.

Consult your John Deere dealer to obtain specific information and recommendations.

DX,LUBMIX -19-18MAR96-1/1

Alternative and Synthetic Lubricants

Conditions in certain geographical areas may require lubricant recommendations different from those printed in this manual.

Some John Deere brand coolants and lubricants may not be available in your location.

Consult your John Deere dealer to obtain information and recommendations.

Synthetic lubricants may be used if they meet the performance requirements as shown in this manual.

The temperature limits and service intervals shown in this manual apply to both conventional and synthetic oils.

Re-refined base stock products may be used if the finished lubricant meets the performance requirements.

DX,ALTER -19-15JUN00-1/1

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.

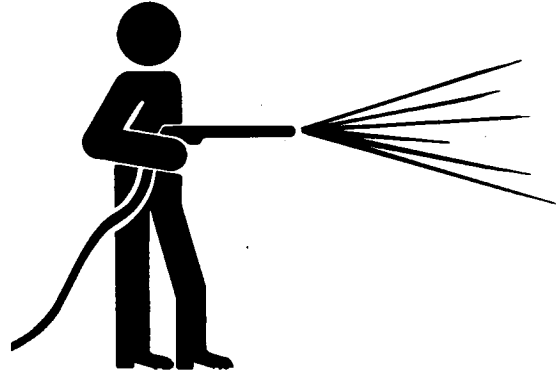
DX,LUBST -19-18MAR96-1/1

Lubrication and Periodic Service

Using High Pressure Washers

IMPORTANT: Directing pressurized water at electronic/electrical components or connectors, bearings and hydraulic seals, fuel injection pumps or other sensitive parts and components may cause product malfunctions. Reduce pressure, and spray at a 45 to 90° angle.

Do not, under any circumstances, spray or wash components (e.g. the fuel injection pump) with cold water when hot.



T6642EJ -UN-18OCT88

OU12401,0000CF0 -19-01MAR03-1/1

Lubrication and Periodic Service



CAUTION: Do not lubricate or adjust the tractor while the engine is running unless recommended to do so.

The intervals at which the various parts should be checked, lubricated, serviced or adjusted are based on the actual hours of operation as shown on the hour meter. The meter operates whenever the engine is running and shows the accumulated hours of engine operation.



LX1018290

LX1018290 -UN-12JAN98

Always check to make sure that the hour meter is serviceable.

The lubrication and periodic service intervals are for normal working conditions. These intervals should be shortened when operating under adverse conditions.

IMPORTANT: After servicing, cleaning or repairing your tractor, reinstall any safety guards or shields before operating the tractor again.

LX,OMSERV015892 -19-01DEC97-1/1

Opening the Hood

Pull catch (A) and lift the hood up.



LX1026131

LX1026131 -UN-21MAY01

OU12401,0000915 -19-01MAY01-1/1

Access to Battery

The battery is located in front of the radiator. To gain access, open the hood.



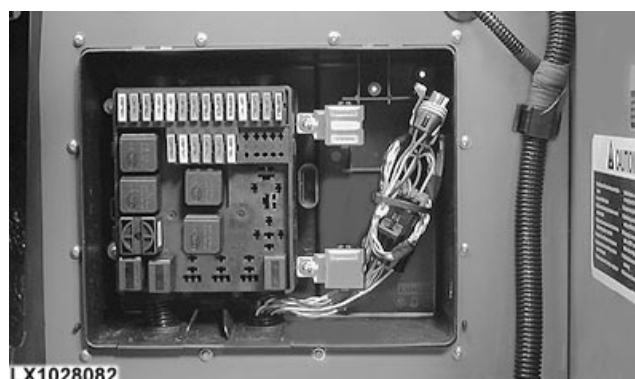
LX1026189

LX1026189 -UN-06FEB02

OU12401,0000916 -19-01JAN02-1/1

Access to Fuses

Fuses (A) are located either behind the operator's seat or in the shift console.



LX1028082

LX1028082 -UN-10DEC01

Fuses (tractors without cab)



LX1017729

LX1017729 -UN-09OCT97

Fuses (tractors with cab)

OU12401,0010348 -19-01JUL02-1/1

Important Instructions Regarding Alternator

NOTE: The alternator is equipped with overvoltage protection.

Cable connections

- red cable to B+ (A)
- blue cable to D+ (B)

If engine is to be run for a short time without battery (using a slave battery for starting), do not run engine at a speed above 1000 rpm. Switch on an additional consumer (lights) while engine is running.

With the battery removed and when starting by means of a slave battery, insulate the battery end of the disconnected starter cable in order to avoid damage to the alternator and regulator.

Slave battery cables must be connected only to the poles provided for this purpose.

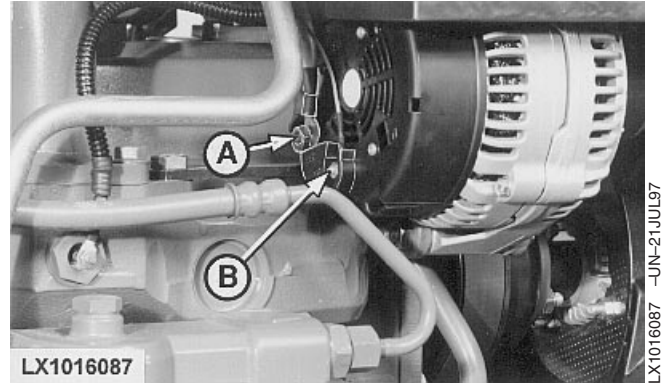
With the engine running, do not short-circuit or ground the alternator and regulator even momentarily.

Connect battery and charger with the correct polarity. If they are improperly connected ("+" and "-"), the rectifier diodes will be destroyed immediately.

Before carrying out any electrical welding jobs on the tractor, disconnect both cables at alternator.

Connect ground terminal of welding apparatus directly to the part being welded.

Before carrying out repairs on electrical system, disconnect battery ground strap. This will avoid the danger of a short circuit.



LX,OMSCH 013335 -19-01SEP97-1/1

Servicing the Air-Conditioning System (If Equipped) — Warning

IMPORTANT: Frequently check air conditioning components for leaks or damage. Wear protective clothing. If air conditioning components are contaminated with oil, this may indicate a refrigerant leak. If there is any doubt, contact your John Deere dealer.

glasses and wear protective clothing. Call your John Deere dealer, who has the special equipment required to service and repair the air-conditioning circuit.

NOTE: Only the operations described here in this Operator's Manual may be carried out without the special equipment.

IMPORTANT: Never interrupt the circuit, as this will allow all the refrigerant to escape.

NOTE: Any service that is required for the air conditioning system has to be performed by your John Deere dealer, see Section 125 "Service as Required".



CAUTION: Refrigerant is harmful to the eyes and skin. If a leak is detected, put on safety

OU12401,00005CC -19-01APR01-1/1

Daily or Every 10 Hours

Component	Description	Lubricant
Engine crankcase	Check oil level	Engine oil
Fuel filter	Drain water and sediment	
Lights	Check lights are functioning properly	
Front axle and front wheels	Lubricate (only necessary when operating in extremely wet and muddy conditions)	Multipurpose grease
Rear axle	Lubricate (only necessary when operating in extremely wet and muddy conditions)	Multipurpose grease
Three-point hitch	Lubricate (only necessary when operating in extremely wet and muddy conditions)	Multipurpose grease
Transmission and hydraulic system	Check oil level (only necessary if the tractor is driving external hydraulic equipment)	
Air cleaner valve	Clean out dust, if necessary	

AG,OU12401,47 -19-18DEC99-1/1

After the First 100 Hours

Component	Description	Lubricant
Engine crankcase	Drain and refill (see Service - Every 500 Hours)	John Deere HY-GARD™
Engine crankcase filter	Replace filter element. Replace with a John Deere element (see Service - Every 500 Hours)	
Air intake hoses	Check connections for leaks (see Service - Every 500 Hours)	
Transmission/hydraulic oil filter	Replace filter elements (see Service - Every 750 Hours).	
Front axle	Drain and refill with fresh oil (see Service - Every 1500 Hours)	

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OU12401,0000D16 -19-01MAR03-1/1

Every 250 Hours

(In addition carry out 10 hour service)

Component	Description	Lubricant
Transmission and hydraulic system	Check oil level	Multipurpose grease
Battery	Check level of electrolyte	
Front axle and front wheels	Lubricate	
FWD axle	Lubricate front axle and drive shaft. Check oil level in axle housing and final drives.	
Three-point hitch	Lubricate	
Neutral start circuit	Check circuit functions correctly	Engine oil
Wheel retaining bolts	Tighten to prescribed torque	
Engine crankcase *	Drain and refill	
Engine crankcase filter *	Replace filter element. Replace with a John Deere element	

* If neither John Deere PLUS-50 nor an oil meeting ACEA E5 or E4 is used, carry out this service every 250 hours. Engine oil must be changed at least once a year.

OULXE59,00104D3 -19-11DEC03-1/1

Every 500 Hours

(In addition carry out 10 hour and 250 hour services)

Component	Description	Lubricant
Engine crankcase *	Drain and refill	Engine oil
Engine crankcase filter *	Replace filter element. Replace with a John Deere element	
Fuel filter	Replace filter element	
Fuel tank	Drain residue	
Rear axle bearings	Lubricate	Multipurpose grease
Air intake hoses	Check connections for leaks	
Engine	Check ground connection	
Components of drawbar	Have your John Deere dealer check the components for wear and replace them, if necessary.	
Engine drive belt	Check for wear.	

* If neither John Deere PLUS-50 nor an oil meeting ACEA E5 or E4 is used, carry out this service every 250 hours. Engine oil must be changed at least once a year.

OULXE59,00107D3 -19-30JUN05-1/1

Every 750 Hours

(In addition carry out 10 hour and 250 hour services)

Component	Description	Lubricant
Transmission/hydraulic oil filter	Replace filter elements	
Engine speeds	Check engine speeds (have speeds adjusted by your John Deere dealer)	

AG,OU12401,51 -19-18DEC99-1/1

Lubrication and Periodic Service

Once Every Year

Description	Service	Lubricant
Seat belt	Check seat belt and seat belt attachment for signs of wear.	
Engine	Drain and refill with fresh oil at least once a year (see "Service / Every 500 Hours").	Engine oil

OU12401,0000CA9 -19-01JAN03-1/1

Every 1500 Hours or Every Two Years

(In addition carry out 10, 250, 500 and 750 hour services)

Component	Description	Lubricant
Front axle (tractors with front wheel drive)	Drain and refill with fresh oil	John Deere HY-GARD
Air cleaner and cab filter	Replace	
Transmission and hydraulic system	Drain and refill with fresh oil, and clean intake screen	John Deere HY-GARD

AG,OU12401,52 -19-01APR01-1/1

Every 2000 Hours

Component	Description	Lubricant
Engine valves	Have valve tappet clearances checked by your John Deere dealer	

OU12401,00005CA -19-01APR01-1/1

Every 3000 Hours or Every Three Years

(In addition carry out 10, 250, 500, 750 and 1500 hour services)

Component	Description	Lubricant
Cooling system	Drain, flush and refill Check thermostat	

NOTE: Interval is reduced to 2000 hours or 2 years if John Deere COOL-GARD is not used.

OU12401,00104CB -19-01AUG03-1/1

Every 4500 Hours or Every Five Years

(In addition carry out 10, 250, 500, 750 and 1500 hour services)

Component	Description	Lubricant
Engine crankshaft damper*	Have damper replaced by your John Deere dealer	
* 6-cylinder engines only		

OU12401,001034C -19-01JUL02-1/1

As Required

Component	Description	Lubricant
Air cleaner and cab filter	Clean	
Radiator	Clean	
Fuel system	Check fuel filter; bleed system	
Tires	Check tire pressure	
Lubricating points	Lubricate, if tractor has been washed with high-pressure water	Multipurpose grease
Battery	Check concentration of electrolyte	
Fuses	Replace	
Front wheel bearings (tractors without FWD)	Have bearings cleaned, lubricated and adjusted by your John Deere dealer	
Injection nozzles and pump	Have these checked by your John Deere dealer	

OU12401,00104AF -19-01AUG03-1/1

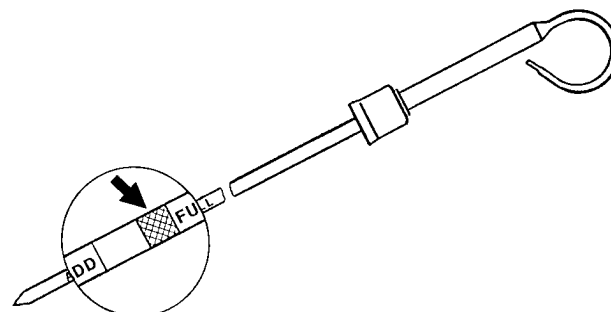
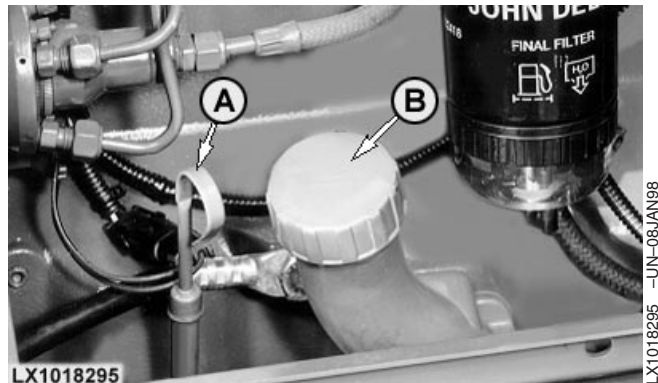
Service / Daily or Every 10 Hours

Checking Engine Crankcase Oil Level

If oil level is at or below “Add”-mark on dipstick, add sufficient oil to bring level to “XXX”-mark on dipstick.

Do not operate engine with oil level at or below “Add”-mark on dipstick.

- A—Dipstick
B—Oil filler cap



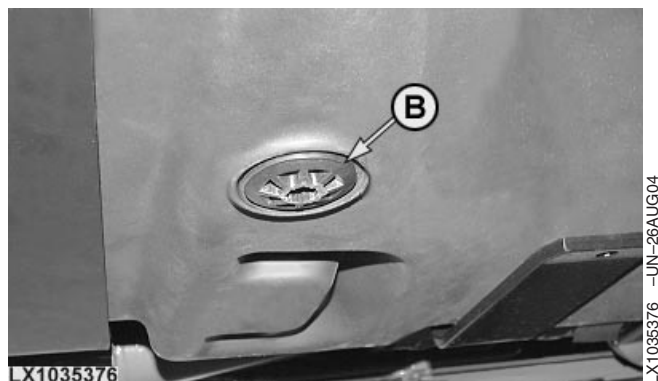
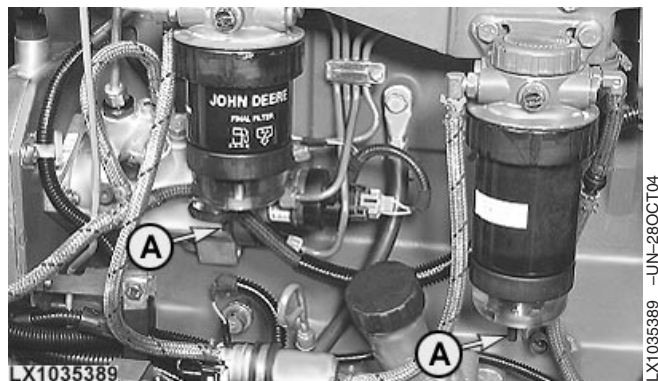
OU12401,001034D -19-01JUL02-1/1

Checking the Fuel Filter

1. Loosen drain screws (A).
2. Retighten both screws as soon as water and sediment deposits have drained out.
3. Turn key in main switch to the right as far as the first switch position so that the fuel transfer pump is operating. Keep the pump running for approx. 20 seconds.

If water was present in fuel filter, then also slacken off the drain screw (B) under the fuel tank by one turn. After draining off any water deposits, retighten drain screws by hand.

- A—Drain screw
B—Drain screw (fuel tank)



OU12401,000111B -19-11OCT04-1/1

Checking on Lights

Check that the lights are operating correctly, especially before driving on public roads.

Comply with all legal regulations.

LX,LICHT 002082 -19-01FEB92-1/1

Other Service Jobs

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

If operating the tractor in extremely wet and muddy conditions, lubricate the following:

- Front axle and front wheel drive shaft (if equipped).
- Rear axle
- Three-point hitch

These jobs are described in “Service — Every 250 hours” and “Service — Every 500 hours”.

AG,OU12401,37 -19-14DEC99-1/1

Service / Every 250 Hours

Checking Transmission/Hydraulic System Oil Level

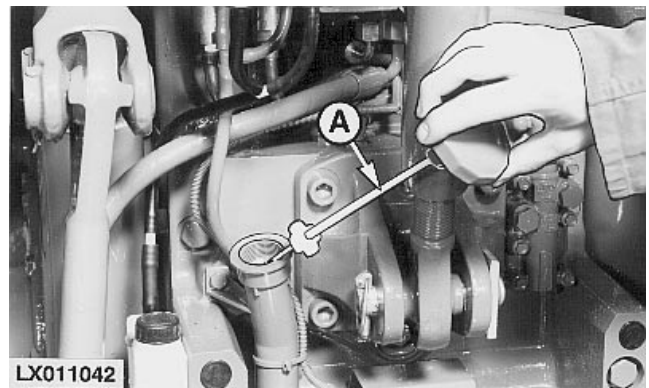
IMPORTANT: Check oil level when oil is cold, if possible in the morning after the tractor has been standing overnight.

1. Park tractor on level ground.
2. Shift transmission to "PARK".
3. Lower draft links.

LX,0250 003568 -19-01APR97-1/2

4. Unscrew dipstick (A), pull out and wipe clean.
5. Insert dipstick, screw in to full extent, then remove dipstick again and check oil level.

The oil level should be between the two marks on the dipstick. If not, top up with oil through oil filler neck.



LX,0250 003568 -19-01APR97-2/2

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 it last.



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

Avoid the hazard by:

1. Filling batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling or dripping electrolyte.
5. Use proper jump start procedure.

If you spill acid on yourself:

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

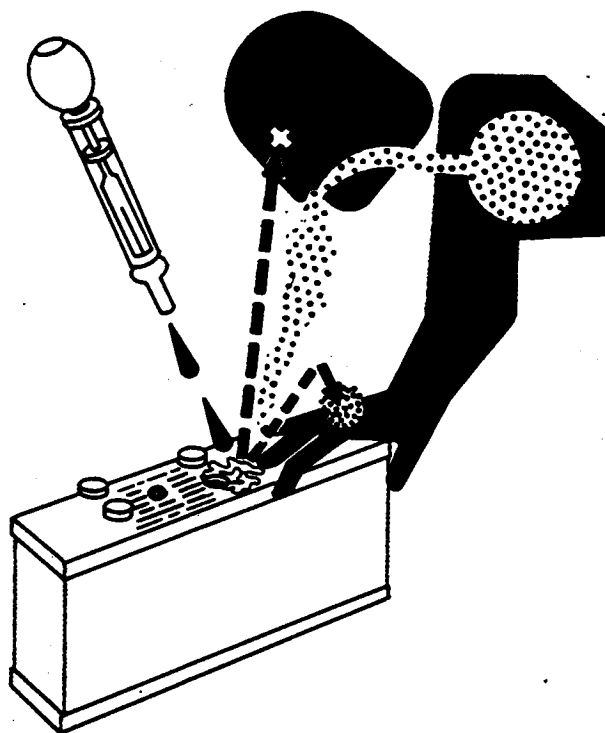
If acid is swallowed:

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

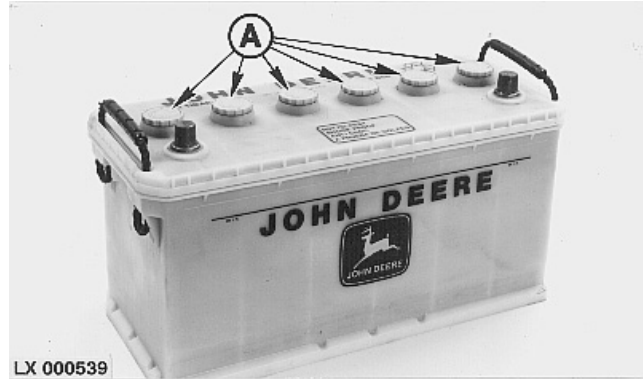


TS203 -UN-23AUG88

Checking Electrolyte Level of Batteries

Remove filler caps (A). Level of electrolyte should be above the mark. Fill with distilled water only.

Check that the vent holes in the battery caps are open at all times. If terminal connectors are corroded, remove corrosion with a stiff bristle brush and then coat the terminals with an acid-free grease.



LX,OELE 000432 -19-01SEP93-1/1

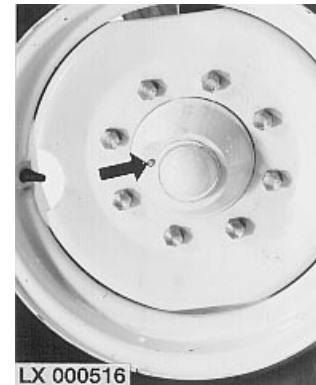
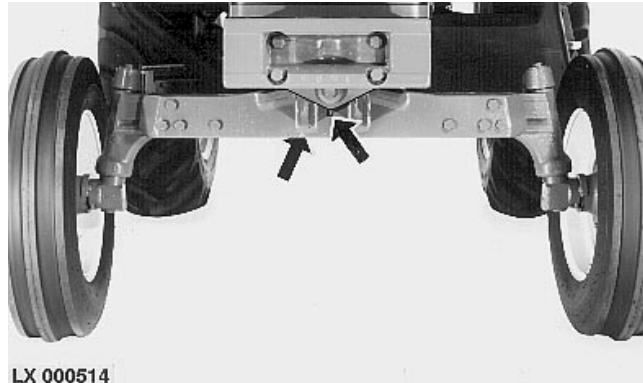
Lubricating Front Axle and Front Wheels

Tractors without front-wheel drive

IMPORTANT: Carry out this service after every ten hours of operation when working under very wet and muddy conditions.

Lubricate front axle and front wheel grease fittings (these differ depending on tractor equipment) using John Deere multipurpose grease.

IMPORTANT: Thoroughly clean all grease fittings prior to greasing and replace damaged grease fittings immediately.



LX,OMWAR 013449 -19-15SEP97-1/1

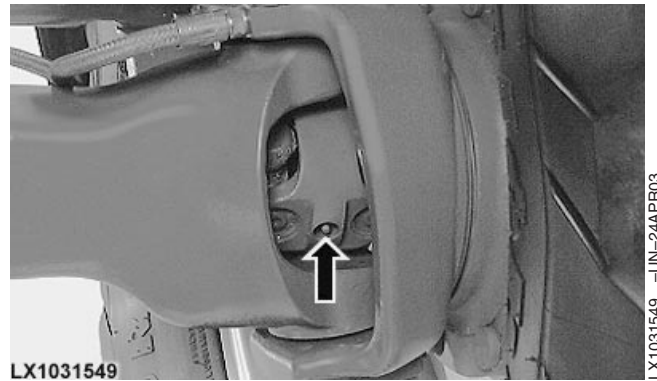
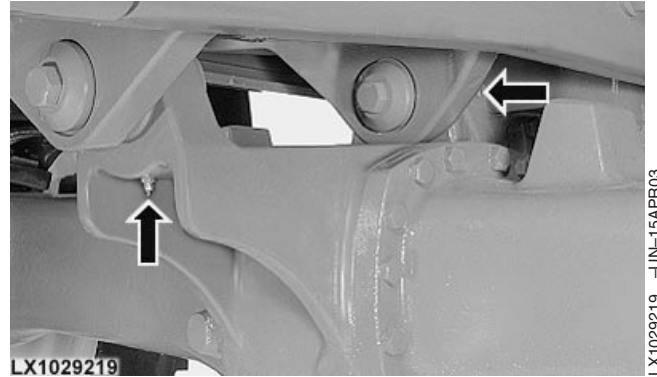
Lubricating Front Axle and Drive Shaft

Tractors with front-wheel drive

IMPORTANT: Carry out this service after every ten hours of operation when working under very wet and muddy conditions.

Lubricate front axle and front wheel grease fittings (these differ depending on tractor equipment) using John Deere multipurpose grease.

IMPORTANT: Thoroughly clean all grease fittings prior to greasing and replace damaged grease fittings immediately.



OU12401,0000BCF -19-01MAR03-1/1

Checking Oil Level in MFWD Axle Housing

Remove level plug (A). Oil should be level with plug bore. If necessary, top up with oil. Tighten level plug to 150 N•m (110 lb-ft). Always use a transmission oil listed in the "Fuel, Lubricants, Hydraulic Oil and Coolant" section.

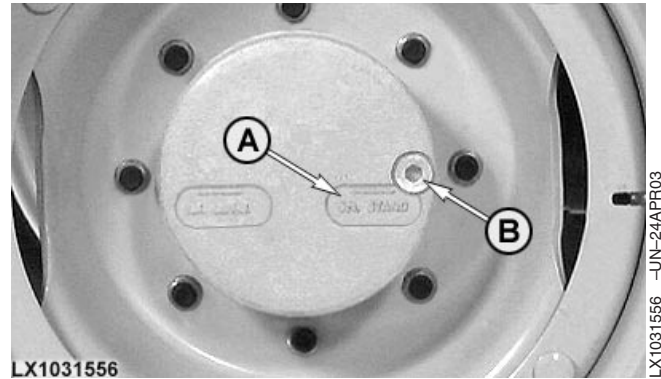


OU12401,0000BCE -19-01MAR03-1/1

Checking Oil Level in MFWD Final Drives

1. Turn wheel until "OIL LEVEL" mark (A) is in level position.
2. Remove level plug (B). Oil should be level with plug bore.
3. If necessary, top up axle at this point. Tighten level plug to 150 N•m (110 lb-ft.). Always use a transmission oil listed in the "Fuel, Lubricants, Hydraulic Oil and Coolant" section.

NOTE: Replace oil in axle housing and final drives after the first 100 hours of operation. Then replace after every 1500 hours of operation or once every 2 years, whichever occurs first.



LX1031556

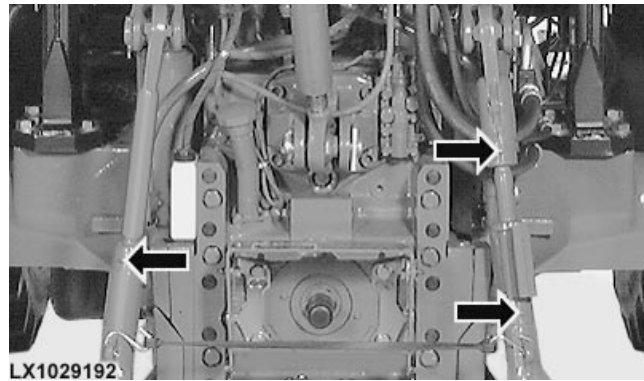
LX1031556 -UN-24APR03

OU12401,0000D19 -19-01MAR03-1/1

Lubricating Three-Point Hitch

Lubricate grease fittings with several strokes of grease gun, using John Deere multipurpose grease.

NOTE: Not all grease fittings of the rockshaft and the lift cylinders are visible on this illustration.



LX1029192

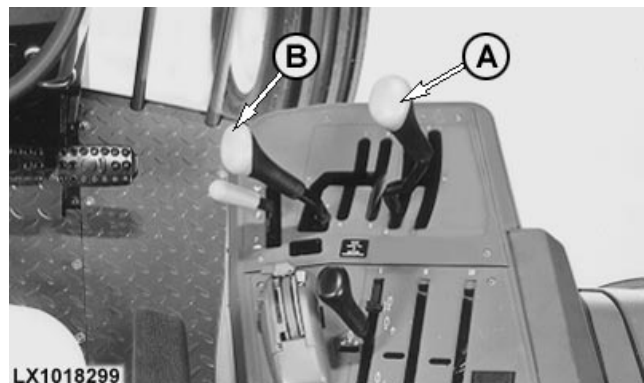
LX1029192 -UN-09SEP02

OU12401,0010352 -19-01JUL02-1/1

Neutral Start Circuit

Tractors with SyncroPlus Transmission

1. Depress clutch pedal.
2. Move range shift lever (A) to neutral.
3. Move gear lever (B) to any gear.
4. Turn key in main switch as far as it will go to the right. The starter must NOT turn over. If it does, see your John Deere dealer immediately.
5. Repeat the test in all the other gears.



LX1018299

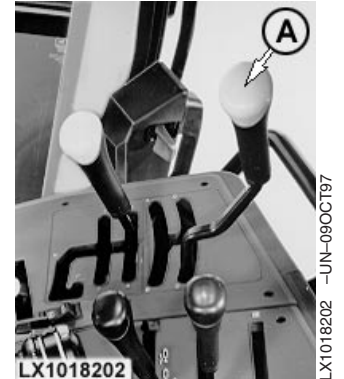
LX1018299 -UN-08JAN98

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OU12401,0000D55 -19-01MAR03-1/3

Tractors with PowrReverser Transmission

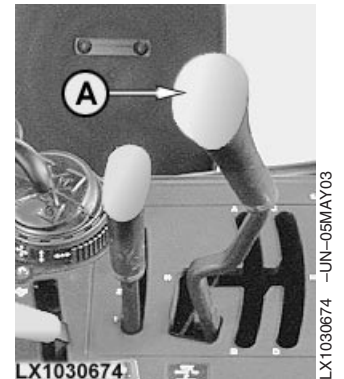
1. Depress clutch pedal.
2. Move range shift lever (A) to neutral.
3. Move the reverse drive lever (B) to any travel direction (forward or reverse).
4. Turn key in main switch as far as it will go to the right. The starter must NOT turn over. If it does, see your John Deere dealer immediately.
5. Repeat the test in the other direction of travel.



OU12401,0000D55 -19-01MAR03-2/3

Tractors with PowrQuad Transmission

1. Depress clutch pedal.
2. Move range shift lever (A) to neutral.
3. Move reverse drive lever (B) to the "forward" position.
4. Turn key in main switch as far as it will go to the right. The starter must NOT turn over. If it does, see your John Deere dealer immediately.
5. Repeat the test in the "reverse" position.



OU12401,0000D55 -19-01MAR03-3/3

Checking Transmission PARK Position

Position tractor on a 30% incline (3 ft vertically for every 10 ft horizontally) with front of tractor facing downward.

Move shift lever 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.



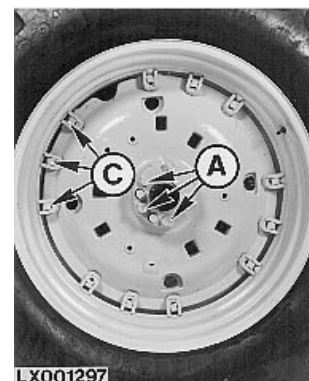
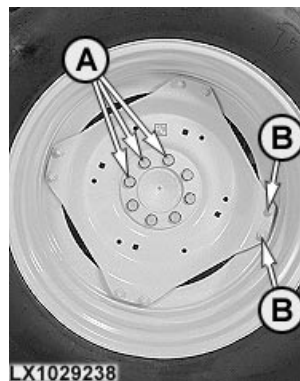
OU12401,0000D56 -19-01MAR03-1/1

Wheel Retaining Bolts/Nuts

Tighten Rear Wheel Retaining Bolts/Nuts

(Torques vary depending on tractor equipment)

- A—500 N•m (370 lb-ft)
- B—250 N•m (185 lb-ft)
- C—230 N•m (170 lb-ft)

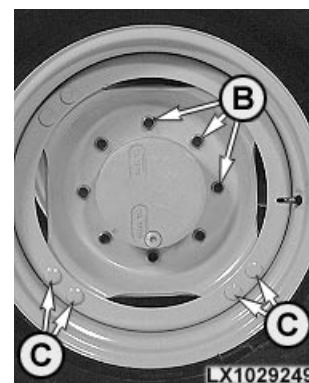
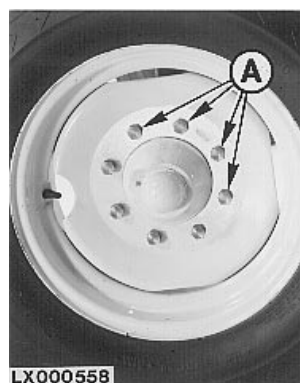


OU12401,0010448 -19-01MAR03-1/2

Tighten Front Wheel Retaining Bolts/Nuts

(Torques vary depending on tractor equipment)

- A—250 N•m (185 lb-ft) - (2WD)
- B—300 N•m (220 lb-ft)
- C—250 N•m (185 lb-ft)



OU12401,0010448 -19-01MAR03-2/2

Service / Every 500 Hours

Changing Engine Oil

IMPORTANT: Change oil whenever a seasonal change in temperature makes oil of a different viscosity necessary.

NOTE: Change oil after first 100 hours.

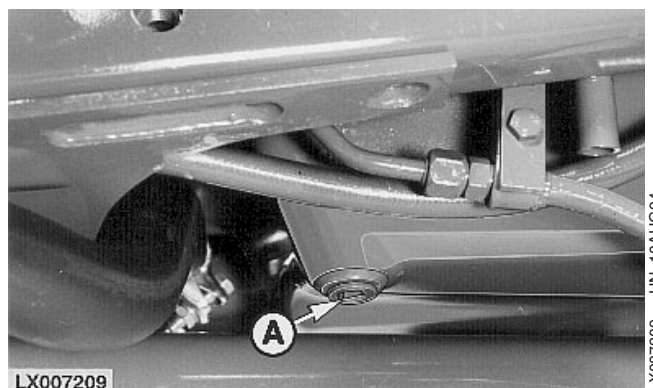
Drain oil with engine shut off, but with engine oil still warm.

OU12401,001034F -19-01JUL02-1/4

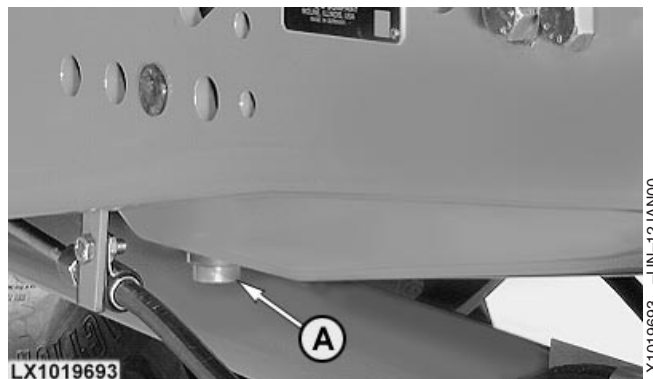
1. Remove drain screw (A).
2. While crankcase is draining, replace filter element.
3. Install drain screw.

6215 and 6415 Tractors: Tighten to 70 N•m (52 lb-ft) (use new seal ring).

6615 and 6715 Tractors: Tighten to 50 N•m (37 lb-ft) (use new seal ring).



6215 and 6415 Tractors



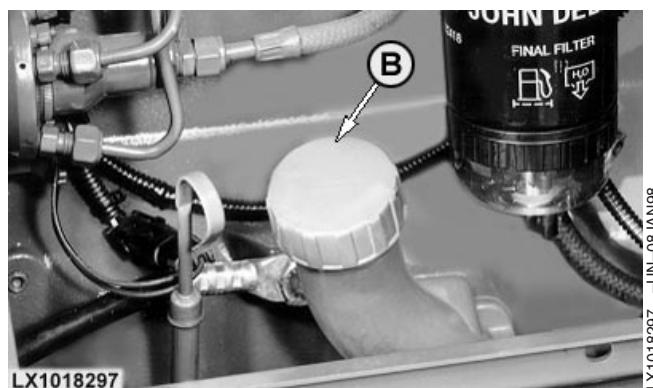
6615 and 6715 Tractors

OU12401,001034F -19-01JUL02-2/4

4. Fill crankcase with fresh oil of proper viscosity (see section "Fuel, Lubricants, Hydraulic Oil and Coolant") at filler neck (B).

6215 and 6415 Tractors: With filter, capacity is approx. 16 liters (4.2 U.S. gal.).

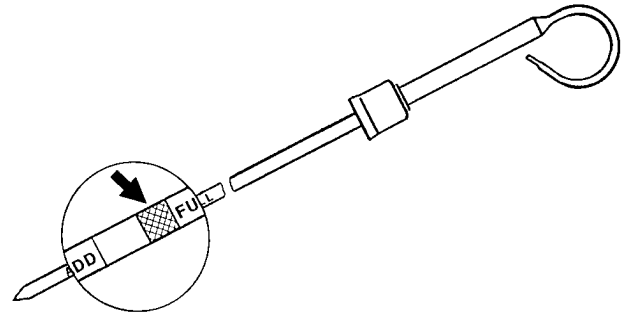
6615 and 6715 Tractors: With filter, capacity is approx. 20 liters (5.3 U.S. gal.).



Continued on next page

OU12401,001034F -19-01JUL02-3/4

5. Wait 15 minutes then recheck oil level. Oil should be up to the "XXX"-mark on dipstick. If necessary, top up with oil.
6. Run engine for a short time and check for leaks at filter base and drain screw.
7. Shut off engine.



FD000047

FD000047 -UN-13MAR96

OU12401,001034F -19-01JUL02-4/4

Changing Engine Oil Filter Element

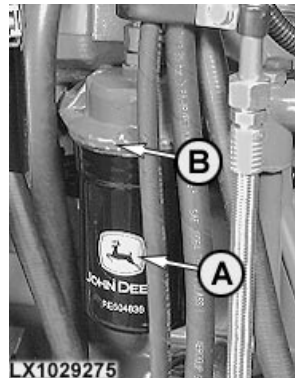
Remove filter element (A) and clean mounting surface (B). If necessary, replace the dust seal on the contact surface with a new one. Make sure that the lugs on the dust seal engage in the recesses in the contact surface of the filter element.

Apply a thin film of oil to sealing rings (C) of new filter. Install new filter and tighten by hand.

Start engine and check base of filter for leaks.

Shut off engine and check oil level.

NOTE: Carry out first oil filter change after first 100 hours of operation.



LX1029275

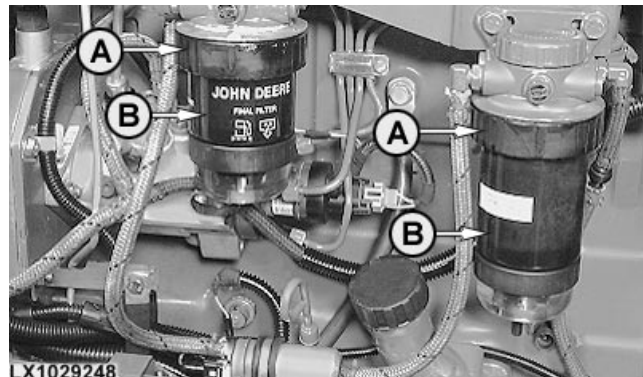


LX1029276

OU12401,0000E3A -19-01JUL03-1/1

Changing the Fuel Filter

1. Unfasten filter retaining ring (A) and remove filter (B). Seal old filter with cover of the new one.
2. Remove water trap (if equipped) and install it on new filter.
3. Attach new filter. The marks on the filter must be aligned with those on the housing.
4. Tighten retaining ring (A) until it clicks into place.
5. Turn key in main switch to the right as far as the first switch position so that the fuel transfer pump is operating. Keep the pump running for approx. 20 seconds.



LX1029248

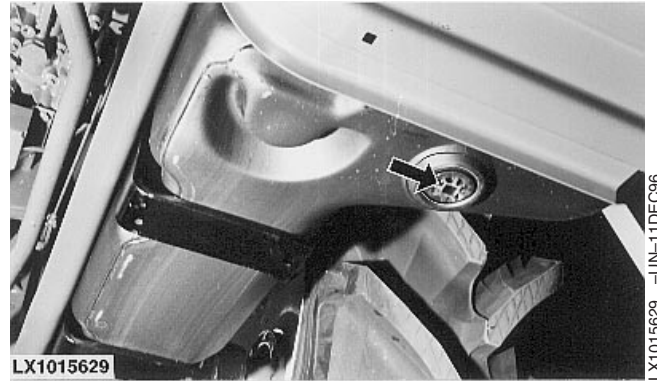
A—Filter retaining ring
B—Filter

LX1029248 -UN-12MAY03

OU12401,00104B1 -19-01AUG03-1/1

Servicing Fuel Tank

Use a 1/2-inch square-section key to slacken off drain plug by one turn. Drain out the water and sludge. Retighten drain plug until it is hand-tight.

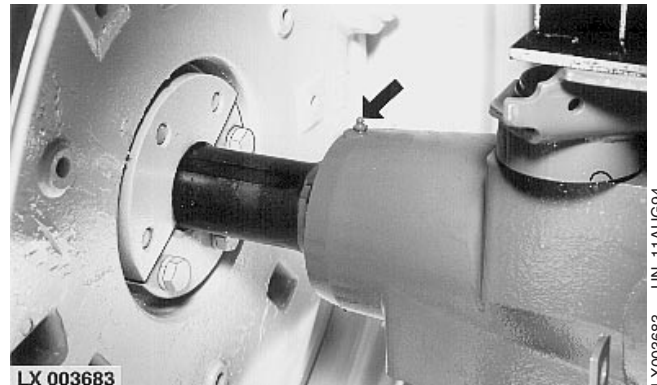


OU12401,00005CD -19-01APR01-1/1

Lubricating Rear Axle Bearings

IMPORTANT: Carry out this service after every ten hours of operation when working under very wet and muddy conditions.

Lubricate both bearings with six to eight strokes of John Deere grease. See Section 80, 'Fuels, Lubricants, Hydraulic Oil and Coolant'.



LX,0500 003572 -19-01JUL95-1/1

Air Intake Hoses

The hoses vary depending on engine type.

Check hoses and tighten clamps.

Leaking or damaged hoses are the cause of dirt entering the engine.

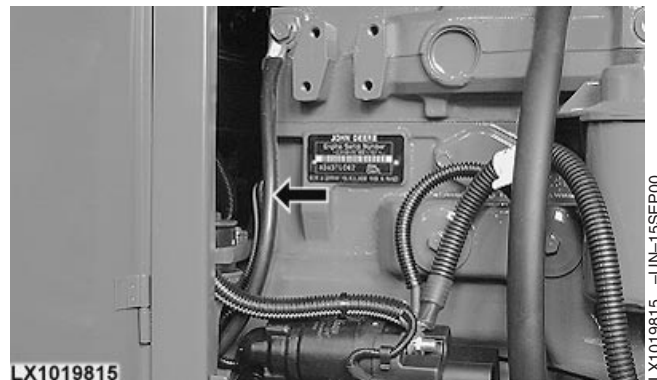


LX,OMWAR 013454 -19-15SEP97-1/1

Checking Engine Ground Connection

Check the ground cable for signs of wear or damage. Check that the attaching screws are tight.

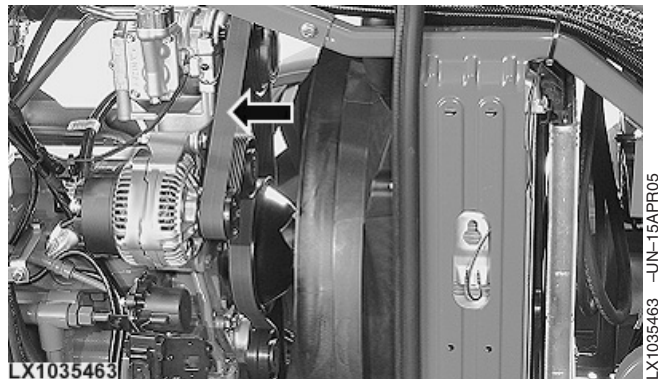
Replace the ground cable if it is damaged.



AG,OU12401,10126 -19-31AUG00-1/1

Check Engine Drive Belt for Wear

If the drive belt shows any signs of wear, see your John Deere dealer.



LX1035463

LX1035463 -UN-15APR05

OULXE59,00107D4 -19-30JUN05-1/1

Service / Every 750 Hours

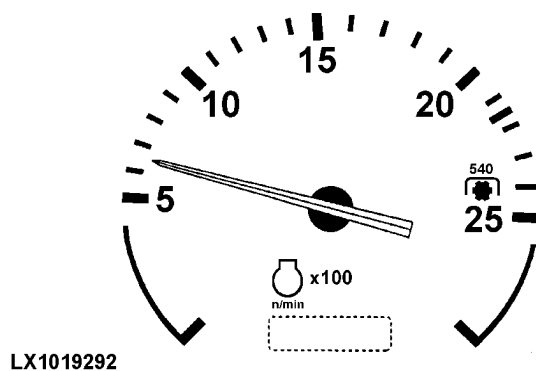
Checking Engine Speeds

Warm up engine and use tachometer to check engine speeds. The following guidelines apply:

Slow idle
845 - 855 rpm

Fast idle
2455 - 2465 rpm

Have adjustments carried out by your John Deere dealer.



LX1019292

OU12401,00104B4 -19-01AUG03-1/1

LX1019292 -UN-12JAN98

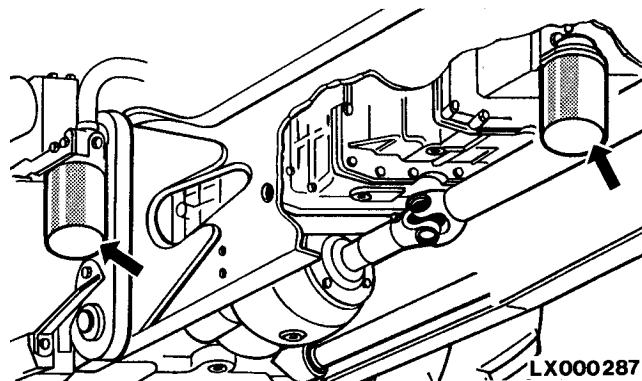
Replacing Transmission/Hydraulic System Filter Elements

IMPORTANT: Always replace both filters at the same time. Never change one only.

NOTE: Replace transmission/hydraulic system filter elements after the first 100 hours of operation. Then replace after the first 750 hours of operation and regularly every 750 hours thereafter.

1. Unscrew filter element.
2. Coat sealing rings of new filter element with grease and screw in filter element.

Use original John Deere filter elements only!



LX000287

LX000287 -UN-15AUG94

LX,OGET 000422 -19-01SEP92-1/1

Service / Once Every Year

Checking Seat Belt

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

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

AG,OU12401,59 -19-19DEC99-1/1

Service / Every 1500 Hours or 2 Years

Changing Oil in Front-Wheel Drive Axle and Final Drives

Replace oil in axle housing and final drives after the first 100 hours of operation. Then replace after every 1500 hours of operation or once every two years, whichever occurs first. Always use a transmission oil listed in the "Fuel, Lubricants, Hydraulic Oil and Coolant" section.

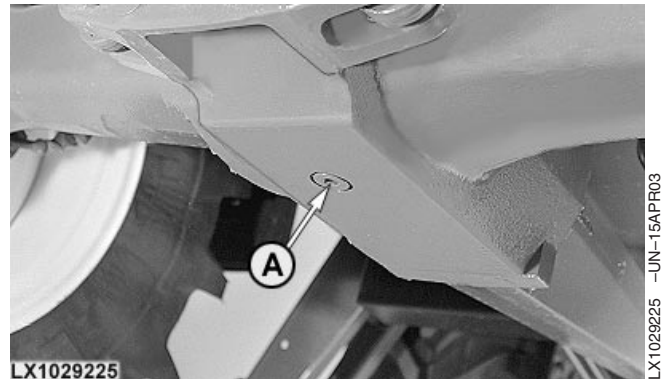
Always drain oil while it is still warm, i.e. immediately after a prolonged period of operation.

OU12401,0000D1B -19-01MAR03-1/1

Changing Oil in MFWD Axle Housing

1. Remove drain screw (A) and drain oil into a suitable container.
2. Reinstall drain screw and tighten to 150 N•m (110 lb-ft).
3. Remove oil level/filler plug (B). Fill with fresh oil. The oil level must be up to lip of filler neck. Reinstall plug and tighten to 150 N•m (110 lb-ft).

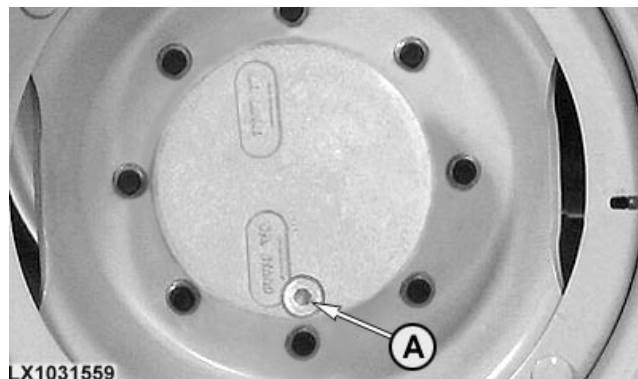
NOTE: Location of screws varies depending on axle type.



OU12401,0000BD1 -19-01MAR03-1/1

Changing Oil in MFWD Final Drives

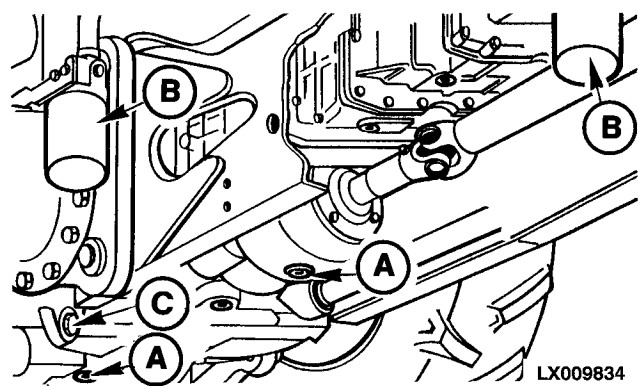
1. Turn wheel until drain screw (A) is at the bottom. Remove drain screw and drain oil into a suitable container.
2. Turn wheel 90° so that "OIL LEVEL" mark is in level position and fill with fresh oil through drain screw bore. The oil level must be up to lip of bore.
3. Reinstall plug and tighten to 150 N•m (110 lb-ft.).



OU12401,0000D1C -19-01MAR03-1/1

Change Transmission/Hydraulic Oil

1. Start engine and operate hydraulic functions to heat up oil.
2. With tractor on level ground, shut off engine and remove key from ignition.
3. Shift transmission to "PARK".
4. Lower draft links.
5. Remove drain screws (A).
6. Replace transmission/hydraulic oil filter elements (B).
7. Remove plug (C), pull out intake screen and wash in fuel.
8. Before refilling with fresh oil, reinstall intake screen and tighten drain screws to 50 N•m (35 lb-ft).
9. Refill transmission housing with transmission/hydraulic oil.
10. Run engine briefly and operate hydraulic functions. Shut off engine and wait five minutes.
11. Lower the draft links.
12. Check oil level. It should be level with upper mark on dipstick. If not, correct oil level.



A—Drain screws
B—Transmission/hydraulic oil filters
C—Drain plug

Capacity: 52 liters (13.7 U.S.gal.)

LX,OM1500015910 -19-01DEC97-1/1

Service / Every 3000 Hours or 3 Years

Changing Coolant



CAUTION: Do not open cap (A) before coolant temperature is below boiling point. First loosen the cap to relieve pressure, then remove cap completely.

NOTE: If COOL-GARD is not used, the drain interval is reduced to 2 years or 2000 hours of operation.

1. On tractors with cab, turn the heater control as far as it will go to the right.
2. First loosen cap (A) and then take it off.
3. Turn connect/disconnect control (B) anti-clockwise as far as it will go.
4. Place a container under the drains to trap the coolant as it emerges. Open drain plug (C).

As soon as system is empty, close radiator drain plug (C) and fill the system with clean water.

Run engine again until it reaches operating temperature. Shut off engine and drain cooling system.

Close drain plug again and fill the system with clean water.

IMPORTANT: Never pour cold water or coolant into the hot engine. Always use warm water or wait until engine has cooled down.

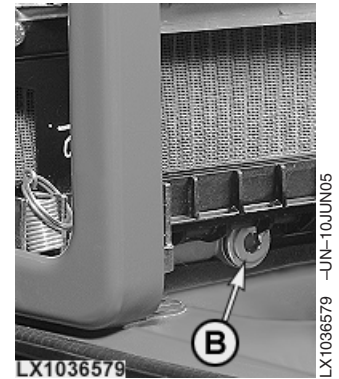
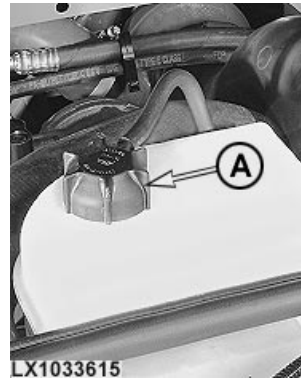
Again run engine until it has reached operating temperature. Shut off engine and drain system again.

Close drain plug again, and this time fill the system with the specified coolant (see section "Fuel, Lubricants, Hydraulic Oil and Coolant").

Add coolant up to the "max." mark.

Start the engine and run it for 5 minutes.

Shut down the engine and add coolant up to the "max." mark.



A—Filler cap

B—Connect/disconnect control (front of radiator)

C—Drain screw (rear of radiator)

Start the engine and bring it up to operating temperature.

Shut down the engine and add coolant up to the "max." mark.

Turn connect/disconnect control (B) clockwise as far as it will go.

Re-install and close the fill cap (A).

For efficient cooling, the radiator screen must be kept clean. Remove any dust or oil and carefully straighten any bent fins.

OULXE59,00107DC -19-14JUL05-2/2

Service / As Required

Air Cleaner

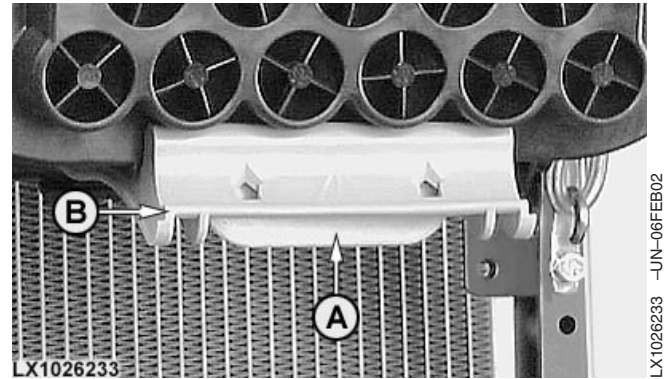
If the air cleaner indicator lamp glows during operation, remove and clean the primary filter element.

The service interval may be extended briefly, e.g. until the next suitable opportunity. Provided the cleaner is serviced properly, this will not adversely affect its performance.

The primary element can be cleaned up to five times. Thereafter, or at the latest after 1500 hours of operation (or 2 years), it must be replaced.

Open the hood, pull lug (A) forward and swing catch (B) down. Fold cover (C) up. Pull the primary filter element out of the cleaner housing.

IMPORTANT: Never run the engine without the primary filter element!



OU12401,0000932 -19-01JAN02-1/1

Cleaning the Primary Filter Element

When the element must be serviced in the field, tap it on the palm of your hand as a temporary measure.

IMPORTANT: The guide ring must not be damaged or deformed.

When you return to your service area, clean the filter element thoroughly, or replace it with a new one.



OU12401,0000933 -19-01MAY01-1/1

Cleaning a Dusty Element

If tapping element does not remove dust, blow out dust with compressed air (not exceeding 600 kPa; 6 bar; 90 psi) by inserting nozzle inside the element and blowing from the inside of the filter to the outside.

Replace element if air cleaner indicator light continues glowing after the element has been cleaned.

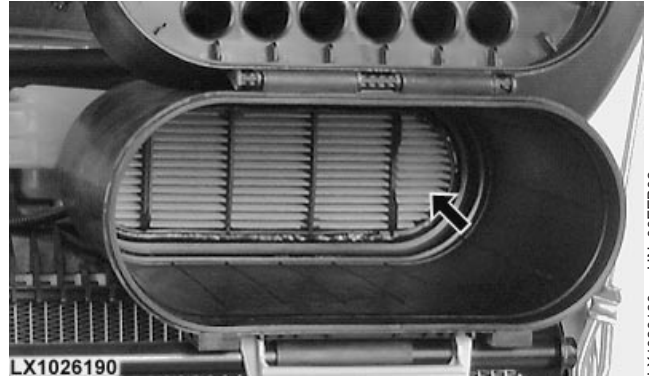


OU12401,00102DE -19-01SEP01-1/1

Secondary (Safety) Element

This filter must be changed if it becomes damaged. Change it at every fifth change of the air cleaner primary element, and at the latest after 1500 hours of operation.

IMPORTANT: Always replace secondary (safety) filter element, do not attempt to clean it.



LX1026190

LX1026190 -UN-06FEB02

OU12401,0000935 -19-01JAN02-1/1

Installation

With the rubber seal first (arrows on decal pointing into the filter housing), slide a serviced or new primary filter element as far as it will go into the filter housing. Fold down the cover and let the catch click into place.

IMPORTANT: Never close the hood or start the engine unless the filter is locked securely.



LX1026191

LX1026191 -UN-06FEB02

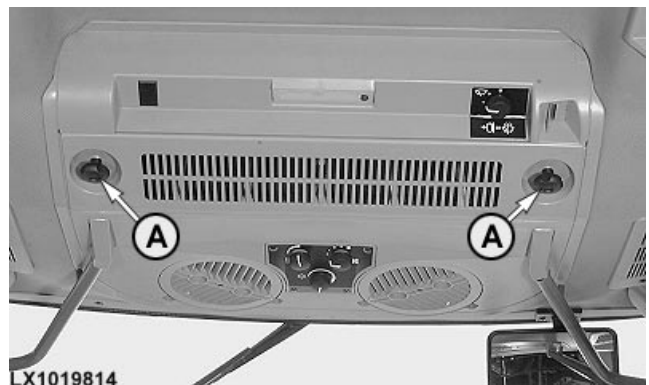
OU12401,0000936 -19-01JAN02-1/1

Cleaning the Cab Air Filter

Every time the primary filter (air cleaner) is serviced, also remove the cab air filter and clean it with compressed air directed from the clean side.

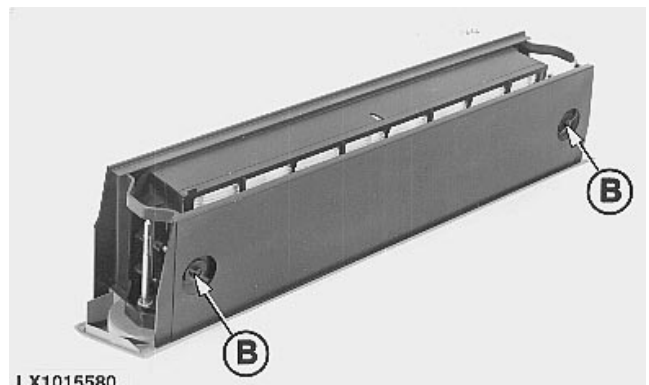
Slacken off screws (A) and take out the air filter box from below. Open catches (B) and take out the air filter element.

Replace the cab air filter together with engine primary air filter element.



LX1019814

LX1019814 -UN-15SEP00



LX1015580

LX1015580 -UN-11DEC96

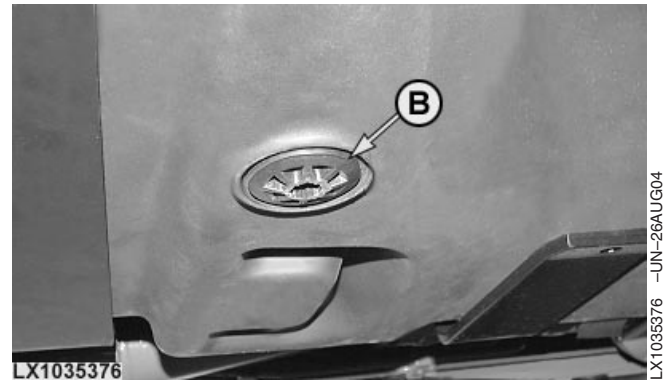
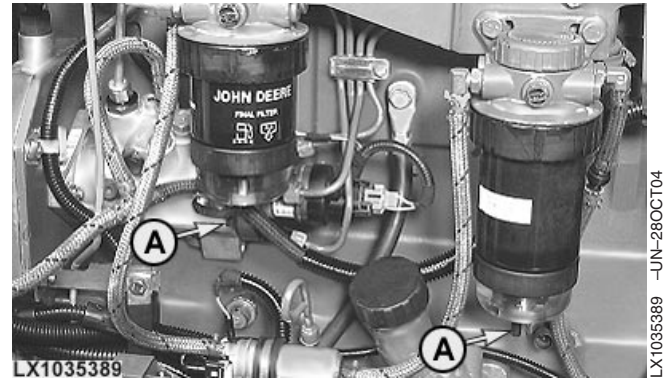
AG,OU12401,10125 -19-31AUG00-1/1

Checking the Fuel Filter

1. Loosen drain screws (A).
2. Retighten both screws as soon as water and sediment deposits have drained out.
3. Turn key in main switch to the right as far as the first switch position so that the fuel transfer pump is operating. Keep the pump running for approx. 20 seconds.

If water was present in fuel filter, then also slacken off the drain screw (B) under the fuel tank by one turn. After draining off any water deposits, retighten drain screws by hand.

A—Drain screw
B—Drain screw (fuel tank)



OU12401,000111B -19-11OCT04-1/1

Bleeding the Fuel System

The fuel system must be bled whenever the fuel tank has been run dry or the fuel filters have been replaced.

Turn key in main switch to the right as far as the first switch position so that the fuel transfer pump is operating. Keep the pump running for approx. 40 seconds.



OU12401,00104B2 -19-01AUG03-1/1

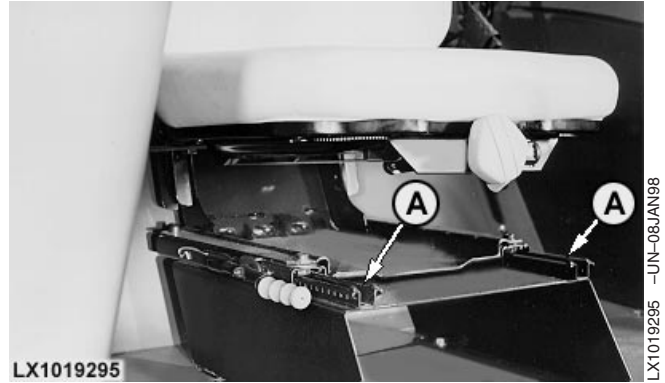
Lubricate All Lubricating Points

If the tractor has been washed with high-pressure water, lubricate all lubricating points.

LX,OWART 002327 -19-01APR92-1/1

Operator's Seat

Lubricate slide rails (A) with John Deere multipurpose grease.



LX,OMASRE015913 -19-01DEC97-1/1

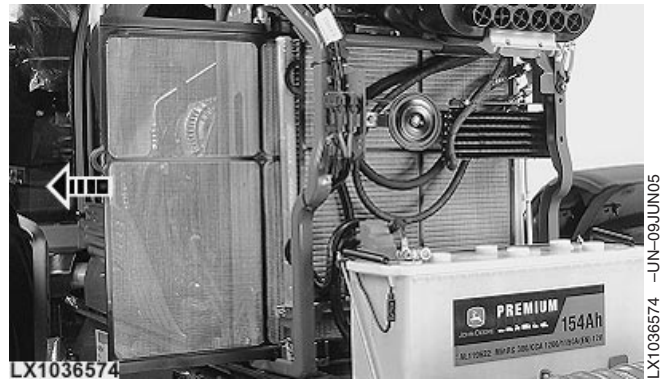
Clean Radiator and Condenser (if equipped)

For efficient cooling, the radiator screen must be kept clean.

Pull the screen (if equipped) out to the side. Remove any dirt from radiator and radiator screen.

Replace radiator screen.

NOTE: If the tractor is equipped with an air-conditioning system, pull the condenser of the air-conditioning system out to the side before cleaning the radiator (see description below).



Continued on next page

OU12401,000125F -19-10JUN05-1/2

Tractors with air-conditioning system

For efficient cooling, the exterior of the condenser must be kept clean.

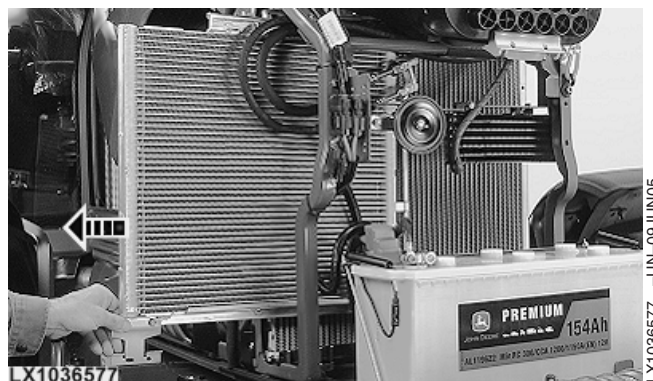
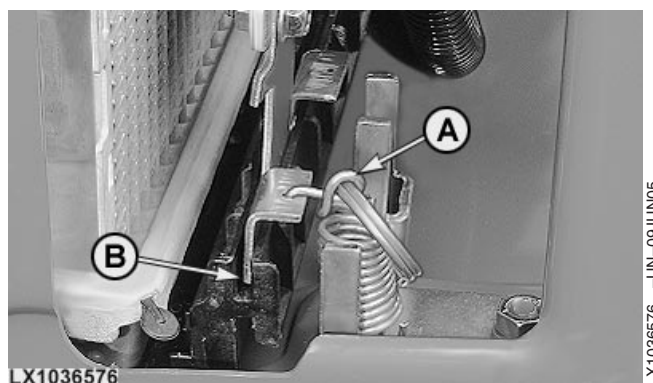
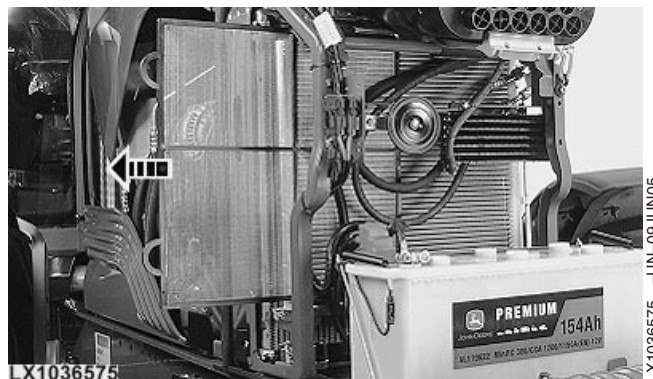
Pull the screen (if equipped) out to the side. Remove any contamination.

Disconnect spring (A) on both tractor sides and pull the condenser out to the side. Remove any contamination.

When re-installing condenser, make sure that it engages properly in the lower and upper guide rails. Also make sure that the condenser is centered in relation to the radiator. Re-connect springs (A) on both sides.

Replace condenser and radiator screens.

- A—Spring
- B—Lower guide rail
- C—Upper guide rail



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 it last.



TS204 -UN-23AUG88



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

Avoid the hazard by:

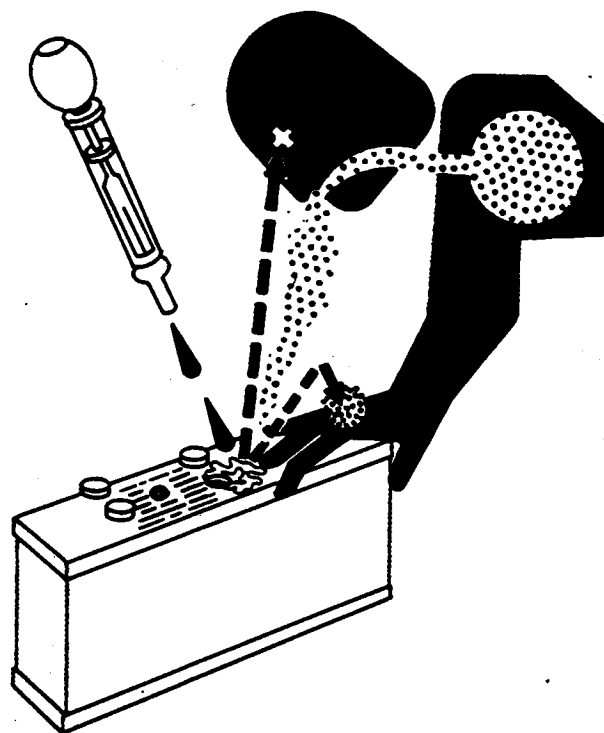
1. Filling batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling or dripping electrolyte.
5. Use proper jump start procedure.

If you spill acid on yourself:

1. Flush your skin with water.
2. Apply baking soda or lime to help neutralize the acid.
3. Flush your 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.



TS203 -UN-23AUG88

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.**

Batteries - Checking Specific Gravity

Use an hydrometer to check the specific gravity of the electrolyte in each battery cell.

A fully charged battery should have a specific gravity of 1.28 kg/l. Recharge battery if reading drops below 1.20 kg/l.

NOTE: In tropical regions, the battery is fully charged when the reading is 1.23 kg/l.



AG,OU12401,98 -19-07JAN00-1/1

Starter Motor

If the starter fails to operate after the starter switch has been operated, the complete starter system must be thoroughly checked. Check specific gravity of batteries with an hydrometer and make sure that none of the cables are broken or worn through and that none of the cable connections are loose or corroded.

If the above checks fail to improve the operation of the starter, see your John Deere dealer.



OU12401,0010358 -19-01JUL02-1/1

Replacing the Main Fuses

The two main fuses are located under the engine hood, where they are secured on the r.h. side of the hood frame just above the battery.

Open operator's station

F13—60-amp battery circuit (main power supply)

F14—60-amp battery circuit (main power supply)

Tractors with cab

F13—60-amp battery circuit (main power supply)

F14—80-amp battery circuit (main power supply)

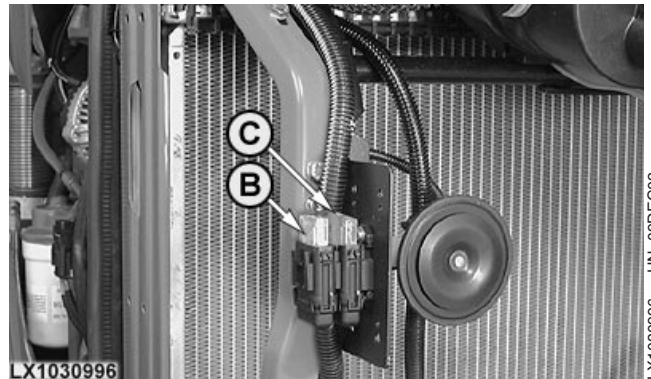
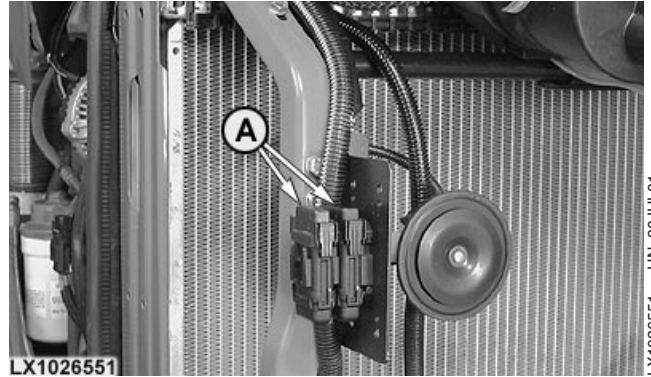
IMPORTANT: To prevent damage to the electrical system, never use a fuse with a rating higher than the one already installed.

Open the hood.

Take covers (A) off the two fuses.

Replace fuse (B) or (C).

Put the covers back on the fuses.



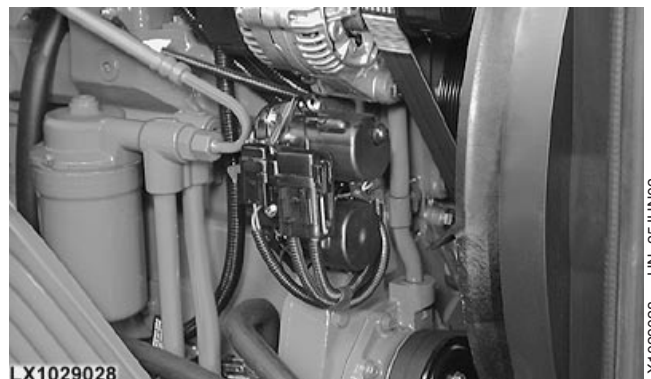
A—Fuse covers
B—Main fuse (F13)
C—Main fuse (F14)

OU12401.0000D58 -19-01MAR03-1/1

Replacing the Electric Starting Aid Fuses

The fuses for the electric starting aid are on the right side of the engine block.

Open the hood.



Continued on next page

OU12401.0000D59 -19-01MAR03-1/3

Replacing the fuse for the heater element (electric starting aid)

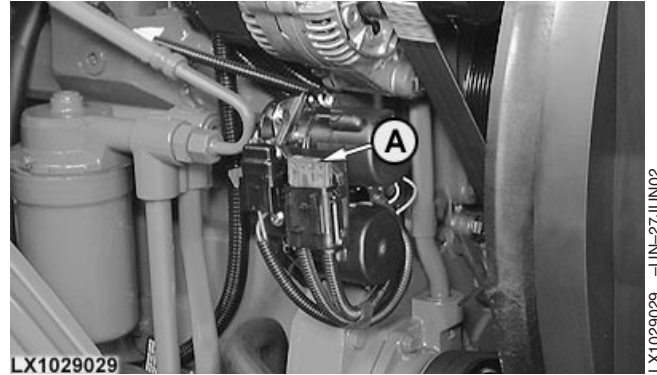
F09—70-amp heating element in electric starting aid

IMPORTANT: To prevent damage to the electrical system, never use a fuse with a rating higher than the one already installed.

Take the cover off the fuse.

Replace fuse (A).

Put the cover back on the fuse.



A—Fuse F09 for heater element (electric starting aid)

OU12401,0000D59 -19-01MAR03-2/3

Replacing the indicator light fuse (electric starting aid)

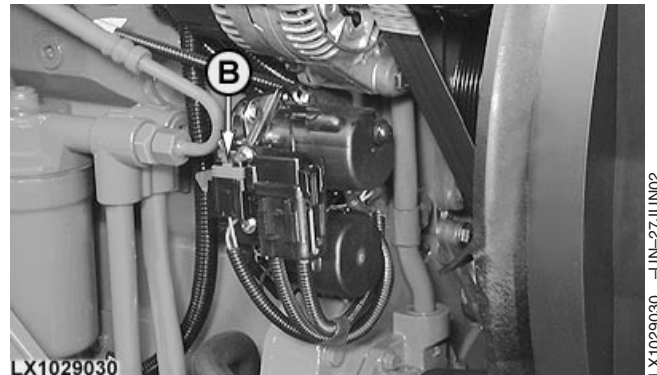
F11—10-amp indicator light in electric starting aid

IMPORTANT: To prevent damage to the electrical system, never use a fuse with a rating higher than the one already installed.

Take the cover off the fuse.

Replace fuse (B).

Put the cover back on the fuse.



B—Fuse for indicator light (electric starting aid)

OU12401,0000D59 -19-01MAR03-3/3

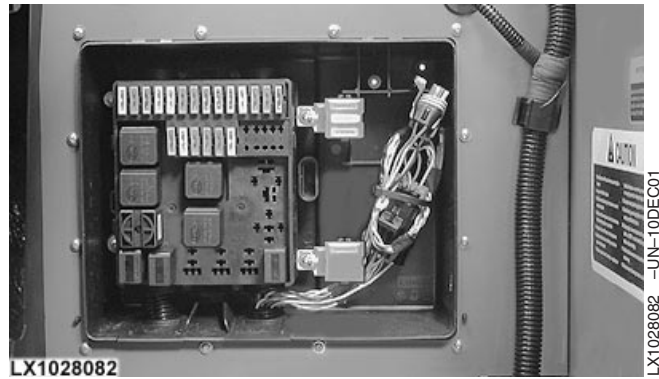
Fuse and Relay Box on Tractors with Open Operator's Station

Fuse and relay box

NOTE: Depending on how the tractor is equipped, it may not have all the fuses and relays shown below.

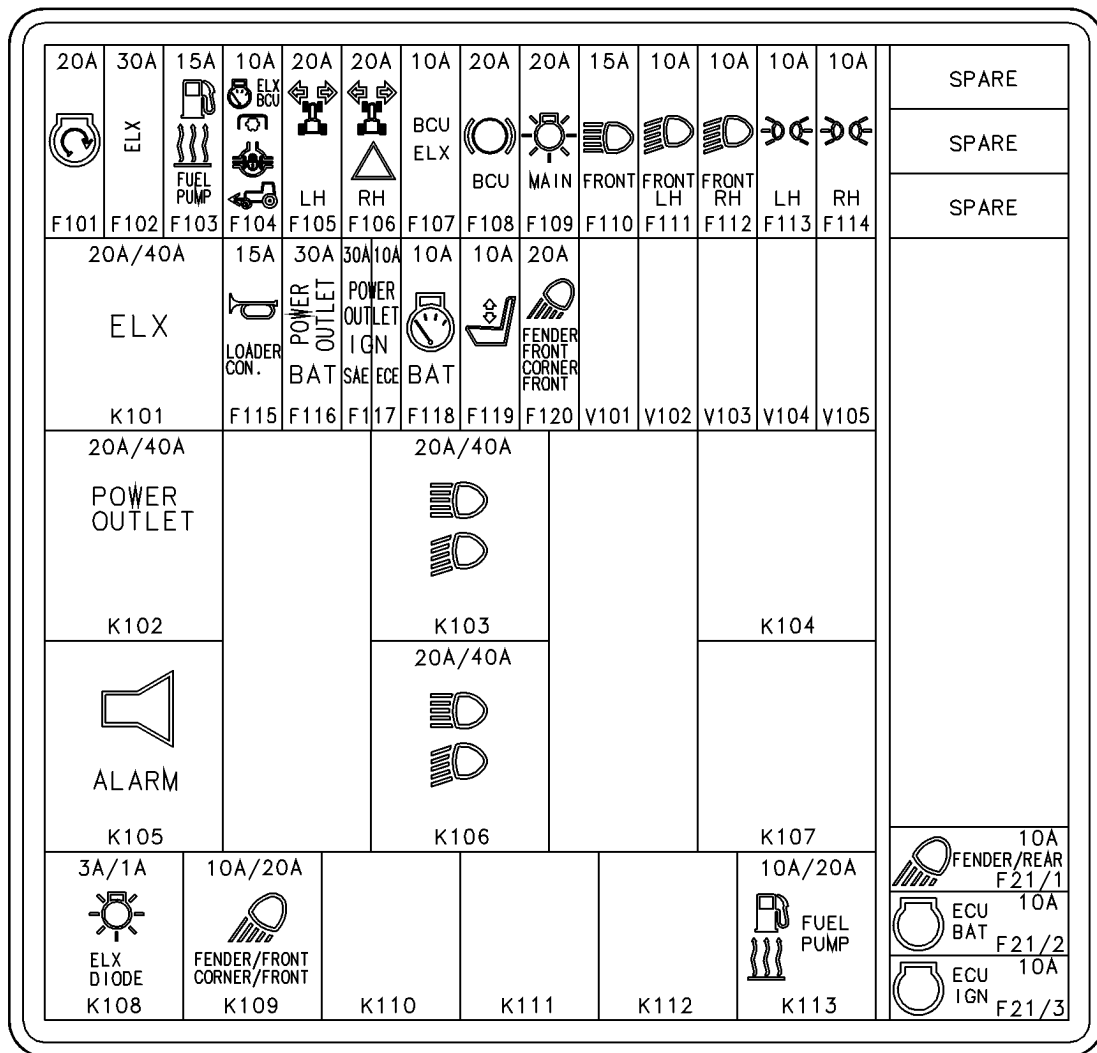
The fuse and relay box is located on the left behind the operator's seat in the rear wall of the open operator's station.

Take the cover off.



Continued on next page

LX25599,00004A9 -19-01FEB03-1/3



LX1029998

LX1029998 -UN-19AUG02

Fuses and relays

IMPORTANT: To prevent damage to the electrical system, never use a fuse with a rating higher than the one already installed.

- F101** — 20-amp main switch (BAT)
F102 — 30-amp, power supply for electronics
F103 — 15-amp fuel pump, injection pump shut-off valve, fuel preheater
F104 — 10-amp basic informant, Basic Control Unit (PTO, front-wheel drive, differential lock, turn-signal switch) (power supply)
F105 — 20-amp left turn signal
F106 — 20-amp right turn signal, hazard warning lights

- F107** — 10-amp BCU controller (power supply)
F108 — 20-amp brake switch, brake light
F109 — 20-amp light switch (terminal B)
F110 — 15-amp full-beam headlights
F111 — 10-amp dipped-beam headlight, left
F112 — 10-amp dipped-beam headlight, right
F113 — 10-amp l.h. tail light
F114 — 10-amp r.h. tail light
F115 — 15-amp horn, plug for front loader
F116 — 30-amp 3-terminal socket, socket strip (battery voltage)
F117 — 30-amp 3-terminal socket, socket strip, 7-terminal socket
F118 — 10-amp basic informant (battery voltage)
F119 — 10-amp operator's seat

Continued on next page

LX25599.00004A9 -19-01FEB03-2/3

F120 — 10-amp work lights on front fenders and front corner work lights
F21/1 — 10-amp worklights on fenders (rear-facing)
F21/2 — 10-amp ECU controller (battery voltage)
F21/3 — 10-amp ECU controller (power supply)
V101 — Not used
V102 — Not used
V103 — Not used
V104 — Not used
V105 — Not used
K101 — Relay for power supply to electronics
K102 — Relay for 3-terminal socket, power outlet strip, 7-terminal socket
K103 — Relay for dipped-beam headlights

K104 — Not used
K105 — Acoustic alarm
K106 — Relay for full-beam headlights
K107 — Not used
K108 — 3-amp lighting diode
K108 — 1-amp diode for power supply to electronics
K109 — Relay for work lights on front fenders, front corner work lights
K110 — Not used
K111 — Not used
K112 — Not used
K113 — Relay for fuel preheater, fuel transfer pump, injection pump shut-off valve

LX25599,00004A9 -19-01FEB03-3/3

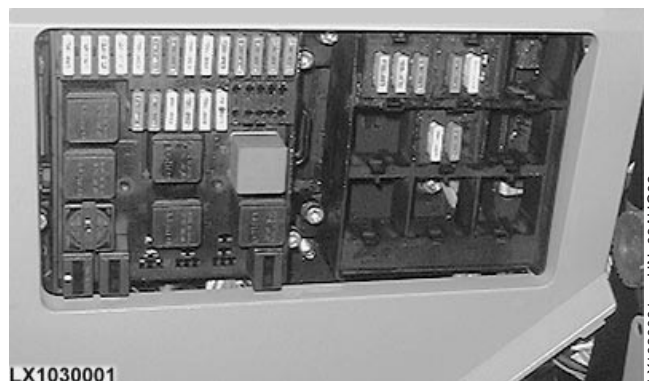
Fuse and Relay Box on Tractors with Operator's Cab

Fuse and relay box

NOTE: Depending on how the tractor is equipped, it may not have all the fuses and relays shown below.

The fuse and relay box is located on the right-hand side near the operator's seat.

Remove cover (A).



Continued on next page

LX25599,00004F4 -19-01FEB03-1/4

20A  F101	30A ELX F102	15A  F103	10A ELX ECU  F104	20A  LH F105	20A  RH F106	10A BCU ELX F107	20A  BCU F108	20A  F109	15A  F110	10A  LH F111	10A  RH F112	10A  F113	10A  F114
ELX RELAY K101			10A RADIO ACC F115	15A  RADIO BAT F116	15A  F117	10A  F118	20A  F119	30A  F120	V101	V102	V103	V104	V105
20/40A POWER OUTLET K102			20/40A  K103			20/40A  K106			70A  K104				
ALARM K105			20/40A  K106			20/40A  K107			20/40A  K107				
DIODE 3/1A  K108	10/20A ROOF FRONT FENDER FRONT K109		10/20A  FRONT CORNER K110		10/20A K111		10/20A K112		10/20A  K113				

LX1029999

LX1029999 -JUN-19AUG02

Fuses and relays (fuse and relay box 1)

IMPORTANT: To prevent damage to the electrical system, never use a fuse with a rating higher than the one already installed.

F101 — 20-amp main switch (BAT)

F102 — 30-amp, power supply for electronics

F103 — 15-amp fuel pump, injection pump shut-off valve, fuel preheater

F104 — 10-amp basic informant, Basic Control Unit (PTO, front-wheel drive, differential lock,

turn-signal switch, power supply), ECU (power supply)

F105 — 20-amp left turn signal

F106 — 20-amp right turn signal, hazard warning lights

F107 — 10-amp BCU controller (power supply)

F108 — 20-amp brake switch, brake light

F109 — 20-amp light switch (terminal B)

F110 — 15-amp full-beam headlights

F111 — 10-amp dipped-beam headlight, left

F112 — 10-amp dipped-beam headlight, right

F113 — 10-amp l.h. tail light

F114 — 10-amp r.h. tail light

F115 — 10-amp radio (power supply)

F116 — 15-amp radio, dome light (battery voltage)	K104 — Relay for air conditioning system blower
F117 — 10-amp wiper, operator's seat	K105 — Acoustic alarm
F118 — 10-amp air conditioning system	K106 — Relay for full-beam headlights
F119 — 20-amp blower, air conditioning system	K107 — Blower relay
F120 — 30-amp blower	K108 — 3-amp lighting diode
V101 — Not used	K108 — 1-amp diode for power supply to electronics
V102 — Not used	K109 — Relay for worklights on front of cab roof , rear-facing worklights on fender
V103 — Not used	K110 — Relay for front corner worklights
V104 — Not used	K111 — Not used
V105 — Not used	K112 — Not used
K101 — Relay for power supply to electronics	K113 — Relay for fuel preheater, fuel transfer pump, injection pump shut-off valve
K102 — Relay for 3-terminal socket, power outlet strip, 7-terminal socket	
K103 — Relay for dipped-beam headlights	

Continued on next page

LX25599,00004F4 -19-01FEB03-3/4

15A  LOADER F021-1	30A POWER OUTLET BAT F021-2	30A/10A POWER OUTLET IGN SAE/EC F021-3	15A  BELTLINE F022-1	10A  BELTLINE LH F022-2	10A  BELTLINE RH F022-3	10A  ROOF REAR F023-1	20A  ROOF FRONT FENDER REAR F023-2	10A  FRONT CORNER F023-3
10/20A  BELTLINE H3/H4 K024-1	10/20A  BELTLINE H4 K024-2							
		10A  ENGINE CONTROL BAT F025-1	10A  ENGINE CONTROL IGN F025-2					

LX1030000

LX1030000 -JUN-19AUG02

Fuses and relays (fuse and relay box 2)

IMPORTANT: To prevent damage to the electrical system, never use a fuse with a rating higher than the one already installed.

F021/1 — 15-amp horn, plug for front loader

F021/2 — 30-amp 3-terminal socket, socket strip (battery voltage)

F021/3 — 30-amp 3-terminal socket, socket strip, 7-terminal socket

F022/1 — 15-amp full beam (lights on cab frame)

F022/2 — 10-amp dipped beam, left (lights on cab frame)

F022/3 — 10-amp dipped beam, right (lights on cab frame)

F023/1 — 10-amp worklights on rear of cab roof

F023/2 — 10-amp worklights on front of cab roof , rear-facing worklights on fender

F023/3 — 10-amp front corner work light

F025/1 — 10-amp ECU controller (battery voltage)

F025/2 — 10-amp ECU controller (power supply)

F025/3 — Not used

K024/1 — Relay for lights on cab frame

K024/2 — Relay for lights on cab frame

Replacing the Drive Belt

Pull the catch and lift the hood up.



LX1026131 -UN-21MAY01

OU12401,0000940 -19-01MAY01-1/5

Relieve Drive Belt Tension



CAUTION: Disconnect the battery ground cable (-).

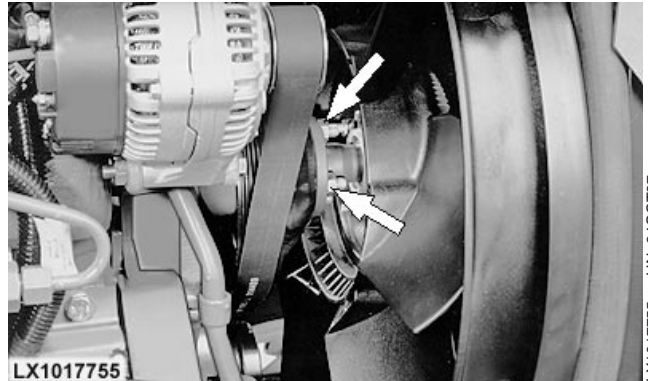
Slacken off the four hex. nuts and push the fan forward.

Use a 15 mm (19/32 in.) wrench to turn the cap screw in the idler roll clockwise (see arrow) until the two holes (A) and (B) are aligned.

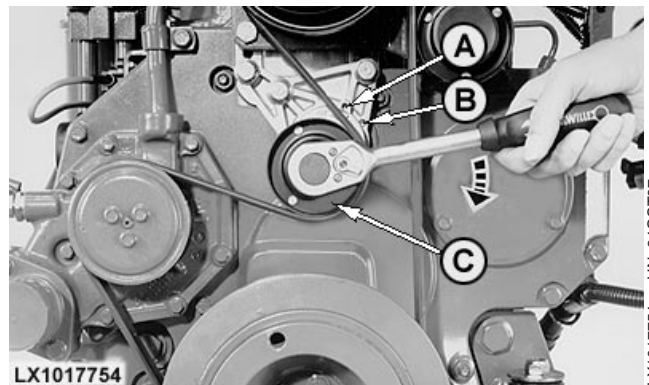
Insert a metal pin with a dia. of 5 mm (0.2 in.) into the two aligned holes.

Before tensioning, turn the idle roll a little to relieve the pressure on the metal pin, and then take out the metal pin. The drive belt tensioner returns to its tensioning position automatically.

- A—Hole (cam)
- B—Hole (base plate)
- C—Idler roll



LX1017755 -UN-24OCT97

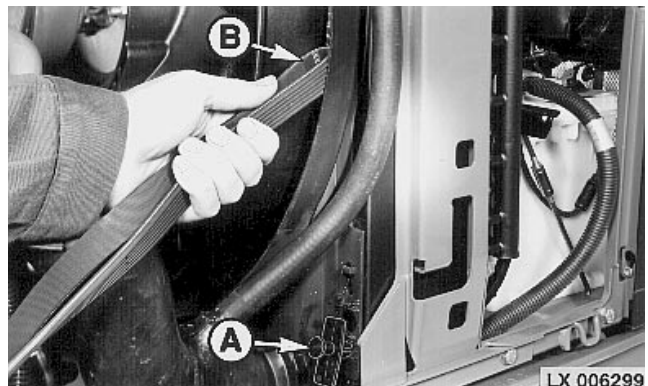


LX1017754 -UN-24OCT97

OU12401,0000940 -19-01MAY01-2/5

Remove old drive belt from pulleys, and cut.

Remove the three expanding plugs (A) of the shroud. Place a loop of the new drive belt (B) between fan and shroud.

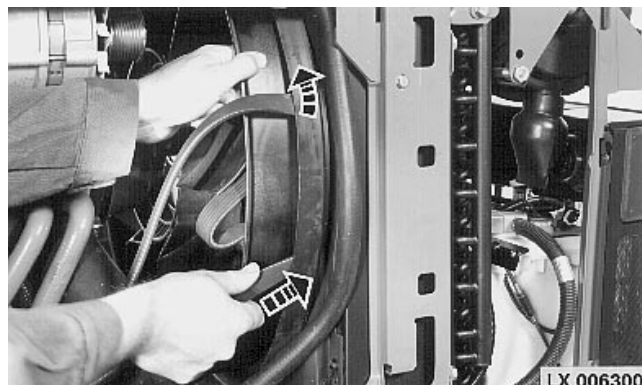


LX 006299 -UN-13SEP94

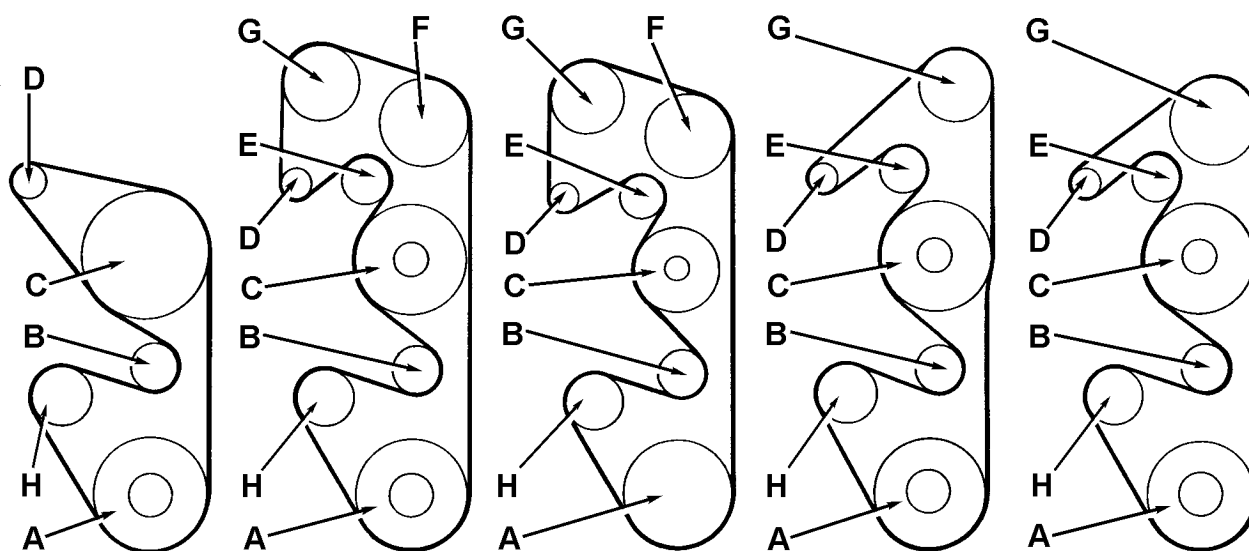
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OU12401,0000940 -19-01MAY01-3/5

Turn fan while at the same time placing the drive belt around the fan.



OU12401,0000940 -19-01MAY01-4/5



LX1017756

LX1017756 -UN-29OCT97

A—Crankshaft
B—Idler roll
C—Fan

D—Alternator
E—Deflection roll

F—Compressor (air pressure)
G—Compressor (air conditioning system)

H—Coolant pump

Installing a New Drive Belt

Slacken drive belt tensioner and install new drive belt correctly.

For further assembly, see "Removing Drive Belt".

OU12401,0000940 -19-01MAY01-5/5

Troubleshooting

Hydraulic System

Symptom	Problem	Solution
Hydraulic system fails to function	Not enough oil in the system	Top up to mark on dipstick.
	Clogged hydraulic filters	Replace hydraulic filters.
	Dirt in hydraulic pump	Check filter for clogging.
Hydraulic oil overheats	Oil cooler air passages clogged	Clean oil cooler.
	Dirt in hydraulic pump	Check filter for clogging.
Hitch fails to lift load	Excessive load on hitch	Adjust auxiliary springs on implement or reduce load.
Hitch drops too slowly	Rate-of-drop regulator not adjusted properly	Adjust rate of drop.
No hitch response to draft load	System regulator in Height or Load-and-Depth Control position	Place system regulator in Load Control position.
Hitch too active	System regulator in Load Control position	Place system regulator in Load-and-Depth position.
Direction of remote cylinder travel is reversed	Hoses connected incorrectly	Connect hoses correctly.
Remote cylinder will not lift load	Excessive load	Adjust auxiliary springs on implement or reduce load.
	Hoses on quick-coupler not correctly attached	Attach hoses to quick-coupler correctly.
	Air in remote cylinder	Bleed cylinder.
Remote cylinder travels too fast or too slowly	Rate-of-lift is adjusted incorrectly	Adjust rate of lift.

LX,OTRO 000447 -19-01OCT94-1/1

Engine

Symptom	Problem	Solution
Engine hard to start or will not start	No fuel	Fill tank with proper fuel.
	Air in the fuel system	Bleed air from fuel system.
	Low ambient air temperature	Use cold weather starting aids.
	Clogged fuel filter	Replace filter element.
	Crankcase oil too heavy	Use oil of proper viscosity.
Engine knocks	Insufficient oil in engine	Add more oil.
	Fuel injection pump incorrectly timed	See your dealer.
Engine overheats	Low coolant level	Fill radiator to proper level. Check cooling system for leaks.
	Loose or defective fan belt	Adjust or replace fan belt.
	Cooling system needs flushing	Drain, flush and refill cooling system.
	Dirty oil cooler or grille screens	Clean oil cooler and screens.
	Defective thermostat	Remove and check thermostat.
Engine oil pressure too low	Low engine oil level	Add more engine oil.
High oil consumption	Oil of too low viscosity	Drain and refill with oil of correct viscosity.
	Oil leaks	Check for leaks in lines and around gaskets.
High fuel consumption	Wrong type of fuel	Use a suitable fuel grade.
	Incorrect valve clearance	See your dealer.
	Fuel injection nozzles dirty or damaged	See your dealer.
	Engine incorrectly timed	See your dealer.
	Clogged or dirty air cleaner	Service air cleaner.

Troubleshooting

Symptom	Problem	Solution
Engine emits black or gray exhaust smoke	Unsuitable fuel grade	Use a suitable fuel grade.
	Clogged air cleaner	Service air cleaner.
	Defective muffler	Replace muffler.
	Fuel injection nozzles dirty or damaged	See your dealer.
Engine emits white smoke	Unsuitable fuel grade	Use a suitable fuel grade.
	Cold engine	Run engine until normal operating temperature is reached.
	Defective thermostat	Replace thermostat.
	Engine incorrectly timed	See your dealer.

LX,OTRO 000448 -19-01JUL94-2/2

Electrical System

Symptom	Problem	Solution
Battery will not charge	Loose or corroded connections	Clean and tighten battery connections.
	Fault in alternator	See your John Deere dealer
	Sulfated battery	Check specific gravity and electrolyte level of battery.
	Loose or defective alternator belt	Adjust belt tension or replace belt.
Starter inoperative	Loose or corroded connections	Clean and tighten loose connections.
	Low battery output	Check and recharge battery.
	Blown fuse	Put in a new fuse.
	Defect in starter motor	See your John Deere dealer.
Starter cranks slowly	Low battery output	Check and recharge battery.
	Crankcase oil too heavy	Drain crankcase and add correct oil.
	Loose or corroded connections	Clean and tighten loose connections.
	Defect in starter motor	See your John Deere dealer.

AG,OU12401,101 -19-07JAN00-1/1

Storage

Storage for Long Period

The following storage preparations are good for long term tractor storage up to one year. When this time is up, run the engine until it reaches operating temperature and operate some hydraulic functions. Afterwards retreat tractor for an extended storage period.

IMPORTANT: Any time your tractor will not be used for over six (6) months, the following recommendations for storing it and removing it from storage will help to minimize corrosion and deterioration.

Change engine oil and replace filter. Change transmission oil and filter. Used oil will not give adequate protection.

Clean air cleaner.

Draining and flushing of cooling system is not necessary if engine is to be stored only for several months. However, for extended storage periods of a year or longer, it is recommended that the cooling system be drained, flushed and refilled. Refill with appropriate coolant.

Fill the fuel tank.

Remove fan/alternator belt, if desired.

Remove and clean batteries. Store them in a cool, dry place and keep them fully charged.

Clean the exterior of the tractor with salt-free water and touchup any scratched or chipped painted surfaces with a good quality paint.

Coat all exposed (machined) metal surfaces with grease or corrosion inhibitor if not feasible to paint.

Seal all openings such as the vent tube and exhaust outlet.

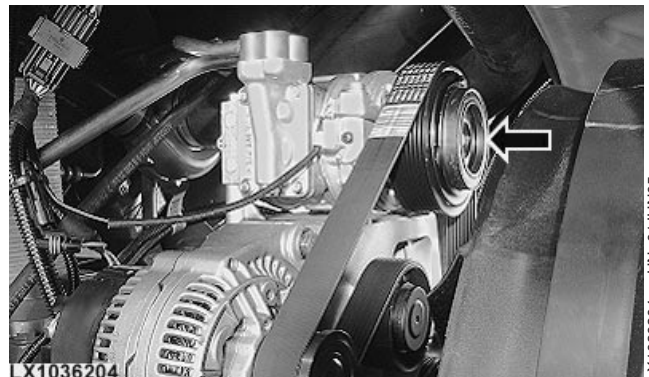
Store the machine in a dry, protected place. If the tractor must be stored outside, cover it with a waterproof canvas or other suitable protective material and use a strong waterproof tape.

Block up the tractor so that tires do not touch the ground. Protect tires from heat and sunlight.

OULXE59,00107D0 -19-29JUN05-1/2

Tractors with air-conditioning

Rotate inner part of A/C compressor pulley several turns once a month to prevent seizure of compressor.



OULXE59,00107D0 -19-29JUN05-2/2

Removing Tractor From Storage

Remove all protective coverings. Check tire inflation and remove blocks.

Install battery and connect cable and ground straps (negative terminals grounded).

Check transmission and hydraulic oil level.

See that fuel tank is filled.

Check coolant level in radiator.

Check crankcase oil level.

Carry out 750-hour check.



CAUTION: Never operate the engine in a closed building. Danger of asphyxiation!

Turn the engine over with the starter for several seconds so that engine oil pressure builds up. Then connect the cable to the fuel injection pump and start the engine.

LX,OKON 000446 –19–01MAY92–1/1

Specifications

Engine

	6215 Tractors	6415 Tractors	6615 Tractors	6715 Tractors
Engine type	4045TL272	4045HL272	6068HL271	6068HL273
PTO power	54 kW (72 hp)	63 kW (86 hp)	71 kW (95 hp)	78 kW (105 hp)
Number of cylinders	4	4	6	6
Bore	106.5 mm (4.19 in.)	106.5 mm (4.19 in.)	106.5 mm (4.19 in.)	106.5 mm (4.19 in.)
Stroke	127.0 mm (5.00 in.)	127.0 mm (5.00 in.)	127.0 mm (5.00 in.)	127.0 mm (5.00 in.)
Displacement	4530 cm ³ (276 cu.in.)	4530 cm ³ (276 cu.in.)	6790 cm ³ (414 cu.in.)	6790 cm ³ (414 cu.in.)
Firing order	1-3-4-2	1-3-4-2	1-5-3-6-2-4	1-5-3-6-2-4
Intake valve clearance	0.35 mm (0.014 in.)	0.35 mm (0.014 in.)	0.35 mm (0.014 in.)	0.35 mm (0.014 in.)
Exhaust valve clearance	0.45 mm (0.018 in.)	0.45 mm (0.018 in.)	0.45 mm (0.018 in.)	0.45 mm (0.018 in.)
Slow idle	845 - 855 rpm	845 - 855 rpm	845 - 855 rpm	845 - 855 rpm
Fast idle	2455 - 2465 rpm	2455 - 2465 rpm	2455 - 2465 rpm	2455 - 2465 rpm
Rated engine speed	2300 rpm	2300 rpm	2300 rpm	2300 rpm
Working speed range	1000 - 2300 rpm	1000 - 2300 rpm	1000 - 2300 rpm	1000 - 2300 rpm
Speed for PTO operation				
- 540 rpm rear PTO	2143 rpm	2143 rpm	2143 rpm	2143 rpm
-1000 rpm rear PTO	2208 rpm	2208 rpm	2208 rpm	2208 rpm

OU12401,00104B3 -19-01AUG03-1/1

Transmission

Syncroplus transmission	synchronized gears, mechanically actuated
Gear selections	12 forward gears, 4 reverse gears
PowrReverser transmission	synchronized gears, mechanically actuated
Gear selections	16 forward gears, 16 reverse gears
Actuation of reverse drive lever	mechanical/hydraulic, under load, without actuating the clutch
PowrQuad transmission	planetary gears, hydraulically actuated
Gear selections	16 forward gears, 16 reverse gears
Actuation of reverse drive lever	mechanical/hydraulic, under load, without actuating the clutch
Clutch	mechanical/hydraulic

OU12401,00104CC -19-01AUG03-1/1

Hydraulic System

Type	closed-center with Load-Sensing control
Pump	gear type pump
System pressure	
- min. (standby):	1200 kPa (12 bar; 170 psi)
- max.:	20000 kPa (200 bar; 2905 psi)
Steering system	hydrostatic power

AG,OU12401,67 -19-01APR01-1/1

Weights and Loads

	6215 and 6415 Tractors	6615 and 6715 Tractors
Maximum permissible static vertical load		
- on swinging drawbar (transport position; 250 mm, 9.8 in.)		
Tractors without front wheel drive	1400 kg (3085 lb)	1400 kg (3085 lb)
Tractors with front wheel drive	1600 kg (3525 lb)	1600 kg (3525 lb)
- on swinging drawbar (operating position)		
extended 250 mm (9.8 in.)	2250 kg (4960 lb)	2250 kg (4960 lb)
extended 350 mm (13.8 in.)	1400 kg (3085 lb)	1400 kg (3085 lb)
extended 400 mm (15.7 in.)	1200 kg (2645 lb)	1200 kg (2645 lb)
extended 550 mm (21.7 in.)	800 kg (1765 lb)	800 kg (1765 lb)
Maximum permissible front axle load (without FWD)		
- normal operation	2050 kg (4520 lb)	2050 kg (4520 lb)
- with front loader	5000 kg (11025 lb)*	5000 kg (11025 lb)**
Maximum permissible front axle load (with FWD)		
- normal operation	3400 kg (7495 lb)	4200 kg (9260 lb)
- with front loader	5500 kg (12125 lb)*	5800 kg (12785 lb)**
Maximum permissible rear axle load	5600 kg (12345 lb)	6500 kg (14330 lb)
Maximum permissible total weight	7000 kg (15430 lb)	8000 kg (17625 lb)

* Maximum travel speed 8 km/h (5 mph), max. tread width 1.80 m (71 in.)

** Maximum travel speed 8 km/h (5 mph), max. tread width 1.90 m (75 in.)

NOTE: Traffic regulations in certain countries may restrict the permissible axle loads and total weight to figures lower than those quoted above.

OULXE59,00107D5 -19-30JUN05-1/1

Towable Loads

Depending on how the towed load is braked, the following weights and speeds are permitted:

Trailer brake system	Max. weight of load	Max. travel speed
- unbraked	3000 kg (6615 lb)	25 km/h (15.5 mph)
- independently braked	4000 kg (8820 lb)	25 km/h (15.5 mph)
- overrun brake	8000 kg (17635 lb)	25 km/h (15.5 mph)
- hydraulic brake	34000 kg (74955 lb)	25 km/h (15.5 mph)
- single-line air brake	34000 kg (74955 lb)	25 km/h (15.5 mph)
- dual-line air brake	34000 kg (74955 lb)	40 km/h (24.9 mph)

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

OU12401,0000E7A -19-01JUL03-1/1

Electrical System

	6215 and 6415 Tractors	6615 and 6715 Tractors
Battery	12 V, 110 Ah or 12 V, 154 Ah	12 V, 154 Ah or 12 V, 174 Ah
Alternator with overvoltage protection	14 V, 90 A	14 V, 90 A
Starter motor	12 V, 3.0 kW (4.0 hp)	12 V, 3.4 kW (4.6 hp)
Battery terminal grounded	Negative	Negative

OU12401,0010360 -19-01JUL02-1/1

Capacities

	6215 and 6415 Tractors	6615 and 6715 Tractors
Fuel tank	165 liters (43.6 U.S. gal.)	207 liters (54.7 U.S. gal.)
Cooling system	13.5 liters (3.6 U.S. gal.)	15.5 liters (4.1 U.S. gal.)
Crankcase	16 liters (4.2 U.S. gal.)	20 liters (5.3 U.S. gal.)
Transmission/hydraulic system		
- SyncroPlus transmission	52 liters (13.7 U.S. gal.)	52 liters (13.7 U.S. gal.)
- PowrReverser transmission	52 liters (13.7 U.S. gal.)	52 liters (13.7 U.S. gal.)
- extra for creeper transmission	1 liter (0.3 U.S. gal.)	1 liter (0.3 U.S. gal.)
- extra with front wheel drive	3 liters (0.8 U.S. gal.)	3 liters (0.8 U.S. gal.)
Front wheel drive		
- Axle housing	6.5 liters (1.7 U.S. gal.)	8.2 liters (2.2 U.S. gal.)
- Final drives	0.6 liters (0.2 U.S. gal.)	1.7 liters (0.5 U.S. gal.)

Due to different equipment and design, the capacities of the front-wheel drive axles vary considerably. Always fill with oil up to the bottom of hole at filling plug.

OU12401.00010B0 -19-28APR04-1/1

Load Capacity of Tires (Front)

Maximum permissible front axle load (without FWD):

Tires for 6215 - 6715

Tractors

10.00-16	6 PR	1930 kg (4255 lb)
10.00-16	8 PR	2380 kg (5245 lb)
10.00-16	10 PR	2650 kg (5840 lb)

Normal operation

Maximum permissible front axle load on axles with one row of holes is 1600 kg (3525 lb).

Maximum permissible front axle load (with FWD):

Tires for 6215 and 6415

Tractors

		Index Radius	Normal operation
12.4-24	6 PR	540 mm (21.3 in.)	2420 kg (5335 lb)
12.4-24	12 PR	540 mm (21.3 in.)	3000 kg (6615 lb)
13.6-24	8 PR	560 mm (22.0 in.)	3000 kg (6615 lb)
13.6-38	6 PR	772 mm (30.4 in.)	3000 kg (6615 lb)

Tires for 6615 and 6715

Tractors

		Index Radius	Normal operation
13.6-24	8 PR	560 mm (22.0 in.)	3110 kg (6855 lb)
14.9-24	6 PR	590 mm (23.2 in.)	3020 kg (6655 lb)
13.6-28	6 PR	610 mm (24.0 in.)	2860 kg (6305 lb)
12.4-42	10 PR	803 mm (31.8 in.)	3600 kg (7935 lb)

NOTE: The axle loads quoted here for normal operation apply only for travel speeds up to 30 km/h (18.5 mph). At higher speeds, the axle loads must be reduced to 80%.

Max. travel speed with front loader is 8 km/h (5 mph). Max. front tread width is 1.80 m (71 in.) on 6215 and 6415 tractors and 1.90 m (75 in.) on 6615 and 6715 tractors.

Load Capacity of Tires (Rear)

Maximum permissible rear axle load:

Tires for 6215 and 6415

Tractors

		Index Radius	
18.4-30	8 PR	720 mm (28.3 in.)	4840 kg (10670 lb)
18.4-34	8 PR	770 mm (30.3 in.)	5120 kg (11285 lb)
18.4-34	144 A8	770 mm (30.3 in.)	5600 kg (12345 lb)
18.4-38*	8 PR	820 mm (32.3 in.)	5400 kg (11905 lb)
13.6-46	6 PR	874 mm (34.5 in.)	3680 kg (8110 lb)

* 6415 tractors only

Tires for 6615 and 6715

Tractors

		Index Radius	
18.4-30	8 PR	720 mm (28.3 in.)	4840 kg (10670 lb)
18.4-34	8 PR	770 mm (30.3 in.)	5120 kg (11285 lb)
18.4-38	8 PR	820 mm (32.3 in.)	5400 kg (11905 lb)
18.4-38	146 A8	820 mm (32.3 in.)	6440 kg (14195 lb)
13.6-46	6 PR	874 mm (34.4 in.)	3680 kg (8110 lb)
12.4-54	137 A6	973 mm (38.3 in.)	4940 kg (10890 lb)

NOTE: The axle loads quoted here apply only for travel speeds up to 30 km/h (18.5 mph). At higher speeds, the axle loads must be reduced to 80%.

Load Capacity of Tires With Front Loader

Load capacity with front loader is obtained by multiplying the load capacity of the tire by a percentage. The resulting load capacity varies from tire manufacturer to tire manufacturer.

To obtain precise figures, see the tire manual provided by the tire manufacturer.

		Permissible load capacity expressed as a percentage, at top speed			
Top speed		Without FWD	With FWD	With FWD	With FWD
km/h	mph	PR ^a tires %	PR ^a tires %	A6 ^a tires %	A8 ^b tires %
8	5.0	150	140	150	150
15	9.0	—	—	134	134
20	12.5	135	120	123	123
25	15.5	115	107	111	111
30	18.5	100	100	100	107
35	21.5	—	—	95	103

^aTires up to 30 km (18.5 mph)

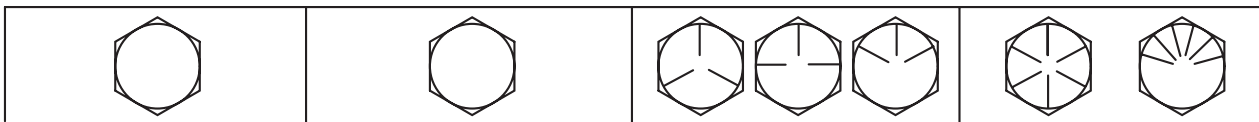
^bTires up to 40 km (25 mph)

NOTE: When operating with front loader, max. travel speed is 8 km/h (5 mph) and max. front wheel tread 1.80 m (71 in.) on 6215 and 6415 tractors and 1.90 m (75 in.) on 6615 and 6715 tractors.

A 300 kg (661 lb) higher load is possible with a front loader provided a weight of 600 kg (1322 lb) is attached at the three-point hitch.

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.

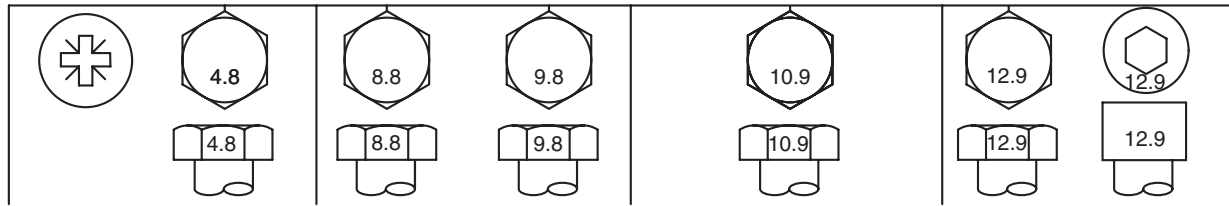
Replace fasteners with the same or higher grade. If higher grade fasteners are used, tighten these to the strength of the original. Make sure fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts 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.

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.

Limited Battery Warranty

NOTE: Applicable in North America only. For complete machine warranty, reference a copy of the John Deere warranty statement. Contact your John Deere dealer to obtain a copy.

To Secure Warranty Service

The purchaser must request warranty service from a John Deere dealer authorized to sell John Deere batteries, and present the battery to the dealer with the top cover plate codes intact.

Free Replacement

Any new battery which becomes unserviceable (not merely discharged) due to defects in material or workmanship within 90 days of purchase will be replaced free of charge. Installation costs will be covered by warranty if (1) the unserviceable battery was installed by a John Deere factory or dealer, (2) failure occurs within 90 days of purchase, and (3) the replacement battery is installed by a John Deere dealer.

Pro Rata Adjustment

Any new battery which becomes unserviceable (not merely discharged) due to defects in material or workmanship more than 90 days after purchase, but before the expiration of the applicable adjustment period, will be replaced upon payment of the battery's current list price less a pro rata credit for unused months of service. The applicable adjustment period is determined from the Warranty Code printed at the top of the battery and chart below. Installation costs are not covered by warranty after 90 days from the date of purchase.

This Warranty Does Not Cover

Breakage of the container, cover, or terminals.

Depreciation or damage caused by lack of reasonable and necessary maintenance or by improper maintenance.

Transportation, mailing, or service call charges for warranty service.

Limitation of Implied Warranties and Purchaser's Remedies

To the extent permitted by law, neither John Deere nor any company affiliated with it makes any warranties, representations or promises as to the quality, performance or freedom from defect of the products covered by this warranty. IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, TO THE EXTENT APPLICABLE, SHALL BE LIMITED IN DURATION TO THE APPLICABLE ADJUSTMENT PERIOD SET FORTH HERE. THE PURCHASER'S ONLY REMEDIES IN CONNECTION WITH THE BREACH OR PERFORMANCE OF ANY WARRANTY ON JOHN DEERE BATTERIES ARE THOSE SET FORTH HERE. IN NO EVENT WILL THE DEALER, JOHN DEERE OR ANY COMPANY AFFILIATED WITH JOHN DEERE BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. (Note: Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages. So these limitations and exclusions may not apply to you.) This warranty gives you specific legal rights, and you may also have some rights which vary from state to state.

No Dealer Warranty

The selling dealer makes no warranty of its own and the dealer has no authority to make any representation or promise on behalf of John Deere, or to modify the terms or limitations of this warranty in any way.

Pro Rata Months of Adjustment

Warranty Code	Warranty Period
A	40 Months
B	36 Months
C	24 Months

NOTE: If your battery is not labeled with a warranty code, it is a warranty code "B".

DX,BATWAR,NA -19-16APR92-2/2

Emissions Control System Certification Label



CAUTION: Statutes providing severe penalties for tampering with emissions controls may apply where you reside.

The emissions warranty described below applies only to those engines marketed by John Deere that have been certified by the United States Environmental Protection Agency (EPA) and/or California Air Resources Board (CARB); and used in the United States and Canada in non-road mobile (self-propelled or portable/transportable¹) equipment. The presence of an emissions label like the one shown signifies that the engine has been certified with the EPA and/or CARB. The EPA and CARB warranties only apply to new engines having the certification label affixed to the engine and sold as stated above in the geographic areas. The presence of an EU number in the third line of the label signifies that the engine has been certified with the European Union countries per Directive 97/68/EC. The emissions warranty does not apply to the EU countries.

NOTE: The hp/kW rating on the engine emissions certification label specifies the gross engine hp/kW, which is flywheel power without fan. In most applications this will not be the same rating as the advertised vehicle hp/kW rating.



LX1019727

LX1019727 -UN-01FEB00

¹Equipment moved at least once every 12 months.

U.S. EPA Emissions Control Warranty Statement

John Deere warrants emissions control-related parts and components for five years or 3,000 hours of operation, whichever occurs first. John Deere warrants the engine covered by this warranty was designed, built, and equipped so as to conform at the time of sale with all U.S. emissions standards at the time of manufacture. John Deere further warrants the engine is free of defects in materials and workmanship which would cause it not to meet these standards within the

period of five years or 3,000 hours of operation, whichever occurs first.

Warranties stated in this document refer only to emissions-related parts and components of your engine. The complete engine warranty, less emissions-related parts and components, is provided separately as the "John Deere New Off-Highway Engine Warranty".

AG,OU12401,82 -19-23DEC99-1/1

Serial Numbers

Type Plates

The illustrations below show some of the type plates used on the tractor. The letters and numbers on the plates must be quoted when making warranty claims or ordering spare parts.

NOTE: Copy the letters and figures in the boxes provided.

LX,OSER 000455 -19-01MAR94-1/1

Product Identification Number

The plate bearing the tractor identification number is located on the right-hand side of the main frame.

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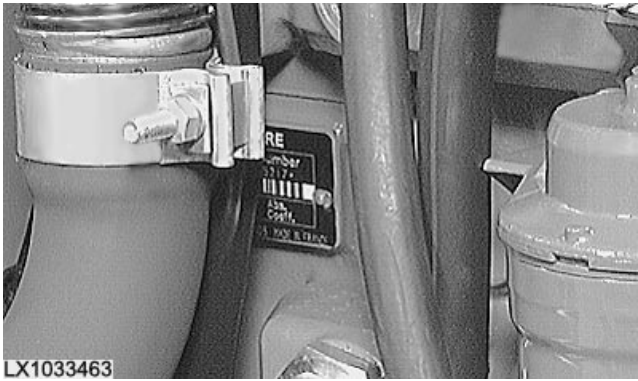


OU12401,0010359 -19-01JUL02-1/1

Engine Identification Number

The plate bearing the engine identification number is located on the right-hand side of the engine.

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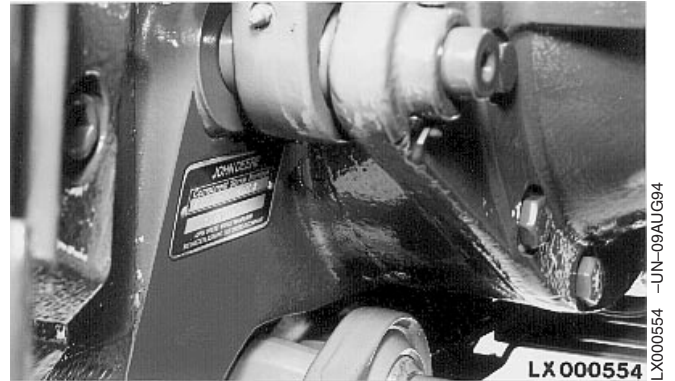


OU12401,0000EFF -19-01JUL03-1/1

Transmission Serial Number

The transmission serial number plate is located on the right-hand side of the differential housing. It provides details of the gear pair in the differential (e.g. 53/10) and the transmission ratio of the front wheel drive axle (e.g. 1,712). This information will be required if the type of tires used on the front wheel drive axle is to be changed.

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LX000554 -UN-09AUG94

LX,OSER 000458 -19-01MAR94-1/1

Serial Number of Front Wheel Drive Axle

The serial number plate for the front wheel drive axle is located on rear of axle. The plate also gives the transmission ratio of the front axle. This information will be required if the type of tires used on the front wheel drive axle is to be changed.

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LX1029242 -UN-15APR03

OU12401,0000D20 -19-01MAR03-1/1

750 Hour Service

 h	 1	 h	 1	 h	 1	 h	 1	 h	 1

L 112 124

L112124 -UN-05SEP94

Replace transmission/hydraulic system oil filter, check engine speed, drain and refill engine crankcase, replace engine crankcase filter element, check coolant level, check oil level of transmission/hydraulic system, check alternator belt tensioner, clean battery and

check electrolyte level, lubricate front axle and front wheels, lubricate front wheel drive axle and check oil level, lubricate three-point hitch, check neutral start circuit, tighten wheel retaining bolts.

LX,OMRECO015968 -19-01DEC97-1/1

1500 Hour Service

 h	 1	 h	 1	 h	 1	 h	 1	 h	 1

L 112 126

L112126 -UN-05SEP94

Drain and refill transmission/hydraulic system and replace oil filter, drain and refill oil in front wheel drive axle, check engine speed, check engine valve tappet clearances, check air conditioning system and clean refrigerant, drain and refill engine crankcase, replace engine crankcase filter element, check coolant level,

check alternator belt tensioner, clean battery and check electrolyte level, lubricate front axle and front wheels, lubricate front wheel drive axle and check oil level, lubricate three-point hitch, check neutral start circuit, tighten wheel retaining bolts.

AG,OU12401,10132 -19-31AUG00-1/1

3000 Hour Service

L112126

Flush out and refill cooling system, check thermostat, drain and refill transmission/hydraulic system and replace oil filter, drain and refill oil in front wheel drive axle, check engine speed, check engine valve tappet clearances, drain and refill engine crankcase, replace engine crankcase filter element, check alternator belt

tensioner, clean battery and check electrolyte level, lubricate front axle and front wheels, lubricate front wheel drive axle and check oil level, lubricate three-point hitch, check neutral start circuit, tighten wheel retaining bolts.

L112126 -UN-05SEP94

Crime Prevention Tips

Keep Proof of Ownership

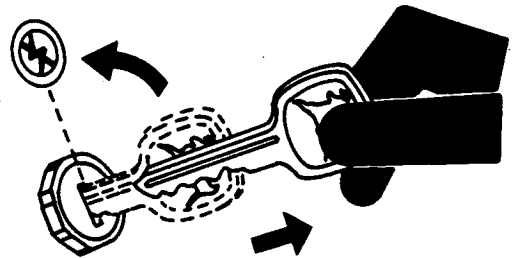
1. Maintain in a secure location an up-to-date inventory of all product and component serial numbers.
2. Regularly verify that identification plates have not been removed. Report any evidence of tampering to law enforcement agencies and order duplicate plates.
3. Other steps you can take:
 - Mark your machine with your own numbering system
 - Take color photographs from several angles of each machine



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.



DX,SECURE2 -19-18NOV03-1/1

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John Deere Service Keeps You on the Job

John Deere Is At Your Service

CUSTOMER SATISFACTION is important to John Deere.

Our dealers strive to provide you with prompt, efficient parts and service:

- Maintenance and service parts to support your equipment.
- Trained service technicians and the necessary diagnostic and repair tools to service your equipment.

CUSTOMER SATISFACTION PROBLEM RESOLUTION PROCESS

Your John Deere dealer is dedicated to supporting your equipment and resolving any problem you may experience.

1. When contacting your dealer, be prepared with the following information:

- Machine model and product identification number
- Date of purchase
- Nature of problem

2. Discuss problem with dealer service manager.

3. If unable to resolve, explain problem to dealership manager and request assistance.

4. If you have a persistent problem your dealership is unable to resolve, ask your dealer to contact John Deere for assistance.

5. If a problem is not resolved to your satisfaction, contact the Ag Customer Assistance Center at 1-866-99DEERE (866-993-3373) or e-mail us at agriculture@johndeere.com.



TS201 –UN-23AUG88

DX,IBC,2 –19-02APR02-1/1

John Deere Service Keeps You on the Job