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JOHN DEERE

OPERATORS MANUAL

6110, 6110L, 6210, 6210L, 6310, 6310L, 6310S,
6410, 6410L, 6410S, 6510L and 6510S Tractors

OMAL116324 Issue K9 English

John Deere Werke Mannheim

OMAL116324 Issue K9

(This manual replaces OMAL116324 C9)

North American Version

Introduction

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.

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.

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All information, illustrations and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

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Previous Editions
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Identification Views



LX1018209 -UN-15DEC97



LX1016111 -UN-15DEC97

LX,OMIDE 013493-19-01OCT97

Identification Views



LX1019707
-UN-17NOV99



LX1019708
-UN-25OCT99

LX,OMIDE 020927-19-01OCT99

Identification Views



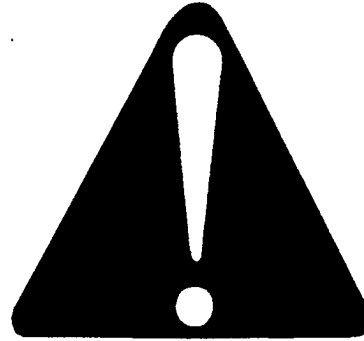
LX,OMIDE 013495-19-01OCT97

Safety

RECOGNIZE SAFETY INFORMATION

This is the 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

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.



DX,SIGNAL

-19-03MAR93

TS187 -19-30SEP88

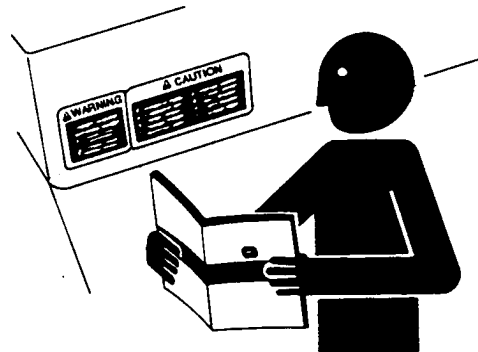
FOLLOW SAFETY INSTRUCTIONS

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

TS201 -UN-23AUG88



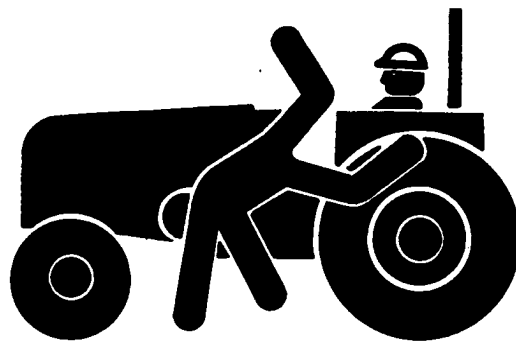
STAY CLEAR OF MOVING TRACTOR

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

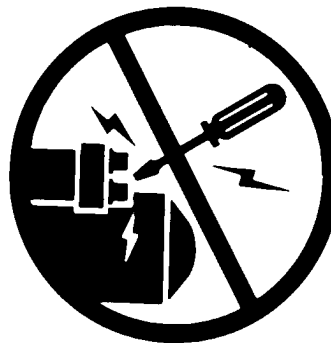
RX,STAY,CLEAR -19-25JUL89

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

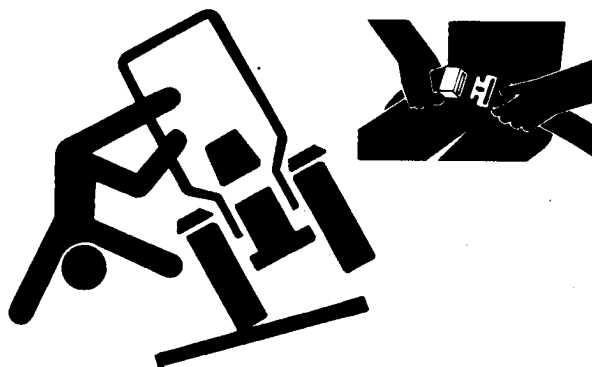
DX,BYPAS1 -19-29SEP98

USE ROPS AND SEAT BELT PROPERLY

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

Return the ROPS to the raised, fully extended and locked position as soon as the tractor is operated under normal conditions.

ALWAYS fasten your seat belt when the ROPS is fully extended and locked or the tractor is equipped with a 4-post roll guard or cab.

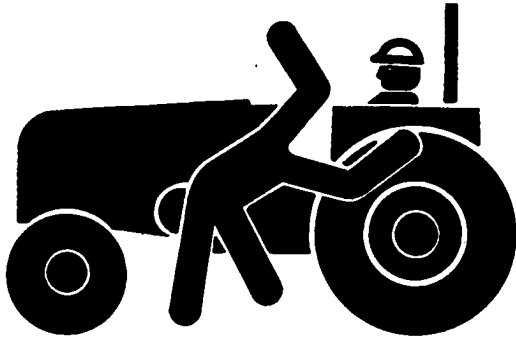


TS205 -UN-23AUG88

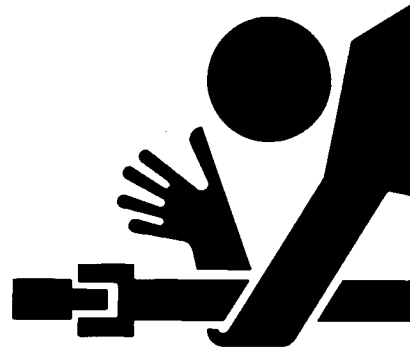
LX,FROPS -19-01SEP94



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:

- Put 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.
- Never try to get on or off a moving tractor.
- When tractor is left unattended, place in PARK, lower implements to the ground, stop the engine, and remove the key.
- Never go near an operating PTO or an operating implement.
- Always fasten your seat belt in a ROPS equipped tractor.

RX,HAZARD,S -19-20DEC95

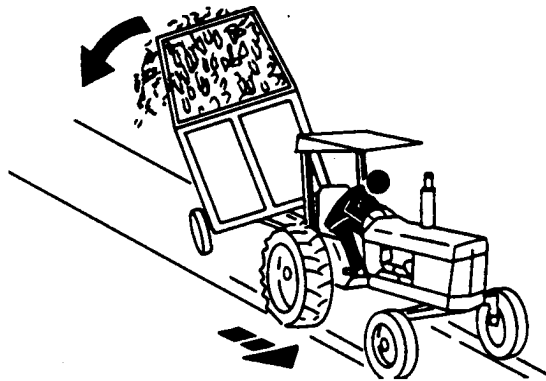


SHIFT TO LOW GEAR ON HILLS

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.



LX,DRIVE,SAFE1 -19-01OCT92

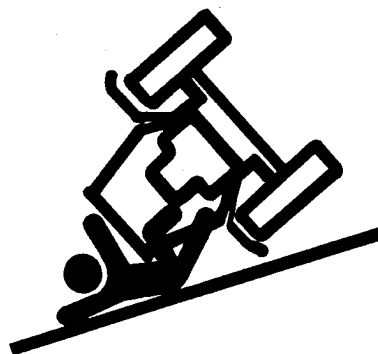
TS216 -UN-23AUG88

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.



RX,HILL,SIDE1 -19-22SEP92

FW13093 -UN-07DEC88

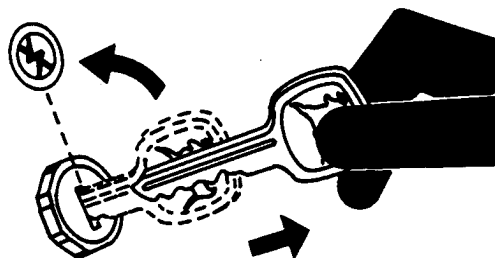


STOPPING AND PARKING TRACTOR

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

To avoid these accidents, take some precautions:

- Signal before stopping, turning, or slowing down on public roads
- Pull over to side of road before stopping
- Slow down before braking
- Pump brakes when stopping on slippery surfaces
- Be careful when towing and stopping heavy loads
- Shift to park or apply parking brake
- Lower all equipment when leaving tractor
- Remove key



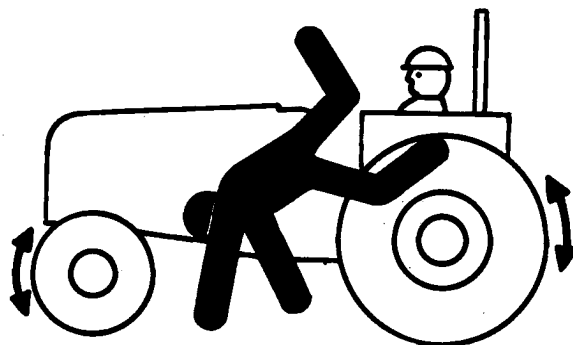
TS230 -UN-24MAY89

RX,STOP,PARK -19-21SEP92

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

INSTRUCTIONAL SEAT

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

LX,OMINST020584-19-01OCT99



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.



DX,FIRE1 -19-03MAR93

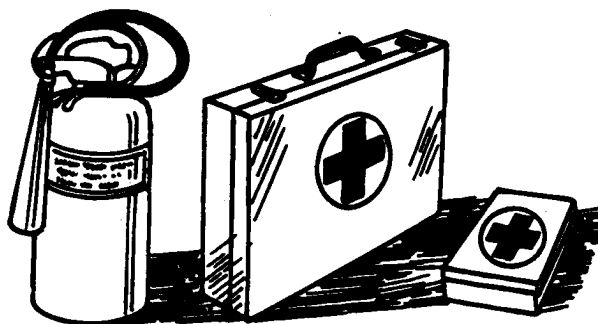
TS202 -UN-23AUG88

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.



DX,FIRE2 -19-03MAR93

TS291 -UN-23AUG88

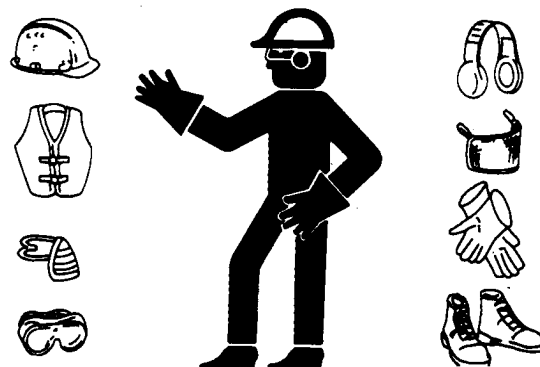
WEAR PROTECTIVE CLOTHING

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.



DX,WEAR -19-10SEP90

TS206 -UN-23AUG88



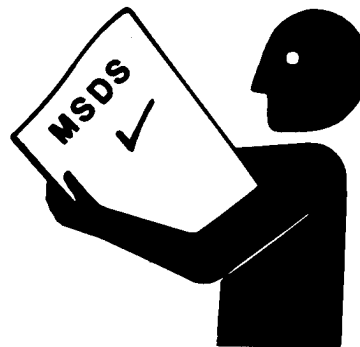
HANDLE CHEMICAL PRODUCTS SAFELY

Direct exposure to hazardous chemicals can cause serious injury. Potentially hazardous chemicals used with John Deere equipment include such items as lubricants, coolants, paints, and adhesives.

A Material Safety Data Sheet (MSDS) provides specific details on chemical products: physical and health hazards, safety procedures, and emergency response techniques.

Check the MSDS before you start any job using a hazardous chemical. That way you will know exactly what the risks are and how to do the job safely. Then follow procedures and recommended equipment.

(See your John Deere dealer for MSDS's on chemical products used with John Deere equipment.)



DX,MSDS,NA -19-03MAR93

TS1132 -UN-26NOV90

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.



DX,CABS -19-03MAR93

TS220 -UN-23AUG88

TS272 -UN-23AUG88



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.



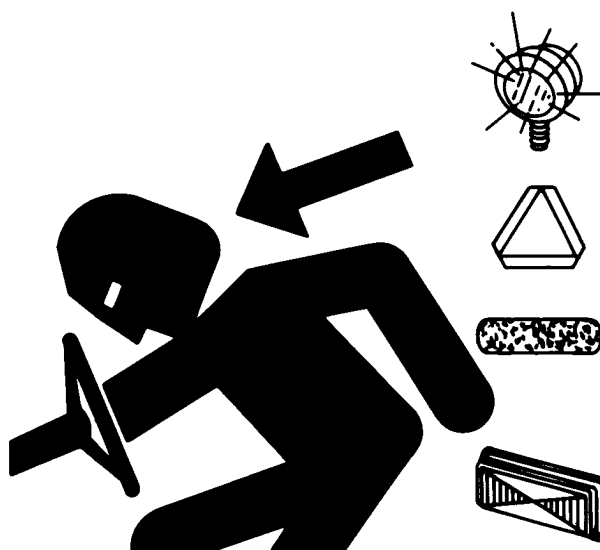
TS1644
-UN-22AUG95

DX,PTO -19-12SEP95

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

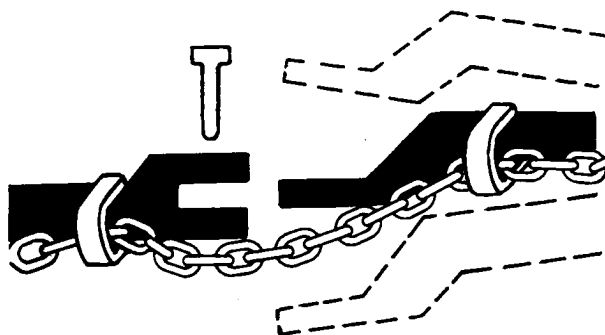
DX,FLASH -19-07JUL99

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

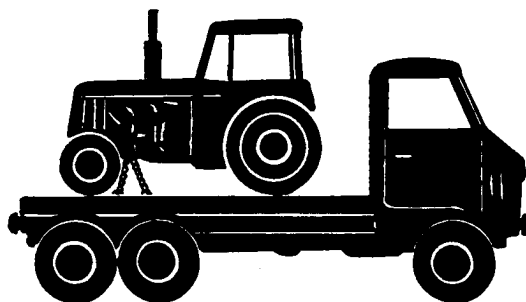
DX,CHAIN -19-03MAR93



SAFELY TRANSPORTING THE TRACTOR

A disabled tractor is best transported on a flatbed carrier. Use chains to secure the tractor to the carrier.

Never tow a tractor at a speed greater than 16 km/h (10 mph). An operator must steer and brake the tractor under tow.



LX,OTRANS003525-19-01SEP92

FW13090 -UN-07DEC88

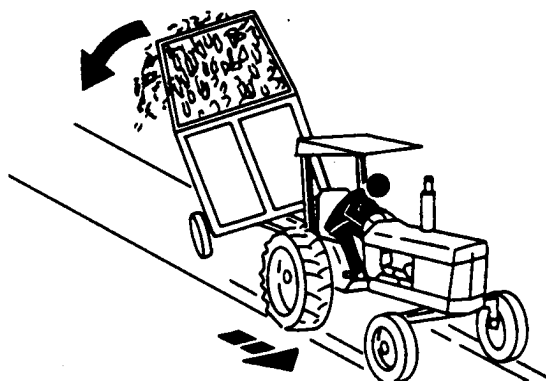
TOW LOADS SAFELY

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.



DX,TOW -19-02OCT95

TS216 -UN-23AUG88



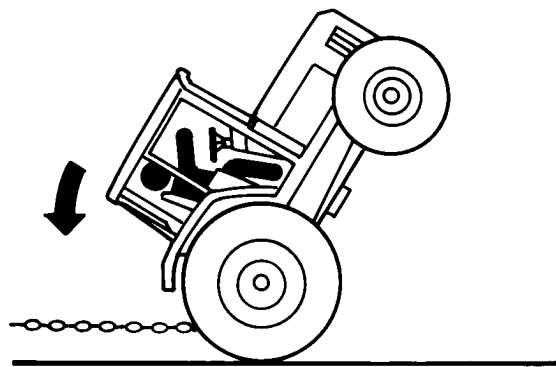
FREEING A MIRED MACHINE

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



DX,MIRED -19-07JUL99

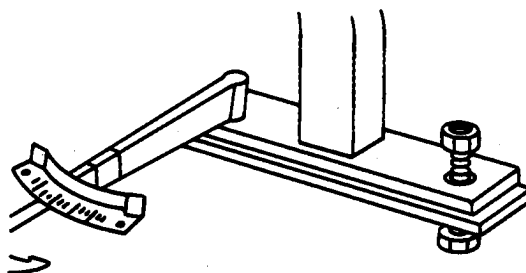
TS1645 -UN-15SEP95

TS263 -UN-23AUG88

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.



DX,ROPS3 -19-03MAR93

TS212 -UN-23AUG88



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.



DX,SERV

-19-04FEB99

TS218 -UN-23AUG88



TS220 -UN-23AUG88

REMOVE PAINT BEFORE WELDING OR HEATING

Avoid potentially toxic fumes and dust.

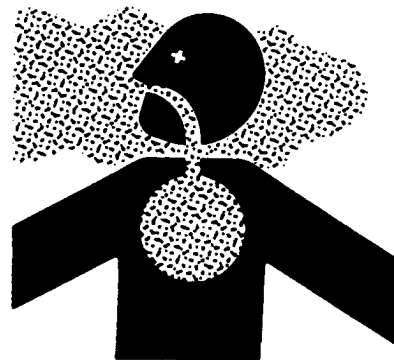
Hazardous fumes can be generated when paint is heated by welding, soldering, or using a torch.

Remove paint before heating:

- Remove paint a minimum of 76 mm (3 in.) from area to be affected by heating.
- 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 all work in an area that is ventilated to carry toxic fumes and dust away.

Dispose of paint and solvent properly.



DX, PAINT -19-22OCT99

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 be accidentally cut when heat goes beyond the immediate flame area.



DX, TORCH -19-03MAR93

TS953 -UN-15MAY90



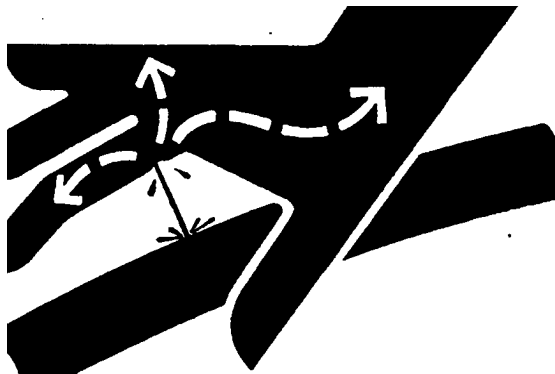
AVOID HIGH-PRESSURE FLUIDS

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.



-UN-23AUG88

X9811

DX,FLUID

-19-03MAR93

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.



-UN-23AUG88

TS281

LX,RCAP

-19-01SEP95

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.



-UN-23AUG88

TS219

DX,STORE

-19-03MAR93



DISPOSE OF WASTE PROPERLY

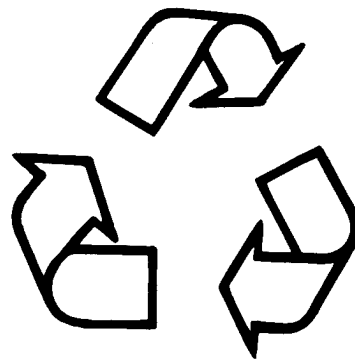
Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste used with John Deere equipment include such items as oil, fuel, coolant, brake fluid, filters, and batteries.

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.



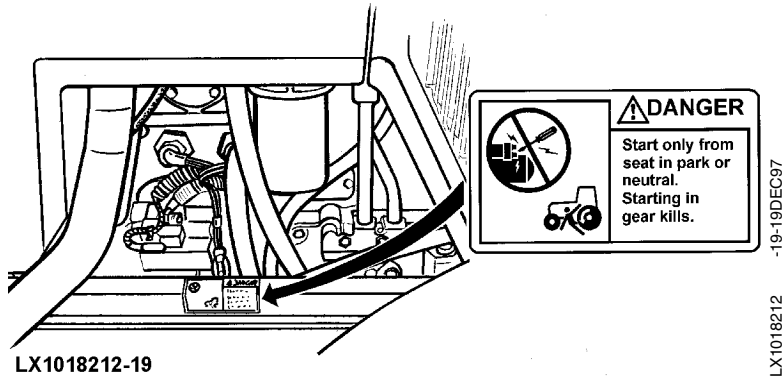
DX_DRAIN

-19-03MAR93

TS1133 -JN-26NOV90

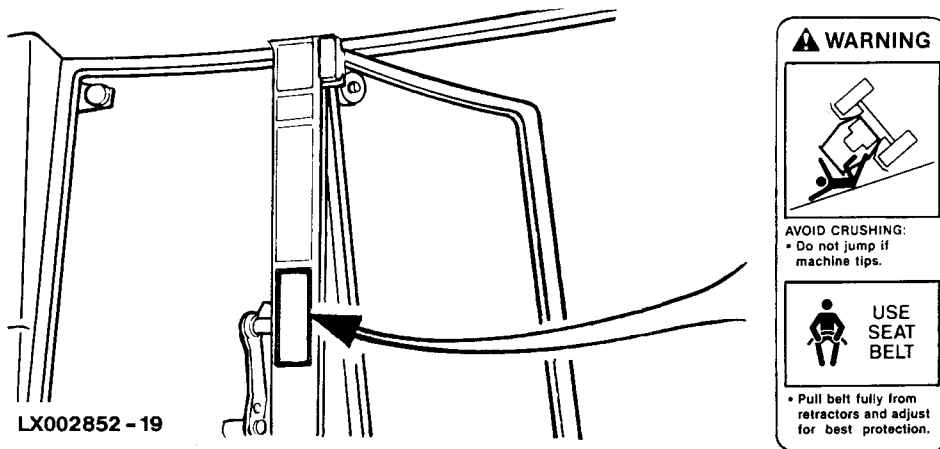
Safety Decals

PREVENT MACHINE RUNAWAY



LX,OMLAB 013496-19-01OCT97

USE SEAT BELT



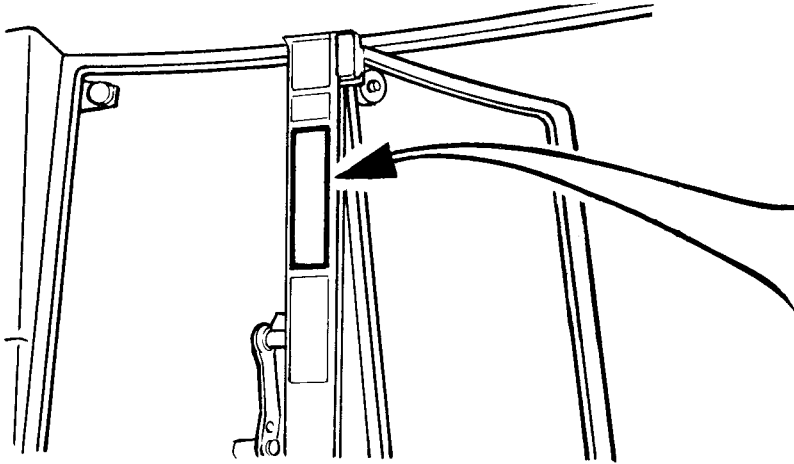
LX,OLABEL003264-19-01JUL92

USE OF INSTRUCTIONAL SEAT



LX,OMLABE020545-19-01OCT99

OPERATE TRACTOR SAFELY



LX002853 - 19

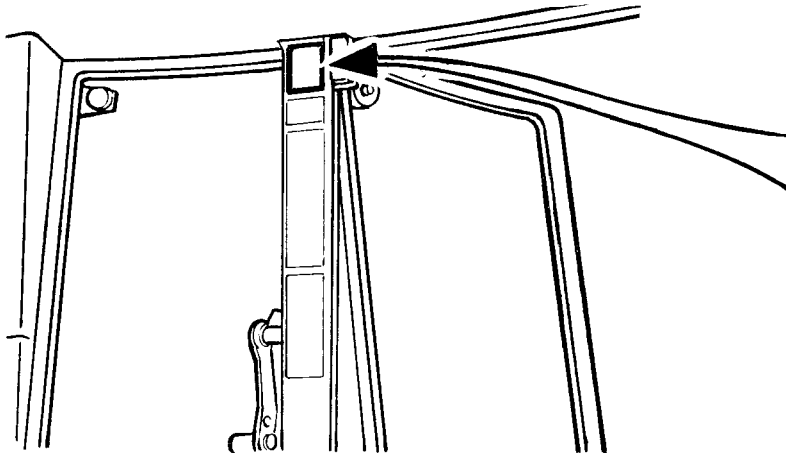
CAUTION

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.

LX,OLABEL003265-19-01JUL92

LX002853 -19-01SEP94

DO NOT MODIFY ROPS



WARNING

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

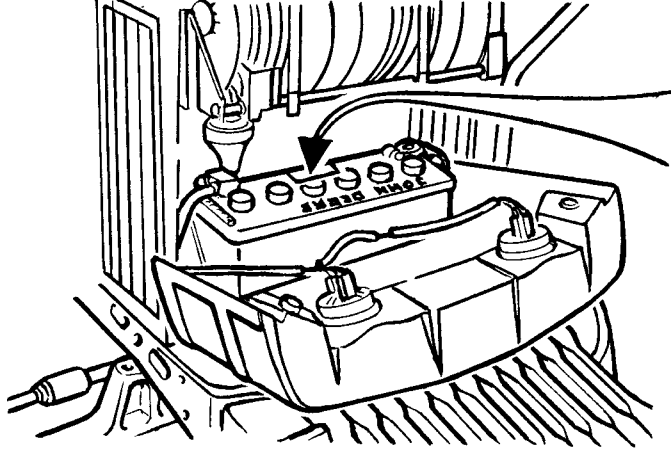
- Damaged ROPS structures must be replaced, not repaired or revised.
- Any alteration to the ROPS must be approved by the manufacturer.

LX002854 - 19

LX,OLABEL003266-19-01JUL92

LX002854 -19-01SEP94

AVOID EXPLOSIVE GASES



DANGER!

Explosive Gases

POISON!

Causes Severe Burns

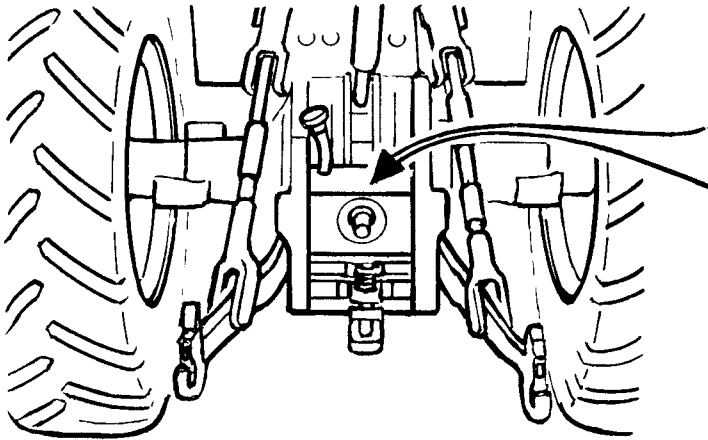
Contains sulfuric acid. Avoid contact with skin, eyes or clothing. Antidote: **External**—Flush with water. **Internal**—Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg or vegetable oil. Call a physician immediately. **Eyes**—Flush with water for 15 minutes and get prompt 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.**

LX002856 - 19

LX,OLABEL003268-19-01JUL92

LX002856 -19-15AUG94

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

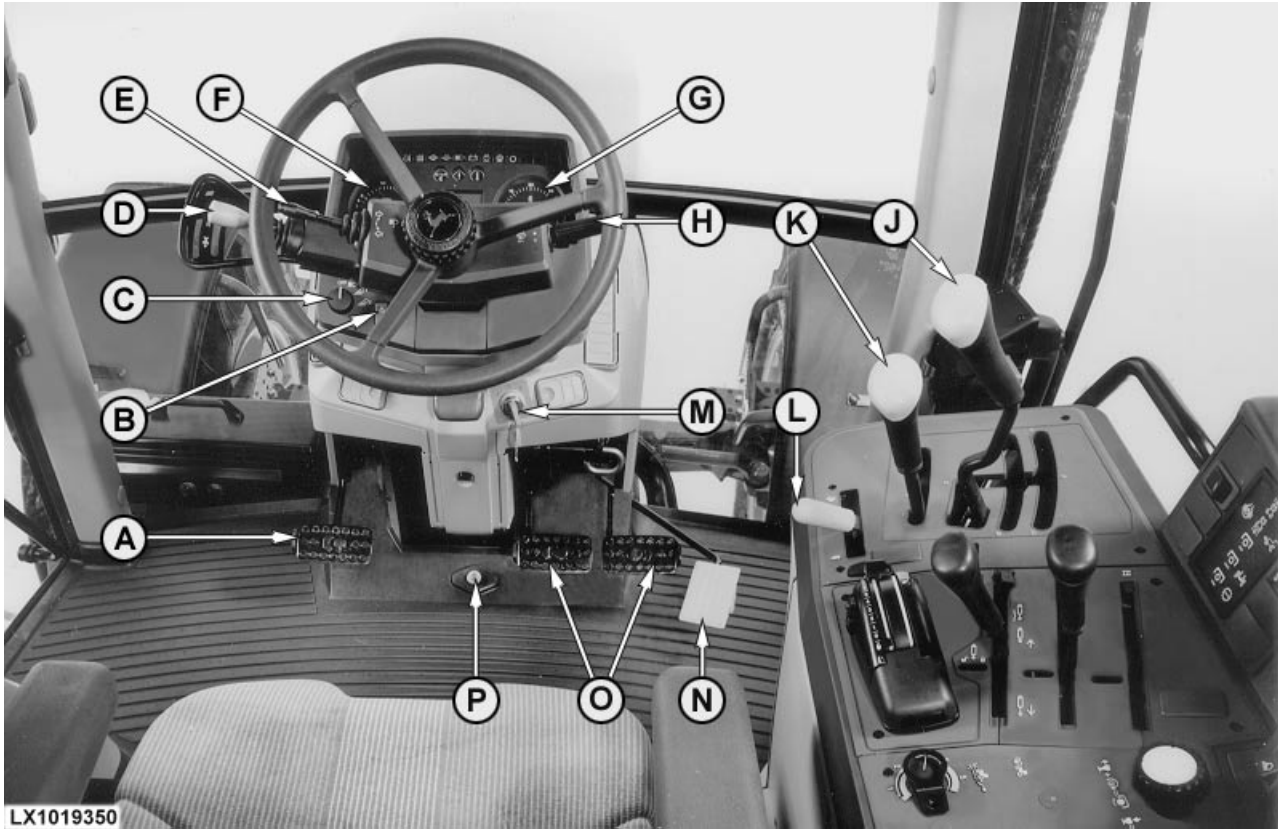
LX002855 - 19

LX,OLABEL003267-19-01JUL92

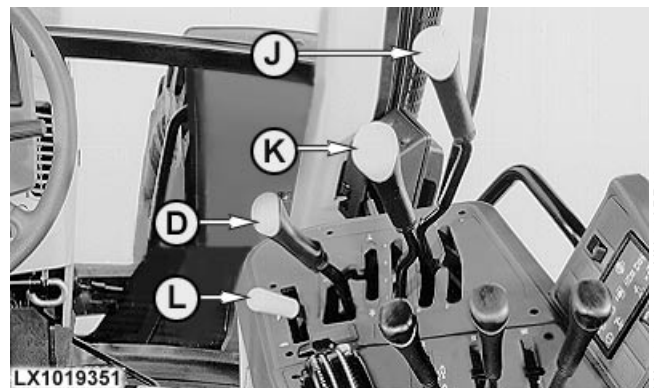
LX002855 -19-01SEP94

Controls and Instruments

VEHICLE CONTROLS ON TRACTORS WITH CAB



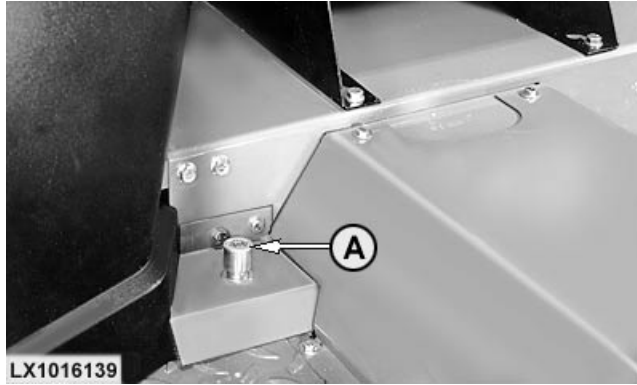
- A—Clutch pedal
- B—Hazard warning switch
- C—Light switch
- D—Reverser lever (mechanical/electric)
- E—Turn signal switch
- F—Speedometer, mph
- G—Tachometer, rpm
- H—Windshield wiper switch
- J—Range shift lever
- K—Gear shift lever
- L—Hand throttle
- M—Main switch
- N—Foot throttle
- O—Brake pedals
- P—Differential lock



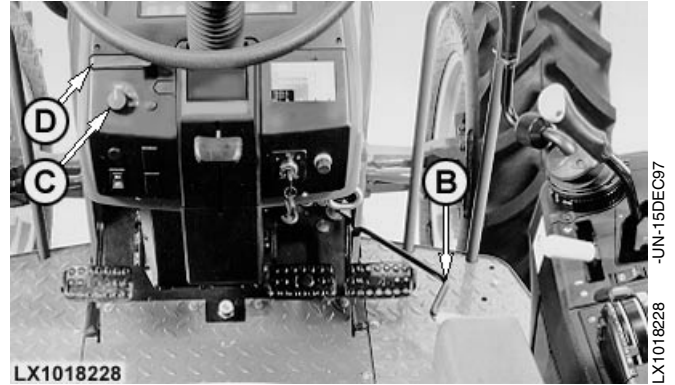
Reverser lever on console

LX.OMCONT016041-19-01APR98

DIFFERENCES OF VEHICLE CONTROLS ON TRACTORS WITHOUT CAB



6110L to 6510L



6110 to 6410

A—Differential lock

B—Foot throttle

C—Light switch

D—Turn signal lever

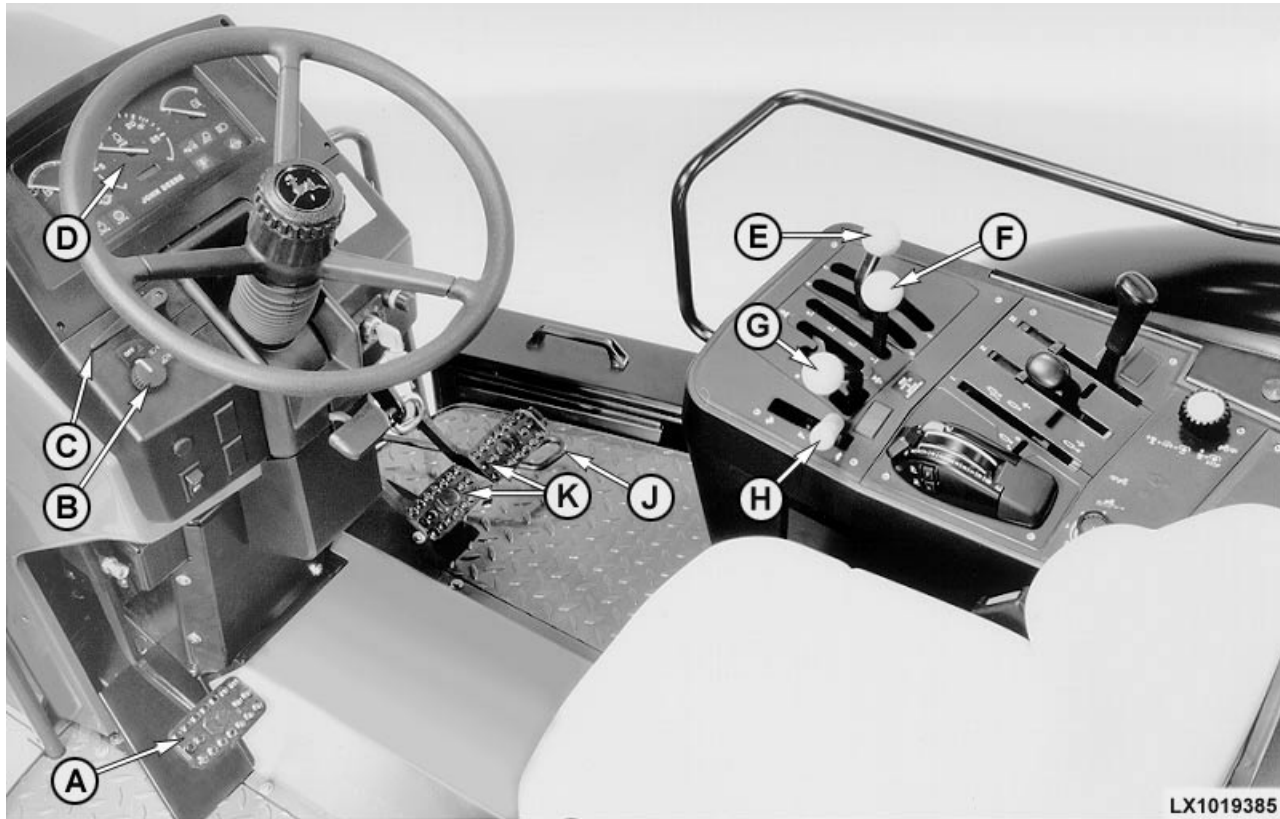
LX,OMCONT013505-19-01OCT97

Mechanical reverser lever on steering column



LX,OCONTR011239-19-01APR98

VEHICLE CONTROLS ON LOW PROFILE ORCHARD TRACTORS



A—Clutch pedal
B—Light switch
C—Turn signal lever

D—Tachometer (rpm)
E—Range shift lever
F—Gear shift lever

G—Reverser lever
H—Hand throttle

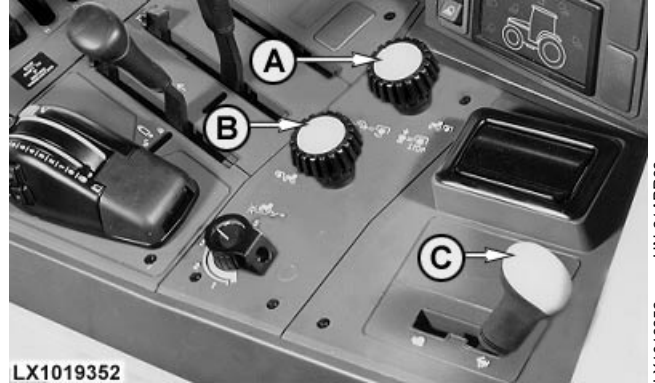
J—Foot throttle
K—Brake pedals

LX,OCONTR008945-19-01APR98

LX1019385 -UN-15MAY98

PTO AND CREEPER CONTROLS

- A—Rear PTO switch
- B—Front PTO switch
- C—Creeper speed control lever



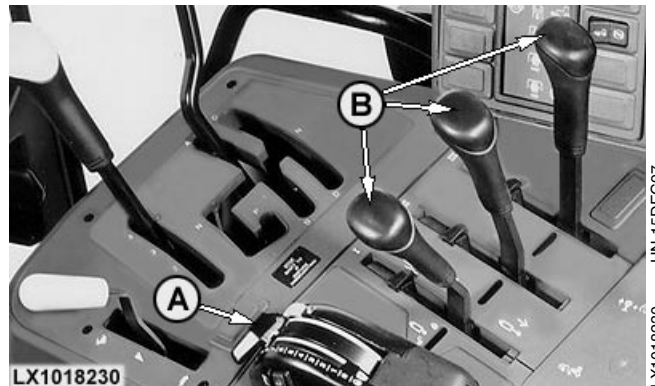
LX1019352

LX1019352 -UN-21APR98

LX,OMCONT016042-19-01APR98

ATTACHMENT CONTROLS

- A—Three-point hitch control unit
- B—Levers for selective control valves



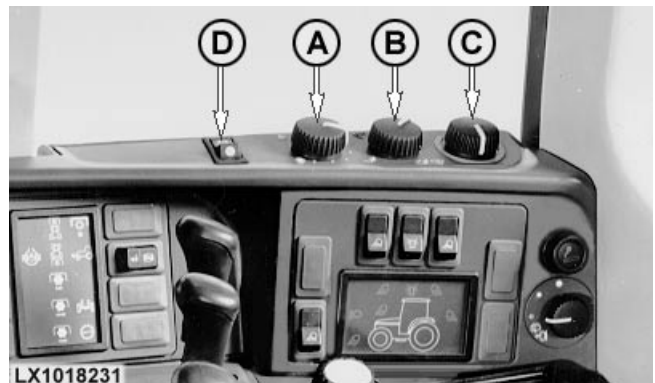
LX1018230

LX1018230 -UN-15DEC97

LX,OMCONT013507-19-01OCT97

HEATER AND AIR CONDITIONING CONTROLS

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



LX1018231

LX1018231 -UN-15DEC97

LX,OMCONT013508-19-01OCT97

OPERATING THE DIGITAL DISPLAY

This is switch used to change display from one mode to the next (engine speed, PTO speed, time of day). On tractors equipped with Dual Gauge Plus II it is also used to reset error messages.

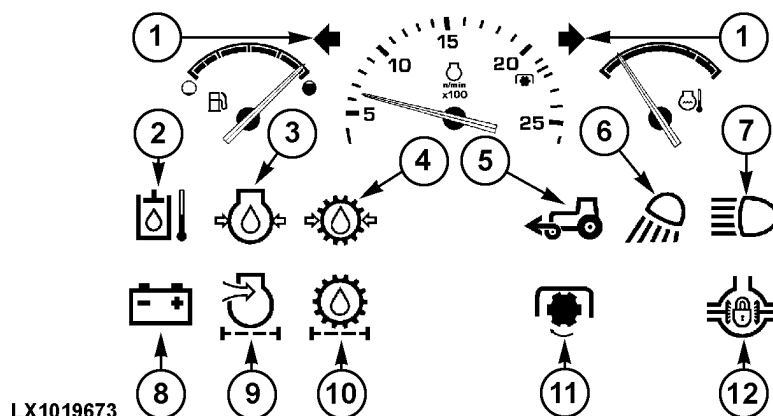
- A—Roll-mode switch



LX1019353

LX1019353 -UN-21APR98

LX,OMCONT016043-19-01APR98

INDICATOR LIGHTS (ON TRACTORS WITHOUT CAB)

LX1019673

LX1019673 -UN-17NOV99

1-These flashing indicator lights start flashing when turn-signal or hazard warning lights are switched on.

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

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

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

5-This light glows when front wheel drive is selected.

6-This light glows when the work lights are switched on.

7-The high beam indicator light will glow whenever the headlights are switched on at high 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 glows when the rear PTO is engaged.

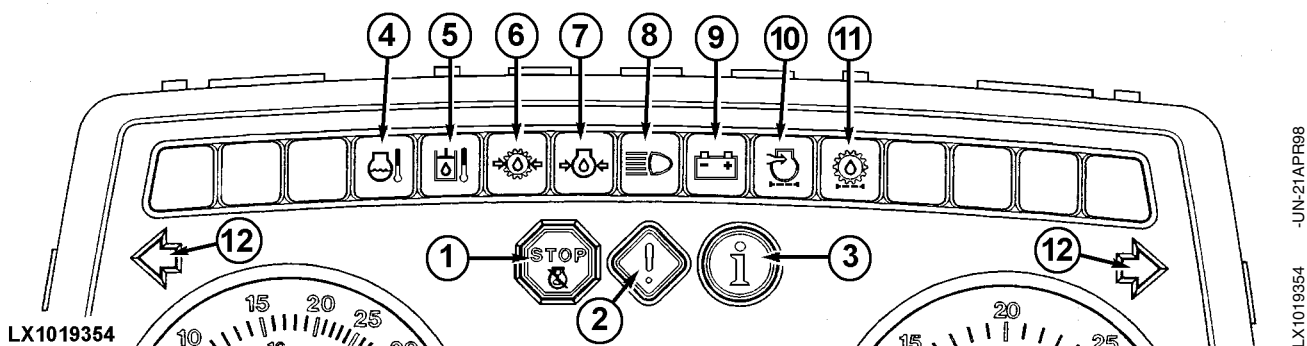
12-This light glows when the differential lock is engaged.

Bulb test: As the engine is started, all the lights 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.

LX,OMCONT020585-19-01OCT99

INDICATOR LIGHTS (ON TRACTORS WITH CAB)



1-The red "STOP" light flashes when a serious malfunction occurs (indicator lights 4, 5, 6 or 7 come on). Switch off the engine IMMEDIATELY and determine the cause.

2-The yellow "CAUTION" light flashes when indicator lights 4, 5, 9, 10 or 11 come on.

3-This light flashes when there is a fault in an electrical component associated with the hydraulic system or transmission. See your John Deere dealer immediately.

4-This light glows when coolant temperature is too high.

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

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

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

8-The high beam indicator light will glow whenever the headlights are switched on at high beam.

9-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.

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

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

12-These flashing indicator lights start flashing when turn-signal or hazard warning lights are switched on.

Bulb test: As the engine is started, all the lights 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.

LX.OMCONT016044-19-01OCT99

ADDITIONAL INDICATOR LIGHTS (ON TRACTORS WITH CAB)

Light (A) comes on when the front PTO is engaged.

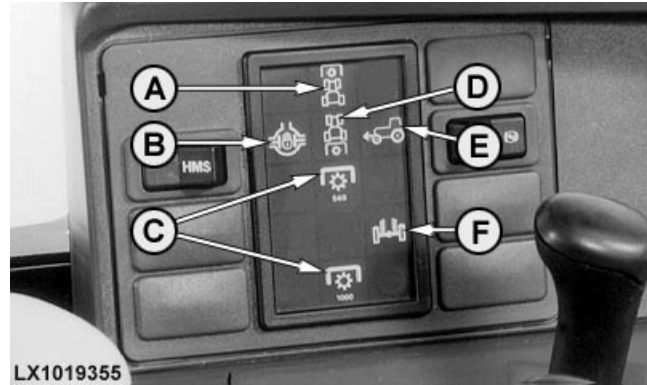
Light (B) comes on when the differential lock is engaged.

Lights (C) show PTO shaft selected (reversible PTO only).

Light (D) comes on when the rear PTO is engaged.

Light (E) comes on when front wheel drive is selected.

Light (F) flashes to indicate a fault in the front-axle leveling system. Front axle suspension is not available. Drive with extra care.



LX1019355

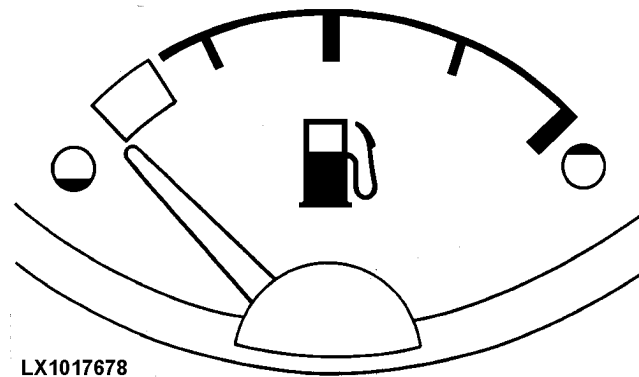
-UN-21APR98
LX1019355

LX,OMCONT016045-19-01OCT99

FUEL GAUGE

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

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



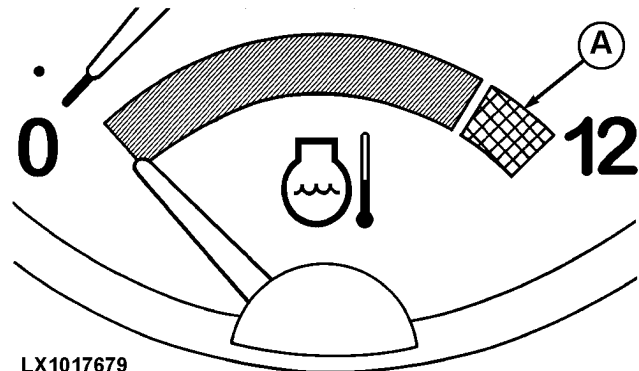
LX1017678

-UN-01OCT97
LX1017678

LX,OMBED 011255-19-01SEP97

COOLANT TEMPERATURE GAUGE

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



LX1017679

-UN-01OCT97
LX1017679

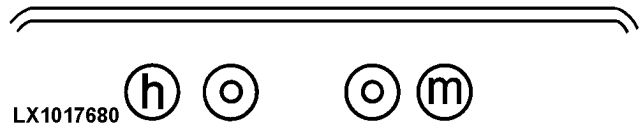
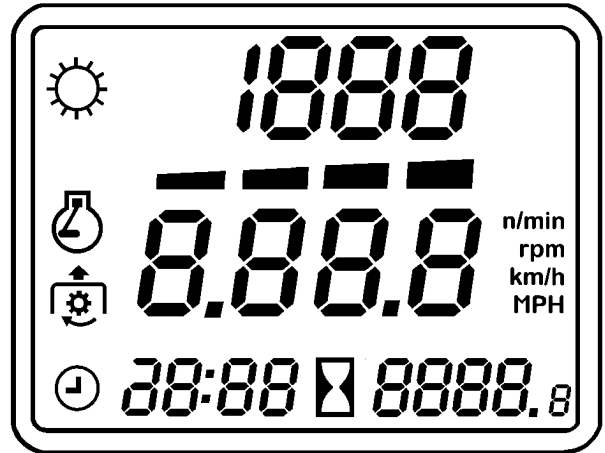
LX,OMBED 011256-19-01SEP97

DIGITAL DISPLAY (DUAL GAUGE II)

The digital display shows travel speed, engine speed and PTO speed; it also indicates the time of day (clock) and hours of operation. On tractors with PowrQuad Plus transmission, it also indicates which gear is selected.

After the ignition is switched on, it shows the operating hours, before changing to display the travel speed once the tractor is moving.

Roll-mode switch (A) changes the display from one mode to the next. If tractor is equipped with Dual Gauge Plus II it is also used to reset error messages.



LX,OMCONT017519-19-01MAR99

LX1017680 -UN-01OCT97

LX1019353 -UN-21APR98

Travel speed display

Travel speed is indicated either as “km/h” or “MPH”.

NOTE: On tractors without creeper transmission, the display changes to 0 as soon as travel speed drops below 0.5 km/h (0.3 mph).

On tractors with creeper transmission, the display changes to 990 m/h (0.600 mph) as soon as travel speed drops below 1 km/h (0.6 mph).

LX1017682


 A digital display showing the number '20.5' in a large, bold, black font. To the right of the number, the units 'km/h' and 'MPH' are displayed in a smaller font. The display is flanked by two vertical bars on each side.

LX1017682 -UN-01OCT97

LX,OMBED 011259-19-01MAY98

Engine speed display

The engine symbol appears and engine speed is displayed.

NOTE: If rear PTO is switched on, the analog indicator jumps to PTO speed.

LX1019356



 A digital display showing the number '2000' in a large, bold, black font. To the right of the number, the units 'n/min' and 'rpm' are displayed in a smaller font. The display is flanked by two vertical bars on each side.

LX1019356 -UN-21APR98

LX,OMBED 016047-19-01APR98

PTO speed display

The PTO symbol appears. If front PTO is switched on in addition an arrow is displayed. PTO speed is displayed.

NOTE: With the engine running, if PTO speed exceeds 620 rpm, it is displayed intermittently (flashing) regardless of the display selected. On tractors equipped with Dual Gauge Plus II in addition the message 'Rear PTO speed too high' is shown. This warns of the possible danger if a 540 rpm PTO is being used. The “CAUTION” light also flashes. Actuate the roll-mode switch again to stop the flashing display (this may take up to 5 seconds). Flashing stops automatically when PTO speed drops below 590 rpm.

LX1019357



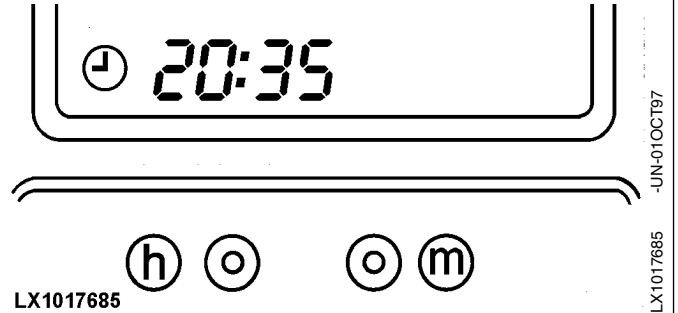
 A digital display showing the number '1000' in a large, bold, black font. To the right of the number, the units 'n/min' and 'rpm' are displayed in a smaller font. The display is flanked by two vertical bars on each side.

LX1019357 -UN-21APR98

LX,OMBED 016048-19-01APR98

Time display (clock)

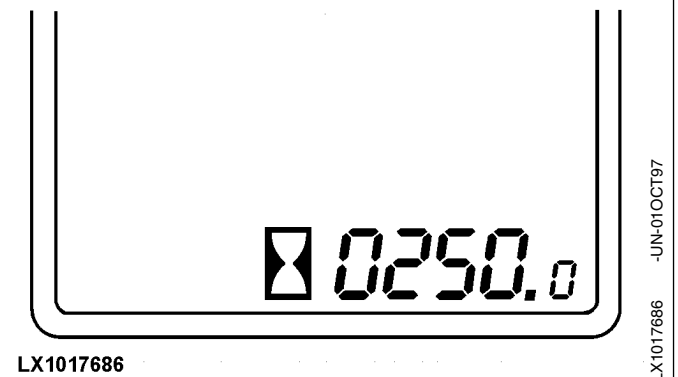
The clock symbol appears and the time of day is displayed. Can be reset using the two keys below the display.



LX,OMBED 011264-19-01MAY98

Operating hours display

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



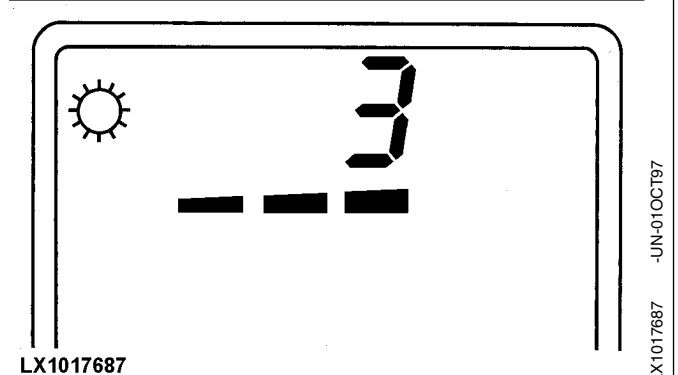
LX,OMBED 011265-19-01SEP97

Gear selection display (tractors with PowrQuad Plus transmission)

The transmission symbol appears; the gear that is currently selected is displayed.

On tractors with Dual Gauge Plus II, the direction of travel is also displayed.

On tractors with AutoQuad transmission, the word "AUTO" appears as soon as this function is selected.



LX,OMBED 011266-19-01MAY98

PERFORMANCE MONITOR

NOTE: Ignition switch must be in the "ON" position to operate performance monitor.

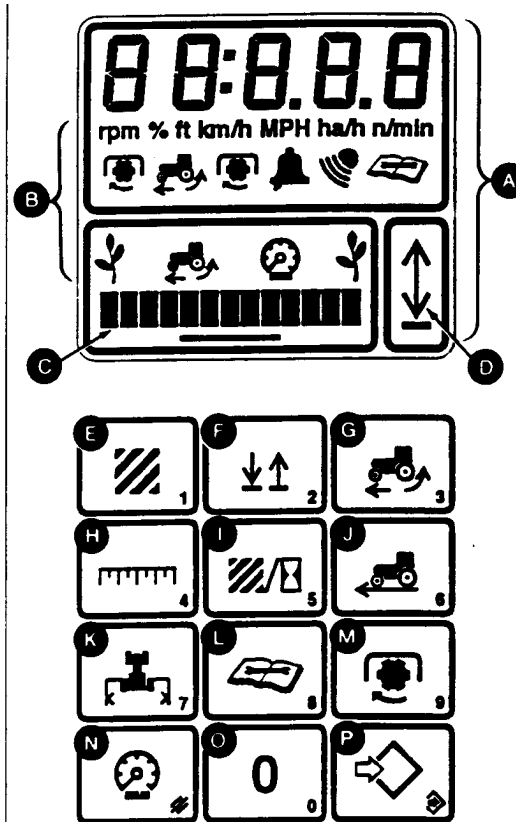
Performance monitor displays information related to various speeds, area, distance, time and alarm data.

Bargraph (C) displays Row-Trak implement guidance system performance, wheel slip and monitor backlight intensity.

Area, wheel slip, slip alarm, width, implement indicator, distance, backlight brightness, and service can be adjusted or preset.

A radar sensor is required for an accurate calculation of wheel slip, area covered, distance or speed. Without a radar sensor, values are estimates based on wheel speed.

NOTE: An optional implement switch, mounted on implement, provides accurate acreage count when implement is raised or lowered. See your John Deere Dealer.



- A—Display Field
- B—Indicators
- C—Bargraph Display
- D—Implement Indicator
- E—Area
- F—Implement
- G—% Slip
- H—Distance
- I—Area/H
- J—Speed
- K—Width
- L—Service
- M—PTO RPM
- N—Backlight/Cancel
- O—Zero
- P—Set/Save

RW21903 -UN-15MAR93

RX7000E,PM,1 -19-12APR95

DATA ENTRY MODE

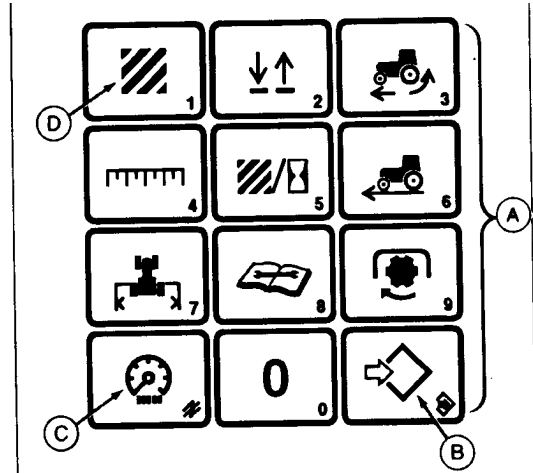
Press a switch from the touch pad (A), to preset or change values for:

AREA, % SLIP ALARM, DISTANCE, IMPLEMENT WIDTH, IMPLEMENT SELECTOR, TIME SINCE LAST SERVICE, SERVICE INTERVAL, BACKLIGHT BRIGHTNESS.

- Press **(B)** to change the numeric value. Display field will flash.
- Input a numeric value using touch pad, then press **(B)** to save.

NOTE: Touch switches have a numeral located on the lower right-hand portion of the switch for data entry.

Press **(C)** to restore previous value before pressing (B)



- A—Touch Pad
- B—Set/Save
- C—Cancel
- D—Area Switch

FW21904 -UN-15MAR93

LX005369 -19-01OCT93

OPERATING TOUCH PAD SWITCHES

NOTE: Calculations for AREA and AREA/H are based on implement width and ground speed. Use a radar sensor for the most accurate values.

AREA (1)

- Press **AREA** to display accumulated area in acres or hectares. The implement arrow must be in the down position to accumulate area.
- Hold **ZERO** to clear accumulated area.

DISTANCE (4)

- Press **DISTANCE** to display distance accumulated in meters or feet.

Distance is accumulated with the implement indicator in the down position.

Measurement is cleared when the ignition is turned off.

AREA/H (5)

- Press **AREA/H** to display the current measurement for area coverage per hour.

Implement indicator must be in the down position.

WIDTH (7)

- Press **WIDTH** to display measurement for implement width.
- Press **SET** to change implement width.
- Input implement width and press **SAVE**.

PTO RPM (9)

- Press **PTO RPM** to display rear PTO speed.
- Press switch again to display optional front PTO speed.

Front or rear PTO symbols will appear on display field.

ZERO (0)

- Pressing “**0**” for four seconds will reset a numeric value to zero (0).

OPERATION AND CALIBRATION

IMPLEMENT (2)

- Press the **IMPLEMENT** switch to change implement indicator (C) to the “up” or “down” position.

When the implement indicator arrow points down, all measurement functions are engaged.

Implement Selector Calibration:

Procedure coordinates the position of the indicator arrow (C) to the position of the hitch or implement switch.

- Hold **IMPLEMENT** switch four seconds to change the function code (B).

Display will show “IP:” and a function code (3,7, or 32). This number indicates which device is in control of the implement arrow (C).

“3” hitch position sensor (raise limit setting).

“7” implement switch on touch pad.

“32” first downward movement automatically selects which external device will control the implement indicator arrow.(implement switch or the hitch position sensor.)
The “A” in the display (IP:A) represents this auto-seek mode.

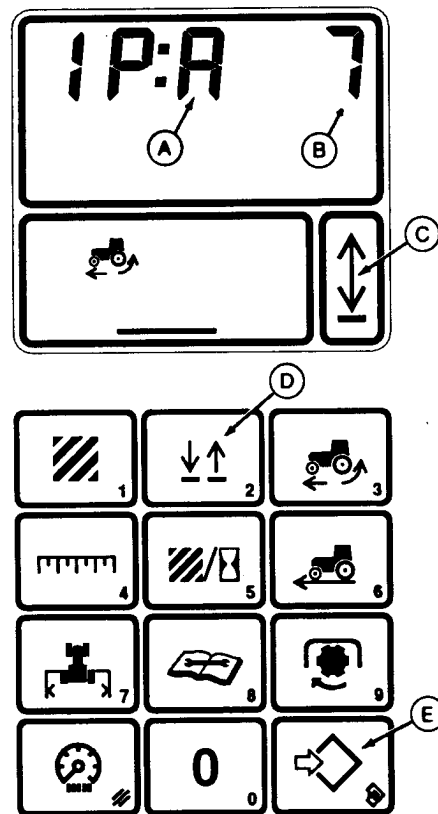
NOTE: It may be necessary to press implement switch (D) to change indicator arrow (C).

If the implement switch (D) does not control the indicator arrow, “7” has not been selected as a function code.

For applications which use the hitch sensor or implement switch exclusively, use “3” or “7”.

A “0” or any other number other than the above will completely shut off the “implement” function.

- Press **SET** (E). Input 3,7, or 32 using touch pad, then press **SAVE** (E).



A—Auto-seek
B—Function Code
C—Implement Indicator
D—Implement Switch
E—Set/Save

WHEEL SLIP (3)

Radar must be operational to provide true ground speed. If true ground speed is not available, "---" will be displayed.

- Press **%SLIP** switch (A). Bargraph and numeric display will show current wheel slip.
- Press switch again to display the wheel slip alarm setting. An alarm symbol will be displayed.

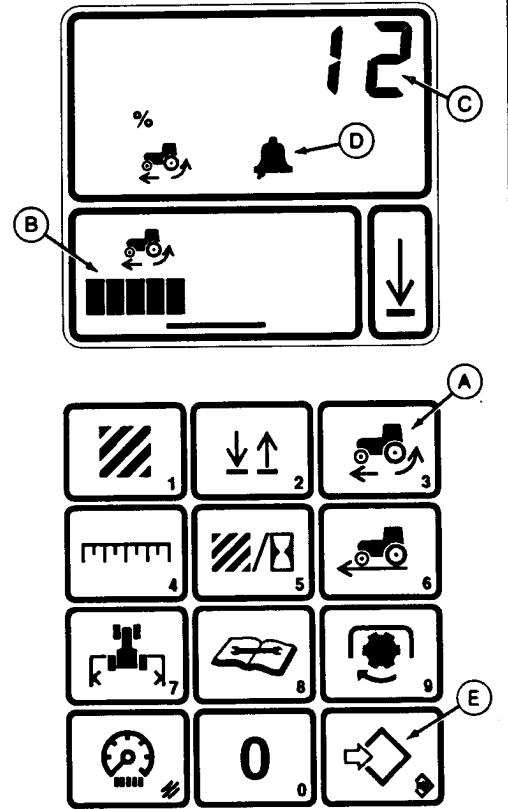
NOTE: Illustration shows current wheel slip (B) is 10%, with an alarm setting at 12% (C). The alarm symbol (D) indicates this alarm set mode.

Bargraph flashes when wheel slip exceeds alarm limit. Each bar on the bargraph represents 2% wheel slip.

- Press (E), to change alarm value.
- Input alarm setting using touch pad, then press (E).

NOTE: Entering "0" as an alarm value will shut off alarm.

- A—% Slip Switch
- B—Bargraph
- C—Numeric Display
- D—Wheel Slip Alarm
- E—Set/Save Switch



RW21906 -UN-15MAR93

VEHICLE SPEED (6)

- Press **SPEED** switch (E) to display actual ground speed (A) with radar. The tractor *must* be in motion. The radar symbol (B) will be displayed.
- Press switch again to display wheel speed (A).

Press switch again to toggle between these modes.

NOTE: True ground speed may be different than wheel speed. If tractor is not equipped with radar, only wheel speed will be displayed.

Radar Calibration (after new rear tires have been installed):

Mark a 122 meter (400 ft) straight-line course (start and finish lines).

- Rear PTO must be switched off
- Press **DISTANCE** switch (D) and **SPEED** switch (E) four seconds. Display field will show “---” and the “ft” and “m” symbols will flash. The “implement” arrow should be pointing up.

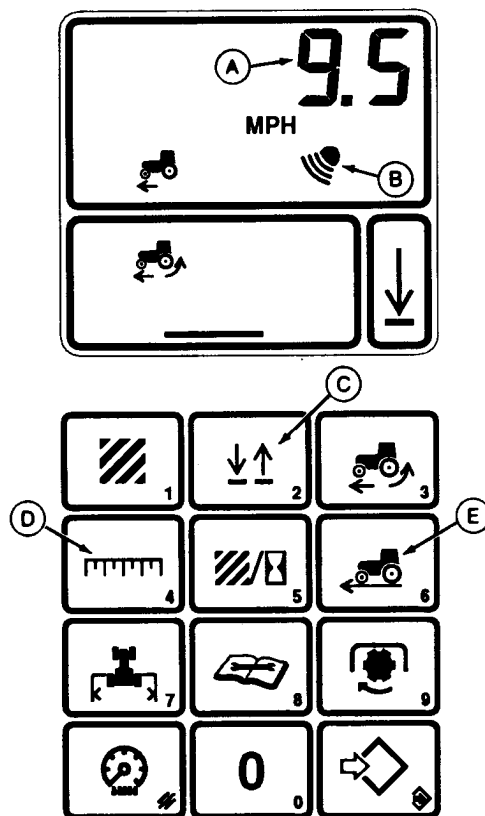
NOTE: *SPEED and DISTANCE switches must be pressed at the same time for correct calibration.*

- Drive the tractor at a speed of approximately 3.2 km/h (2 mph). As the tractor crosses the start-line, press the **IMPLEMENT** switch (C), to point the indicator arrow to the down position.
- Press the **IMPLEMENT** switch (C) as you cross the finish-line to change the arrow to the up position.

Display will alternate between “122 m and 400 ft” when calibration is successful.

NOTE: “Err” will flash on display if calibration was not performed correctly. Previous calibration value will stay in memory.

Press “SPEED” switch to display vehicle speed or another display.



- A—Ground or Wheel Speed
- B—Radar Symbol
- C—Implement Switch
- D—Distance Switch
- E—Speed Switch

SERVICE (8)

- Press the **SERVICE** switch (A) to display hours accumulated since the last service.

The alarm symbol will flash and an acoustic signal will sound when the service interval is reached.

NOTE: The service time is set at 250 hours.

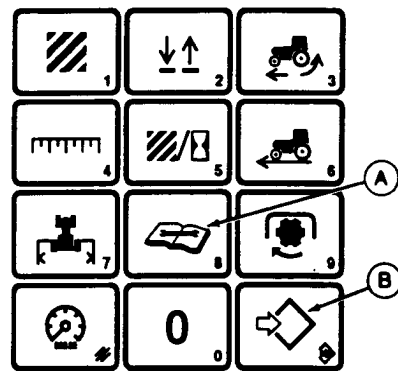
Press (B) to change service time. Input a service time (0.0—9999.9 hrs), and press (B) to save.

NOTE: Pressing any switch on the touch pad will shut off the alarm until the tractor is started again.

The alarm feature can be shut off by storing a "0" in the service interval data. The monitor will start counting hours beginning at zero.

- Press switch (A) again to display programmed service intervals. An alarm symbol will be displayed.

Press (B) to change a service interval. Input desired service hours (0—999 hrs), and press (B) to save.



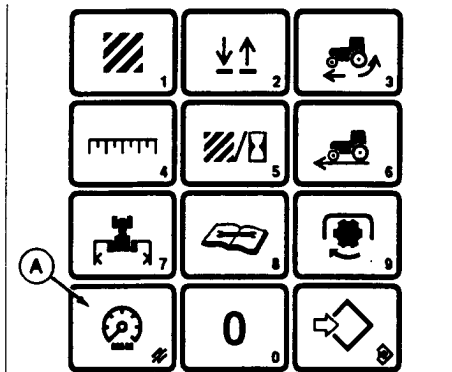
FW21908 -UN-15MAR93

LX,RX7000E,PM,7-19-01FEB94

BACKLIGHT BRIGHTNESS

The “DIM” switch (A) can adjust the **backlight** intensity of the performance monitor.

- Press (A) to display system backlight intensity for displays in the cab.
- Press **DIM** switch again to display backlight setting of the performance monitor. A *bell* symbol will be displayed.



NOTE: Backlight intensity will remain at maximum brightness with headlights in the OFF position.

Headlight switch must be in the “ON” position to make adjustments.

LX005375

-19-01OCT93

RW21909 -UN-15MAR93

ADJUSTING BACKLIGHT— PERFORMANCE MONITOR

- Press **DIM** switch (D) twice. The numeric display will show the backlight setting of the performance monitor (A). A bell symbol (B) will be displayed.

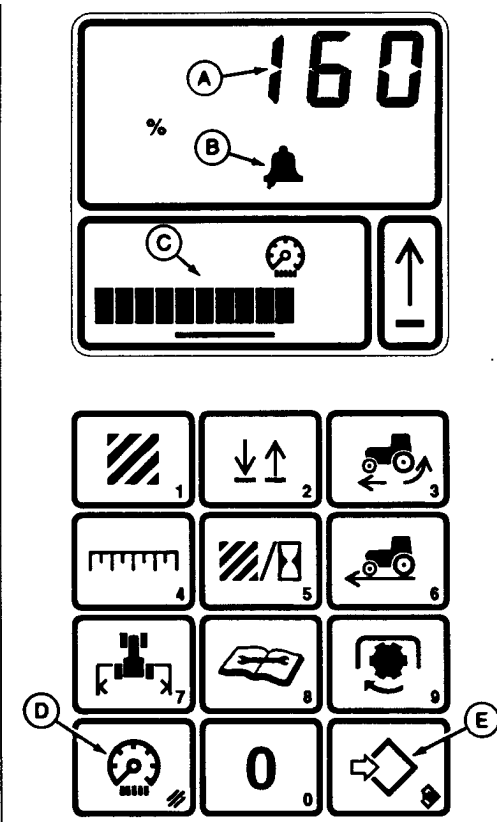
NOTE: System backlight intensity remains displayed on the bargraph (C).

- Press (E) to “set” and input a numeric value (0—255).

Backlight intensity can be adjusted brighter (100—255) or dimmer (0—100) than instrument panel display.

- Press (E) to “save”.

Hold “0” (ZERO) to turn “ON” or “OFF” the performance monitor backlight.



LX,OMPM 013416-19-01SEP97

RW21911 -UN-15MAR93

Lights

LIGHT SWITCHES (TRACTORS WITH CAB)

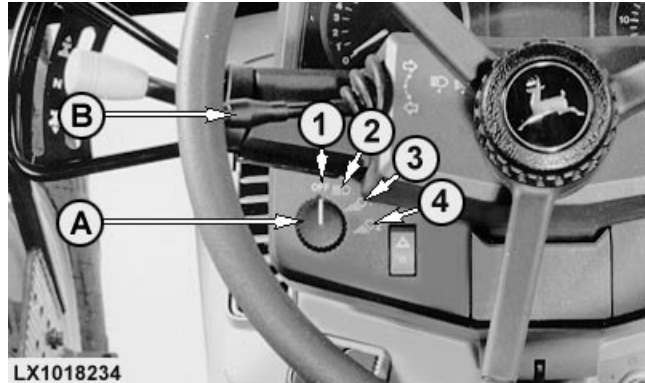
Light switch (A) can be set to the following positions:

- 1-Light switch in "off" position
- 2-Headlights, tail lights and warning lights "on"
- 3-Headlights "on"
- 4-Headlights and work lights "on"

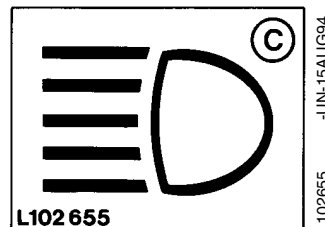
Switch (B) can be set to the following positions:

- Switch down = High beam
- Switch in center = Low beam
- Switch up = Headlight flasher

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



LX1018234



L102655

-UN-15AUG94
L102655

-UN-17DEC97
LX1018234

LX,OMLIGH016057-19-01APR98

WORK LIGHT SWITCHES (TRACTORS WITH CAB)

The work lights can be switched on and off using the switches shown here. The main light switch must be set to position 4.

- A—Front corner work lights
- B—Cab frame work lights
- C—Work lights at front of roof
- D—Work lights at rear of roof



LX1019368

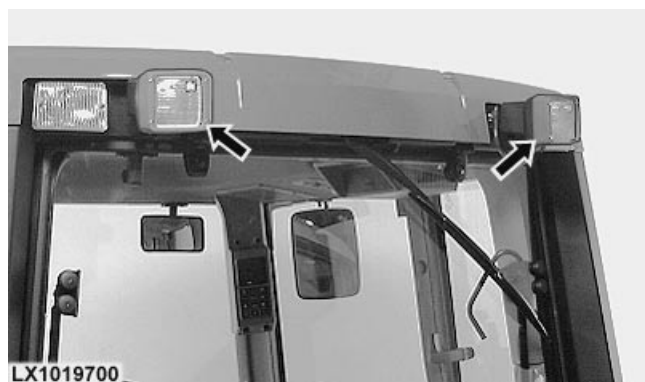
LX,OMLIGH016058-19-01MAR99

-UN-22APR98
LX1019368

XENON WORKLIGHTS

The tractor may be equipped with high-performance xenon worklights.

CAUTION: High tension. Risk of injury.
Changing bulbs on xenon lights and work on the ballast unit must be performed **ONLY** by your John Deere sales partner or a professional workshop.



LX1019700

LX,OMXENO020926-19-01OCT99

-UN-25OCT99
LX1019700

LIGHT SWITCHES (TRACTORS WITHOUT CAB)

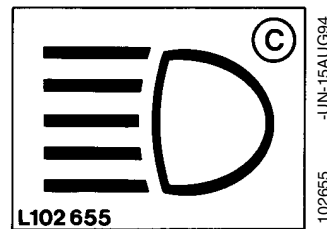
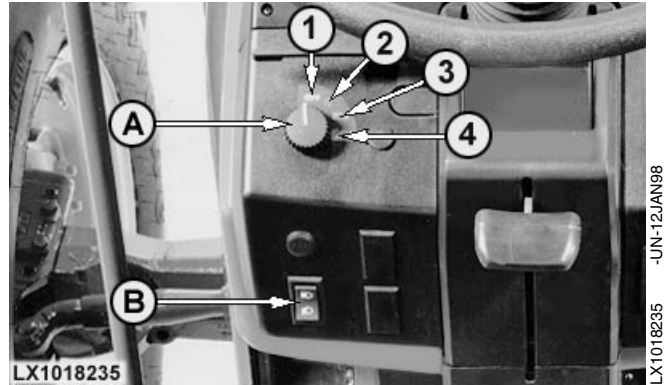
Light switch (A) can be set to the following positions:

- 1-Light switch in "off" position
- 2-Warning lights "on"
- 3-Headlights, tail lights and warning lights "on"
- 4-Headlights and work lights "on"

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

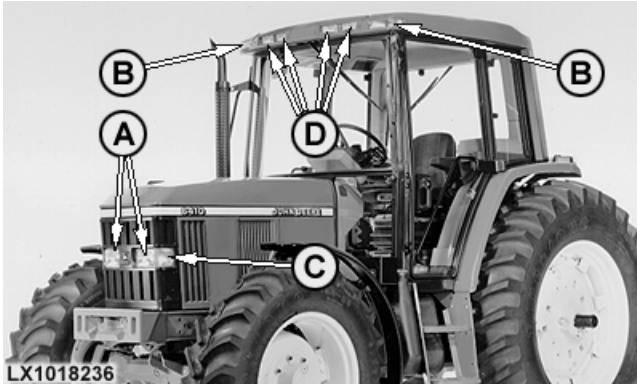
- Switch down = Low beam
- Switch up = High beam

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

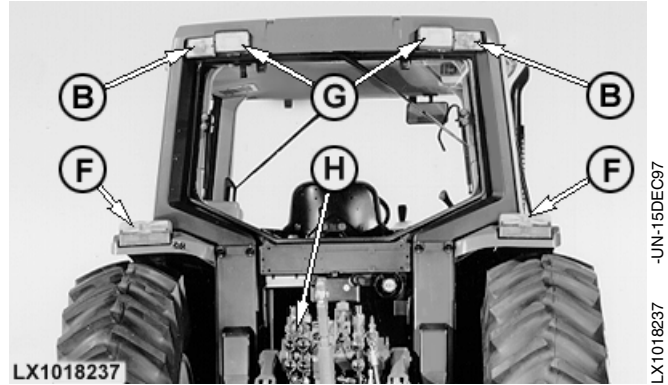


LX,OMLIGH014856-19-01OCT99

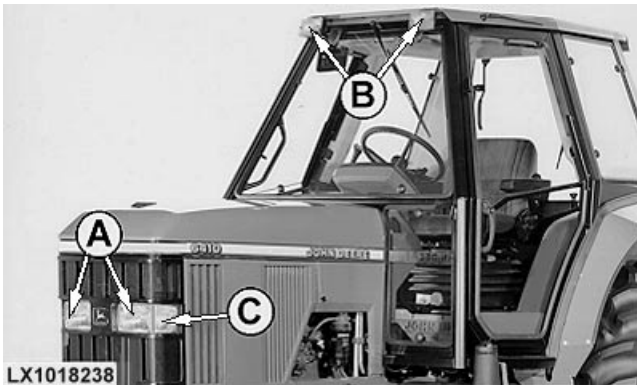
LIGHTS



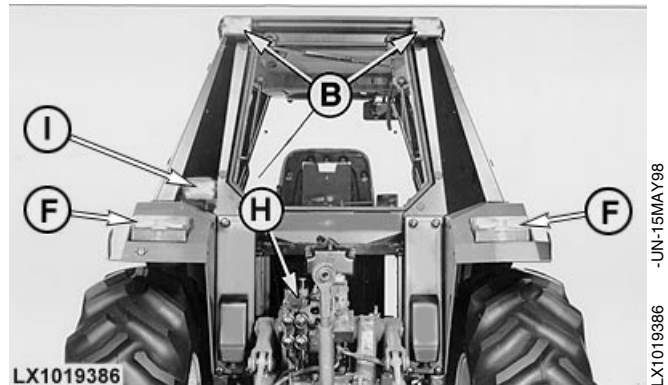
Tractors with ComfortGard Cab - Front



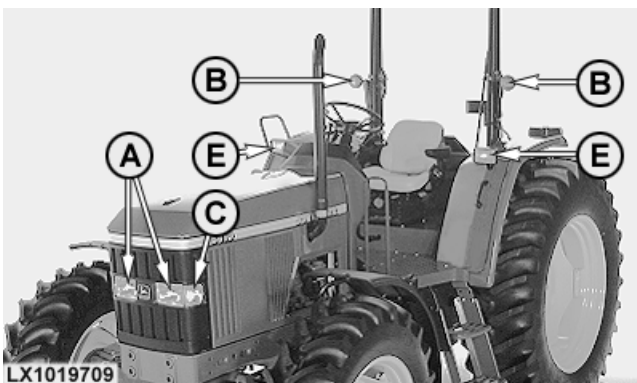
Tractors with ComfortGard Cab - Rear



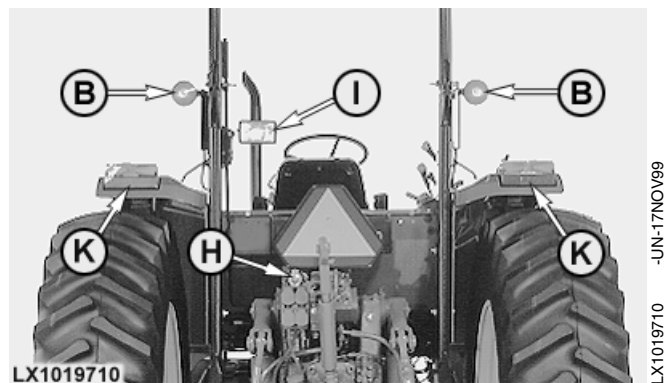
Tractors with Low Clearance Cab - Front



Tractors with Low Clearance Cab - Rear



Tractors without Cab - Front



Tractors without Cab - Rear

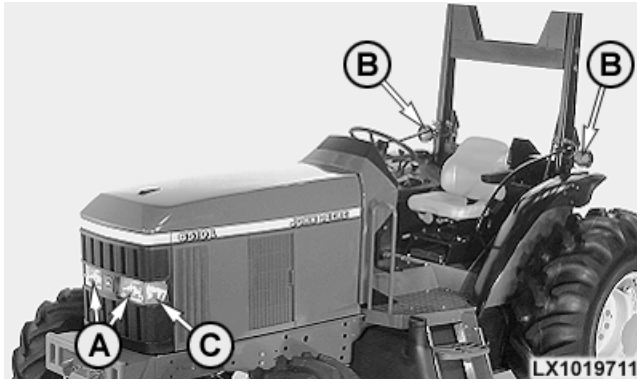
A—Headlights
B—Turn signal and warning lights

C—Front corner work lights
D—Front roof work lights
E—Fender work lights

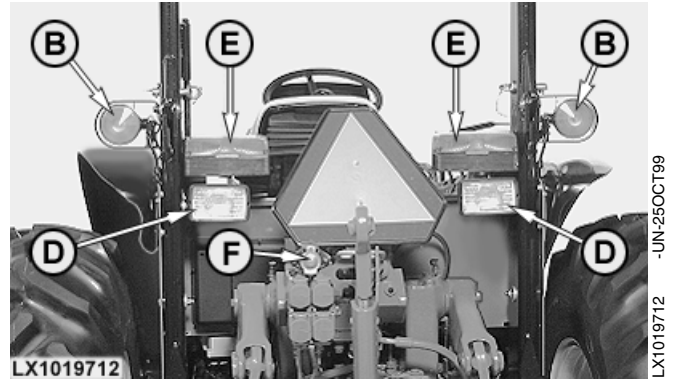
F—Tail and warning lights
G—Rear roof work lights
H—Socket for trailer lighting

I—Rear work lights
K—Turn signal and tail lights

LIGHTS (CONTINUED)



Low Profile Orchard tractors - Front



Low Profile Orchard tractors - Rear

A—Headlights
B—Turn signal and warning lights

C—Front corner work lights
D—Rear work lights

E—Tail and turn signal lights

F—Socket for trailer lighting

LX,OMLIGH014858-19-01OCT99

ADDITIONAL WORK LIGHTS AT CAB FRAME

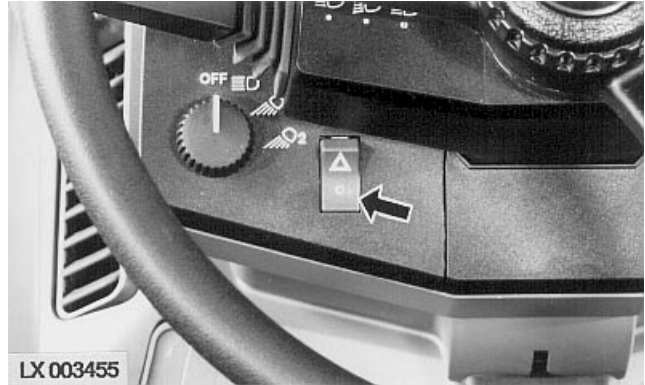
The tractor can be equipped with additional work lights (A) at the cab frame.



LX,OMLIGH016059-19-01APR98

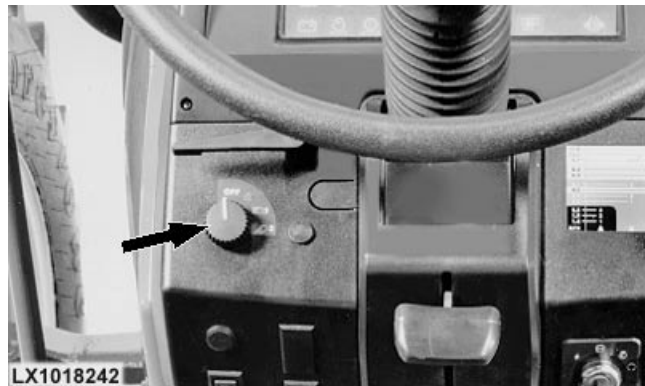
OPERATING THE HAZARD WARNING LIGHT SWITCH

Whenever encountering any trouble on the tractor when driving on public roads, switch on hazard warning lights.



LX 003455

Tractors with cab



LX1018242

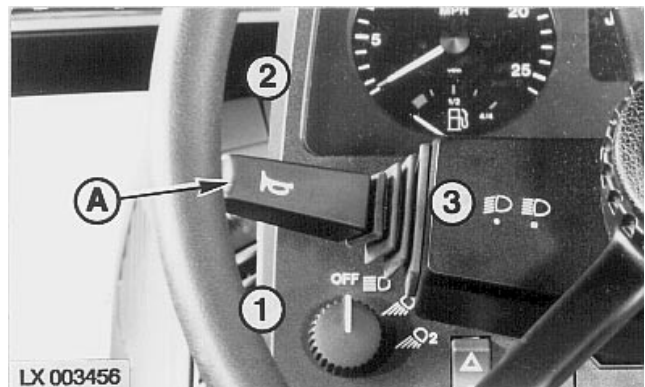
Tractors without cab

LX,OMLIGH014859-19-01OCT97

SWITCH FOR TURN SIGNAL LIGHTS AND HORN (TRACTORS WITH CAB)

Positions of switch (A):

- 1 = Turn signal, left-hand turn
- 2 = Turn signal, right-hand turn
- 3 = Horn (push towards steering column)



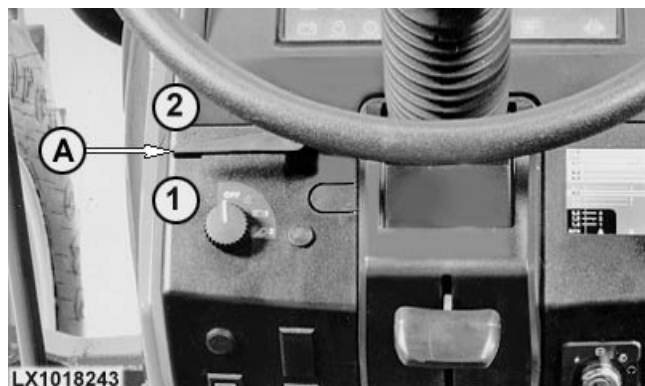
LX 003456

LX,OLIGHT004931-19-01NOV93

SWITCH FOR TURN SIGNAL LIGHTS (TRACTORS WITHOUT CAB)

Positions of switch (A):

- 1 = Turn signal, left-hand turn
- 2 = Turn signal, right-hand turn

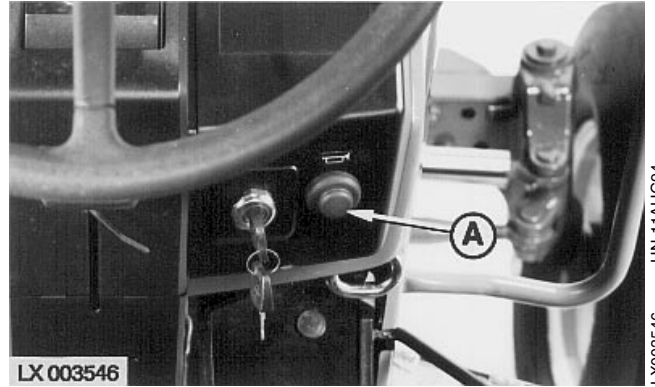


LX1018243

LX,OMLIGH014860-19-01OCT97

SWITCH FOR HORN (TRACTORS WITHOUT CAB)

Push in switch (A) to sound horn.



LX,OLIGHT004933-19-01NOV93

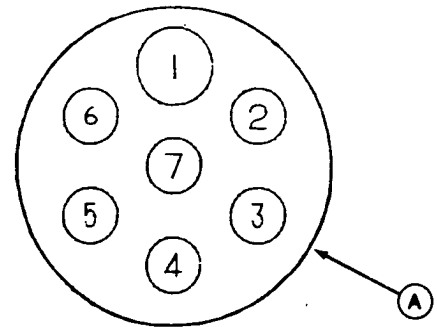
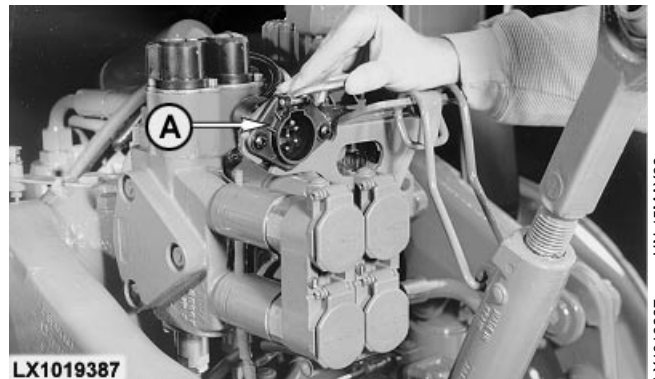
LX003546 -UN-11AUG94

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	Black
2	not used	
3	Left Turn	Dark Green
4	Accessory	Red
5	Right Turn	Purple
6	Tail Light	Gray
7	Accessory	Red



LX,OLIGHT007777-19-01APR98

LX1019387 -UN-15MAY98

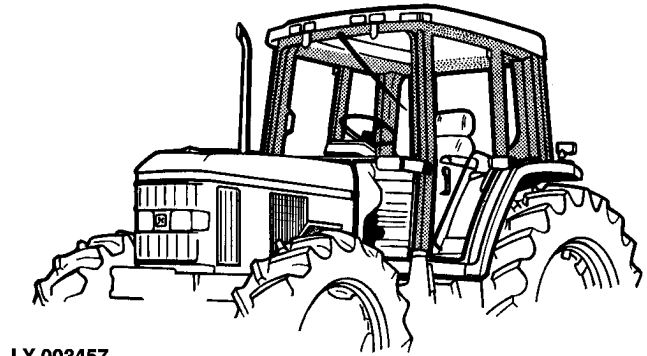
RW21249 -UN-17JUN92

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.



LX 003457

LX003457 -UN-15AUG94

LX,OCAB 003397-19-01OCT92

OPERATING FOLDABLE ROPS

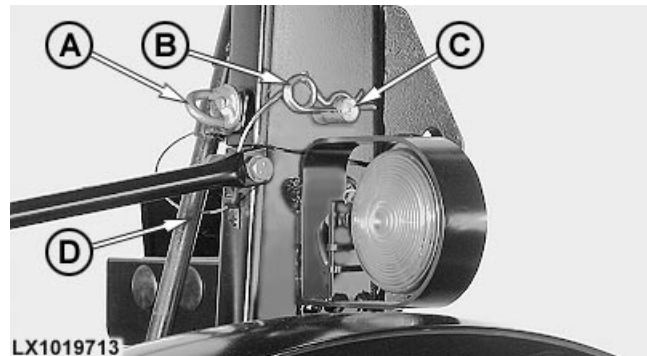
CAUTION: If the tractor is ever operated with ROPS folded (e.g. to enter a low building) drive with extreme caution. Do NOT use seat belt in this case.

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 (C) on both sides.

Reverse this procedure to bring ROPS up.



LX1019713

LX1019713 -UN-17NOV99

On Orchard tractors

CAUTION: Put down ROPS only if it is essential for working conditions.

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

LX,OROPS 006318-19-01OCT99

SEAT BELT

CAUTION: Always use the seat belt (if equipped) when a roll guard is installed or when tractor is equipped with an operator's cab.



LX009455 -UN-02JAN95

LX,OMCAB 016049-19-01APR98

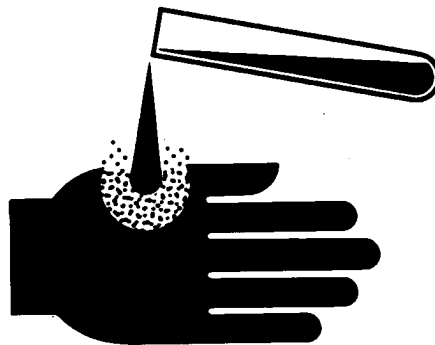
AVOID CONTACT WITH PESTICIDES

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:

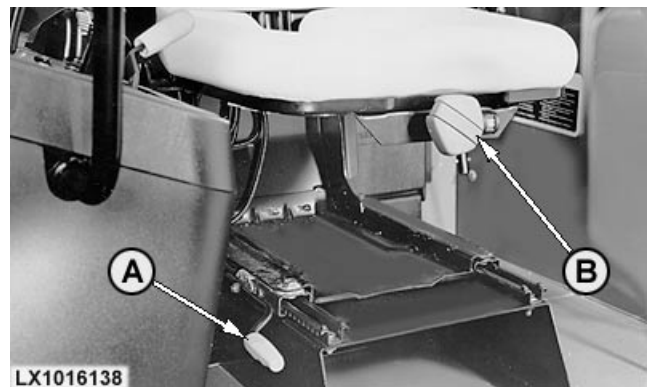
1. Sweep or vacuum the floor of cab.
2. Clean headliners and inside cowlings of cab.
3. Wash entire exterior of vehicle.
4. Dispose of any wash water with hazardous concentrations of active or non-active ingredients according to published regulations or directives.

DX,CABS2 -19-03MAR93

COMFORT SEAT

To adjust height, lift all weight off the seat and pull lever (C) up. At the same time, raise the seat at the lever and 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,OMKAB 011271-19-20SEP97

SUPER COMFORT SEAT

1. Adjust weight

Use crank (A) to adjust seat to suit operator's weight.

2. Adjust height

To adjust the seat upward, lift seat pan until it clicks into place (maximum of 3 detent positions). To adjust downward, lift the seat to the stop position and then lower it.

3. Adjust horizontal spring

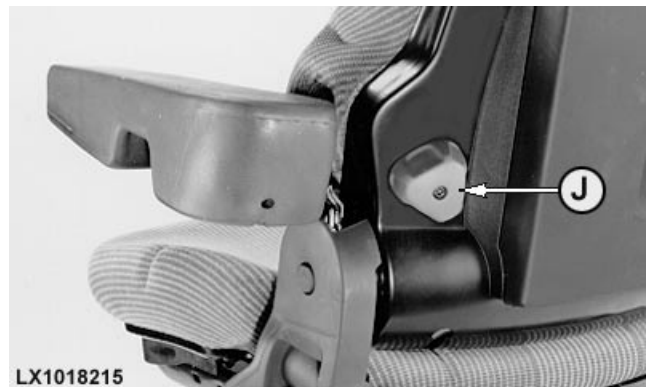
Lever (H) forward - Horizontal travel

Lever (H) backward - No horizontal travel

IMPORTANT: Before turning the seat, always switch off the engine. This prevents the tractor or implements from moving if any of the controls are accidentally moved.

The seat is equipped with a swivel which is operated by means of lever (G) as follows:
Lift the lever up. The seat turns 20° to the left and 20° to the right. The seat locks at 10° intervals.

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



- A—Crank for adjusting seat to suit operator's weight
- B—Lever for seat tilt adjustment*
- C—Lever for adjusting the cushion position*
- D—Horizontal adjustment
- E—Armrest tilt adjustment
- F—Backrest tilt adjustment
- G—Lever for swivel movement
- H—Lever for fore/aft spring*
- J—Lumbar support adjustment

* If equipped

AIR COMFORT SEAT

1. Adjust weight

After starting the engine, release lever (E) briefly to bring the seat to its central position.

2. Adjust height

To adjust the height, pull lever (E) upward or push it down.

3. Adjust spring setting

The seat's spring setting can be varied from soft to hard by means of lever (F).

Lever (F) forward - soft
Lever (F) backward - hard

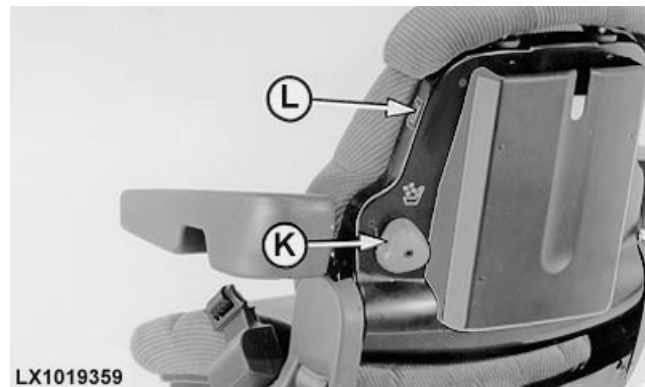
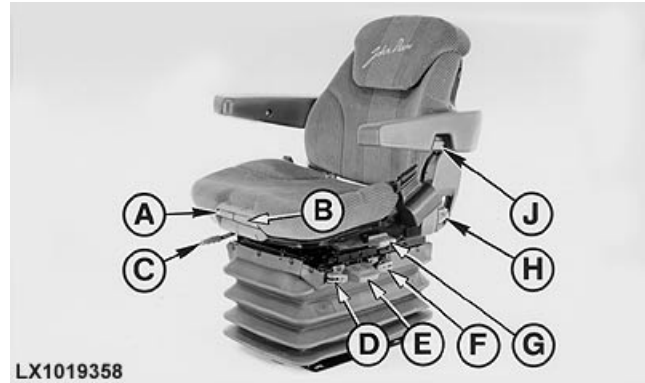
4. Adjust horizontal spring

Lever (D) forward - Fore/aft suspension
Lever (D) backward - No fore/aft suspension

IMPORTANT: Before turning the seat, always switch off the engine. This prevents the tractor or implements from moving if any of the controls are accidentally moved.

The seat swivel is operated by means of lever (G) as follows:
Lift the lever up. The seat turns 15° to the left and right.
The seat locks at 7.5° intervals.

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



- A—Lever for adjusting the cushion position*
- B—Lever for seat tilt adjustment*
- C—Horizontal adjustment
- D—Lever for fore/aft spring
- E—Height adjustment
- F—Spring setting adjustment
- G—Lever for swivel movement
- H—Backrest tilt
- J—Armrest tilt adjustment
- K—Lumbar support adjustment
- L—Seat heater switch*

* If equipped

AIR COMFORT SEAT (NEW VERSION)

1. Adjust weight

After starting the engine, release lever (E) briefly to bring the seat to its central position.

2. Adjust height

To adjust the height, pull lever (E) upward or push it down.

3. Adjust spring setting

The seat's spring setting can be varied from soft to hard by means of lever (F).

Lever (F) forward - soft
Lever (F) backward - hard

4. Adjust fore/aft spring

Lever (D) forward - Fore/aft suspension
Lever (D) backward - No fore/aft suspension

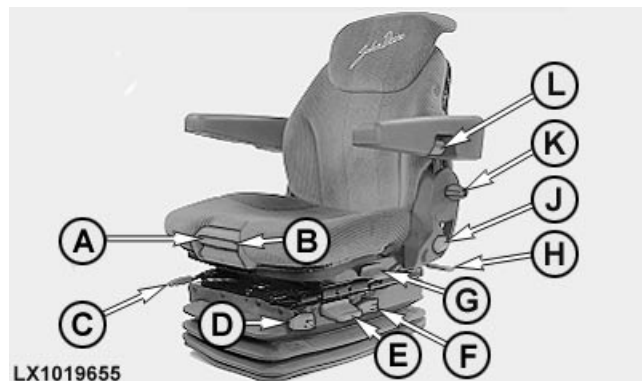
5. Adjust lateral spring

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

IMPORTANT: Before turning the seat, always switch off the engine. This prevents the tractor or implements from moving if any of the controls are accidentally moved.

The seat swivel is operated by means of lever (G) as follows:
Lift the lever up. The seat turns 15° to the left and right.
The seat locks at 7.5° intervals.

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



LX1019655

LX1019655 -UN-17SEP99



LX1019656

LX1019656 -UN-17SEP99

- A—Lever for adjusting the cushion position*
- B—Lever for seat tilt adjustment*
- C—Horizontal adjustment
- D—Lever for fore/aft spring
- E—Height adjustment
- F—Spring setting adjustment
- G—Lever for swivel movement
- H—Lever for lateral suspension
- J—Backrest tilt
- K—Armrest height adjustment
- L—Armrest tilt adjustment
- M—Pneumatic lumbar support adjustment
- N—Seat heater switch*

* If equipped

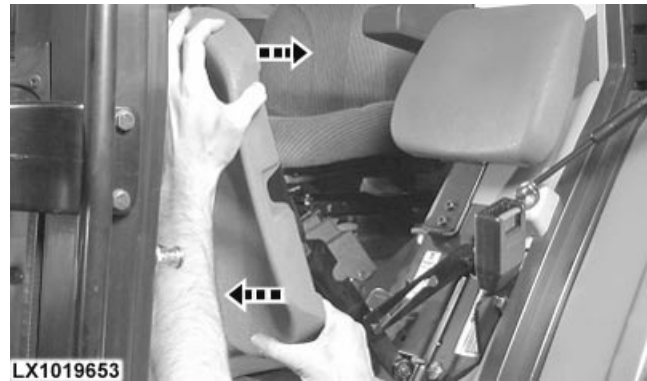
OPERATING THE INSTRUCTIONAL SEAT

CAUTION: This instructional seat has been provided only for training operators or diagnosing machine problems.

Keep all other riders off the tractor and equipment.

Always wear your seat belt.

1. Press lever (A).
2. Tip instructional seat forward.
3. Swing seat up slightly.
4. Turn seat through 90 degrees.
5. Tip seat backward.



IMPORTANT: Pin must fit into hole.



LX,OMSEAT020546-19-01SEP99

OPENING WINDOWS

Regular Cab

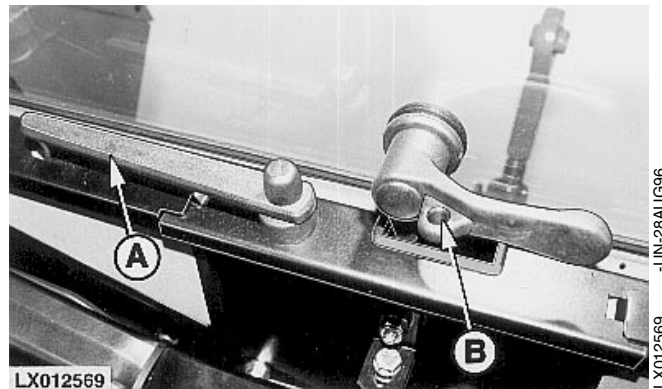
The side and rear windows can all be opened for better ventilation.



Low Clearance Cab

NOTE: On tractors with Low Clearance Cab, only the rear window can be opened.

To keep rear window partly open, open window and lock it in position by turning lever (A) approx. 90 degrees and engaging lever pin in bore (B).



LX,OMCAB 016051-19-01APR98

WINDSHIELD WIPER AND WASHER SYSTEM

Windshield wiper switch (A) has two or three positions:

- 1 = Intermittent wipe (optional)
- 2 = Slow wipe
- 3 = Fast wipe

The windshield washer system is operated by means of switch (A) (push towards steering column).

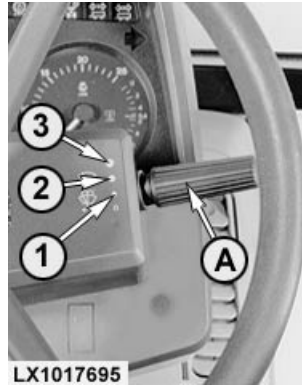
Rear window wiper switch (B) has two positions:

- 1 = Slow wipe
- 2 = Fast wipe

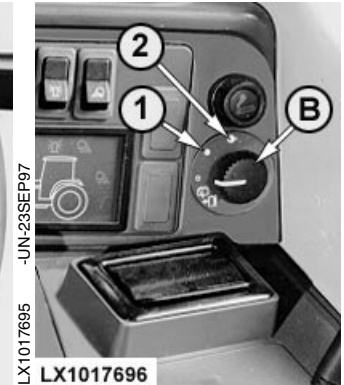
The rear window washer system is operated by means of switch (B) (push the switch).

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

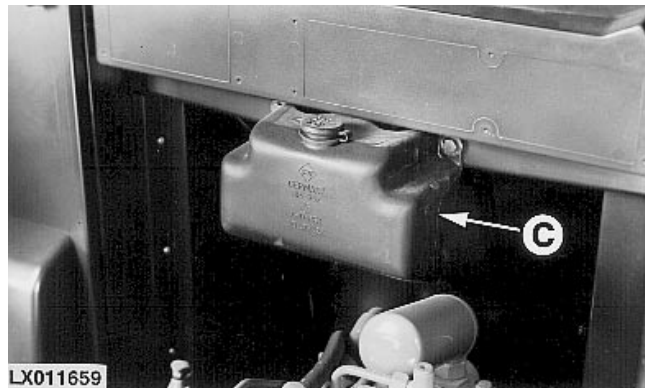
- A—Switch for windshield wiper
- B—Switch for rear window wiper
- C—Reservoir for windshield washer system



LX1017695



LX1017696



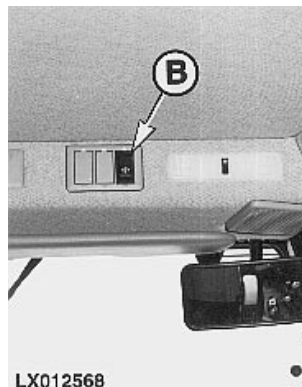
LX011659

LX,OMKAB 011275-19-01SEP97

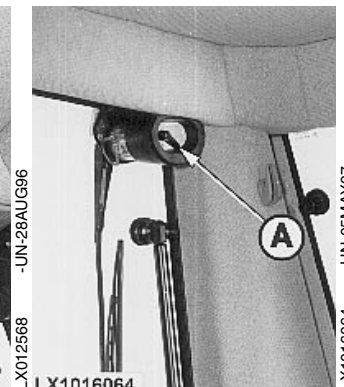
Rear window wiper on tractors with Low Clearance Cab

NOTE: Switch (A) on wiper motor has to stay in "ON" position to operate wiper with overhead switch (B).

Press top of switch (B) to operate wiper. Press bottom of switch to operate rear window washer.



LX012568



LX1016064

LX,OCAB 008974-19-01APR97

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 switch (B).

• De-icing or de-misting the windshield:

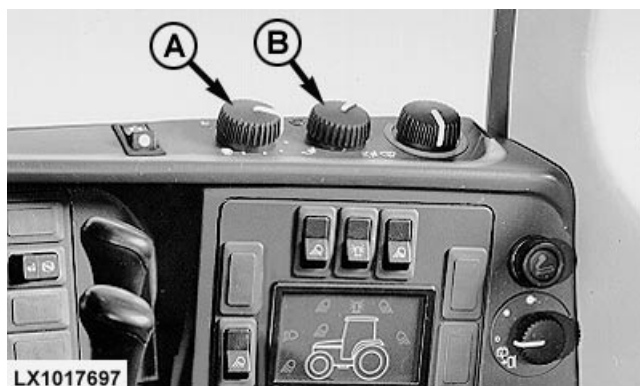
Set the heater to maximum heat output.

Set switch (B) to symbol (D) and turn switch (A) (blower) to position 4.

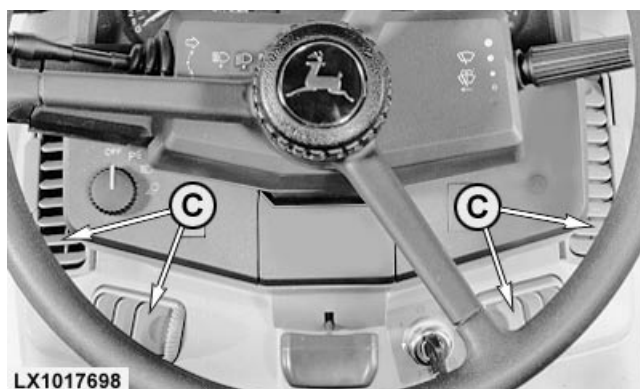
• If the airflow is to be directed **at the operator**, set switch (B) to symbol (E). Turn on the blower at switch (A). The direction and force of the airflow can be further adjusted at louvers (C).

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

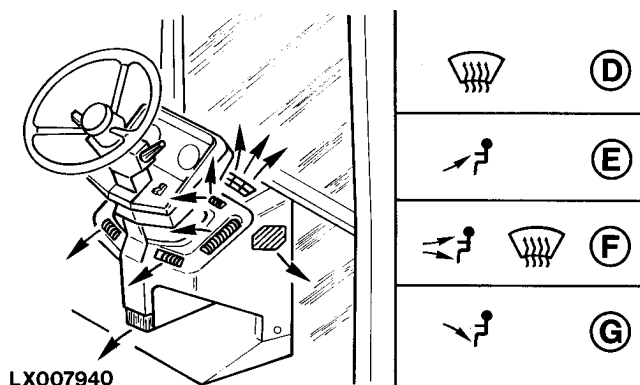
• If the airflow is to be directed **into the footwell**, set switch (B) to symbol (G). Turn on the blower at switch (A).



LX1017697

-UN-23SEP97
LX1017697

LX1017698

-UN-23SEP97
LX1017698

LX007940

-UN-15AUG94
LX007940

Direction of airflow

Positions of switch (B):

Symbol (D) = air flows to windshield

Symbol (E) = air flows to operator

Symbol (F) = air flows to windows, operator and footwell

Symbol (G) = air flows to footwell

LX,OMKAB 011276-19-01SEP97

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.



LX1017699

LX,OMKAB 011277-19-01SEP97

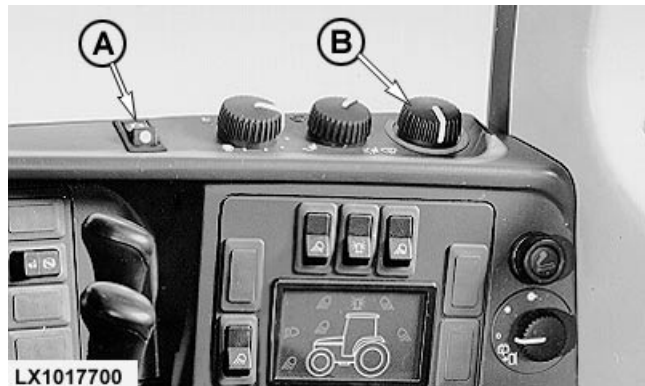
LX1017699 -UN-23SEP97

AIR CONDITIONING SYSTEM

Switch on air conditioning system at switch (A). Regulate the cooling effect at control (B). The cooling effect is increased by turning the knob further counterclockwise. 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). Control (B) 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.



LX1017700

LX,OMKAB 011278-19-01SEP99

LX1017700 -UN-23SEP97

TIPS ON USING THE AIR-CONDITIONING SYSTEM

Preventing the windows from misting up

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

1.) During the day:





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

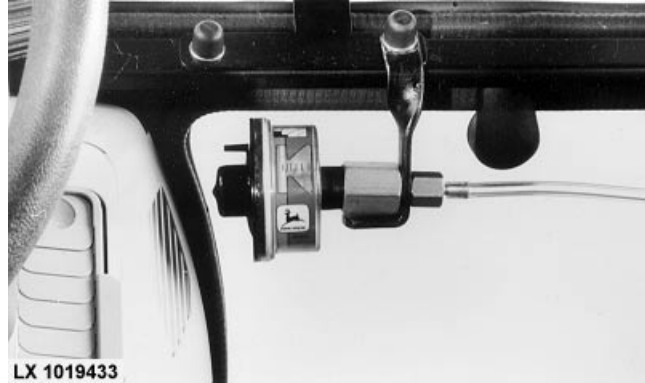
2.) In the morning (air-conditioning system was in use the day before)

- During the first start-up period
 - Set air-flow to "footwell" - NOT to "window"!
 - Run the blower
 - Turn the temp. control to "max. heating output" (in the red zone)
 - If you are not actually driving the tractor, it may help to open the cab door or cab window
- As soon as hot, dry air comes out the louvers:
 - Set air-flow to "window" - this will dehumidify the windows
- When the windows are clear:
 - Set air-flow and temperature to a comfortable setting
- If ambient humidity is high or there is moisture inside the cab
 - Turn the air-conditioning system on (at rocker switch), while keeping the temp. control set to "warm"

LX,OMKAB 017527-19-01OCT98

ULTRA-GARD™ XL CAB AIR FILTER

-  **CAUTION:** Do not apply pesticides if the cab pressure indicator is in the red zone.
-  **CAUTION:** Prolonged exposure to pesticides may cause serious injury or even death.
-  **CAUTION:** Allow only trained, certified applicators to apply pesticides.
-  **CAUTION:** Replace filter after 500 hours of operation or once a year, whichever occurs first. Use only John Deere ULTRA-GARD™ XL Pesticide Cab Air Filters for both fresh air and recirculated air.

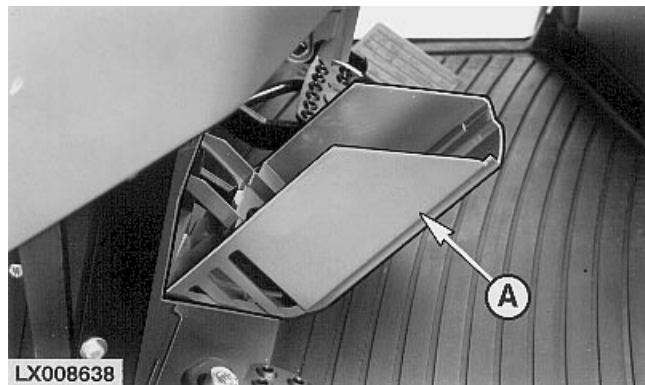


LX 1019433 -UN-19OCT98

LX,OMKAB 017538-19-01OCT98

COOLING A DRINK CAN

Open flap (A) and insert drink can. Set heater to "cool" and switch on blower. Airflow must be directed to the footwell.



LX008638 -UN-15AUG94

LX,OKAB 006332-19-01JUL94

STORAGE RACK

The tractor may be equipped with a storage rack. The "Field Office" briefcase can be secured to the storage rack when the tractor is in motion. Press the handle (A) down until it clicks into the rack.

For safety reasons, never drive the tractor with the briefcase open. The contents of the briefcase should not exceed a weight of 10 kg (22 lb).



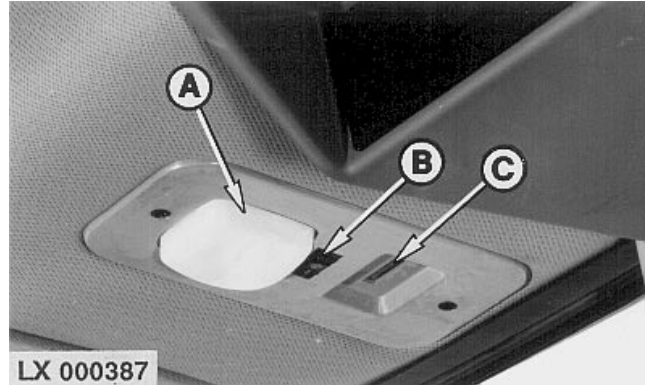
LX1018225 -UN-15DEC97

LX,OMCAB 014862-19-01OCT97

DOME AND CONSOLE LIGHTS

Lamp (A) glows continuously when switch (B) is in position 1. In position 2 the lamp glows as soon as cab door is opened. It is switched off in position 0.

Lamp (C) illuminates the gear and range shift levers when the parking lights or headlights are switched on.

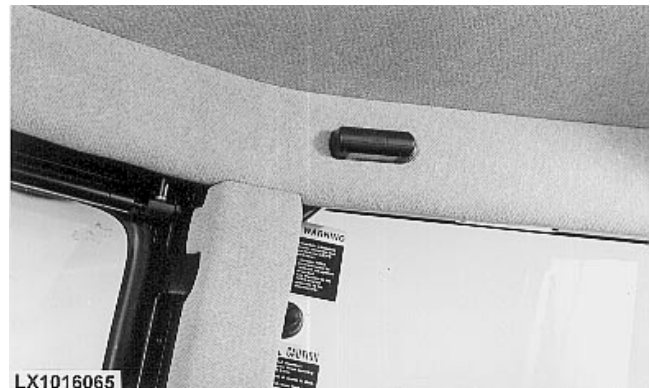


LX000387 -UN-11AUG94

LX,OKAB 000221-19-01MAY92

Console light on tractors with Low Clearance Cab

This lamp illuminates the gear and range shift levers when the parking lights or headlights are switched on.



LX1016065 -UN-05MAY97

LX,OKAB 011234-19-01APR97

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.



LX1017701 -UN-23SEP97

LX,OMCAB 016077-19-01APR98

TURN AROUND STEERING WHEEL (ON LOW PROFILE ORCHARD TRACTORS)

Remove cover (A).

Remove self-locking hex. nut (B) and adjusting ring (C).

Remove washer (D), bend down tab on washer (E), remove hex. nut (F) and remove washer (E).

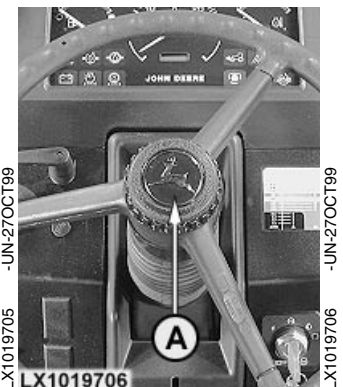
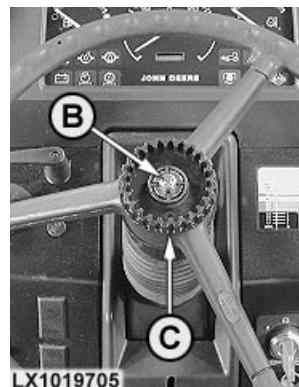
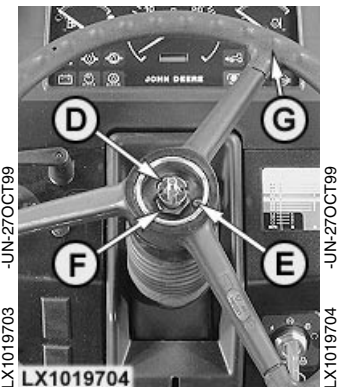
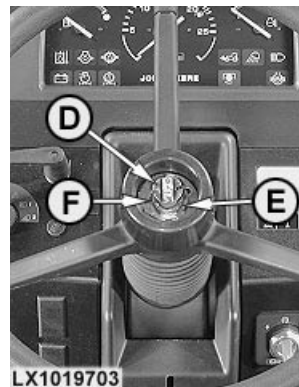
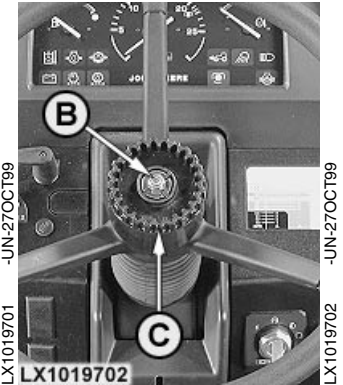
Remove steering wheel (G) and turn it around.

Install steering wheel (G) and washer (E). Tighten hex. nut (F) to 50 N·m (35 lb-ft).

Bend one tab of the washer up to secure hex. nut (F). Install washer (D).

Install adjusting ring (C) and hex. nut (B) and tighten to 20 N·m (15 lb-ft).

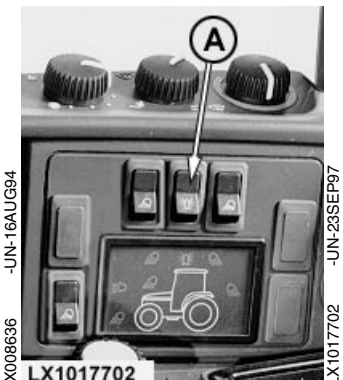
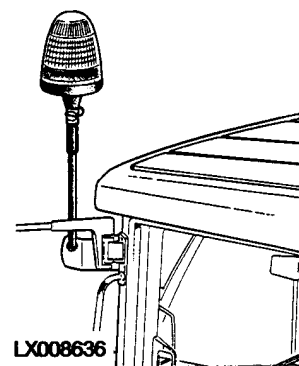
Install cover (A).



LX,OCAB 006329-19-01OCT99

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).



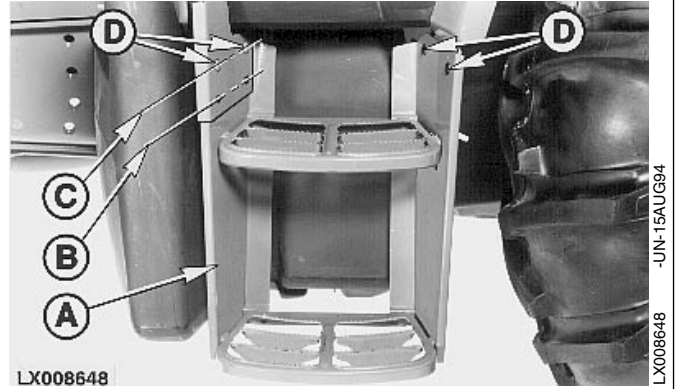
LX,OMCAB 016078-19-01APR98

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,OMKAB 006350-19-01JUL94

MULTIPLE POWER-OUTLET SOCKET STRIP

A strip of extra sockets may be fitted to the front of the shift lever console. The sockets are protected by a single 30A fuse.

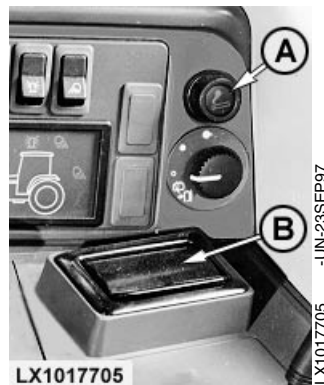


LX,OMKAB 011323-19-01MAY98

CIGARETTE LIGHTER AND ASHTRAY

Open and press down the ashtray to take it out.

- A—Cigarette lighter
- B—Ashtray



LX,OMKAB 011283-19-01SEP97

INSTALLING THE MONITOR

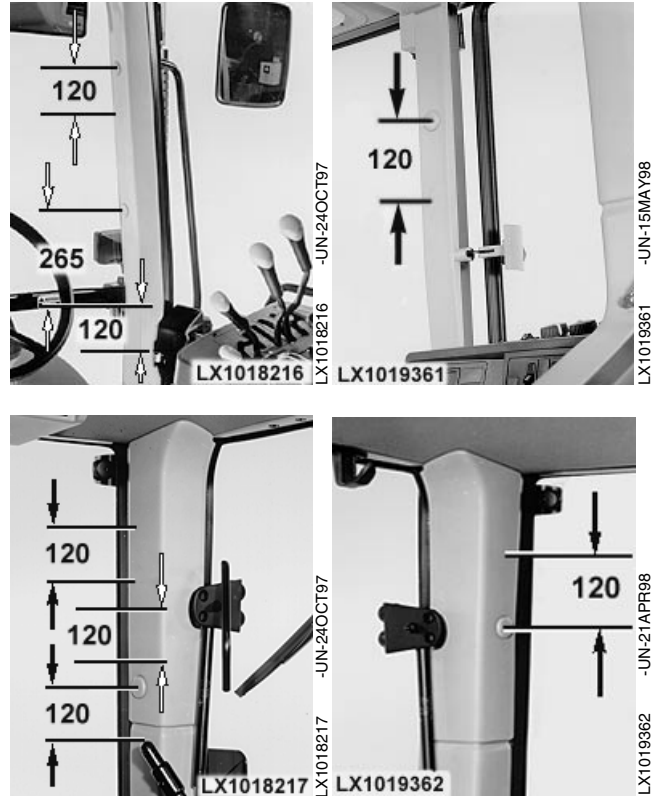
Attaching the performance monitor and controls

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

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

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

Take off the relevant trim and turn it over. The positions where holes may be made are marked.



LX,OMCAB 014863-19-01APR98

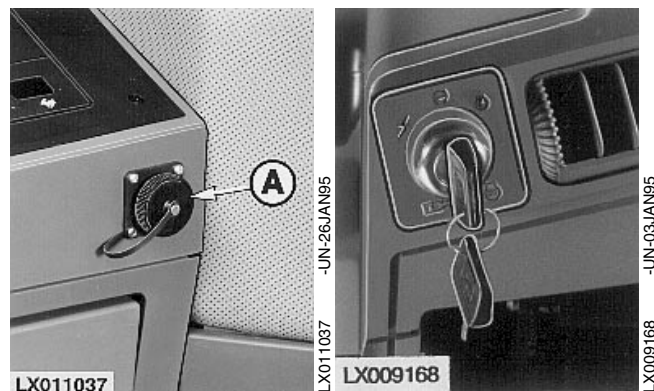
3-TERMINAL POWER OUTLET SOCKET

Tractors with cab

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).



LX,OMOPER016034-19-01APR98

Tractors without cab

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 (F110). 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 terminal 1 of the 3-terminal power outlet socket (A).
Terminal 2 always has power.



LX,OMOPER016035-19-01APR98

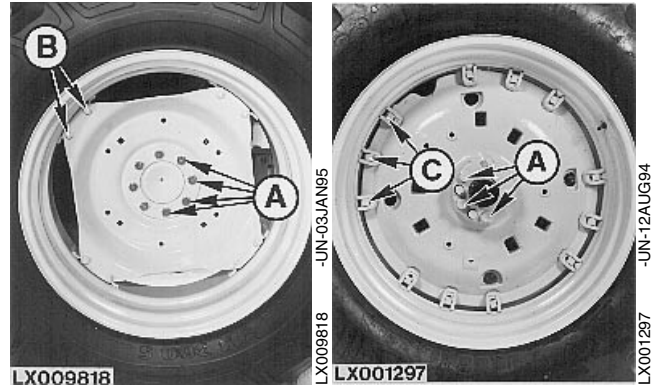
Break-In Period

AFTER FIRST 4 AND 8 HOURS OF OPERATION

Tighten Rear Wheel Retaining Bolts

(Bolt torques vary depending on tractor equipment)

- A—500 N·m (370 lb-ft)
- B—310 N·m (230 lb-ft)
- C—230 N·m (170 lb-ft)

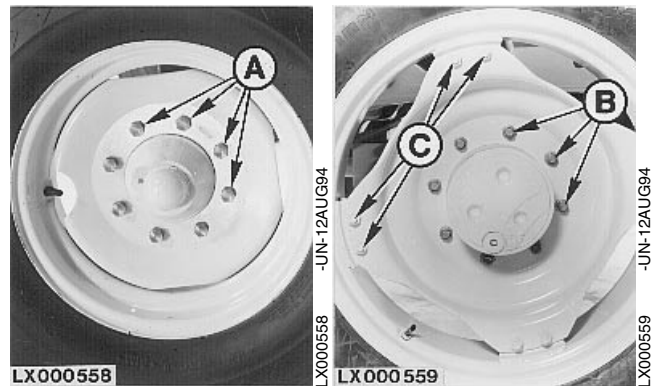


LX,OEIN 000160-19-01OCT97

Tighten Front Wheel Retaining Bolts/Nuts

(Bolt torques vary depending on tractor equipment)

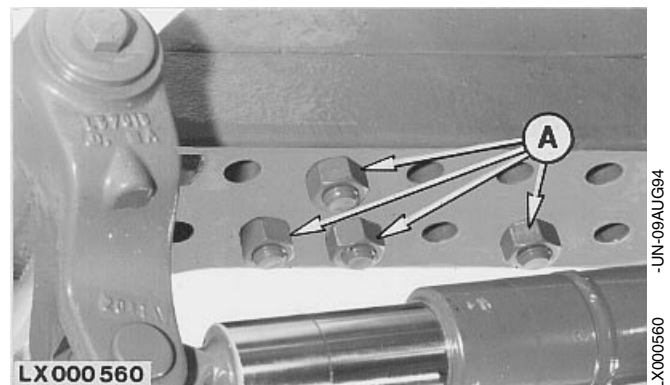
- A—250 N·m (185 lb-ft) - (2WD)
- B—300 N·m (220 lb-ft)
- C—Screws of class 8.8: 250 N·m (185 lb-ft)
- Screws of class 10.9: 310 N·m (230 lb-ft)



LX,OMBREA016079-19-01OCT99

Tighten Adjustable Front Axle

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



LX,OMBREA016080-19-01APR98

WITHIN FIRST 100 HOURS OF OPERATION

Wheel Retaining Bolts

Check the torque of wheel retaining bolts frequently.

LX,OMEIN 013411-19-01SEP97

Engine

The engine is filled with a special oil for breaking it in. 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.

- When necessary, top up with oil to the “XXX” mark. The oil must meet the following specifications:

- API specification CD or CE
- CCMC specification D4
- ACEA specification E1

IMPORTANT: During the first 100 hours, under NO circumstances use John Deere PLUS-50 oil or any oil that meets the following: API specification CG-4, API specification CF-4, ACEA specification E2, ACEA specification E3 or CCMC specification D5. 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”.

LX,OMEIN 013412-19-05SEP97

AFTER FIRST 100 HOURS OF OPERATION

Change engine oil.
See "Service - Every 250 Hours".

Renew engine oil filter element.
See "Service - Every 250 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".

LX,OBREAK004936-19-01NOV93

Check cab or 2-post ROPS mounting torques

Check all cab and ROPS attaching screws for tightness.

Specified torques are as follows:

With cab

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

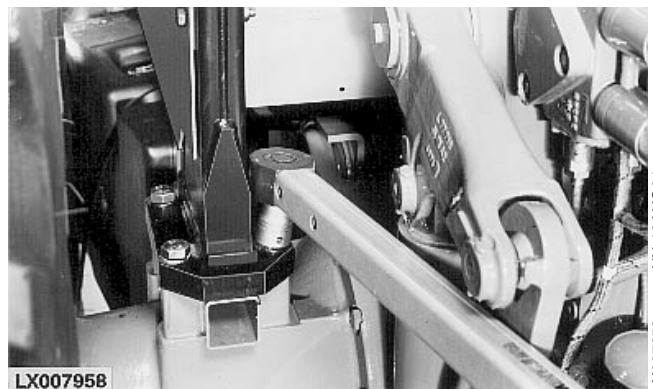
Without cab

- attaching screws: 400 N·m (300 lb-ft)



LX 000378

Tractors with cab



LX007958

Tractors without cab

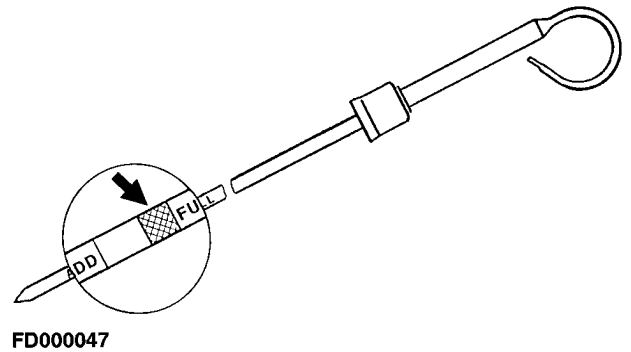
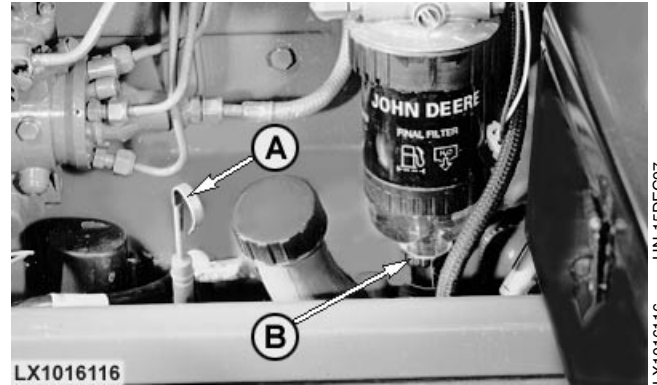
LX,OCAB 008989-19-01APR98

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) - if equipped.



LX,OMPRE 014864-19-01APR98

LX1016116 -UN-15DEC97

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”.

LX,VORINB002080-19-01FEB92

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 rear axle.
- Lubricate three-point hitch.

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

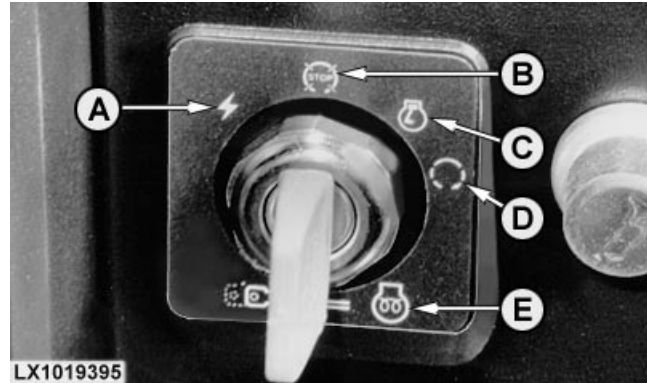
LX,OPRE 004937-19-01OCT99

Operating the Engine

POSITIONS OF MAIN SWITCH

To activate electrical starting aid (E), turn key to “On” position und then press the key into the switch.

- A—Electrical power with engine off
- B—“Off” position
- C—“On” position (engine runs)
- D—Start position
- E—Electrical starting aid



LX,OMENG 016081-19-01APR98

STARTING THE ENGINE

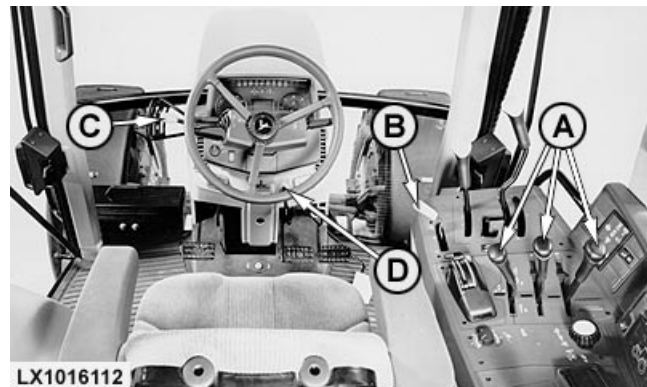
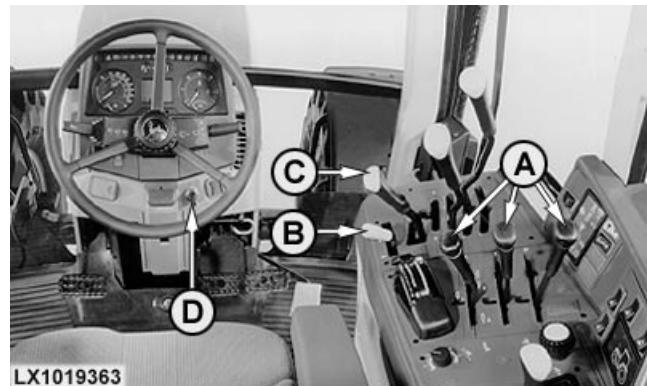
CAUTION: Never operate the engine in a closed building. Make sure there is plenty of ventilation.
Danger of asphyxiation!

1. Set selective control valve levers (A) to neutral position.
2. Move hand throttle lever (B) to a medium speed setting (first third of lever travel).
3. Set reverser lever (C) — or gear lever in the case of tractors with SyncroPlus transmission — to neutral position.
4. 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.

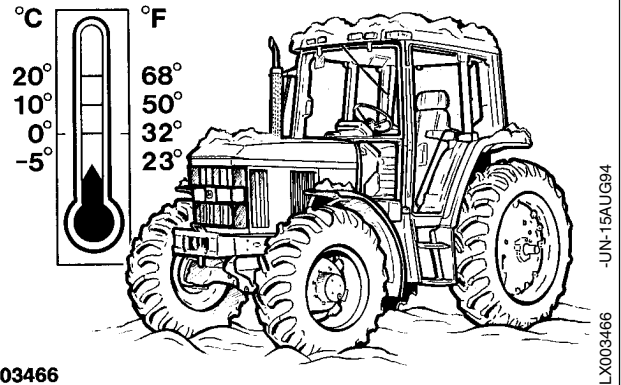
- A—Selective control valve levers
- B—Hand throttle lever
- C—Reverser lever
- D—Main switch



LX,OMENG 016052-19-01OCT99

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).



LX 003466

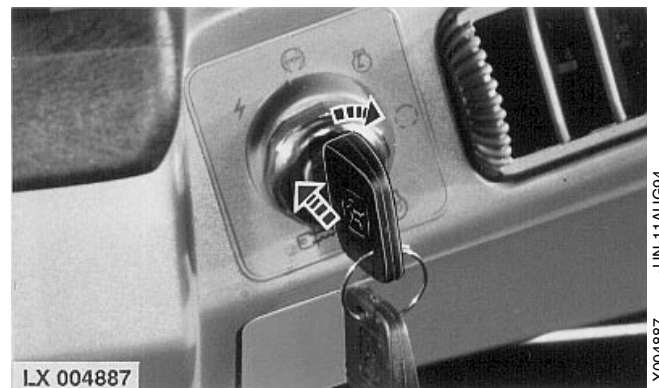
LX,OENGINE003508-19-01OCT99

ELECTRICAL STARTING AID

CAUTION: Never use Ether starting fluid when starting the engine with an electrical starting aid.

Proceed as described under points 1 to 3, "Starting the Engine".

Turn the key one position clockwise to the ON position. Press the key into the main switch to activate the heating element. Wait for between 20 and 25 seconds, then let the key return to its normal position and immediately turn it clockwise as far as it will go. Never start the engine with the key pressed in (i.e. with heating element switched on).



LX 004887

IMPORTANT: If the engine fails to catch, do not operate the starter for more than 30 seconds at a time. However, if the engine is gaining speed slowly, keep operating the starter until the engine picks up enough speed to run at low idle. If engine does not start, turn the key to the "OFF" position and wait at least one minute for the starting motor to cool 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.

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:

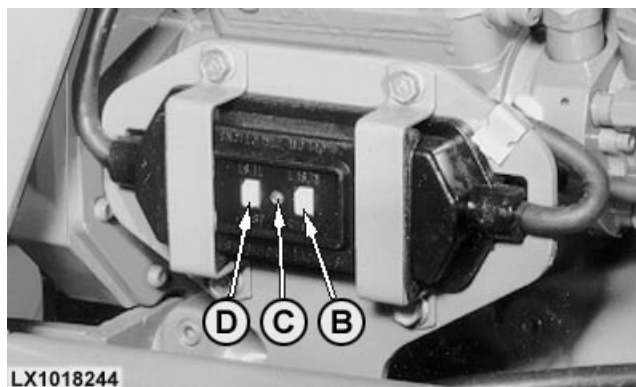
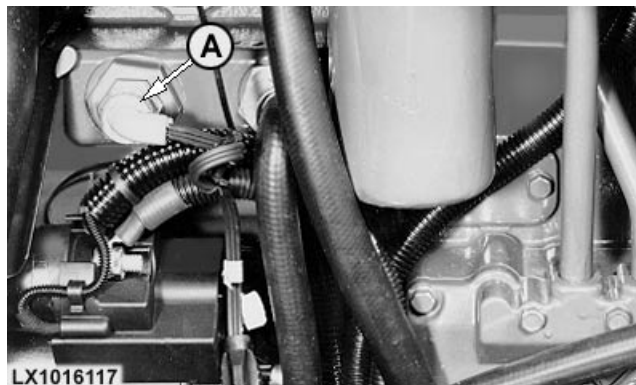
- Engine Coolant (1000 W)—optional
- Engine Coolant (1000 W), Transmission (200 W), and Hydraulic Charge Pump (200 W) *—optional (includes a ground fault interrupter)

IMPORTANT: The ground fault interrupter on the tractor protects the tractor only and does not protect electrical wiring supplying power to the tractor. Test all ground fault interrupters before you use them.

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

To switch ON the transmission heater, push knob (B). Wait until the bulb (C) glows. Then push knob (D) to reset.

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.

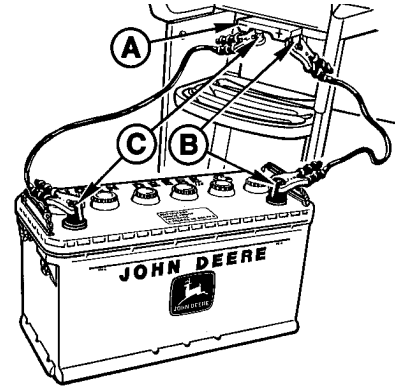


* Transmission heater not available with SyncroPlus transmission

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!



LX 000399

LX000399 -UN-26JUL94

Tractors with cab:

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

Tractors without cab:

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

LX,OMOT 000172-19-01MAR99

ENGINE WARM-UP PERIOD

Do not place tractor under full load until engine is properly warmed up. To warm up the engine, run with hand throttle halfway open until operating temperature has been obtained.

LX,OMENG 017520-19-01MAR99

ENGINES WITH TURBOCHARGER

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

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

LX,OMMOT 013413-19-01SEP97

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.

LX,OENGIN003509-19-01OCT99

PARKING THE TRACTOR

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

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



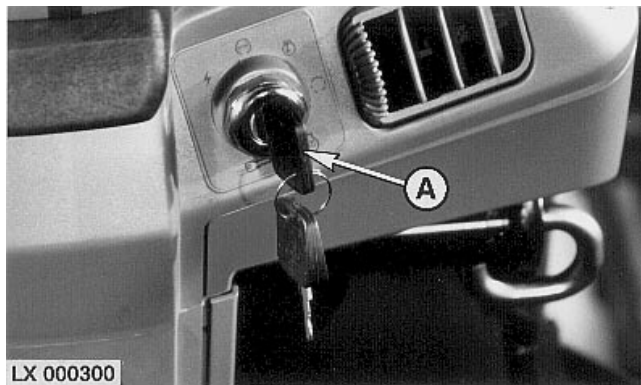
LX,OMENG 016053-19-01APR98

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 (A) to “off” position.



LX000300 -JUN-11AUG94

LX,OENGINE003197-19-01JUL92

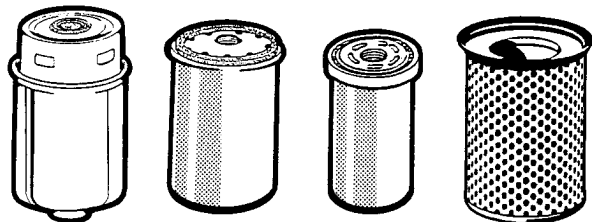
Operating the Tractor

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!

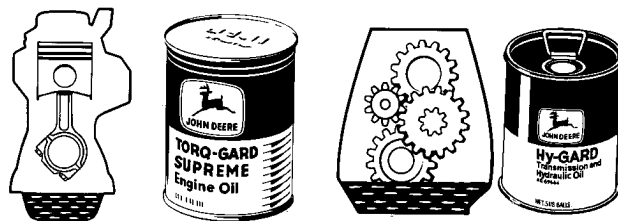


LX007829

LX, OFAH 000180-19-02MAR94

LX007829 -UN-15AUG94

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

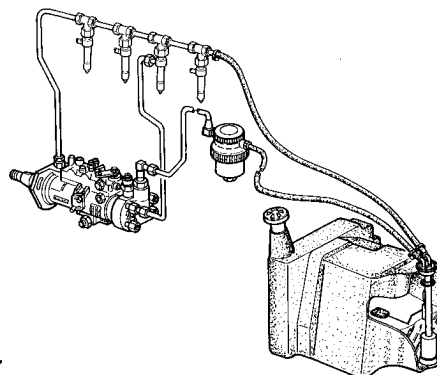


L103 642

LX, OFAH 000181-19-01OCT90

L103642 -UN-15AUG94

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

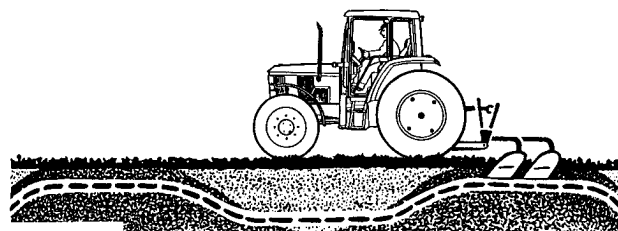


LX000347

LX, OFAH 000182-19-01OCT90

LX000347 -UN-15AUG94

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



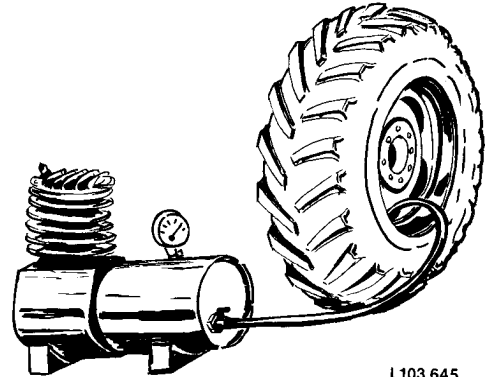
LX 003471

LX, ODRIVE003511-19-01OCT92

LX003471 -UN-15AUG94

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

LX,OMFAH 000184-19-01OCT90

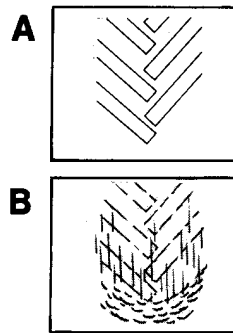
L103645 -UN-15AUG94

Choose Correct Ballast

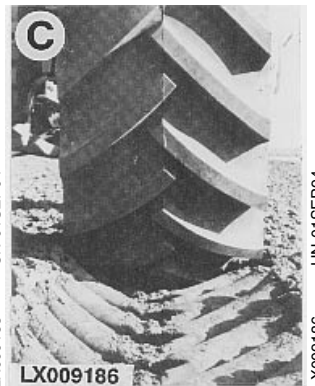
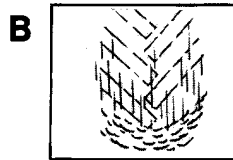
Choose ballast to obtain 10 to 15% wheel slip. Use no more ballast than necessary, reduce ballast for light work.

See guide DS 0638 "OPTIMIZING YOUR TRACTORS" for additional information.

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



LX009185



LX009186

LX,OMOPER016082-19-01APR98

LX009185 -UN-01SEP94

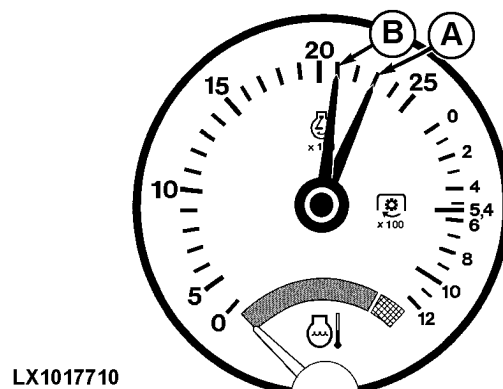
LX009186 -UN-01SEP94

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

LX,OMFAH 011289-19-01SEP97

LX1017710 -UN-01OCT97

SELECT CORRECT GROUND TRAVEL SPEED

Number of gears on tractors with:

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

Power Reverser (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

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

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

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

Desired engine speed
----- = Conversion factor
2300 rpm

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: 8.5 km/h; desired speed: 1400 rpm

1400 rpm
----- = 0.61
2300 rpm

8.5 km/h x 0.61 = 5.2 km/h

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

Desired ground travel speed
----- = Conversion
Desired ground travel speed factor
in table opposite

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

Example:

5.0 km/h
----- = 0.59
8.5 km/h

2300 rpm x 0.59 = 1360 rpm

TRAVEL SPEEDS, SYNCROPLUS TRANSMISSION

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

Additional gears with creeper transmission

Range	Gear	km/h	mph	Range	Gear	km/h	mph
A	1	2.3	1.4	A	1	0.23	0.15
	2	3.2	2.0		2	0.32	0.21
	3	4.2	2.6		3	0.43	0.27
B	1	4.6	2.9	B	1	0.46	0.29
	2	6.5	4.0		2	0.65	0.40
	3	8.5	5.3		3	0.86	0.53
C	1	7.5	4.7	C	1	0.75	0.47
	2	10.5	6.5		2	1.06	0.66
	3	13.9	8.6		3	1.39	0.86
D	1	16.2	10.0	A	R	0.28	0.17
	2	22.6	14.1		R	0.57	0.35
	3	29.8	18.5		R	0.92	0.57
A	R	2.8	1.8				
B	R	5.6	3.6				
C	R	9.2	5.8				
D	R	19.7	12.6				

Other tires (supplied at factory):

12.4-42	4.4% slower	13.6-38	3.0% faster
13.6-46	9.3% faster	15.5-38	3.5% faster
16.9-24	2.9% slower	16.9-30	3.5% slower
16.9-34	3.5% faster	16.9-38	0.6% slower
18.4-16.1	18.5% slower	18.4-26	6.9% slower
18.4-34	3.7% slower	18.4-38	2.5% faster
21.5L-16.1	18.5% slower		

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.

LX, ODRIVE003514-19-01MAR99

TRAVEL SPEEDS, POWER REVERSER (16/16)

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

Range	Gear	km/h	mph
A	1	1.8	1.1
	2	2.3	1.4
	3	3.2	2.0
	4	4.2	2.6
B	1	3.6	2.2
	2	4.6	2.9
	3	6.4	4.0
	4	8.5	5.3
C	1	5.8	3.6
	2	7.5	4.7
	3	10.5	6.5
	4	13.9	8.6
D	1	12.5	7.8
	2	16.2	10.1
	3	22.6	14.0
	4	29.8	18.5
A	R1	2.1	1.3
	R2	2.7	1.7
	R3	3.8	2.4
	R4	5.0	3.1
B	R1	4.2	2.6
	R2	5.5	3.4
	R3	7.6	4.7
	R4	10.1	6.3
C	R1	6.9	4.3
	R2	8.9	5.5
	R3	12.5	7.8
	R4	16.5	10.3
D	R1	14.8	9.2
	R2	19.2	11.9
	R3	26.8	16.7
	R4	35.4	22.0

Other tires (supplied at factory):

12.4-42	4.4% slower	13.6-38	3.0% faster
13.6-46	9.3% faster	15.5-38	3.5% faster
16.9-24	2.9% slower	16.9-30	3.5% slower
16.9-34	3.5% faster	16.9-38	0.6% slower
18.4-16.1	18.5% slower	18.4-26	6.9% slower
18.4-34	3.7% slower	18.4-38	2.5% faster
21.5L-16.1	18.5% slower		

NOTE: The ground travel speeds shown in the table are theoretical. The actual speeds vary with rolling circumference, load, tire pressure,

make of tire, wheel slip etc. If the precise speed is required for specific applications, then it must be obtained by measurement.

SHIFTING SYNCROPLUS TRANSMISSION / POWER REVERSER

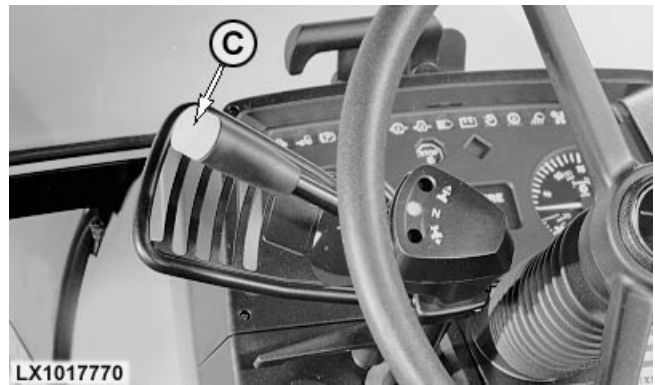
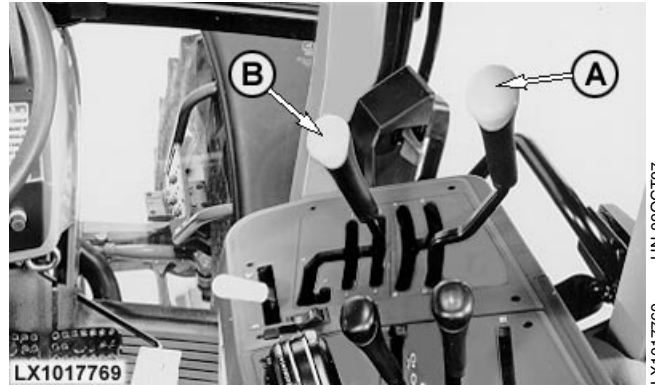
Gears are shifted by means of range shift lever (A) and gear shift lever (B). The Power Reverser also has reverse drive lever (C).

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) or reverse drive lever (C) 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.



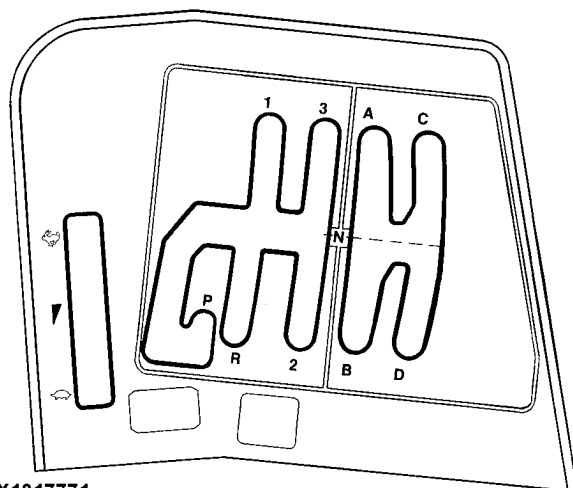
LX,OMOPER017448-19-01APR98

SHIFT LEVER POSITIONS

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

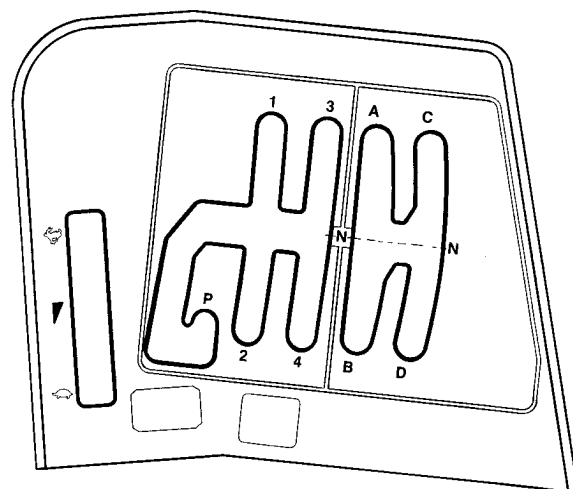
The Power Reverser has 4 ranges and 4 gears. Reverse travel may be selected in any of the ranges/gears.

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



LX1017771

SyncroPlus transmission



LX1015585

Power Reverser

LX,OMFAH 013430-19-15SEP97

TRAVEL SPEEDS, POWRQUAD TRANSMISSION

30 km/h (18.5 mph); rated engine speed 2300 rpm; 18.4-30 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	7.0	4.3		3	0.70	0.44
	4	8.5	5.3		4	0.86	0.53
C	1	7.9	4.9	C	1	0.79	0.49
	2	9.5	5.9		2	0.95	0.59
	3	11.3	7.0		3	1.14	0.71
	4	13.9	8.6		4	1.39	0.86
D	1	16.9	10.5				
	2	20.3	12.6				
	3	24.4	15.1				
	4	29.8	18.5				
A	R1	2.9	1.8	A	R1	0.29	0.18
	R2	3.4	2.1		R2	0.34	0.21
	R3	4.1	2.6		R3	0.41	0.25
	R4	5.0	3.1		R4	0.51	0.31
B	R1	5.7	3.6	B	R1	0.57	0.35
	R2	6.9	4.3		R2	0.69	0.43
	R3	8.2	5.1		R3	0.83	0.52
	R4	10.1	6.3		R4	1.01	0.63
C	R1	9.3	5.8	C	R1	0.94	0.58
	R2	11.2	7.0		R2	1.13	0.70
	R3	13.4	8.4		R3	1.35	0.84
	R4	16.5	10.2		R4	1.65	1.03
D	R1	20.0	12.4				
	R2	24.1	15.0				
	R3	28.9	18.0				
	R4	35.4	22.0				

Other tires (supplied at factory):

12.4-42	4.4% slower	13.6-38	3.0% faster
13.6-46	9.3% faster	15.5-38	3.5% faster
16.9-24	2.9% slower	16.9-30	3.5% slower
16.9-34	3.5% faster	16.9-38	0.6% slower
18.4-16.1	18.5% slower	18.4-26	6.9% slower
18.4-34	3.7% slower	18.4-38	2.5% faster
21.5L-16.1	18.5% slower		

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.

TRAVEL SPEEDS, POWRQUAD TRANSMISSION (24/24)

40 km/h (25 mph); rated engine speed 2300 rpm; 18.4-30 tires

Additional gears with creeper transmission

Range	Gear	km/h	mph	Range	Gear	km/h	mph
A	1	1.4	0.9	A	1	0.15	0.09
	2	1.7	1.1		2	0.18	0.11
	3	2.1	1.3		3	0.21	0.13
	4	2.6	1.6		4	0.26	0.16
B	1	3.7	2.3	B	1	0.37	0.23
	2	4.4	2.7		2	0.44	0.27
	3	5.3	3.3		3	0.53	0.33
	4	6.5	4.0		4	0.65	0.40
C	1	5.9	3.7	C	1	0.59	0.37
	2	7.1	4.4		2	0.71	0.44
	3	8.5	5.3		3	0.85	0.53
	4	10.4	6.5		4	1.05	0.65
D	1	9.7	6.0				
	2	11.7	7.3				
	3	14.0	8.7				
	4	17.2	10.7				
E	1	15.6	9.7				
	2	18.8	11.7				
	3	22.5	14.0				
	4	27.6	17.2				
F	1	22.8	14.2				
	2	27.5	17.1				
	3	32.9	20.4				
	4	40.3	25.0				
A	R1	1.7	1.1	A	R1	0.17	0.11
	R2	2.1	1.3		R2	0.21	0.13
	R3	2.5	1.6		R3	0.25	0.16
	R4	3.0	1.9		R4	0.30	0.19
B	R1	4.3	2.7	B	R1	0.44	0.27
	R2	5.2	3.2		R2	0.52	0.32
	R3	6.3	4.2		R3	0.63	0.39
	R4	7.7	4.8		R4	0.77	0.48
C	R1	7.0	4.4	C	R1	0.70	0.44
	R2	8.4	5.2		R2	0.85	0.53
	R3	10.1	6.3		R3	1.01	0.63
	R4	12.4	7.7		R4	1.24	0.77
D	R1	11.5	7.1				
	R2	13.9	8.6				
	R3	16.6	10.3				
	R4	20.4	12.7				
E	R1	18.5	11.5				
	R2	22.3	13.9				
	R3	26.7	16.6				
	R4	32.7	20.3				
F	R1	27.1	16.8				
	R2	32.6	20.3				
	R3	39.0	24.2				
	R4	47.8	29.7				

Continued on next page.

TRAVEL SPEEDS, POWRQUAD TRANSMISSION (24/24), CONTINUED

Other tires (supplied by factory):

12.4-42	4.4% slower	16.9-24	2.9% slower
13.6-46	9.3% faster	16.9-30	3.5% slower
15.5-38	3.5% faster	16.9-38	0.6% slower
16.9-34	3.5% faster	18.4-26	6.9% slower
18.4-38	2.5% faster	18.4-34	3.7% slower

NOTE: The ground travel speeds shown in the table are theoretical. The actual speeds vary with rolling circumference, load, tire pressure,

make of tire, wheel slip etc. If the precise speed is required for specific applications, then it must be obtained by measurement.

LX,OMOPER014872-19-01OCT97

SHIFTING THE POWRQUAD TRANSMISSION

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

NOTE: After the engine has been started wait for 5 seconds before moving the reverser lever (C) or (D) 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 reverser lever is actuated when the engine is running and a range is selected, the tractor will start to move.

IMPORTANT: Engage parking 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.

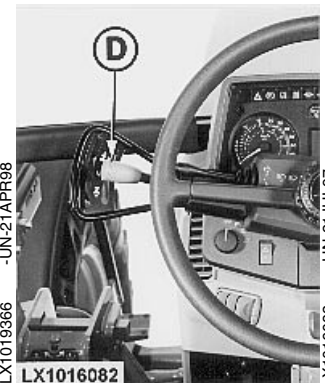
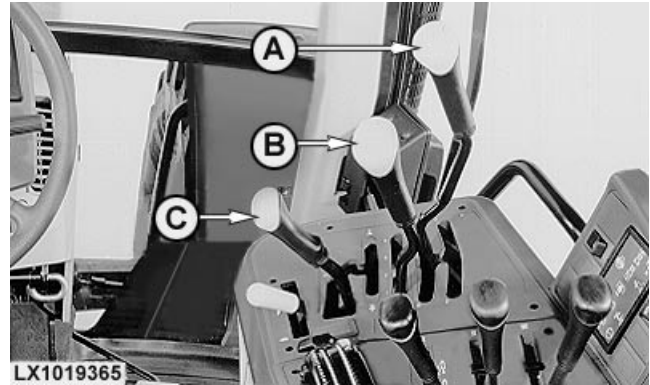
COLD-WEATHER OPERATION

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

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

EMERGENCY MODE

If a malfunction results in the reverser lever not remaining in the forward or reverse drive position, hold the lever physically in position to determine whether the tractor moves or not. If it does move, hold the lever in position and drive to the nearest dealer.



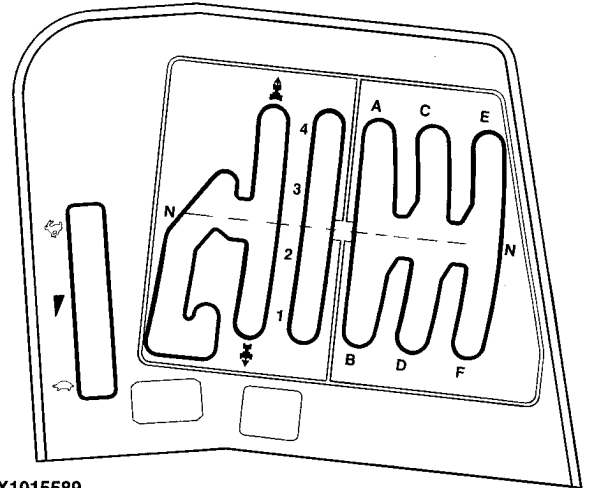
- A—Range shift lever
- B—Gear shift lever
- C—Reverser lever (mechanical)
- D—Reverser lever (electric)

SHIFT LEVER POSITIONS, POWRQUAD TRANSMISSION

The PowrQuad transmission has 4 or 6 ranges.
4 gears can be selected in each range.
Reverse travel may be selected in any range.

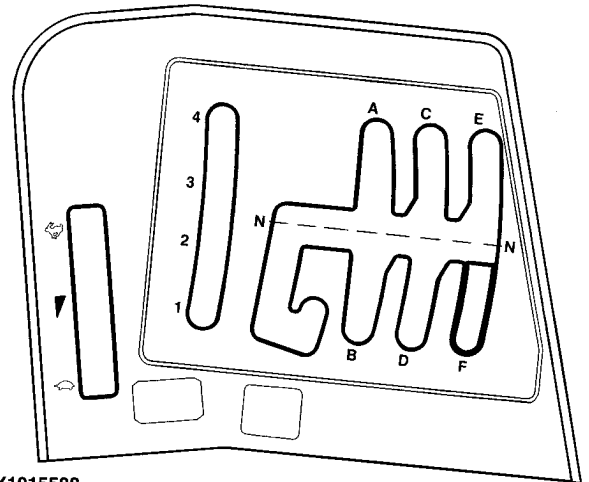


CAUTION: High speeds can be achieved when reversing in the higher ranges, so take great care.



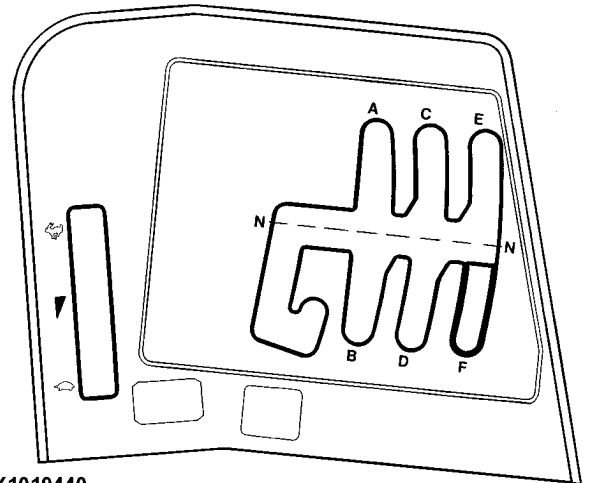
LX1015589

Reverser lever on console



LX1015588

Reverser lever on steering col.



LX1019440

Rev. lever on steering col. (PQ Plus)

SHIFTING THE POWRQUAD PLUS TRANSMISSION

Transmission is shifted by means of range shift lever (A), gear shift buttons (B/C) and reverser lever (G). Slightly lift the reverser lever (G) to move it out of the neutral position. Gears may also be shifted with switch (D).

NOTE: Once the engine has started, wait for 5 seconds before moving the reverser lever out of neutral.

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. When changing ranges, an automatic function ensures that the gear selected matches the travel speed.

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

IMPORTANT: Engage parking 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 change up through the ranges until the top range is reached.
4. Change up through the gears.

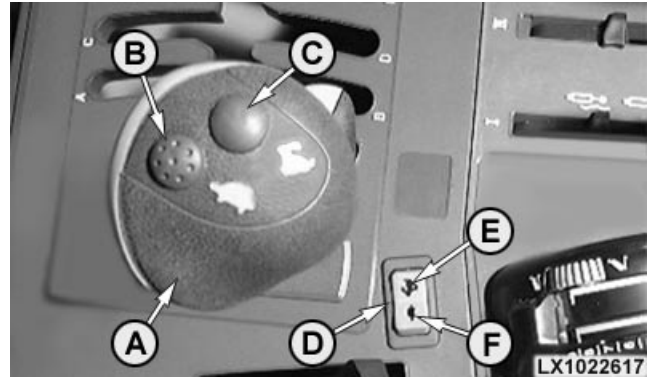
COLD-WEATHER OPERATION

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

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

EMERGENCY MODE

If a malfunction results in the reverser lever not remaining in the forward or reverse drive position, hold the lever physically in position to determine whether the tractor moves or not. If it does move, hold the lever in position and drive to the nearest workshop.

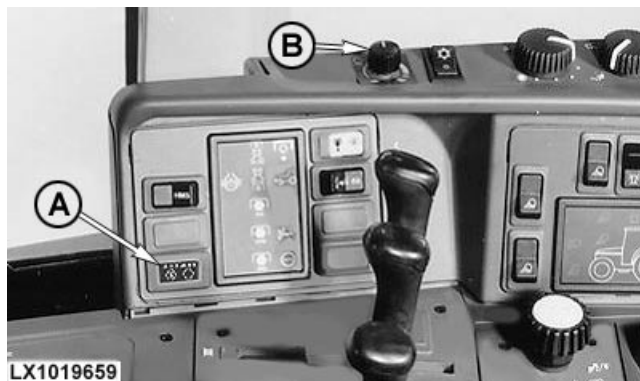


- A—Range shift lever
- B—Downshift button
- C—Upshift button
- D—Additional gear shift switch
- E—Upshift position
- F—Downshift position
- G—Reverser lever

SHIFTING THE AUTOQUAD II TRANSMISSION

This transmission is shifted in the same way as the PowrQuad Plus (see above). However, it has two further functions: "Cruise Control" and "Shifting with the Foot Throttle".

These functions can be switched on and off at switch (A). The desired engine speed is selected using potentiometer (B).



CRUISE CONTROL

Regardless of engine torque, engine speed is held constant at a preset value.

SHIFTING WITH THE FOOT THROTTLE

The gears in each range are shifted up or down in relation to the position of the foot throttle as soon as engine speed reaches a maximum or minimum value.

Power mode: The gears shift up when the foot throttle is pressed more than 85% of its travel and the engine is at rated speed minus 20 rpm.

The gears shift down when the foot throttle is pressed more than 55% of its travel and engine speed is between 1100 and 1700 rpm.

The gears shift down when the foot throttle is pressed less than 55% of its travel and engine speed is less than 1100 rpm.

Eco mode: The gears shift up when the foot throttle is pressed more than 85% of its travel and engine speed is 1900 rpm.

The gears shift down when the foot throttle is pressed more than 55% of its travel and engine speed is between 1100 and 1410 rpm.

The gears shift down when the foot throttle is pressed less than 55% of its travel and engine speed is less than 1100 rpm.

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

NOTE: For safety reasons AutoQuad is disabled in reverse gears.

ENGAGING CREEPER TRANSMISSION

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

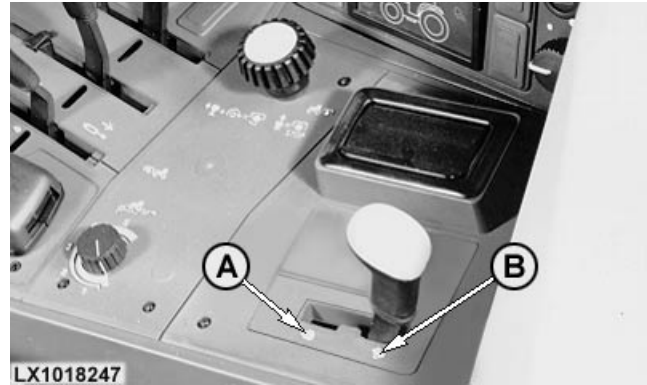
To engage or disengage creeper transmission, depress clutch pedal.

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 with implements that penetrate the soil and require a high power input. Using the creeper transmission under these circumstances may result in mechanical failure.



A—Creeper speed
B—High speed

LX,OMOPER014873-19-01OCT97

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.

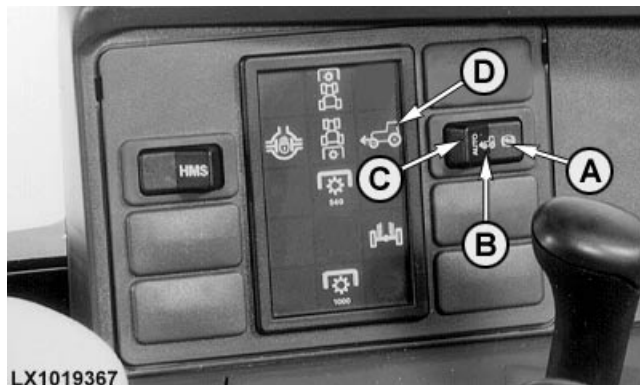
WITH HEADLAND MANAGEMENT SYSTEM HMS (if equipped):

Besides the “on” and “off” functions, this system also has an automatic position. When “automatic” is selected, front wheel drive switches itself off automatically whenever tractor speed exceeds 23 km/h (14.3 mph).

When tractor speed drops below 21 km/h (13 mph), front wheel drive switches itself on automatically again.

NOTE: Tractors with cab only:

When the brakes are applied, front wheel drive cuts in automatically regardless of the position selected at the front wheel drive switch. The FWD indicator light comes on.



- A—Front wheel drive disengaged
- B—Front wheel drive engaged
- C—Automatic position
- D—Light comes on when FWD is engaged (on tractors with cab)

LX,OMOPER016056-19-01APR98

TRACTORS WITH TLS MFWD AXLE

The axle’s self-leveling control comes into operation fully automatically whenever the tractor’s speed exceeds 1.5 km/h (0.9 mph).

The leveling control does not compensate for changes in load (e.g. caused by attaching or removing an implement) until the tractor actually **moves**.

NOTE: If a fault occurs in the leveling control, the warning light comes on. The tractor can still be driven, but take extra care at high travel speeds.



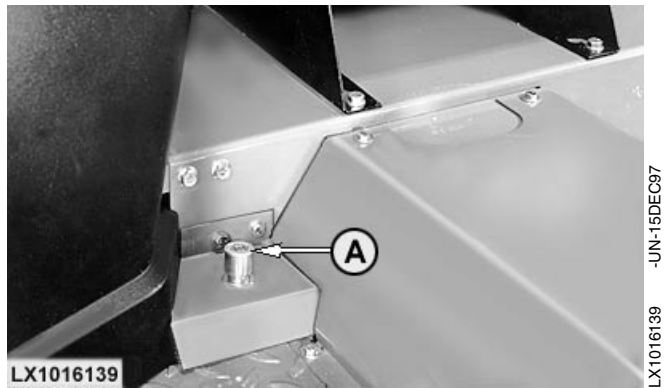
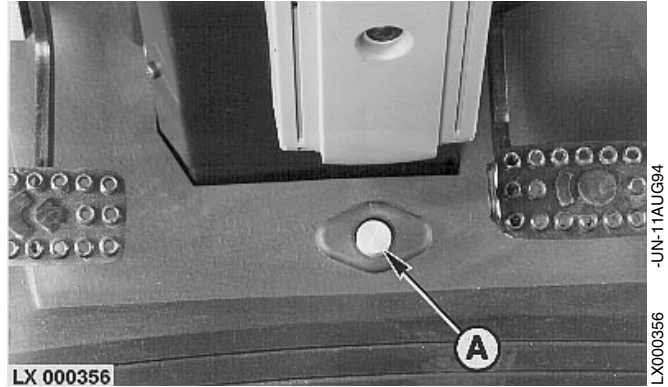
LX,OMOPER016073-19-01APR98

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. Press one of the brake pedals to disengage the differential lock.

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



Low Profile tractors

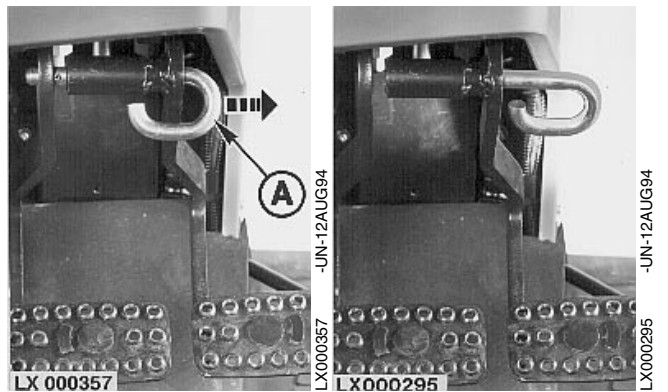
LX.OMOPER014874-19-01APR98

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.



LX.OFAHNA000196-19-01JUL94

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

Pull control lever towards “0” - raise implement (Fig. I)

Push control lever 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 lever (A) by means of 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).

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

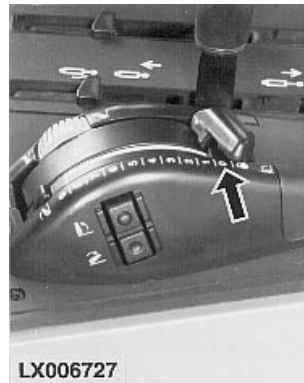
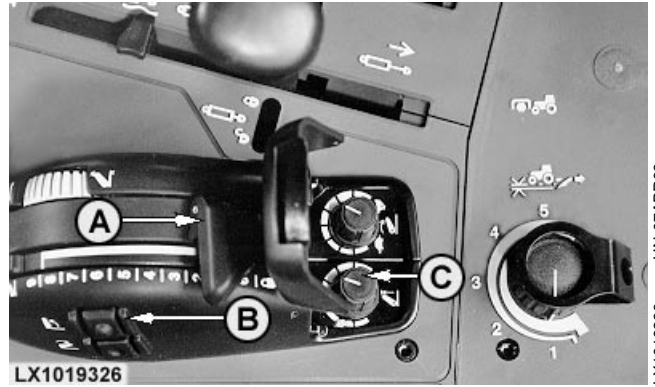


Fig. I

Fig. II



LX,OROCKNA03204-19-01APR98

OPERATION AND FUNCTION OF HEADLAND MANAGEMENT SYSTEM HMS (IF EQUIPPED)

By means of the HMS, the differential lock, front wheel drive (at “automatic”), and rear PTO can be selected singly or together so that they switch on or off automatically when raise/lower switch (B) is actuated.

Select differential lock, MFWD and/or rear PTO as necessary. The indicator lights glow continuously. Activate the system by pressing HMS switch (A). A whistle signal is heard and the indicator lights start to flash slowly.

Before turning at the end of the field, the implement is raised by means of raise/lower switch (B). The differential lock cuts out immediately, the rear PTO after 10% of lift travel and MFWD when the implement has reached its maximum height. The indicator lights start flashing quickly.

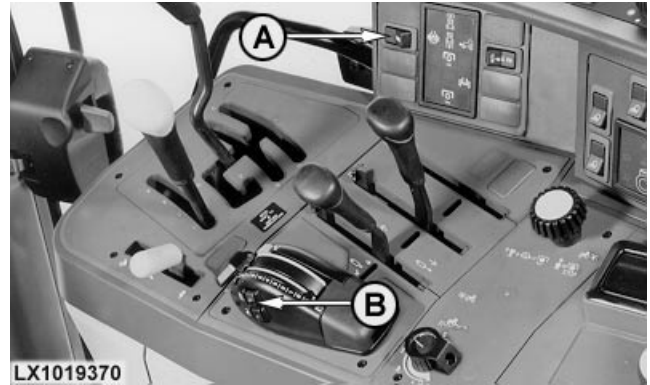
When the implement is lowered again, the differential lock and MFWD switch themselves on immediately (indicator lights go from flashing quickly to flashing slowly). For safety reasons, the rear PTO must be switched on manually.

To turn off the HMS automatic mode, press HMS switch (A) again. A whistle signal is heard and the indicator lights go from slow flashing to continuous glow.

NOTE: *The maximum capability of the HMS is described above. However, it is possible to include only one or two functions in the HMS mode.*

Functions included in the HMS mode can be switched off at any time (to avoid wasting time starting up the rear PTO, it can be left running, e.g. when mowing). To do this, switch off the HMS, switch off any function(s) that are not required, and switch on the HMS again.

MFWD can be set to continuous at any time, regardless of the HMS mode (e.g. for turning at the end of steep, wet fields). Do this by moving the MFWD switch from the “automatic” position to the “on” position.



A—HMS switch
B—Raise/lower switch

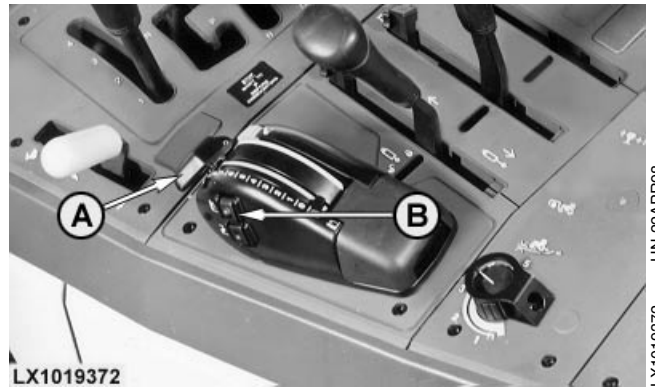
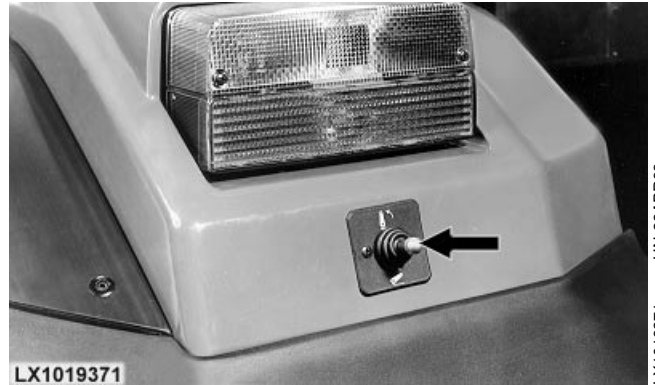
ROCKSHAFT REMOTE CONTROL

This switch allows the rockshaft to be operated from outside the operator's cab. For safety reasons, the rockshaft rises and drops at a slower rate, and the height and depth values are ignored.

Pull switch out and push up - Raise implement
Pull switch out and push down - Lower implement

NOTE: Once the remote control has been activated, the rockshaft is prevented from moving accidentally. To make the rockshaft ready for operation again, either:

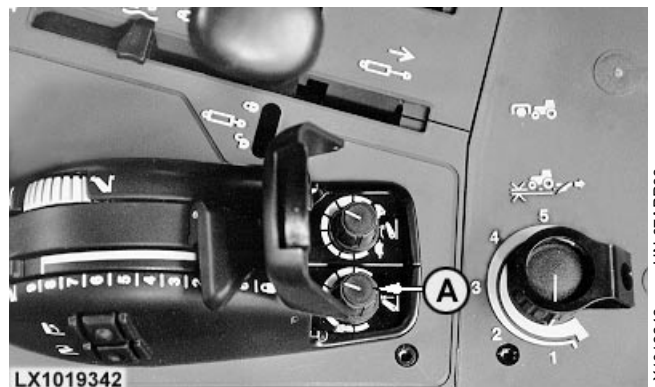
- move hitch control lever (A) in the cab to the position that corresponds to the position of the draft links,
- move hitch control lever to one of the end positions, or
- actuate raise/lower switch (B).



LX,OROCK 008952-19-01APR98

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

TRANSPORTING MOUNTED IMPLEMENTS

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

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



LX,OROCKNA03207-19-01APR98

HITCH DAMPENING (WITH HMS)

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

To activate the dampening function, first move the hitch control lever (with the engine running) to the position that corresponds to the position of the draft links. Then pull it as far as it will go to the rear (beyond “0”) to the transport position (see arrow). The rate-of-drop control must NOT be in the counter-clockwise position.

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

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



LX1019323

LX1019323 -UN-07APR98

LX,OMROCK017449-19-01APR98

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.



LX1019343

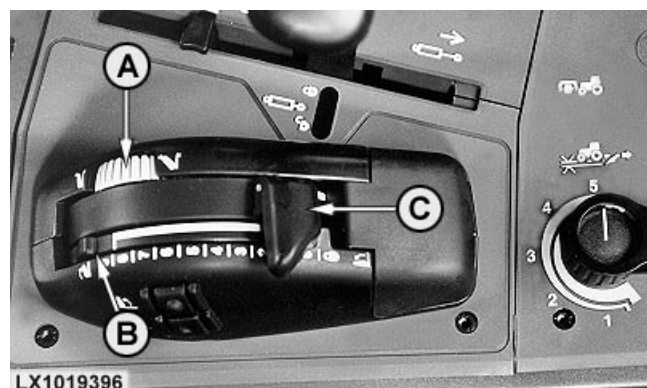
LX1019343 -UN-07APR98

LX,OROCK 003208-19-01APR98

DEPTH ADJUSTMENT

Push down 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).



LX1019396

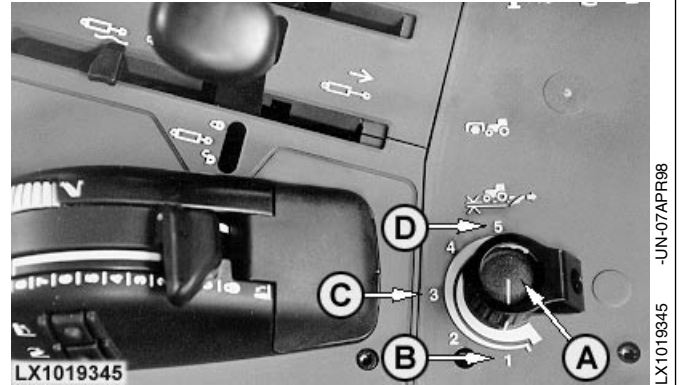
LX1019396 -UN-15MAY98

LX,OMREG 011304-19-01APR98

LOAD/DEPTH ADJUSTMENT

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

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



LX,OROCK 003210-19-01APR98

LX1019345 -UN-07APR98

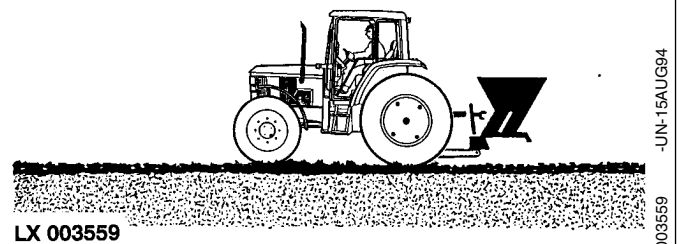
1 DEPTH CONTROL

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



LX1019346

LX1019346 -UN-07APR98



LX 003559

LX003559 -UN-15AUG94

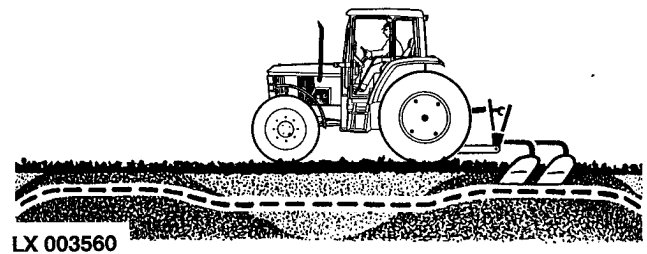
LX,OROCK 003532-19-01APR98

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.



LX1019324 -UN-07APR98



LX 003560 -UN-15AUG94

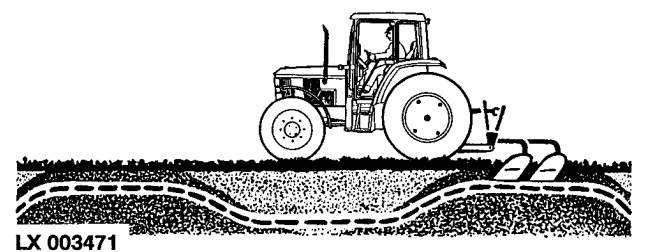
LX,OROCK 003533-19-01APR98

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.



LX1019325 -UN-07APR98

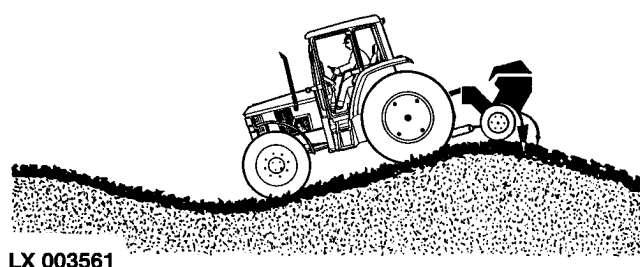


LX 003471 -UN-15AUG94

LX,OROCK 003534-19-01APR98

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.



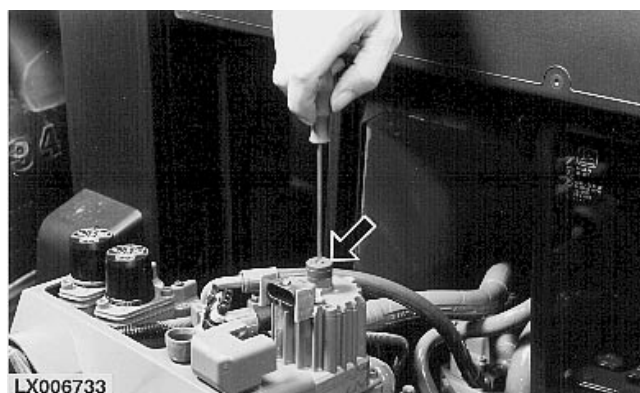
LX,OROCK 003535-19-01APR98

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 proper screwdriver until it engages in the detent, and then turn to the right until the three-point hitch rises.

See your John Deere dealer.



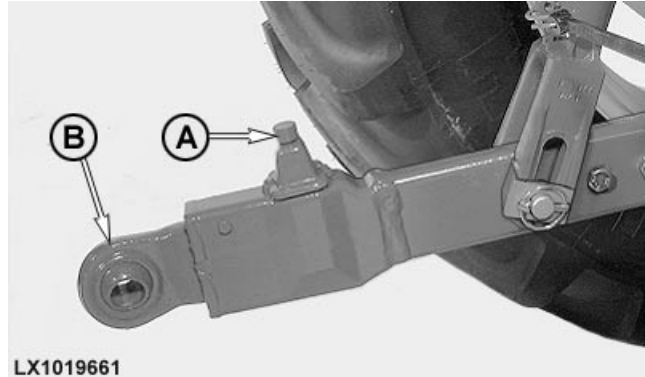
LX,OROCK 003531-19-01JUL95

TELESCOPIC DRAFT LINKS

The telescopic draft links can be extended to the rear to facilitate hitching of implements.

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

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



LX,OROCK 003539-19-01OCT99

ATTACHING THREE-POINT HITCH AND DRAWN IMPLEMENTS

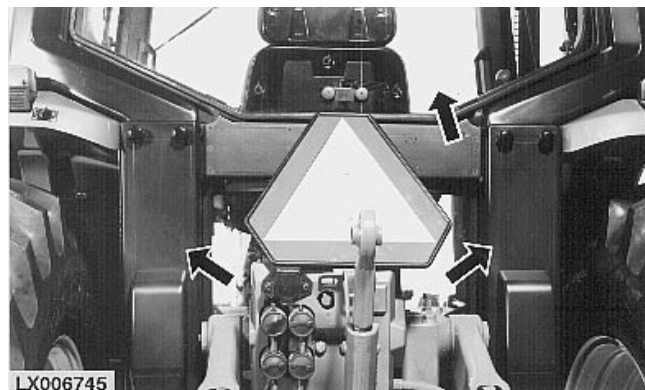
Be sure not to damage exposed parts of cab (see arrows) when attaching three-point hitch mounted or drawn implements.

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

IMPORTANT: When attaching three-point hitch mounted or drawn implements for the first time, conduct a trial to ensure that implement will not damage cab 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).



LX,OROCK 003538-19-01APR98

LEVELING THE IMPLEMENT

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

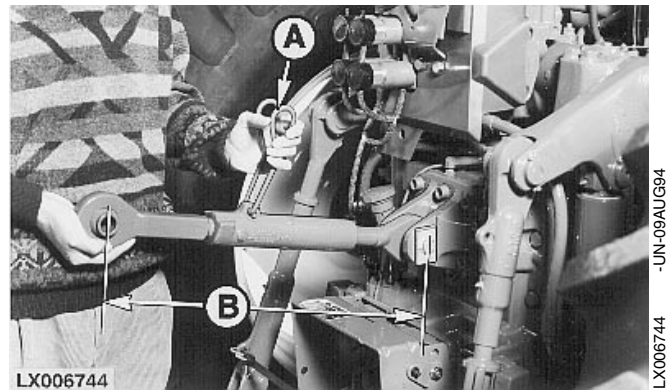
LX,OREG 000325-19-01OCT90

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. After adjusting, push handle down again over center link. Insert attaching pin through implement mast and center link, and secure.



LX,OROCK 003536-19-01NOV93

LIFT LINKS

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

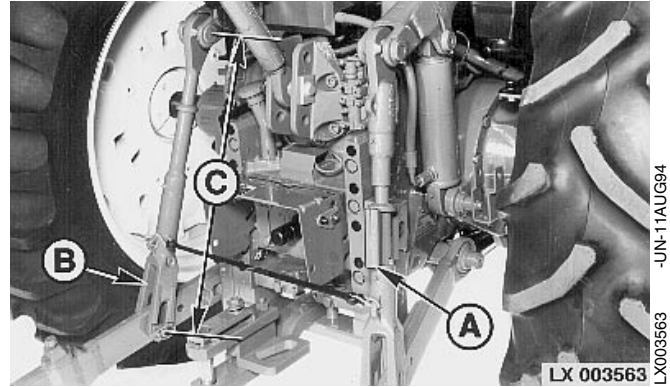
To level implement from side-to-side, only the right-hand link need be adjusted. Use handle (A) to adjust the link. After adjustment is completed, secure adjusting handle (A).

To adjust left-hand link, remove it from draft link and screw yoke end (B) of lift link in or out.

Length of links (C) must be kept within the following limits:

- 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).



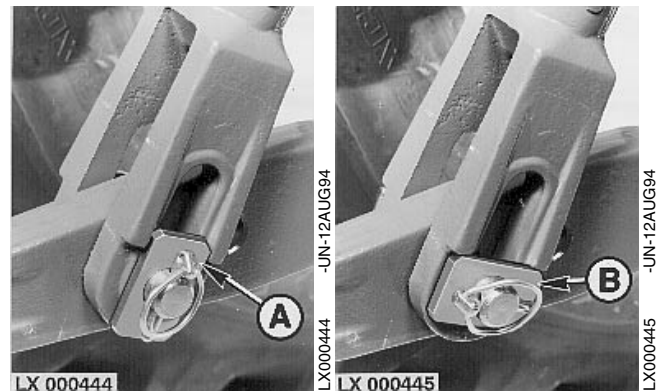
A—Adjusting handle
B—Yoke end
C—Length of links

LX,OROCK 003537-19-01OCT92

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



LX,OREG 000329-19-01OCT90

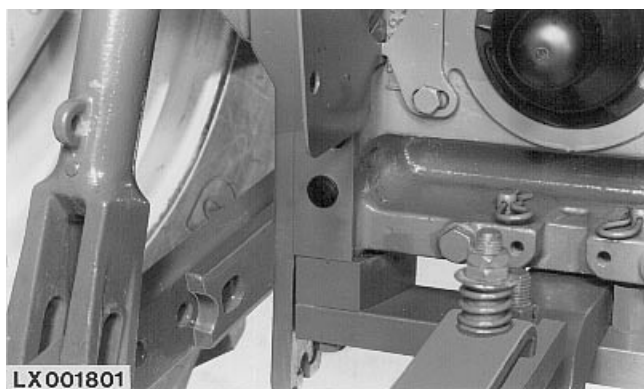
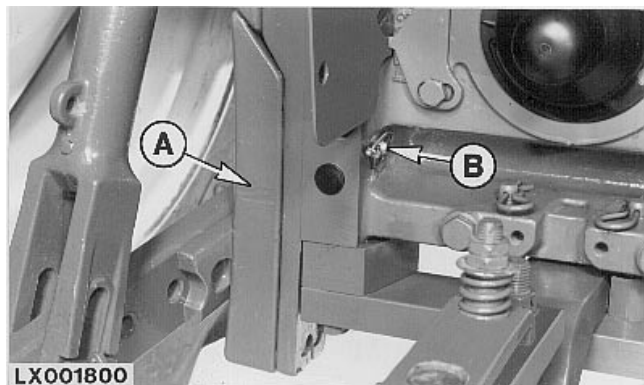
SWAY BLOCKS (IF EQUIPPED)

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 the line of the tractor exactly.

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.



LX.OMROCK017450-19-01APR98

Power Take-Off

PTO GUARD



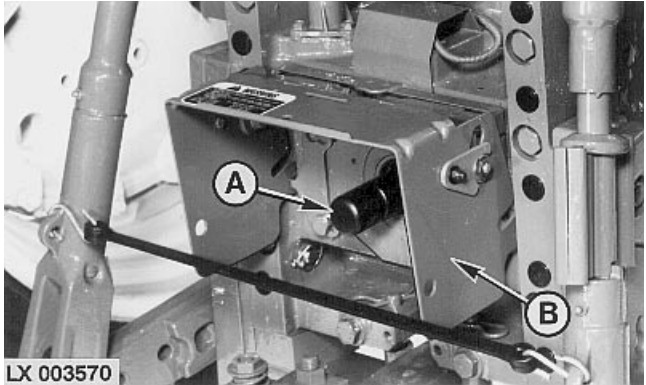
CAUTION: Remove PTO guard (A) only when the PTO is to be used.

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

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.



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



LX,OPOWER003540-19-01APR97

PTO OPTIONS

The tractor may be fitted with one of the following rear PTO versions:

- PTO for 540 rpm
- Reversible PTOs for 540/1000 rpm

In addition, a 1000 rpm front PTO can be installed.

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

LX,OPTO 003217-19-01APR98

PTO SPEEDS

PTO rated speeds are achieved at the following engine speeds:

540 rpm rear PTO (single-speed)	2124 rpm
540 rpm rear PTO (reversible)	2143 rpm
1000 rpm rear PTO	2208 rpm
1000 rpm front PTO	2185 rpm

LX,OPTO 003218-19-01APR98

OPERATING POWER TAKE-OFFS

- CAUTION:** Always disengage the PTO when not in use.
- 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.

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

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

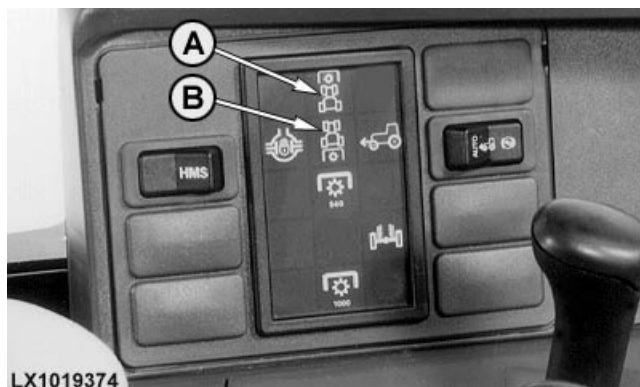
NOTE: If the engine is switched off and then restarted while the PTO is running, the PTO will not operate. Even so, lights (A) and (B) continue to shine and flash. Switch off PTO and then restart.

If the operator leaves his seat while the PTO is switched on, an audible signal will sound, the “CAUTION” light flashes and the light (A/B) 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.

NOTE: If PTO speed exceeds 620 rpm, the digital display and the “CAUTION” light flashes to warn if a 540 rpm PTO is being used. Actuate the roll-mode switch (C) to stop the flashing display (this may take up to 5 seconds). Flashing stops automatically when PTO speed drops below 590 rpm.



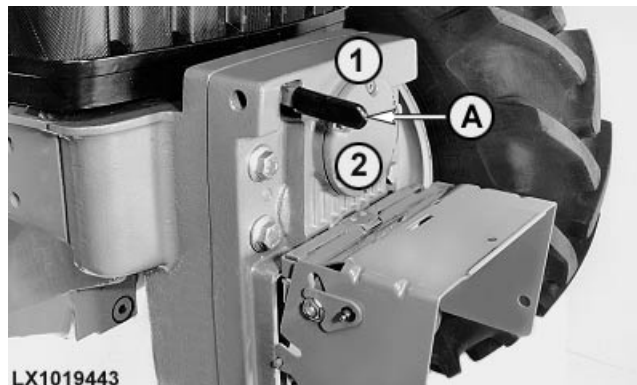
If the front PTO is not required for a lengthy period, the PTO gear can be disengaged by means of lever (A).

IMPORTANT: Engage PTO gear only when the engine is shut off.

A—Selector lever

1—Disengaged

2—Engaged



LX1019443 -UN-12MAY99

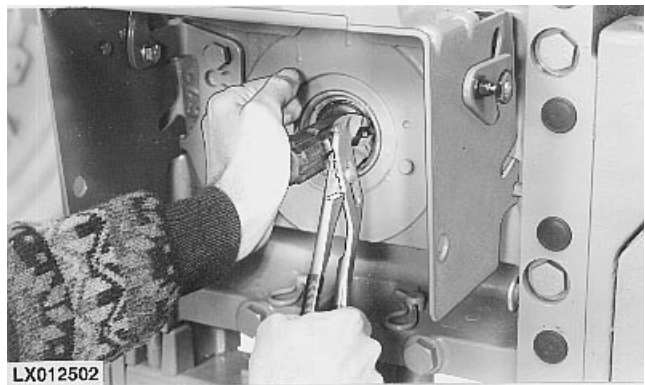
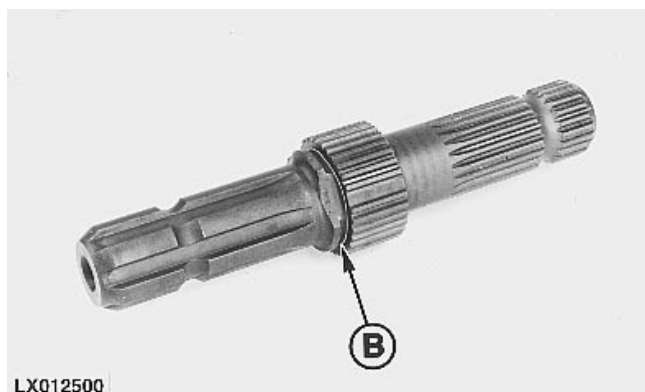
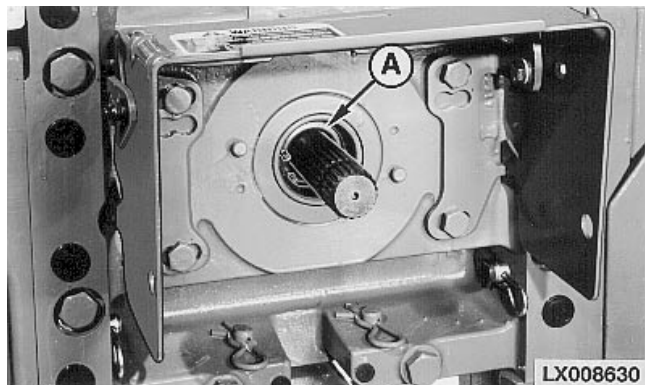
LX,OMZAP 011314-19-01MAY99

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.

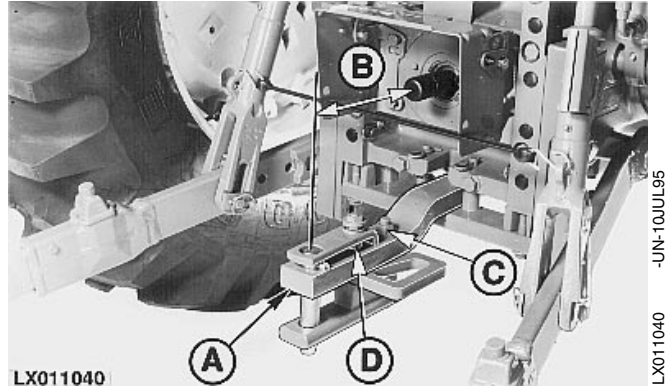
1. Remove snap ring (A) and pull out stub shaft.
2. Clean stub shaft thoroughly and coat it with grease. The groove (B) facilitates installation of snap ring.
3. Insert stub shaft in PTO housing until snap ring (A) fits into the groove.
4. Install snap ring (A).

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 strap* 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.

* if equipped

LX, OPOWER003542-19-02JUL95

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.

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).

See guide DS 0638 "OPTIMIZING YOUR TRACTORS" for additional information.

LX,OMBALL017451-19-01MAR99

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

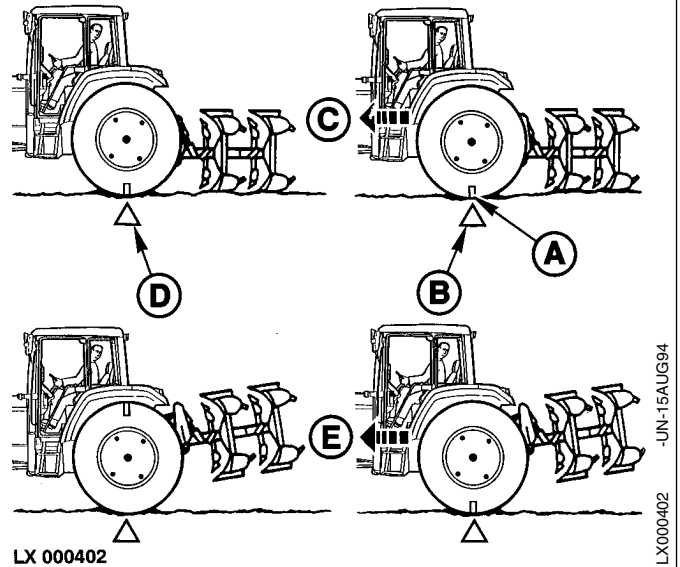
LX,OSPU 000246-19-01JUL95

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



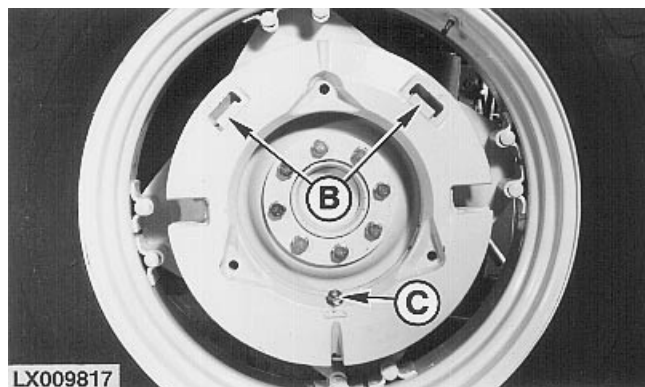
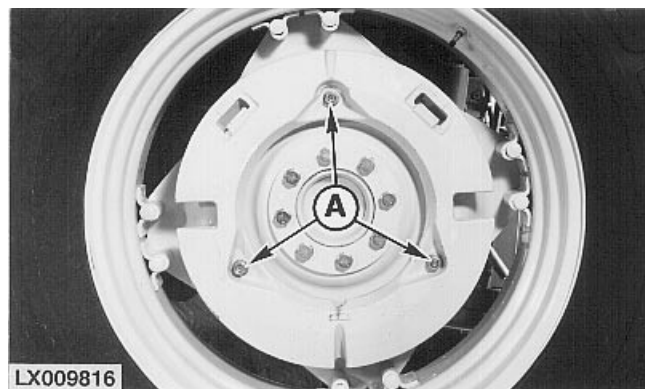
LX,OSPU 000247-19-01APR92

INSTALLING WEIGHTS ON FLANGED AXLE

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

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

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



LX,OSPU 000248-19-01JAN95

INSTALLING WEIGHTS ON RACK-AND-PINION AXLE

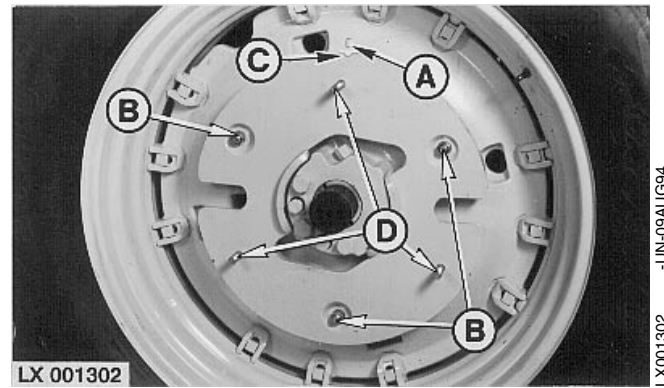
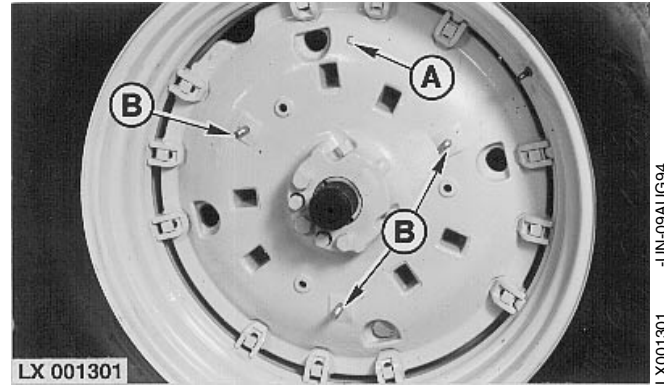
Position wheel so that rim mark (A) is at the top. Insert the special attaching bolts (B) from inside of rim and drive them outward.

NOTE: When installing more than one weight drive three special bolts through square countersunk bores from the inside of first weight to be installed. Install second weight so that notch on this weight is separated from the notch on the first weight by 180°. Install third weight in same position as the first.

Install weight so that notch (C) on weight is aligned with mark (A). Tighten special bolts (B) securely.

NOTE: Bolts (D) shown in illustration are for the second weight.

- A—Rim mark
- B—Attaching bolts
- C—Notch
- D—Bolts for next weight



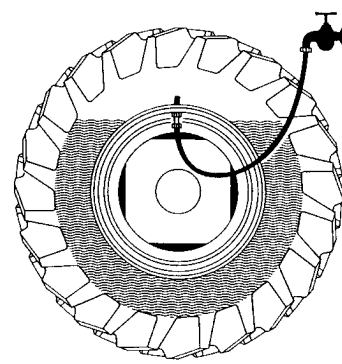
LX.OSPU 000249-19-01FEB92

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

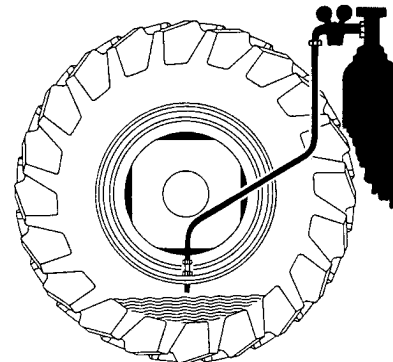
LX009450 -UN-03/JAN95

LX,OSPU 000250-19-01OCT94

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

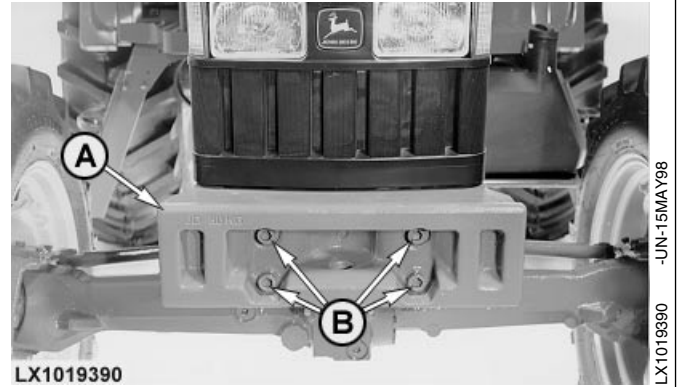
LX009451 -UN-03/JAN95

LX,OSPU 000251-19-01OCT94

INSTALLING FRONT WEIGHTS

One basic weight (A) and up to 14 front weights may be installed.

IMPORTANT: Tighten attaching cap screws (B) for basic weight to 570 N·m (420 lb-ft).



LX,OMBALL016036-19-01APR98

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

NUMBER OF QUIK-TATCH WEIGHTS NEEDED

Implement Code	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				

LX,OBALL 003221-19-01OCT97

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.). Maximum wheel tread is obtained by reversing the front wheels.

If front wheels are removed to adjust tread, tighten front wheel cap screws 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 cap screws. Check tightness of these screws frequently during the first 100 hours of operation.

NOTE: Wheel tread on tractors equipped with a front loader must not exceed 1.80 m (71 in.).

IMPORTANT: To avoid excessive stress on axle bolts, do not separate axle halves beyond the specified limits.

NOTE: On tractors with axle extension, tread width increases by up to 542 mm (21.3 in.).

Tires	Wheel disk inward	Wheel disk outward
7.50-18	1491 - 2001 mm 58.7 - 78.8 in.	1531 - 2041 mm 60.3 - 80.4 in.
7.50-20	1470 - 1980 mm 57.9 - 78.0 in.	1546 - 2056 mm 60.9 - 80.9 in.
10.00-16	— —	1533 - 2043 mm 60.4 - 80.4 in.
11L-15	1493 - 2003 mm 58.8 - 78.9 in.	1533 - 2043 mm 60.4 - 80.4 in.
11L-15*	1506 - 1914 mm 59.3 - 75.4 in.	1521 - 1929 mm 59.9 - 75.9 in.
11L-16	— —	1538 - 2048 mm 60.4 - 80.6 in.
27/9.5-15	1493 - 2003 mm 58.8 - 78.9 in.	1533 - 2043 mm 60.4 - 80.4 in.
27/9.5-15*	1506 - 1914 mm 59.3 - 75.4 in.	1521 - 1929 mm 59.9 - 75.9 in.

* Low Profile tractors only

LX,OTREAD003222-19-01APR97

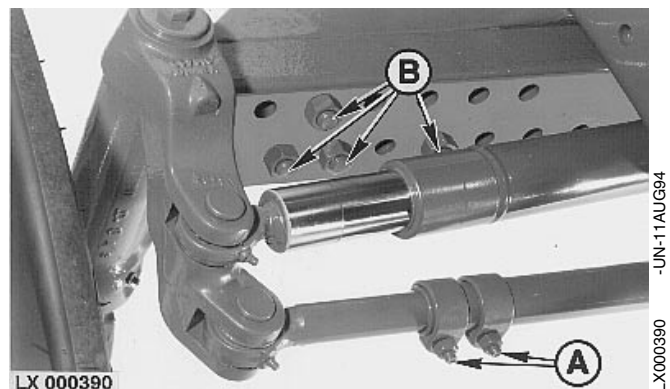
ADJUSTING FRONT WHEEL TREAD

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

Remove tie rod clamp bolts (A) and axle bolts (B). Reposition axle ends to the desired front wheel tread. Reinsert axle bolts and tighten to 400 N·m (295 lb-ft).

Adjust tie rods to front wheel tread, reinsert clamp bolts and tighten to 50 N·m (35 lb-ft).

Check toe-in, and adjust if necessary.



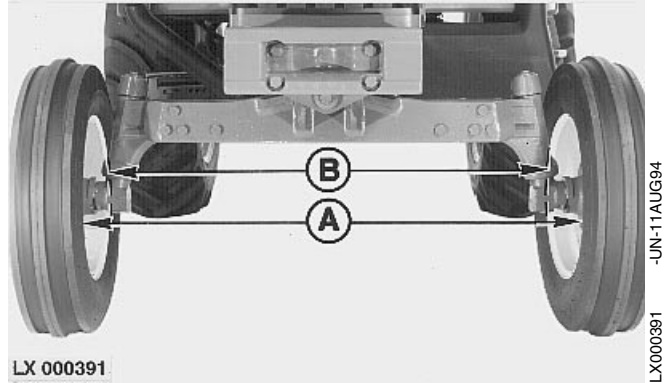
LX,OSPU 000224-19-02MAR94

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. Rotate 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.



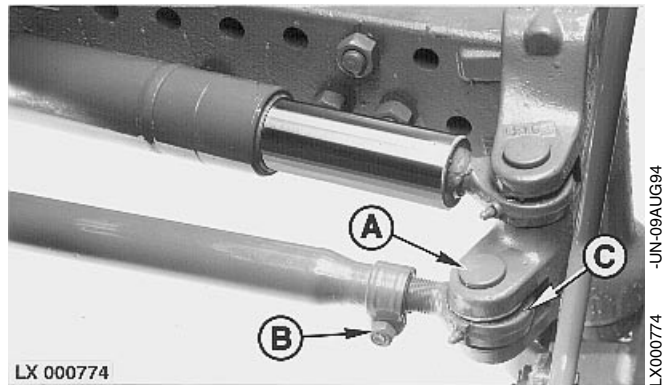
LX,OMTREA017452-19-01APR98

ADJUSTING FRONT WHEEL TOE-IN

Take out collar pin (A) and remove tie rod. Slacken clamping screw (B) and turn tie rod end (C) in or out.

After adjustment is completed, tighten clamping screw to between 45 and 55 N·m (33 and 40 lb-ft). Secure tie rod to steering knuckle.

IMPORTANT: The grease fitting must be in the position shown in the picture.



LX,OSPU 000226-19-01NOV99

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

FRONT WHEEL TREAD ADJUSTMENT (TRACTORS WITH FRONT WHEEL DRIVE)

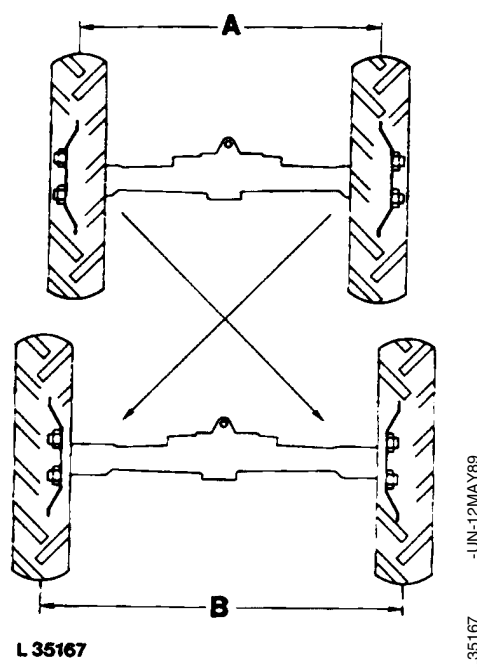
The tractor can be equipped with reversible or adjustable wheel rims.

LX,OSPU 000227-19-01OCT90

ADJUSTING FRONT WHEEL TREAD WITH REVERSIBLE RIMS

By reversing the complete front wheel, two different wheel treads can be obtained. Installing the wheels with the cupped disk facing inward gives the narrow tread; installing the wheels with the cupped disk facing outward gives the wider tread.

When changing to another tread, install left-hand wheel on right-hand side and right-hand wheel on left-hand side of tractor.

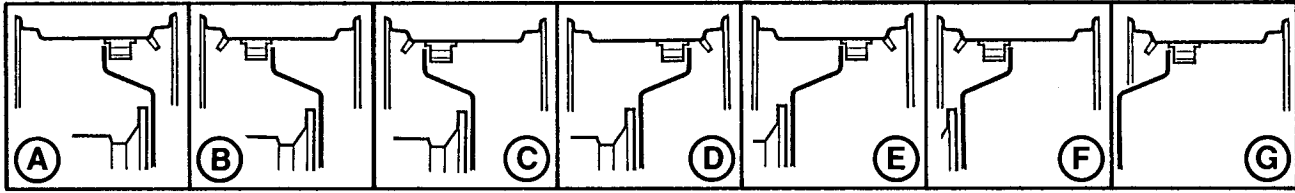


	Tires	Position A	Position B
Standard tread widths	10.5/80-18 9.5-16*	1589 mm (62.6 in.) —	1761 mm (69.3 in.) 1756 mm (69.1 in.)
With 60 mm (2.36 in.) spacers	10.5/80-18 9.5-16*	1709 mm (67.3 in.) 1715 mm (67.5 in.)	1881 mm (74.1 in.) 1876 mm (73.9 in.)

* for Low Profile tractors only

LX,OTREAD004940-19-01JUL95

ADJUSTING FRONT WHEEL TREAD WITH ADJUSTABLE RIMS



LX012555

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

installed on the opposite side of the tractor. The arrow 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 tractors equipped with a front loader must not exceed 1.80 m (71 in.).

In addition the complete wheel can be reversed and

LX,OTREAD004941-19-01AUG96

ADJUSTING FRONT WHEEL TREAD WITH ADJUSTABLE RIMS (CONTINUED)

Position of Rims and Wheel Disks

	Tires	A	B	C	D	E	F	G
Standard tread widths			1514 mm (59.6 in.)	1614 mm (63.5 in.)	1714 mm (67.5 in.)	1814 mm (71.4 in.)	1914 mm (75.4 in.)	2014 mm (79.3 in.)
	13.6-38	—	—	x	x	x	x	x
			1516 mm (59.7 in.)	1616 mm (63.6 in.)	1720 mm (67.7 in.)	1820 mm (71.7 in.)	1916 mm (75.4 in.)	2016 mm (79.4 in.)
	12.4-24	—	x	x	x	x	x	x
	13.6-24	—	x	x	x	x	x	x
	14.9-24	—	—	x	x	x	x	x
	16.9-24	—	—	x	x	x	x	x
	11.2-28	—	x	x	x	x	x	x
	12.4-28	—	x	x	x	x	x	x
	13.6-28	—	—	x	x	x	x	x
With 60 mm (2.36 in.) spacers		1534 mm (60.4 in.)	1634 mm (64.3 in.)	1734 mm (68.3 in.)	1834 mm (72.2 in.)	1934 mm (76.1 in.)	2034 mm (80.1 in.)	2134 mm (84.0 in.)
	13.6-38	x	x	x	x	x	x	x
		1540 mm (60.6 in.)	1636 mm (64.4 in.)	1736 mm (68.3 in.)	1840 mm (72.4 in.)	1940 mm (76.4 in.)	2036 mm (80.2 in.)	2136 mm (84.1 in.)
	12.4-24	x	x	x	x	x	x	x
	13.6-24	x	x	x	x	x	x	x
	14.9-24	x	x	x	x	x	x	x
	16.9-24	x	x	x	x	x	x	x
	11.2-28	x	x	x	x	x	x	x
	12.4-28	x	x	x	x	x	x	x
	13.6-28	x	x	x	x	x	x	x

LX,OTREAD008199-19-01OCT99

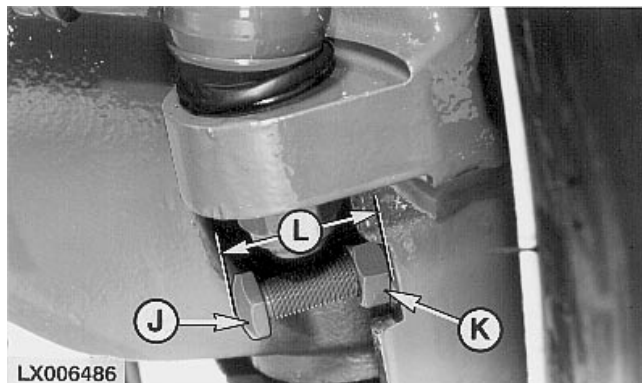
LIMITING FRONT WHEEL STEERING ANGLE

With certain wheel treads, the front wheel steering angle must be limited to less than 50° (see table).

Adjust dimension (L) to one of the values shown in the table.

NOTE: Steering angle must be the same on both sides.

Tighten lock nut to 200 N·m (150 lb-ft).



LX006486 -JUN-11AUG94

J—Steering angle
adjusting screw

K—Lock nut
L—Dimension

Position of Rims and Wheel Disks (see previous page)

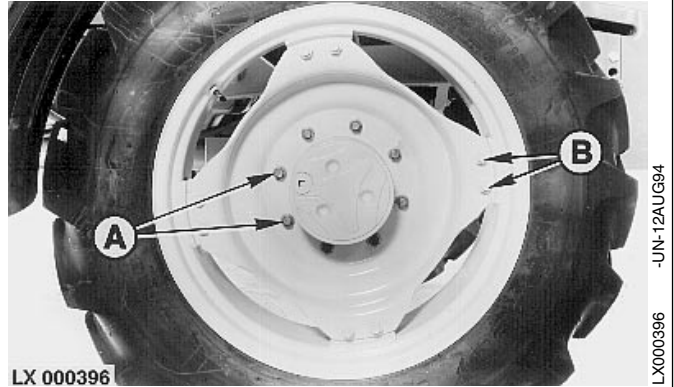
	Tires	A		B		C		D		E		F		G	
		Dimension L		Dimension L		Dimension L		Dimension L		Dimension L		Dimension L		Dimension L	
		mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
Standard tread widths	12.4-24	—	—	62	2.4	52	2.0	36	1.4	22	0.9	22	0.9	22	0.9
	13.6-24	—	—	73	2.9	64	2.5	50	2.0	36	1.4	22	0.9	22	0.9
	14.9-24	—	—	—	—	71	2.8	62	2.4	48	1.9	38	1.5	24	0.9
	16.9-24	—	—	—	—	78	3.1	71	2.8	55	2.2	45	1.8	34	1.3
	11.2-28	—	—	64	2.5	48	1.9	34	1.4	22	0.9	22	0.9	22	0.9
	12.4-28	—	—	71	2.8	64	2.5	50	2.0	34	1.4	24	0.9	22	0.9
	13.6-28	—	—	—	—	65	2.6	42	1.7	30	1.2	30	1.2	30	1.2
	13.6-38	—	—	—	—	61	2.4	50	2.0	36	1.4	30	1.2	30	1.2
With 60 mm (2.36 in.) spacers	12.4-24	62	2.4	52	2.0	36	1.4	22	0.9	22	0.9	22	0.9	22	0.9
	13.6-24	73	2.9	64	2.5	50	2.0	36	1.4	22	0.9	22	0.9	22	0.9
	14.9-24	—	—	71	2.8	62	2.4	48	1.9	38	1.5	24	0.9	22	0.9
	16.9-24	—	—	78	3.1	71	2.8	55	2.2	45	1.8	34	1.3	22	0.9
	11.2-28	64	2.5	48	1.9	34	1.4	22	0.9	22	0.9	22	0.9	22	0.9
	12.4-28	71	2.8	64	2.5	50	2.0	34	1.4	24	0.9	22	0.9	22	0.9
	13.6-28	—	—	65	2.6	42	1.7	30	1.2	30	1.2	30	1.2	22	0.9
	13.6-38	—	—	61	2.4	50	2.0	36	1.4	30	1.2	30	1.2	22	0.9

LX,OTREAD004942-19-01OCT99

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.



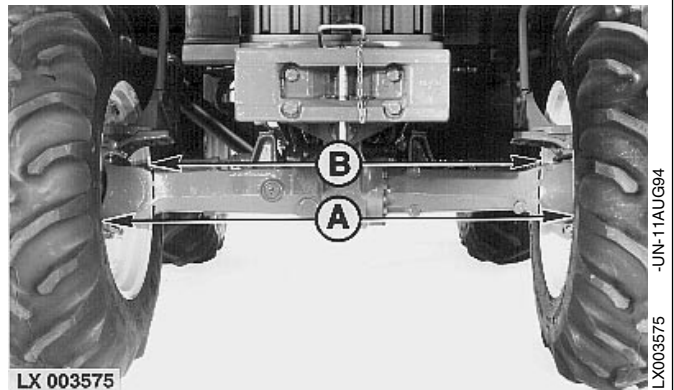
LX,OSPU 000230-19-01OCT90

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).

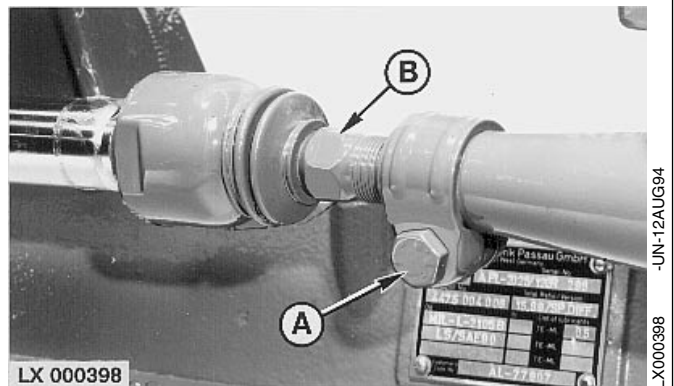
Dimension (A) must not differ from dimension (B) by more than 1.5 mm (0.06 in.).



LX,OWHEEL003544-19-01OCT97

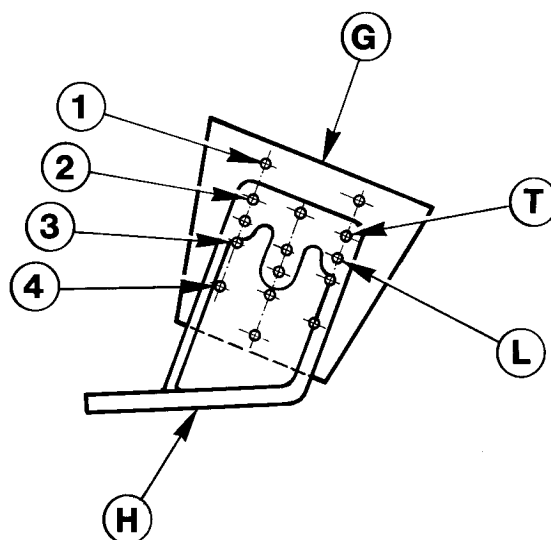
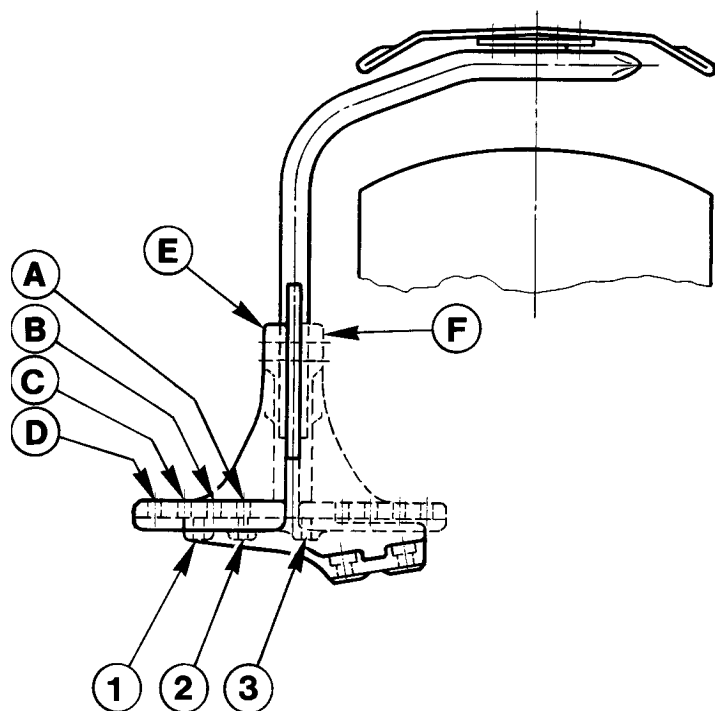
ADJUSTING FRONT WHEEL TOE-IN

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).



LX,OSPU 000233-19-01MAY92

ADJUSTING THE FENDER



Right front wheel shown

LX007817

The fender must be installed at the correct position to suit the size of the tire and the tread width. Select the appropriate tires and tread width, and determine the suitable positions from the table (see "Fender Positions", this Section).

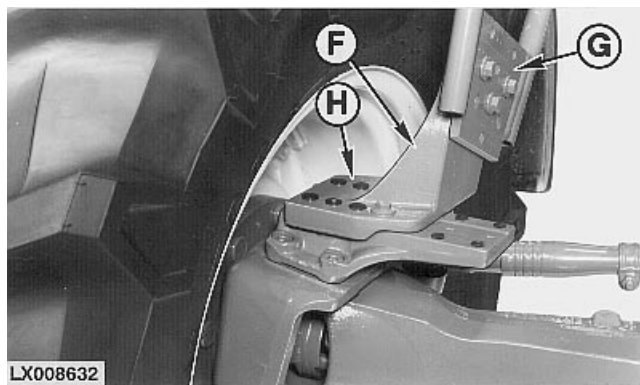
Explanation of Positions:

D-3-Indicates which holes (1, 2, or 3 and A, B, C or D) are bolted together.

IN-Indicates whether the bracket is fitted facing IN or OUT. When reversing the bracket position, it is necessary to install the bracket from the left-hand side of the tractor on the right-hand side and vice versa.

L/2-Shows whether the upper (T) or lower (L) holes in the bracket are used, and which holes (1, 2, 3 or 4) are used in the fender.

Continued on next page.



E—Bracket facing OUT
F—Bracket facing IN
G—Fender
H—Bracket

ADJUSTING THE FENDER ON TRACTORS WITH FRONT-WHEEL DRIVE (CONTINUED)

Fender position-This line indicates the position of the fender on the front-wheel drive axle, e.g. D-3 IN.

Fender height-This line indicates the height of the fender, e.g. L/2.

Fender width-Indicates appropriate breadth of fender e.g. 400 mm (15.7 in.) for tires used.

For table showing fender positions, see next page.

For table of tread widths (position of rims and wheel disks), see relevant pages.

LX,OSPU 006331-19-01JUL94

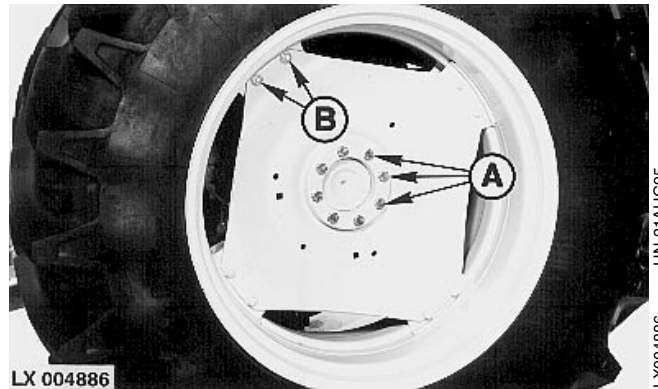
FENDER POSITIONS

Tires Fender width	Standard tread width	Position of Adjustable Rims & Wheel Disks/Position with Reversible Wheels						
		A	B	C	D	E	F	G
	With rever- sible wheels							
10.5/80-18 310mm (12.2in.)	Fender position	B-3 IN	B-2 OUT					
12.4-24 355mm (14.0in.)	Fender height	L/1	L/1					
13.6-24 400mm (15.7in.)		B-3 IN	C-1 OUT					
		T/2	T/2					
		B-3 IN	A-3 IN					
		T/3	T/3					
	With adjustable wheels							
12.4-24 355mm (14.0in.)	Fender position	—	A-2 IN	B-3 IN	B-1 OUT	D-1 OUT	D-2 OUT	C-3 OUT
13.6-24 400mm (15.7in.)	Fender height	—	T/2	T/2	T/2	T/2	T/2	T/2
		—	A-2 IN	B-3 IN	B-1 OUT	B-2 OUT	D-2 OUT	C-3 OUT
		—	L/3	L/3	L/3	L/3	L/3	L/3
14.9-24 400mm (15.7in.)		—	—	B-3 IN	A-3 IN	C-1 OUT	A-3 OUT	C-3 OUT
		—	—	L/4	L/4	L/4	L/4	L/4
16.9-24 400mm (15.7in.)		—	—	A-2 IN	B-3 IN	A-2 OUT	D-1 OUT	D-2 OUT
		—	—	L/3	L/3	L/3	L/3	L/3
11.2-28 355mm (14.0in.)		—	C-3 IN	A-3 IN	C-1 OUT	A-3 OUT	B-3 OUT	D-3 OUT
		—	L/3	L/3	L/3	L/3	L/3	L/3
12.4-28 355mm (14.0in.)		—	C-3 IN	B-3 IN	B-1 OUT	D-1 OUT	D-2 OUT	C-3 OUT
		—	L/4	L/4	L/4	L/4	L/4	L/4
13.6-28 400mm (15.7in.)		—	—	B-3 IN	B-1 OUT	B-2 OUT	D-2 OUT	C-3 OUT
		—	—	T/4	T/4	T/4	T/4	T/4

To adjust fender, see drawing on relevant page.

LX,OSPU 006323-19-01OCT99

REAR WHEEL TREAD ADJUSTMENT WITH FLANGED AXLE



A—500 N·m (370 lb·ft)

B—310 N·m (230 lb·ft)

IMPORTANT: The distance between the side wall of the tire and the fender must not be less than 25.4 mm (1 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.

Rear wheel tread can also be adjusted by reversing the complete wheels. When reversing the wheels, they must be changed from one side to the other so that the arrow on side wall of tire points in the direction of forward rotation of tire.

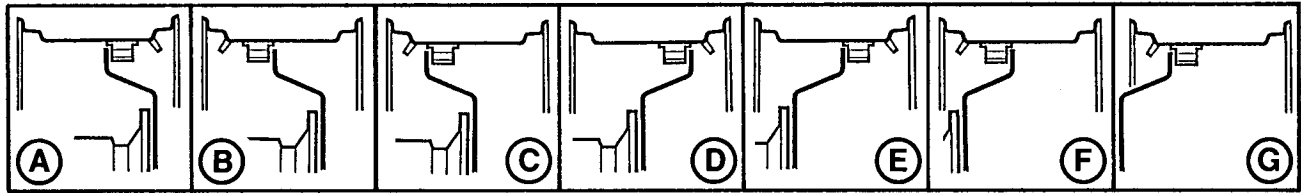
After adjustment has been completed, tighten wheel retaining bolts to specified torque.

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 settings will save time and unnecessary labor.

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

LX,OM 014878-19-01OCT97

POSITIONS OF RIMS AND WHEEL DISKS



LX012555

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 page.

LX,OTREAD008200-19-01AUG96

LX012555 -UN-27JUN96

TREAD WIDTHS

		Position Of Rims and Wheel Disks (see previous page)						
	Tires	A	B	C	D	E	F	G
Standard tread widths	18.4 and 21.5-16.1*	Disk in —	Disk out 1610 mm (63.4 in.)					
				1512 mm (59.5 in.)	1612 mm (63.5 in.)	1712 mm (67.4 in.)	1812 mm (71.3 in.)	1912 mm (75.3 in.)
	16.9-24	—	—	—	x	x	x	x
	18.4-26	—	—	—	x	x	x	x
	16.9-30	—	—	—	x	x	x	x
	18.4-30	—	—	—	x	x	x	x
	13.6-38	—	—	x	x	x	x	x
	15.5-38	—	—	—	x	x	x	x
					1612 mm (63.5 in.)	1716 mm (67.6 in.)	1812 mm (71.3 in.)	1916 mm (75.4 in.)
	16.9-34	—	—	—	x	x	x	x
	18.4-34	—	—	—	x	x	x	x
	16.9-38	—	—	—	x	x	x	x
	18.4-38	—	—	—	x	x	x	x
	13.6-46	—	—	x	x	x	x	x
With 44 mm (1.73 in.) spacers	18.4 and 21.5-16.1*	Disk in 1606 mm (63.2 in.)	Disk out 1698 mm (66.9 in.)					
				1500 mm (59.1 in.)	1600 mm (63.0 in.)	1700 mm (66.9 in.)	1800 mm (70.9 in.)	2000 mm (78.7 in.)
	16.9-24	—	—	x	x	x	x	x
	18.4-26	—	—	—	x	x	x	x
	16.9-30	—	—	x	x	x	x	x
	18.4-30	—	—	—	x	x	x	x
	13.6-38	—	—	x	x	x	x	x
	15.5-38	—	—	—	x	x	x	x
				1604 mm (63.1 in.)	1700 mm (66.9 in.)	1804 mm (71.0 in.)	1900 mm (74.8 in.)	2004 mm (78.9 in.)
	16.9-34	—	—	x	x	x	x	x
	18.4-34	—	—	—	x	x	x	x
	16.9-38	—	—	x	x	x	x	x
	18.4-38	—	—	—	x	x	x	x
	13.6-46	—	x	x	x	x	x	x

* for Low Profile tractors only

LX,OTREAD004943-19-01AUG96

Wheel Treads, Tires

		Position Of Rims and Wheel Disks (see previous page)						
With 111 mm (4.37 in.) spacers	Tires	A	B	C	D	E	F	G
		Disk in 1740 mm (68.5 in.)	Disk out 1832 mm (72.1 in.)					
	18.4 and 21.5-16.1*							
		1534 mm (60.4 in.)	1634 mm (64.3 in.)	1734 mm (68.3 in.)	1834 mm (72.2 in.)	1934 mm (76.1 in.)	2034 mm (80.1 in.)	2134 mm (84.0 in.)
	16.9-24	—	x	x	x	x	x	x
	18.4-26	—	x	x	x	x	x	x
	16.9-30	—	x	x	x	x	x	x
	18.4-30	—	x	x	x	x	x	x
	13.6-38	x	x	x	x	x	x	x
	15.5-38	—	x	x	x	x	x	x
			1634 mm (64.3 in.)	1738 mm (68.4 in.)	1834 mm (72.2 in.)	1938 mm (76.3 in.)	2034 mm (80.1 in.)	2138 mm (84.2 in.)
	16.9-34	—	x	x	x	x	x	x
	18.4-34	—	x	x	x	x	x	x
	16.9-38	—	x	x	x	x	x	x
	18.4-38	—	x	x	x	x	x	x
	13.6-46	x	x	x	x	x	x	x

NOTE: Besides the spacer listed above, 30 mm (1.2 in.) spacers may also be used. If desired, these spacers can be used in pairs, giving a size of 60 mm (2.36 in.). This increases the tread width by 60 mm (2.36 in.) if used singly at either side, or by 120 mm (4.72 in.) if used in pairs.

* for Low Profile tractors only

LX,OTREAD008201-19-01AUG96

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.

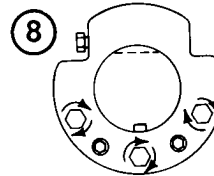
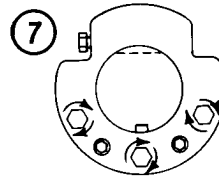
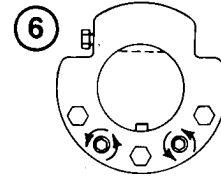
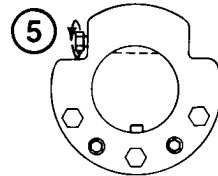
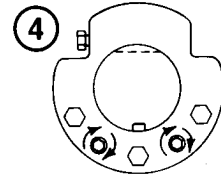
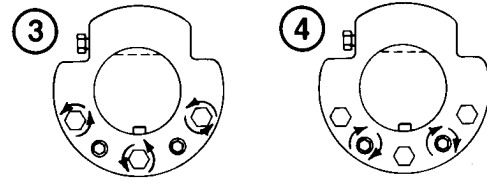
1. Clean axle with a steel brush.
2. Jack up tractor and turn wheel so that rack on axle faces upward.
3. Loosen three attaching bolts completely.
4. Tighten two jack screws until screw heads are flush against face of wheel hub.

NOTE: If sleeve does not break loose at once, also loosen 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 to slide wheel 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".

IMPORTANT: The distance between the side wall of the tire and the fender must not be less than 25.4 mm (1 in.).
The distance between the running surface (edge) of the tire and the fender must not be less than 60 mm (2.36 in.).

continued next page



L102 691

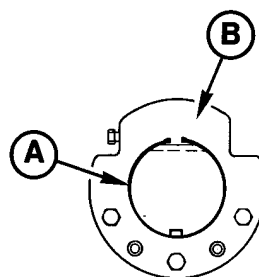
ADJUSTING WHEEL TREAD WITH RACK-AND-PINION AXLE (CONTINUED)

Turn wheel hub (pinion inside)

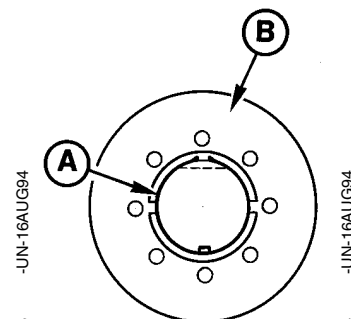
For loosening, adjusting and tightening wheel hub, see previous page.

1. For easier mounting 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 around wheel hub (B) and install it.
4. Install wheel and snap ring (A). For further assembly, see previous page.

IMPORTANT: The distance between the side wall of the tire and the fender must not be less than 25.4 mm (1 in.).
The distance between the running surface (edge) of the tire and the fender must not be less than 60 mm (2.36 in.).



LX008633



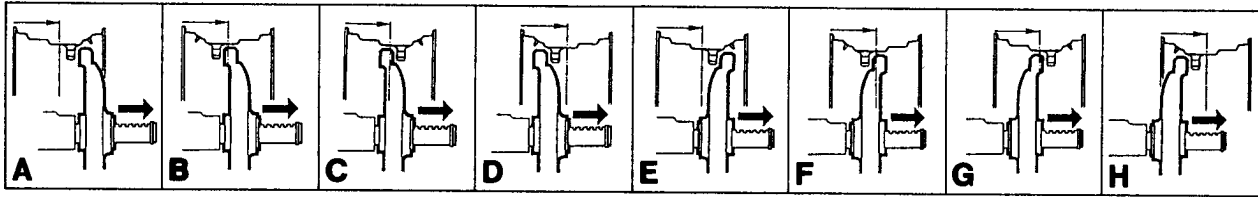
LX008633
-JUN-16AUG94

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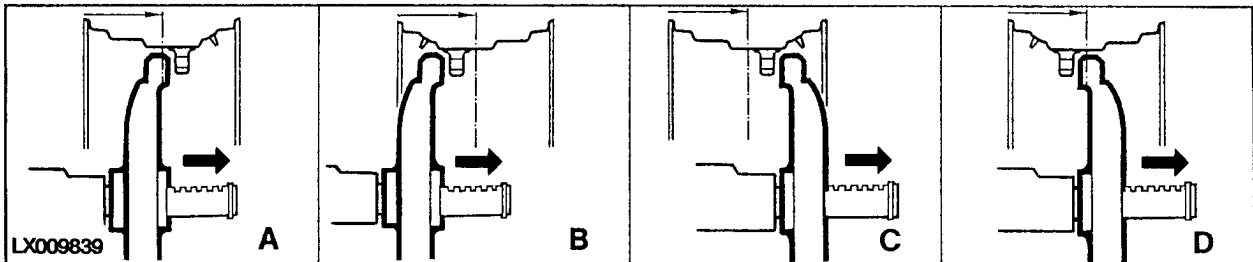
POSITIONS OF RIMS AND WHEEL DISKS WITH RACK-AND-PINION AXLE



LX009838

Cast wheels 30 in. and 38 in.

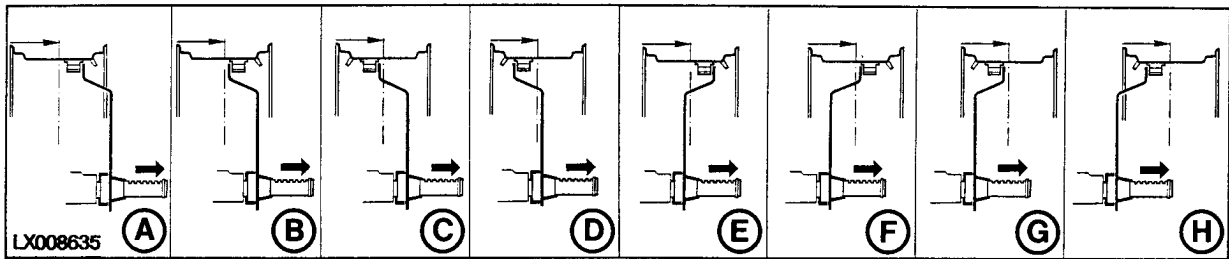
-UN-03/JAN95
LX009838



LX009839

Cast wheels 34 in.

-UN-03/JAN95
LX009839



LX008635

Steel wheels, 8 positions

-UN-16/AUG94
LX008635

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

Only position A, B, G and H are possible with 30 in. wheels.

LX,OSPU 006328-19-01JUL95

TREAD WIDTHS WITH STANDARD RACK-AND-PINION AXLE

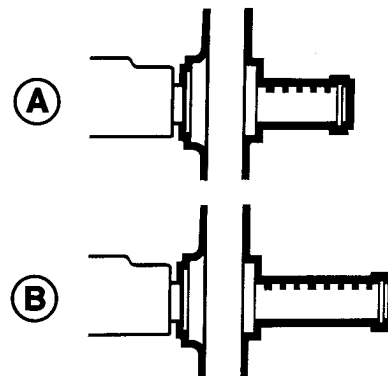
Wheels	Tires	Position	Tread Width	Position	Tread Width
Cast wheels (eight posi- tions)	15.5-38	A	1526-1736 mm (60.1-68.3 in.)	E	1624-2010 mm (63.9-79.1 in.)
		B	1526-1940 mm (60.1-76.4 in.)	F	1828-2214 mm (72.0-87.2 in.)
		C	1526-1936 mm (60.1-76.2 in.)	G	1824-2210 mm (71.8-87.0 in.)
		D	1698-2140 mm (66.9-84.3 in.)	H	2028-2414 mm (79.8-95.0 in.)
	16.9-38	A	1563-1736 mm (61.5-68.3 in.)	E	1624-2010 mm (63.9-79.1 in.)
		B	1563-1940 mm (61.5-76.4 in.)	F	1828-2214 mm (72.0-87.2 in.)
		C	1563-1936 mm (61.5-76.2 in.)	G	1824-2210 mm (71.8-87.0 in.)
		D	1710-2140 mm (67.3-84.3 in.)	H	2028-2414 mm (79.8-95.0 in.)
	18.4-38	A	1563-1736 mm (61.5-68.3 in.)	E	1624-2010 mm (63.9-79.1 in.)
		B	1563-1940 mm (61.5-76.4 in.)	F	1828-2214 mm (72.0-87.2 in.)
		C	1563-1936 mm (61.5-76.2 in.)	G	1824-2210 mm (71.8-87.0 in.)
		D	1710-2140 mm (67.3-84.3 in.)	H	2028-2414 mm (79.8-95.0 in.)
Cast wheels (four posi- tions)	16.9-30	A	1563-1734 mm (61.5-68.3 in.)	G	1826-2212 mm (71.9-87.1 in.)
		B	1563-1938 mm (61.5-76.3 in.)	H	2030-2416 mm (79.9-95.1 in.)
	18.4-30	A	1604-1734 mm (63.1-68.3 in.)	G	1826-2212 mm (71.9-87.1 in.)
		B	1604-1938 mm (63.1-76.3 in.)	H	2030-2416 mm (79.9-95.1 in.)
	16.9-34	A	1668-2098 mm (65.7-82.6 in.)	C	1563-1848 mm (61.5-72.8 in.)
		B	1872-2302 mm (73.7-90.6 in.)	D	1666-2052 mm (65.6-80.8 in.)
	18.4-34	A	1668-2098 mm (65.7-82.6 in.)	C	1604-1848 mm (63.1-82.3 in.)
		B	1872-2302 mm (73.7-90.6 in.)	D	1666-2052 mm (65.6-80.8 in.)
Steel wheels	12.4-42*	A	1440-1732 mm (56.7-68.2 in.)	E	1692-2132 mm (66.6-83.9 in.)
		B	1440-1836 mm (56.7-72.3 in.)	F	1796-2236 mm (70.7-88.0 in.)
		C	1472-1912 mm (58.0-75.3 in.)	G	1872-2312 mm (73.7-91.0 in.)
		D	1576-2016 mm (62.0-79.4 in.)	H	1976-2416 mm (77.8-95.1 in.)
	13.6-46*	A	1473-1752 mm (58.0-69.0 in.)	E	1712-2152 mm (67.4-84.7 in.)
		B	1473-1856 mm (58.0-73.1 in.)	F	1816-2256 mm (71.5-88.8 in.)
		C	1492-1932 mm (58.7-76.1 in.)	G	1852-2292 mm (72.9-90.2 in.)
		D	1556-1996 mm (61.3-78.6 in.)	H	1956-2396 mm (77.0-94.3 in.)

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

LX,OSPU 006324-19-01OCT97

On the long rack-and-pinion axle, the maximum tread widths quoted above increase by 286 mm (11.3 in.).

- A—Short rack-and-pinion axle (29 teeth)
- B—Long rack-and-pinion axle (42 teeth)



LX007820

LX,OSPU 005614-19-01DEC96

LX007820 -UN-15AUG94

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. The tire pressures shown in the table opposite should therefore be considered as a standard guide only. The tire pressures shown are for field operation. If you are operating 20% or more on

roads, increase tire pressures according to the manufacturer's specifications.

Rear wheels

All tires: 140 kPa (1.4 bar; 20 psi)

Front wheels

10.00-16 tires: 170 kPa (1.7 bar; 25 psi)

All others: 150 kPa (1.5 bar; 22 psi)

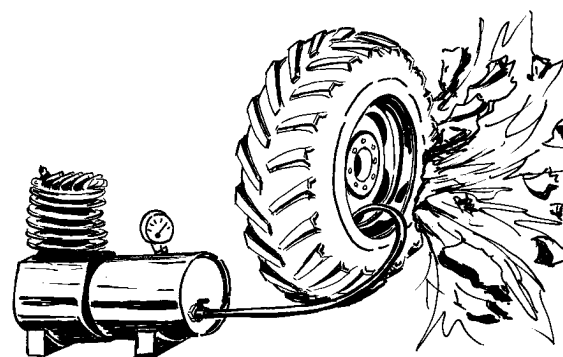
LX,OSPU 000241-19-01MAY92

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

TIRE COMBINATIONS, TRACTORS WITH FRONT WHEEL DRIVE (UP TO SERIAL NUMBER 251535)

The size ratio of the front wheels to the rear ones is precisely determined in order to produce a positive front wheel overspeed of between 1.5% and 4%.

Positive front wheel lead should never be less than 1% and never greater than 7%, otherwise the tires will become deformed or suffer undue wear.

To ascertain the correct ratio when changing wheels, proceed as follows:

Ascertain tractor data:

1. Gear pair on differential. The gear pair is displayed on the transmission type plate. The following pairs are possible:

- 47/10
- 53/10
- 53/9

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

- 13,13
- 15,89
- 19,00 (for high clearance tractors only)

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

- 1,672 = gear pair F
- 1,712 = gear pair G
- 1,756 = gear pair H
- 1,800 = gear pair I
- 1,849 = gear pair K
- 1,895 = gear pair L
- 1,941 = gear pair M
- 2,000 = gear pair N
- 2,049 = gear pair O

Ascertain tire data:

These data 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. Ascertain the rolling circumference of the desired rear tires from the manual.

4. Ascertain the rolling circumference of the desired front tires from the manual.

Ascertain the following data:

1. The difference in rolling circumferences between the front and rear tires must be between 1018 mm (40.1 in.) and 1546 mm (60.9 in.).

2. Check that the index radius (to ISO Standard 4251) of the rear wheel lies within the relevant range (see also tables in "Specifications"):

- not more than 665 mm (26.2 in.) with 47/10 differential, e.g. 14.9R30
- not more than 745 mm (29.3 in.) with 53/10 differential, e.g. 9.5R44, 15.5R38 or 16.9R34
- not more than 820 mm (32.3 in.) with 53/9 differential, e.g. 18.4R38

3. Calculate the rolling circumference ratio of the rear tire to the front tire.

4. Using the data on the differential gear pair and the front axle transmission ratio, ascertain which of the following 4 tables applies.

In the line (F - O) with the gear pair that applies to the tractor, find the value that corresponds to the calculated rolling circumference ratio.

The column gives the front wheel lead that may be achieved with the tire combination.

If the calculated ratio does not lie within the stated value range, either a different tire combination must be selected or else the gear pair for the front wheel drive axle must be changed.

IMPORTANT: The front tires on 6110 to 6210L tractors must not exceed an index radius of 610 mm (24 in.). The front tires on 6310 to 6510S must not exceed an index radius of 620 mm (24.4 in.).

If a new pair of tires is selected with different rolling circumferences, the instrument unit for mph must be reset. See your John Deere dealer.

Example

The intention is to fit a tractor with 18.4-34 / 14.9-24 tires, made by a certain manufacturer.

The transmission ratio of the differential gear pair is 53/9.

The transmission ratio of the front axle is 15,89.

The transmission ratio of the gear pair for the front wheel drive axle is 1,941 (= gear pair M).

According to the tire manufacturer's manual, the desired tires have the following rolling circumferences:
18.4-34 = 5003 mm (197 in.)
14.9-24 = 3795 mm (149.4 in.).

The difference between the rolling circumferences is therefore 1208 mm (47.5 in.), i.e. within the permitted range .

The index radius (to ISO Standard) of the rear tire is 770 mm (30.3 in.). The tire is therefore compatible with the differential.

The ratio of rolling circumferences is:
5003 mm (197 in.)
----- = 1,318
3795 mm (149.4 in.)

In this example, the correct table is Table 4 (53/9 differential and 15,89 transmission ratio at front axle). The line for gear pair M includes the figure 1,311, which is sufficiently close to the calculated value of 1,318. The front wheel lead of the desired tire combination is therefore 3%.

LX,OMFWD 002703-19-02MAR94

Table 1

Differential gear pair: 47/10
Front axle transmission ratio: 13,13

Front wheel lead:		1 %	2 %	3 %	4 %	5 %	6 %	7%
Gear pair for front wheel drive:	F	1,499	1,485	1,470	1,456	1,442	1,429	1,415
	G	1,464	1,450	1,436	1,422	1,409	1,395	1,382
	H	1,428	1,414	1,400	1,387	1,373	1,360	1,348
	I	1,393	1,379	1,366	1,353	1,340	1,327	1,315
	K	1,356	1,343	1,330	1,317	1,304	1,292	1,280
	L	1,323	1,310	1,297	1,285	1,273	1,261	1,249
	M	1,292	1,279	1,267	1,254	1,242	1,231	1,219
	N	1,254	1,241	1,229	1,217	1,206	1,194	1,183
	O	1,224	1,212	1,200	1,188	1,177	1,166	1,155

LX,OMFWD 002696-19-01MAR94

Table 2

Differential gear pair: 53/10
Front axle transmission ratio: 13,13

Front wheel lead:		1 %	2 %	3 %	4 %	5 %	6 %	7%
Gear pair for front wheel drive:	F	1,691	1,674	1,658	1,642	1,627	1,611	1,596
	G	1,651	1,635	1,619	1,604	1,589	1,574	1,559
	H	1,610	1,594	1,579	1,564	1,549	1,534	1,520
	I	1,571	1,555	1,540	1,525	1,511	1,497	1,483
	K	1,529	1,514	1,499	1,485	1,471	1,457	1,443
	L	1,492	1,477	1,463	1,449	1,435	1,422	1,408
	M	1,457	1,442	1,428	1,415	1,401	1,388	1,375
	N	1,414	1,400	1,386	1,373	1,360	1,347	1,334
	O	1,380	1,366	1,353	1,340	1,327	1,315	1,302

LX,OMFWD 002697-19-01MAR94

Table 3

Differential gear pair: 53/10
Front axle transmission ratio: 15,89

Front wheel lead:		1 %	2 %	3 %	4 %	5 %	6 %	7%
Gear pair for front wheel drive:	F	1,396	1,383	1,369	1,356	1,343	1,330	1,318
	G	1,364	1,350	1,337	1,324	1,312	1,299	1,287
	H	1,330	1,317	1,304	1,291	1,279	1,267	1,255
	I	1,297	1,284	1,272	1,260	1,248	1,236	1,224
	K	1,263	1,250	1,238	1,226	1,215	1,203	1,192
	L	1,232	1,220	1,208	1,196	1,185	1,174	1,163
	M	1,203	1,191	1,179	1,168	1,157	1,146	1,135
	N	1,167	1,156	1,145	1,134	1,123	1,112	1,102
	O	1,139	1,128	1,117	1,107	1,096	1,086	1,076

LX,OMFWD 002698-19-01MAR94

Table 4

Differential gear pair: 53/9
Front axle transmission ratio: 15,89

Front wheel lead:		1 %	2 %	3 %	4 %	5 %	6 %	7%
Gear pair for front wheel drive:	F	1,551	1,536	1,521	1,507	1,492	1,478	1,464
	G	1,515	1,500	1,486	1,472	1,458	1,444	1,430
	H	1,477	1,463	1,449	1,435	1,421	1,408	1,394
	I	1,441	1,427	1,413	1,400	1,386	1,373	1,360
	K	1,403	1,389	1,376	1,362	1,350	1,337	1,324
	L	1,369	1,355	1,342	1,329	1,317	1,304	1,292
	M	1,336	1,323	1,311	1,298	1,286	1,273	1,262
	N	1,297	1,284	1,272	1,260	1,248	1,236	1,224
	O	1,266	1,254	1,241	1,230	1,218	1,206	1,195

LX,OMFWD 002699-19-01MAR94

HIGH CLEARANCE TRACTORS

Front axle transmission ratio on high clearance tractors must be 19,00.

The differential ratio must be 53/9.

The transmission ratio of the gear pair for front wheel drive axle must be 1,849.

There is one tire combination possible:

Rear tire — 13.6-46

Front tire — 13.6-38

The front wheel lead is approx. 4.7%.

LX,OMFWD 017550-19-01MAR99

TIRE COMBINATIONS, TRACTORS WITH FRONT WHEEL DRIVE (FROM SERIAL NUMBER 251536)

The size ratio of the front wheels to the rear ones is precisely determined in order to produce a positive front wheel overspeed of between 1.5% and 4%.

Positive front wheel lead should never be less than 1% and never greater than 7%, otherwise the tires will become deformed or suffer undue wear.

To ascertain the correct ratio when changing wheels, proceed as follows:

Ascertain tractor data:

1. Transmission ratio of differential. This figure is displayed on the transmission type plate. The following ratios are possible:
 - 4,70
 - 5,30
 - 5,89
2. Transmission ratio of front axle. This figure is displayed on the front axle type plate. The following ratios are possible:
 - 13,13
 - 15,89
 - 19,00 (for high clearance tractors only)
3. Transmission ratio of gear pair for front wheel drive axle. This figure is displayed on the transmission type plate. The following ratios are possible:
 - 1,692 = gear pair F
 - 1,725 = gear pair G
 - 1,760 = gear pair H
 - 1,795 = gear pair I
 - 1,833 = gear pair J
 - 1,870 = gear pair K
 - 1,907 = gear pair L
 - 1,943 = gear pair M
 - 1,990 = gear pair N
 - 2,028 = gear pair O

Ascertain tire data:

These data 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. Ascertain the rolling circumference of the desired rear tires from the manual.

4. Ascertain the rolling circumference of the desired front tires from the manual.

Ascertain the following data:

1. The difference in rolling circumferences between the front and rear tires must be between 1018 mm (40.1 in.) and 1546 mm (60.9 in.).
2. Check that the index radius (to ISO Standard 4251) of the rear wheel lies within the relevant range (see also tables in "Specifications"):
 - not more than 665 mm (26.2 in.) with 4,70 differential, e.g. 14.9R30
 - not more than 745 mm (29.3 in.) with 5,30 differential, e.g. 9.5R44, 15.5R38 or 16.9R34
 - not more than 820 mm (32.3 in.) with 5,89 differential, e.g. 18.4R38
3. Calculate the rolling circumference ratio of the rear tire to the front tire.
4. Using the data on the differential gear pair and the front axle transmission ratio, ascertain which of the following 6 tables applies.

In the line (F - O) with the gear pair that applies to the tractor, find the value that corresponds to the calculated rolling circumference ratio.

The column gives the front wheel lead that may be achieved with the tire combination.

If the calculated ratio does not lie within the stated value range, either a different tire combination must be selected or else the gear pair for the front wheel drive axle must be changed.

IMPORTANT: The front tires on 6110 to 6210L tractors must not exceed an index radius of 610 mm (24 in.). The front tires on 6310 to 6510S must not exceed an index radius of 620 mm (24.4 in.).

If a new pair of tires is selected with different rolling circumferences, the instrument unit for mph must be reset. See your John Deere dealer.

Example

The intention is to fit a tractor with 18.4-34 / 14.9-24 tires, made by a certain manufacturer.

The transmission ratio of differential is 5,89.

The transmission ratio of the front axle is 15,89.

The transmission ratio of the gear pair for the front wheel drive axle is 1,943 (= gear pair M).

According to the tire manufacturer's manual, the desired tires have the following rolling circumferences:
18.4-34 = 5003 mm (197 in.)
14.9-24 = 3795 mm (149.4 in.).

The difference between the rolling circumferences is therefore 1208 mm (47.5 in.), i.e. within the permitted range .

The index radius (to ISO Standard) of the rear tire is 770 mm (30.3 in.). The tire is therefore compatible with the differential.

The ratio of rolling circumferences is:
5003 mm (197 in.)
----- = 1,318
3795 mm (149.4 in.)

In this example, the correct table is Table 4 (5,89 differential and 15,89 transmission ratio at front axle). The line for gear pair M includes the figure 1,322, which is sufficiently close to the calculated value of 1,318. The front wheel lead of the desired tire combination is therefore 2%.

LX,OMFWD 020929-19-01OCT99

Table 1

Differential gear ratio: 4,70
Front axle transmission ratio: 13,13

Front wheel lead:		1 %	2 %	3 %	4 %	5 %	6 %	7%
Gear pair for front wheel drive:	F	1,482	1,467	1,453	1,439	1,425	1,412	1,399
	G	1,453	1,439	1,425	1,412	1,398	1,385	1,372
	H	1,425	1,411	1,397	1,383	1,370	1,357	1,345
	I	1,397	1,383	1,370	1,356	1,344	1,331	1,318
	J	1,368	1,354	1,341	1,328	1,316	1,303	1,291
	K	1,341	1,328	1,315	1,302	1,290	1,277	1,266
	L	1,315	1,302	1,289	1,277	1,265	1,253	1,241
	M	1,290	1,278	1,265	1,253	1,241	1,229	1,218
	N	1,260	1,248	1,235	1,224	1,212	1,200	1,189
	O	1,236	1,224	1,212	1,201	1,189	1,178	1,167

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Table 2

Differential gear ratio: 5,30
Front axle transmission ratio: 13,13

Front wheel lead:		1 %	2 %	3 %	4 %	5 %	6 %	7%
Gear pair for front wheel drive:	F	1,671	1,655	1,638	1,623	1,607	1,592	1,577
	G	1,639	1,623	1,607	1,592	1,577	1,562	1,547
	H	1,606	1,591	1,575	1,560	1,545	1,531	1,516
	I	1,575	1,560	1,544	1,530	1,515	1,501	1,487
	J	1,542	1,527	1,512	1,498	1,484	1,470	1,456
	K	1,512	1,497	1,483	1,468	1,454	1,441	1,427
	L	1,483	1,468	1,454	1,440	1,426	1,413	1,399
	M	1,455	1,441	1,427	1,413	1,400	1,386	1,373
	N	1,421	1,407	1,393	1,380	1,367	1,354	1,341
	O	1,394	1,380	1,367	1,354	1,341	1,328	1,316

LX,OMFWD 020569-19-01OCT99

Table 3

Differential gear ratio: 5,30
Front axle transmission ratio: 15,89

Front wheel lead:		1 %	2 %	3 %	4 %	5 %	6 %	7%
Gear pair for front wheel drive:	F	1,380	1,366	1,353	1,340	1,327	1,315	1,302
	G	1,353	1,340	1,327	1,314	1,302	1,290	1,278
	H	1,327	1,314	1,301	1,288	1,276	1,264	1,252
	I	1,301	1,288	1,275	1,263	1,251	1,239	1,228
	J	1,274	1,261	1,249	1,237	1,225	1,214	1,202
	K	1,248	1,236	1,224	1,212	1,201	1,190	1,178
	L	1,224	1,212	1,200	1,189	1,178	1,167	1,156
	M	1,202	1,190	1,178	1,167	1,156	1,145	1,134
	N	1,173	1,162	1,150	1,139	1,129	1,118	1,107
	O	1,151	1,140	1,129	1,118	1,107	1,097	1,087

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Table 4

Differential gear ratio: 5,89
Front axle transmission ratio: 15,89

Front wheel lead:		1 %	2 %	3 %	4 %	5 %	6 %	7%
Gear pair for front wheel drive:	F	1,533	1,518	1,503	1,489	1,475	1,461	1,447
	G	1,504	1,489	1,475	1,460	1,447	1,433	1,419
	H	1,474	1,459	1,445	1,431	1,418	1,404	1,391
	I	1,445	1,431	1,417	1,403	1,390	1,377	1,364
	J	1,415	1,401	1,388	1,374	1,361	1,348	1,336
	K	1,387	1,374	1,360	1,347	1,334	1,322	1,309
	L	1,360	1,347	1,334	1,321	1,308	1,296	1,284
	M	1,335	1,322	1,309	1,297	1,284	1,272	1,260
	N	1,304	1,291	1,278	1,266	1,254	1,242	1,230
	O	1,279	1,267	1,254	1,242	1,230	1,219	1,207

LX,OMFWD 020571-19-01OCT99

Table 5

Differential gear ratio: 5,89
Front axle transmission ratio: 13,13

Front wheel lead:		1 %	2 %	3 %	4 %	5 %	6 %	7%
Gear pair for front wheel drive:	F	1,857	1,838	1,821	1,803	1,786	1,769	1,752
	G	1,821	1,803	1,786	1,769	1,752	1,735	1,719
	H	1,785	1,767	1,750	1,733	1,717	1,701	1,685
	I	1,750	1,733	1,716	1,700	1,683	1,668	1,652
	J	1,714	1,697	1,681	1,664	1,648	1,633	1,618
	K	1,680	1,663	1,647	1,631	1,616	1,601	1,586
	L	1,647	1,631	1,615	1,600	1,585	1,570	1,555
	M	1,617	1,601	1,585	1,570	1,555	1,540	1,520
	N	1,579	1,563	1,548	1,533	1,518	1,504	1,490
	O	1,549	1,534	1,519	1,504	1,490	1,476	1,462

LX,OMFWD 020572-19-01OCT99

Table 6

Differential gear ratio: 4,70
Front axle transmission ratio: 15,89

Front wheel lead:		1 %	2 %	3 %	4 %	5 %	6 %	7%
Gear pair for front wheel drive:	F	1,224	1,212	1,200	1,188	1,177	1,166	1,155
	G	1,200	1,188	1,177	1,166	1,154	1,144	1,133
	H	1,176	1,165	1,154	1,142	1,132	1,121	1,110
	I	1,153	1,142	1,131	1,120	1,109	1,099	1,089
	J	1,129	1,118	1,108	1,097	1,086	1,076	1,066
	K	1,107	1,096	1,086	1,075	1,065	1,055	1,045
	L	1,086	1,075	1,065	1,054	1,044	1,034	1,025
	M	1,066	1,055	1,045	1,035	1,025	1,015	1,006
	N	1,040	1,030	1,020	1,010	1,001	0,991	0,982
	O	1,021	1,011	1,001	0,991	0,982	0,973	0,964

LX,OMFWD 020573-19-01OCT99

High Clearance Tractors

Differential gear ratio: 5,89
Front axle transmission ratio: 19,00

Front wheel lead:		1 %	2 %	3 %	4 %	5 %	6 %	7%
Gear pair for front wheel drive:	I	1,209	1,197	1,185	1,174	1,163	1,152	1,141
	J	1,184	1,172	1,161	1,150	1,139	1,128	1,117
	K	1,160	1,149	1,138	1,127	1,116	1,106	1,095
	L	1,138	1,127	1,116	1,105	1,095	1,084	1,074

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Additional Equipment

SELECTIVE CONTROL VALVES

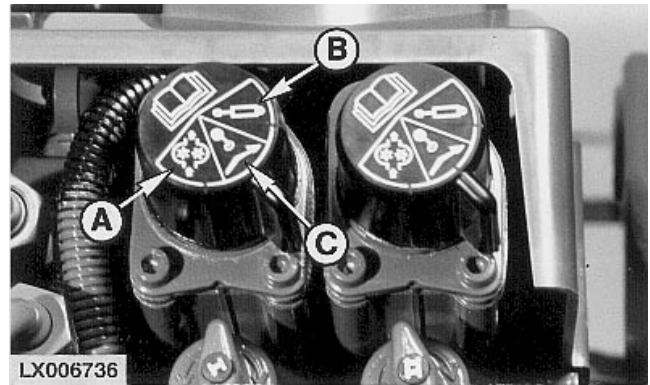
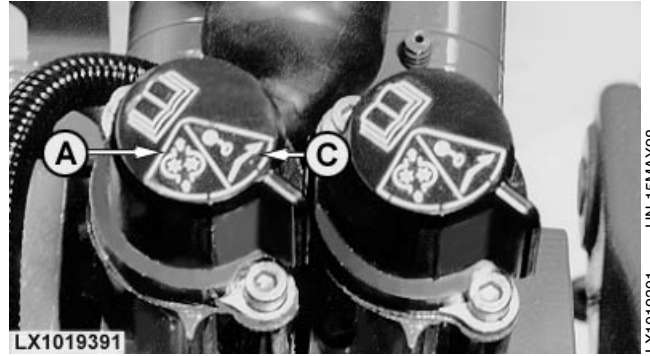
The tractor can be equipped with one of two different types of selective control valves: 200 Series (standard) or 300 Series (de Luxe).

200 Series control valves provide the functions “Raise” and “Lower” plus a “Float Position”. In addition, these valves provide a lock function (A) which holds the control lever in the “Raise” or “Lower” position until it is moved manually.

300 Series control valves also have 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.

If an implement (e.g. a hydraulic cylinder) is connected, pressure connection (e.g. extending cylinder) has to be connected to the **lower coupler** on **200 Series**. On **300 Series**, pressure connection (e.g. extending cylinder) can be connected to **upper or lower coupler**. With these selective control valves, a valve prevents loss of pressure by leakage (e.g. retracting cylinder), if the engine is shut off.



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ADJUSTMENT OF PRESSURE LIMIT AT SELECTIVE CONTROL VALVES (300 SERIES)

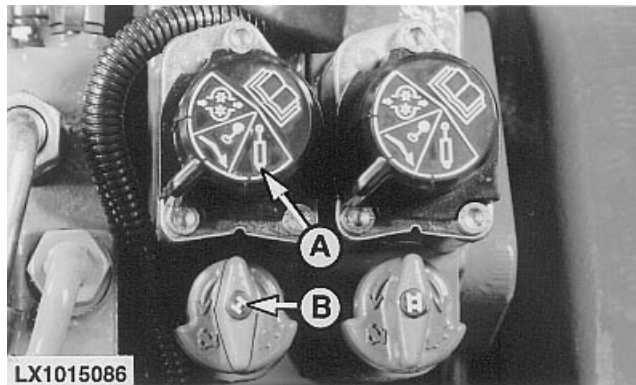
NOTE: All selective control valves are factory adjusted to 18000 kPa (180 bar; 2610 psi).

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



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CONTROL LEVER FOR SELECTIVE CONTROL VALVES

The control lever has four settings.

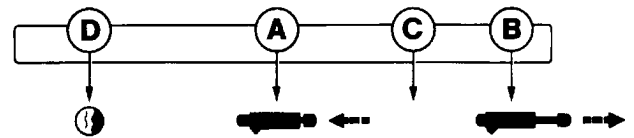
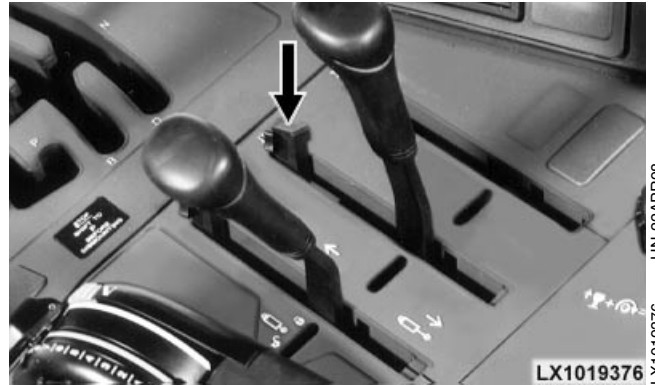
The remote cylinder extends when the lever is moved to the "Raise" position.

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 (see arrow).

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

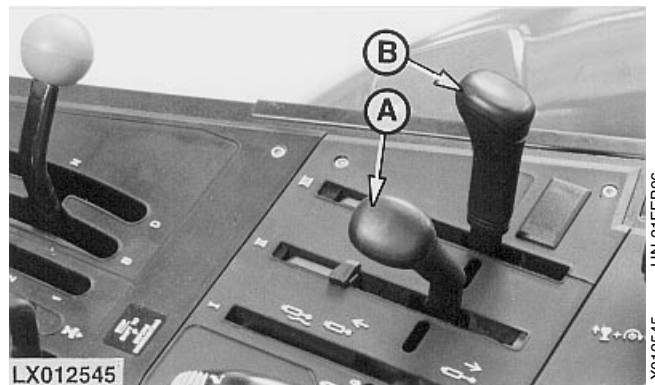
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Low Profile Orchard tractors

No. II control lever (A) is used for selective control valve I.

No. III control lever (B) is used for selective control valve II.

Control lever No. I is not used (due to space).



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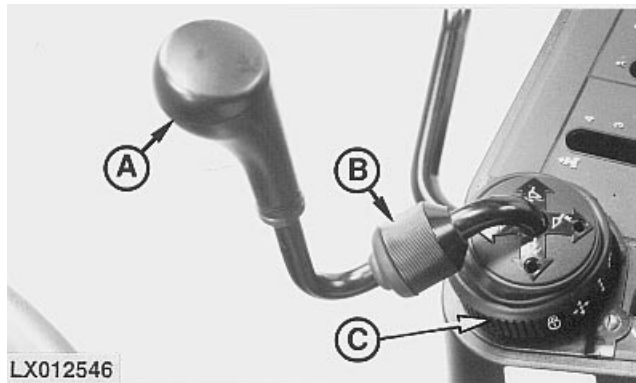
MULTI-FUNCTION LEVER

The multi-function lever (A) allows two selective control valves to be operated at the same time.

Locking collar (B) can be used to secure the lever in one of two positions. If the lever is not required, move locking ring (C) to position (E) and slacken off locking collar (B). Swing the lever to the right and tighten locking collar (B) again.

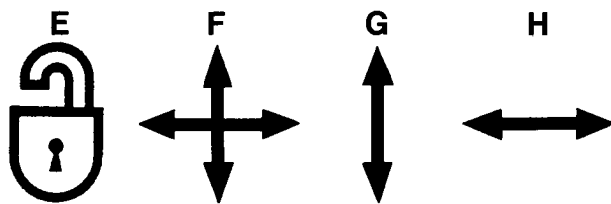
Locking ring (C) can be used to lock out various lever movements.

- A—Multi-function lever
- B—Locking collar
- C—Locking ring
- E—Lever locked
- F—Lever not locked
- G—Lever locked to left and right
- H—Lever locked to front and rear



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-UN-21FEB96
LX012546



LX007831

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LX007831

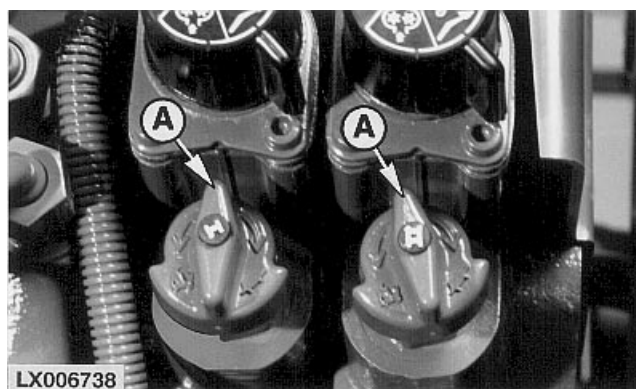
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RATE OF CYLINDER OPERATION

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

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

NOTE: On 200 Series control valves adjustment is not possible while oil is flowing.



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-UN-11AUG94
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COUPLERS

CAUTION: The hydraulic system has a maximum stand-by pressure of 20000 kPa (200 bar; 2900 psi). For your own protection and to assure proper functioning of the system, use only genuine John Deere parts.

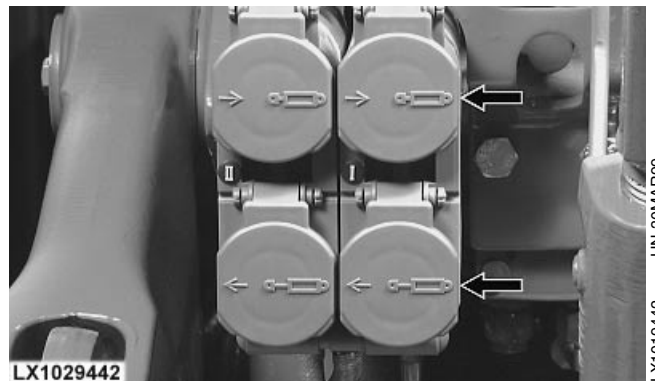
Couplers allow hydraulic hoses to be coupled as well as uncoupled without loss of oil, even under pressure. If a malfunction or accident causes the hose to break loose from the coupler, the oil flow through the coupler is stopped immediately.

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

NOTE: Symbols on the covers show which coupler is for "extend" and which coupler is for "retract".

To disconnect the hose, give it a firm pull.

Leak oil which escapes from the couplers when hoses are connected or removed is trapped in oil reservoir (A). Once the oil reservoir (A) is full, empty oil reservoir (A); do NOT use the leak oil again.



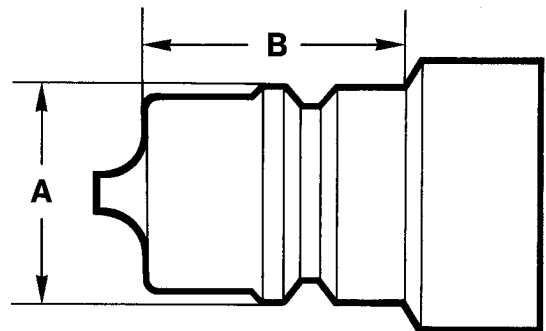
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HOSE UNIONS

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

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.

LX,OZUS 008988-19-01AUG96

OIL WITHDRAWAL WITH HYDRAULIC MOTOR

If hydraulic motors are to be operated, it is recommended to have 300 Series selective control valves.

IMPORTANT: Never regulate the flow rate by means of an external valve. Always use load control valves (A).

Maximum obtainable oil flow of transmission/hydraulic oil is dependent on the couplers and the size of the hydraulic pump installed on the tractor.

On the 25 cm³ (1.5 cu.in.) pump, the flow rate is 60 l/min (15.9 gpm).

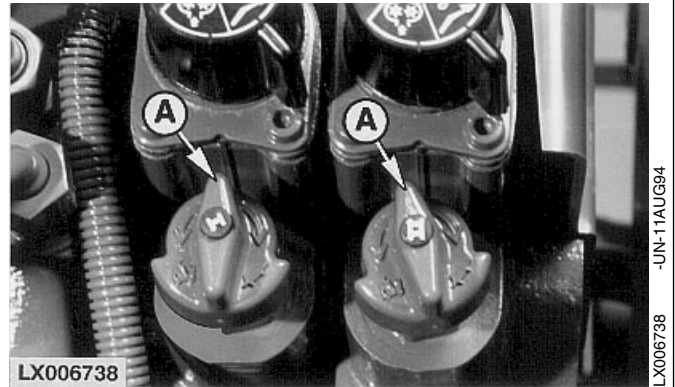
When the 40 cm³ (2.5 cu.in.) pump is used in conjunction with 200 Series selective control valves, a flow rate of 96 l/min (25.4 gpm) can be achieved.

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.



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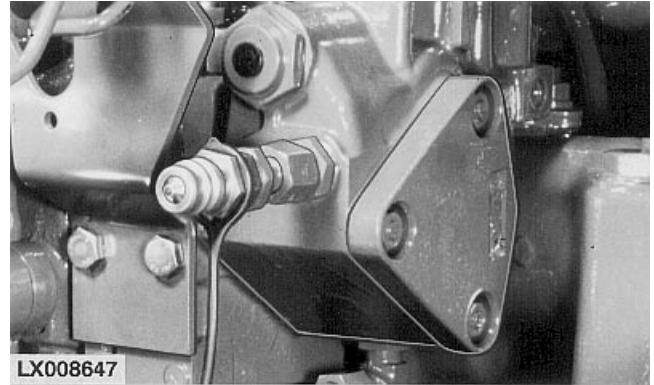
USING PRESSURE FREE RETURN CIRCUIT

This connection ensures a pressure free oil return.

Examples of implements which cannot withstand high pressure in the return line:

- Hydraulic motors which have a pressurized oil return. Failure of the motor housing or shaft seals may result if the return line is pressurized.
- Remote hydraulic valves located on the implement may allow unexpected movement of cylinders if the return port is pressurized.

When the pressure free return circuit is not used, use the protective dust cap.



LX,OZUS 006349-19-01JUL94

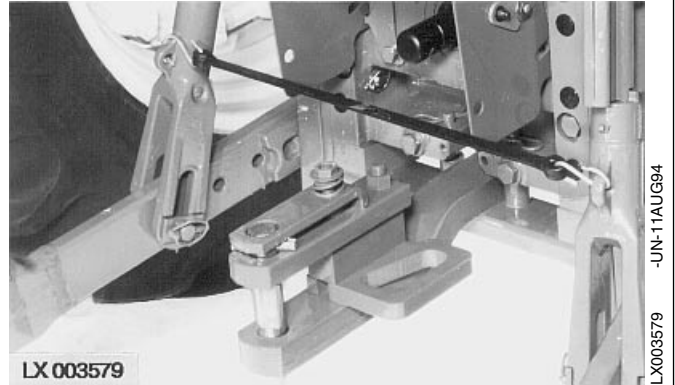
SWINGING DRAWBAR

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.



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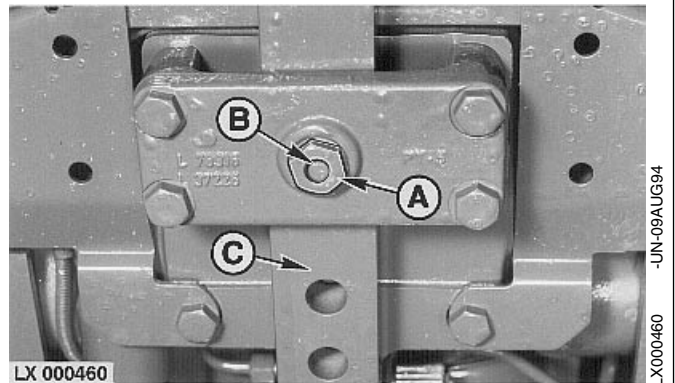
LENGTHWISE ADJUSTMENT OF DRAWBAR

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

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).

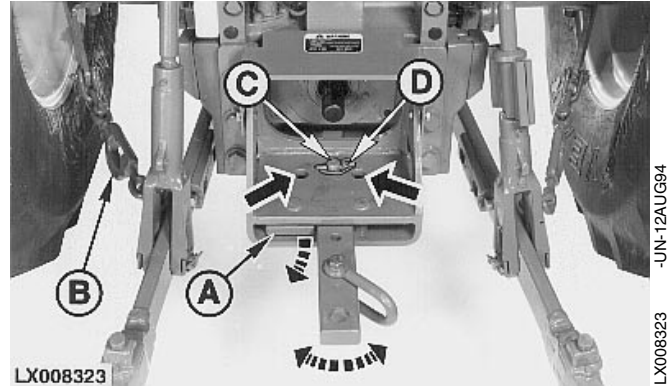
Before swinging the drawbar:

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.)

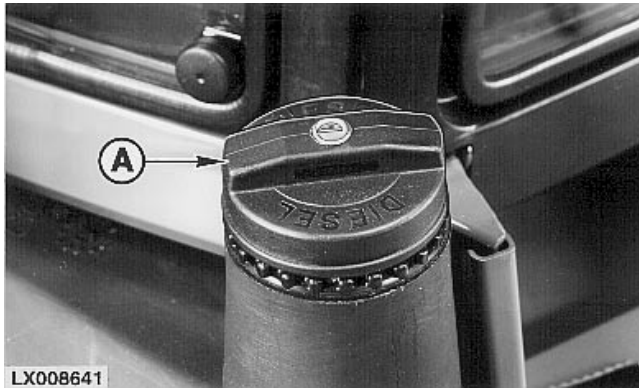
The lengths determine the distance from the end of the PTO shaft to the attaching point of the drawbar.



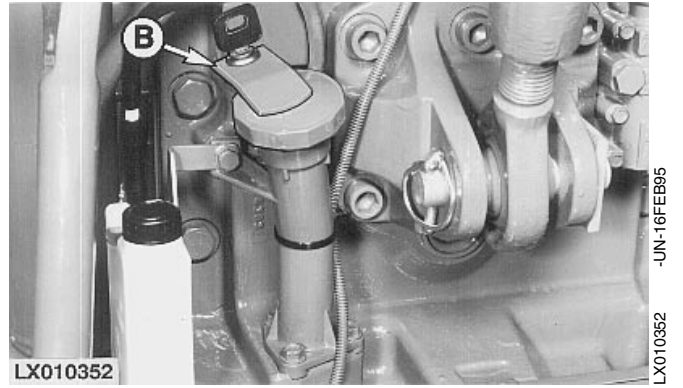
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VANDAL PROTECTION

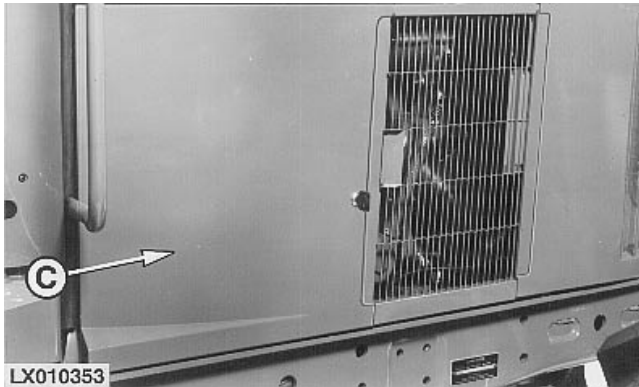
Vandal protection may consist of:



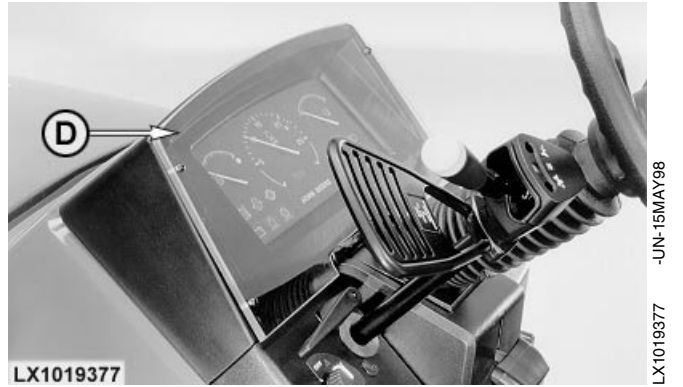
Lockable tank filler cap (A)



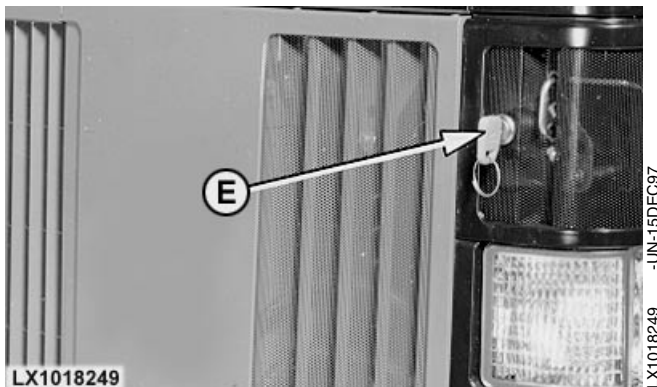
Lockable transmission oil filler cap (B)



Lockable side doors (C)



Protection for instrument panel (D)



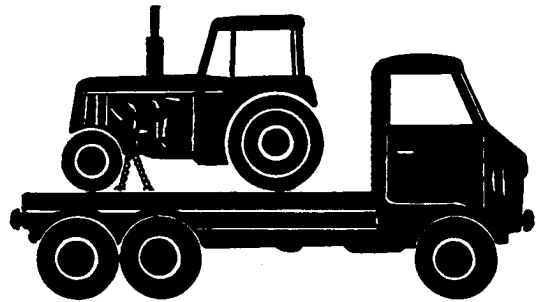
Lockable hood (E)

LX,OMEQUI014879-19-01APR98

Transport

TRANSPORTING THE TRACTOR

A disabled tractor is best transported on a flatbed carrier. Use chains to secure the tractor to the carrier.



FW13090 -UN-07DEC88

LX,OTRANS003561-19-01NOV93

TOWING THE TRACTOR

CAUTION: Never tow the tractor at a speed greater than 16 km/h (10 mph).

Shift both gear and range shift levers to neutral position.

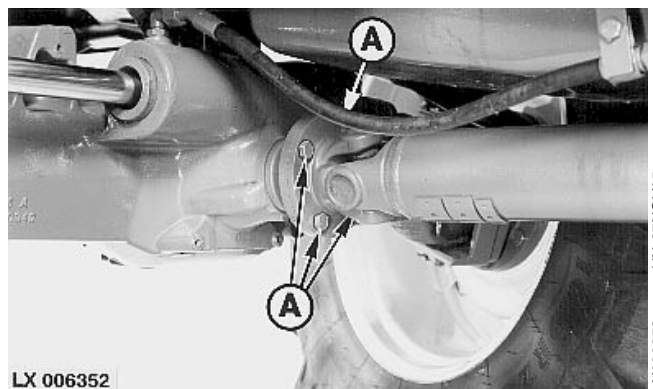
Make sure that the oil level in the transmission is between the marks on the dipstick. If the tractor is to be towed with the front wheels raised, observe the following points:

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.

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.



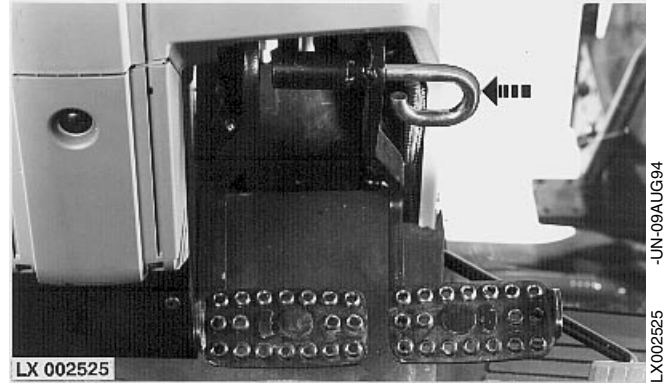
LX006352 -UN-27NOV95

LX,OTRANS004863-19-05DEC93

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.



LX,TRANSP003033-19-01MAY92

LX002525 -JN-09AUG94

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.

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

- **Cetane number of 40 minimum.**

Cetane number greater than 50 is preferred, especially for temperatures below -20°C (-4°F) or elevations above 1500 m (5,000 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 of 3100 gram load level as measured by the BOCLE scuffing test.

- **Sulfur content:**

- Sulfur content should not exceed 0.5% Sulfur content less than 0.05% is preferred.

- If diesel fuel with sulfur content greater than 0.5% sulfur content is used, reduce the service interval for engine oil and filter by 50%

- DO NOT use diesel fuel with sulfur content greater than 1.0%

Bio-diesel fuels may be used ONLY if the fuel properties meet DIN 51606 or equivalent specification.

DO NOT mix used engine oil or any other type of lubricant with diesel fuel.

DX,FUEL1 -19-12FEB99

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 condensation and freezing during cold weather.

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 -19-18MAR96

DIESEL ENGINE OIL

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

The following oil is preferred.

- John Deere PLUS-50®

The following oil is also recommended:

- John Deere TORQ-GARD SUPREME®

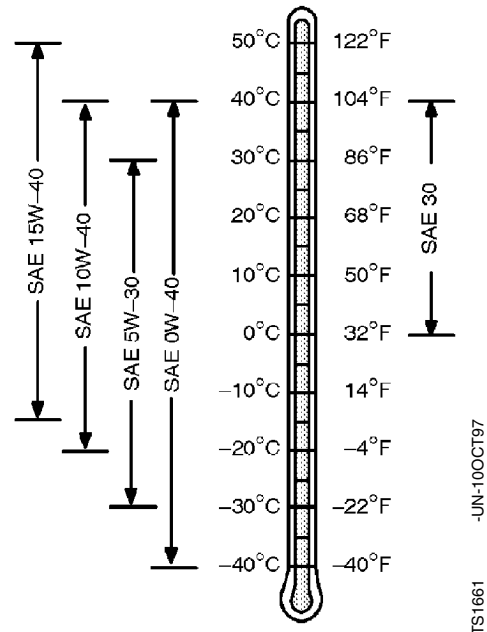
Other oils may be used if they meet one or more of the following:

- API Service Classification CG-4
- API Service Classification CF-4
- ACEA Specification E3
- ACEA Specification 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%.

Extended service intervals may apply when John Deere preferred engine oils are used. Consult your John Deere dealer for more information.



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
- ACEA Specification 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 API CG4, API CF4, ACEA E3, or ACEA E2 performance levels during the first 100 hours of operation of a new or rebuilt engine. These oils will not allow the engine to break-in properly.

DX,ENOIL4 -19-10OCT97

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

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).

John Deere COOL-GARD is preferred for service.

If John Deere COOL-GARD is not available, use a low silicate ethylene glycol base coolant concentrate in a 50% mixture of concentrate with quality water.

The coolant concentrate shall be of a quality that provides cavitation protection to cast iron and aluminum parts in the cooling system. John Deere COOL-GARD meets this requirement.

A 50% mixture of ethylene glycol engine coolant in water provides freeze protection to -37°C (-34°F). If protection at lower temperatures is required, consult your John Deere dealer for recommendations.

Water quality is important to the performance of the cooling system. Distilled, deionized, or demineralized

water is recommended for mixing with ethylene glycol base engine coolant concentrate.

IMPORTANT: Do not use cooling system sealing additives or antifreeze that contains sealing additives.

Coolant drain intervals

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 operation.

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

DX,COOL8

-19-12FEB99

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

TRANSMISSION AND HYDRAULIC OIL

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

The following oils are preferred:

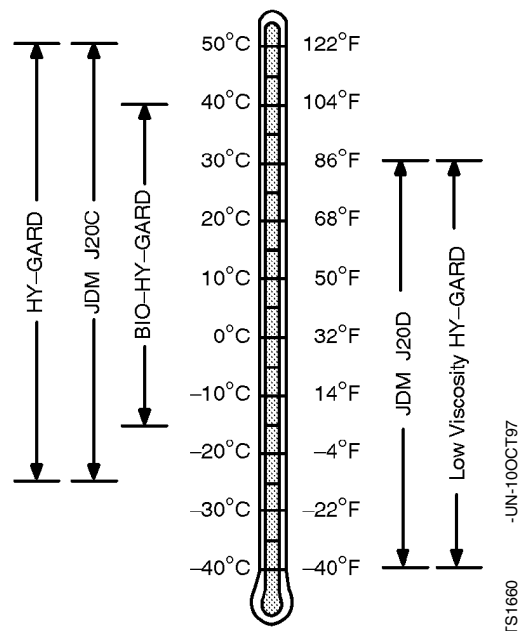
- John Deere HY-GARD®
- John Deere Low Viscosity HY-GARD®

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

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

Use the following oil when a biodegradable fluid is required:

- John Deere BIO-HY-GARD™¹



¹BIO-HY-GARD meets or exceeds the minimum biodegradability of 80% within 21 days according to CEC-L-33-T-82 test method. BIO-HY-GARD should not be mixed with mineral oils because this reduces the biodegradability and makes proper oil recycling impossible.

DX,ANTI

-19-10OCT97

FRONT WHEEL DRIVE AXLE OIL

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

The following oil is preferred:

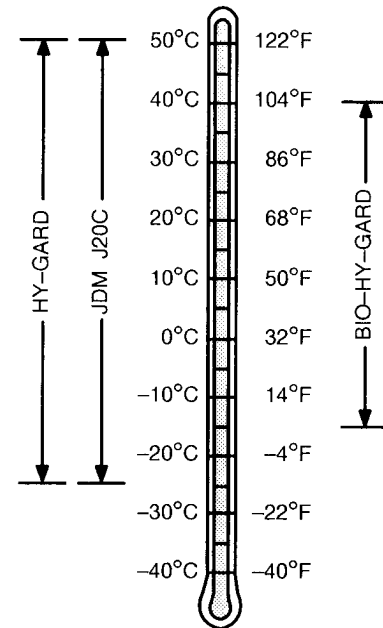
- John Deere HY-GARD®

Other oils may be used if they meet the following:

- John Deere Standard JDM J20C

Use the following oil when a biodegradable fluid is required:

- John Deere BIO-HY-GARD™¹



¹BIO-HY-GARD meets or exceeds the minimum biodegradability of 80% within 21 days according to CEC-L-33-T-82 test method. BIO-HY-GARD should not be mixed with mineral oils because this reduces the biodegradability and makes proper oil recycling impossible

FX,OIL1

-19-14JUN96

FX100118 -UN-17JUN96

GREASE

Use grease based on NLGI consistency numbers and the expected air temperature range during the service interval.

The following grease is preferred:

- John Deere SD POLYUREA GREASE

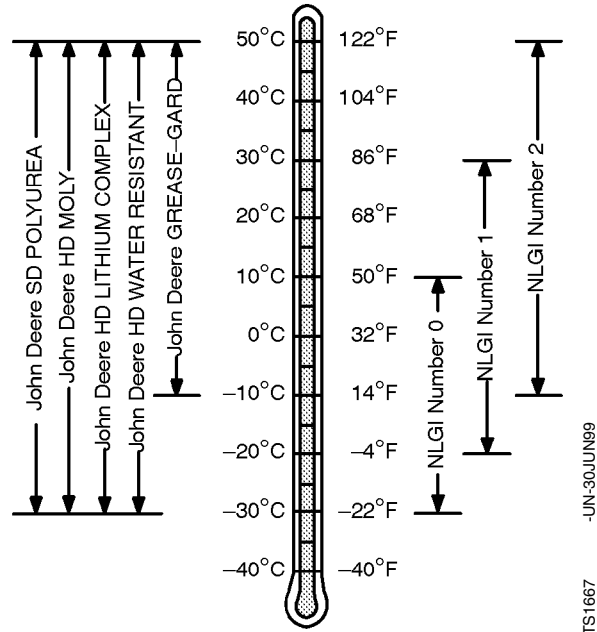
The following greases are also recommended:

- John Deere HD MOLY GREASE
- 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 thickener are not compatible with others.



DX,GREA1 -19-05AUG99

MIXING OF LUBRICANTS

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

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

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

DX,LUBMIX -19-18MAR96

ALTERNATIVE AND SYNTHETIC LUBRICANTS

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

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

Consult your John Deere dealer to obtain information and recommendations.

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

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

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

DX,ALTER -19-18MAR96

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.

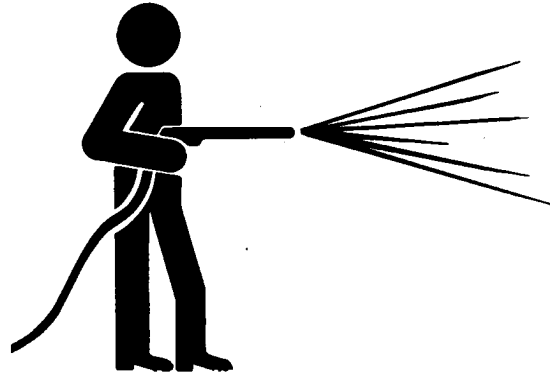
Properly dispose of all old containers and any residual lubricant they may contain.

DX,LUBST -19-18MAR96

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 degree angle.



FX,CLEAN

-19-06FEB95

T6642EJ -UN-18OCT88

LUBRICATION AND PERIODIC SERVICE

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

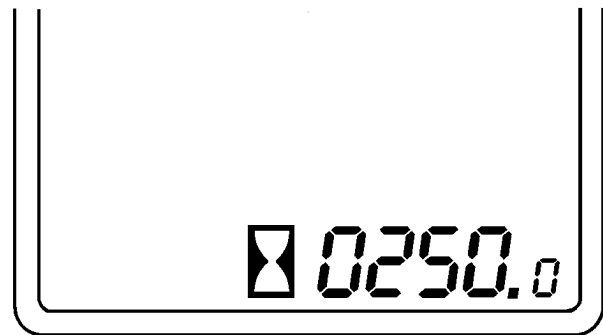
The intervals at which the various parts should be checked, lubricated, serviced or adjusted are based on the actual hours of operation as shown on the hour meter. The meter operates whenever the engine is running and shows the accumulated hours of engine operation.

On tractors equipped with Headland Management System (HMS), an acoustic signal goes off every 250 hours when the engine is started (for the first five engine starts). This is to remind the operator that service is due.

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

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

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



LX1017686

LX1017686 -UN-01OCT97

LX,OMSCH 013436-19-15SEP97

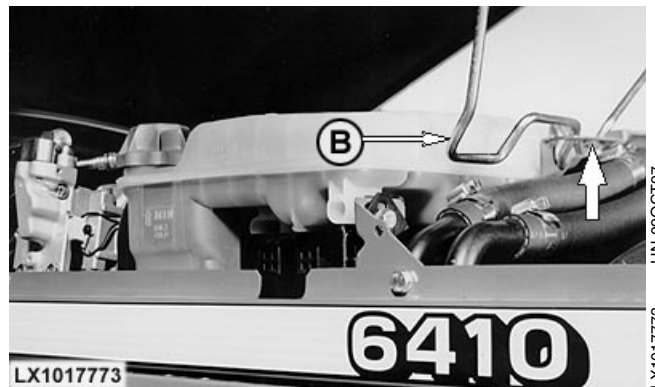
OPENING THE HOOD

Press catches (A) and pull hood forward.



Open hood and engage support (B); see arrow.

To close, raise hood and disengage support (B). Lower the hood and push it back until the hood engages.



LX,OMSCH 013437-19-15SEP97

REMOVING GRILLE SCREENS

Open hood, push down locking bolt (A) and remove grille screens from the side.

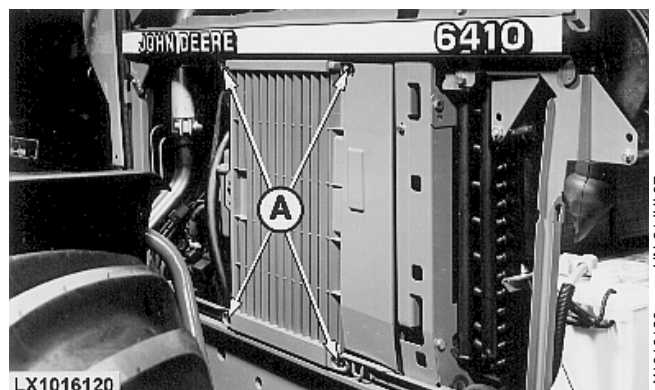


LX,OMSCH 013438-19-15SEP97

REMOVING FAN GUARD

Remove grille screen. Unscrew nuts (A) and remove fan guard from the side.

IMPORTANT: Remember to put the fan guard back as soon as the job is completed.

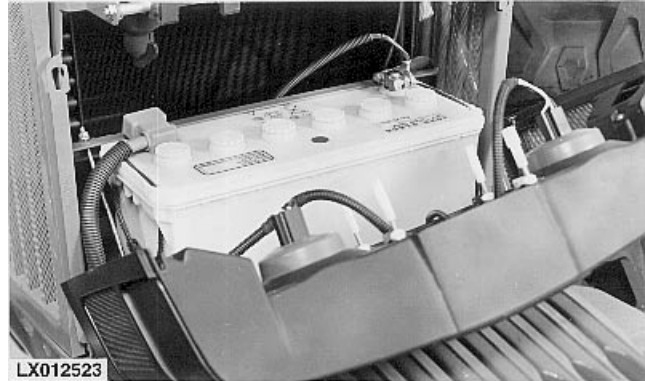


LX,OMSCH 013439-19-15SEP97

ACCESS TO BATTERY

The battery is installed behind the front cover.

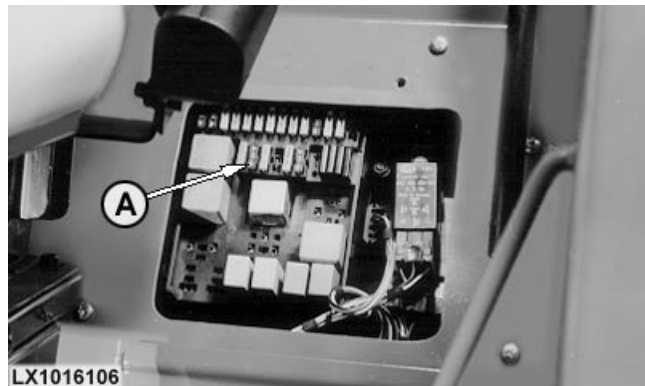
Open hood. Lift up front cover and remove from the front.



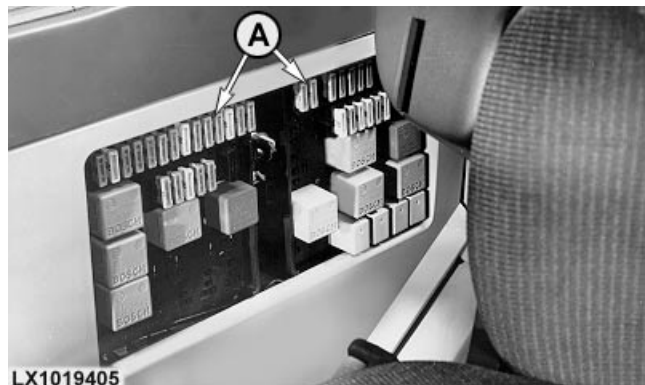
LX,OBATT 002141-19-01DEC95

ACCESS TO FUSES

Fuses (A) are located either behind the operator's seat or in the shift console.



Tractors without cab



Tractors with cab

LX,OMSCH 017455-19-01MAY98

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.

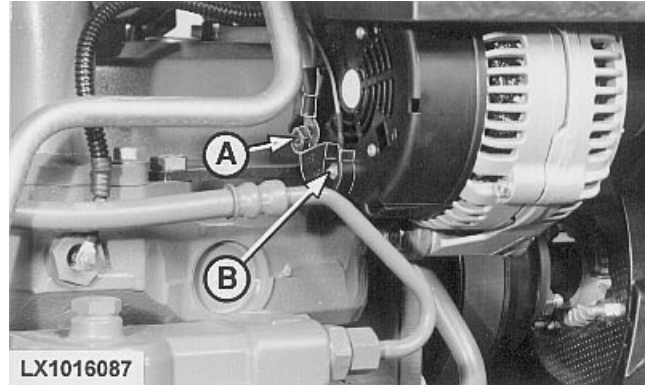
With the engine running, do not short-circuit or ground the alternator and regulator even momentarily.

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.

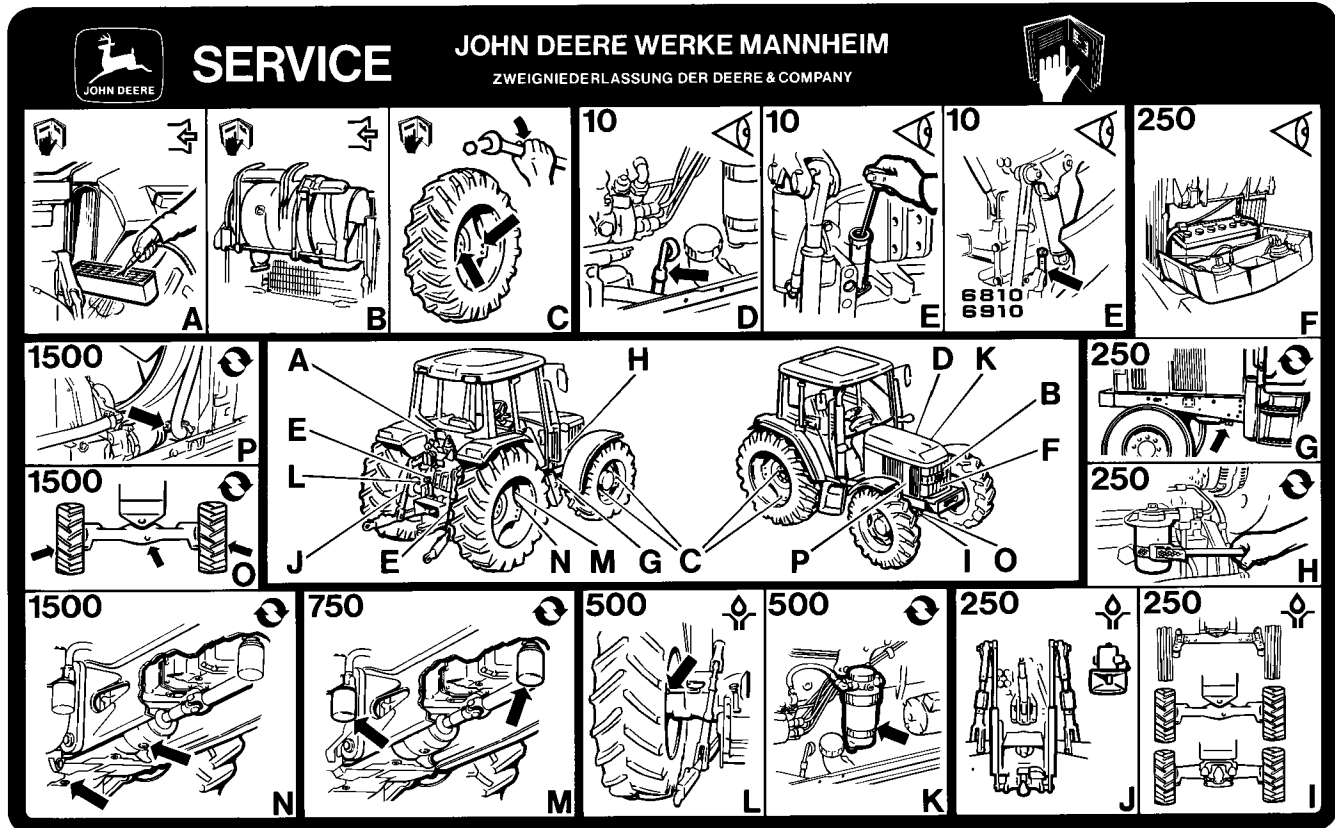
Before carrying out repairs on electrical system, disconnect battery ground strap. This will avoid the danger of a short circuit.



LX1016087 -UN-21JUL97

LX,OMSCH 013335-19-01SEP97

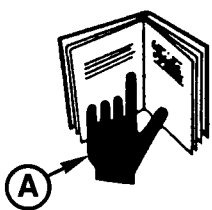
SERVICE CHART



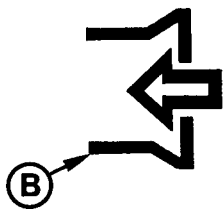
LX1017730

The chart in the right-hand service door provides a summary of the most important service jobs together with the relevant service intervals.

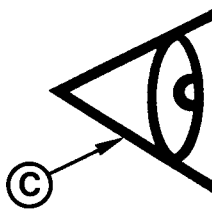
The figures in the spaces indicate the service intervals; the symbols represent the following service jobs:



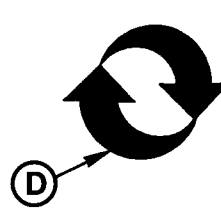
A—Read Operator's Manual for service



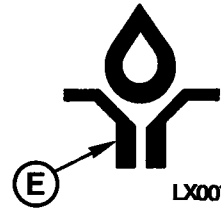
B—Clean/replace air cleaner



C—Check



D—Change



E—Lubricate

LX007928

LX,OMSCH 013336-19-01SEP97

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	

LX,OLUBRI004952-19-01OCT97

AFTER THE FIRST 100 HOURS

Component	Description	Lubricant
Engine crankcase	Drain and refill (see Service - Every 250 Hours)	Engine oil
Engine crankcase filter	Replace filter element. Replace with a John Deere element (see Service - Every 250 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)	John Deere HY-GARD

LX,OLUBRI004953-19-01OCT99

EVERY 250 HOURS

(In addition carry out 10 hour service)

Component	Description	Lubricant
Engine crankcase	Drain and refill	Engine oil
Engine crankcase filter	Replace filter element. Replace with a John Deere element	
Transmission and hydraulic system	Check oil level	
Battery	Check level of electrolyte	
Front axle and front wheels	Lubricate	Multipurpose grease
FWD axle	Lubricate front axle and drive shaft. Check oil level in axle housing and final drives.	Multipurpose grease
Three-point hitch	Lubricate	Multipurpose grease
Neutral start circuit	Check circuit functions correctly	
Wheel retaining bolts	Tighten to prescribed torque	

LX,OLUBRI003235-19-01OCT97

EVERY 500 HOURS

(In addition carry out 10 hour and 250 hour services)

Component	Description	Lubricant
Fuel filter	Replace filter element	Multipurpose grease
Fuel tank	Drain residue	
Rear axle bearings	Lubricate	
Air intake hoses	Check connections for leaks	

LX,OLUBRI007778-19-01FEB95

EVERY 750 HOURS

(In addition carry out 10 hour and 250 hour services)

Component	Description	Lubricant
Transmission/ hydraulic oil filter	Replace filter elements	
Front PTO filter	Replace filter element	
Engine speeds	Check engine speeds (have speeds adjusted by your John Deere dealer)	

LX,OMLUBR016074-19-01APR98

ONCE EVERY YEAR

Component	Description	Lubricant
Seat belt	Check seat belt and seat belt attachment for signs of wear.	

LX,OMSCH 020581-19-01SEP99

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	Clean air cleaner and cab filters (see section "As Required" for description)	
Transmission and hydraulic system	Drain and refill with fresh oil, and clean intake screen	John Deere HY-GARD
Front PTO	Drain and refill with fresh oil, and replace filter	John Deere HY-GARD
Air conditioning system	Have system serviced by your John Deere dealer; get him to check the system and clean the refrigerant	
Engine valves	Have valve tappet clearances checked by your John Deere dealer	

LX,OMLUB 017554-19-01OCT99

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 thermostats	
TLS MFWD axle	Have accumulators checked for loss of pressure by your John Deere dealer	

LX,OMLUB 017555-19-01OCT99

AS REQUIRED

Component	Description	Lubricant
Cab filter housing	Clean	Multipurpose grease
Air cleaner	Clean air cleaner and cab filters	
Radiator	Clean	
Air conditioning system	Check refrigerant level	
Fuel system	Check fuel filter; bleed system	
Brakes	Bleed footbrakes	
Tires	Check tire pressure	
Lubricating points	Lubricate, if tractor has been washed with high-pressure water	
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	

LX,OSCHNA000371-19-01OCT97

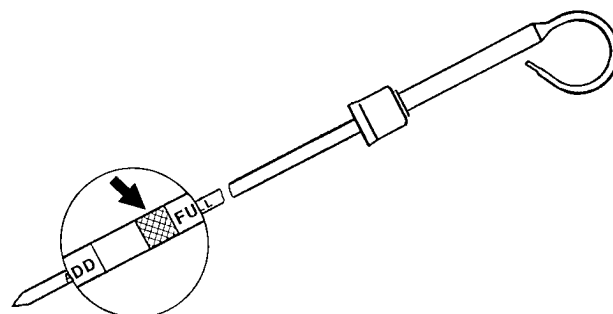
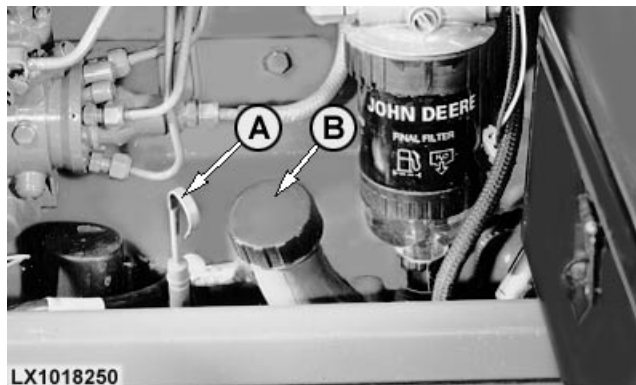
Service / Daily or Every 10 Hours

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



LX_OM0010014880-19-01APR98

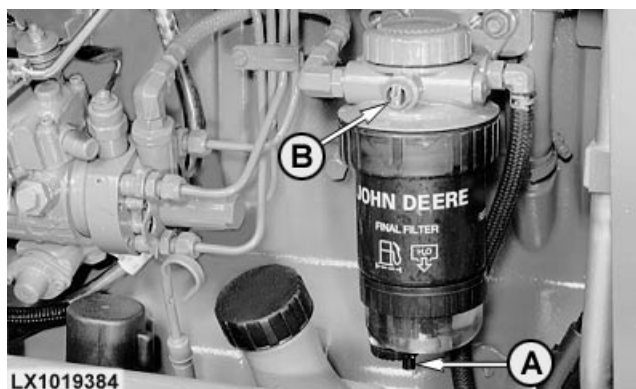
CHECKING THE FUEL FILTER

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

1. Loosen drain screw (A) and vent screw (B).
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 (C) under the fuel tank by one turn. After draining off any water deposits, retighten drain screws by hand.

A—Drain screw
B—Vent screw
C—Drain screw (fuel tank)



LX_OM0010014881-19-01APR98

CHECKING ON LIGHTS

Check that the lights are operating correctly, especially before driving on public roads.

Comply with all legal regulations.

LX,LIGHT 002082-19-01FEB92

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”.

LX,O 004954-19-01OCT99

Service / Every 250 Hours

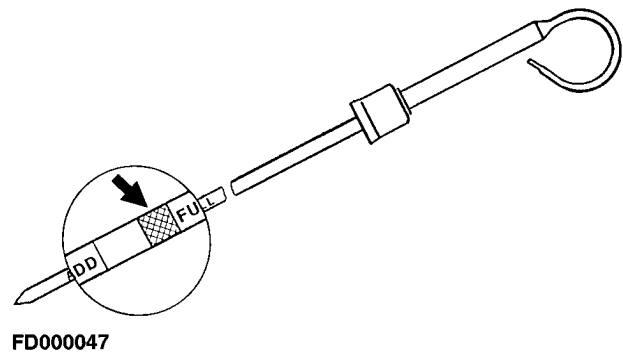
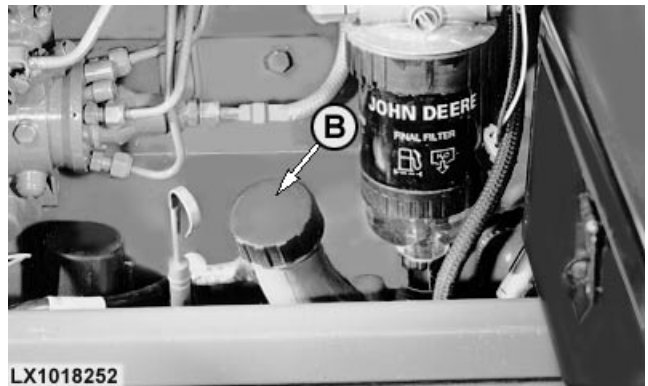
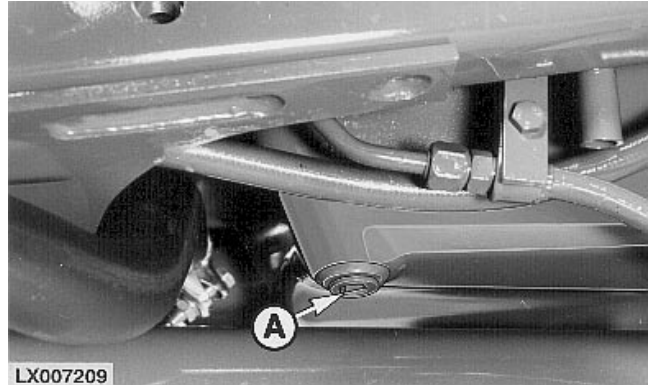
CHANGING ENGINE OIL

Drain oil with engine shut off, but with engine oil still warm.

1. Remove drain screw (A).
2. While crankcase is draining, replace filter element.
3. Install drain screw; tighten to 70 N·m (52 lb-ft) (use new seal ring).
4. Fill crankcase with fresh oil of proper viscosity (see section "Fuel, Lubricants, Hydraulic Oil and Coolant") at filler neck (B). With filter, capacity is approx. 12 liters (3.2 U.S. gal.).
5. Run engine for a short time and check for leaks at filter base and drain screw.
6. Shut off engine.
7. Wait 15 minutes then recheck oil level. Oil should be up to the "XXX"-mark on dipstick. If necessary, top up with oil.

IMPORTANT: Change oil whenever a seasonal change in temperature makes oil of a different viscosity necessary.

NOTE: Change oil after first 100 hours.



LX,OM0250014882-19-01OCT97

CHANGING ENGINE CRANKCASE FILTER ELEMENT

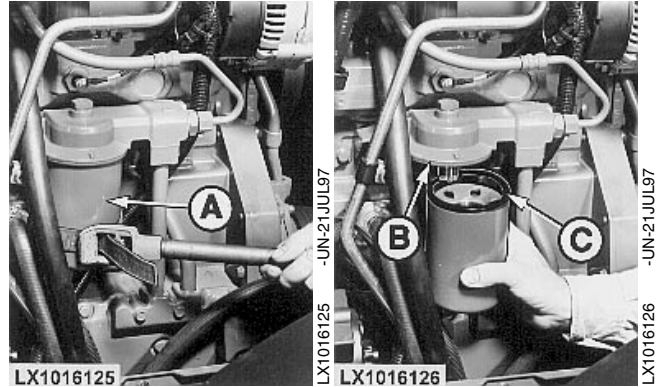
Remove filter element (A) and clean mounting surface (B).

Apply a thin film of oil to sealing ring (C) of new filter. Tighten new filter element until sealing ring touches mounting surface and then turn an additional $\frac{3}{4}$ to $1\frac{1}{4}$ turns. Do not overtighten!

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.



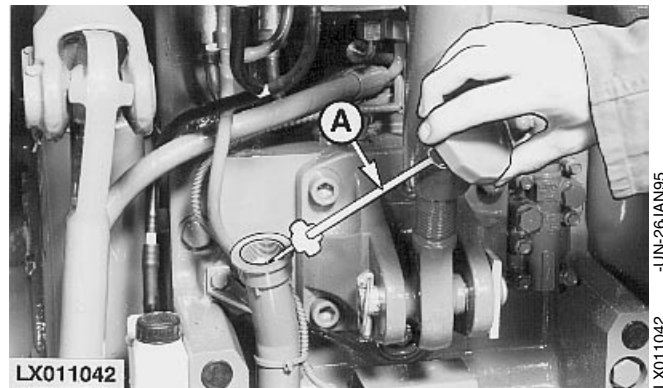
LX,OMWAR 013447-19-15SEP97

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.
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

PREVENT BATTERY EXPLOSIONS

Keep sparks, lighted matches, and open flame away from the top of battery. Battery gas can explode.

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

Do not charge a frozen battery; it may explode. Warm battery to 16°C (60°F).



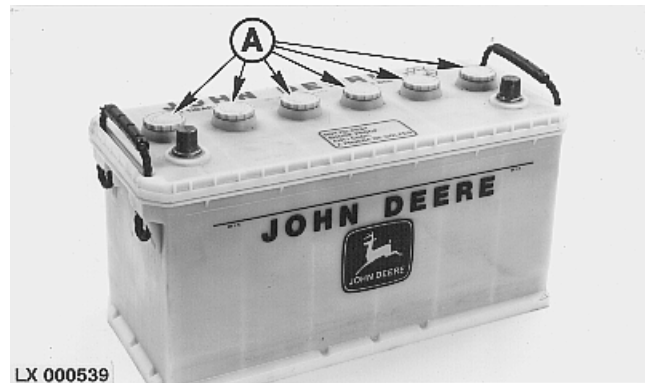
DX,SPARKS -19-03MAR93

TS204 -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 000539

LX,OELE 000432-19-01SEP93

LX000539 -UN-10AUG94

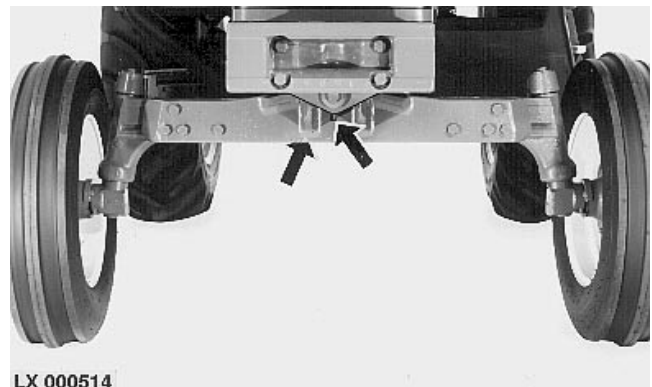
LUBRICATING FRONT AXLE AND FRONT WHEELS

Tractors without front-wheel drive

IMPORTANT: Carry out this service after every ten hours of operation when working under very wet and muddy conditions.

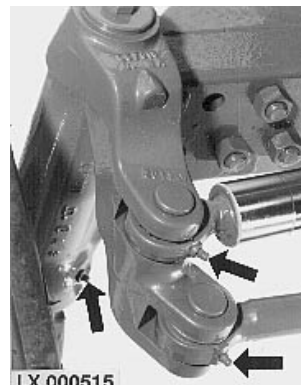
Lubricate front axle and front wheel grease fittings (these differ depending on tractor equipment) using John Deere multipurpose grease.

IMPORTANT: Thoroughly clean all grease fittings prior to greasing and replace damaged grease fittings immediately.

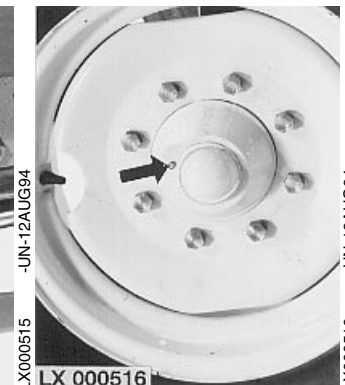


LX 000514

LX000514 -UN-10AUG94



LX 000515



LX 000516

LX000516 -UN-12AUG94

LX,OMWAR 013449-19-15SEP97

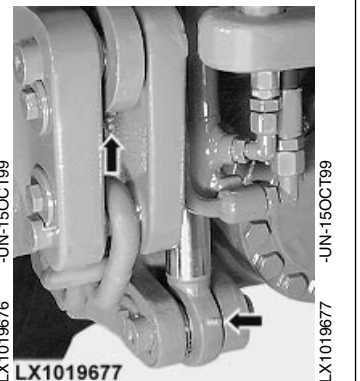
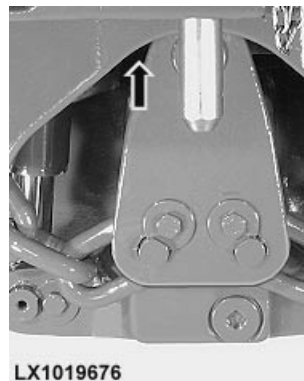
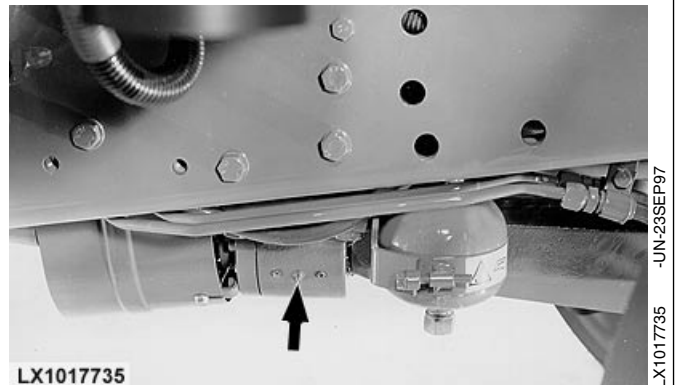
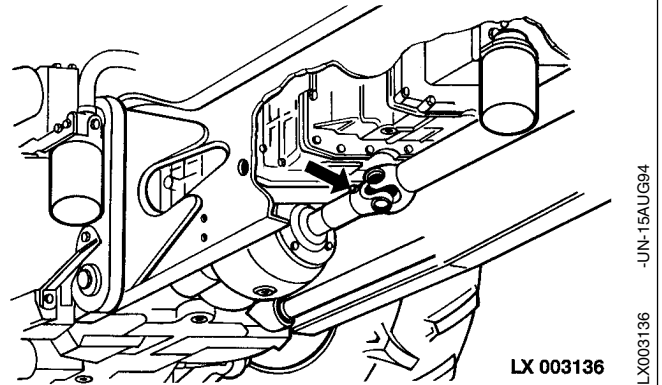
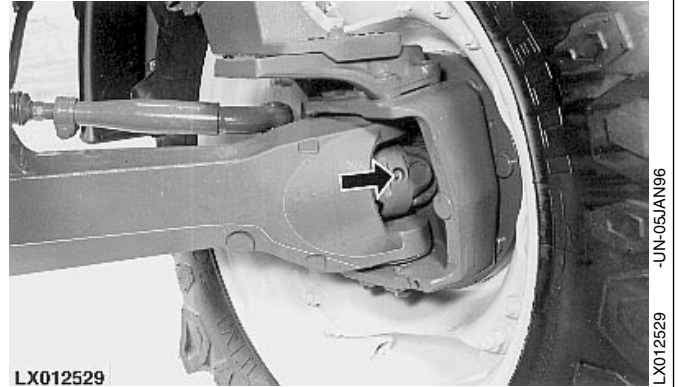
LUBRICATING FRONT AXLE AND FRONT WHEELS

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.

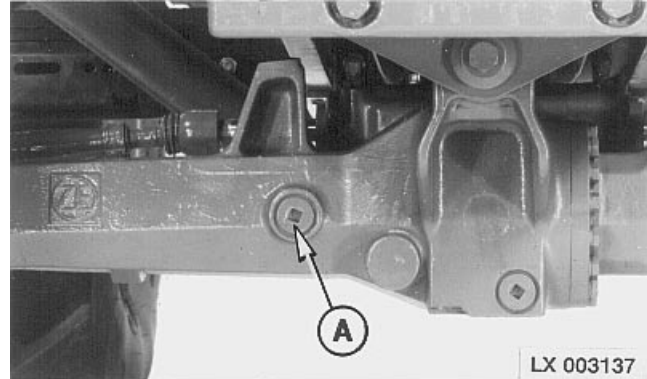
IMPORTANT: Thoroughly clean all grease fittings prior to greasing and replace damaged grease fittings immediately.



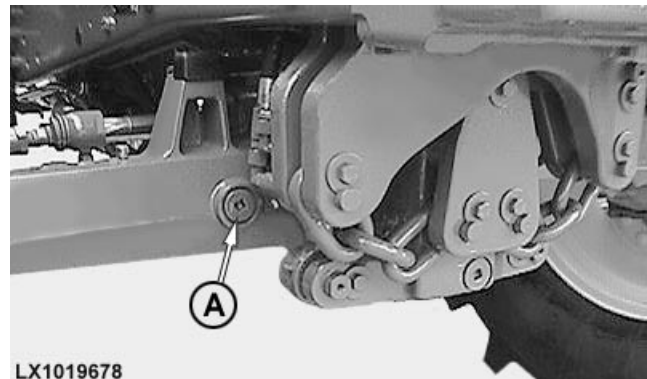
CHECKING OIL LEVEL IN MFWD AXLE HOUSING

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.

NOTE: The position of the level plugs varies depending on axle type.



LX 003137

-UN-03JAN95
LX003137

LX1019678

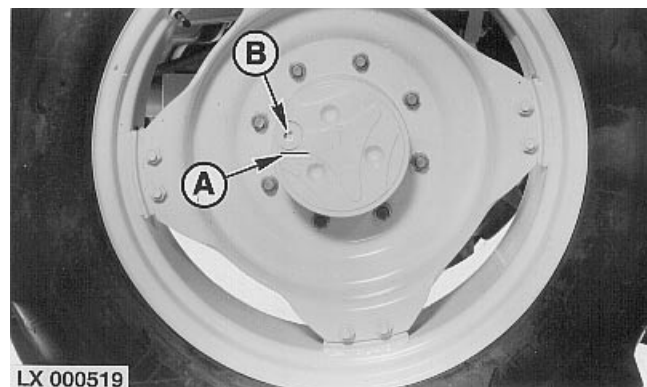
-UN-15OCT99
LX1019678

LX,OMWAR 013450-19-01SEP99

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.



LX 000519

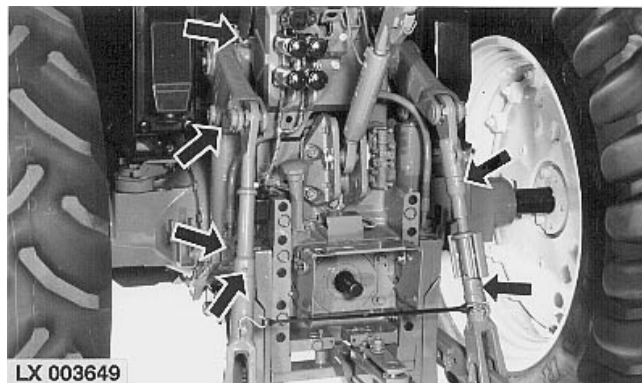
-UN-10AUG94
LX000519

LX,OACH 000412-19-01SEP92

LUBRICATING THREE-POINT HITCH

Lubricate grease fittings with several strokes of grease gun, using John Deere multipurpose grease.

NOTE: The grease fittings on the second lift cylinder and on the other side of the rockshaft are not visible on this illustration.



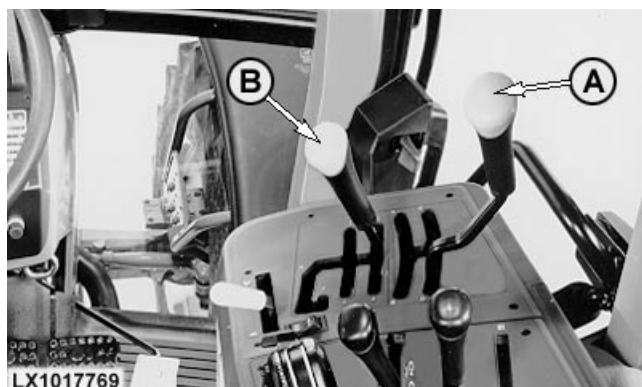
-UN-11AUG94
LX003649

LX,0250 003570-19-01JUL94

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.



-UN-09OCT97
LX1017769

Tractors with Power Reverser

1. Depress clutch pedal.
2. Move range shift lever (A) to neutral.
3. Move the reverser 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.

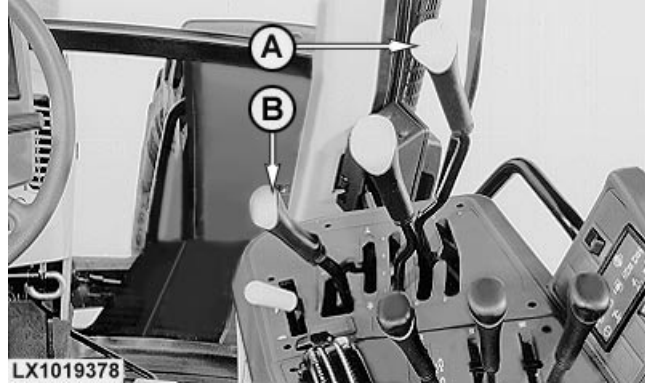


-UN-09OCT97
LX1018202

LX,OMSERV016065-19-01APR98

Tractors with PowrQuad transmission and mechanical reverser

1. Depress clutch pedal.
2. Move range shift lever (A) to neutral.
3. Move reverser 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.

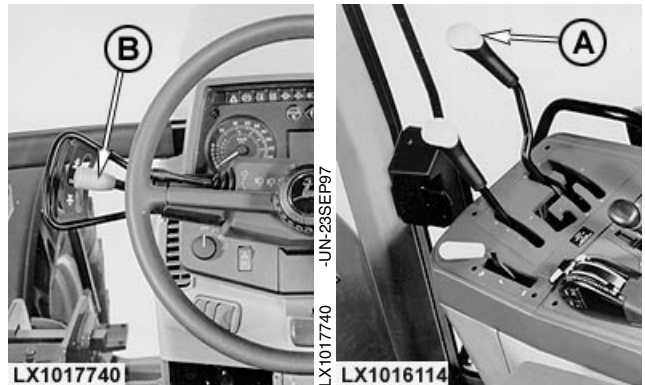


Tractors with PowrQuad transmission and electrical reverser

1. Move range shift lever (A) and reverser lever (B) to neutral.
2. Start the engine and wait 6—7 seconds.
3. Move the reverser lever to "forward" or "reverse", and release it there.

If the reverser lever remains in the selected position without being held there manually, the neutral start circuit is operating correctly.

If the reverser lever moves INSTANTLY by itself from "forward" or "reverse" to neutral without being moved by hand, then the neutral start circuit must be repaired by your John Deere dealer without delay.



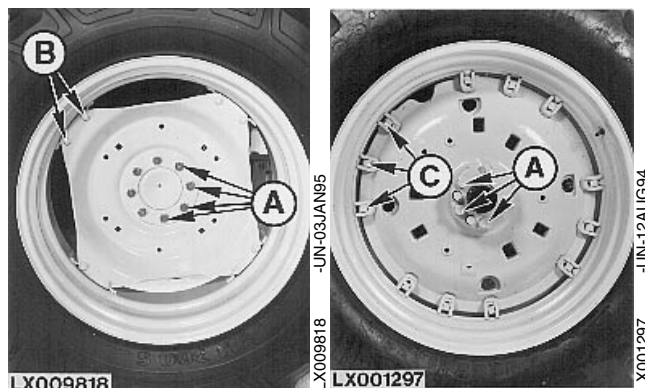
LX,OMSERV016066-19-01APR98

WHEEL RETAINING BOLTS

Tighten Rear Wheel Retaining Bolts

(Bolt torques vary depending on tractor equipment)

- A—500 N·m (370 lb-ft)
- B—310 N·m (230 lb-ft)
- C—230 N·m (170 lb-ft)



LX,OM0250014883-19-01OCT97

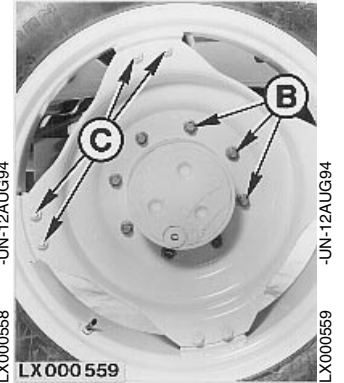
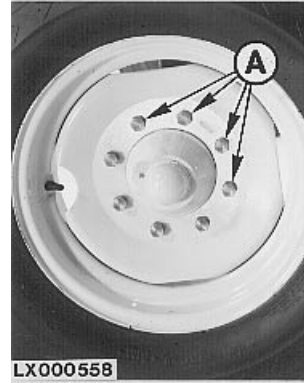
Tighten Front Wheel Retaining Bolts/Nuts

(Bolt torques vary depending on tractor equipment)

A—250 N·m (185 lb-ft) - (2WD)

B—300 N·m (220 lb-ft)

C—Screws of class 8.8: 250 N·m (185 lb-ft)
Screws of class 10.9: 310 N·m (230 lb-ft)

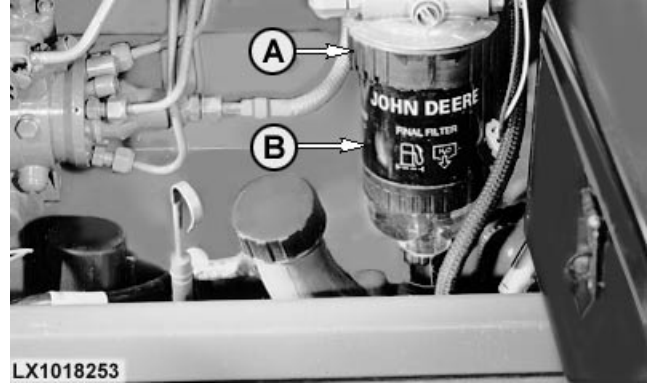


LX,OMBREA016079-19-01OCT99

Service / Every 500 Hours

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.



A—Filter retaining ring
B—Filter

LX,OM0500014884-19-01APR98

SERVICING FUEL TANK

Slacken off drain screw by one turn. Drain water and contaminants. Re-insert drain screw and tighten by hand.

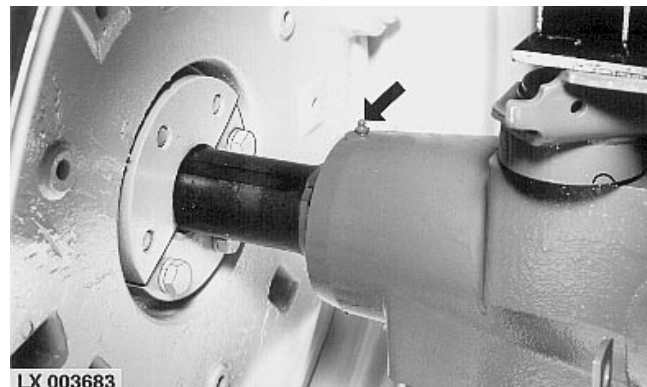


LX,OM0500010730-19-01DEC96

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'.



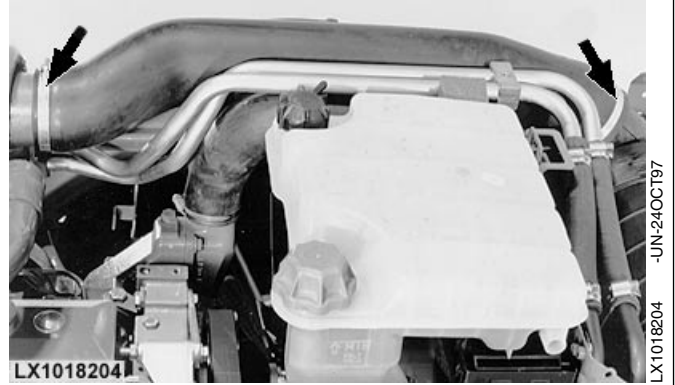
LX,0500 003572-19-01JUL95

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

Service / Every 750 Hours

CHECKING ENGINE SPEEDS

Warm up engine and use tachometer to check engine speeds. The following guidelines apply:

Slow idle: 850 to 950 rpm

Fast idle: 2460 to 2510 rpm

Have adjustments carried out by your John Deere dealer.



LX,OM0750014885-19-01OCT99

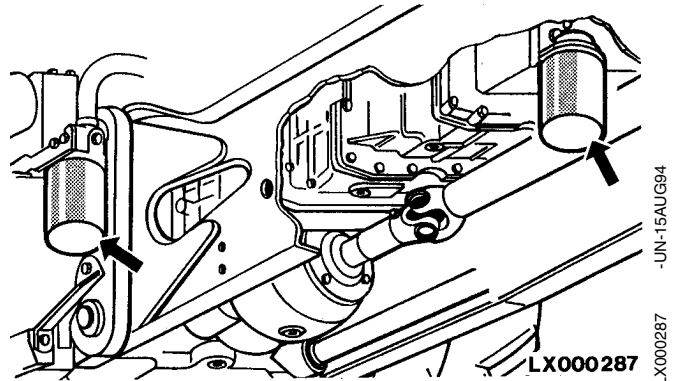
REPLACING TRANSMISSION/HYDRAULIC SYSTEM FILTER ELEMENTS

NOTE: Replace transmission/hydraulic system filter elements after the first 100 hours of operation. Then replace after the first 750 hours of operation and regularly every 750 hours thereafter.

1. Unscrew filter element.
2. Coat sealing rings of new filter element with grease and screw in filter element.

Use original John Deere filter elements only!

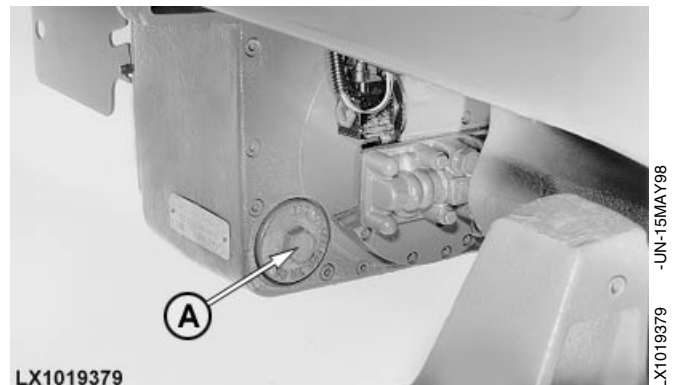
IMPORTANT: Always replace both filters at the same time. Never change one only.



LX,OGET 000422-19-01SEP92

REPLACE FRONT PTO FILTER (IF EQUIPPED)

Remove plug (A), replace filter with a new one. Reinstall plug.



LX,OMSERV016067-19-01APR98

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.

LX,OMWART020394-19-01JUL99

Service / Every 1500 Hours or 2 Years

CHANGING OIL IN FRONT-WHEEL DRIVE AXLE

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.

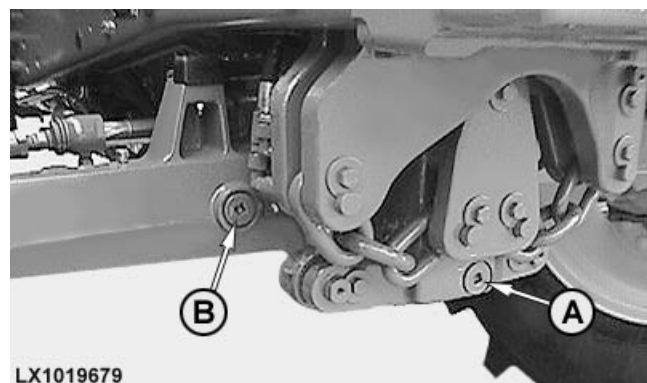
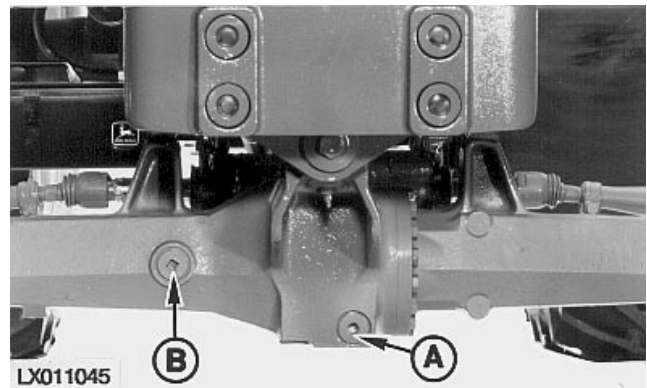
Always drain oil while it is still warm, i.e. immediately after a prolonged period of operation.

LX,OACH 000414-19-01MAR94

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).

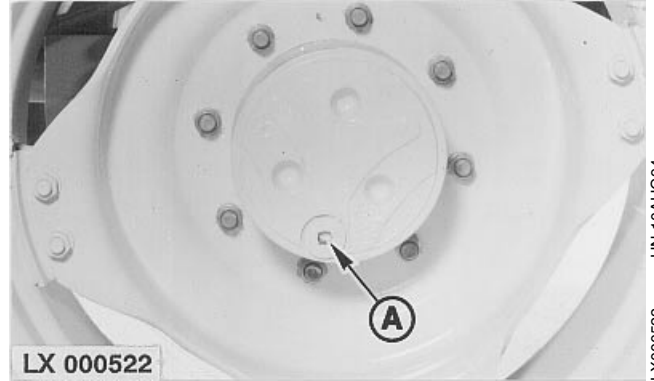
Capacities	Axle w/o TLS 5.0 liters (1.3 U.S.gal.)
	Axle with TLS 6.0 liters (1.6 U.S.gal.)



LX,OM1500014886-19-01OCT99

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 180° and fill with approx. 0.80 liters (0.21 U.S. gal) fresh oil through drain screw bore.
3. Check oil level, reinstall plug and tighten to 150 N·m (110 lb-ft.).

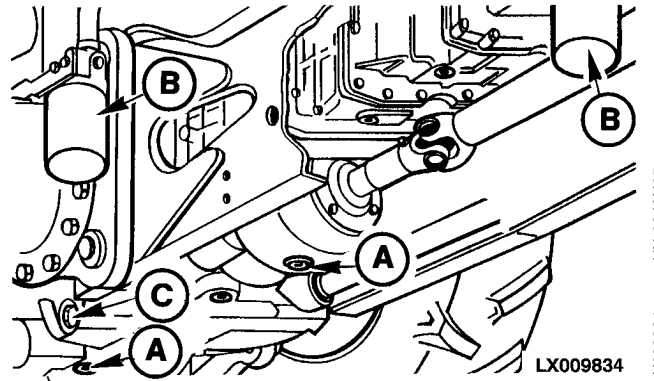


LX,1500 003573-19-01NOV93

LX000522 -UN-10AUG94

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

LX009834 -UN-03JAN95

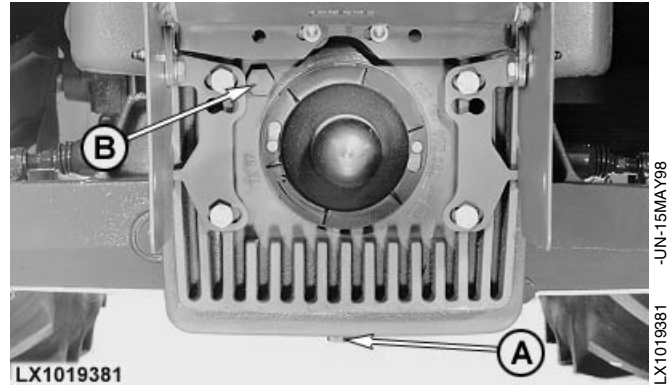
Capacities:

SyncroPlus transmission with 12/4 gears	52 liters (13.7 U.S.gal.)
Power Reverser with 16/16 gears	52 liters (13.7 U.S.gal.)
PowrQuad transmission with 16/16 gears	49 liters (12.9 U.S.gal.)
PowrQuad transmission with 24/24	50 liters (13.2 U.S.gal.)
Extra for creeper transmission	1 liter (0.3 US.gal.)
Extra for front-wheel drive	3 liters (0.8 US.gal.)
Extra for TLS-axle	3 liters (0.8 US.gal.)

LX,OM1500014887-19-01APR98

CHANGE FRONT PTO OIL (IF EQUIPPED)

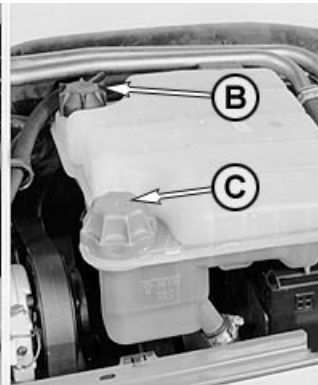
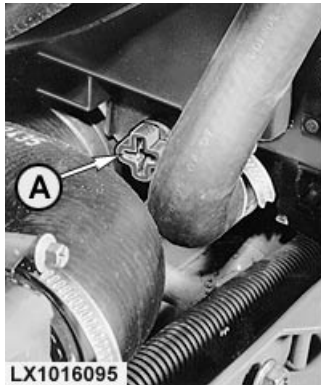
Remove plugs (A) and (B). Drain oil. Reinstall plug (A) and refill PTO housing with 3.5 liters (0.9 US.gal.) transmission/hydraulic oil. Reinstall plug (B).



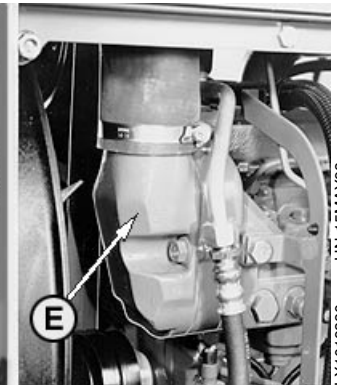
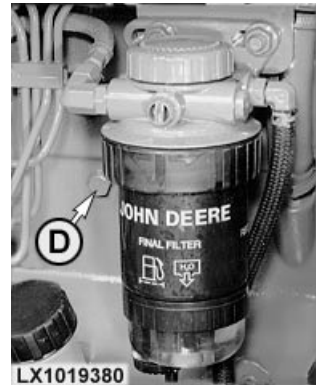
LX,OMSERV016069-19-01APR98

Service / Every 3000 Hours or 3 Years

CHANGING COOLANT



-UN-23SEP97
LX1016095



-UN-15MAY98
LX1019380

CAUTION: Remove caps only when coolant temperature is below boiling point. First loosen the black cap (B) to relieve pressure, then remove the green cap (C) completely.

1. Place a container under the drains to trap the coolant as it emerges.
2. Turn heater switch fully to the right.
3. Remove right fan guard and open radiator drain cock (A).
4. Remove expansion tank filler cap (C).
5. Remove drain plug (D) from engine block.
6. Remove thermostat housing (E) and take out thermostats. Re-install the housing without the thermostats, and tighten the screws again.

IMPORTANT: The thermostats must be removed to ensure that the system is fully drained.

As soon as system is empty, close radiator drain cock (A), screw in drain plug (D) and fill the system with clean water.

Run engine until it reaches operating temperature. Shut off engine and drain cooling system.

Close drain cock 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.

Check the thermostats as described on the next page.

Take off the thermostat housing and clean the sealing surface. Apply sealant to a new gasket. Install gasket and new (or checked) thermostats. Tighten the screws to 48 N·m (35 lb·ft).

Close drain cock again, and this time fill the system with the specified coolant (see section "Fuel, Lubricants, Hydraulic Oil and Coolant").

Tractor	Capacity
without cab	11.0 liters (2.9 U.S.gal.)
with cab	13.5 liters (3.6 U.S.gal.)

Run the engine until it reaches operating temperature. This will allow the thermostat to open, ensuring that coolant is circulated throughout the entire cooling system.

Recheck coolant level. It should be between the "min" and "max" marks on expansion tank.

For efficient cooling, the radiator screen must be kept clean. Remove any dust or oil and carefully straighten any bent fins.

TEST THERMOSTAT OPENING TEMPERATURE

1. Remove thermostats.
2. Visually inspect thermostats for corrosion or damage.
Replace thermostats as a matched set as necessary.

CAUTION: DO NOT allow thermostat or thermometer to rest against the side or bottom of container when heating water. Either may rupture if overheated.

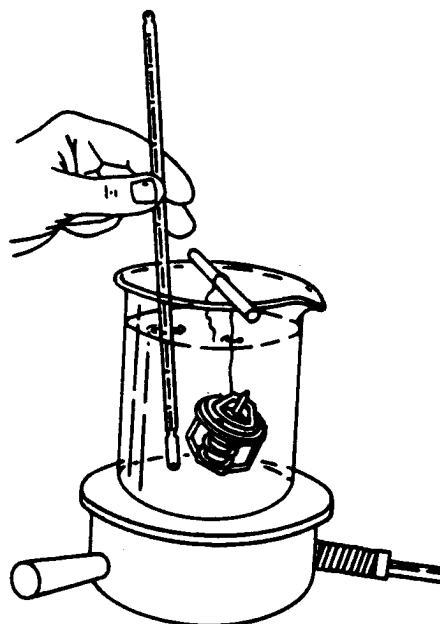
3. Suspend thermostats and thermometer in a container of water.
4. Stir the water as it heats. Observe opening action of thermostat and compare temperatures with specification given in chart below.

NOTE: Due to varying tolerances of different suppliers, initial opening and full open temperatures may vary slightly from specified temperatures.

THERMOSTAT TEST SPECIFICATION

Rating	Initial Opening (Range)	Full Open (Nominal)
82°C (180°F)	80-84°C (175-182°F)	94°C (202°F)

5. Remove thermostat from container and observe closing action as thermostat cools. Thermostat should close completely in ambient air. Closing action should be smooth and slow.
6. Replace both thermostats if any one thermostat is defective.

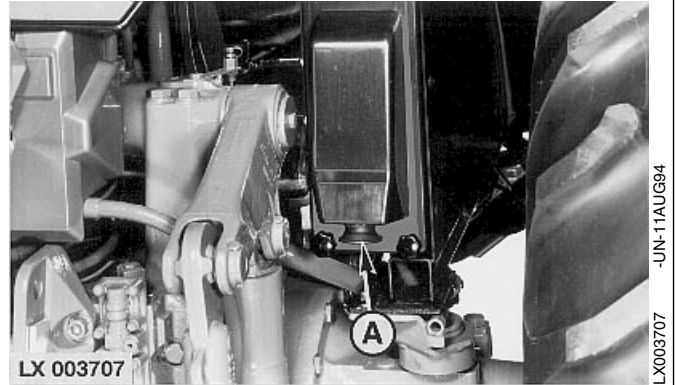


RG5971 -UN-17SEP91

Service / As Required

UNLOADING DUST FROM CAB AIR FILTERS

If the tractor is operated in very dusty conditions, pull down cover (A) from time to time to clean out the dust deposits.



LX,OMASRE014888-19-01OCT97

AIR CLEANER

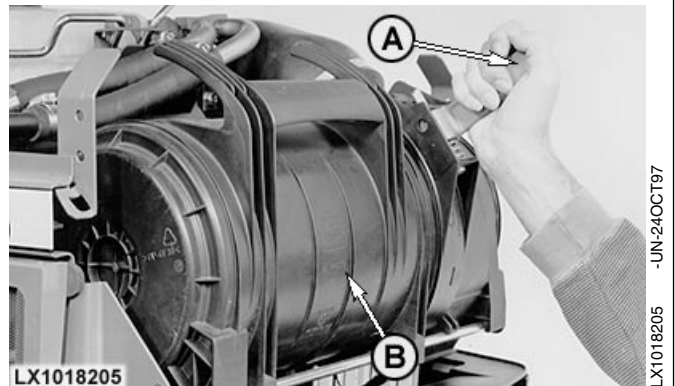
If the air cleaner indicator lamp glows during operation, remove and clean the primary filter element.

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, turn latch (A) upward. Push cleaner housing (B) to the left and remove from the front. Pull the primary filter element out of the cleaner housing.

IMPORTANT: Never run the engine without the primary filter element!



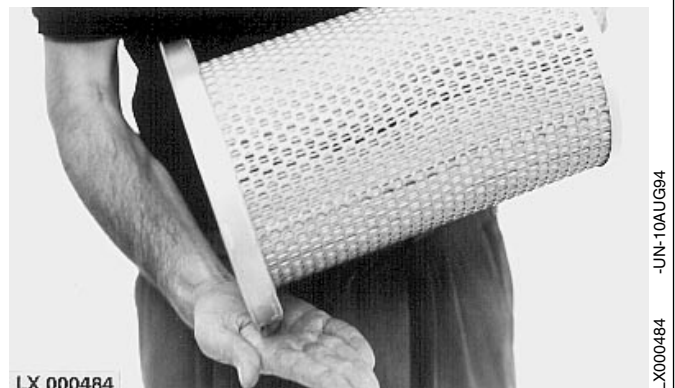
LX,OMWAR 013460-19-01MAR99

CLEANING 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.

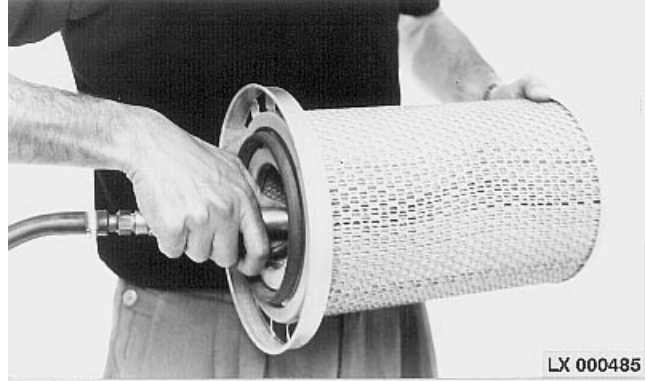


LX,OWART 004528-19-01AUG93

CLEANING DUSTY ELEMENT

If tapping element does not remove dust, blow out dust with compressed air (not exceeding 500 kPa; 5 bar; 75 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.



LX,OWART 004529-19-01MAY96

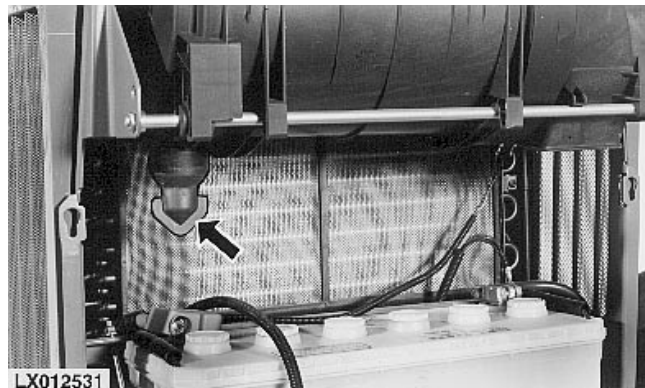
CLEANING THE DUST UNLOADING VALVE

IMPORTANT: Never run the engine while the dust unloading valve is removed!

Remove dust deposits by squeezing the valve.

During the harvest, grass and chaff may adversely affect the performance of the dust unloading valve. Remove and clean the dust unloading valve as necessary. Replace any damaged valve immediately.

NOTE: In dusty conditions, clean the dust unloading valve every day.

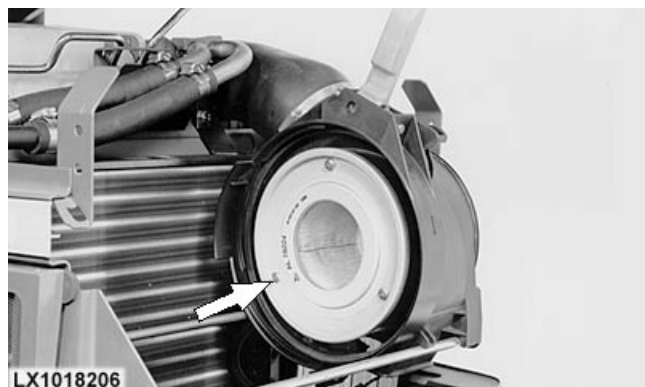


LX,OLUF 000382-19-01DEC96

SECONDARY (SAFETY) ELEMENT

This filter must be changed if it becomes damaged and at every third service of the air cleaner primary element. Change it at the latest after 1500 hours of operation.

IMPORTANT: Always replace secondary (safety) filter element, do not attempt to clean it.



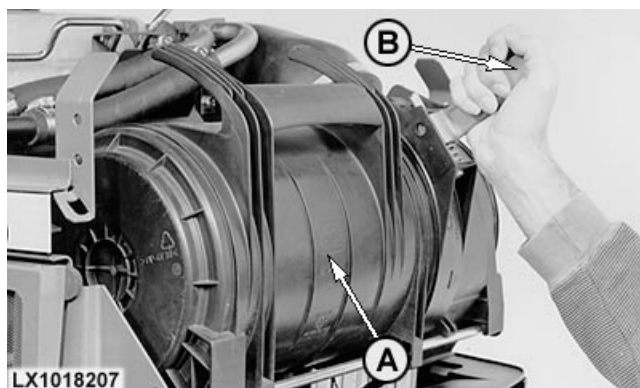
LX,OMWAR 013461-19-15SEP97

INSTALLATION

Slide a serviced or new primary filter element as far as it will go into the filter housing. Place housing (A) on the console guide rod and slide it to the right into the bayonet ring. Make sure that the marks are in alignment. Pull locking handle (B) down and swing it over to the right.

IMPORTANT: Never close the hood or start the engine unless the filter is locked securely.

If the air cleaner indicator light continues to glow when service work is completed, the primary and secondary (safety) elements must both be replaced.

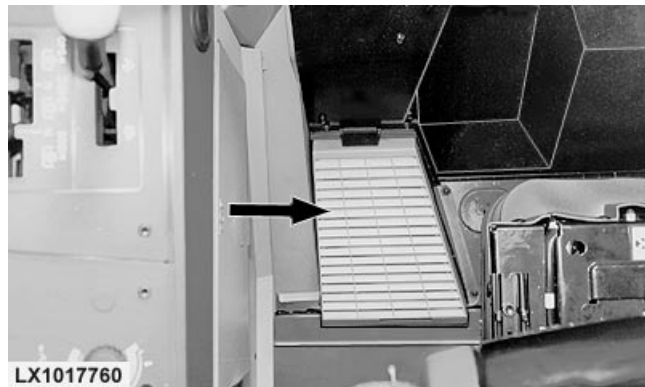
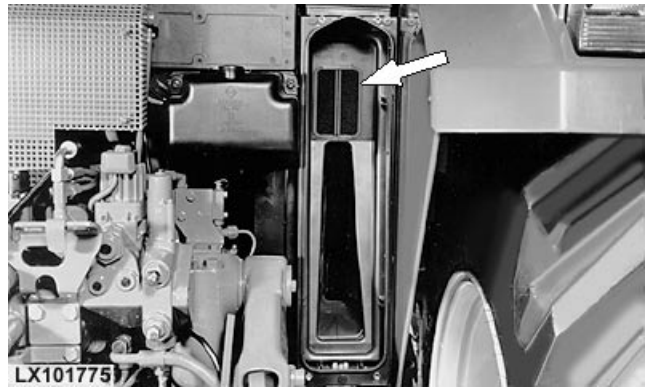
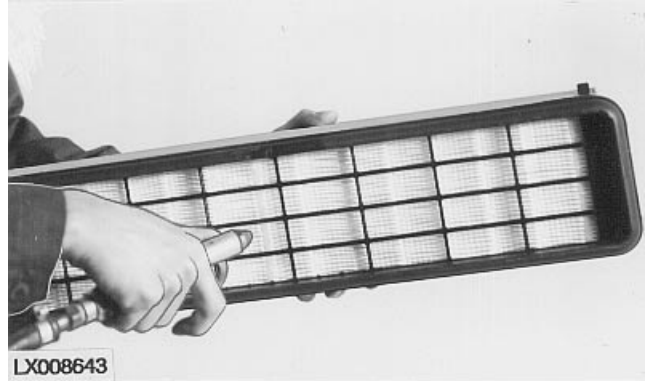


LX,OMWAR 013462-19-15SEP97

CLEANING CAB AIR FILTERS

Every time the primary filter is serviced, also remove the two cab air filters and the recirculating air filters, and clean them with compressed air (not exceeding 100 kPa; 1.0 bar; 15 psi) from the clean side.

Replace cab air filters together with engine primary air filter element.



LX,OMASRE017453-19-01APR98

CLEANING THE ULTRA-GARD™ XL CAB AIR FILTER

CAUTION: Use the relevant equipment to protect yourself as recommended on the pesticide label. This also applies when cleaning, checking or replacing the filter.

When servicing this air filter, it is essential to comply with the following instructions and the safety regulations. Clean the filter every time the primary filter is serviced, if not more often. Whichever occurs first, replace filters:

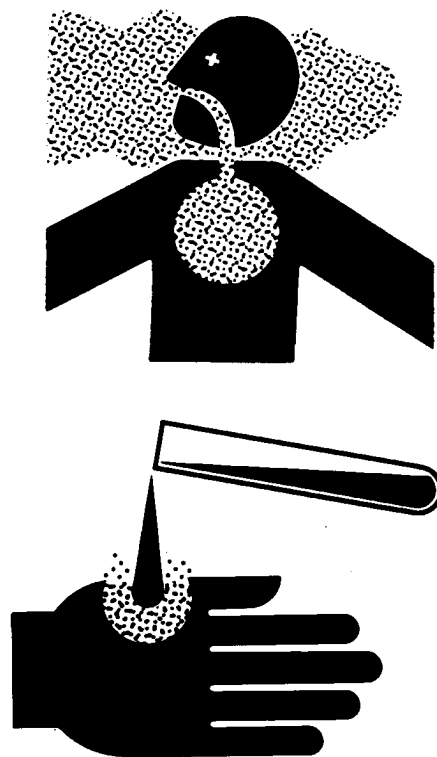
- after not more than 500 hours of operation, or
- within one year of installation, or
- every time they become clogged or can no longer be cleaned adequately.

Every time you change a filter, record the date and machine hours on the decal on the window, to show when the next service is due.

LX,OMWAR 017536-19-01OCT98

SAFETY REGULATIONS

- CAUTION:** Prolonged exposure to pesticides may cause serious injury or even death.
- CAUTION:** Do not apply pesticides if the cab pressure indicator is in the red zone.
- CAUTION:** Allow only trained, certified applicators to apply pesticides.
- CAUTION:** Replace filter at recommended intervals. Use only John Deere ULTRA-GARD™ XL Pesticide Cab Air Filters for both fresh air and recirculated air.
- CAUTION:** For proper disposal of used filters, follow local regulations for disposal of empty pesticide bags.



-UN-23AUG88

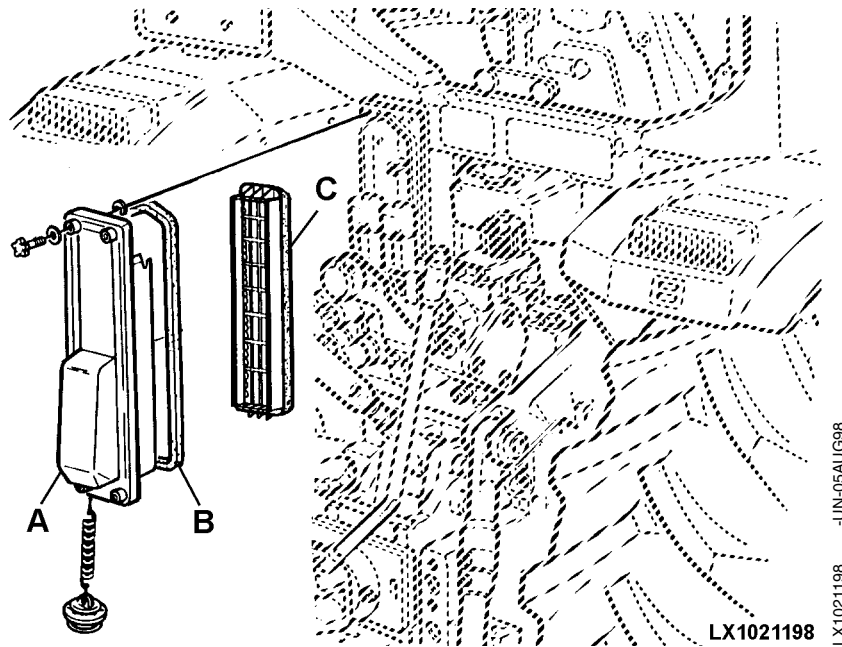
TS220

-UN-23AUG88

TS272

LX,OMWAR 017537-19-01OCT98

REPLACING THE FRESH AIR FILTERS



CAUTION: Prolonged exposure to pesticides may cause serious injury or even death, so use the recommended protective equipment.

CAUTION: Use the relevant equipment to protect yourself as recommended on the pesticide label. This also applies when cleaning, checking or replacing the filter.

CAUTION: Do not apply pesticides if the cab pressure indicator is in the red zone.

NOTE: In dusty conditions, this job should be done at more frequent intervals.

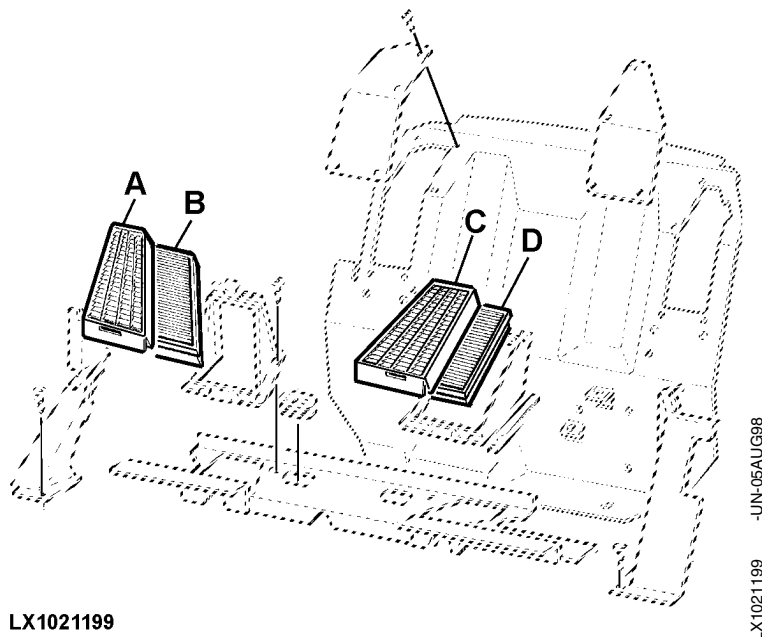
1. Remove cover (A). Check seal (B) for signs of damage, and replace if necessary. Take out the existing fresh air filter (C).
2. Carefully inspect the air ducts for any indication of fresh air leakage. Everything downstream from the

cab air filter should be reasonably clean. If you find any accumulation of dirt on the “clean air” side, identify and correct the cause of leakage. The evaporator housing is exposed to outside air. If dust has collected in the air ducts, remove the seat and evaporator housing cover. At the points where the heater and refrigerant lines enter the housing, check that the seals are in good condition. Also check for possible leaks in the air passages that lead from the evaporator housing to the cowl.

3. Check the condition of the seals at the windows and door. Also inspect the seals at the controls and the hydraulic and electric lines. Sealing is important to maintain adequate cab pressure, which is necessary to prevent pesticides from leaking into the cab.

4. Install the new fresh air filters AL117186.

REPLACING THE RECIRCULATED AIR FILTER



CAUTION: Prolonged exposure to pesticides may cause serious injury or even death, so use the recommended protective equipment.

CAUTION: Do not apply pesticides if the cab pressure indicator is in the red zone.

NOTE: In dusty conditions, this job should be done at more frequent intervals.

Remove covers (A) and (C). Take out the existing recirculated air filters (B) and (D).

Install the new recirculated air filters L115304 and L115305.

MHM709,4 -19-01AUG98

APPLY SERVICE DECAL

CAUTION: Prolonged exposure to pesticides may cause serious injury or even death, so use the recommended protective equipment.

Apply the service decal to one of the windows in the vicinity of the cab pressure indicator. The service decal must always be clearly visible.

Record the date and machine hours on the service decal when filters are replaced. Perform service work in accordance with the instructions on the service decal.

MHM709,5 -19-01AUG98

CLEANING AND CHECKING THE ULTRA-GARD™ XL FILTER

CAUTION: Prolonged exposure to pesticides may cause serious injury or even death, so use the recommended protective equipment.

CAUTION: Use the relevant equipment to protect yourself as recommended on the pesticide label. This also applies when cleaning, checking or replacing the filter.

CAUTION: Do not apply pesticides if the cab pressure indicator is in the red zone.

IMPORTANT: Avoid damage to filters. Do NOT clean the filters by using compressed air or hitting them against another object.

NOTE: Replace the filter only with a John Deere ULTRA-GARD™ XL Pesticide Cab Air Filter.

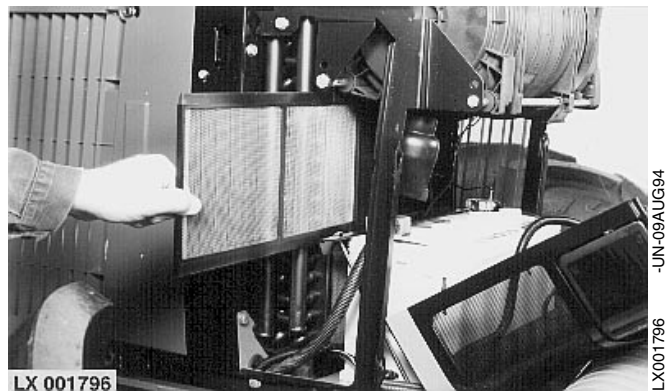
1. On **fresh and recirculated air filters**, shake the dust out of the filter pleats. If shaking does not clean the filters adequately, replace the filters.
2. After cleaning, inspect the filters for damage. Make sure that the filter seal is in good condition. Replace filters if any holes or damage are detected.

MHM709,6

-19-01AUG98

KEEP RADIATOR SCREEN CLEAN (IF EQUIPPED)

For efficient cooling, the radiator screens must be kept clean. Remove three screens. Remove any dust or oil and carefully straighten any bent fins. Reinstall screens.



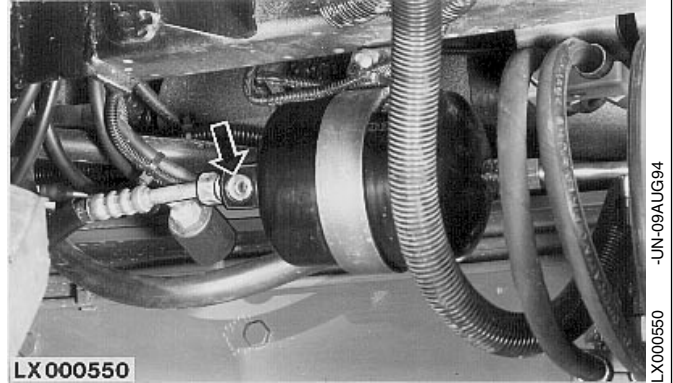
LX,OASREQ008198-19-01APR98

AIR CONDITIONING SYSTEM NOT COOLING CORRECTLY

If air conditioner is not cooling correctly, check refrigerant as follows:

- Run engine at approx. 2000 rpm. Switch blower and air conditioner to “maximum” operating position. Observe sight glass in drier (in front of right-hand rear wheel). If bubbles do not disappear within a few minutes of switching on the air conditioning system, the system may be low on refrigerant. See your John Deere dealer, who will fill up the system.
- The radiator screen must be kept clean. See “Keep Radiator Screen Clean”.

IMPORTANT: R134a refrigerant must not be allowed to escape into the atmosphere. Do not disconnect line connections and have service and repair work on the air conditioning system carried out by your John Deere dealer only. Your John Deere dealer has the special handling and recycling equipment required to do this.

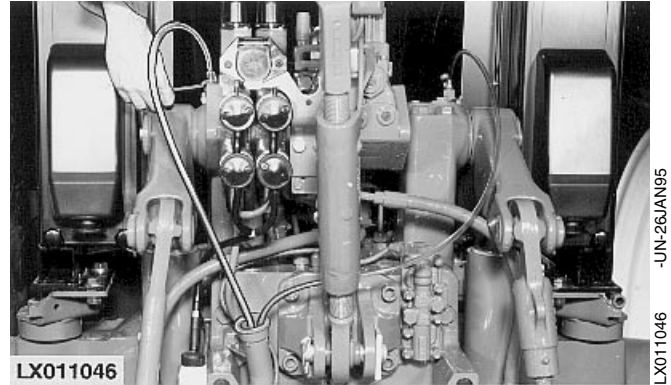


LX,OKLI 000443-19-01JAN95

BLEEDING THE BRAKES

CAUTION: Always follow precisely the steps described here. This is the only way to ensure that the tractor's brakes are bled properly.

NOTE: The oil must **NOT** be in a foamy condition when the brakes are bled. For this reason, do not bleed the brakes after driving at speed, performing work with the tractor's hydraulics or carrying out hydraulic tests. If necessary, park the tractor and wait one hour to allow the oil to settle.



1. With the engine running, turn the steering wheel slowly and evenly two or three times from left full lock to right full lock and back again. This fills the brake valve housing via the steering valve return line. Shut off the engine.
2. As shown in the illustration, slide two transparent bleed tubes over the appropriate bleed screws. Place the other ends of the two bleed tubes in the oil filler neck.
3. Open the bleed screws by half a turn.
4. Start the engine.
5. Brake pedals must be coupled together. Apply gentle pressure to the brake pedals and hold them in this position until the fluid escaping from the bleed screws is free of air bubbles.
6. Then depress the pedals briefly and release. Repeat this a few times. This should flush out any air bubbles left in the fluid.
7. If necessary, repeat point 5.
8. Hold the pedals in the depressed position and close the bleed screws.
9. Shut off the engine and actuate the brake pedals several times each (separately!) with the engine shut off. This bleeds the last of the air out of the brake valve. There must be perceptible resistance before each pedal reaches its limit of travel.

IMPORTANT: If pedal does sink noticeably after resistance has been reached, leaks in the brake system may be the cause.

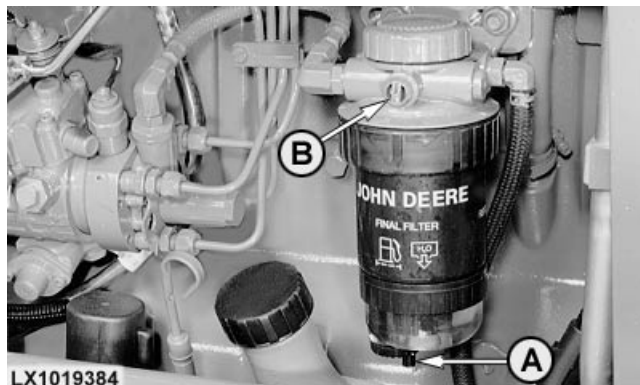
CHECKING THE FUEL FILTER

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

1. Loosen drain screw (A) and vent screw (B).
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 (C) under the fuel tank by one turn. After draining off any water deposits, retighten drain screws by hand.

- A—Drain screw
B—Vent screw
C—Drain screw (fuel tank)



LX,OM0010014881-19-01APR98

LX1019384 -UN-15MAY98

LX1015632 -UN-11DEC96

BLEEDING THE FUEL SYSTEM

The fuel system must be bled whenever the fuel system is run dry.

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.

LX,OMWAR 013385-19-01SEP97

LUBRICATE ALL LUBRICATING POINTS

If the tractor has been washed with high-pressure water, lubricate all lubricating points.

LX,OWART 002327-19-01APR92

OPERATOR'S SEAT

Lubricate slide rails (A) with John Deere multipurpose grease.



LX009843
-UN-02JAN95

LX,OVER 000424-19-01JAN95

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.



LX000538
-UN-10AUG94

LX,OELE 000431-19-01OCT90

STARTING 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.



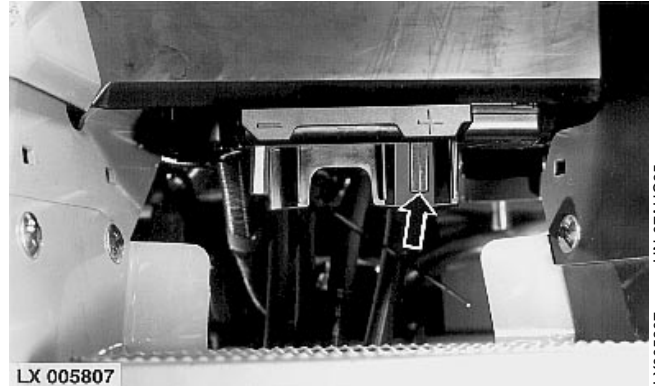
LX1018254
-UN-15DEC97

LX,OMASRE014890-19-01OCT97

FUSES (TRACTORS WITH CAB)

The main fuse is located inside the power distributor. It protects the entire battery circuit (160 A).

Disconnect the battery, unscrew the r.h. pin and remove the retaining screw. Lift out the power distributor from below.



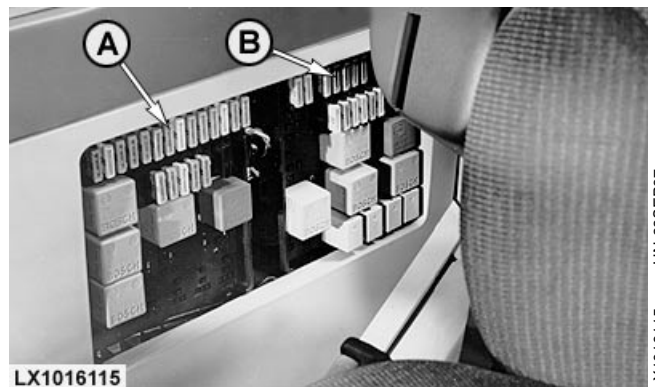
Fuse (A) is for the electrical starting aid. It is a 70 A fuse.



LX,OMWAR 013372-19-01SEP99

The other fuses are located in two load centers (fuse boxes).

- A—Load center 1
- B—Load center 2



LX,OMWAR 013486-19-22SEP97

FUSES (LOAD CENTER 1, TRACTORS WITH CAB)

30A	20A	30A	30A	30A	10A	10A	20A	10A	10A	10A	10A	20A	30A
F101	F102	F103	F104	F105	F106	F107	F108	F109	F110	F111	F112	F113	F114
ELX RELAY			CAL.	10A	10A	20A	30A	30A	POWER OUTLET	POWER OUTLET	1A		ELX
K101													
			CAB								POWER OUTLET SOCKET		
K102					SAE K103						K104		
			ECE / SAE		BUZZER			LC1					
K105			L113417		K106						ECE K107		
K108		K109		K110		K111		K112		K113			

LX1017749

LX1017749 -JN-15DEC97

LX,OMWAR 013373-19-01MAY98

Fuses

IMPORTANT: To prevent unnecessary damage to the electrical system, never use a fuse with a rating higher than the one already installed.

F101—30A Main switch (terminal BAT)
 F102—20A Hazard warning lights
 F103—30A Accessories (horn, 3-terminal socket and 2-pin plug for front loader)
 F104—30A Light switch (terminal B)
 F105—30A Low/full beam
 F106—10A Low beam headlight, left
 F107—10A Low beam headlight, right
 F108—20A Full beam and headlight flasher
 F109—10A Left tail light and right clearance light
 F110—10A Right tail light and left clearance light, license plate light
 F111—10A Basic Control Module
 F112—20A Stop light
 F113—10A Differential lock, FWD, turn signals, radar, Hall sending unit for speedometer, and rear PTO
 F114—30A Relay for power supply to electronics
 F115— Electronic control box (fuse for calibration)
 F116—10A Hitch control unit (HCU)
 F117—10A Instruments, alternator indicator light
 F118—20A Dome light, clock, cigarette lighter and instrument unit
 F119—30A Fuel preheater, 3-terminal power outlet
 F120—30A 3-terminal power outlet and signal socket

Diodes




























V102— 1A Low beam and full beam
 V105— 1A Power supply to the electronics

Relays

K101— Power supply to the electronics
 K102— Accessories
 K103— Full beam (SAE)
 K104— 3-terminal power outlet and signal socket
 K105— Fuel preheater
 K106— Buzzer

LX,OMASRE017454-19-01APR98

FUSES (LOAD CENTER 2, TRACTORS WITH CAB)

10A  ECU F201	15A  PST F202	30A SMD EICV F203	10A SMD PPST F204	10A ELX PEC CAN F205	30A  FRONT CORNER FENDER REAR F206	10A  BELT LINE F207	30A  ROOF FRONT REAR ROOF F208	10A  LB F209	10A  LB F210	10A E-ICV SWITCH JOYSTICK PEC F211	20A  SAE F212	20A  F213	20A  F214
K201			20A  F215	15A  F216	20A  F217	20A  F218	10A  F219	20A LOWER CON- NECTOR F220	V201	1A  PST V202	1A ECU V203	V204	V205
K202			CAB 			SMD K203			K204 				
K205 			ECE / SAE L150660 			ROOF  K206			LC2 			K207 	
K208		K209			 K210		 K211		 K212		 K213		

LX1019675

LX1019675 -UN-05OCT99

LX,OMWAR 013375-19-01SEP99

Fuses

IMPORTANT: To prevent unnecessary damage to the electrical system, never use a fuse with a rating higher than the one already installed.

F201—10A Electrical reverser control and engine control unit (ECU)
F202—10A Electrical reverser control and engine control unit (SFA)
F203—30A Stepper motor driver (multi-function lever)
F204—10A Stepper motor driver (AutoQuad transmission)
F205—10A Data bus/transm. and electronic control unit (PEC)
F206—30A Front grille and rear fender work lights
F207—10A Cab frame work light
F208—30A Front and rear cab roof work lights
F211—10A Multi-function lever
F212—20A Flasher (from serial number 256587)
F213—20A Windshield wiper and washer
F214—20A Rear window wiper/washer and air compressor (operator seat)

F215—20A Front PTO, radio and back-up alarm
F216—15A Shift console light
F217—20A Cab ventilation and heater fan
F218—20A Cab ventilation and heater fan
F219—10A Air conditioner
F220—20A Front loader, beacon

Diodes

V202—1A Electrical reverser control
V203—1A Engine control unit (ECU)

Circuit Relays

K204— Fan
K205— Work light
K206— Work light
K207— Air conditioner
K210— Reverse relay
K211— Forward relay
K212— Not-neutral relay
K213— Latch relay

LX,OMSERV020930-19-01OCT99

FUSES (TRACTORS WITHOUT CAB)

The main fuse is located underneath the dashboard.

The fuse for the electrical starting aid heating element is on the right side of the engine block.

F01—150A Battery circuit (main power supply)

F02—70A Electrical starting aid

LX,OMSERV016071-19-01SEP99

Replacing the Main Fuse

IMPORTANT: To prevent unnecessary damage to the electrical system, never use a fuse with a rating higher than the one already installed.

CAUTION: Disconnect the battery ground cable (-).

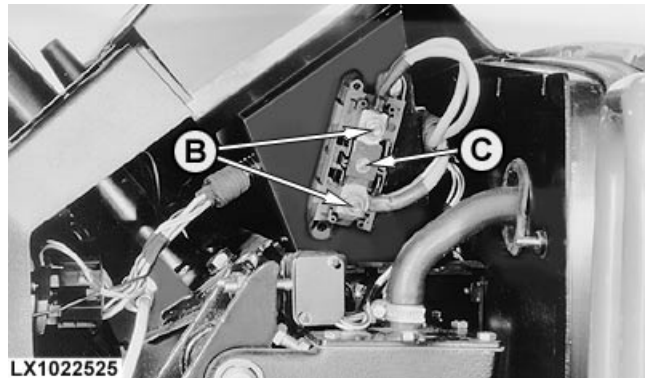
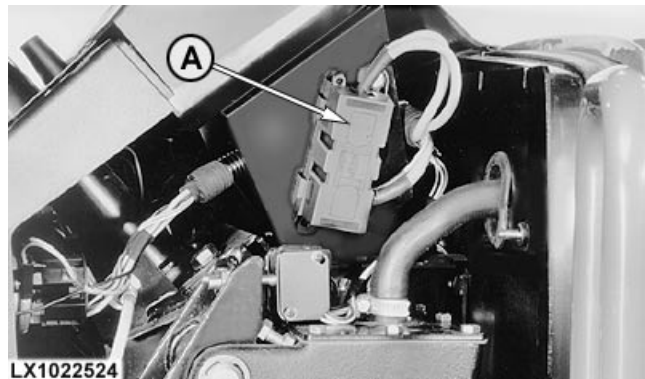
Remove dashboard trim and open the cover at the side.

Remove cover (A) from the load center.

Remove the two hex nuts (B). Replace fuse (C).

Tighten the hex. nuts on the fuse to 15 N·m (11 lb-ft).

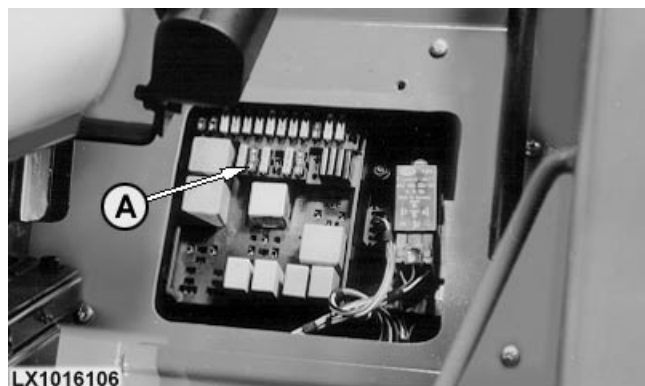
A—Cover
B—Hex nut
C—Fuse



LX24010019936 -19-01FEB99

The other fuses are located in a load center (fuse box).

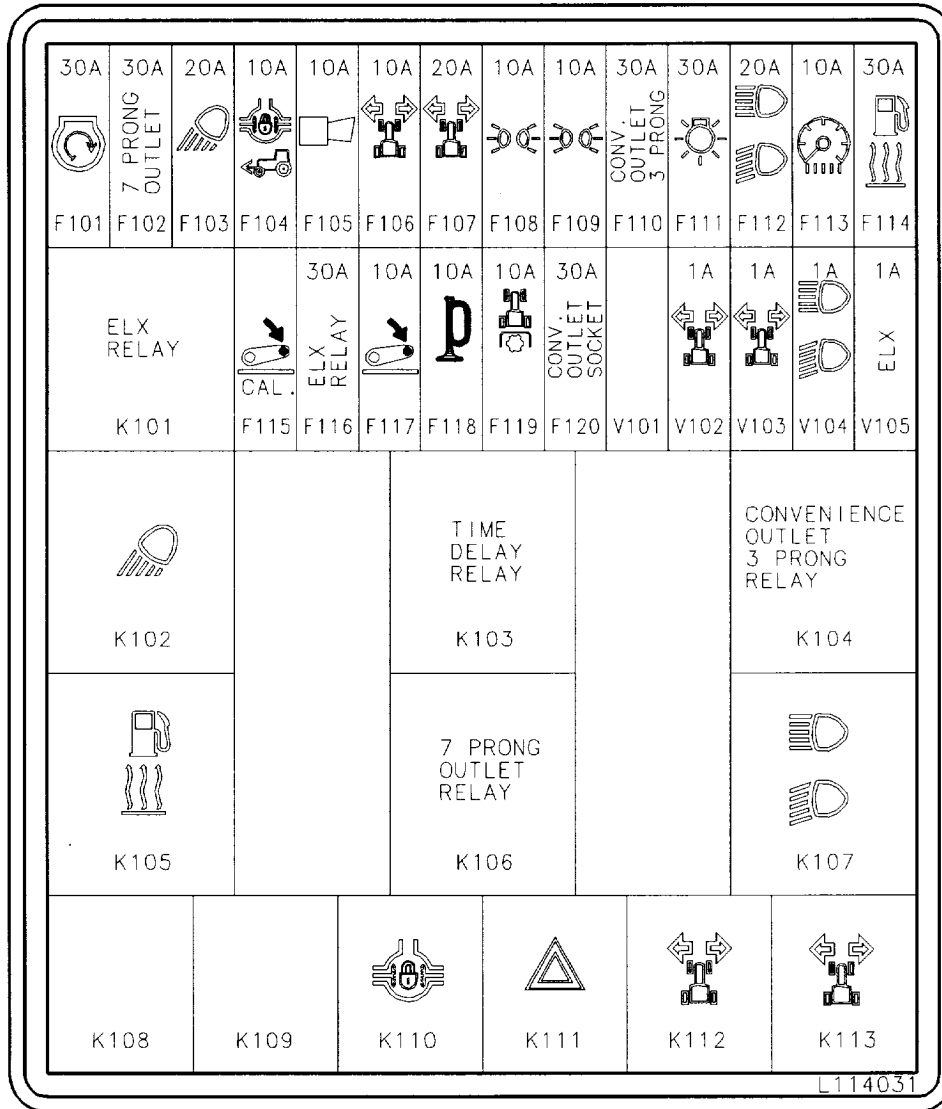
A—Load center



LX,OMASRE015920-19-01DEC97

Service / As Required

LOAD CENTER (TRACTORS WITHOUT CAB)



LX1017581

LX1017581 -UN-25NOV97

LX,OMSERV016072-19-01APR98

Fuses

IMPORTANT: To prevent unnecessary damage to the electrical system, never use a fuse with a higher rating than the one already installed.

F101—30A Main switch (terminal BAT)
 F102—30A 7-terminal power outlet
 F103—20A Work lights
 F104—10A Differential lock, FWD
 F105—10A Acoustic alarm
 F106—10A Hazard warning lights
 F107—20A Turn signal lights
 F108—10A L.h. tail light
 F109—10A R.h. tail light
 F110—30A 3-terminal power outlet (terminal 2)
 F111—30A Light switch (terminal B)
 F112—20A Low/high beam headlights
 F113—10A Instruments
 F114—30A Fuel preheater
 F115— Fuse for calibrating electronic control units
 F116—30A Relay for power supply to electronics
 F117—10A Hitch control unit (HCU)
 F118—10A Horn
 F119—10A Rear PTO
 F120—30A 3-terminal power outlet (terminal 1)

Diodes

V101— Vacant
 V102— Turn signal light
 V103— Turn signal light
 V104— Lights
 V105— Relay for power supply to electronics

Relays

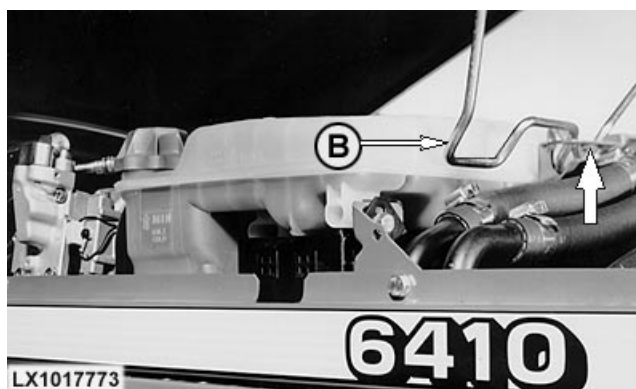
K101— Power supply to electronics
 K102— Work lights
 K103— Time delay - transmission oil pressure
 K104— 3-terminal power outlet
 K105— Fuel preheater
 K106— 7-terminal power outlet
 K107— Headlights
 K108— Vacant
 K109— Vacant
 K110— Differential lock
 K111— Hazard warning lights
 K112— L.h. turn signal
 K113— R.h. turn signal

LX,24010 013154-19-01NOV97

REPLACING THE DRIVE BELT

Press catch (A) and pull the hood forward.

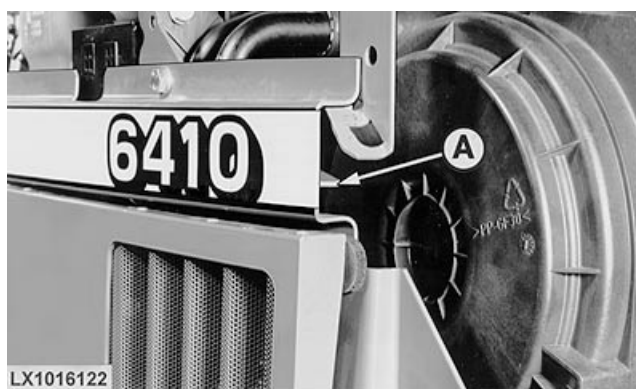
Open the hood and let retainer (B) click into place (see arrow).



LX,OMWAR 013467-19-15SEP97

Removing Grille Screens

Open the hood, press down on locking bolt (A) and remove grille screens from the side.

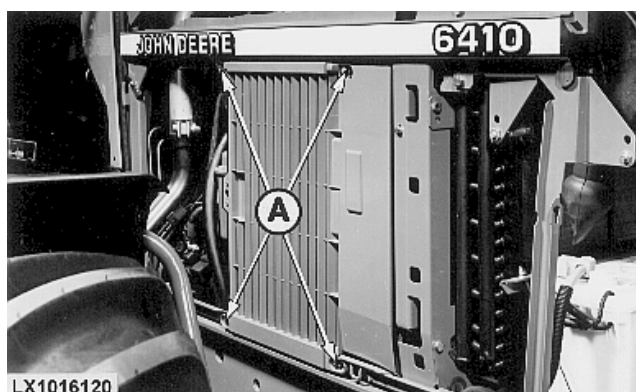


LX,OMWAR 013468-19-15SEP97

Removing Fan Guard

Unscrew nuts (A) and remove fan guard from the side.

CAUTION: Remember to re-install the fan guard as soon as the job is completed.



LX,OMWAR 013469-19-15SEP97

Relieving Drive Belt

CAUTION: Disconnect the battery ground cable (-).

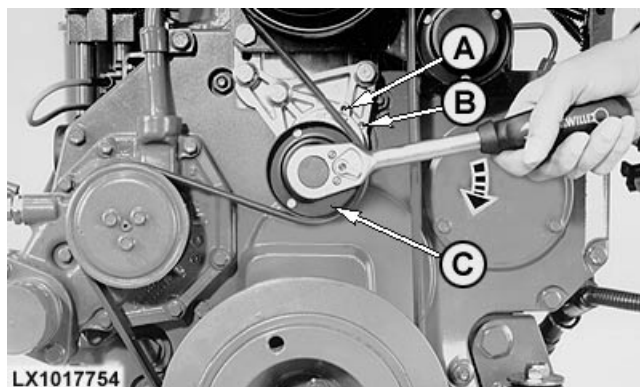
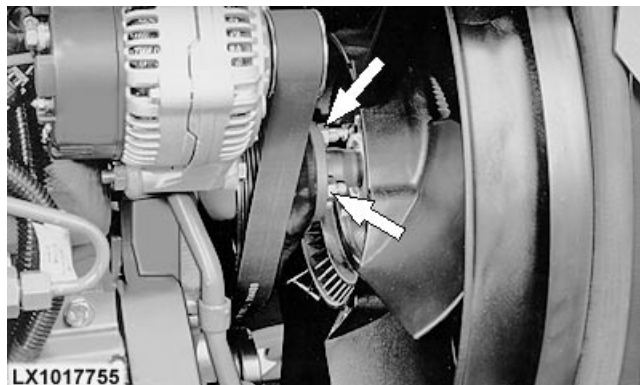
Slacken off the four hex. nuts and push the fan forward.

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.

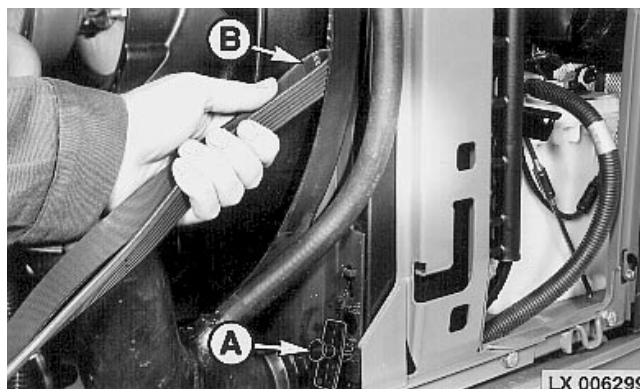
A—Hole (cam)
B—Hole (base plate)
C—Idler roll



LX,OMWAR 013380-19-01SEP99

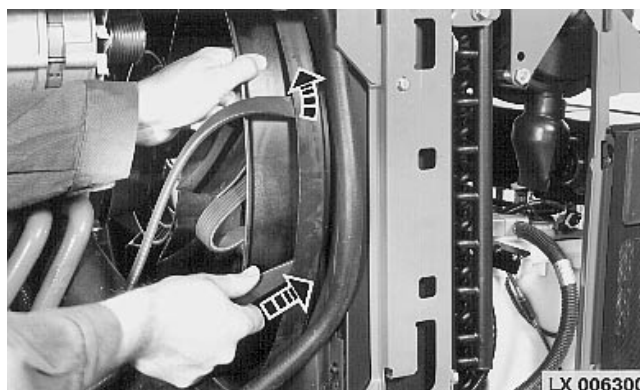
Remove old drive belt from pulleys, and cut.

Remove the three expanding plugs (A) of the shroud. Place a loop of the new drive belt (B) between fan and shroud.



LX,OWART 007267-19-01OCT94

Turn fan while at the same time placing the drive belt around the fan.



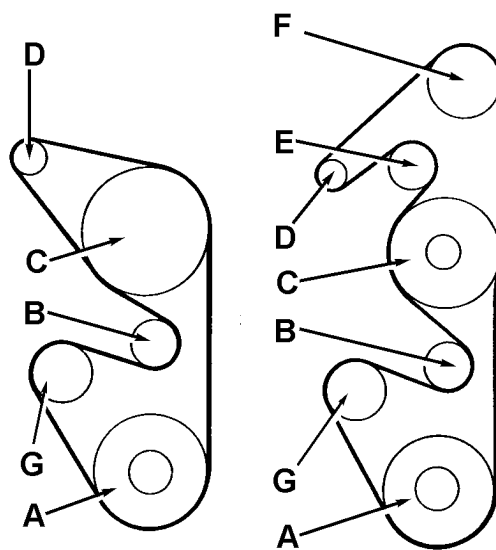
LX,OWART 007268-19-01OCT94

Installing New Drive Belt

Slacken drive belt tensioner and install drive belt correctly.

For further assembly, see "Removing Drive Belt".

- A—Crankshaft
- B—Idler roll
- C—Fan
- D—Alternator
- E—Deflection roll
- F—Compressor (air conditioning system)
- G—Coolant pump



LX1019382

LX,OMSERV016070-19-01APR98

LX1019382 -UN-22APR98

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

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.

Continued on next page

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

ELECTRICAL SYSTEM

Symptom	Problem	Solution
Battery will not charge	Loose or corroded connections	Clean and tighten battery connections.
	Fault in alternator	See your John Deere dealer
	Sulfated battery	Check specific gravity and electrolyte level of battery.
	Loose or defective alternator belt	Adjust belt tension or replace belt.
Starter inoperative	Loose or corroded connections	Clean and tighten loose connections.
	Low battery output	Check and recharge battery.
	Blown fuse	Put in a new fuse.
	Defect in starting motor	See your John Deere dealer.
Starter cranks slowly	Low battery output	Check and recharge battery.
	Crankcase oil too heavy	Drain crankcase and add correct oil.
	Loose or corroded connections	Clean and tighten loose connections.
	Defect in starting motor	See your John Deere dealer.

LX,OMTRO 013415-19-01SEP97

Storage

STORAGE FOR LONG PERIOD

Drain, flush and refill the cooling system with fresh coolant. For proper composition of coolant see section "Fuel, Lubricants, Hydraulic Oil and Coolant".

Do not store tractor with crankcase or transmission filled with dirty oil. Drain oil, replace filter element and fill with fresh oil. Drain the oil while it is still hot.

Operate engine for a few minutes before adding rust inhibitor.

To protect the engine, use AR41785 rust inhibitor, which is available from your John Deere dealer. The kit provided under this order no. includes one can of rust inhibitor, masking tape and protective caps to cover all engine openings.

Proceed as follows:

1. Add 360 cm³ (22 in³) of rust inhibitor to the engine oil.
2. Fill the fuel tank. Start engine and operate all hydraulic functions several times. Shut off engine.
3. Prepare 15 cm³ (0.9 in³) of rust inhibitor for each cylinder. Remove plug from intake manifold or starting fluid connecting pipe, and inject rust inhibitor into the aperture. Disconnect the electric cable at the injector pump and insulate the end of it. Crank the engine

several times with the starter to spread the rust inhibitor around.

Once the rust inhibitor has been added, the engine must not be started again.

IMPORTANT: Rust inhibitor agents evaporate very easily. For this reason, seal all openings after adding inhibitor. Keep the inhibitor container closed at all times.

Remove and clean the battery and add distilled water if necessary. Charge the battery and store it in a cool, dry place where it will not freeze. Keep battery fully charged while in storage. Seal all openings such as the vent tube and exhaust outlet.

Wash the exterior and painted surfaces of the tractor using clear, cold water. Wipe dry with a soft cloth.

Replace or repair worn or damaged parts. Touch up any damaged paintwork.

Store the tractor in a dry, protected place. If the tractor is stored outside, cover it with a waterproof tarpaulin.

Block up the tractor so that tires do not touch the ground. Protect tires from heat and sunlight.

LX,OKON 000445-19-01JUL94

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

Specifications

ENGINE

Engine types

- 6110 and 6110L tractors	4045TL063
- 6210 and 6210L tractors	4045TL054
- 6310, 6310L and 6310S tractors	4045TL055
- 6410, 6410L and 6410S tractors	4045TL056
- 6510L and 6510S tractors	4045TL057

PTO power

- 6110 and 6110L tractors	48 kW (65 hp)
- 6210 and 6210L tractors	54 kW (72 hp)
- 6310, 6310L and 6310S tractors	60 kW (80 hp)
- 6410, 6410L and 6410S tractors	67 kW (90 hp)
- 6510L and 6510S tractors	71 kW (95 hp)

Max. torque

- 6110 and 6110L tractors at 1100 rpm	346 N·m (255 lb-ft)
- 6210 and 6210L tractors at 1300 rpm	372 N·m (274 lb-ft)
- 6310, 6310L and 6310S tractors at 1400 rpm	411 N·m (303 lb-ft)
- 6410, 6410L and 6410S tractors at 1400 rpm	441 N·m (325 lb-ft)
- 6510L and 6510S tractors at 1500 rpm	453 N·m (334 lb-ft)

Number of cylinders 4

Bore 106.5 mm (4.19 in.)

Stroke 127.0 mm (5.00 in.)

Displacement 4525 cm³ (276 cu.in.)

Firing order 1-3-4-2

Intake valve clearance 0.35 mm (0.014 in.)

Exhaust valve clearance 0.45 mm (0.018 in.)

Slow idle 850 - 900 rpm

Fast idle 2460 - 2510 rpm

Rated engine speed 2300 rpm

Working speed range 1000 - 2300 rpm

Speed for PTO operation

540 rpm rear PTO (single-speed)	2124 rpm
540 rpm rear PTO (reversible)	2143 rpm
1000 rpm rear PTO	2208 rpm
1000 rpm front PTO	2185 rpm

TRANSMISSION

PowrQuad transmission	planetary gears, hydraulically activated
SyncroPlus transmission	synchronized gears, mechanically activated
Power Reverser	synchronized gears, mechanically activated
Actuation of reverse drive lever	mechanical/hydraulic, under load, without actuating the clutch
Gear selections	
SyncroPlus transmission	12 forward, 4 reverse
Power Reverser	16 forward, 16 reverse
PowrQuad transmission	16 forward, 16 reverse or 24 forward, 24 reverse
Clutch	mechanical/hydraulic

LX,OMSPEC013500-19-01OCT97

HYDRAULIC SYSTEM

Type	closed-center with Load-Sensing control
Pump	axial piston pump
System pressure	
- min. (standby):	3000 kPa (30 bar; 435 psi)
- max.:	20000 kPa (200 bar; 2900 psi)
Steering system	hydrostatic power

LX,OMSPEC020935-19-01OCT99

WEIGHTS

Maximum permissible static vertical load

- on swinging drawbar (transport position; 250mm, 9.8 in.)
 - Tractors without front wheel drive 1400 kg (3085 lb)
 - Tractors with front wheel drive 1600 kg (3525 lb)
- on swinging drawbar (operating position)
 - extended 250 mm (9.8 in.) 2250 kg (4960 lb)
 - extended 350 mm (13.8 in.) 1400 kg (3085 lb)
 - extended 400 mm (15.7 in.) 1200 kg (2645 lb)
 - extended 550 mm (21.7 in.) 800 kg (1765 lb)

Maximum permissible front axle load (without FWD)

- normal operation 2050 kg (4520 lb)
- with front loader (no weight at 3-point hitch) 5000 kg (11025 lb)*
- with front loader (600 kg; 1322 lb at 3-point hitch) 5300 kg (11685 lb)*
- with front-end attachments 3200 kg (7055 lb)**

Maximum permissible front axle load (with FWD)

- 6110, 6110L, 6210 and 6210L tractors 3000 kg (6615 lb)
- 6310, 6310L, 6310S, 6410, 6410L, 6410S,
6510L and 6510S tractors 3500 kg (7715 lb)
- with front loader (no weight at 3-point hitch) 5200 kg (11465 lb)*
- with front loader (600 kg; 1322 lb at 3-point hitch) 5500 kg (12125 lb)*
- with front-end attachments 3600 kg (7935 lb)**

Maximum permissible rear axle load

- 6110, 6110L, 6210 and 6210L tractors 5600 kg (12345 lb)
- 6310, 6310L, 6310S, 6410, 6410L, 6410S,
6510L and 6510S tractors 6500 kg (14325 lb)

Maximum permissible total weight

- 6110, 6110L, 6210 and 6210L tractors 7000 kg (15430 lb)
- 6310, 6310L, 6310S, 6410, 6410L, 6410S,
6510L and 6510S tractors 8000 kg (17635 lb)

NOTE: Traffic regulations in certain countries may restrict the permissible axle loads and total weight to figures lower than those quoted above.

* Maximum travel speed 8 km/h (5 mph), max. tread width 1.80 m (71 in.)

** Maximum travel speed 20 km/h (12.4 mph), max. tread width 1.80 m (71 in.)

ELECTRICAL SYSTEM

Battery	12 V, 110 Ah or 12V, 154 Ah
Alternator with overvoltage protection	14 V, 90 A or 14V, 115 A
Starting motor	12 V, 3.0 kW (4.0 hp)
Battery terminal grounded	Negative

LX,OMSPEC013502-19-01OCT97

CAPACITIES

Fuel tank	114 or 165 liters (30.1 or 43.6 U.S. gal.) or 185 liters (48.9 U.S. gal) on 6310 and 6410 tractors with cab
Cooling system	
- with cab	13.5 liters (3.6 U.S. gal.)
- without cab	11.0 liters (2.9 U.S. gal.)
Crankcase	12 liters (3.2 U.S. gal.)
Transmission/hydraulic system	
- SyncroPlus transmission	52 liters (13.7 U.S. gal.)
- Power Reverser transmission	52 liters (13.7 U.S. gal.)
- PowrQuad transmission	49 liters (12.9 U.S. gal.)
- extra for creeper transmission	1 liters (0.3 U.S. gal.)
- extra with front wheel drive	3 liters (0.8 U.S. gal.)
- extra with TLS-axle	3 liters (0.8 U.S. gal.)
Front axle housing (front wheel drive)	5 liters (1.3 U.S. gal.)
Final drive housings (front wheel drive)	0.80 liters (0.21 U.S. gal.)
Front PTO	3.5 liters (0.9 U.S. gal.)

LX,OMSPEC013503-19-01APR98

LOAD CAPACITY OF TIRES (FRONT)

Maximum permissible front axle load (without FWD):

Tires		Normal operation
7.50-18	6 PR	1620 kg (3570 lb)
7.50-18	8 PR	1890 kg (4165 lb)
7.50-20	8 PR	2040 kg (4500 lb)
10.00-16	6 PR	1930 kg (4255 lb)
10.00-16	8/10 PR	2050 kg (4520 lb)
11L-15	6 PR	1740 kg (3835 lb)
	8 PR	2050 kg (4520 lb)
11L-16	8 PR	2000 kg (4410 lb)
	12 PR	2050 kg (4520 lb)
27/9.5-15	6 PR	1620 kg (3570 lb)
27/9.5-15	10 PR	2050 kg (4520 lb)

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		Index Radius	Normal operation 6110 and 6210 including L and S versions	Normal operation 6310, 6420 and 6510 including L and S versions
9.5-16	6 PR	390 mm (15.4 in.)	1400 kg (3085 lb)	1400 kg (3085 lb)
10.5/80-18	10 PR	440 mm (17.3 in.)	3000 kg (6615 lb)	3500 kg (7720 lb)
12.4-24	6 PR	540 mm (21.3 in.)	2420 kg (5335 lb)	2420 kg (5335 lb)
13.6-24	6 PR	560 mm (22.0 in.)	2700 kg (5950 lb)	2700 kg (5950 lb)
	8 PR	560 mm (22.0 in.)	3000 kg (6615 lb)	3110 kg (6860 lb)
	121A8	560 mm (22.0 in.)	3000 kg (6615 lb)	3100 kg (6835 lb)
	128A8	560 mm (22.0 in.)	3000 kg (6615 lb)	3500 kg (7720 lb)
14.9-24	6 PR	590 mm (23.2 in.)	3000 kg (6615 lb)	3020 kg (6660 lb)
	8 PR, 126A8	590 mm (23.2 in.)	3000 kg (6615 lb)	3500 kg (7720 lb)
16.9-24	6 PR	620 mm (24.4 in.)	3000 kg (6615 lb)	3440 kg (7585 lb)
	8 PR, 134A8	620 mm (24.4 in.)	3000 kg (6615 lb)	3500 kg (7720 lb)
11.2-28	4 PR	565 mm (22.2 in.)	1800 kg (3965 lb)	1800 kg (3965 lb)
	6 PR	565 mm (22.2 in.)	2230 kg (4915 lb)	2230 kg (4915 lb)
12.4-28	6 PR	590 mm (23.2 in.)	2550 kg (5625 lb)	2550 kg (5625 lb)
	121A8	590 mm (23.2 in.)	3000 kg (6615 lb)	3100 kg (6835 lb)
13.6-28	6 PR	610 mm (24.0 in.)	2860 kg (6305 lb)	2860 kg (6305 lb)
	8 PR	610 mm (24.0 in.)	3000 kg (6615 lb)	3330 kg (7345 lb)
	123A8	610 mm (24.0 in.)	3000 kg (6615 lb)	3320 kg (7320 lb)
13.6-38	6 PR	772 mm (30.4 in.)	3000 kg (6615 lb)	3330 kg (7345 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.).

LOAD CAPACITY OF TIRES (REAR)

Maximum permissible rear axle load:

Tires		Index Radius	6110 and 6210 including L and S versions	6310, 6420 and 6510 including L and S versions
18.4-16.1	6 PR*	498 mm (19.6 in.)	2550 kg (5625 lb)	2550 kg (5625 lb)
	6 PR**	520 mm (20.5 in.)	2550 kg (5625 lb)	2550 kg (5625 lb)
21.5-16.1	6 PR	519 mm (20.4 in.)	2780 kg (6130 lb)	2780 kg (6130 lb)
16.9-24	6 PR	620 mm (24.4 in.)	3440 kg (7585 lb)	3440 kg (7585 lb)
	134A8	620 mm (24.4 in.)	4540 kg (10010 lb)	4540 kg (10010 lb)
18.4-26	6 PR	670 mm (26.4 in.)	4000 kg (8820 lb)	4000 kg (8820 lb)
	140A8	670 mm (26.4 in.)	5350 kg (11795 lb)	5350 kg (11795 lb)
16.9-30	6 PR	695 mm (27.4 in.)	3780 kg (8335 lb)	3780 kg (8335 lb)
	8 PR	695 mm (27.4 in.)	4440 kg (9790 lb)	4440 kg (9790 lb)
	137A8	695 mm (27.4 in.)	4920 kg (10845 lb)	4920 kg (10845 lb)
18.4-30	8 PR	720 mm (28.3 in.)	4840 kg (10670 lb)	4840 kg (10670 lb)
	142A8	720 mm (28.3 in.)	5600 kg (12350 lb)	5670 kg (12500 lb)
16.9-34	8 PR	745 mm (29.3 in.)	4700 kg (10365 lb)	4700 kg (10365 lb)
	10 PR	745 mm (29.3 in.)	5240 kg (11555 lb)	5240 kg (11555 lb)
	139A8	745 mm (29.3 in.)	5200 kg (11465 lb)	5200 kg (11465 lb)
18.4-34	8 PR	770 mm (30.3 in.)	5100 kg (11245 lb)	5100 kg (11245 lb)
	144A8	770 mm (30.3 in.)	5600 kg (12350 lb)	6000 kg (13230 lb)
13.6-38	6 PR	740 mm (29.1 in.)	3330 kg (7340 lb)	3330 kg (7340 lb)
	128A8	740 mm (29.1 in.)	3860 kg (8510 lb)	3860 kg (8510 lb)
15.5-38	6 PR	745 mm (29.3 in.)	3560 kg (7850 lb)	3560 kg (7850 lb)
	134A8	745 mm (29.3 in.)	4540 kg (10010 lb)	4540 kg (10010 lb)
16.9-38	8 PR	795 mm (31.3 in.)	4980 kg (10980 lb)	4980 kg (10980 lb)
	141A8	795 mm (31.3 in.)	5520 kg (12170 lb)	5520 kg (12170 lb)
18.4-38	8 PR	820 mm (32.3 in.)	5400 kg (11905 lb)	5400 kg (11905 lb)
	146A8	820 mm (32.3 in.)	5600 kg (12350 lb)	6420 kg (14155 lb)
12.4-42	6 PR	770 mm (30.3 in.)	3100 kg (6835 lb)	3100 kg (6835 lb)
13.6-46	6 PR	874 mm (34.5 in.)	3660 kg (8070 lb)	3660 kg (8070 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%.

* for R3 profile (see relevant tire manual).

** for R1 profile (see relevant tire manual).

LX.OMSPEC013498-19-01OCT97

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 km/h (mph)	Without FWD PR ¹ tires %	With FWD PR ¹ tires %	With FWD A6 ¹ tires %	With FWD A8 ² tires %
8 (5)	150	140	150	150
15 (9)	—	—	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

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.).

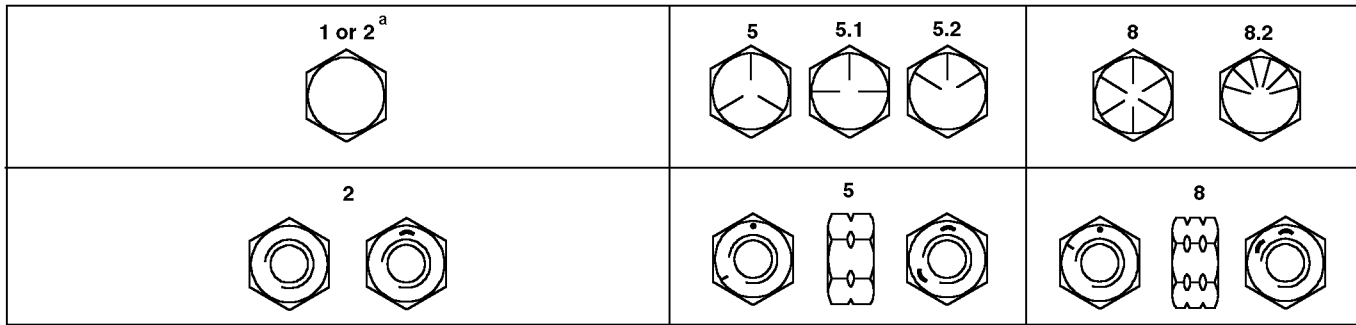
A 300 kg (661 lb) higher load is possible with a front loader provided a weight of 600 kg (1322 lb) is attached at the three-point hitch.

¹ Tires up to 30 km/h (18.5 mph)

² Tires up to 40 km/h (25 mph)

LX_OSPECS007781-19-01JUL95

UNIFIED INCH BOLT AND CAP SCREW TORQUE VALUES



SAE Grade Head and Nut Markings

Size	Grade 1				Grade 2 ^b				Grade 5, 5.1, or 5.2				Grade 8 or 8.2			
	Lubricated ^a		Dry ^a		Lubricated ^a		Dry ^a		Lubricated ^a		Dry ^a		Lubricated ^a		Dry ^a	
	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft
1/4	3.8	2.8	4.7	3.5	6	4.4	7.5	5.5	9.5	7	12	9	13.5	10	17	12.5
5/16	7.7	5.7	9.8	7.2	12	9	15.5	11.5	19.5	14.5	25	18.5	28	20.5	35	26
3/8	13.5	10	17.5	13	22	16	27.5	20	35	26	44	32.5	49	36	63	46
7/16	22	16	28	20.5	35	26	44	32.5	56	41	70	52	80	59	100	74
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

DO NOT use these values if a different torque value or tightening procedure is given for a specific application. Torque values listed are for general use only. Check tightness of fasteners periodically.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.

Fasteners should be replaced with the same or higher grade. If higher grade fasteners are used, these should only be tightened to the strength of the original.

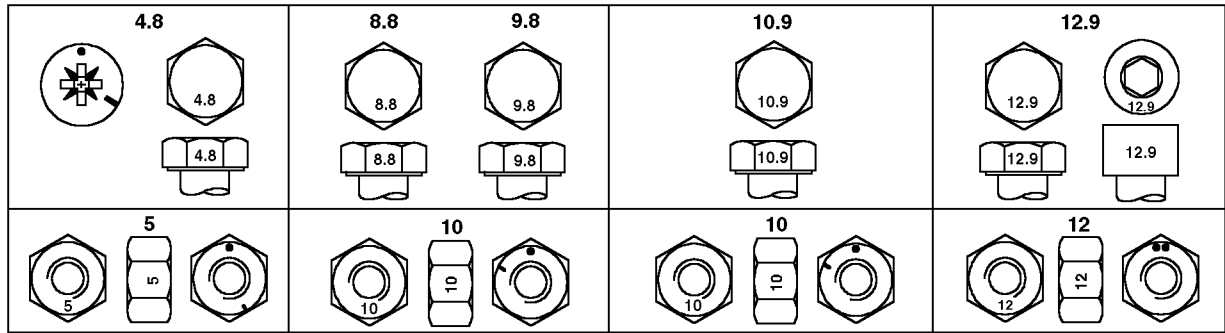
Make sure fasteners threads are clean and that you properly start thread engagement. This will prevent them from failing when tightening.

Tighten plastic insert or crimped steel-type lock nuts to approximately 50 percent of the dry torque shown in the chart, applied to the nut, not to the bolt head. Tighten toothed or serrated-type lock nuts to the full torque value.

^a "Lubricated" means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings. "Dry" means plain or zinc plated without any lubrication.

^b Grade 2 applies for hex cap screws (not hex bolts) up to 152 mm (6-in.) long. Grade 1 applies for hex cap screws over 152 mm (6-in.) long, and for all other types of bolts and screws of any length.

METRIC BOLT AND CAP SCREW TORQUE VALUES



Property Class Head and Nut Markings

Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Lubricated ^a		Dry ^a		Lubricated ^a		Dry ^a		Lubricated ^a		Dry ^a		Lubricated ^a		Dry ^a	
	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft
M6	4.7	3.5	6	4.4	9	6.6	11.5	8.5	13	9.5	16.5	12.2	15.5	11.5	19.5	14.5
M8	11.5	8.5	14.5	10.7	22	16	28	20.5	32	23.5	40	29.5	37	27.5	47	35
M10	23	17	29	21	43	32	55	40	63	46	80	59	75	55	95	70
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

DO NOT use these values if a different torque value or tightening procedure is given for a specific application. Torque values listed are for general use only. Check tightness of fasteners periodically.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical property class.

Fasteners should be replaced with the same or higher property class. If higher property class fasteners are used, these should only be tightened to the strength of the original.

Make sure fasteners threads are clean and that you properly start thread engagement. This will prevent them from failing when tightening.

Tighten plastic insert or crimped steel-type lock nuts to approximately 50 percent of the dry torque shown in the chart, applied to the nut, not to the bolt head. Tighten toothed or serrated-type lock nuts to the full torque value.

^a "Lubricated" means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings. "Dry" means plain or zinc plated without any lubrication.

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

- A. Breakage of the container, cover, or terminals.
- B. Depreciation or damage caused by lack of reasonable and necessary maintenance or by improper maintenance.
- C. 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.

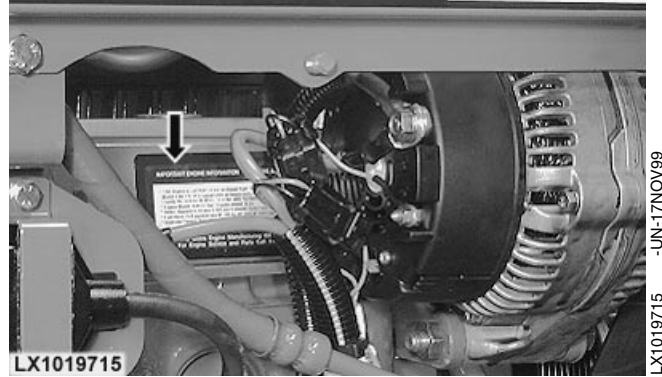
PRO RATA MONTHS OF ADJUSTMENT

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".*

EMISSION CONTROL SYSTEM CERTIFICATION LABEL

An emissions warranty applies to diesel engines marketed by John Deere that are certified by the Environmental Protection Agency (EPA) and used in the United States as non-road mobile equipment. Certified engines have an emissions label with the title "Important Engine Information". If you reside in the United States and the engine emission label states: "Engine conforms to U.S. EPA regulations on heavy duty non road diesel cycle engines", you are entitled to the U.S. Emission Control Warranty.



LX,OMEC 020932-19-01OCT99

U.S. EMISSION CONTROL WARRANTY

Emissions control related parts and components are warranted by John Deere for five years or 3000 hours of operation, whichever occurs first. John Deere further warrants that 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, and that it is free of defects in materials and workmanship which would cause it not to meet these standards within the period of five years or 3000 hours of operation, whichever occurs first.

Warranties stated on this certificate refer only to emissions related parts and components of your machine. The complete machine warranty, less emissions related parts and components, is provided separately as warranty for new John Deere Agricultural Equipment and limited warranty for new John Deere Consumer & Commercial Equipment.

LX,OMEC 020933-19-01OCT99

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.

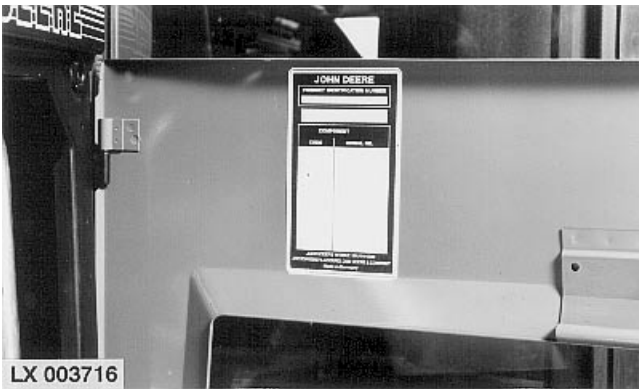
LX,OSER 000455-19-01MAR94

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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An additional plate bearing the product identification number and the serial numbers of the tractor components is located on the left-hand service door. The list of numbers is explained in this section.

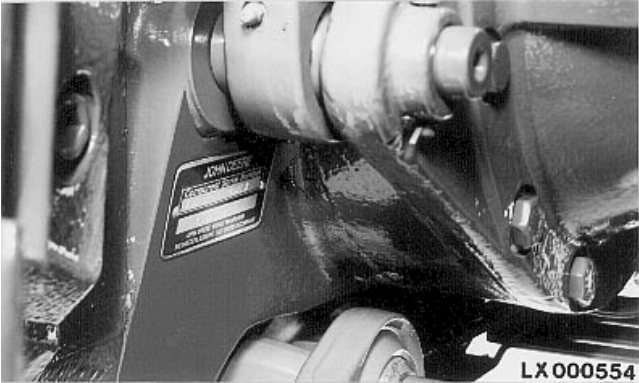


LX,OMSER 014891-19-01OCT97

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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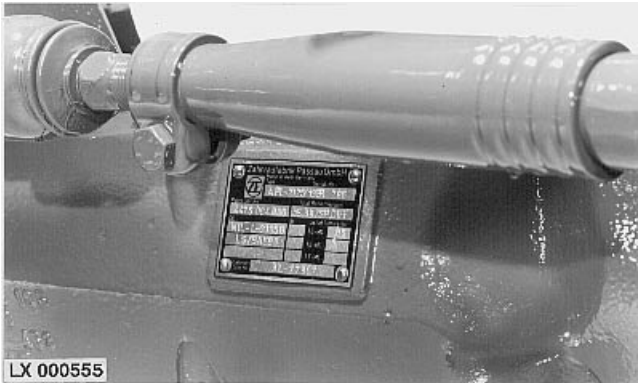
-JUN-09AUG94
LX000554

LX,OSER 000458-19-01MAR94

SERIAL NUMBER OF FRONT WHEEL DRIVE AXLE

The serial number plate for the front wheel drive axle is located on rear of axle on the right-hand side. 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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-JUN-09AUG94
LX000555

LX,OSER 000459-19-01MAR94

PRODUCT IDENTIFICATION AND COMPONENT SERIAL NUMBERS

Customer / Dealer

Address

Code Component

DT-1	PowrQuad Module
DT-2	SyncroPlus Module
EN-1	Engine
FA-1	Front Axle
FI-1	Front PTO
FI-2	Front Hitch
FI-3	Front Loader
HY-1	Hydraulic Pump
OS-1	Cab
OS-2	Roll Gard
OS-3	Seat
OS-4	Brake Valve
OS-5	Steering Valve
OS-6	Compressor for air conditioning
RA-1	Transmission Assy.
RI-1	SCV/Priority Valve
RI-4	Drawbar
RI-6	Trailer Brake Valve

JOHN DEERE

PRODUCT IDENTIFICATION NUMBER

COMPONENT	
CODE	SERIAL NO.

JOHN DEERE WERKE MANNHEIM
ZWEIGNIEDERLASSUNG DER DEERE & COMPANY
 Made in Germany

LX 000556

LX000556 -UN-16AUG94

LX,OPIN 003262-19-01OCT92

Lubrication and Maintenance Records

250 HOUR SERVICE

[illegible]

L 112 122

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,OMWAR 013480-19-01MAR99

500 HOUR SERVICE

[illegible]











L 112 123

Replace fuel filter, drain residue from fuel tank, lubricate rear axle bearings, check air intake hoses, 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.OMWAT 013481-19-01MAR99

750 HOUR SERVICE

 h	 1	 h	 1	 h	 1	 h	 1	 h	 1











L112124

Replace transmission/hydraulic system oil filter, replace front PTO 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,OMWAR 013482-19-01MAR99

1500 HOUR SERVICE

 h	 1	 h	 1	 h	 1	 h	 1	 h	 1











L112126

Drain and refill transmission/hydraulic system and replace oil filter, replace front PTO filter, drain and refill oil in front wheel drive axle, check air conditioning system and clean refrigerant, check engine speed, check engine valve tappet clearances, 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, tighten hydraulic trailer hitch attaching bolts, check neutral start circuit, tighten wheel retaining bolts.

LX,OMWAR 013483-19-01MAR99

3000 HOUR SERVICE

 h	 1	 h	 1	 h	 1	 h	 1	 h	 1

L112126

Flush out and refill cooling system, replace thermostats, check TLS MFWD axle, drain and refill transmission/hydraulic system and replace oil filter, replace front PTO filter, drain and refill oil in front wheel drive axle, check air conditioning system and clean refrigerant, check engine speed, check engine valve tappet clearances, 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, tighten hydraulic trailer hitch attaching bolts, check neutral start circuit, tighten wheel retaining bolts.

LX,OMWAR 017556-19-01MAR99

-UN-05SEP94
L112126

Crime Prevention Tips

HELP PREVENT CRIME

You can help take a bite out of crime by properly documenting ownership and discouraging theft.

**TAKE A BITE OUT OF
CRIME**
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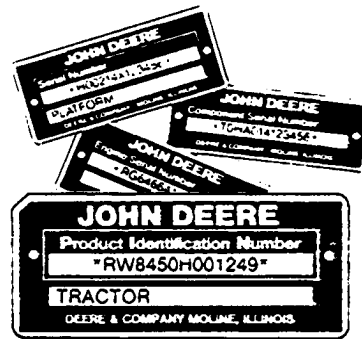


DX,CRPRV,A -19-03MAR93

TS140 -19-07OCT88

RECORD IDENTIFICATION NUMBERS

1. Mark your machines with your own unique numbering system.
2. Record the Product Identification Number (PIN) of the unit and also individual component identification numbers for engines, axles, pumps, etc. Include the PIN numbers on all documentation, such as insurance, financial, and warranty papers.

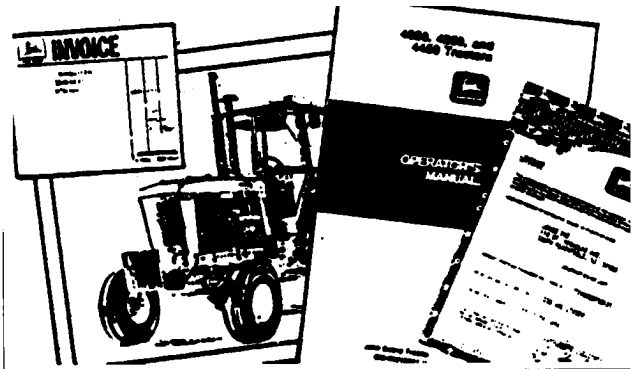


DX,CRPRV,B -19-03MAR93

TS161 -UN-23MAR89

KEEP PROOF OF OWNERSHIP

1. Take color photographs from several angles of each machine.
2. Maintain an up-to-date inventory of all your machines.
3. Keep your documented identification numbers, color photographs, and inventory in a safe, secure location.



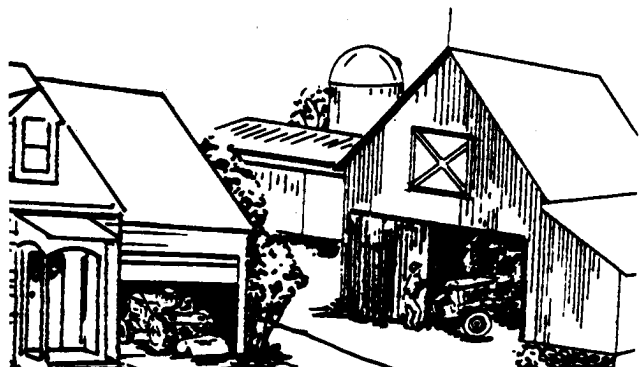
DX,CRPRV,C -19-03MAR93

TS142 -UN-23MAR89

PARK INDOORS OUT OF SIGHT

Make machines hard to move:

- Park large equipment in front of exits.
- Lower equipment to the ground. Remove key.
- Remove battery when unit is in storage.
- Lock cab doors, windows, and vandal-proof devices.
- Set wheels in widest position making loading more difficult. Lock building.



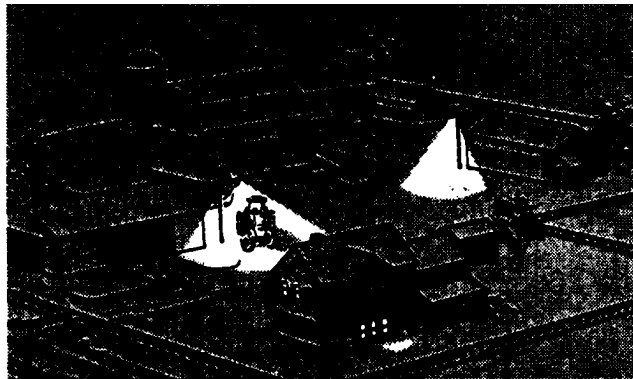
DX,CRPRV,D -19-03MAR93

TS143 -UN-23AUG88

WHEN PARKING OUTDOORS

Make machines hard to move:

- Park in a well-lighted, fenced area.
- Lower all equipment to the ground.
- Remove ignition key. Remove battery when unit is in storage.
- Lock cab doors, windows, and vandal-proof devices.
- Set wheels in widest position making loading more difficult.

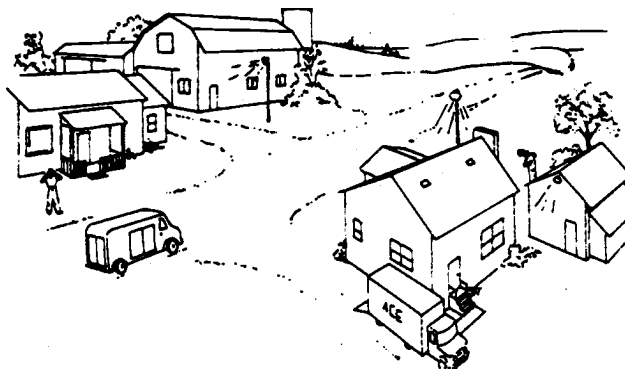


DX,CRPRV,E -19-03MAR93

TS155
-UN-23AUG88

REDUCE VANDALISM

1. Install vandal-proof devices.
2. Participate in a neighborhood watch program. Take written notes of suspicious vehicles or persons and report your findings to law enforcement agency.
3. Regularly verify that identification plates have not been removed. If they have, notify law enforcement agency. Order duplicate plates from your dealer.



DX,CRPRV,F -19-03MAR93

TS145
-UN-23AUG88

REPORT THEFTS IMMEDIATELY

1. Immediately notify your local law enforcement agency and insurance agent.
2. Provide a complete description of the machine, all of the documented identification numbers and color photographs.
3. Request verification of the identification numbers after they have been entered with any regional or national crime information center. Double check the numbers to be sure they are correct.
4. Notify your John Deere dealer of the theft and request that its loss be posted with full description and identification numbers.



DX,CRPRV,G -19-03MAR93

TS146
-UN-09JAN89

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John Deere Service Literature Available

TECHNICAL INFORMATION

Technical information is available from John Deere. Some of this information is available in electronic as well as printed form. Order from your John Deere dealer or call **1-800-522-7448**. Please have available the model number, serial number, and name of the product.

Available information includes:

- **Parts catalogs** listing service parts available for your machine with exploded view illustrations to help you identify the correct parts. It is also useful in assembling and disassembling.
- **Operator's manuals** providing safety, operating, maintenance, and service information. These manuals and safety signs on your machine may also be available in other languages.
- **Operator's video tapes** showing highlights of safety, operating, maintenance, and service information. These tapes may be available in multiple languages and formats.
- **Technical manuals** outlining service information for your machine. Included are specifications, illustrated assembly and disassembly procedures, hydraulic oil flow diagrams, and wiring diagrams. Some products have separate manuals for repair and diagnostic information. Some components, such as engines, are available in separate component technical manuals.
- **Fundamental manuals** detailing basic information regardless of manufacturer:
 - Agricultural Primer series covers technology in farming and ranching, featuring subjects like computers, the Internet, and precision farming.
 - Farm Business Management series examines "real-world" problems and offers practical solutions in the areas of marketing, financing, equipment selection, and compliance.
 - Fundamentals of Services manuals show you how to repair and maintain off-road equipment.
 - Fundamentals of Machine Operation manuals explain machine capacities and adjustments, how to improve machine performance, and how to eliminate unnecessary field operations.



TS189 -UN-17JAN89



TS191 -UN-02DEC88



TS224 -UN-17JAN89



TS1663 -UN-10OCT97

John Deere Service Keeps You On The Job

JOHN DEERE IS AT YOUR SERVICE WHEN YOU NEED IT



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Reno, NV 89509
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Fax: 775-824-5559

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3210 East 85th Street
Kansas City, MO 64132-2586
Phone: 816-361-4000
Fax: 816-995-9380

5—JOHN DEERE LIMITED
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7—JOHN DEERE COMPANY
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Phone: 770-922-7040
Fax: 770-388-2103

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Phone: 612-887-6200
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4—JOHN DEERE COMPANY
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Dallas, TX 75244
Phone: 972-385-1701
Fax: 972-663-2390

6—JOHN DEERE COMPANY
701 Georgesville Road
Columbus, OH 43228-2499
Phone: 614-275-1500
Fax: 614-275-1450

CUSTOMER SATISFACTION is important to John Deere. Our dealers strive to provide you with prompt, efficient parts and service. This includes:

- 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 dealership service manager.
3. If unable to resolve, explain problem to dealership manager and request assistance.
4. If you have a persistent problem your dealer is unable to resolve, ask your dealer to contact John Deere for assistance in resolving your problem.
5. If a problem is not resolved to your satisfaction, contact the appropriate John Deere sales location for your area shown in above map and ask to speak with customer service.