

Premium Tractors 7130 to 7530 Diagnostics

TECHNICAL MANUAL Premium Tractors 7130 to 7530 Diagnostics

TM400019 01JUN09 (ENGLISH)

For complete service information also see:

Premium Tractors 7130 and 7230 Repair	TM400119
Premium Tractor 7330 Repair	TM400219
Premium Tractors 7430 and 7530 Repair	TM400319
Front-Wheel Drive Axles (700 Series).....	CTM4820
POWERTECH™ Diesel Engines.....	CTM104
Electronic Fuel Injection Systems Level 14	CTM320
Electronic Fuel Injection Systems Level 16	CTM502
Alternators and Starting Motors (available in English only)	CTM77

John Deere Werke Mannheim
North American Version
LITHO IN U.S.A.

Introduction


Foreword

This diagnostic manual applies to the following tractor types:

7130 Premium, 7230 Premium, 7330 Premium, 7430 Premium and 7530 Premium.

This manual is written for experienced technicians. Essential tools required in performing certain service work are identified in this manual and are recommended for use.

Live with safety: Read the safety messages in the initial section of this manual and the cautions presented throughout the text of the manual.

 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.

Technical Manuals are service guidelines for specific machines. They are on-the-job guides containing only the vital information needed for diagnosis, analysis, testing and repair.

Fundamental service information is available from other sources covering basic theory of operation, fundamentals of troubleshooting, general maintenance and basic type of failures and their causes.

LX24888, TM4000 -19-01JUL09-1/1

Serial Number Break 2008

Up to tractor serial number 006999

From tractor serial number 007000

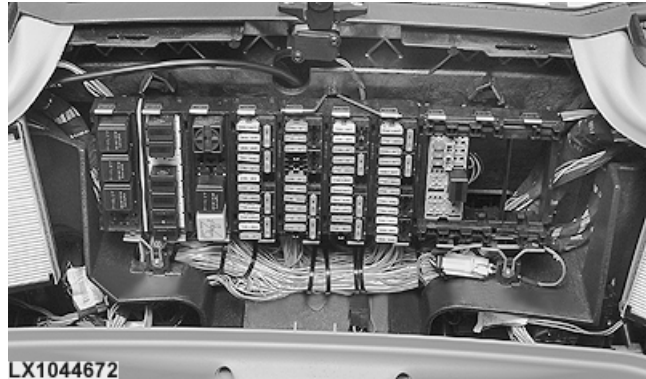
Among other things, the following changes have been incorporated in the current series from tractor serial number 007000:

- Wiring harnesses (functional schematics)
- Diagnostic addresses
- Fuse arrangement
- Software

NOTE: As the changes were made during the ongoing production, the serial number break does not represent a clean cut, i.e. changes have already been incorporated in some tractors up to serial number 006999 and have not yet been incorporated in some tractors from serial number 007000. The relevant tractors can be identified on the basis of the fuse arrangement.



Up to serial number break 2008 (F02 to F05 fuse arrangement)



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LX18600,0000E39 -19-30MAR09-1/1

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manual**

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admin@servicemanualperfect.com**

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Safety Information

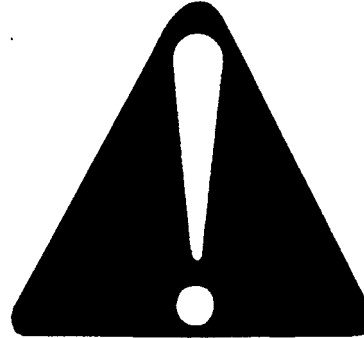
 **CAUTION: The safety measures are to be followed!**

LX24603,000052D -19-28FEB07-1/1

Recognize Safety Information

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

Follow recommended precautions and safe operating practices.



T81389 —UN—07DEC88

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

”Important” Information

Information marked as IMPORTANT points out problems that may lead to machine damage. By following the directions given, these problems can be avoided.

LX,CRA05 002885 -19-09APR92-1/1

”Note” Information

When marked with NOTE the information given is more detailed or contains restrictions to directions given

previously. On the other hand useful information may be given belonging to certain instructions without being directly connected to them.

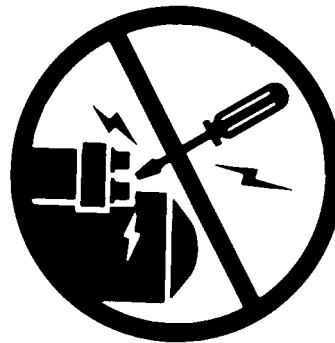
LX,CRA05 002886 -19-09APR92-1/1

Prevent Machine Runaway

Avoid possible injury or death from machinery runaway.

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

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



TS177 —UN—11JAN89

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

Handle Fluids Safely—Avoid Fires

When you work around fuel, do not smoke or work near heaters or other fire hazards.

Store flammable fluids away from fire hazards. Do not incinerate or puncture pressurized containers.

Make sure machine is clean of trash, grease, and debris.

Do not store oily rags; they can ignite and burn spontaneously.



TS227 —UN—23AUG88

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

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).



TS204 —UN—23AUG88

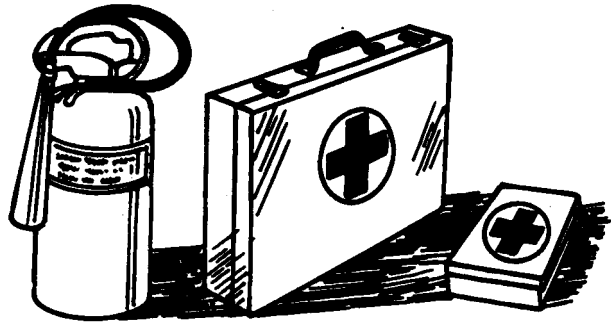
DX,SPARKS -19-03MAR93-1/1

Prepare for Emergencies

Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

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



TS291 —UN—23AUG88

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

Prevent Acid Burns

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

Avoid the hazard by:

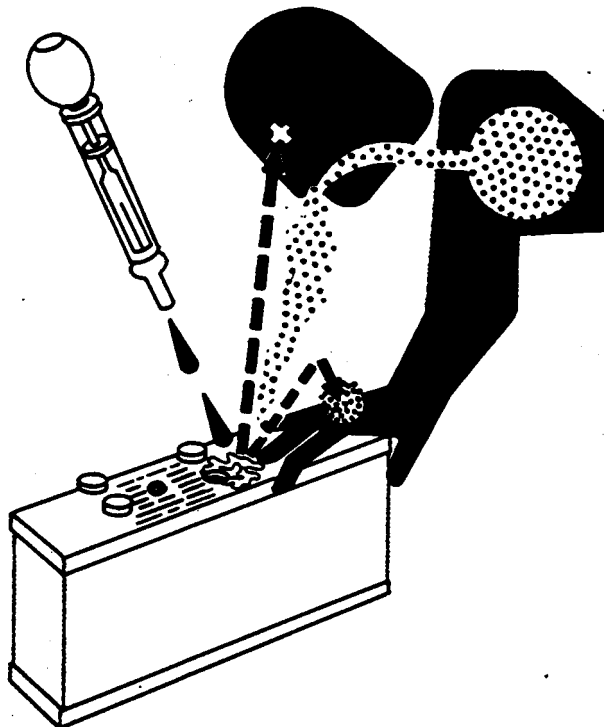
1. Filling batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling or dripping electrolyte.
5. Use proper jump start procedure.

If you spill acid on yourself:

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

If acid is swallowed:

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



TS203 —UN—23AUG88

DX,POISON -19-21APR93-1/1

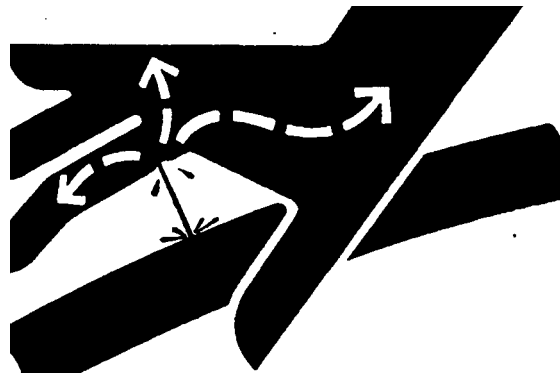
Avoid High-Pressure Fluids

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

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

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

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available in English from Deere & Company Medical Department in



X9811 —UN—23AUG88

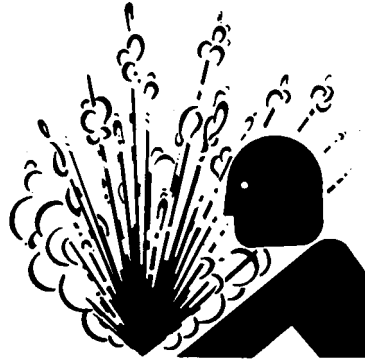
Moline, Illinois, U.S.A., by calling 1-800-822-8262 or +1 309-748-5636.

DX,FLUID -19-20AUG09-1/1

Service Cooling System Safely

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

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



TS281 —UN—23AUG88

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

Remove Paint Before Welding or Heating

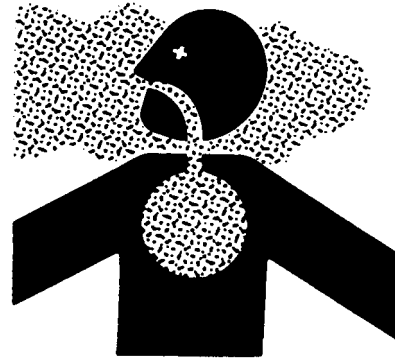
Avoid potentially toxic fumes and dust.

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

Remove paint before heating:

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

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



TS220 —UN—23AUG88

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

Dispose of paint and solvent properly.

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

Avoid Heating Near Pressurized Fluid Lines

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



TS953 —UN—15MAY90

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

Work In Ventilated Area

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

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



TS220—UN—23AUG88

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

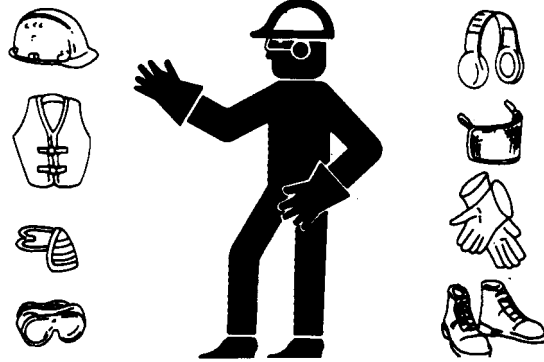
Wear Protective Clothing

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

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

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

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



TS206—UN—23AUG88

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

Practice Safe Maintenance

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

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

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

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

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

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



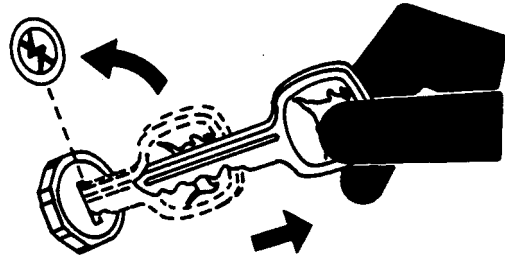
TS218 —UN—23AUG88

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

Park Machine Safely

Before working on the machine:

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



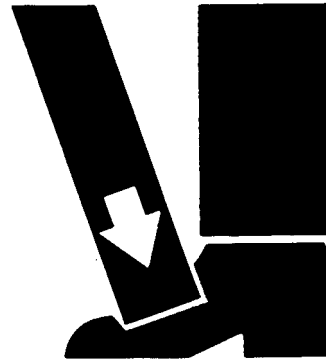
TS230 —UN—24MAY89

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

Use Proper Lifting Equipment

Lifting heavy components incorrectly can cause severe injury or machine damage.

Follow recommended procedure for removal and installation of components in the manual.



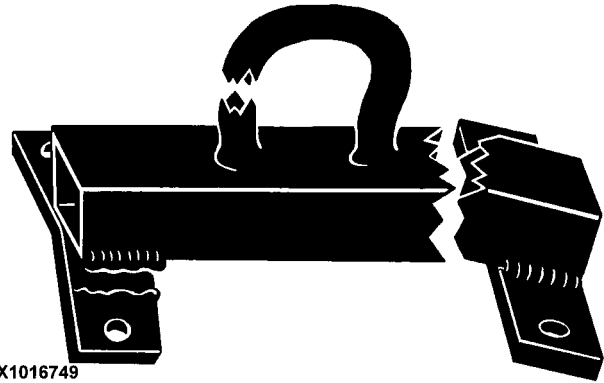
TS226 —UN—23AUG88

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

Construct Dealer-Made Tools Safely

Faulty or broken tools can result in serious injury. When constructing tools, use proper, quality materials, and good workmanship.

Do not weld tools unless you have the proper equipment and experience to perform the job.



LX1016749

LX1016749 —UN—01JUL97

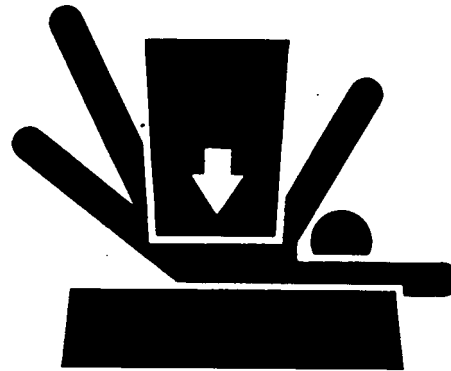
DX,SAFE,TOOLS -19-10OCT97-1/1

Support Machine Properly

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

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

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



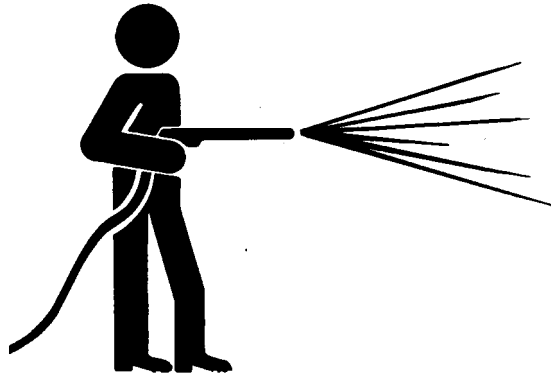
TS229 —UN—23AUG88

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

Work in Clean Area

Before starting a job:

- Clean work area and machine.
- Make sure you have all necessary tools to do your job.
- Have the right parts on hand.
- Read all instructions thoroughly; do not attempt shortcuts.

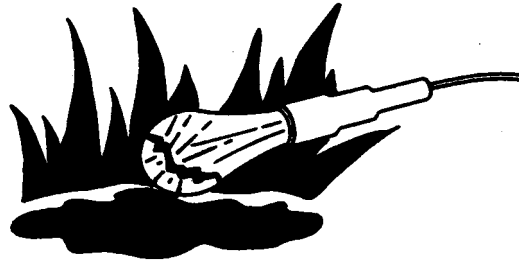


T6642EJ —UN—18OCT88

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

Illuminate Work Area Safely

Illuminate your work area adequately but safely. Use a portable safety light for working inside or under the machine. Make sure the bulb is enclosed by a wire cage. The hot filament of an accidentally broken bulb can ignite spilled fuel or oil.



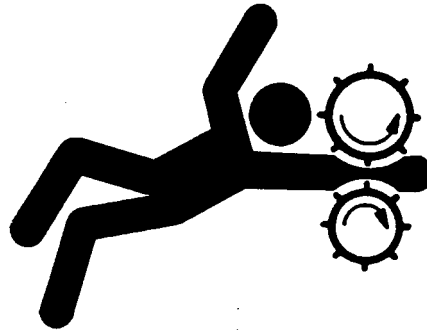
TS223 —UN—23AUG88

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

Service Machines Safely

Tie long hair behind your head. Do not wear a necktie, scarf, loose clothing, or necklace when you work near machine tools or moving parts. If these items were to get caught, severe injury could result.

Remove rings and other jewelry to prevent electrical shorts and entanglement in moving parts.



TS228 —UN—23AUG88

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

Use Proper Tools

Use tools appropriate to the work. Makeshift tools and procedures can create safety hazards.

Use power tools only to loosen threaded parts and fasteners.

For loosening and tightening hardware, use the correct size tools. DO NOT use U.S. measurement tools on metric fasteners. Avoid bodily injury caused by slipping wrenches.

Use only service parts meeting John Deere specifications.



TSS779 —UN—08NOV89

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

Service Tires Safely

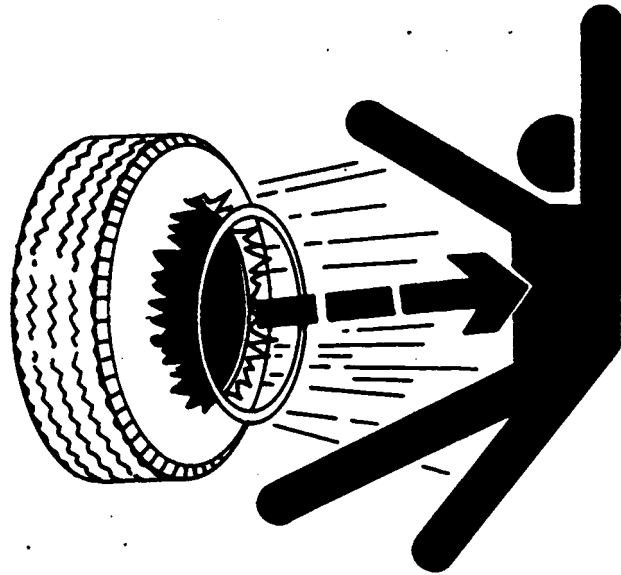
Explosive separation of a tire and rim parts can cause serious injury or death.

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

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

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

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

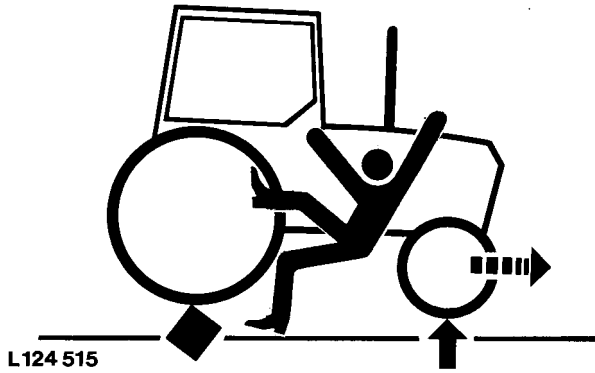


TSS211 —UN—23AUG88

DX,RIM -19-24AUG90-1/1

Service Front-Wheel Drive Tractor Safely

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



L124 515

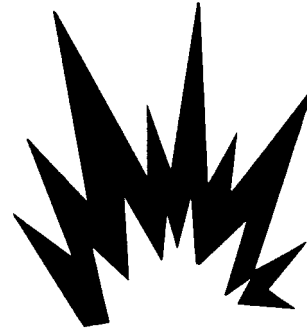
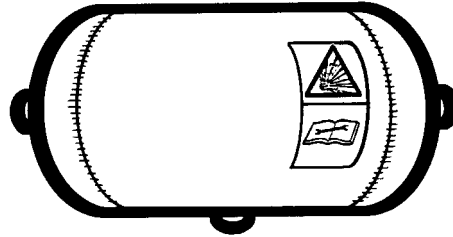
L124515—UN—06AUG94

LX,MFWD2 -19-01MAY91-1/1

Safety Information - Air Brake System

⚠ CAUTION: Compressed air tank is pressurized!

Always relieve pressure before working on the air brake system. Do not carry out any welding jobs on the air brake system.



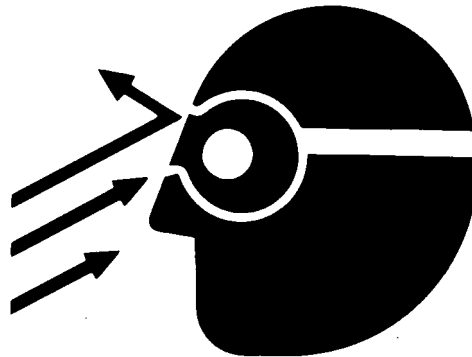
LX008009

LX008009—UN—24APR96

LX,AIRBRAKES -19-03MAR94-1/1

Avoid Eye Contact With Radar

Radar ground speed sensor emits a very low intensity microwave signal. It will not cause any ill effects during normal use. Although intensity is low, DO NOT look directly into face of sensor while in operation, to avoid any possible eye damage.



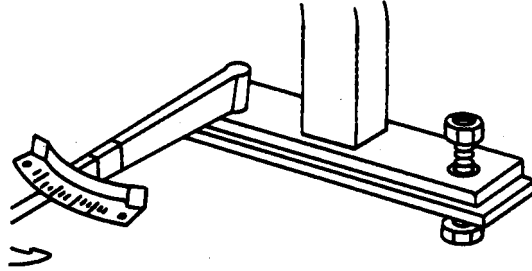
TS266—UN—23AUG88

RX,SAFTY,RADAR1 -19-21SEP92-1/1

Keep ROPS Installed Properly

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

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



TS212 —UN—23AUG88

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

Replace Safety Signs

Replace missing or damaged safety signs. See the machine operator's manual for correct safety sign placement.



TS201 —UN—23AUG88

DX,SIGNS1 -19-04JUN90-1/1

Dispose of Waste Properly

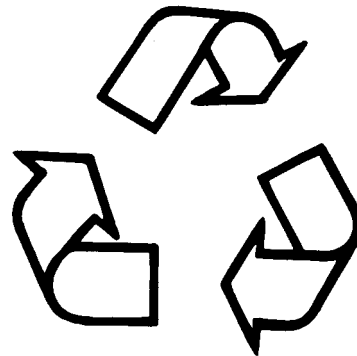
Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste used with John Deere equipment include such items as oil, fuel, coolant, brake fluid, filters, and batteries.

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

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

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

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



TS1133 —UN—26NOV90

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

Live With Safety

Before returning machine to customer, make sure machine is functioning properly, especially the safety systems. Install all guards and shields.



TS231 -19-07OCT88

DX,LIVE -19-25SEP92-1/1

Safety Measures on Electronic Control Units

CAUTION: Before installing test equipment on tractor, always shut off the engine and turn off key switch.

CAUTION: Always engage the park lock when performing tests with the engine running.

CAUTION: When testing is performed with the engine running, there is a risk of injury from rotating parts.

IMPORTANT: Do not use a test lamp on any control unit. Only use a multimeter (JT05791A/JDG1478).

IMPORTANT: To protect electronic circuits, disconnect the battery and alternator before performing any welding on the tractor.

LX25599,0000243 -19-15FEB07-1/1

Safety Instructions for Replacing a Halogen Bulb

When replacing a halogen bulb, always comply with the following safety instructions:

CAUTION: Always switch the lights off before you change a bulb.

CAUTION: First allow the bulb to cool down (may cause burns).

CAUTION: Wear safety goggles and gloves when changing the bulb.

CAUTION: The bulb is made of glass and contains halogen gas; the bulb is under high pressure, so there is a risk of it shattering.

CAUTION: Do NOT use any bulbs that have fallen on the ground or have scratches on their surface, as there is a risk of them shattering.

CAUTION: Make sure that the bulb is seated correctly in its holder in the light.

CAUTION: Check the light for signs of damage and make sure the seals are seated correctly.

IMPORTANT: Use only bulbs that are of the same type, same voltage and same wattage as the bulb that is being replaced.

IMPORTANT: Never touch the glass surface of the halogen bulb, hold it only by its base.

IMPORTANT: Use a clean cloth and alcohol to remove any fingerprints from the glass bulb.

IMPORTANT: Old halogen bulbs that have been replaced must be disposed of properly (i.e. as hazardous waste).

LX25599,0000288 -19-23NOV07-1/1

Safety Instructions for Replacing Xenon (HID) Bulbs and Ballast Units

When replacing a xenon (HID) bulb or ballast unit, it is essential to comply with the following safety instructions:

⚠ CAUTION: Switch the light off and disconnect it from the power supply before changing a bulb.

⚠ CAUTION: Never insert foreign objects or fingers into the bulb holder (high-tension voltage - potential for FATAL ACCIDENTS).

⚠ CAUTION: The ballast unit must never be operated when the bulb is missing, as this may cause a dangerous flash-over at the bulb sockets, resulting in serious damage (high-tension voltage - potential for FATAL ACCIDENTS).

⚠ CAUTION: First allow the bulb to cool down (may cause burns).

⚠ CAUTION: Wear safety goggles and gloves when changing the bulb.

⚠ CAUTION: The bulb is made of glass and contains xenon gas and metallic salts; the bulb is under high pressure, so there is a risk of it shattering.

⚠ CAUTION: Do NOT use any bulbs that have fallen on the ground or have scratches on their surface, as there is a risk of them shattering.

⚠ CAUTION: Make sure that the bulb is seated correctly in its holder in the light.

⚠ CAUTION: If a xenon (HID) bulb ever bursts inside a closed space (e.g. workshop), leave the area, making sure it is well ventilated, and wait for 20 minutes before returning. This will eliminate the risk to health caused by gases.

⚠ CAUTION: Check the light for signs of damage and make sure the seals are seated correctly.

IMPORTANT: Use only bulbs that are of the same type, same voltage and same wattage as the bulb that is being replaced.

IMPORTANT: Never touch the glass surface of the xenon bulb, hold it only by its base.

IMPORTANT: Use a clean cloth and alcohol to remove any fingerprints from the glass bulb.

IMPORTANT: Old xenon (HID) bulbs that have been replaced must be disposed of properly (i.e. as hazardous waste).

LX23006,00004F0 -19-15FEB07-1/1

