

744J & 824J Loaders (S.N. 590070—)



OPERATOR'S MANUAL 744J & 824J Loaders OMT200785 ISSUE A3 (ENGLISH)

CALIFORNIA Proposition 65 Warning

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

If this product contains a gasoline engine:

⚠ WARNING

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

The State of California requires the above two warnings.

Additional Proposition 65 Warnings can be found in this manual.

**Worldwide Construction
And Forestry Division**
LITHO IN U.S.A.

Introduction

Foreword

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

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

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

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

WRITE PRODUCT IDENTIFICATION NUMBERS (P.I.N.) in the Machine 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 or statement 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.

If you are not the original owner of this machine, it is in your interest to contact your local John Deere dealer to inform them of this unit's serial number. This will help John Deere notify you of any issues or product improvements.

DX,IFC7 -19-03APR09-1/1

IMPORTANT

Warranty will not apply to engine and drivetrain failures resulting from unauthorized adjustments to this engine.

Unauthorized adjustments are in violation of the emissions regulations applicable to this engine and may result in substantial fines and penalties.

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Introduction

Emissions Control Warranty Statement—U.S. and Canada

EMISSIONS CONTROL WARRANTY STATEMENT FOR NON-ROAD EQUIPMENT WITH A JOHN DEERE COMPRESSION IGNITION (CI) ENGINE (U.S. AND CANADA)

To determine if the John Deere engine qualifies for the additional warranties set forth below, look for the "Engine Information" label located on the engine. If the engine is operated in the United States or Canada and the engine label states: "This engine complies with US EPA regulations for nonroad and stationary diesel engines", or "This engine conforms to US EPA nonroad compression-ignition emission regulations", refer to the "U.S. and Canada Emissions Control Warranty Statement". If the engine is operated in California, and the engine label states: "This engine complies with US EPA and CARB regulations for nonroad diesel engines", or "This engine conforms to US EPA and California nonroad compression-ignition emission regulations", also refer to the "California Emissions Control Warranty Statement".

Warranties stated on this certificate refer only to emissions-related parts and components of your engine. The complete engine warranty, less emissions-related parts and components, is provided separately. If you have any questions regarding your warranty rights and responsibilities, contact John Deere at 1-800-JD-ENGINE.

U.S. AND CANADA EMISSIONS CONTROL WARRANTY STATEMENT:

John Deere warrants to the ultimate purchaser and each subsequent purchaser that this non road diesel engine was designed, built, and equipped so as to conform at the time of sale with applicable regulations under section 213 of the Clean Air Act, and is free from defects in materials and workmanship which would cause the engine to fail to conform with applicable regulations for a period of five years from the date of delivery to the original ultimate purchaser or 3,000 hours of operation, whichever first occurs.

John Deere will repair or replace, as it elects, any John Deere supplied emissions-related part or component with a defect in materials or workmanship that would cause the engine to not meet U.S. emissions standards within the stated warranty period. Warranty coverage is subject to the limitations and exclusions set forth herein.

EMISSIONS WARRANTY EXCLUSIONS:

John Deere may deny warranty claims for failures caused by non-performance of maintenance requirements as documented in the Operator's Manual.

John Deere is not liable for damage to other engine components caused by a failure of an emissions related part, unless otherwise covered by standard warranty.

John Deere may deny the owner warranty coverage if the non road diesel engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications or alterations.

John Deere may deny warranty claims for failures caused by the unauthorized or unreasonable use of an engine following sale.

Where permitted by law, neither John Deere, or any authorized John Deere engine distributor, dealer, or repair facility, or any company affiliated with John Deere will be liable for incidental or consequential damages.

CALIFORNIA EMISSIONS CONTROL WARRANTY STATEMENT:

John Deere warrants to the ultimate purchaser and each subsequent purchaser that this non road diesel engine was designed, built, and equipped so as to conform at the time of sale with all applicable regulations adopted by the California Air Resources Board and free from defects in materials and workmanship which would cause the failure of a warranted part to be identical in all material respects to the part as described in John Deere's application for certification for a period of five years from the date the engine is delivered to an ultimate purchaser or 3,000 hours of operation, whichever occurs first.

CALIFORNIA EMISSIONS WARRANTY EXCLUSIONS:

John Deere may deny warranty claims for failures caused by the use of an add-on or modified part which has not been exempted by the CARB. A modified part is an aftermarket part intended to replace an original emission-related part which is not functionally identical in all respects and which in any way affects emissions. An add-on part is any aftermarket part which is not a modified part or a replacement part.

In no event will John Deere, any authorized engine distributor, dealer, or repair facility, or any company affiliated with John Deere be liable for incidental or consequential damages.

John Deere may deny warranty claims based upon improper performance of maintenance or service by a person or facility other than a John Deere authorized service or repair facility.

John Deere may deny the owner warranty coverage if the non road diesel engine or any part has failed due to abuse, neglect, improper maintenance or unapproved modifications or alteration.

JOHN DEERE'S WARRANTY RESPONSIBILITY

John Deere will repair or replace, as it elects, a John Deere supplied emissions-related part or component with a defect in material or workmanship that would cause the failure of the part to be identical in all material respects to the part as described in John Deere's application for certification within the stated warranty period, at no cost to the owner for diagnosis, parts or labor. Warranty coverage is subject to the limitations and exclusions set forth herein.

The following are emissions-related parts:

- Air Induction System
 - Intake manifold
 - Turbocharger
 - Charge air cooler
- Fuel Metering System
 - Fuel injection system
- Exhaust Gas Recirculation (EGR) System
 - EGR valve
- Catalyst or Thermal Reactor System
 - Catalytic converter
 - Exhaust manifold
- Particulate Controls
 - Any device used to capture particulate emissions.

- Any device used in the regeneration of the capturing system
- Enclosures and manifolding
- Smoke Puff Limiters
- Positive Crankcase Ventilation (PCV) System
 - PCV valve
 - Oil filler cap
- Advanced Oxides of Nitrogen (NOx) Controls
 - NOx adsorbers and catalysts
 - SCR systems and urea containers / dispensing systems
- Miscellaneous Items used in Above Systems
 - Electronic control units, sensors, actuators, wiring harnesses
 - Hoses, connectors, clamps, fittings, gaskets, mounting hardware
 - Emission control information labels

Any warranted emissions-related part scheduled for replacement as required maintenance is warranted by John Deere for the period of time prior to the first scheduled replacement point for the part. Any warranted emissions-related part not scheduled for replacement as required maintenance or scheduled only for regular inspection is warranted by John Deere for the stated warranty period.

OWNER'S WARRANTY RESPONSIBILITIES:

The non road diesel engine owner is responsible for proper maintenance and servicing of the engine as documented in the Operator's Manual. John Deere recommends that the owner retain all receipts covering maintenance on the heavy-duty engine, but John Deere will not deny warranty solely for the lack of receipts or for the owner's failure to ensure the performance of all scheduled maintenance.

Emissions regulations require the customer to bring the unit to an authorized servicing dealer when required. As a result, John Deere is NOT liable for travel or mileage on emissions warranty service calls.

The non road diesel engine is designed to operate on diesel fuel as specified in the Fuels, Lubricants and Coolants section in the Operators Manual. Use of any other fuel may result in the engine no longer operating in compliance with mandated emissions requirements.

The owner is responsible for initiating the warranty process, and should present the machine to the nearest authorized John Deere dealer as soon as a problem is suspected. The warranty repairs should be completed by the authorized John Deere dealer as quickly as possible.

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Technical Information Feedback Form

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THANK YOU!

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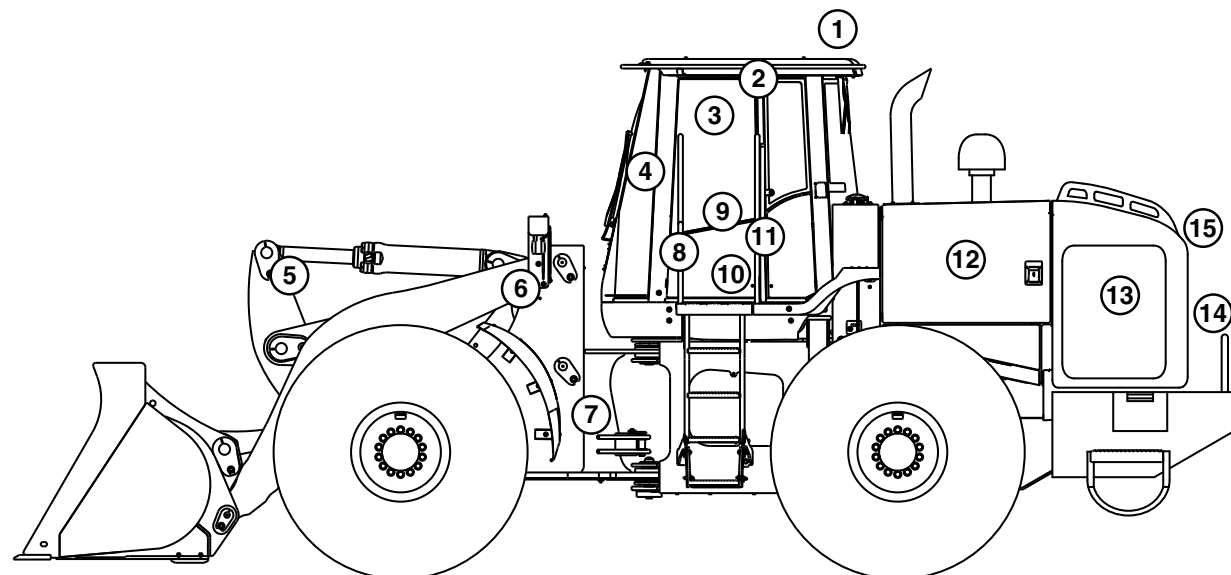
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Safety—Safety and Operator Conveniences

Safety and Operator Convenience Features



TX1014200

TX1014200—UN—22NOV06

Please remember, the operator is the key to preventing accidents.

1. **ROPS , FOPS, and OPS.** Structures designed to help protect the operator are certified to ISO, SAE, and OSHA. Enclosures also deflect sun and rain.
2. **Pressurized Cab with Heater/Defroster.** Positive pressure ventilation system circulates both outside and inside air through filters for a clean working environment. Built in defroster vents direct air flow for effective window defogging/deicing.
3. **Mirrors.** Large exterior mirrors on both sides and an inside mirror offers operator a broad view of area behind machine.
4. **Large Windshield Wiper with Washer.** Extra long wiper cleans large windshield area.
5. **Loader Boom Service Lock.** Loader includes a mechanical lock for securing boom in the raised position before work is started on or around the machine.
6. **Halogen Lights and Turn Signals.** Halogen drive and work lights and high-visibility turn signals are standard equipment.
7. **Articulation Locking Bar.** A self-storing mechanical lock is provided for transport or service.
8. **Handholds.** Large, conveniently placed handholds make it easy to enter or exit the operator's station or service area.
9. **Horn.** Standard horn is useful when driving or signaling coworkers.
10. **Independent Parking Brake.** Electronically controlled and engages whenever the engine is stopped.
11. **Seat Belt Retractors.** Seat belt retractors help keep belts clean and convenient to use.
12. **Bypass Start Protection.** Shielding over the starter terminals helps prevent dangerous bypass starting.
13. **Engine Fan Guard.** A secondary fan guard inside the engine compartment helps prevent contact with the rotating fan blades.
14. **Back Up Alarm.** Alerts bystanders when reverse travel direction is selected by operator.
15. **Stop and Signal Lights.** Highly visible stop lights and turn signal lights are standard equipment.

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Safety—General Precautions

Recognize Safety Information

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

Follow the precautions and safe operating practices highlighted by this symbol.

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

On your machine, DANGER signs are red in color, WARNING signs are orange, and CAUTION signs are yellow. DANGER and WARNING signs are located near specific hazards. General precautions are on CAUTION labels.



TX03679.00016CC -19-03NOV08-1/1

TI 133555 —UN—28AUG00

TI 133558 —19—28AUG00

Follow Safety Instructions

Read the safety messages in this manual and on the machine. Follow these warnings and instructions carefully. Review them frequently. Keep safety signs in good condition. Replace missing or damaged safety signs. Replacement safety signs are available from your authorized John Deere dealer.

Be sure all operators of this machine understand every safety message. Replace operator's manual and safety labels immediately if missing or damaged.



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TI 133556 —UN—24AUG00

Operate Only If Qualified

Do not operate this machine unless you have read the operator's manual carefully and you have been qualified by supervised training and instruction.

Familiarize yourself with the job site and your surroundings before operating. Try all controls and machine functions with the machine in an open area before starting to work.

Know and observe all safety rules that may apply to your work situation and your work site.

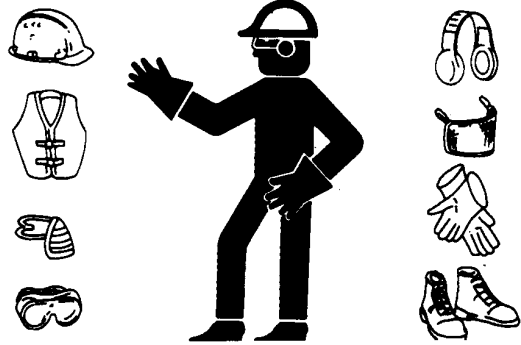
TX03679.00016FA -19-03NOV08-1/1

Wear Protective Equipment

Guard against injury from flying pieces of metal or debris; wear goggles or safety glasses.

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

Prolonged exposure to loud noise can cause impairment or loss of hearing. Wear suitable hearing protection such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.



TS206—UN—23AUG88

TX03679,00016D0 -19-03NOV08-1/1

Avoid Unauthorized Machine Modifications

John Deere recommends using only genuine John Deere replacement parts to ensure machine performance. Never substitute genuine John Deere parts with alternate parts not intended for the application as these can create hazardous situations or hazardous performance. Non-John Deere Parts, or any damage or failures resulting from their use are not covered by any John Deere warranty.

Modifications of this machine, or addition of unapproved products or attachments, may affect machine stability or

reliability, and may create a hazard for the operator or others near the machine. The installer of any modification which may affect the electronic controls of this machine is responsible for establishing that the modification does not adversely affect the machine or its performance.

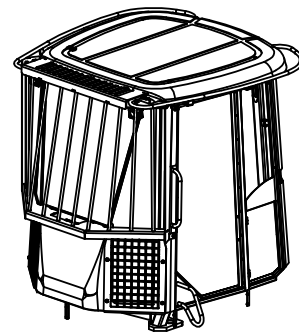
Always contact an authorized John Deere dealer before making machine modifications that change the intended use, weight or balance of the machine, or that alter machine controls, performance or reliability.

AM40430,00000A9 -19-14JAN08-1/1

Add Cab Guarding For Special Uses

Special work situations or machine attachments may create an environment with falling or flying objects. Loading logs, using fork attachments, or operating in waste management applications requires special work tools. Added cab guarding to protect the operator may also be required.

Use load-clamping grapples to keep bulky loads from falling and add special screens or guarding when objects may be directed toward the cab. Contact your authorized John Deere dealer for information on devices intended to protect the operator from falling or flying objects in special work situations.



T141893—UN—09JUN11

TX03679,00017C6 -19-18OCT07-1/1

Inspect Machine

Inspect machine carefully each day by walking around it before starting.

Keep all guards and shields in good condition and properly installed. Fix damage and replace worn or broken parts immediately. Pay special attention to hydraulic hoses and electrical wiring.



T6607AQ —UN—18OCT88

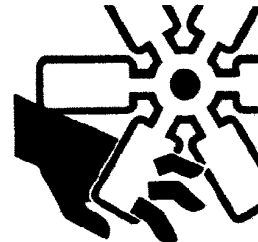
TX03679,0001734 -19-03NOV08-1/1

Stay Clear of Moving Parts

Entanglements in moving parts can cause serious injury.

Stop engine before examining, adjusting or maintaining any part of machine with moving parts.

Keep guards and shields in place. Replace any guard or shield that has been removed for access as soon as service or repair is complete.



T133592 —UN—12SEP01

TX03679,00016D2 -19-03NOV08-1/1

Avoid High-Pressure Fluids

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

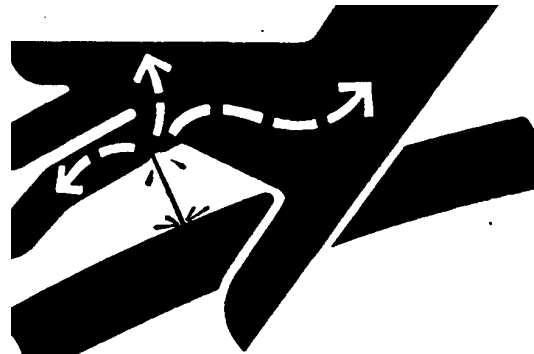
Replace worn or damaged hose assemblies immediately with John Deere approved replacement parts.

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

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

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

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar



X9811 —UN—23AUG88

with this type of injury should reference a knowledgeable medical source. Such information is available in English from Deere & Company Medical Department in Moline, Illinois, U.S.A., by calling 1-800-822-8262 or +1 309-748-5636.

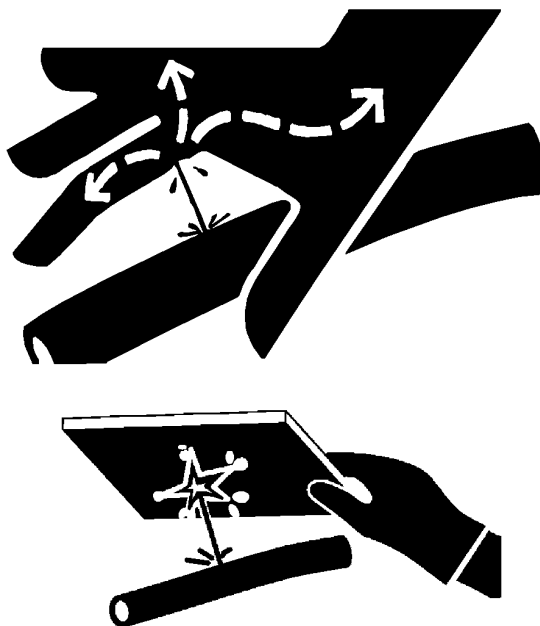
DX,FLUID -19-12OCT11-1/1

Avoid High-Pressure Oils

This machine uses a high-pressure hydraulic system. Escaping oil under pressure can penetrate the skin causing serious injury.

Never search for leaks with your hands. Protect hands. Use a piece of cardboard to find location of escaping oil. Stop engine and relieve pressure before disconnecting lines or working on hydraulic system.

If hydraulic oil penetrates your skin, see a doctor immediately. Injected oil must be removed surgically within hours or gangrene may result. Contact a knowledgeable medical source or the Deere & Company Medical Department in Moline, Illinois, U.S.A.



T133509 —UN—17MAR06

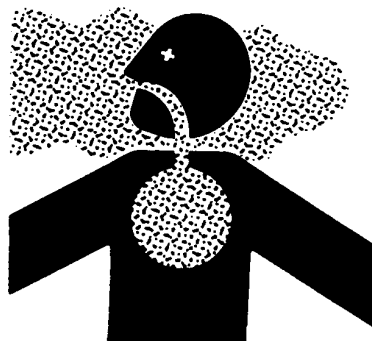
T133840 —UN—20SEP00

TX03679,00016D3 -19-03NOV08-1/1

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

Prevent Fires

Handle Fuel Safely: Store flammable fluids away from fire hazards. Never refuel machine while smoking or when near sparks or flame.

Clean Machine Regularly: Keep trash, debris, grease and oil from accumulating in engine compartment, around fuel lines, hydraulic lines, exhaust components, and electrical wiring. Never store oily rags or flammable materials inside a machine compartment.

Maintain Hoses and Wiring: Replace hydraulic hoses immediately if they begin to leak, and clean up any oil spills. Examine electrical wiring and connectors frequently for damage.

Keep A Fire Extinguisher Available: Always keep a multipurpose fire extinguisher on or near the machine. Know how to use extinguisher properly.



T133553 —UN—07SEP00



T133554 —UN—07SEP00



TX03679,00016F5 -19-03NOV08-1/1

T133552 —UN—14SEP00

Prevent Battery Explosions

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

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

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



TX03679,000174A -19-03NOV08-1/1

TS204 —UN—23AUG88

Handle Chemical Products Safely

Exposure to hazardous chemicals can cause serious injury. Under certain conditions, lubricants, coolants, paints and adhesives used with this machine may be hazardous.

If uncertain about safe handling or use of these chemical products, contact your authorized dealer for a Material Safety Data Sheet (MSDS) or go to internet website <http://www.jdmsds.com>. The MSDS describes physical and health hazards, safe use procedures, and emergency response techniques for chemical substances. Follow



MSDS recommendations to handle chemical products safely.

TX03679,00016D7 -19-03JAN07-1/1

T133580 —UN—25AUG00

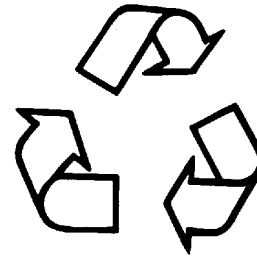
Dispose of Waste Properly

Improper disposal of waste can threaten the environment. Fuel, oils, coolants, filters and batteries used with this machine may be harmful if not disposed of properly.

Never pour waste onto the ground, down a drain, or into any water source.

Air conditioning refrigerants can damage the atmosphere. Government regulations may require using a certified service center to recover and recycle used refrigerants.

If uncertain about the safe disposal of waste, contact your local environmental or recycling center or your dealer for more information.



TI133567 —UN—25AUG00

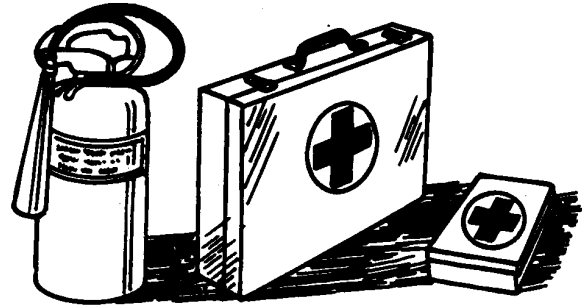
TX03679,0001733 -19-03NOV08-1/1

Prepare for Emergencies

Be prepared if an emergency occurs or 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

TX03679,000174B -19-03NOV08-1/1

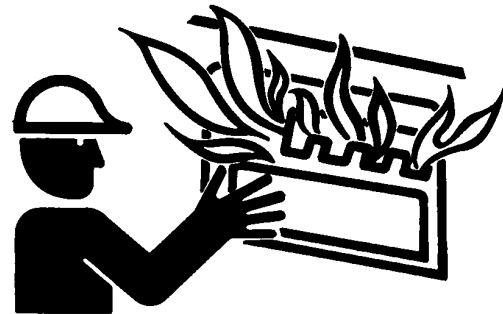
Clean Debris from Machine

Keep engine compartment, radiator, batteries, hydraulic lines, exhaust components, fuel tank, and operator's station clean and free of debris.

Clean any oil spills or fuel spills on machine surfaces.

Temperature in engine compartment may go up immediately after engine is stopped. **BE ON GUARD FOR FIRES DURING THIS PERIOD.**

Open access door(s) to cool the engine faster, and clean engine compartment.



T6669AG —UN—18OCT88

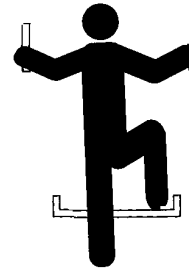
OUT4001,00000E3 -19-20AUG09-1/1

Safety—Operating Precautions

Use Steps and Handholds Correctly

Prevent falls by facing the machine when getting on and off. Maintain 3-point contact with steps and handrails. Never use machine controls as handholds.

Use extra care when mud, snow, or moisture present slippery conditions. Keep steps clean and free of grease or oil. Never jump when exiting machine. Never mount or dismount a moving machine.



T133468 —UN—30AUG00

TX03679,00016F2 -19-15MAR07-1/1

Start Only From Operator's Seat

Avoid unexpected machine movement. Start engine only while sitting in operator's seat. Ensure all controls and working tools are in proper position for a parked machine.

Never attempt to start engine from the ground. Do not attempt to start engine by shorting across the starter solenoid terminals.



T133715 —UN—07SEP00

TX03679,0001799 -19-22APR10-1/1

Use and Maintain Seat Belt

Use seat belt when operating machine. Remember to fasten seat belt when loading and unloading from trucks and during other uses.

Examine seat belt frequently. Be sure webbing is not cut or torn. Replace seat belt immediately if any part is damaged or does not function properly.

The complete seat belt assembly should be replaced every 3 years, regardless of appearance.



USE SEAT BELT

T133716 —19—14SEP00

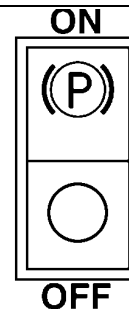
TX03679,00016DD -19-03NOV08-1/1

Prevent Unintended Machine Movement

When coworkers are present, disable hydraulics.

Lower all equipment to the ground during work interruptions. Lock transmission control in neutral, engage park brake and stop engine before allowing anyone to approach the machine.

Follow these same precautions before standing up, leaving the operator's seat, or exiting the machine.



T142001 —UN—15MAY01

TX03679,00017C7 -19-08MAR07-1/1

Avoid Work Site Hazards

Avoid contact with gas lines, buried cables and water lines. Call utility line location services to identify all underground utilities before starting work.

Prepare work site properly. Avoid operating near structures or objects that could fall onto the machine. Clear away debris that could move unexpectedly if run over.

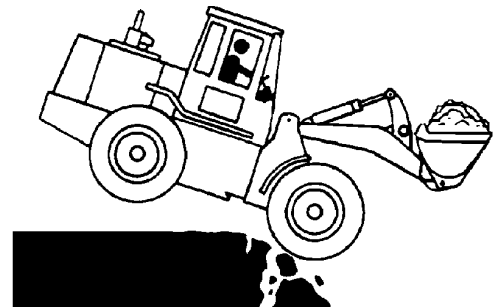
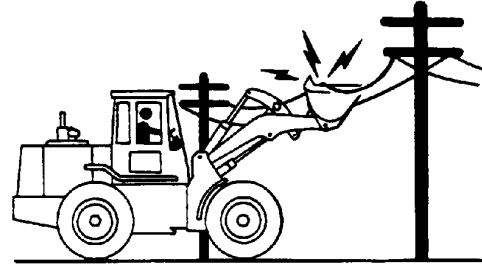
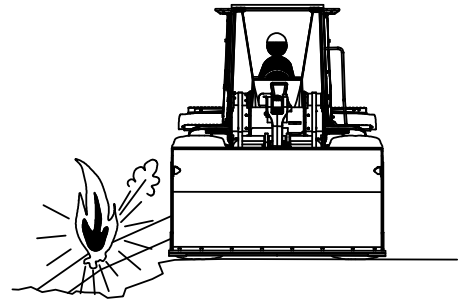
Avoid boom or attachment contact with overhead obstacles or overhead electrical lines. Never move machine closer than 3 m (10 ft) plus twice the line insulator length to overhead wires.

Keep bystanders clear at all times. Use barricades or a signal person to keep vehicles and pedestrians away. Use a signal person if moving machine in congested areas or where visibility is restricted. Always keep signal person in view. Coordinate hand signals before starting machine.

Operate only on solid footing with strength sufficient to support machine. Be especially alert working near embankments or excavations.

Avoid working under overhanging embankments or stockpiles that could collapse under or on machine.

Reduce machine speed when operating with tool on or near ground when obstacles may be hidden (e.g., during snow removal or clearing mud, dirt, etc.). At high speeds hitting obstacles (rocks, uneven concrete or manholes) can cause a sudden stop. Always wear your seat belt.



VD76477,00014AE -19-08MAR07-1/1

T141894 —UN—15JUN01

T141670 —UN—24APR01

T141672 —UN—04MAY01

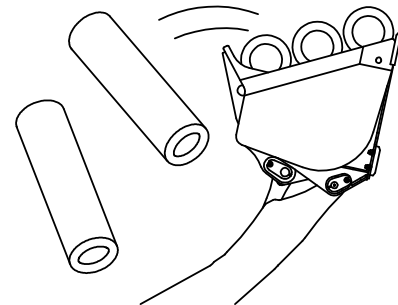
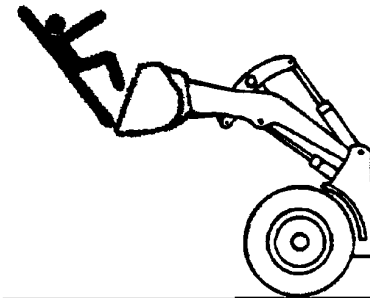
Use Special Care When Operating Loader

Never use the loader to lift people. Do not allow anyone to ride in the bucket or use the bucket as a work platform.

Operate carefully with raised loads. Raising the load reduces machine stability, especially on side slopes or an unstable surface. Drive and turn slowly with a raised load.

Ensure that objects in the bucket are secure. Do not attempt to lift or carry objects that are too big or too long to fit inside the bucket unless secured with an adequate chain or other device. Keep bystanders away from raised loads.

Be careful when lifting objects. Never attempt to lift objects too heavy for your machine. Assure machine stability and hydraulic capability with a test lift before attempting other maneuvers. Use an adequate chain or sling and proper rigging techniques to attach and stabilize loads. Never lift an object above or near another person.



TX03768,0000B70 -19-14MAY01-1/1

T141957 —UN—15MAY01

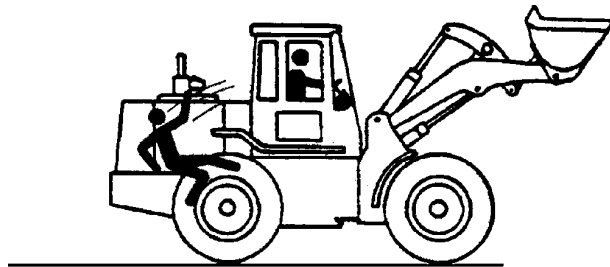
T141902 —UN—07MAY01

Keep Riders Off Machine

Only allow operator on machine.

Riders are subject to injury. They may fall from machine, be caught between machine parts, or be struck by foreign objects.

Riders may obstruct operator's view or impair his ability to operate machine safely.



T141671—JUN—04MAY01

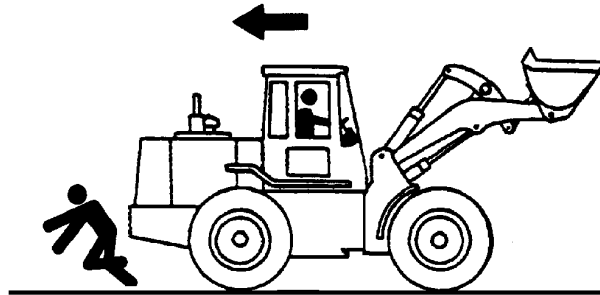
TX03679,000179B -19-20APR01-1/1

Avoid Backover Accidents

Before moving machine, be sure all persons are clear of machine path. Turn around and look directly for best visibility. Use mirrors to assist in checking all around machine. Keep windows and mirrors clean, adjusted, and in good repair.

Be certain reverse warning alarm is working properly.

Use a signal person when backing if view is obstructed or when in close quarters. Keep signal person in view at all times. Use prearranged hand signals to communicate.



T141673—JUN—04MAY01

TX03679,000179C -19-20APR01-1/1

Avoid Machine Tip Over

Use seat belt at all times.

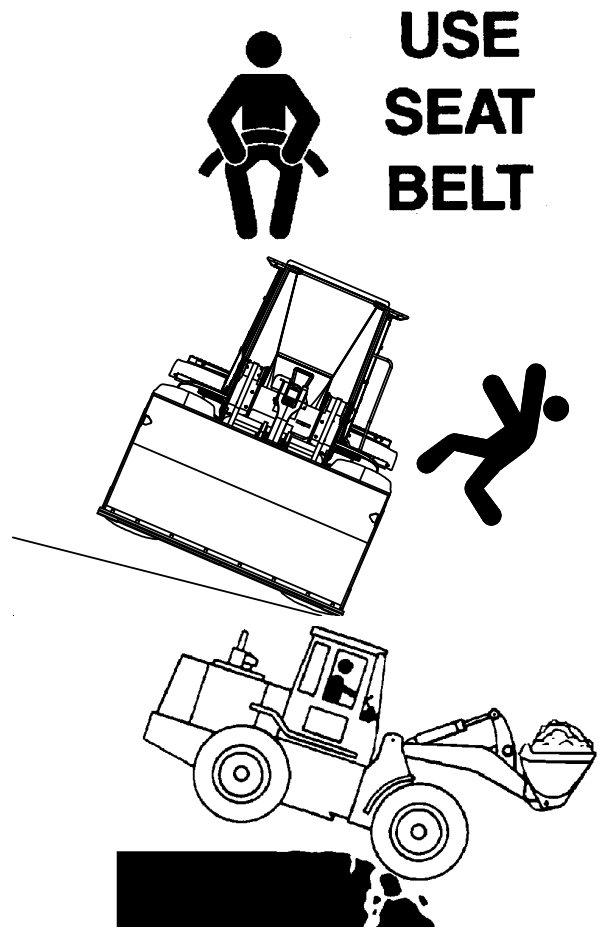
Do not jump if the machine tips. You will be unlikely to jump clear and the machine may crush you.

Load and unload from trucks or trailers carefully. Be sure truck is wide enough and on a firm level surface. Use loading ramps and attach them properly to truck bed.

Be careful on slopes. Avoid sharp turns. Balance loads so weight is evenly distributed and load is stable. Carry tools and loads close to the ground to aid visibility and lower center of gravity. Use extra care on soft, rocky or frozen ground.

Know the capacity of the machine. Do not overload. Be careful with heavy loads. Using oversize buckets or lifting heavy objects reduces machine stability.

Ensure solid footing. Use extra care in soft ground conditions that may not uniformly support the wheels, especially when raising the boom. Do not operate close to banks or open excavations that may cave in and cause machine to tip or fall.



T133716—19—14SEP00

T141676—UN—04MAY01

T141672—UN—04MAY01

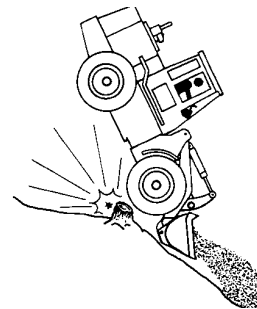
TX03679,000179D -19-02MAY01-1/1

Operating on Slopes

Avoid side slope travel whenever possible. Drive up steep slope in forward and down in reverse.

Select low gear speed before starting down slope. The grade of the slope will be limited by ground condition and load being handled.

Use service brakes to control speed. Sudden brake application with a loaded bucket on downhill side could cause machine to tip forward.



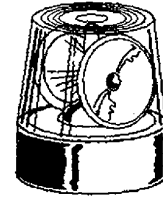
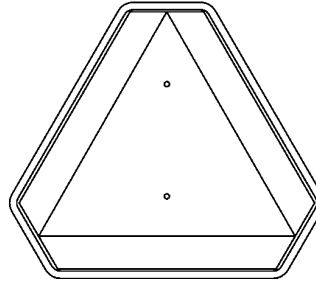
T141681—UN—30APR01

TX03679,000179E -19-14MAY01-1/1

Operating or Traveling On Public Roads

Machines that work near vehicle traffic or travel slower than normal highway speeds must have proper lighting and markings to assure they are visible to other drivers.

Install additional lights, beacons, slow moving vehicle (SMV) emblems, or other devices and use as required to make the machine visible and identify it as a work machine. Check state and local regulations to assure compliance. Keep these devices clean and in working condition.



T141891—JUN—22MAY01

TX03679,00017C8 -19-02MAR07-1/1

Inspect and Maintain ROPS

A damaged roll-over protective structure (ROPS) should be replaced, not reused.

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.

If ROPS was loosened or removed for any reason, inspect it carefully before operating the machine again.

To maintain the ROPS:

- Replace missing hardware using correct grade hardware.
- Check hardware torque.
- Check isolation mounts for damage, looseness or wear; replace them if necessary.
- Check ROPS for cracks or physical damage.

TX03679,000179F -19-07SEP06-1/1

Add and Operate Attachments Safely

Always verify compatibility of attachments by contacting your authorized dealer. Adding unapproved attachments may affect machine stability or reliability, and may create a hazard for others near the machine.

Ensure that a qualified person is involved in attachment installation. Add guards to machine if operator protection

is required or recommended. Verify that all connections are secure and attachment responds properly to controls.

Carefully read attachment manual and follow all instructions and warnings. In an area free of bystanders and obstructions, carefully operate attachment to learn its characteristics and range of motion.

TX03679,00016F0 -19-24JAN07-1/1

Safety—Maintenance Precautions

Park And Prepare For Service Safely

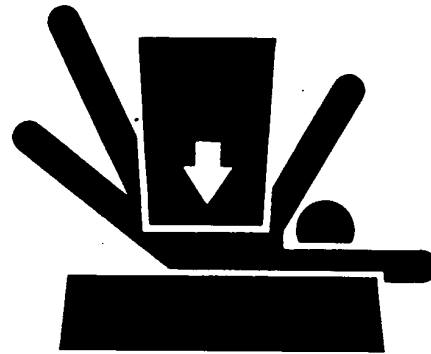
Warn others of service work. Always park and prepare your machine for service or repair properly.

- Park machine on a level surface and lower equipment to the ground.
- Engage park brake.
- Stop engine and remove key.
- Install frame locking bar.
- Attach a “Do Not Operate” tag in an obvious place in the operator’s station.

Securely support machine or attachment before working under it.

- Do not support machine with boom, bucket, or other hydraulically actuated equipment.
- Do not support machine with cinder blocks or wooden pieces that may crumble or crush.
- Do not support machine with a single jack or other devices that may slip out of place.

Understand service procedures before beginning repairs. Keep service area clean and dry. Use two people whenever the engine must be running for service work.



TX03679,00017A0 -19-25AUG10-1/1

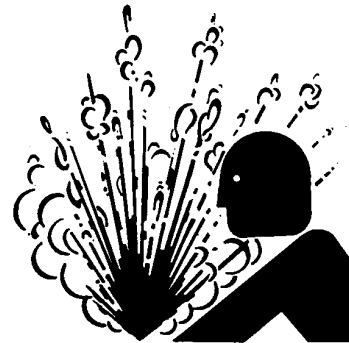
T133332 —19—14DEC01

TS229 —UN—23AUG88

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.



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

TS281 —UN—23AUG88

Service Tires Safely

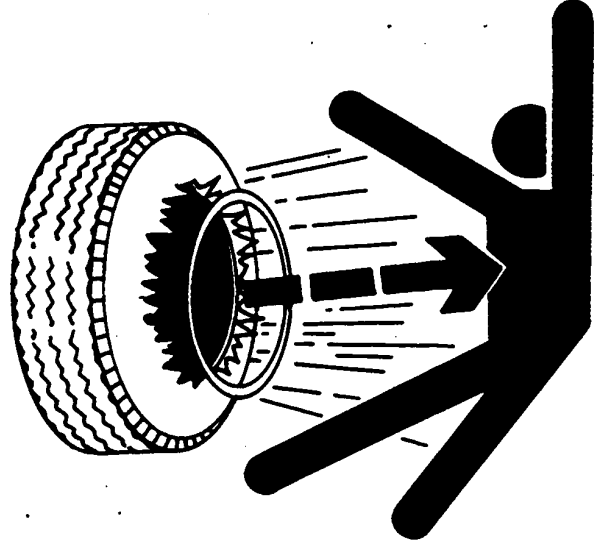
Explosive separation of a tire and rim parts can cause serious injury or death.

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.



TS211—UN—23AUG88

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

Remove Paint Before Welding or Heating

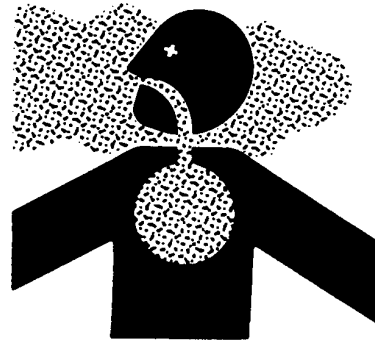
Avoid potentially toxic fumes and dust.

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

Make Welding Repairs Safely

IMPORTANT: Disable electrical power before welding. Turn off main battery switch or disconnect positive battery cable. Separate harness connectors to engine and vehicle microprocessors.

Avoid welding or heating near pressurized fluid lines. Flammable spray may result and cause severe burns if pressurized lines fail as a result of heating. Do not let heat go beyond work area to nearby pressurized lines.

Remove paint properly. Do not inhale paint dust or fumes. Use a qualified welding technician for structural repairs.



Make sure there is good ventilation. Wear eye protection and protective equipment when welding.

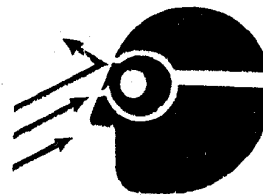
TX03679,00016D5 -19-25APR08-1/1

T133547 —UN—31AUG00

Drive Metal Pins Safely

Always wear protective goggles or safety glasses and other protective equipment before striking hardened parts. Hammering hardened metal parts such as pins and bucket teeth may dislodge chips at high velocity.

Use a soft hammer or a brass bar between hammer and object to prevent chipping.



TX03679,0001745 -19-03JAN07-1/1

T133738 —UN—14SEP00

Safety—Safety Signs

Safety Signs

⚠ WARNING



**Avoid crushing
DO NOT JUMP
if machine tips**

T146097

**USE
SEAT
BELT**

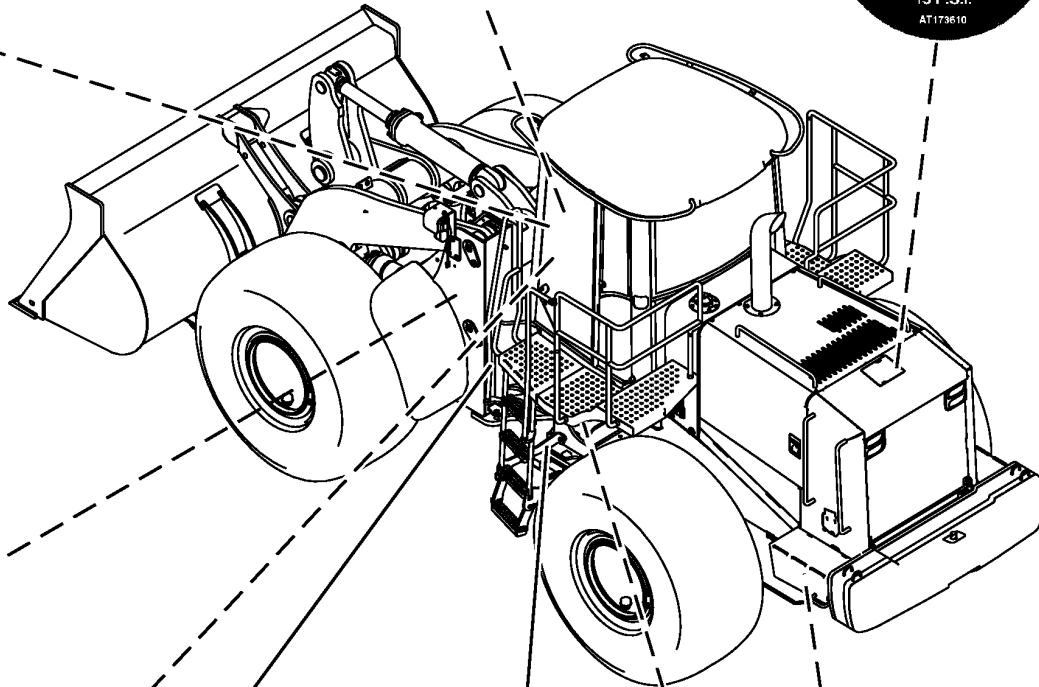
⚠ CAUTION

- AVOID DEATH OR SERIOUS INJURY - Read and understand Operator's Manual before operating this machine.
- Operate only from seat.
- Before leaving seat:
 - Lower bucket to ground.
 - Lock transmission selector in neutral.
 - Set park brake.
 - Turn pilot hydraulic switch to locked position.
 - Stop engine (turn key switch to OFF).
- Do not permit riders.
- Avoid contact with overhead obstacles when operating or hauling machine.

⚠ CAUTION

**PRESSURIZED
DO NOT OPEN HOT**

Remove Slowly
15 P.S.I.
AT173610



⚠ WARNING



**AVOID SERIOUS
INJURY**

Block wheels to prevent machine movement before deactivating park brake for towing.

T159028

⚠ CAUTION

**MACHINE EQUIPPED
WITH SECONDARY
STEERING SYSTEM**

Stop machine immediately if light or buzzer warns of low steering pressure.

Secondary steering system only functions with key switch on.

Test secondary system periodically. See Operator's Manual.

T146443

(IF EQUIPPED)

⚠ CAUTION

This machine may be equipped with batteries on each side.

Always disconnect both ground straps before working on electrical system.

T146438

⚠ WARNING



ALWAYS INSTALL BOOM LOCK BEFORE WORKING ON OR AROUND THIS MACHINE WITH THE LOADER BOOM RAISED.

Empty bucket and place in dump position. Install boom lock with tab centered and engaged in boom cylinder rod end swivel.

See Operator's Manual for complete instructions.

T182191

⚠ WARNING

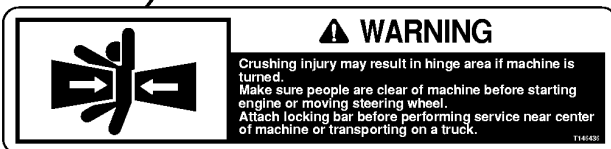
Avoid injury from escaping fluid. Contents of this accumulator are under pressure.

1. Refer to proper Machine Model Technical Manual for removal and installation procedure.
2. This accumulator is charged with DRY NITROGEN by the manufacturer and is NOT rechargeable.

T174298

Maximum Working Pressure
24820 kPa [3600 PSI]

⚠ WARNING



Crushing injury may result in hinge area if machine is turned.

Make sure people are clear of machine before starting engine or moving steering wheel.

Attach locking bar before performing service near center of machine or transporting on a truck.

T146491

T159570

Left Side Shown

Continued on next page

HG31779,000013C -19-26SEP02-1/2

T159570 —19—30OCT02



WARNING
Hot Surface

H118611

WARNING

AVOID INJURY FROM RELEASE OF HIGH PRESSURE OIL

Always discharge ride-control accumulator before disassembly of hydraulic lines.

See Operator's Manual for instructions.

T148202



DANGER

To avoid injury, securely brace lift arm before disassembly of valve or piping.

T188075




DANGER

Start only from seat in park or neutral.

Starting in gear kills.

T146195



WARNING

Crushing injury may result in hinge area if machine is turned.

Make sure people are clear of machine before starting engine or moving steering wheel.

Attach locking bar before performing service near center of machine or transporting on a truck.

T146436

WARNING

Avoid injury from escaping fluid. Contents of this accumulator are under pressure.

1. Refer to proper machine model Technical Manual for disassembly or charging instructions and equipment required.
2. Charge with DRY NITROGEN only.

T180944

Maximum Working Pressure
27579 kPa [4000 PSI]

T159894

Right Side Shown

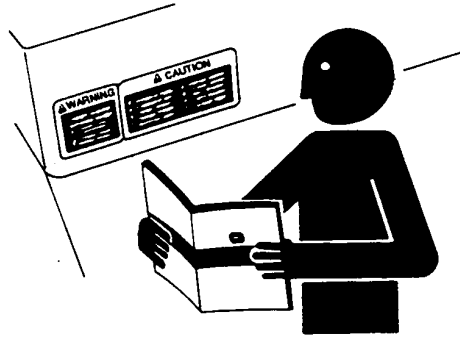
HG31779.000013C -19-26SEP02-2/2

T159894—19—26SEP02

Replace Safety Signs

Replace missing or damaged safety signs. Use this operator's manual for correct safety sign placement.

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



TS201—UN—23AUG88

DX,SIGNS -19-18AUG09-1/1

Operation—Operator's Station

Levers



T194168A—UN—18SEP03

Single Lever with Auxiliary Control Design Shown with Joystick FNR



Two Lever with Auxiliary Control Design

T194169A—UN—18SEP03

VD76477,000105B -19-14SEP06-1/3



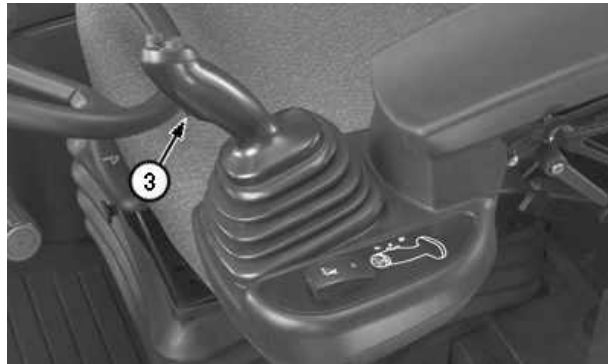
T195153A—UN—26SEP03

Continued on next page

VD76477,000105B -19-14SEP06-2/3

NOTE: Joystick steering sensitivity changes with speed. Become familiar with steering at all speeds before operating in confined areas.

- 1— Column FNR
- 2— Turn Signal
- 3— Joystick FNR - If Equipped



Joystick Steering with FNR - If Equipped

VD76477,000105B -19-14SEP06-3/3

TZ13974A—UN—29AUG05

Pedals

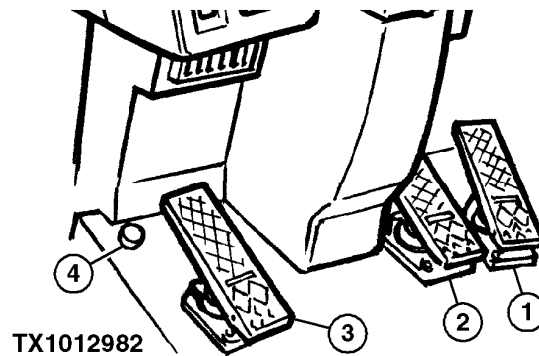
Accelerator pedal (1): Depress to increase speed of machine.

Brake pedals (2 and 3): Depress left brake pedal (3) or right brake pedal (2) to stop machine.

NOTE: Brake pedals also serve as clutch cutoff pedals when clutch cutoff switch is in “clutch disengaged” position.

Differential Lock Foot Switch (4)—If Equipped: Depress switch (4) to lock front axle differential. Release switch to unlock differential.

NOTE: Use differential lock only when conditions require traction. Avoid using differential lock when steering.



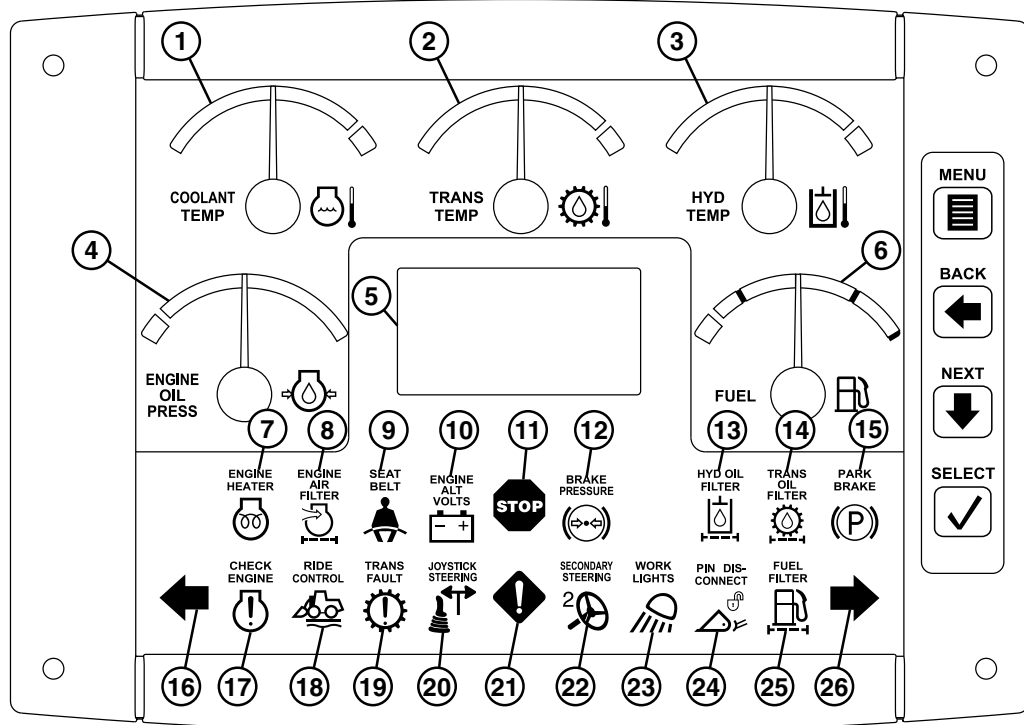
TX1012982

- 1— Accelerator
- 2— Brake/Clutch Cutoff Pedal
- 3— Brake/Clutch Cutoff Pedal
- 4— Differential Lock Foot Switch—If Equipped

TX_10_JC1191 -19-18DEC06-1/1

TX1012982—UN—06OCT06

CAN Monitor Unit (CMU)



TX1070946

- | | | | |
|--|--|--|--|
| 1— Engine Coolant Temperature Gauge | 9— Fasten Seat Belt Indicator | 16— Left Turn Indicator | 23— Work Lights ON Indicator—If Equipped |
| 2— Transmission Oil Temperature Gauge | 10— Engine Alt Volts Indicator | 17— Check Engine Indicator | 24— Hydraulic Coupler Pin Disconnect Indicator—If Equipped |
| 3— Hydraulic Oil Temperature Gauge | 11— STOP Indicator | 18— Ride Control Indicator | 25— Fuel Filter Restriction Indicator |
| 4— Engine Oil Pressure Gauge | 12— Brake Pressure Indicator | 19— Transmission Fault Indicator | 26— Right Turn Indicator |
| 5— Display Window | 13— Hydraulic Oil Filter Restriction Indicator | 20— Joystick Steering - If Equipped | |
| 6— Fuel Gauge | 14— Transmission Oil Filter Indicator | 21— Service Required Indicator | |
| 7— Engine Heater Indicator—If Equipped | 15— Park Brake Indicator | 22— Secondary Steering Warning Indicator—If Equipped | |
| 8— Engine Air Filter Restriction Indicator | | | |

- MENU provides initial entry into machine settings, diagnostics, and monitor settings. Once a main menu has been selected, pressing MENU again will return to the Normal Display Mode Menu.
- BACK will back out of a menu, one item each time the key is pressed. The BACK key will eventually return to the normal display.
- NEXT will move to the next selection within a menu or mode. Press NEXT to cycle through all the possible selections in a menu.
- SELECT toggles between the odometer, hour meter, and speedometer displays during normal operation. During menu modes, SELECT will activate the currently chosen menu, provide additional information on codes, make selection, reset timers, or turn on/off stop watch.

VD76477,000105C -19-20MAY10-1/1

TX1070946—UN—11FEB10

Monitor Panel Functions

NOTE: Monitor may not function in extremely cold conditions.

1—Engine Coolant Temperature Gauge: Indicator will light, STOP indicator will flash and audible alarm will sound when pointer is in red zone. Stop machine and allow engine to cool. Shut off engine and take corrective action.

If pointer deflects to the far left side of the scale, electronic communication is lost or a sensor error is active. Indicator will not light.

2—Transmission Oil Temperature Gauge: If pointer is in red zone, indicator will light, STOP indicator will flash, and audible alarm will sound indicating that the temperature is too high. Stop machine and allow transmission to cool. Shut off engine and take corrective action.

If pointer deflects to the far left side of the scale, electronic communication is lost or a sensor error is active. Indicator will not light.

3—Hydraulic Oil Temperature Gauge: Indicator will light and service required indicator will light when pointer is in red zone. Stop work cycle and cycle loader functions without load to lower indicator reading. If indicator still stays in red zone, stop machine and see your authorized dealer.

If pointer deflects to the far left side of the scale, electronic communication is lost or a sensor error is active. Indicator will not light.

4—Engine Oil Pressure Gauge:

IMPORTANT: Prevent possible engine damage. If engine oil pressure indicator light comes on while operating, stop machine. STOP ENGINE IMMEDIATELY.

Indicator will flash, STOP indicator will flash, and alarm will sound when engine oil pressure gauge indicates low pressure. Stop machine. STOP ENGINE IMMEDIATELY.

If pointer deflects to the far left side of the scale, electronic communication is lost or a sensor error is active. Indicator will not light.

NOTE: Extreme steep slope (off level) operation may cause indicator to light.

5—Display Window: The display window has eight displays:

- Actual Gear
- Requested Gear
- FNR
- Auto/Manual Transmission Mode
- Tachometer
- Hour Meter
- Odometer
- Speedometer

6—Fuel Gauge: Gauge will reflect fuel level in tank. Indicator will flash to indicate low level condition.

If pointer deflects to the far left side of the scale, electronic communication is lost or a sensor error is active. Indicator will not light.

Always fill tank at the end of the day to eliminate condensation in fuel tank.

7—Engine Heater Indicator—If Equipped: If preheat is needed, Indicator will light when key switch is turned clockwise to the “On” position. Light will turn off approximately 15-45 seconds depending on engine temperature, indicating that preheating is completed. Light will turn off while cranking engine. Indicator will also light for approximately 15-45 seconds after engine is running, indicating post heat.

8—Engine Air Filter Restriction Indicator: Indicator will light and service required indicator will light when air elements are restricted.

9—Fasten Seat Belt Indicator: Indicator will light for the first 5 seconds after the engine is started to warn the operator to fasten seat belt.

10—Engine Alt Volts Indicator: Indicator will light and service required indicator will light when alternator output is below 24 volts with engine running or below 18 volts when engine is not running. Check battery charge under Diagnostics—Battery Monitor on digital display.

11—STOP Indicator:

⚠ CAUTION: Prevent possible injury or machine damage. If STOP indicator flashes and alarm sounds, stop immediately and investigate cause of problem.

Indicator will light when a problem has developed.

12—Brake Pressure Indicator:

⚠ CAUTION: Prevent possible injury or machine damage. If brake pressure indicator comes on while operating, stop machine immediately.

Indicator will flash, STOP indicator will flash, and alarm will sound when brake oil pressure is low or brake accumulator has lost its charge. Stop machine immediately and push park brake switch to ON.

Sensor failure will cause indicator light and caution light to illuminate.

13—Hydraulic Oil Filter Restriction Indicator:

IMPORTANT: Prevent possible hydraulic pump damage. Change hydraulic oil filter as soon as possible when a problem occurs.

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