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SAFETY

Operation and Maintenance
Manual Excerpt

Operation and Maintenance Manual

LEXION 470, LEXION 480 and LEXION 485 Combines

9TW1-Up (Machine)
2BZ1-Up (Machine)
8ZW1-Up (Machine)

Important Safety Information

Most accidents that involve product operation, maintenance and repair are caused by failure to observe basic safety rules or precautions. An accident can often be avoided by recognizing potentially hazardous situations before an accident occurs. A person must be alert to potential hazards. This person should also have the necessary training, skills and tools to perform these functions properly.

Improper operation, lubrication, maintenance or repair of this product can be dangerous and could result in injury or death.

Do not operate or perform any lubrication, maintenance or repair on this product, until you have read and understood the operation, lubrication, maintenance and repair information.

Safety precautions and warnings are provided in this manual and on the product. If these hazard warnings are not heeded, bodily injury or death could occur to you or to other persons.

The hazards are identified by the "Safety Alert Symbol" and followed by a "Signal Word" such as "DANGER", "WARNING" or "CAUTION". The Safety Alert "WARNING" label is shown below.



The meaning of this safety alert symbol is as follows:

Attention! Become Alert! Your Safety is Involved.

The message that appears under the warning explains the hazard and can be either written or pictorially presented.

Operations that may cause product damage are identified by "NOTICE" labels on the product and in this publication.

Caterpillar cannot anticipate every possible circumstance that might involve a potential hazard. The warnings in this publication and on the product are, therefore, not all inclusive. If a tool, procedure, work method or operating technique that is not specifically recommended by Caterpillar is used, you must satisfy yourself that it is safe for you and for others. You should also ensure that the product will not be damaged or be made unsafe by the operation, lubrication, maintenance or repair procedures that you choose.

The information, specifications, and illustrations in this publication are on the basis of information that was available at the time that the publication was written. The specifications, torques, pressures, measurements, adjustments, illustrations, and other items can change at any time. These changes can affect the service that is given to the product. Obtain the complete and most current information before you start any job. Caterpillar dealers have the most current information available. For a list of the most current publication form numbers available, see the Service Manual Contents Microfiche, REG1139F.



When replacement parts are required for this product Caterpillar recommends using Caterpillar replacement parts or parts with equivalent specifications including, but not limited to, physical dimensions, type, strength and material.

Failure to heed this warning can lead to premature failures, product damage, personal injury or death.

Safety Section

Safety Signs and Labels

i01407527

SMCS Code: 7000

There are several specific safety signs on this machine. The exact location of the hazards and the description of the hazards are reviewed in this section. Please become familiarized with all safety signs.

Make sure that all of the safety signs are legible. Clean the safety signs or replace the safety signs if you cannot read the words. Replace the illustrations if the illustrations are not visible. When you clean the safety signs, use a cloth, water, and soap. Do not use solvent, gasoline, or other harsh chemicals to clean the safety signs. Solvents, gasoline, or harsh chemicals could loosen the adhesive that secures the safety sign. Loose adhesive will allow the safety sign to fall.

Replace any safety sign that is damaged or missing. If a safety sign is attached to a part of the machine that is replaced, install a safety sign on the replacement part. Any Caterpillar dealer can provide new safety signs.

Do Not Operate

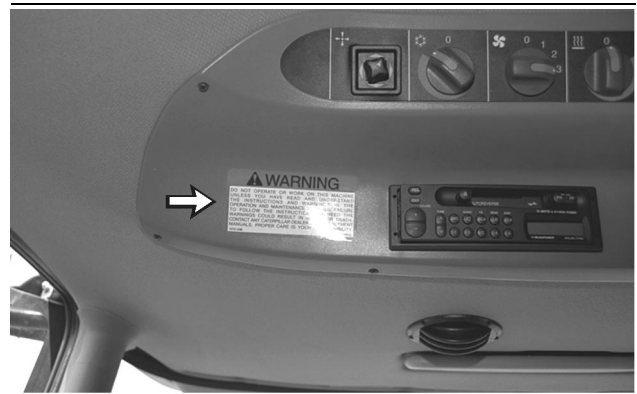


Illustration 2

g00533891

The safety sign is located on the headliner in the cab.

WARNING

Do not operate or work on this machine unless you have read and understand the instructions and warnings in the Operation and Maintenance Manual. Failure to follow the instructions or heed the warnings could result in injury or death. Contact your Caterpillar dealer for replacement manuals. Proper care is your responsibility.

Engage the Safety Ram



Illustration 3

g00533897

The safety sign is located on the left side of the feeder house.

DANGER

To avoid serious injury or death engage safety ram stop before going under header or feeder.

Raise header to position safety ram stop over lift ram rod being sure the stop fully contacts the rod.

Engage the Safety Ram

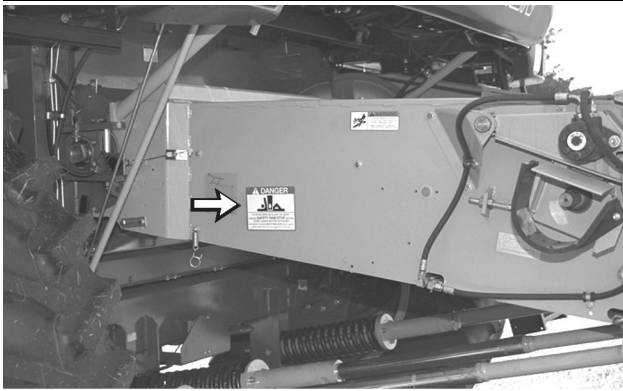


Illustration 4

g00535674

The safety sign is located on the right side of the feeder house.

DANGER

To avoid serious injury or death engage safety ram stop before going under header or feeder.

Raise header to position safety ram stop over lift ram rod being sure the stop fully contacts the rod.

Adjustments

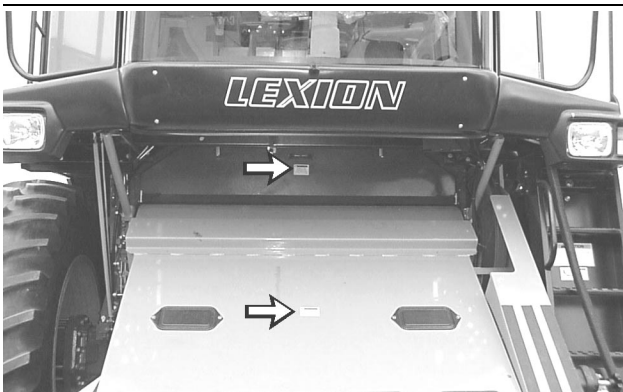


Illustration 5

g00742166

The safety sign is located on the top of the feeder house and on the drum cover.

WARNING

To avoid serious injury stop engine, remove starter key, look, listen and wait for all movement to stop before opening doors or making adjustments.

Adjustments

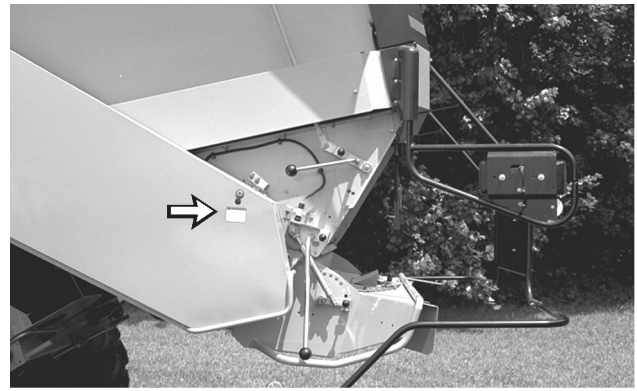


Illustration 6

g00534155

The safety sign is located on the door for the chopper drive.

WARNING

To avoid serious injury stop engine, remove starter key, look, listen and wait for all movement to stop before opening doors or making adjustments.

Adjustments



Illustration 7

g00534237

The safety sign is located on the door.

WARNING

To avoid serious injury stop engine, remove starter key, look, listen and wait for all movement to stop before opening doors or making adjustments.

Adjustments

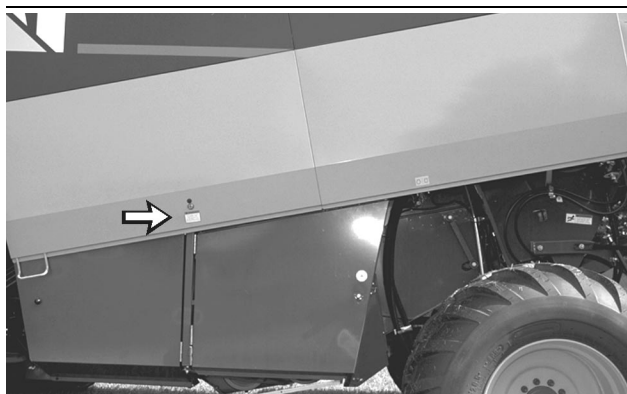


Illustration 8

g00534246

The safety sign is located on the side door.

WARNING

To avoid serious injury stop engine, remove starter key, look, listen and wait for all movement to stop before opening doors or making adjustments.

Adjustments

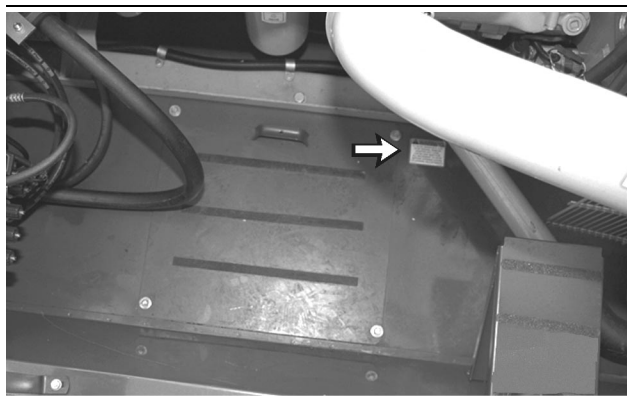


Illustration 9

g00535081

The safety sign is located on the top of the machine next to the rotor door.

WARNING

To avoid serious injury stop engine, remove starter key, look, listen and wait for all movement to stop before opening doors or making adjustments.

Adjustments

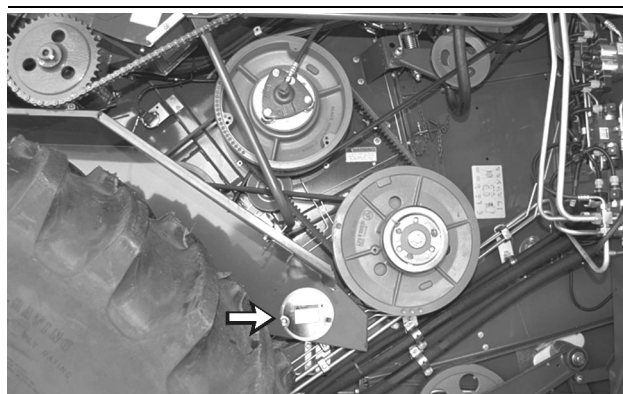


Illustration 10

g00535082

The safety sign is located on the left side of the machine on the round door.

WARNING

To avoid serious injury stop engine, remove starter key, look, listen and wait for all movement to stop before opening doors or making adjustments.

Jump Start Cables



Illustration 11

g00742171

The safety sign is located inside the tool box.

WARNING

Improper jumper cable connections can cause explosion resulting in personal injury and damage. Batteries may be located in separate compartments. When using jumper cables, always connect positive (+) cable to positive (+) terminal of battery connected to starter solenoid and negative (-) cable from external source to negative (-) terminal of battery (Do not use the body of machine to connect the negative (-) cable from external source) follow procedure in the Operation and Maintenance manuals.

Variable Pulley

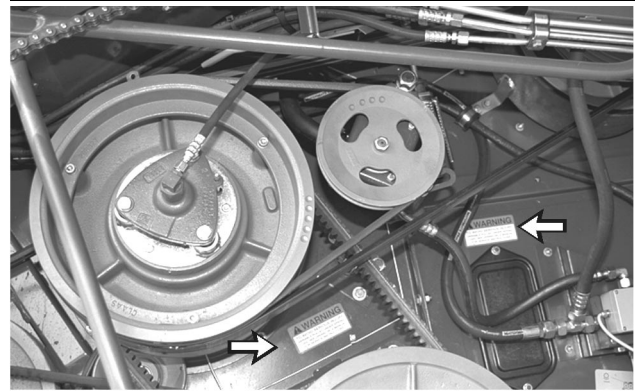


Illustration 12

g00535249

The two safety signs are located next to the variable speed pulleys.

WARNING

To avoid serious injury variable pulley under spring load. See operator's manual for instructions.

Variable pulley

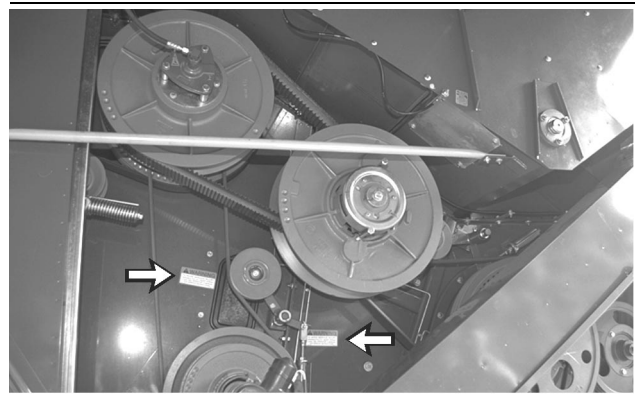


Illustration 13

g00566327

The two safety signs are located next to the variable speed pulley.

WARNING

To avoid serious injury variable pulley under spring load. See operator's manual for instructions.

Do Not Ride



Illustration 14

g00535094

The safety sign is located on the front ladder.

WARNING

Do not ride on ladder or stand on platform while machine is moving.

Do Not Ride

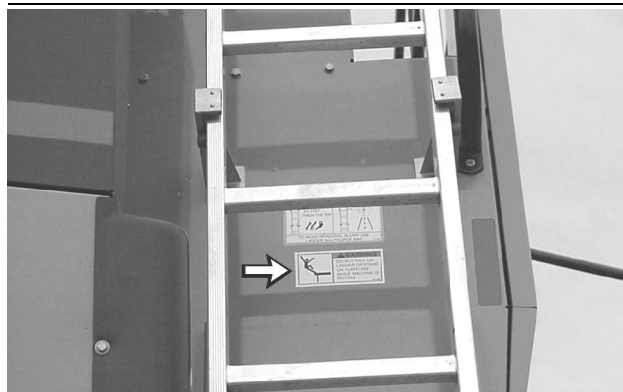


Illustration 16

g00742280

The safety sign is located near the rear ladder.

WARNING

Do not ride on ladder or stand on platform while machine is moving.

Do Not Ride



Illustration 15

g00535092

The safety sign is located on the door to the central electric unit.

WARNING

Do not ride on ladder or stand on platform while machine is moving.

Do Not Contact Electric Lines



Illustration 17

g00535171

The safety sign is located on the door to the central electric unit.

DANGER

To avoid serious injury or death do not contact electric lines.

Opening Cleanout Doors

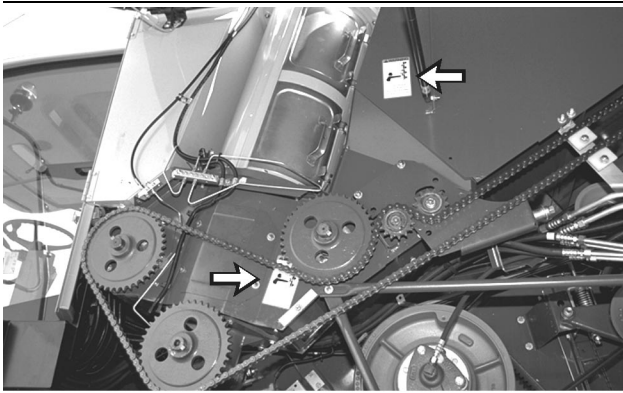


Illustration 18

g00535196

The safety signs are located next to the grain tank unloading auger and at the bottom of the grain tank unloading auger.

WARNING

Stop engine and remove key before opening cleanout doors.

Opening Cleanout Doors

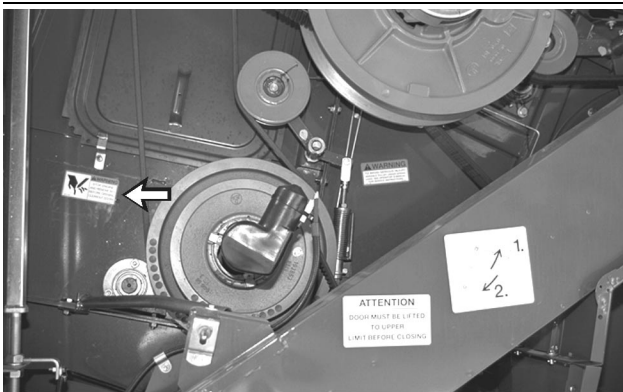


Illustration 19

g00565913

The safety sign is located next to the clean out door for the rotor.

WARNING

Stop engine and remove key before opening cleanout doors.

Opening Cleanout Doors

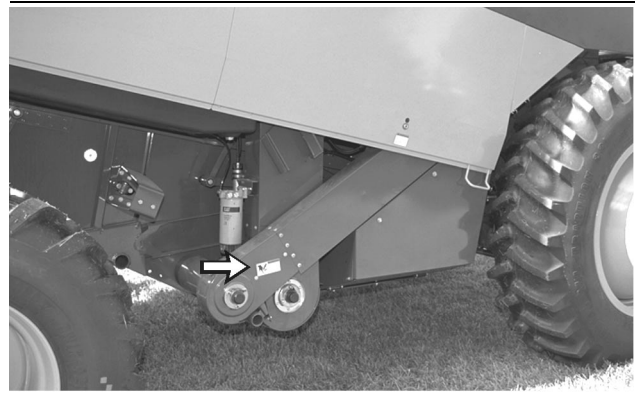


Illustration 20

g00535243

The safety sign is located on the returns elevator.

WARNING

Stop engine and remove key before opening cleanout doors.

Stay Clear When the Machine is Running



Illustration 21

g00535413

The safety sign is located on the left side rear of the machine.

WARNING

Stay clear when machine is running.

Stay Clear When the Machine is Running

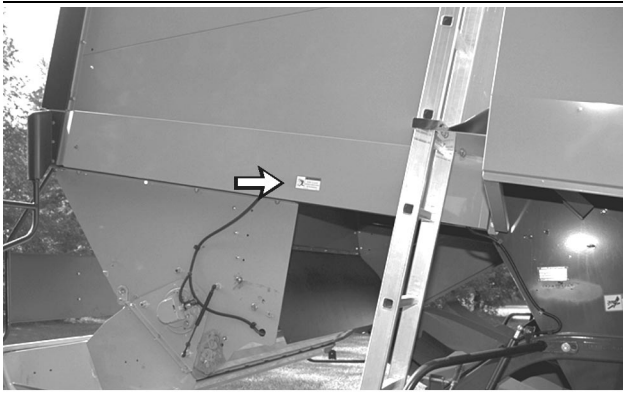


Illustration 22

g00535545

The safety sign is located on right side rear of the machine.

WARNING

Stay clear when machine is running.

Stay Clear When the Machine is Running

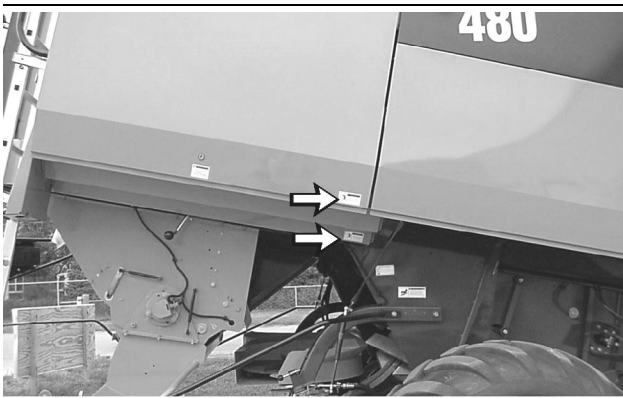


Illustration 23

g00742348

The safety signs are located on the right rear of the machine.

WARNING

Stay clear when machine is running.

Keep Hands Clear of Fan

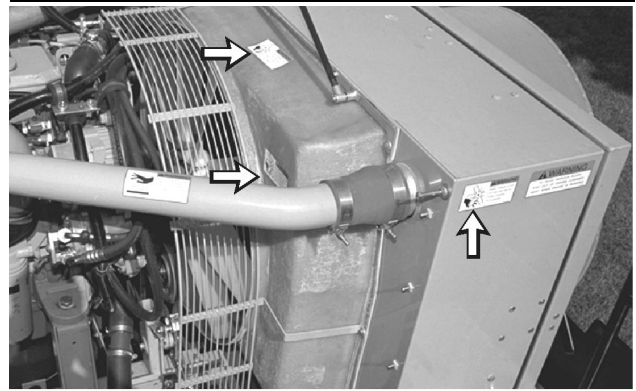


Illustration 24

g00566329

The safety signs are located on the radiator housing.

WARNING

Keep hands clear of fan and belts while engine is running.

Keep Hands Clear of Hot Surfaces

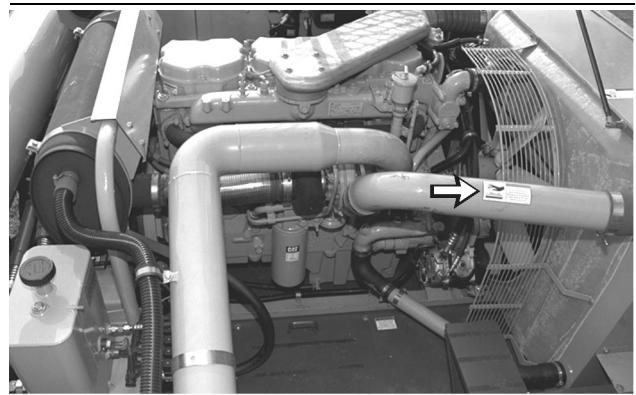


Illustration 25

g00566331

The safety sign is located on the pipe for the radiator.

WARNING

Keep hands clear of hot surfaces and pipes while engine is running and soon after switch is off.

Stay out of Engine Compartment When the Engine is Running



Illustration 26

g00535497

The safety sign is located on the radiator housing.

WARNING

To avoid serious injury stay out of engine compartment when engine is running.

Do Not Enter the Grain Tank



Illustration 27

g00535502

The safety sign is located on the extensions for the grain tank.

DANGER

Do not enter grain tank when engine is running.

Do Not Enter the Grain Tank

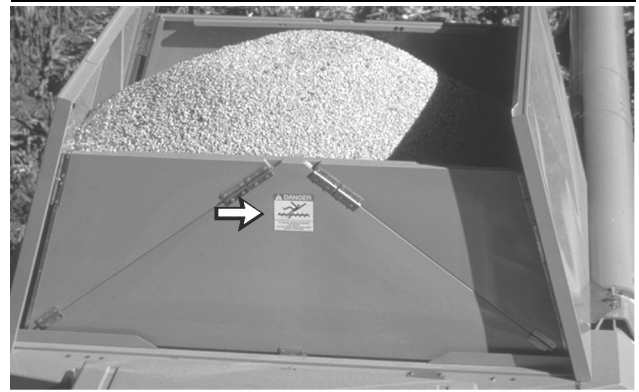


Illustration 28

g00535616

The safety sign is located on the rear of the extensions for the grain tank.

DANGER

Do not enter grain tank when engine is running.

Do Not Enter the Grain Tank



Illustration 29

g00610941

The safety sign is located on the grain tank loading auger.

DANGER

Do not enter grain tank when engine is running.

Keep Hands Out Of Opening

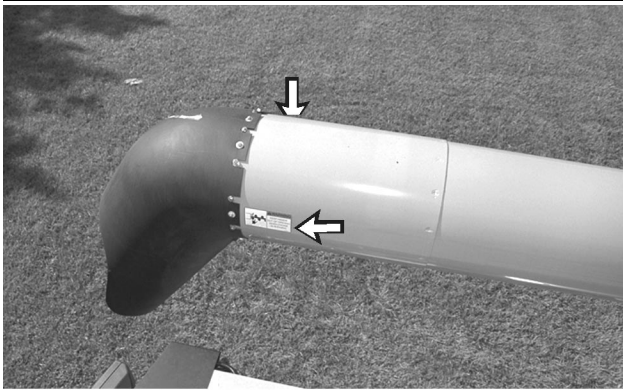


Illustration 30

g00535478

Two safety signs are located on the grain tank unloading auger.

WARNING

Keep hands out of opening when engine is running.

Locate Pressure Leaks



Illustration 31

g00742296

The safety sign is located on the right side of the feeder house.

WARNING

To avoid serious injury.

Do not use your hands to locate pressure leaks.

Read operator's manual for additional instructions.

Locate Pressure Leaks



Illustration 32

g00535734

The safety sign is located on the right side rear of the machine.

WARNING

To avoid serious injury.

Do not use your hands to locate pressure leaks.

Read operator's manual for additional instructions.

Locate Pressure Leaks

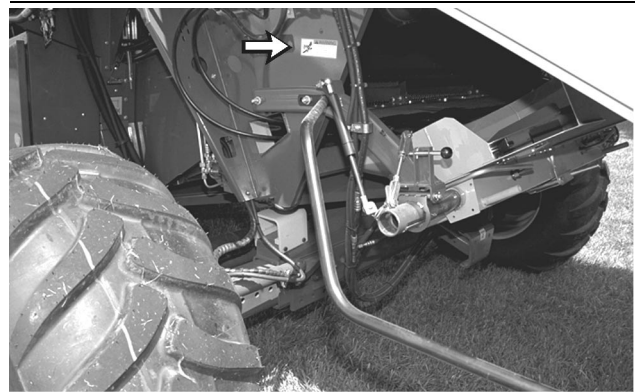


Illustration 33

g00535736

The safety sign is located on the left side rear of the machine.

WARNING

To avoid serious injury.

Do not use your hands to locate pressure leaks.

Read operator's manual for additional instructions.

High Pressure Cylinder



Illustration 34

g00611321

The safety sign is located on the accumulator for the autopilot.

WARNING

HIGH PRESSURE CYLINDER: Do not remove any parts until all hydraulic pressure has been relieved to avoid possible personal injury. To relieve pressure, slowly open bleeder valve up to one turn maximum to discharge hydraulic oil.

Read owners manual for additional information on relieving cylinder pressure.

High Pressure Cylinder

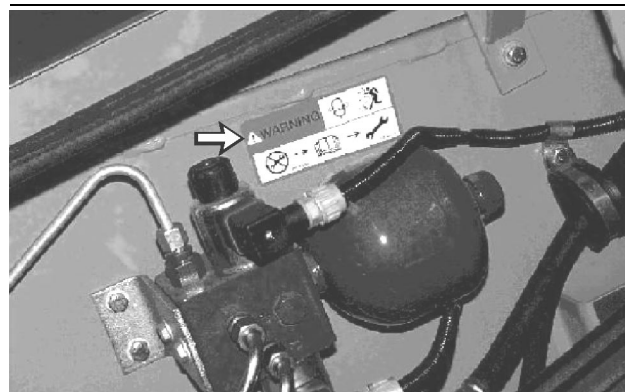


Illustration 35

g00611742

The safety sign is located next to the accumulator for the auto contour.

WARNING

HIGH PRESSURE CYLINDER: Do not remove any parts until all hydraulic pressure has been relieved to avoid possible personal injury. To relieve pressure, slowly open bleeder valve up to one turn maximum to discharge hydraulic oil.

Read owners manual for additional information on relieving cylinder pressure.

High Pressure Cylinder



Illustration 36

g00611353

The safety sign is located on the accumulator for the track tensioner on both sides of the machine.

WARNING

HIGH PRESSURE CYLINDER: Do not remove any parts until all hydraulic pressure has been relieved to avoid possible personal injury. To relieve pressure, slowly open bleeder valve up to one turn maximum to discharge hydraulic oil.

Read owners manual for additional information on relieving cylinder pressure.

High Pressure Cylinder

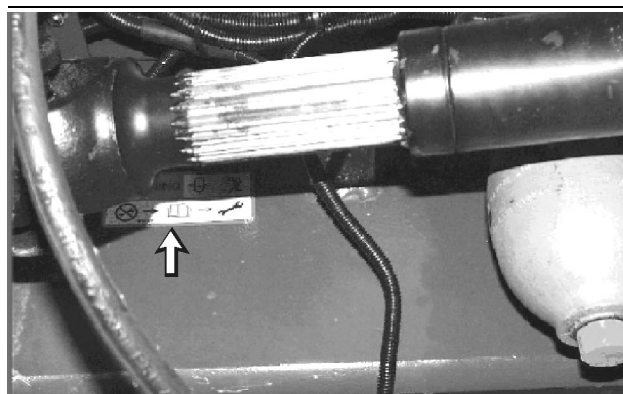


Illustration 37

g00611759

The safety sign is located on the rear side of the front axle.

WARNING

HIGH PRESSURE CYLINDER: Do not remove any parts until all hydraulic pressure has been relieved to avoid possible personal injury. To relieve pressure, slowly open bleeder valve up to one turn maximum to discharge hydraulic oil.

Read owners manual for additional information on relieving cylinder pressure.

High Pressure Cylinder

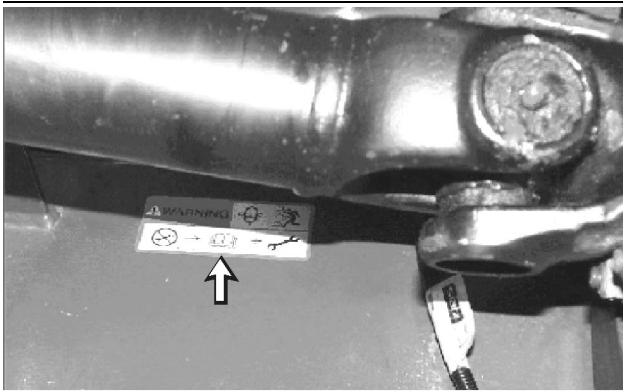


Illustration 38

g00611764

The safety sign is located on the rear side of the front axle.

WARNING

HIGH PRESSURE CYLINDER: Do not remove any parts until all hydraulic pressure has been relieved to avoid possible personal injury. To relieve pressure, slowly open bleeder valve up to one turn maximum to discharge hydraulic oil.

Read owners manual for additional information on relieving cylinder pressure.

Use the Ladder in a Proper Way

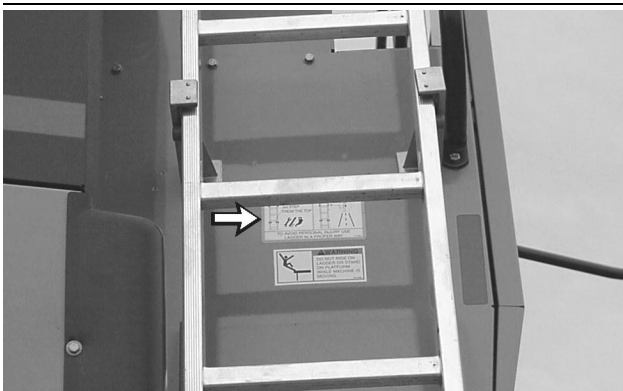


Illustration 39

g00742333

The safety sign is located next to the rear ladder.

CAUTION

To avoid serious injury use ladder in a proper way.

Machine Inspection



Illustration 40

g00535485

The safety sign is located on the front ladder.

CAUTION

To avoid personal injury

- Always stop engine; shift to neutral; set brake and remove start key before leaving the operators station, or before permitting anyone to inspect, clean, lubricate or adjust any part of the harvester.
- Wait for all movement to stop before attempting to remove shields or service harvester.
- Keep all guards, shields and access doors in place and keep hands, feet, and clothing away from all moving parts.
- Make certain that everyone is off and clear of the harvester before starting engine or operating components.
- Use lighting equipment when transporting harvester on the highway except where prohibited by law.

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General Hazard Information

SMCS Code: 7000

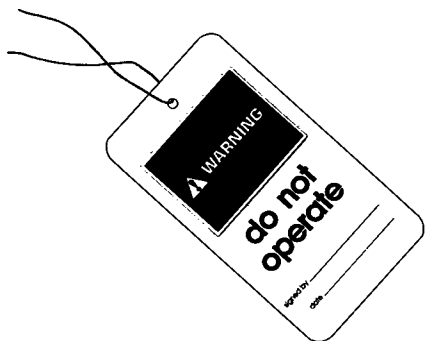


Illustration 41

g00104545

Attach a "Do Not Operate" warning tag or a similar warning tag to the start switch or to the controls before you service the equipment or before you repair the equipment. These warning tags (Special Instruction, SEHS7332) are available from your Caterpillar dealer.

Know the width of your equipment in order to maintain proper clearance when you operate the equipment near fences or near boundary obstacles.

Be aware of high voltage power lines and power cables that are buried. If the machine comes in contact with these hazards, serious injury or death may occur from electrocution.

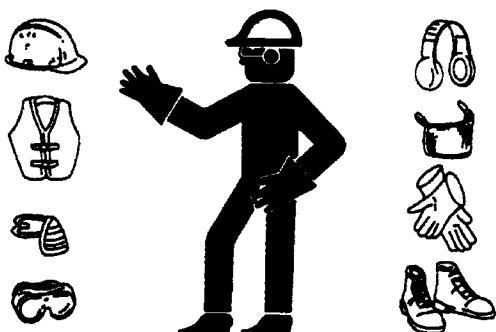


Illustration 42

g00702020

Wear a hard hat, protective glasses, and other protective equipment, as required.

Do not wear loose clothing or jewelry that can snag on controls or on other parts of the equipment.

Make sure that all protective guards and all covers are secured in place on the equipment.

Keep the equipment free from foreign material. Remove debris, oil, tools, and other items from the deck, from walkways, and from steps.

Secure all loose items such as lunch boxes, tools, and other items that are not a part of the equipment.

Know the appropriate work site hand signals and the personnel that are authorized to give the hand signals. Accept hand signals from one person only.

Do not smoke when you service an air conditioner. Also, do not smoke if refrigerant gas may be present. Inhaling the fumes that are released from a flame that contacts air conditioner refrigerant can cause bodily harm or death. Inhaling gas from air conditioner refrigerant through a lighted cigarette can cause bodily harm or death.

Never put maintenance fluids into glass containers. Drain all liquids into a suitable container.

Obey all local regulations for the disposal of liquids.

Use all cleaning solutions with care. Report all necessary repairs.

Do not allow unauthorized personnel on the equipment.

Unless you are instructed otherwise, perform maintenance with the equipment in the servicing position. Refer to Operation and Maintenance Manual for the procedure for placing the equipment in the servicing position.

Pressure Air and Water

Pressurized air and/or water can cause debris and/or hot water to be blown out. This could result in personal injury.

When pressure air and/or pressure water is used for cleaning, wear protective clothing, protective shoes, and eye protection. Eye protection includes goggles or a protective face shield.

The maximum air pressure for cleaning purposes must be below 205 kPa (30 psi). The maximum water pressure for cleaning purposes must be below 275 kPa (40 psi).

Trapped Pressure

Pressure can be trapped in a hydraulic system. Releasing trapped pressure can cause sudden machine movement or attachment movement. Use caution if you disconnect hydraulic lines or fittings. High pressure oil that is released can cause a hose to whip. High pressure oil that is released can cause oil to spray. Fluid penetration can cause serious injury and possible death.

Fluid Penetration

Pressure can be trapped in the hydraulic circuit long after the engine has been stopped. The pressure can cause hydraulic fluid or items such as pipe plugs to escape rapidly if the pressure is not relieved correctly.

Do not remove any hydraulic components or parts until pressure has been relieved or personal injury may occur. Do not disassemble any hydraulic components or parts until pressure has been relieved or personal injury may occur. Refer to the Service Manual for any procedures that are required to relieve the hydraulic pressure.

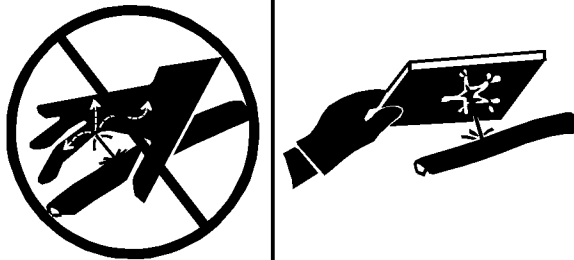


Illustration 43

g00687600

Always use a board or cardboard when you check for a leak. Leaking fluid that is under pressure can penetrate body tissue. Fluid penetration can cause serious injury and possible death. A pin hole leak can cause severe injury. If fluid is injected into your skin, you must get treatment immediately. Seek treatment from a doctor that is familiar with this type of injury.

Containing Fluid Spillage

Care must be taken in order to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the equipment. Prepare to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.

Refer to Special Publication, NENG2500, "Tools and Shop Products Guide" for the following items:

- Tools that are suitable for collecting fluids and equipment that is suitable for collecting fluids
- Tools that are suitable for containing fluids and equipment that is suitable for containing fluids

Obey all local regulations for the disposal of liquids.

Asbestos Information

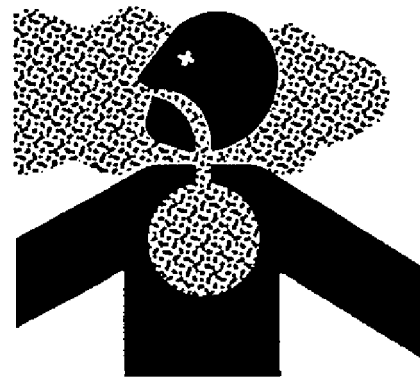


Illustration 44

g00702022

Caterpillar equipment and replacement parts that are shipped from Caterpillar are asbestos free. Caterpillar recommends the use of only genuine Caterpillar replacement parts. Use the following guidelines when you handle any replacement parts that contain asbestos or when you handle asbestos debris.

Use caution. Avoid inhaling dust that might be generated when you handle components that contain asbestos fibers. Inhaling this dust can be hazardous to your health. The components that may contain asbestos fibers are brake pads, brake bands, lining material, clutch plates, and some gaskets. The asbestos that is used in these components is usually bound in a resin or sealed in some way. Normal handling is not hazardous unless airborne dust that contains asbestos is generated.

If dust that may contain asbestos is present, there are several guidelines that should be followed:

- Never use compressed air for cleaning.
- Avoid brushing materials that contain asbestos.
- Avoid grinding materials that contain asbestos.
- Use a wet method in order to clean up asbestos materials.

- A vacuum cleaner that is equipped with a high efficiency particulate air filter (HEPA) can also be used.
- Use exhaust ventilation on permanent machining jobs.
- Wear an approved respirator if there is no other way to control the dust.
- Comply with applicable rules and regulations for the work place. In the United States, use Occupational Safety and Health Administration (OSHA) requirements. These OSHA requirements can be found in "29 CFR 1910.1001".
- Obey environmental regulations for the disposal of asbestos.
- Stay away from areas that might have asbestos particles in the air.

Dispose of Waste Properly

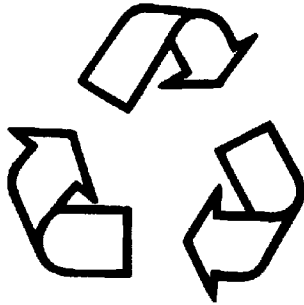


Illustration 45

g00706404

Improperly disposing of waste can threaten the environment. Potentially harmful fluids should be disposed of according to local regulations.

Always use leakproof containers when you drain fluids. Do not pour waste onto the ground, down a drain, or into any source of water.

i01233978

Crushing Prevention and Cutting Prevention

SMCS Code: 7000

Support the equipment properly when you perform work beneath the equipment. Do not depend on the hydraulic cylinders to hold up the equipment. The header can fall if a control lever is moved or if a hydraulic line breaks.

Before you work below the feeder house, perform the following procedures:

- Remove the header.
- Lower the cylinder stop on the left cylinder.



Illustration 46

g00536032

Engaged position

Be sure that the cylinder stop on the left cylinder is engaged and that the hydraulic system is functioning properly before going below the header or feeder house when the header and feeder house are in the raised position.

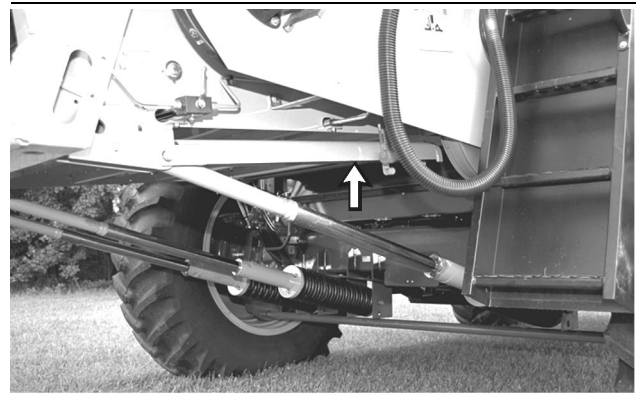


Illustration 47

g00536034

Operating position

Raise the cylinder stop before you operate the machine. Secure the stop in the support that is provided.

Make sure that the reel and the header are fully lowered before you disconnect any part of the hydraulic system.

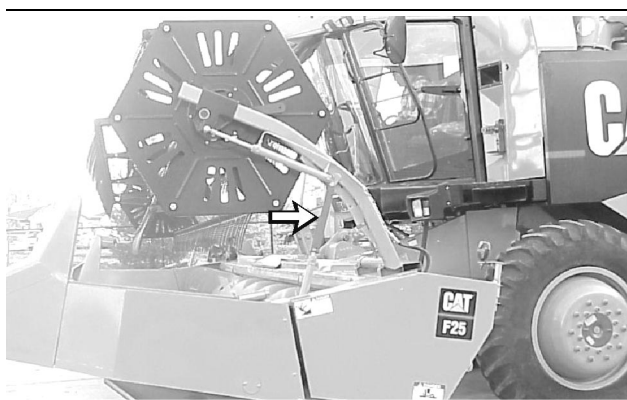


Illustration 48

g00659929

Engaged position

On headers that are equipped with reels, raise the reel and install the cylinder stops on each of the lift cylinders for the reel before you go under the reel.

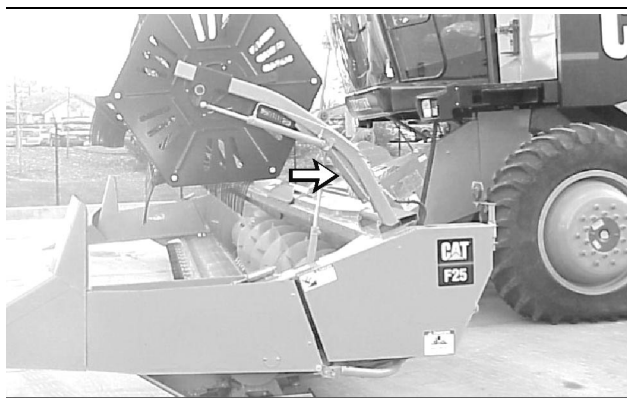


Illustration 49

g00687830

Operating position

Before you operate the reel, secure the cylinder stops in the supports that are provided.

The side panels are held open by gas struts. When you access components below the side panels, make sure that you fully raise the panel. Then, lower the panel until the lock in the gas strut engages. In order to close the panel, fully raise the panel. Then, lower the panel.

When you jack up the machine, install the jack in the center of the provided plates on the front axle.

Do not enter the grain tank or the area around the grain tank when the machine is operating and when the threshing system is engaged.

Never jump across the starter solenoid terminals in order to start the machine. Unexpected machine movement could result.

Never attempt adjustments while the machine is moving or while the engine is running.

When there are attachment control linkages, the clearance in the area of the linkage will change with movement of the attachment.

Stay clear of all rotating parts and all moving parts.

Keep objects away from moving fan blades. The fan blades will throw objects and the fan blades can cut objects.

Do not use a wire cable that is kinked or frayed. Wear gloves when you handle wire cable.

When you strike a retainer pin, the retainer pin might fly out. The loose retainer pin can injure personnel. Make sure that there are no people in the area when you strike a retainer pin. To avoid injury to your eyes, wear protective glasses when you strike a retainer pin.

Chips or other debris may fly off objects when you strike the objects. Make sure that no one will be injured by flying debris before you strike any object.

i01329099

Burn Prevention

SMCS Code: 7000

Do not touch any part of an operating engine. Allow the engine to cool before any maintenance is performed on the engine. Relieve all pressure in the air system, in the oil system, in the lubrication system, in the fuel system, or in the cooling system before any lines, fittings or related items are disconnected.

Coolant

When the engine is at operating temperature, the engine coolant is hot. The coolant is also under pressure. The radiator and all lines to the heaters or to the engine contain hot coolant.

Any contact with hot coolant or with steam can cause severe burns. Allow cooling system components to cool before the cooling system is drained.

Check the coolant level only after the engine has been stopped.

Ensure that the filler cap is cool before removing the filler cap. The filler cap must be cool enough to touch with a bare hand. Remove the filler cap slowly in order to relieve pressure.

Cooling system conditioner contains alkali. Alkali can cause personal injury. Do not allow alkali to contact the skin, the eyes, or the mouth.

Oils

Hot oil and hot components can cause personal injury. Do not allow hot oil to contact the skin. Also, do not allow hot components to contact the skin.

Remove the hydraulic tank filler cap only after the engine has been stopped. The filler cap must be cool enough to touch with a bare hand. Follow the standard procedure in this manual in order to remove the hydraulic tank filler cap.

Batteries

Electrolyte is an acid. Electrolyte can cause personal injury. Do not allow electrolyte to contact the skin or the eyes. Always wear protective glasses for servicing batteries. Wash hands after touching the batteries and connectors. Use of gloves is recommended.

i01359795

Fire Prevention and Explosion Prevention

SMCS Code: 7000



Illustration 50

g00704000

All fuels, most lubricants, and some coolant mixtures are flammable.

Flammable fluids that are leaking or spilled onto hot surfaces or onto electrical components can cause a fire. Fire may cause personal injury and property damage.

Remove all flammable materials such as fuel, oil, and debris from the machine. Do not allow any flammable materials to accumulate on the machine.

Store fuels and lubricants in properly marked containers away from unauthorized persons. Store oily rags and any flammable materials in protective containers. Do not smoke in areas that are used for storing flammable materials.

Do not operate the machine near any flame.

Exhaust shields (if equipped) protect hot exhaust components from oil spray or fuel spray in case of a break in a line, in a hose, or in a seal. Exhaust shields must be installed correctly.

Do not weld on lines or on tanks that contain flammable fluids. Do not flame cut lines or tanks that contain flammable fluid. Clean any such lines or tanks thoroughly with a nonflammable solvent prior to welding or flame cutting.

Check all electrical wires daily. Repair any wires that are loose or frayed before you operate the machine. Clean all electrical connections and tighten all electrical connections.

Dust that is generated from repairing nonmetallic hoods or nonmetallic fenders can be flammable and/or explosive. Repair such components in a well ventilated area away from open flames or sparks.

Inspect all lines and hoses for wear or for deterioration. The hoses must be properly routed. The lines and the hoses must have adequate support and secure clamps. Tighten all connections to the recommended torque. Leaks can cause fires.



Illustration 51

g00704059

Use caution when you are refueling a machine. Do not smoke while you are refueling a machine. Do not refuel a machine near open flames or sparks. Always stop the engine before refueling. Fill the fuel tank outdoors.

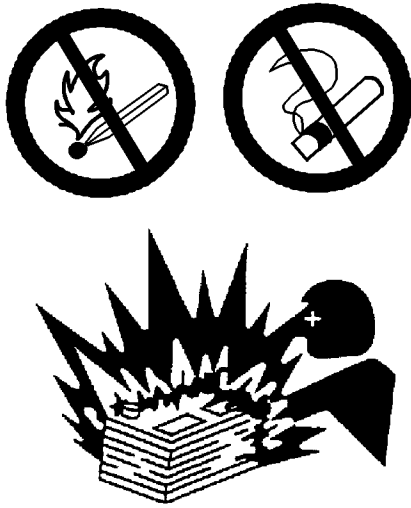


Illustration 52

g00704135

Gases from a battery can explode. Keep any open flames or sparks away from the top of a battery. Do not smoke in battery charging areas.

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

Improper jumper cable connections can cause an explosion that can result in injury. Refer to the Operation Section of this manual for specific instructions.

Do not charge a frozen battery. This may cause an explosion.

Fire Extinguisher

Make sure that a fire extinguisher is available. Be familiar with the operation of the fire extinguisher. Inspect the fire extinguisher and service the fire extinguisher regularly. Obey the recommendations on the instruction plate.

Ether

Ether is flammable and poisonous.

Use ether in well ventilated areas. Do not smoke while you are replacing an ether cylinder or while you are using an ether spray.

Do not store ether cylinders in living areas or in the operator compartment of a machine. Do not store ether cylinders in direct sunlight or in temperatures above 49 °C (120 °F). Keep ether cylinders away from open flames or sparks.

Dispose of used ether cylinders properly. Do not puncture an ether cylinder. Keep ether cylinders away from unauthorized personnel.

Do not spray ether into an engine if the machine is equipped with a thermal starting aid for cold weather starting.

Lines, Tubes and Hoses

Do not bend high pressure lines. Do not strike high pressure lines. Do not install any lines that are bent or damaged.

Repair any lines that are loose or damaged. Leaks can cause fires. Consult your Caterpillar dealer for repair or for replacement parts.

Check lines, tubes and hoses carefully. Do not use your bare hand to check for leaks. Use a board or cardboard to check for leaks. Tighten all connections to the recommended torque.

Replace the parts if any of the following conditions are present:

- End fittings are damaged or leaking.
- Outer coverings are chafed or cut.
- Wires are exposed.
- Outer coverings are ballooning.
- Flexible part of the hoses are kinked.
- Outer covers have embedded armoring.
- End fittings are displaced.

Make sure that all clamps, guards, and heat shields are installed correctly. During machine operation, this will help to prevent vibration, rubbing against other parts, and excessive heat.

i01040299

Fire Extinguisher Location

SMCS Code: 7000; 7419



Illustration 53

g00350396

Make sure that a fire extinguisher is available. Be familiar with the operation of the fire extinguisher. Inspect the fire extinguisher and service the fire extinguisher regularly. Obey the recommendations on the instruction plate.

One mounting bracket is provided by the door for the central electric unit. The bracket is designed to hold a 4.5 kg (10 lb) extinguisher.

i01557411

Tire Information

SMCS Code: 4203; 7000

Explosions of air inflated tires have resulted from heat-induced gas combustion inside the tires. Explosions can be caused by heat that is generated by welding, by heating rim components, by external fire, or by excessive use of brakes.

A tire explosion is much more violent than a blowout. The explosion can propel the tire, the rim components, and the axle components as far as 500 m (1500 ft) or more from the machine. Both the force of the explosion and the flying debris can cause property damage, personal injury, or death.

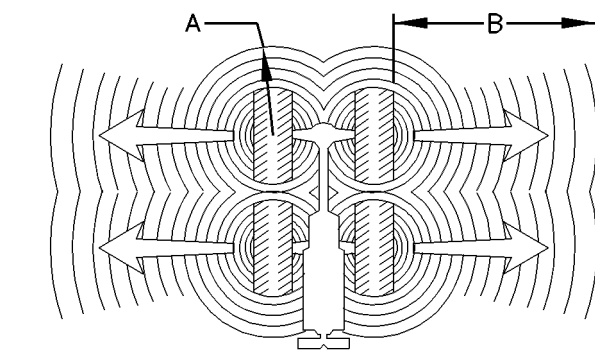


Illustration 54

g00337832

(A) At least 15 m (50 ft)

(B) At least 500 m (1500 ft)

Do not approach a warm tire. Maintain a minimum distance, as shown. Stay outside the shaded area in Illustration 54.

Do not use water or calcium as a ballast for the tires. Dry nitrogen gas is recommended for inflation of tires. If the tires were originally inflated with air, nitrogen is still preferred for adjusting the pressure. Nitrogen mixes properly with air.

Nitrogen inflated tires reduce the potential of a tire explosion because nitrogen does not aid combustion. Nitrogen helps to prevent oxidation of the rubber, deterioration of rubber, and corrosion of rim components.

To avoid overinflation, proper nitrogen inflation equipment and training in the usage of the equipment are necessary. A tire blowout or a rim failure can result from improper equipment or from misused equipment.

When you inflate a tire, stand behind the tread and use a self-attaching chuck.

Servicing tires and rims can be dangerous. Only trained personnel that use proper tools and proper procedures should perform this maintenance. If correct procedures are not used for servicing tires and rims, the assemblies could burst with explosive force. This explosive force can cause serious personal injury or death. Carefully obey the specific instructions from your tire dealer.

i01122596

Electrical Storm Injury Prevention

SMCS Code: 7000

When lightning is striking in the vicinity of the machine, the operator should never attempt the following procedures:

- Mount the machine.
- Dismount the machine.

If you are in the operator's station during an electrical storm, stay in the operator's station. If you are on the ground during an electrical storm, stay away from the vicinity of the machine.

i01493292

Mounting and Dismounting

SMCS Code: 7000

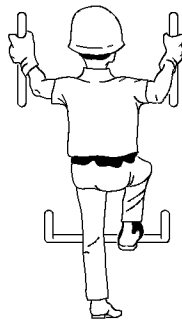


Illustration 55

g00037860

Mount the machine and dismount the machine only at locations that have steps and/or handholds. Before you mount the machine, clean the steps and the handholds. Inspect the steps and handholds. Make any necessary repairs.

Face the machine whenever you mount the machine and whenever you dismount the machine.

Maintain a three-point contact with the steps and with the handholds.

Note: Three-point contact can be two feet and one hand. Three-point contact can also be one foot and two hands.

Never mount a moving machine. Never dismount a moving machine. Never jump off the machine.

Do not carry tools or supplies when you mount the machine or when you dismount the machine. Use a hand line to raise and lower tools or supplies.

Do not use any controls as handholds when you enter the operator compartment or when you exit the operator compartment.

Alternate Exit

Machines that are equipped with cabs may have alternate exits. For additional information on machines that are equipped with alternate exits, see Operation and Maintenance Manual, "Windows".

i01040358

Before Starting Engine

SMCS Code: 1000; 7000

Start the engine only from the operator compartment. Never short across the starter terminals or across the batteries. Shorting could damage the electrical system by bypassing the engine neutral start system.

Inspect the condition of the seat belt and of the mounting hardware. Replace any parts that are worn or damaged. Regardless of appearance, replace the seat belt after three years of use. Do not use a seat belt extension on a retractable seat belt.

Adjust the seat so that full pedal travel can be achieved with the operator's back against the back of the seat.

Make sure that the machine is equipped with a lighting system that is adequate for the job conditions. Make sure that all machine lights are working properly. Before you start the engine and before you move the machine, make sure that no one is underneath the machine, around the machine, or on the machine. Make sure that the area is free of personnel.

i01160197

Engine Starting

SMCS Code: 1000; 7000

If a warning tag is attached to the engine start switch or to the controls, do not start the engine. Also, do not move any controls.

Move the battery disconnect switch to the ON position.

Move the multifunction control lever to the NEUTRAL position. Make sure that all controls are in the NEUTRAL position in order to prevent inadvertent movement of machine components.

Engage the parking brake.

Diesel engine exhaust contains products of combustion which can be harmful to your health. Always run the engine in a well ventilated area. If you are in an enclosed area, vent the exhaust to the outside.

Start the engine only from the operator compartment. Never short across the starter terminals or across the batteries. Shorting could damage the electrical system by bypassing the engine neutral start system.

i01352105

Before Operation

SMCS Code: 7000

Clear all personnel from the machine and from the area.

Clear all obstacles from the machine's path. Beware of hazards (wires, ditches, etc).

Be sure that all windows are clean. Secure the doors and the windows in the open position or in the shut position.

Adjust the rearview mirrors for the best visibility close to the machine. Make sure that the horn, the backup alarm (if equipped), and all other warning devices are working properly.

Fasten the seat belt securely.

Prior to the First Operation of the Machine

If necessary, install the final drives.

If necessary, install the front wheels and install the rear wheels.

Remove the retaining wires from the unloading tube and from all of the hinged panels.

Remove all loose parts that were shipped with the machine.

Remove the shipping brackets from the following locations:

- cab roof

- oil coolers
- front cover for the grain tank
- rear cover for the grain tank

Connect the electrical connections for the electric drive for the extensions on the grain tank. Access the electric drive through the door on the right side of the operator's compartment.

Fit the right hand railing (access to engine) into the correct position and tighten the bolts securely.

Install the ladder extension. Adjust the ladder extension for the size of tires that are installed on the machine. Refer to Special Instruction, REHS0359 for the correct procedures.

If necessary, install the rotating screen.

Set the adjustable rear axle to the correct position.

Change the position of the rear drive axle from the transport position to the operating position. If necessary, remove any oscillation stops.

If the warning beacons were supplied, install the warning beacons.

Install the fire extinguisher.

Install the mirrors. Install the work lights.

If necessary, charge the battery.

Tighten the nuts and the bolts on the wheels. Refer to the section , "Drive Wheel Bolt Torque - Tighten" for the correct torque settings.

Check the tire inflation pressure.

Check the mountings and the security of the hoses for the engine coolant.

Check the mounting and the security of the air intake hoses. Make sure that the engine air filter primary element is installed correctly.

Check all fluid levels in the machine.

The engine start switch key is located in the storage compartment. The storage compartment is located below the operator's seat.

Check the air conditioning system for proper operation.

Record the serial number in this manual. See Operation and Maintenance Manual, "Product Identification Number and Serial Number Locations".

i01352116

Operation

SMCS Code: 7000

Only operate the machine while you are in a seat. The seat belt must be fastened while you operate the machine. Only operate the controls while the engine is running.

Check for proper operation of all controls and of all protective devices while you operate the machine slowly in an open area.

Make sure that no one will be endangered before you move the machine. Do not allow riders on the machine unless the machine has the following equipment:

- Additional seat
- Additional seat belt

Report any machine damage that was noted during machine operation. Make any necessary repairs.

Do not drive the machine near an overhang, near the edge of a cliff, or near the edge of an excavation.

If the machine begins to sideslip on a grade, immediately turn the machine in the downhill direction.

Be careful to avoid any ground condition which could cause the machine to tip. The machine can tip when you work on hills, on banks, or on slopes. Also, the machine can tip when you cross ditches or ridges.

When possible, operate the machine up slopes and down slopes. Avoid operating the machine across the slope, when possible.

Keep the machine under control. Do not overload the machine beyond capacity.

Make sure that the towing eyes and the towing devices are adequate for your needs.

Never straddle a wire cable. Never allow other personnel to straddle a wire cable.

When you maneuver in order to connect the equipment, make sure that no personnel are between the machine and equipment.

Know the maximum dimensions of your machine.

Machine Rading

Before you road the machine, make sure that you have performed all of the following procedures:

- Engage the locking plate for the service brake pedals so that both of the front brakes will be applied simultaneously.
- Move the unloading auger to the transport position.
- Lower the extensions for the grain tank.
- If necessary, remove the header. If you do not need to remove the header, position the header so that the operator has adequate visibility. Also, make sure that there is enough clearance between the ground and the header.
- Make sure that all reflectors and the slow moving vehicle sign are installed. Also, make sure that the reflectors and the slow moving vehicle sign are clean.
- Make sure that the roading lights are operational.
- Check the travel route for overhead clearance. Also, check the travel route for the proper width.
- Contact with overhead power lines can cause severe injury or death. Remove the radio antenna or lower the radio antenna.
- Make sure that the tires are inflated to the proper pressure.
- Disengage the powered rear wheel drive before roading.
- Make sure that the grain tank is empty before you road the machine.
- Move the machine enable switch to the OFF position.

While you road the machine, observe the following guidelines:

- Use the hydrostatic transmission in order to slow the machine before you apply the brakes.
- Do not apply the brakes quickly. This is especially important when the header is installed on the machine.
- When you drive roading speed, turn the machine slowly. When you turn the steering wheel to the right, the rear of the machine moves to the left. When you turn the steering wheel to the left, the rear of the machine moves to the right.

i01352123

Parking

SMCS Code: 7000

Park on a level surface. If you must park on a grade, chock the machine.

Apply the service brakes in order to stop the machine. Move the transmission control lever to the NEUTRAL position. Move the multifunction lever to the NEUTRAL position. Move the speed control to the LOW IDLE position. Engage the parking brake.

Lower all attachments to the ground.

Stop the engine.

Turn the engine start switch to the OFF position and remove the engine start switch key.

Turn the battery disconnect switch to the OFF position. Remove the disconnect switch key if you do not operate the machine for an extended period of time. This will prevent drainage of the battery. A battery short circuit, any current draw from certain components, and vandalism can cause drainage of the battery.