



# Operation and Maintenance Manual

**Product: MINI HYD EXCAVATOR**

**Model: 301.8C MINI HYD EXCAVATOR JSB**

**Configuration: 301.6C & 301.8C Mini Hydraulic**

**Excavators JSB00001-UP (MACHINE) POWERED BY  
L3E Engine**

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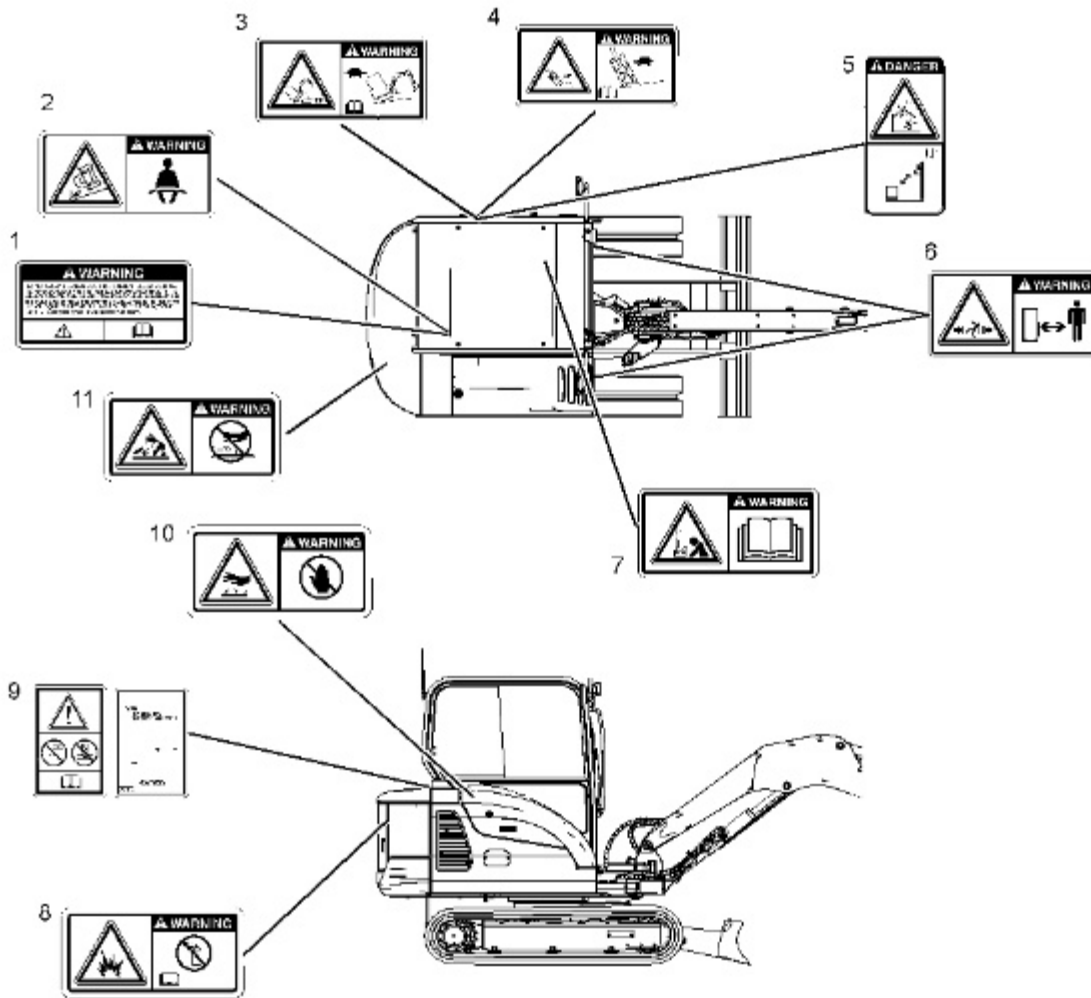


Illustration 3  
302.5C

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

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

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

### (1) Do Not Operate

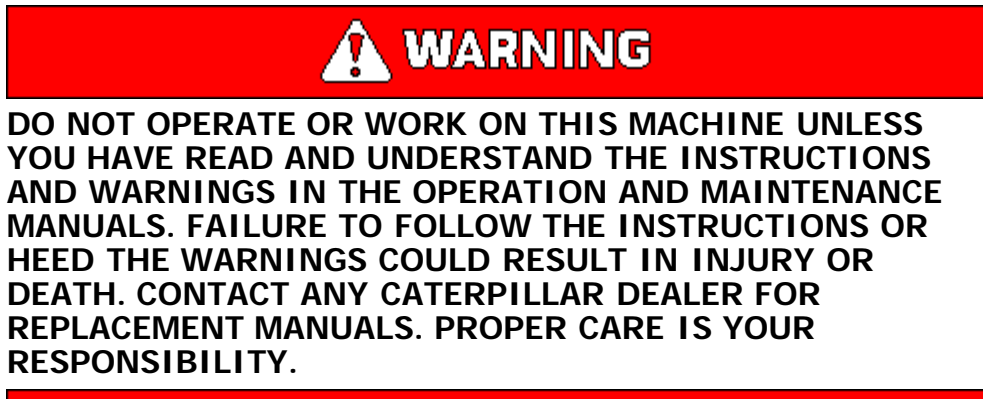




Illustration 4

g00930652

This safety message is positioned in the cab on the right side of the operator's seat.



(2) Seat Belt



Illustration 5

g00994396

This safety message is positioned in the cab on the right side of the operator's seat.

## **WARNING**

**DO NOT OPERATE OR WORK ON THIS MACHINE UNLESS YOU HAVE READ AND UNDERSTAND THE INSTRUCTIONS AND WARNINGS IN THE OPERATION AND MAINTENANCE MANUALS. FAILURE TO FOLLOW THE INSTRUCTIONS OR HEED THE WARNINGS COULD RESULT IN INJURY OR DEATH. CONTACT ANY CATERPILLAR DEALER FOR REPLACEMENT MANUALS. PROPER CARE IS YOUR RESPONSIBILITY.**

### (3) Tip Over Hazard



Illustration 6

g01183204

This safety message is located on the inside of the cab on the left side.

## **WARNING**

**When traveling up or down a slope, travel slowly. The machine can tip at angles that are 15 degrees or more, which could cause serious injury or death. Refer to the Operation and Maintenance Manual for the proper traveling procedure.**

### (4) Tip Over Hazard

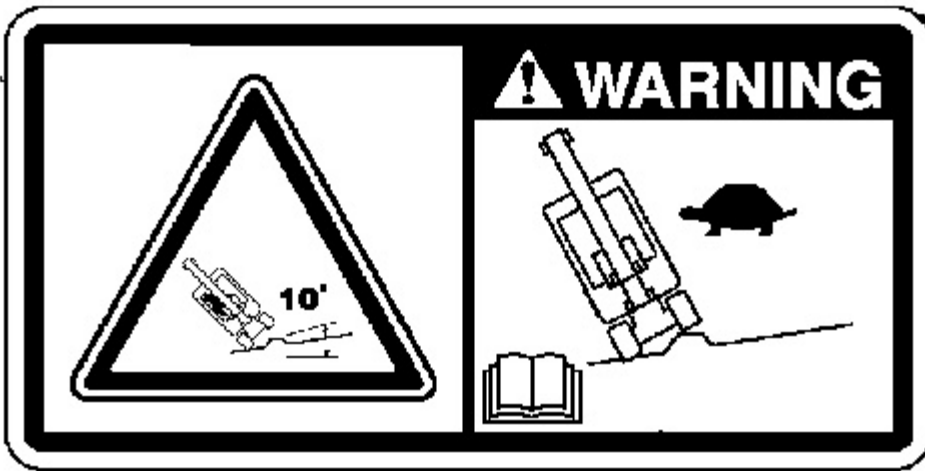


Illustration 7

g01183209

This safety message is located on the inside of the cab on the left side.


## **WARNING**

When traveling across a slope, travel slowly. The machine can tip at angles that are 10 degrees or more, which could cause serious injury or death. Refer to the Operation and Maintenance Manual for the proper traveling procedure.

## (5) Electrical Power Lines



This safety message is located on the inside of the cab on the left side.


DANGER

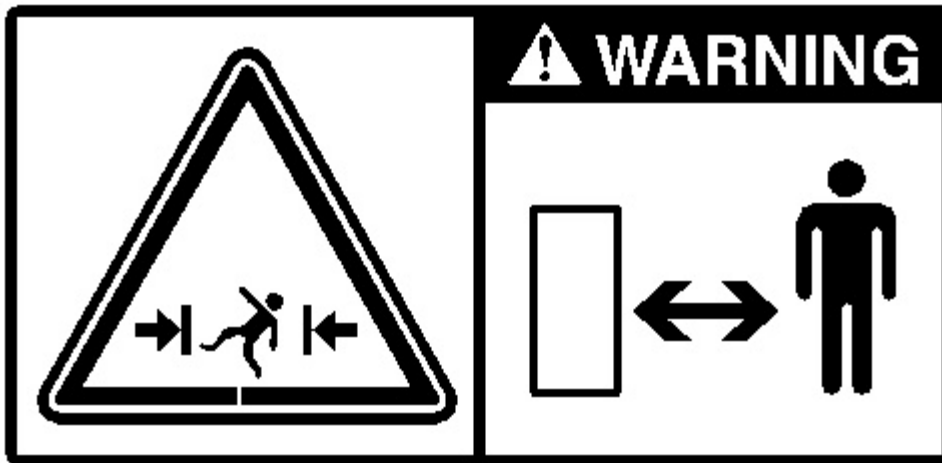
**Electrocution Hazard! Keep the machine and attachment a safe distance from electric power. The owner of the electric line should advise a minimum clearance distance. The minimum clearance is 6 m (20 ft) for 220V to 33 kV (Europe) and 5 m (10 ft) for 50kV (USA). Read and understand the instructions and warnings in the Operation and Maintenance Manual. Failure to follow the instructions and warnings will cause serious injury or death.**

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Refer to Operation and Maintenance Manual, "Specifications" for additional information.

**(6) Crushing Hazard**

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This safety message is located on the frame on both sides of the boom.


WARNING

**Crushing Hazard! Stay back a safe distance. There is no clearance for a person in this area when the machine turns. Failure to follow these instructions could cause serious injury or death.**

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**(7) Jump Start Cables**

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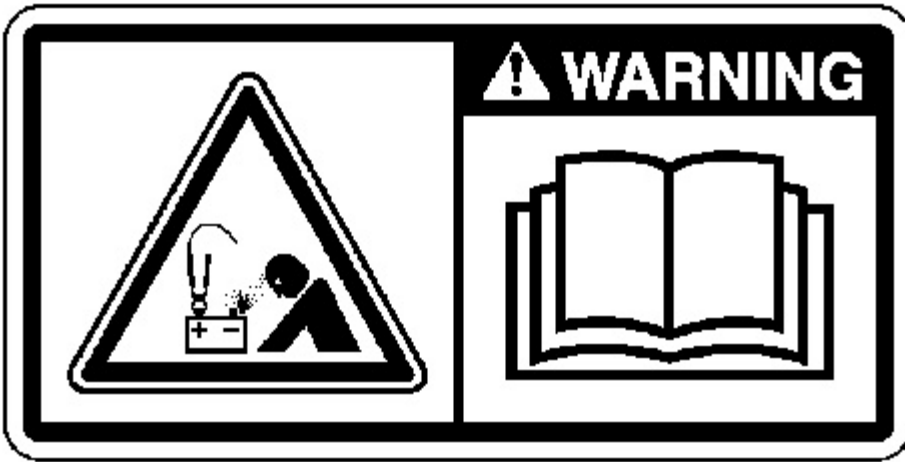


Illustration 10

g01067366

This safety message is located in the battery compartment.

**! WARNING**

**Explosion Hazard! Improper jumper cable connections can cause an explosion resulting in serious injury or death. Batteries may be located in separate compartments. Refer to the Operation and Maintenance Manual for the correct jump starting procedure.**

Refer to Operation and Maintenance Manual, "Engine Starting with Jump Start Cables" for additional information.

### (8) Ether Starting Aid



Illustration 11

g01067463

This safety message is located next to the air intake.

## **WARNING**

**Explosion hazard! Do not use ether! This machine is equipped with an air inlet heater. Using ether can create explosions or fires that can cause personal injury or death. Read and follow the starting procedure in the Operation and Maintenance Manual.**

### (9) Do Not Weld

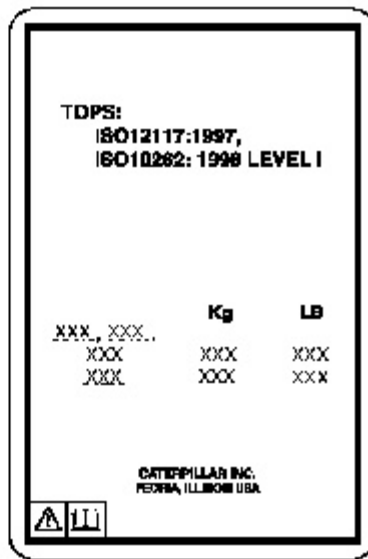
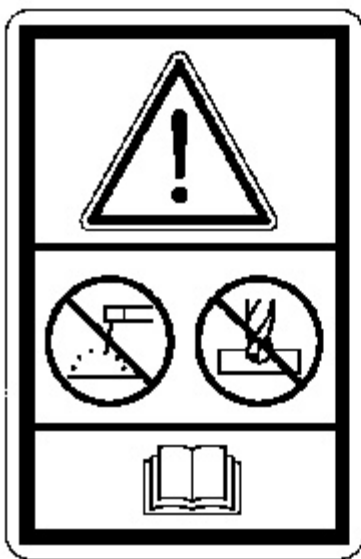


Illustration 12

g01122056

This safety message is located at the left rear of the post.

## **WARNING**

**Structural damage, an overturn, modification, alteration, or improper repair can impair this structure's protection capability thereby voiding this certification. Do not weld on or drill holes in the structure. Consult a Caterpillar dealer to determine this structure's limitations without voiding its certification.**

### (10) Hot Surface



Illustration 13

g01085603

This safety message is located near the hydraulic tank.

**! WARNING**

Hot parts or hot components can cause burns or personal injury. Do not allow hot parts or components to contact your skin. Use protective clothing or protective equipment to protect your skin.

(11) Pressurized System



Illustration 14

g00996533

This safety message is located on the inside of the engine hood near the cooling system filler cap.

 **WARNING**

**Pressurized system: Hot coolant can cause serious burn. To open cap, stop engine, wait until radiator is cool. Then loosen cap slowly to relieve the pressure.**





Product: MINI HYD EXCAVATOR  
 Model: 301.8C MINI HYD EXCAVATOR JSB  
 Configuration: 301.6C & 301.8C Mini Hydraulic Excavators JSB00001-UP  
 (MACHINE) POWERED BY L3E Engine

## Operation and Maintenance Manual 301.6C, 301.8C and 302.5C Mini Hydraulic Excavators

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# General Hazard Information

SMCS - 7000

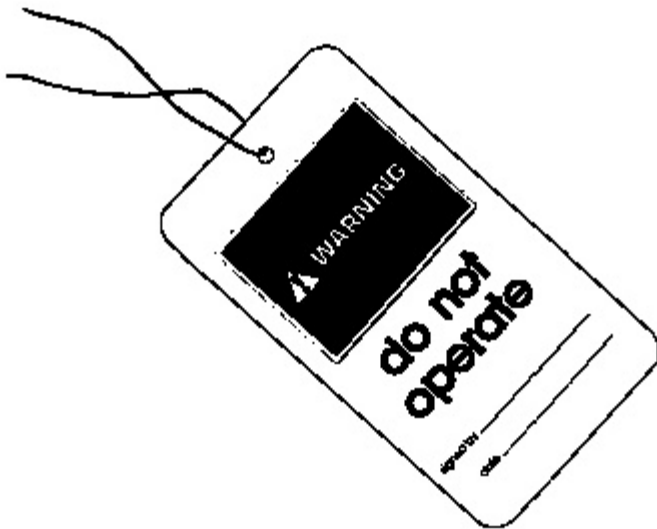


Illustration 1

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.

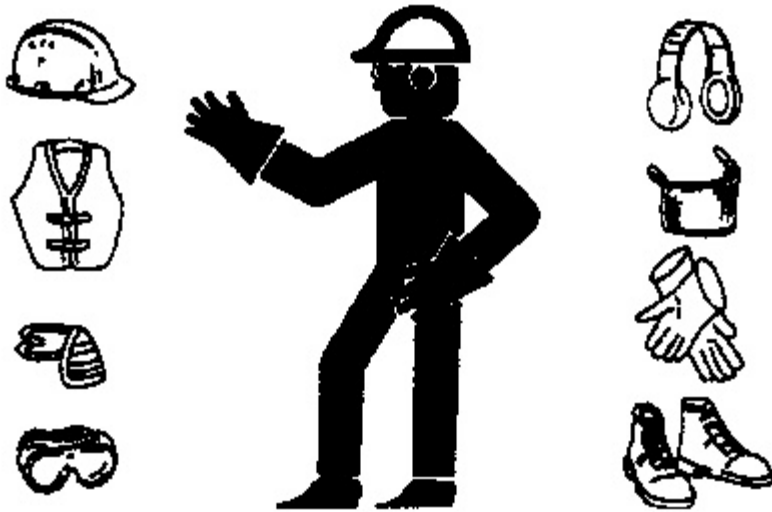


Illustration 2

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.

When you perform maintenance above ground level use appropriate devices such as ladders or man lift machines. If equipped, use the machine tie-downs and use approved fall arrest harnesses and lanyards.

## Pressurized 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 pressurized air and/or pressurized 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 reduced to 205 kPa (30 psi) when the nozzle is deadheaded and the nozzle is used with an effective chip deflector and personal protective equipment. 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.

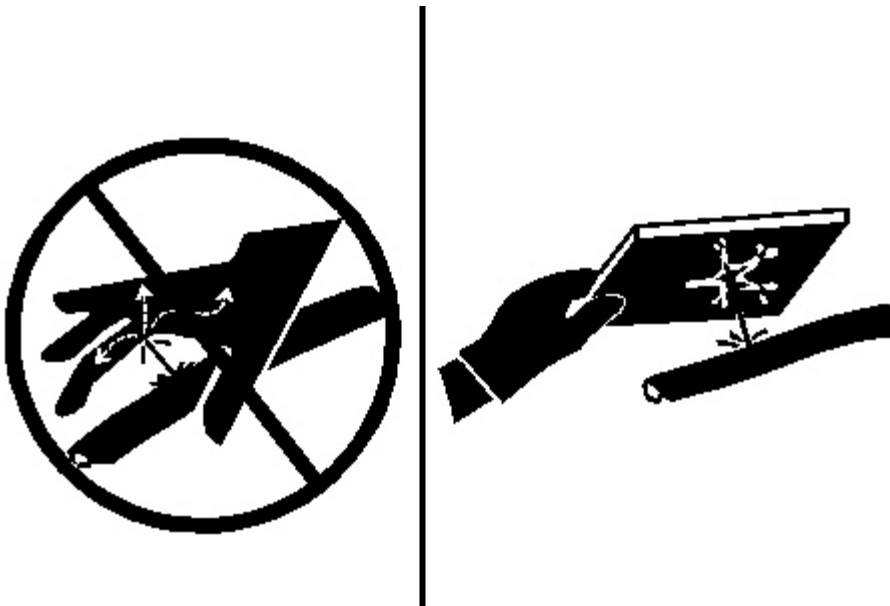


Illustration 3

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 that contains fluids.

Refer to Special Publication, NENG2500, "Caterpillar Dealer Service Tool Catalog" 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

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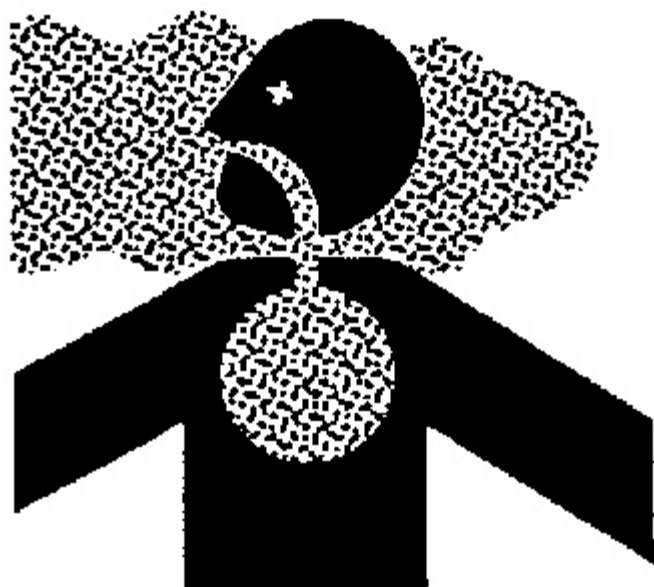


Illustration 4

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.