

CX330 EXCAVATOR

Operator's Manual

Bur 6-33740NA

CASE

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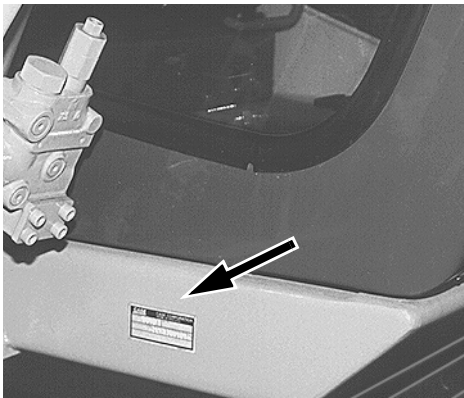
IDENTIFICATION NUMBERS

TYPE, SERIAL NUMBER AND YEAR OF MANUFACTURE

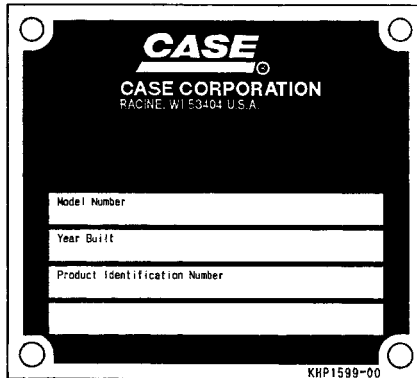
When ordering parts, obtaining information or assistance, always supply your CASE Dealer with the type and serial number of your machine or accessories.

Write the following in the spaces below: The type, serial number and year of manufacture of your machine, accessories and the serial numbers of the various hydraulic and mechanical components.

Machine



CP98N006



BC00M110

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1. (1) Type.....
2. (2) Serial number.....
3. (3) Year of build.....

Engine

Make and type.....
Serial number.....

Component serial numbers

Hydraulic pump

Swing reduction gear

Travel reduction gears

Travel control valve

Attachment control valve

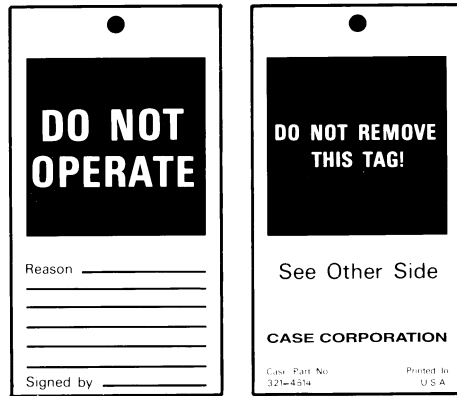
Swing control valve

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Maintenance Precautions

- Do not attempt repairs unless trained. Refer to manuals and experienced repair personnel for help.
- Before you service the machine, put a Do Not Operate tag on the key switch. The Do Not Operate tag is included with your new machine. Addition tags, part number 321-4614 are available from your Case dealer.



321-4614

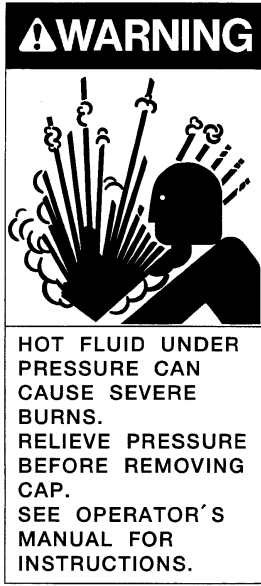
- Wear protective glasses and other required safety equipment when servicing or repairing the machine.
- Wear gloves to protect hands when handling cable.
- Disconnect the battery before working on the electrical system. Know the consequences of disconnecting any electronic or computer devices.
- Avoid lubrication or mechanical adjustments with the machine in motion or the engine operating. If the engine must be in operation to make certain adjustments, place the transmission in neutral, apply the parking device, place the equipment in a safe position, securely block the wheels and use extreme caution.
- Securely block the machine or any component that may fall before working on the machine or component. If possible, use a back up or secondary blocking device, also.
- To prevent unexpected movement, securely block working elements when repairing or changing working tool parts such as cutting edges.
- Never make repairs on pressurized components, fluid, gas or mechanical until the pressure has been relieved according to the manufacturer's instructions.
- Use extreme caution when removing radiator caps, drain plugs, grease fittings or pressure taps. Park the machine and let it cool down before opening a pressurized tank.

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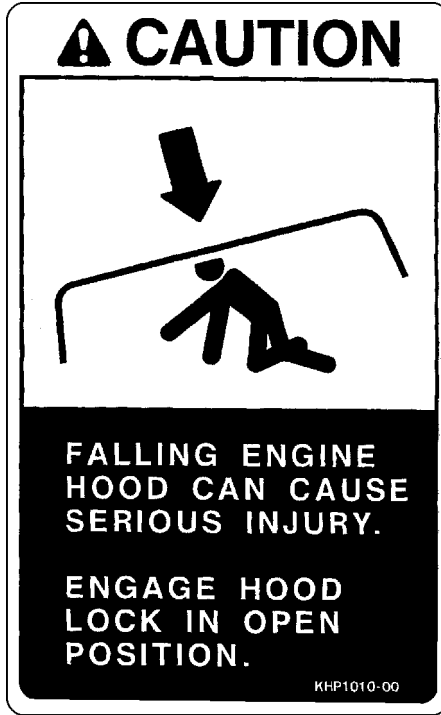
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KHP1534-00

This decal warns of hazards associated with removing the radiator cap before relieving the pressure. See the "Cooling System" section of this manual.



KHP1010-00

This decal warns the operator to engage the hood lock.

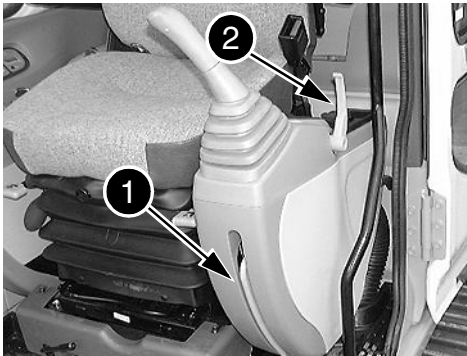
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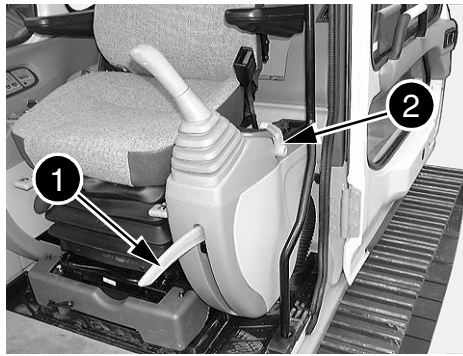
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FUNCTION CANCELLATION LEVER AND SAFETY BAR



CD00E005



CD00E006

The safety bar (1) is designed to discourage the operator from leaving the operator's compartment without first having lowered the bar.

The lever (2) operates the safety bar (1) and cancels the functioning of the control levers and pedals. When the lever (2) is in raised position, the safety bar (1) is in retracted position in the control arm and the attachment, travel and swing functions will not operate.

To make the attachment, travel and swing functions operational once more, lower the lever (2) for the safety bar (1) to come out of the control arm.

NOTE: It is also possible to cancel all controls by completely raising the left-hand control arm. See "Left-hand control lever".

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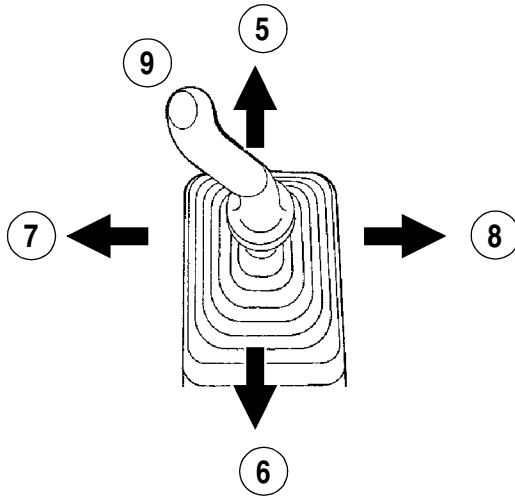
WARNING: Before leaving the operator's compartment, it is mandatory for the function cancellation lever (2) to be raised and the safety bar (1) to be in the stowed position.

9. FUEL LEVEL INDICATOR - The quantity of fuel is represented by the number of luminous horizontal bars. Zone "F" shows that the fuel tank is full. If the horizontal bars reach zone "E" the audible alarm device sounds and the message "Low Fuel" is displayed (see item 10).

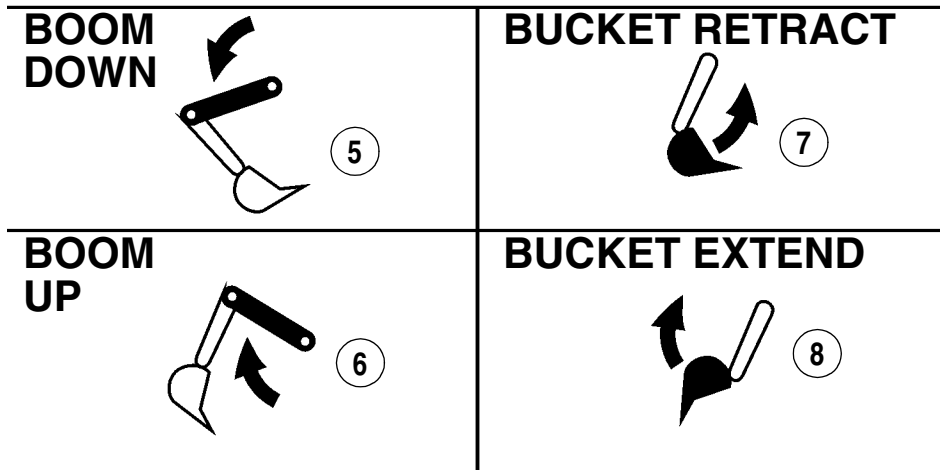
IMPORTANT: *Do not wait until the fuel tank is completely empty before refilling or it will be necessary to bleed the fuel circuit.*

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**BOOM AND BUCKET CONTROL
RIGHT-HAND CONTROL LEVER**



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5. Boom down

7. Bucket retracts

6. Boom up

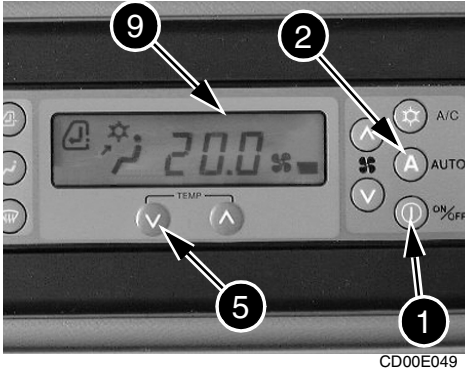
8. Bucket extends

9. NEUTRAL (HOLD) When the control levers are returned to NEUTRAL (HOLD), all movement stops. When released, both control levers return to NEUTRAL (HOLD) automatically.

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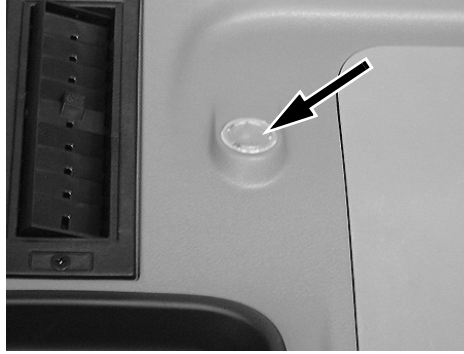
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AUTOMATIC

CD00E049

This button (2) is used to obtain automatic adjustment of the temperature, the volume and the direction of flow of the air. In this case, "Auto" will appear on the display screen (9). In automatic mode, the only possible manual adjustment is to the temperature (5). All other adjustments are made automatically. If any adjustment other than to temperature is made, the automatic mode is cancelled and "Auto" disappears from the display screen (9). To shut down the system, press buttons (1) or (2).

TEMPERATURE SENSOR

CD00E051

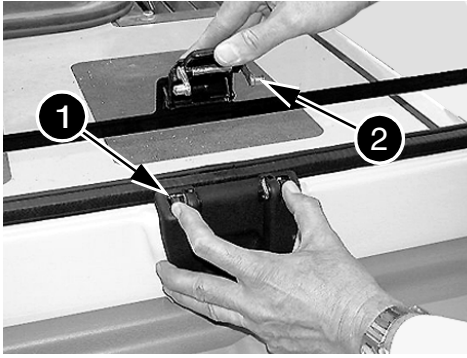
The temperature and light sensor is behind the operator's seat and should never be obstructed or covered.

NOTE: To ensure correct functioning and full effectiveness of the air conditioning system, it must be run at least once a week, even if only for a short time.

When servicing the air conditioning system, see "Air conditioning" in the "Maintenance/Adjustments" Section.

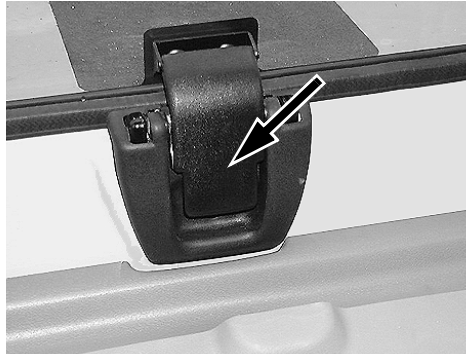
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CLOSING



CD00E026

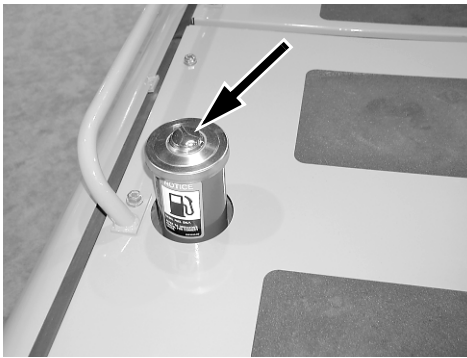
1. Press the locking studs (1), bring the pin (2) into its housing and then release the studs.



CD00E024

2. Fold the handle back into position.

FUEL TANK



BD00M216

The fuel tank capacity is 580 litres (153 gal).

NOTE: Clean around the fuel cap before refuelling and do not remove the filter located in the filler orifice. See "Fuel tank filter" in the "Maintenance/Adjustments" Section.


Use the starter switch key to lock the cap.

NOTE: In cold weather, use fuel corresponding to the ambient temperature. See "Fluids and lubricants" in the "Lubrication/Filters/Fluids" Section.

IMPORTANT: *In cold weather, fill the fuel tank after each working day to prevent the formation of condensation.*

When installing the fuel cap, make sure that it is correctly placed in the notches and then lock it by turning it up against the stop.

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WARNING: *Never refill the fuel tank when the engine is running. Never smoke during refuelling.*

OPERATING INSTRUCTIONS

BEFORE OPERATING THE MACHINE



WARNING: *Do not attempt to operate this machine unless you have first read and perfectly understood the safety messages and instructions appearing in this manual.*

Before operating this machine, be sure to do the following:

- Check the level of all fluids (engine oil, hydraulic fluid and coolant) and make sure that the fluids and lubricants are suitable for prevailing conditions. See “Fluids and Lubricants” in the “Lubrication/Filters/Fluids” Section and “Operating the machine in cold weather”.
- Carry out the daily maintenance operations. See the “Servicing Intervals” Section.
- Inspect the machine, look for any signs of wear, damage, leakage and check the hoses. Tighten or replace as necessary. See the “Maintenance/Adjustments” Section.
- Check the track assemblies. See “Tracks” in the “Maintenance/Adjustments” Section.
- Before undertaking any travel or working operations during hours of darkness, make sure the lighting and signalling equipment is fully operative.
- Clean the steps and access handles. Grease, oil, mud or (in winter) ice on the steps and access handles can cause accidents. Make sure they are kept clean at all times.
- Clean or replace any decals which are illegible. See “Decals” in the “Safety/Decals/Hand Signals” Section.
- Make sure all hoods, side doors and lower panels are properly closed.
- Secure the cab door in either fully closed or fully opened position.
- Remove any obstructions which hinder visibility. Clean the windshield, the rear view mirrors and the windows.
- Check that no tools or other items have been left on the machine (be it on the undercarriage or the upperstructure) or in the operator’s compartment.
- Work out a convenient means of escape from the machine (emergency exit via the windshield, the rear window glass) in the event of the cab door being jammed or the machine turning over.
- Make sure nobody is on or under the machine. The operator must be alone on the machine.
- Make sure nobody is standing in the machine working area.
- Find out about current safety measures in use on the work site.

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ENGINE OPERATION

When the engine has started and before beginning work, the following procedure must be observed :

- Let the engine run at idle speed until the engine reaches normal operating temperature.
 - Move the engine throttle button to the maximum speed position.
 - Once normal operating temperature has been reached, check the following :
 - The exhaust smoke is normal.
 - There is no abnormal noise or vibration.
 - There are no oil, fuel or water leaks.
- The engine should be run at full speed when operating conditions permit.
- The operating speed of the machine and of the attachment should be controlled by means of the control levers.
- Check the systems display and control panel regularly.

STOP THE ENGINE IMMEDIATELY IN THE FOLLOWING SITUATIONS:

- Sudden increase or decrease in engine speed.
- Abnormal noise.
- Black smoke at the exhaust.
- A message appears on the display screen and the audible alarm device sounds.

AUTO ENGINE SHUTDOWN: “Engine Protection” feature.

If engine coolant temperature reaches 104° C (220° F) fuel derate will begin. If the temperature of the coolant reaches 112° C (235° F) fueling derate will reach a maximum and shut the engine down after 30 seconds.

If intake manifold temperature reaches 96° C (205° F) fueling derate will begin. If the manifold temperature reaches 101° C (215° F) the fueling derate reaches maximum and the engine will shut down after 30 seconds.

If oil pressure drops fueling derate will begin. If oil pressure continues to drop fuel derate will reach a maximum and the engine will shut down after 30 seconds.

For all “auto shutdown” modes the audible alarm will sound and the systems display will inform the operator of the nature of the fault.

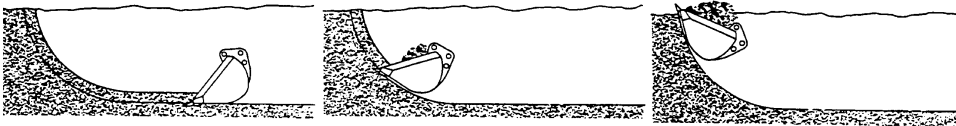
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OPERATING THE BUCKET

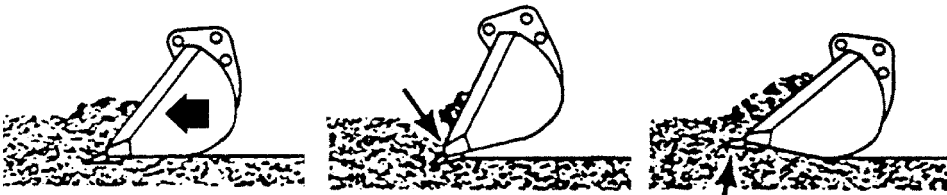
FILLING

Fill the bucket by manoeuvring the arm. Keep the bottom of the bucket parallel to the cut. The bucket teeth and blade must cut the ground like the blade of a knife. The depth of dig varies depending on the type of material.

EXCAVATING METHOD



PDH0493M



PDH0494M

CORRECT

WRONG

The bucket will dig in and cause a stall.

WRONG

The bucket is pushed upwards. This will also increase the cycle time.

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Unloading

1. Remove the blocks and fastening chains.
2. Start the engine.
3. Unlock the upperstructure swing function.
4. Lower the function cancellation lever (with the safety bar in outward position).
5. Select low travel speed and slowly move off the trailer.
6. Turn the rear view mirrors back to their correct position.

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FLUID AND LUBRICANT CAPACITIES AND SPECIFICATIONS

Engine

Type of oil CASE N°1 Engine Oil
Capacity (with filter change) 21 litres (22.2 qt.)

Cooling system

Cooling system capacity 44 litres (46.5 qt.)

Fuel system

Tank capacity 580 litres (153.2 gal.)

Hydraulic system

Type of fluid Case Hy-Tran[®] Ultra (MS1209)
Total system capacity 350 litres (92.4 gal.)
Reservoir capacity 175 litres (46.2 gal.)

Travel reduction gears

Type of oil Case 135H EP
Capacity (per reduction gear) 11 litres (2.9 gal.)

Swing reduction gear

Type of oil Case 135H EP
Capacity 6 litres (1.5 gal.)

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IMPORTANT: *A mixture of 50% ethylene glycol and 50% water must be used in this machine. This mixture is used if the lowest ambient temperature is above -37°C (-34°F). If the ambient temperature is lower, adjust the mixture to attain a lower freeze point using the freeze point concentration chart on the label of your antifreeze concentrate container. **Never use a coolant solution containing more than 60% glycol.** It is recommended that ethylene glycol and water be used in your machine all year.*

COOLING SYSTEM

SERVICE SPECIFICATIONS

Coolant reservoir level check	Every 10 hours or every day
Coolant solution change.....	Every 2000 hours
System capacity	44 litres (46.5 qts)



WARNING: *Boiling coolant solution can spray out if the radiator cap is removed while the system is still hot. To remove the cap, allow the system to cool down, turn the cap to the first notch and wait until there is no more pressure. Then remove the cap.*



WARNING: *Check and service the cooling system according to the instructions given in this manual.*

COOLANT SOLUTION

Put only ethylene-glycol coolant solution in the cooling system. Use good quality ethylene-glycol that has a high boiling point, with no additives to prevent leakage. Do not use non-approved anti-rust additives. Anti-rust additives and ethylene-glycol can mix and work against each other, thereby reducing anti-corrosion protection, forming deposits in the cooling system and causing damage to the cooling system and radiator.

Consult your CASE Dealer for suitable coolant solution.

IMPORTANT: *A mixture of 50% ethylene glycol and 50% water must be used in this machine. This mixture is used if the lowest ambient temperature is above -37° C (-34° F). If the ambient temperature is lower, adjust the mixture to attain a lower freeze point using the freeze point concentration chart on the label of your antifreeze concentrate container. **Never use a coolant solution containing more than 60% glycol.** It is recommended that ethylene glycol and water be used in your machine all year.*

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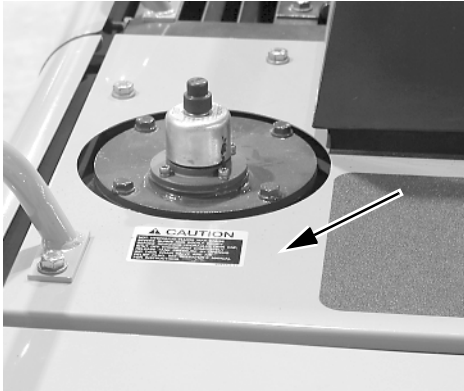
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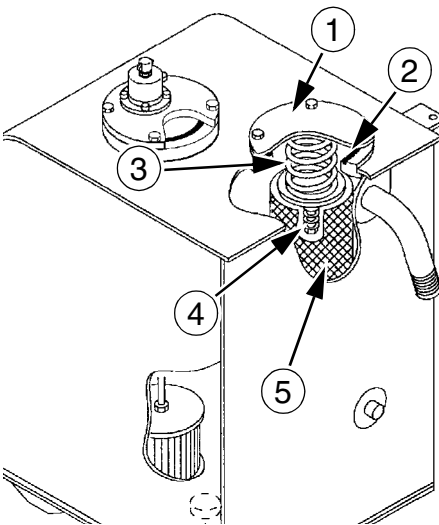
RETURN FILTER REPLACEMENT

Release all pressure in the hydraulic reservoir. See “Releasing pressure in the hydraulic system” page 139.



BD02D099

1. Clean the top of the hydraulic reservoir and remove the cover.



CI98M156

2. Remove the cover (1) and O-ring (2).
3. Take out the spring (3), valve (4) and return filter (5).

4. Install a new filter. Clean the spring (3) and valve (4) and assemble them.
5. Check O-ring (2) and replace it if worn or damaged.
6. Install the cover (1).
7. Check the level of the hydraulic fluid and add more if necessary. See “Filling the reservoir”.

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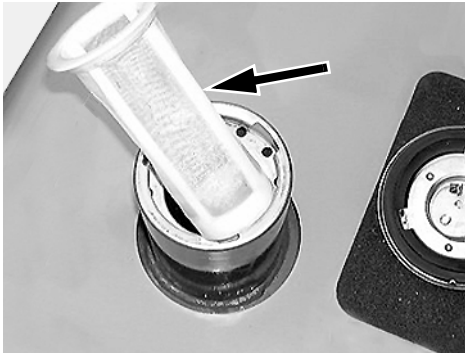
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FUEL TANK FILTER

SERVICE SPECIFICATION

Clean filter Periodically



CD01D127

Remove the filter and clean it in diesel fuel.

NOTE: To refill the fuel tank, see "Fluids and lubricants" in the "Lubrication/Filters/Fluids" Section.

INSPECTING AND CLEANING THE MACHINE

SERVICE SPECIFICATIONS

Inspect and clean Periodically

Or whenever oil or grease has been spilled on the machine. Clean off with steam or a high pressure water jet.

Take the opportunity during this operation to make a visual check of all the welded components (in case of appearance of cracks), the attachment linkages and check the teeth and tooth tips for correct retention and for wear. Look for any leaks and check the condition of all pipes and hoses.

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ELECTRICAL

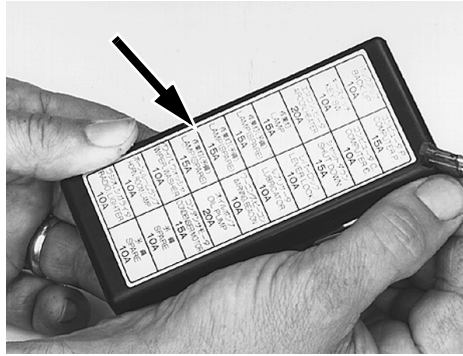
FUSES

IMPORTANT: Before proceeding to replace a fuse, turn the starter switch key to "OFF".

IMPORTANT: Never replace a fuse with a fuse of a different amperage.



CD00E059



A23955

To gain access to the fuses, open the panel at the rear of the operator's compartment and remove the cover.

A notice on the cover gives the function and amperage of each fuse.

NOTE: To remove or install a fuse, use the notch in the upper right-hand corner of the cover.

NOTE: Two spare fuses (10 amp and 20 amp) are to be found on the inside of the cover.

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Starting up after storage

1. Close the drain valves and fill the cooling system.
2. Drain the fuel tank and fill with clean diesel fuel.
3. Drain the engine sump, fill with clean engine oil and check the oil level.
4. Change the fuel filter.
5. Install the batteries.
6. Grease the machine thoroughly.
7. Check the condition of the fan drive belt and replace it if necessary.
8. Check the hydraulic fluid level and add more fluid if necessary.
9. Check the travel reduction gears oil level and add more oil if necessary.
10. Clean the cylinder rods.
11. Unplug the air filter inlet and the exhaust pipe.
12. Remove the "Do not operate" tag and start the engine, following the starting up procedure.
13. Keep a careful watch on all systems display panel lamps and indicators.



WARNING: Check the machine for leaks or for any parts that are broken, defective or missing.



WARNING: Before starting the engine, make sure that all controls are in neutral position. This prevents the machine from moving unexpectedly or an electrical appliance from starting up.



WARNING: Avoid running the engine in a confined place. Make sure there is adequate ventilation at all times.

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A.....	4.81 m (15 ft 7 in)
B.with vandal cover	3.13 m (10 ft 3 in)
C.....	11.04 m (36 ft 3 in)
D.....	7.25 m (23 ft 7 in)
E.with catwalks.....	3.58 m (11 ft 9 in)
F.	1.21 m (4 ft 0 in)
G.	3.45 m (11 ft 3 in)
H.	4.98 m (16 ft 3 in)
I.	4.04 m (13 ft 2 in)
J.	2.60 m (8 ft 6 in)
K. Standard shoe	800 mm (31.5 in)
L.800 mm shoe	3.40 m (11 ft 2 in)
M.	0.89 m (2 ft 9 in)

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