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SAFETY RULES

Most accidents involving machine operation and maintenance can be avoided by following basic rules and precautions. Read and understand all the safety messages in this manual, the Safety Manual, and the safety decals on the machine before you operate or service the machine. See your Authorized LBX Link-Belt dealer if you have questions.



CD00E001

1. OPERATOR'S MANUAL STORAGE

Safety messages in this section point out situations which can be encountered during the normal operation and maintenance of your machine. These safety messages also give possible ways of dealing with these conditions.

Additional safety messages appear in the manual to indicate specific safety hazards.

READ THIS MANUAL COMPLETELY and make sure you understand the characteristics of speed, stability, steering, and operation of this machine.

Do not remove this manual or the safety manual from this machine. See your LBX Link-Belt dealer for additional manuals. Also see the inside of the rear cover of this manual for detailed information for ordering manuals.

The safety information given in this manual does not replace safety codes, insurance regulations, or federal, state/provincial, or local laws. Make sure your machine has the correct equipment according to these rules or laws.

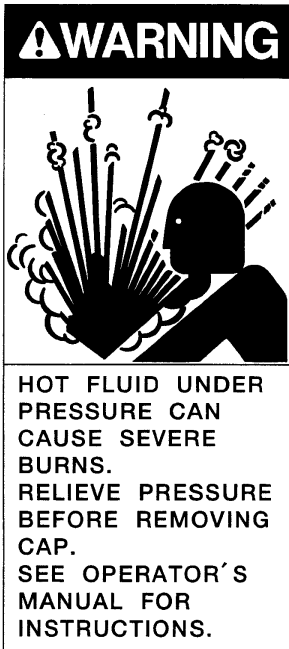
IMPORTANT: *The safety messages in this section point out situations which can happen during the normal operation and maintenance of your machine. These safety messages also give possible ways of dealing with these conditions.*



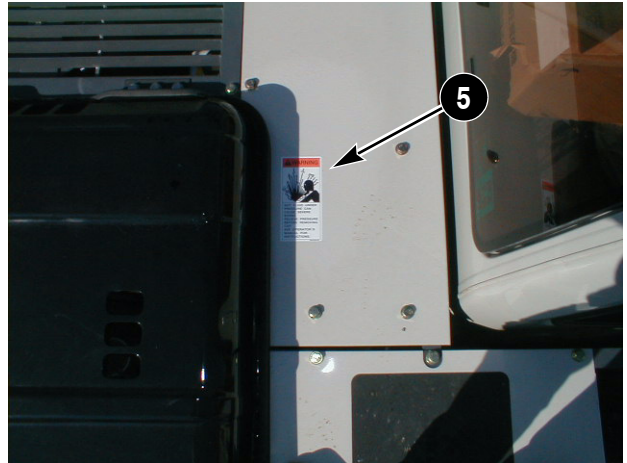
WARNING: *This safety alert symbol indicates important safety messages in this manual. When you see this symbol, carefully read the message that follows and be alert to the possibility of personal injury or death.*

M171B

- Before undertaking any travel on the job site, make sure the route to be followed is completely safe. If bridges are to be crossed, make sure they are perfectly capable of supporting the weight of the machine.
- Always steer around large obstacles such as boulders, big trees, etc...
- If the machine is equipped with an optional quick coupler, it is mandatory for the switch to be in the locked position when operating the machine.
- Dust, smoke or mist can reduce visibility and cause an accident. Reduce speed or come to a complete halt until visibility has improved.
- Never jump down from the machine. When climbing down from the machine or the upperstructure, always face the machine and maintain a three point support while using the steps and grab handles.
- If the machine is equipped with an optional quick coupler, never tilt the switch to the unlocked position when operating the machine at work.

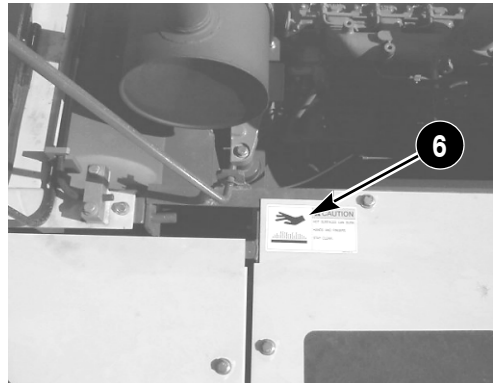


5



KHP1534-00 / P9290006

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



KHP1525-01 / BD01G024

This decal warns that some surfaces associated with the engine compartment may be hot to the touch and cause burns.

Slowly raise the load or tool



PDE0007A

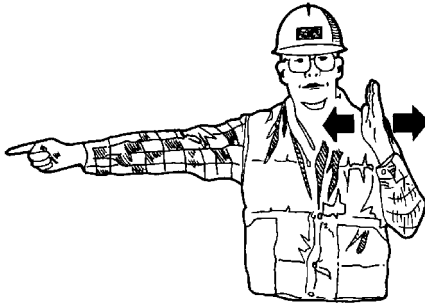
Slowly lower the load or tool



PDE0007

Turn the machine to the left (swing load left)

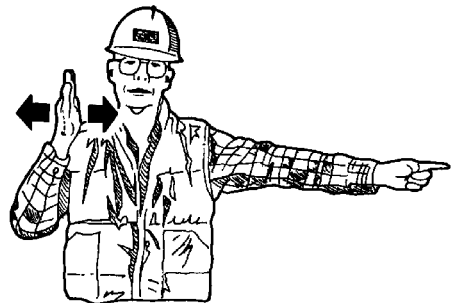
To stop movement, stop moving hand and clench fist.



PDE0008A

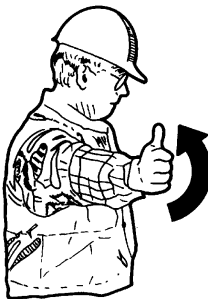
Turn machine right (swing load right)

To stop movement, stop moving hand and clench fist.



PDE0008

Raise tool



PDE0009A

Lower tool



PDE0009

1. CONTROL ARM TILT ADJUSTMENT AND FUNCTION CANCELLATION - This lever makes it possible for the operator to adjust the tilt angle of the control arm to suit his convenience. Raise the lever and hold it in this position. Tilt the control arm to the required position and then release the lever. This lever also makes it possible to raise the control arm completely, so as to cancel all machine functions.
2. GATE LOCK LEVER - This lever makes it possible for the operator to cancel the machine functions without having to raise the control arm. It is also used to operate gate lock.
3. GATE LOCK - The purpose of this bar is to prevent the operator leaving the operator's compartment without first raising the gate lock lever.
4. HORN - To operate the horn, press the tip of the left-hand control lever.

IMPORTANT: *Always sound the horn before operating the machine.*

5. OPTION CONTROL (OPTIONAL)- This is a three position control for operating optional accessories such as hydraulic breakers, concrete crushers, shears, etc. Place the control in the position corresponding to accessory to be used. See "Auxiliary hydraulic circuits" in the "Operating Instructions" Section.
6. TRAVEL ALARM ON/OFF SWITCH- In the "ON" position the travel alarm will sound continuously when traveling. In the "OFF" position the travel alarm will discontinue after 10 seconds of travel.
7. ASHTRAY - Pull the ashtray upwards to empty it.
8. STORAGE TRAY

STEP 5

To finish entering the code, place the starter switch key in “OFF” position.

IMPORTANT: *Remember to keep careful note of the code number, because if you forget it, it will not be possible to enter a new one without consulting your Link-Belt Dealer.*

Using the anti-theft device

The anti-theft device has to be actuated when you are shutting down the engine. Turn the starter switch from “ON” to “OFF”, “ON” to “OFF” for about 2 seconds at a time until the audible alarm device sounds. The anti-theft device is now operational and before being able to start the engine you will have to enter the access code.

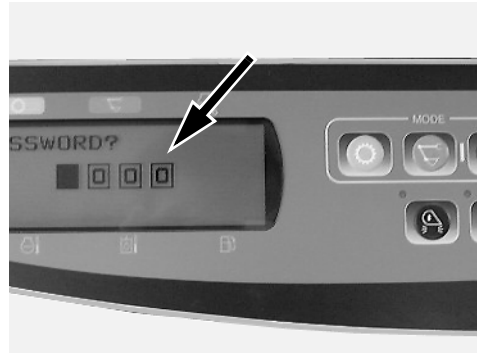
You are not obliged to activate the anti-theft device. If you so wish, when shutting down the engine, simply place the starter switch key in the “OFF” position and it will not be necessary to enter the access code to start the engine.

Entering the access code

If the anti-theft device was activated the last time the engine was shut down, then it will be necessary to enter the access code before being able start it again.

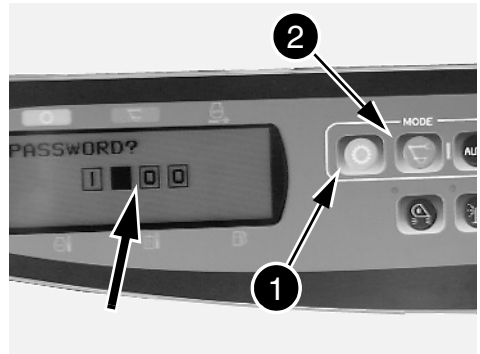
STEP 1

Place the starter switch key in the “ON” position.

STEP 2

CD00E077

The message “Password” and four boxes will appear on the display screen.

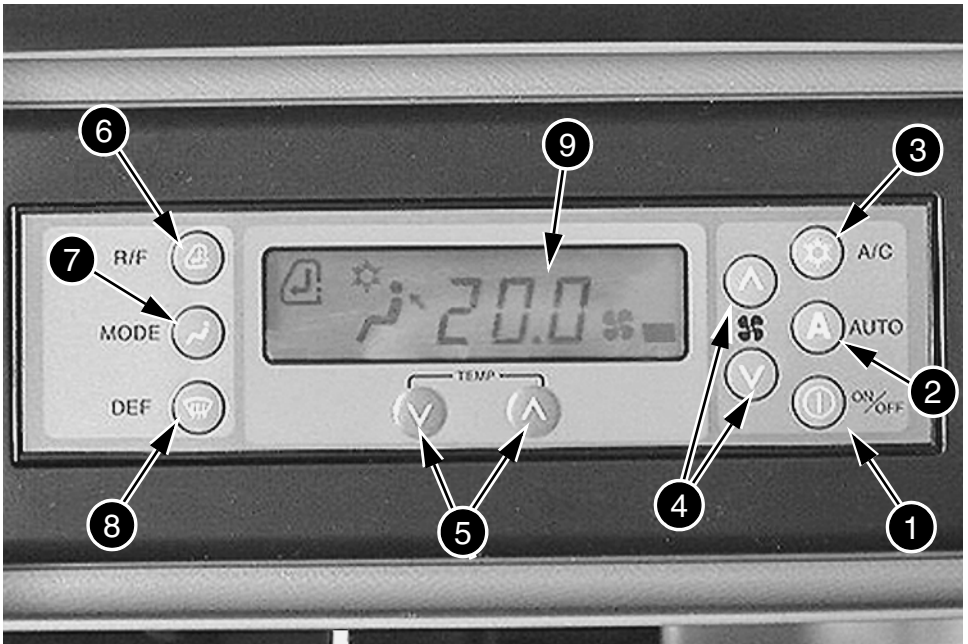
STEP 3

CD00E078

To enter the code (e.g. 1234), press button (1) the same number of times as the digit selected (e.g. once) then press button (2) to proceed to the second digit. Press the button (1) same number of times as the second digit (e.g. twice) and then press button (2) to proceed to the third digit. Repeat the procedure for the third and fourth digits.

Heating and ventilation or air conditioning controls

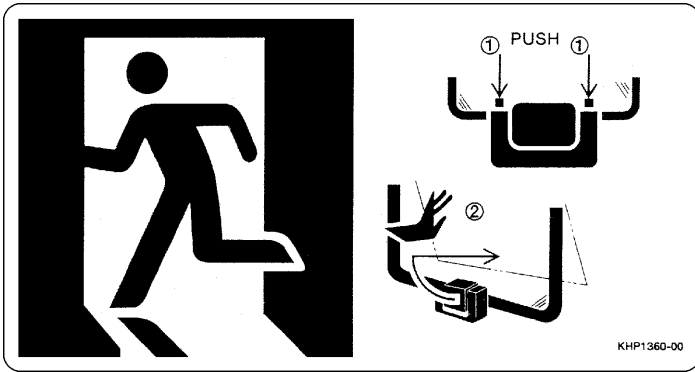
These controls are located on the right-hand control arm.



CD00E033

- | | |
|---------------------|-------------------------------|
| 1. On/Off | 6. Recycle / Fresh Air |
| 2. Automatic | 7. Air flow direction control |
| 3. Air conditioning | 8. Windshield defroster |
| 4. Fan Speed | 9. Display screen |
| 5. Temperature | |

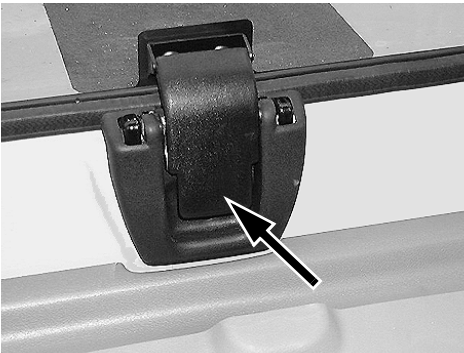
REAR WINDOW AND EMERGENCY EXIT



KHP1360-00

Opening

STEP 1



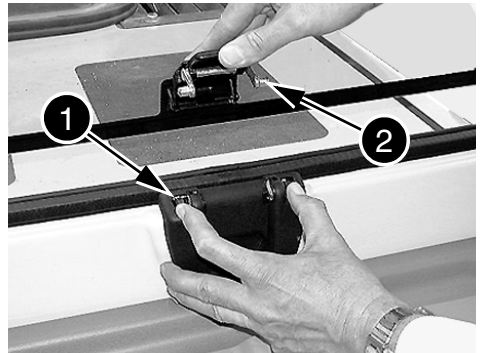
Pull the handle upwards.

STEP 2



Push back the handle to open the window partially.

STEP 3



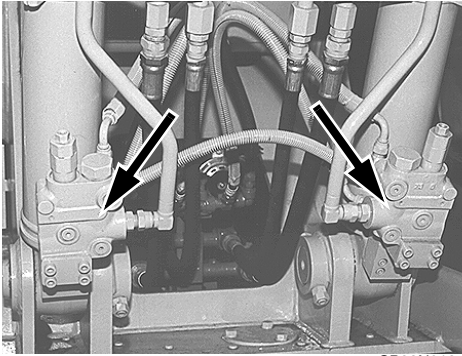
To open the window completely, release the pin (2) from the locking studs (1).

NOTE: The window can not be fastened in this position.

HOSE BURST CHECK VALVES (OPTIONAL)

Service specifications

Check by your authorized LBX Link-Belt distributor Every 6 months



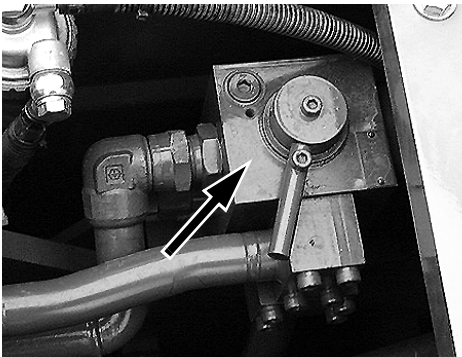
CP98N018

The role of the hose burst check valve is to stop the attachment from dropping due to valve spool leakage in the neutral position or in the event of a line or hose accidentally breaking. In the latter event, they also ensure that the attachment may be lowered gently to the ground. See “Load handling” in the “Operating Instructions” Section.



WARNING: *Hose burst check valves are pilot operated devices. The operator **must** return the control lever to the neutral position to prevent the attachment and load from falling in the event that a hydraulic hose or line fails.*

OPTIONAL TOOL FLOW SELECTOR VALVE (OPTIONAL))



CD00E043

This valve is located on the inner wall of the fuel tank and is used to select the correct oil flow for the tool mounted on the machine. See “Auxiliary hydraulic circuits” in the “Operating Instructions” Section.

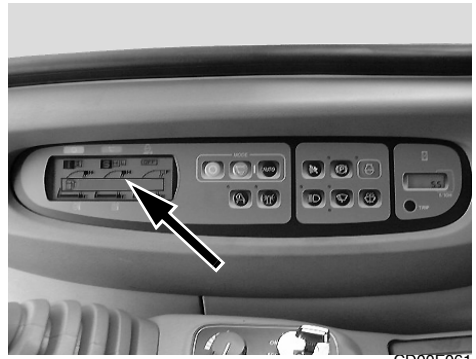
IMPORTANT: *Consult your authorized LBX Link-Belt distributor before mounting optional tools.*

STEP 7



CD00E061

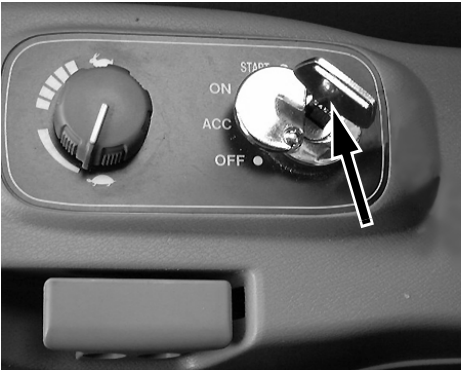
In cold weather, the message “Eng. pre heat” appears on the systems display panel. See item 10 under “Systems display and control panel” in the “Controls/Instruments/Accessories” auto warm-up Section.



CD00E061

Run the engine until the “Auto warm up” message disappears from the systems display panel. See “Systems display and control panel” in the “Controls/Instruments” section.

STEP 6



CD00E061

As soon as the audible alarm device sounds, the message will disappear, turn the key to the “START” position. Release the key as soon as the engine starts to turn. If the engine stops, wait about a minute and recommence the operation.

IMPORTANT: *Do not operate the starter motor for more than ten seconds at one time. Do not operate the starter motor when the engine is running.*

STEP 8



CD00E006

Lower the gate lock lever to extend the gate lock and to activate the control

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HANDLING THE MACHINE

Never handle the machine without contacting your authorized LBX Link-Belt distributor before hand. Your authorized LBX Link-Belt distributor will provide you with the correct procedure to be followed to ensure the operation is performed safely.

IMPORTANT: *Before handling the machine, make sure the slings are in perfect condition and that they are capable of supporting the weight of the machine. See “Weights” in the “Specifications” Section.*



WARNING: *The machine must be handled very slowly and horizontally.*



WARNING: *Make sure that there is nobody under or near the machine while it is being handled.*

LOAD HANDLING

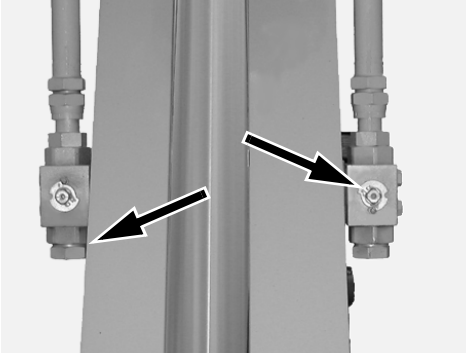


WARNING: *Whenever load handling operations are to be carried out, it is imperative to adhere strictly to the instructions given in this manual and local legislation.*

When handling loads, make sure you do the following :

- Park the machine on flat, firm, level ground.
- Use the lifting eye on the bucket. Do not use hooks or lugs welded to the bottom of the bucket.
- Use slings and chains in perfect condition, suitable for lifting the load to be handled and fitted with a safety device to prevent accidental opening.
- Select the “L” (lift) work mode. See “Systems display and control panel” (item 2), in the “Controls/Instruments/Accessories” Section.
- Select free swing to allow the upper structure to center over the load to prevent the load from swinging.
- Do not exceed, in any circumstances, the limits shown on the lift capacity chart. The lift capacity chart is located on the front right-hand operator’s cab window and in the “Specifications” section of this manual.
- Do not allow anyone within the machine’s operating radius.
- Operate the controls smoothly to ensure precise movement of the attachment and the machine.
- Stabilize the load a few inches above the ground to make sure it is perfectly balanced before trying to move it.

STEP 5



CD00E082

When removing the crusher, place the supply valves in “S” position (closed) and plug the orifices.

STEP 6



CD00E072

Tilt the control to the central position.

HOURMETER



CD00E073

The hourmeter enables service operations to be scheduled. It displays the total time that the engine has been operated, in hours and tenths of an hour.

Servicing intervals are carefully calculated to guarantee safe and efficient machine operation.

Be sure to carry out all the servicing operations properly as defined in this manual.

DAILY INSPECTION

Every day, before starting work, it is necessary to inspect the machine and service certain of its components.

General

- Check signs of leaking oil or water.
- Check that all screws and nuts are correctly tightened.
- Wipe off any dust (engine, operator's compartment).
- Check for any signs of deterioration.

Engine

- Check the oil level and change the oil if necessary.
- Check the coolant level.
- Check the radiator for signs of clogging or deterioration.
- Check the radiator fan belt tension.
- Check the air filter is clean and not restricted.
- Check the components for signs of leaking oil or water.
- Check the condition of all lines.

Upperstructure

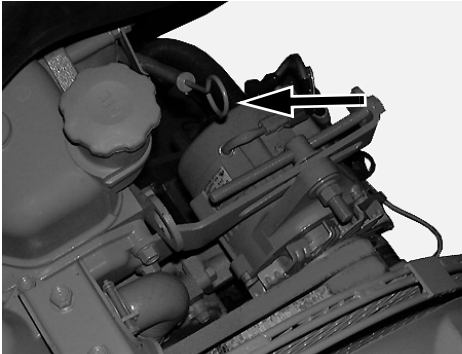
- Check the fuel tank level.
- Check the hydraulic reservoir level.
- Check that the hydraulic oil is clean.
- Check the components for signs of leaking oil or water.
- Check the condition of all lines.
- Make sure there are no electrical short circuits.
- Check the battery connections are properly tightened.
- Adjust the rear view mirrors.

Undercarriage

- Check the track shoe hardware.
- Check the condition of the tracks.
- Check that the upper and lower track rollers and the idler wheels are not leaking oil.

FLUID LEVELS

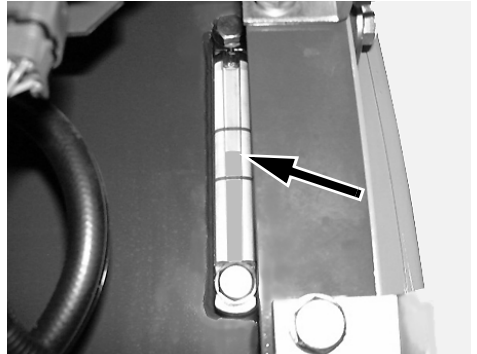
Every 10 hours



CD00E091

Engine oil(1)

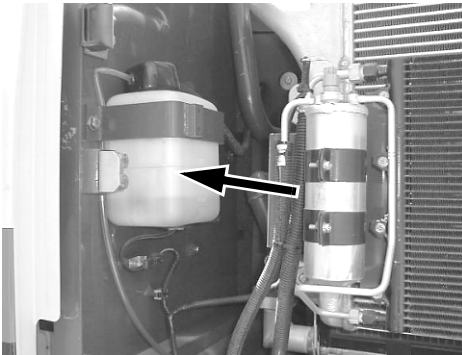
Every 10 hours



CD00E092

Hydraulic reservoir(1)

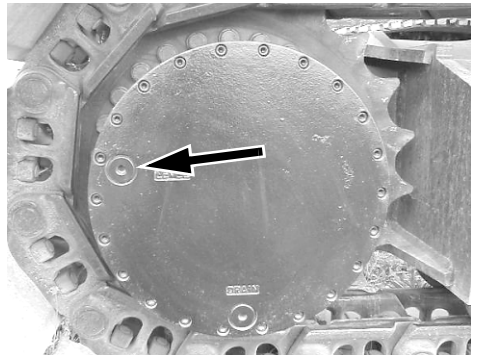
Every 10 hours



BD01G031

Coolant solution expansion
reservoir(1)
ETHYLENE GLYCOL and WATER

Every 250 hours



BD01G020

Travel reduction gears(2)
Type API GL-4 90

When bubbles no longer come out, tighten the air bleed screw (1) and tighten the knob of the priming pump (2). Completely wipe off any spilt fuel. Start the engine and check for fuel leakage.



WARNING: *Completely wipe off any spilled fuel after replacing a filter element or bleeding the system.*

RELEASING PRESSURE IN THE HYDRAULIC SYSTEM

IMPORTANT: *Before carrying out any work on the hydraulic system, there should be no pressure in any of the circuits.*

STEP 1

Place the machine on flat, level ground, lower the attachment to the ground and stop the engine.

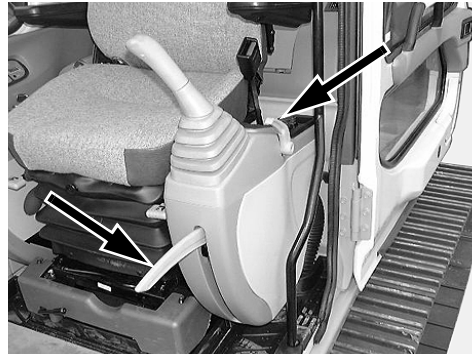
STEP 2



CD00E060

Turn the starter switch key to the "ON" position.

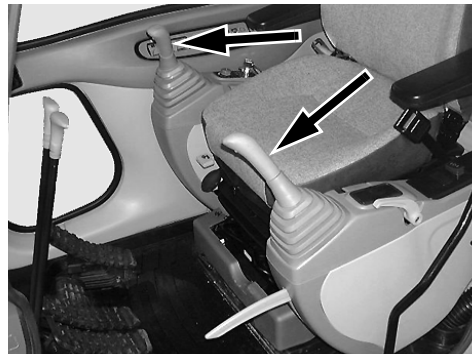
STEP 3



CD00E060

Lower the gate lock lever (gate lock bar in outward position).

STEP 4



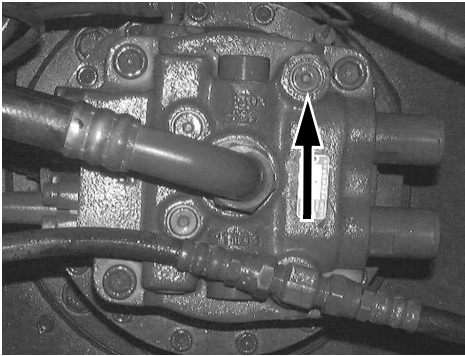
CD00E111

Operate the control levers from right to left and front to rear a dozen times approximately.

Attachment cylinders

Start and run the engine at low idle speed. Extend and retract the attachment cylinder rods four or five times without bringing them to end of stroke. Then repeat the operation three or four times, this time bringing the cylinder rods to end of stroke.

Hydraulic swing motor



CD00F056

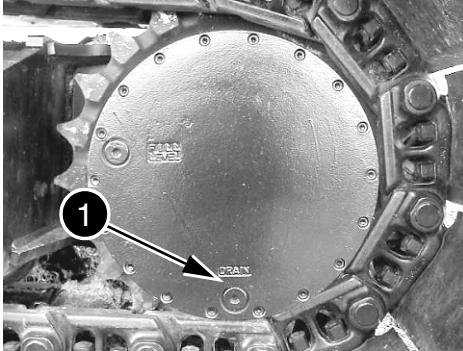
Start and run the engine at low idle speed. Loosen the air bleed plug and make sure hydraulic fluid runs out. If necessary, stop the engine and add oil via this orifice. Install the plug without tightening, then start and run the engine at low idle, leaving it to run until oil begins to run from the orifice. Tighten the air bleed plug completely. Swing the upperstructure three times completely to the right and three times completely to the left.

Draining and refilling

STEP 1

Park the machine on flat, horizontal ground.

STEP 2



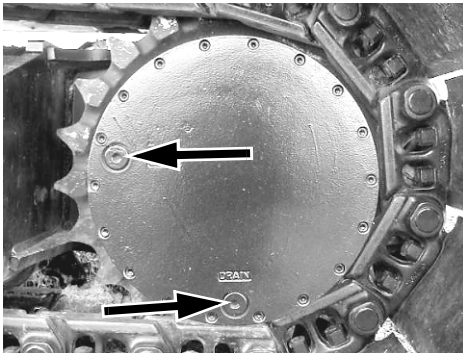
BD01E055

Move the machine so that plug (1) is in the lowest possible position.

STEP 3

Stop the engine and remove the starter switch key.

STEP 4



BD01E055

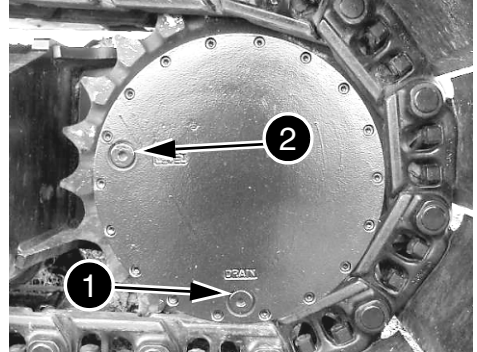
Place a receptacle of a suitable capacity under the travel reduction gear and remove the two plugs.

STEP 5

Allow the oil to drain.

IMPORTANT: Check the condition of the drained oil. If it contains metal filings or foreign matter, see your authorized LBX Link-Belt distributor.

STEP 6



BD01E055

Install the plug (1), fill with oil through the hole (2) until oil comes up to the bottom edge of hole then install plug (2).

STEP 7

Repeat Steps 2 to 6 for the other travel reduction gear.

STEP 8

Travel slowly with the machine and make sure there are no leaks.

FUEL TANK FILTER

Service specification

Clean filter Periodically



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 spilt 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.

Engine troubleshooting (continued)

| Problem | Possible cause | Solution |
|--|---|--|
| Exhaust from engine is white or blue. | Excessive oil | Disassemble and repair, replace parts |
| | Excessively low oil viscosity | Replace with correct oil viscosity |
| | Excessive cooling by radiator | Adjust |
| | Incorrect fuel injection timing | <i>See your authorized LBX Link-Belt distributor</i> |
| | Low compression | |
| Exhaust from engine is black or dark gray. | Improper fuel | Replace with correct fuel |
| | Incorrect valve clearance | Adjust |
| | Insufficient air intake (air cleaner clogged) | Service the air filter |
| | Defective fuel injection pump | <i>See your authorized LBX Link-Belt distributor</i> |
| | Low compression | |
| Excessive fuel consumption. | Incorrect fuel | Replace with correct fuel |
| | Insufficient air intake | Clean or replace element |
| | Defective fuel injection pump | <i>See your authorized LBX Link-Belt distributor</i> |
| | Incorrect spray from fuel injection nozzle | |
| | Incorrect fuel injection timing | |
| | Low compression | |
| Excessive engine oil consumption. | Excessive oil | Drain oil to proper level |
| | Low oil viscosity | Replace with oil of viscosity to match temperature |
| | Oil leakage | Retighten and replace parts if necessary |
| | Worn cylinder piston ring | <i>See your authorized LBX Link-Belt distributor</i> |
| Unusual noise (fuel or mechanical). | Poor fuel quality | Replace |
| | Damage inside muffler | Replace |
| Engine overheating (water temperature is too high). | Low coolant | Refill |
| | Water leakage | Repair |
| | Worn or damaged belt | Replace |
| | Incorrect mixture of anti-freeze solution | Replace |
| | Defective radiator | <i>See your authorized LBX Link-Belt distributor</i> |
| | Broken fan | |
| | Defective thermostat | |
| | Defective water pump | |
| | Defective water temperature gauge | |

Upperstructure Work Light

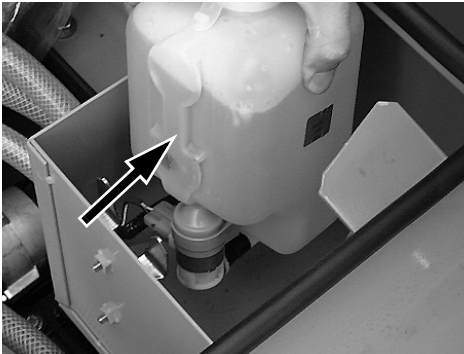
STEP 1



PC050017

Open the front box.

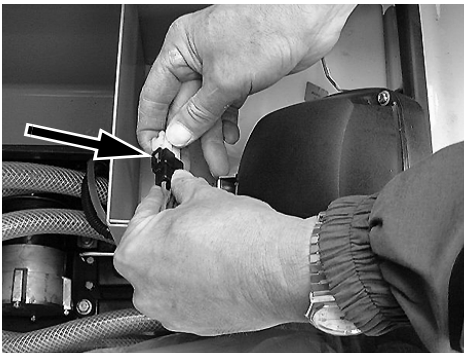
STEP 2



CD00E127

Take out the windshield washer reservoir to gain access to the work light.

STEP 3



CD00E128

Disconnect the plug.

STEP 4



CD00E129

Remove the four screws and tilt the work light.

STEP 5



CD00E130

Pull the clip outwards, remove the bulb and install a bulb of the same wattage (70 W).

IMPORTANT: *Never put your fingers on a tungsten iodide bulb.*

STEP 6

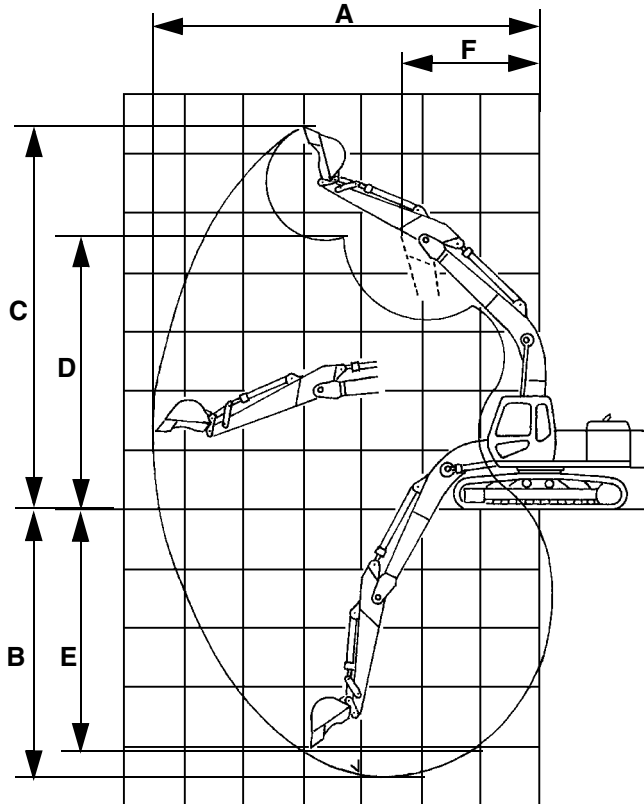
Install the clip, put the work light back in position and install the screws and the plug.

STEP 7

Put the windshield washer reservoir back in place.

WORKING RANGE

2.67 m (8 ft 9 in) arm



B9409105

| | |
|-------------------------------------|---------------------|
| A. Maximum dig radius..... | 10.29 m (33ft 9in) |
| B. Maximum dig depth | 6.60 m (21ft 8in) |
| C. Overall height maximum | 10.01 m (32ft 10in) |
| D. Dump height | 6.97 m (22ft 10in) |
| E. Maximum vertical wall depth..... | 5.66 m (18ft 7in) |
| F. Minimum swing radius | 4.00 m (13ft 2in) |

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