MODEL - 330LX Tier III
SERIES LX Series
BOOK NO 1120
SERIAL NO. _____

This manual is for 330LX excavator with a manufacturer's number of 330Q3 6001 and up. Due to EPA emission regulations the engine was changed in these machines. For machines with a 330Q3 1001-5999 please use the operator's manual book number 1022.

Litho in USA – 01/06

IDENTIFICATION NUMBERS

TYPE, SERIAL NUMBER AND YEAR OF MANUFACTURER

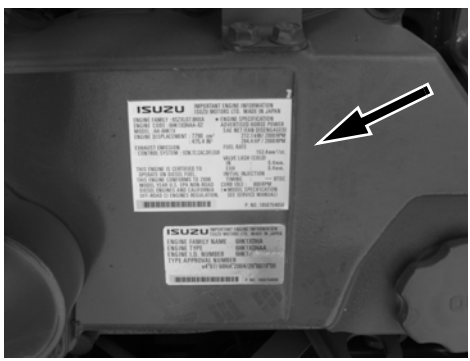
When ordering parts, obtaining information or assistance, always supply your authorized LBX Link-Belt distributor with the type and serial number of your machine or accessories.

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

Machine

BD01E105

Engine



BD01E106

Excavator Identification

1. Model number.....
2. Serial number .....
3. Manufacturer number.....

Engine Identification

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

Component serial numbers

Hydraulic pump .....
Swing motor .....
Travel motor.....
Main control valve .....
Swing gearcase.....
Travel gearcase .....

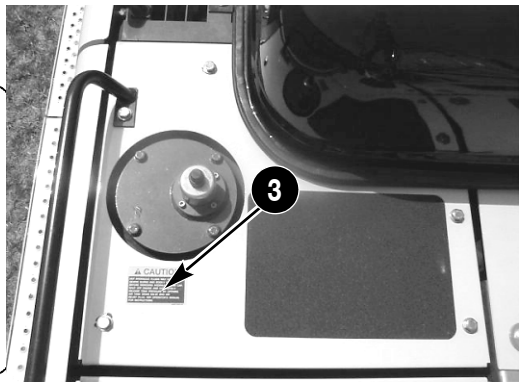
⚠ MAINTENANCE ⚠

- Before you service the machine, put a Do Not Operate tag on either the right or left hand control lever.
- Improper service or repair procedures can cause injury or death. If you do not understand a service or adjustment procedure, see the service manual for this machine or see your LBX Link-Belt authorized dealer. Unauthorized modifications to this machine can cause injury or death. Do not make unauthorized modifications to this machine. Always see your LBX Link Belt authorized dealer before you weld, cut, or drill holes in your machine.
- If you must service this machine with the engine running, have another person help you. Follow the instructions in this manual or the service manual. Do not leave the operator's seat while the engine is running. Engage the gate lock if you must leave the machine with the engine running.
- Disconnect the batteries before working on the electrical system.
- If you are exposed to or come in contact with hazardous chemicals you can be seriously injured. The fluids, lubricants, paints, adhesives, coolants, etc., used with your machine can be hazardous.
- Before you service this machine and before you dispose of the old fluids and lubricants, always remember the environment. Do not put oil or fluids into the ground or into containers that can leak.

Check with your local environmental or recycling center or your LBX Link Belt authorized dealer for correct disposal information.

- When you service this machine, always wear face or eye protection, safety shoes, and other protective items as required.
- Metal chips or debris can cause eye injury. Always wear eye or face protection when you use a hammer on this machine. Use a hammer with a soft face, such as brass, to drive hardened pins.
- Lower the bucket or tool to the ground or block up the machine securely before working on the machine. Follow the instructions in this manual when you service the machine.
- Clean the machine regularly. A build-up of grease, dirt, and debris can cause possible injury or machine damage. Keep your work shop clean.
- Before welding on this machine, disconnect the battery ground (-).
- Remove any obstructions which hinder visibility. Keep the windshield, rear view mirror and windows clean at all times.
- Make sure the windshield wiper works correctly.
- Make sure you are perfectly familiar with hand signals in daily use on the worksite so as to be able to obtain help with tight maneuvers or when carrying out operations where visibility is poor.

3



KHP1542-00 / BD01E066

This decal advises that before removing the hydraulic tank cap the pressure should be relieved. See “Releasing Pressure” in the Hydraulic System.

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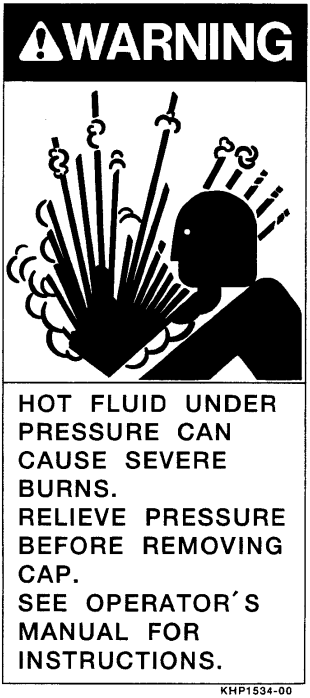
4



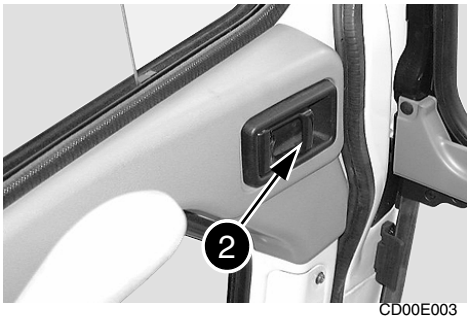
KHP1534-00 / BD01E034

This decal warns of the hazards associated with removing the radiator cap before relieving the pressure.

INSTRUMENTS/CONTROLS

CAB DOOR

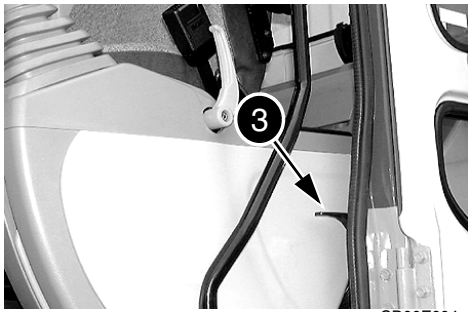
CD00E002



CD00E003

To open the door, use the handle (1) from the outside and use the handle (2) from the inside.

NOTE: Use the starter switch key to lock the door.



CD00E004

The door can be latched completely open. To unlatch the door, tilt the lever (3) downwards.

WARNING: *Be careful not to get your hand or anything caught in the door when closing it.*

WARNING: *Do not leave the door ajar. Fix it in a latched position.*

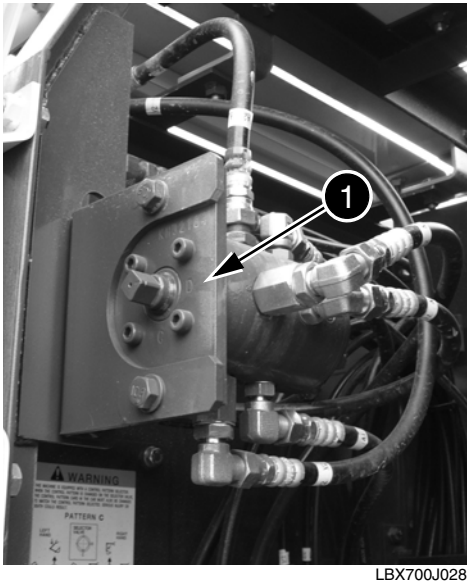
3. AUTO MODE SELECTOR - Select Auto-Mode to obtain the optimum operating mode, between “S” and “H” modes, for reduced fuel consumption. The confirmation (Auto) will be displayed on the indicator (5). Press the button again to come out of “Auto” mode, “H” (heavy) mode will then automatically be selected.

4. TRAVEL SPEED INDICATOR - This indicator displays a sign showing the travel speed selected with button (1).

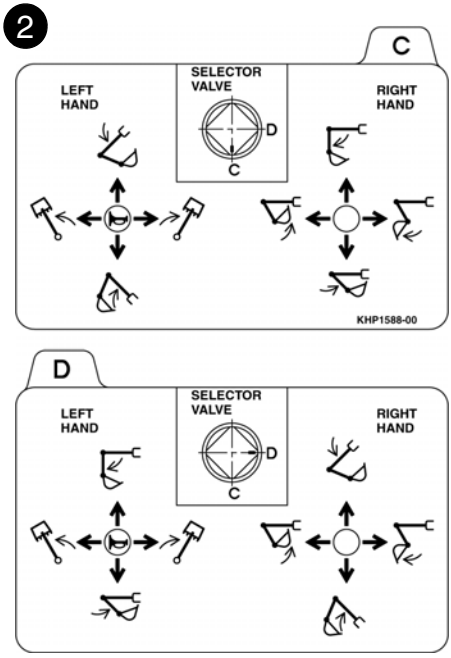
5. WORK MODE INDICATOR - This indicator displays the initial of the working mode selected by the Button 1.
   The letter “S” appears to indicate selection of “S” (standard) mode.
   The letter “H” appears to indicate selection of “H” (heavy) mode.
   The letter “L” appears to indicate selection of “L” (lift) mode.
   “Auto” will be displayed to confirm that “Auto” has been selected with button.

6. ENGINE IDLE SPEED INDICATOR - This indicator displays the type of engine idle speed selected with the control on the right-hand control lever. See “Right-hand control lever” (item 5).
   “ON”: Auto Idle
   “OFF”: One Touch Idle

CONTROL PATTERN SELECTOR VALVE



LBX700J028



The control pattern selector valve is located behind the cab. There are two control pattern settings, C or D. Control pattern D is standard excavator control pattern. Some operator's may be more comfortable using the alternate control pattern C.

To switch the settings:

1. Lower the boom to the ground and shut off the engine.
2. Open the left-hand side door behind the operator's cab
3. Using a wrench, move the lever (1) to the desired position, either C or D.
4. Close the side doors.
5. Change the selector valve card (2) in the operator's cab to match the selected control pattern.

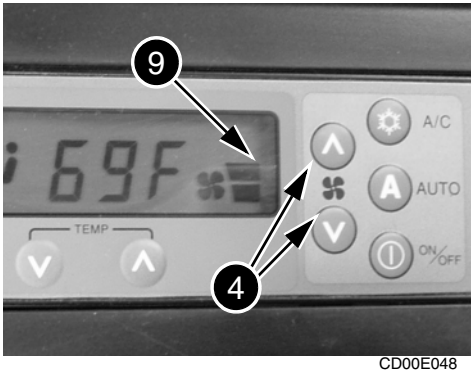
On/Off

CD00E048

This push button (1) is for turning the system on or off.

NOTE: When the system is turned on it will operate at the same setting as selected for previous use.

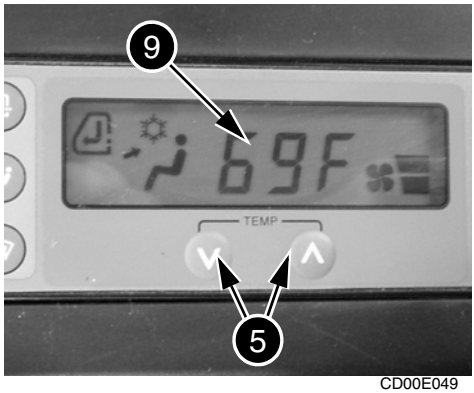
Fan Speed



CD00E048

These push buttons (4) allow the air flow to be increased or reduced. To increase the flow of air, press the top button. To decrease the flow of air, press the lower button. The bars on the display screen (9) will increase or diminish, depending on the flow selected. By changing the fan speed automatic climate control is turned off and the fan speed will remain at the manual setting.

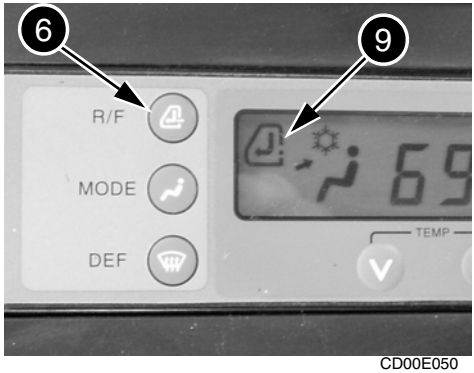
Temperature



CD00E049

These push buttons (5) allow the temperature to be raised or lowered within an 18° to 32°C (64° to 90 °F) range for automatic climate control. To increase the temperature, press the right-hand button. To lower the temperature, press the left-hand button. The temperature reading will appear on the display screen (9).

Air recycling

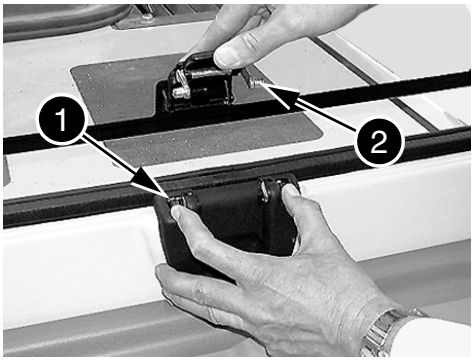


CD00E050

This button (6) allows two different types of air circulation to be selected. Fresh air from the outside or recycled air from within. Each time the button is pressed, the type of circulation will be changed. Indication of the type of circulation selected will appear on the display screen (9).

Closing

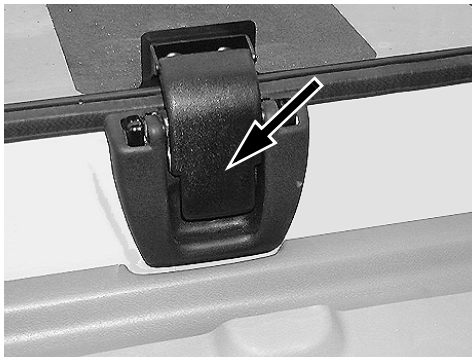
STEP 1



CD00E026

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

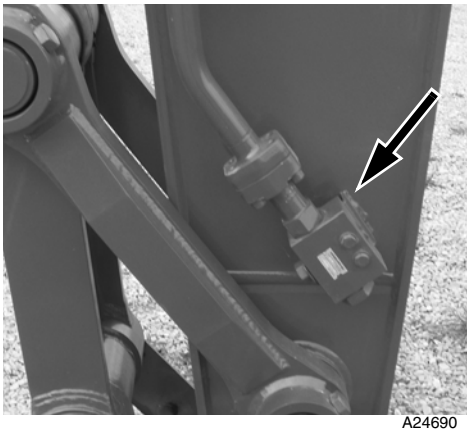
STEP 2



CD00E024

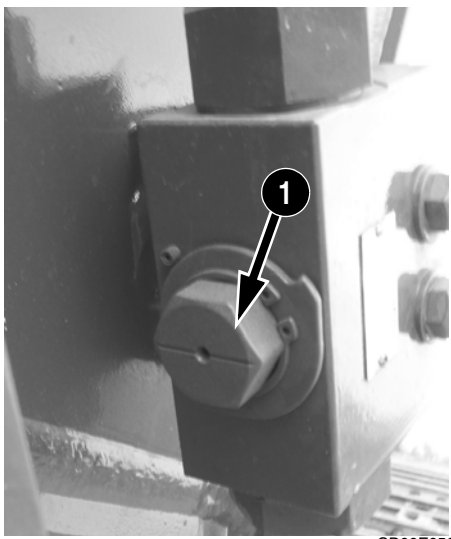
Fold the handle back into position.

TOOL SUPPLY VALVES (OPTIONAL)



A24690

Located on the end of the arm, these two valves are used to ensure oil supply to optional tools, for example, hydraulic breakers, etc... These valves have two positions.



CD00E056

The line (1) across the shut off valve shows the position of the valve. In this position the shut-off valve is closed.

CD00E055

To open the flow to the tool turn the shut-off valve 90° counterclockwise till the stop hits. In this position, oil is supplied to the tool.

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.

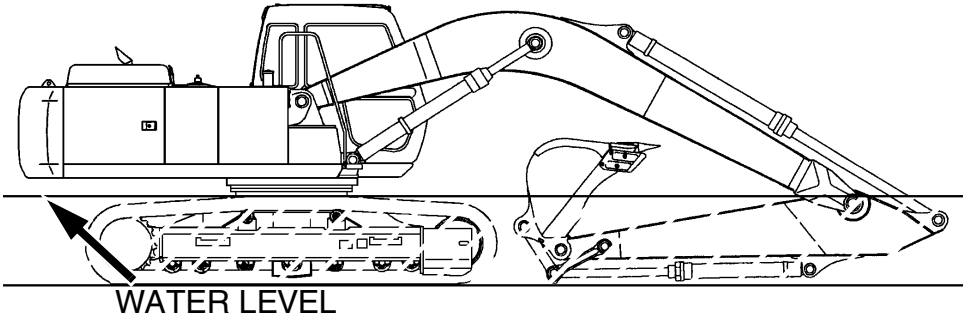
The operating speed of the machine and of the attachment should be controlled by means of the control levers.

Check the systems display and control panel regularly.

STOP THE ENGINE IMMEDIATELY IF ONE OF THE FOLLOWING SITUATIONS OCCUR:

- 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.

OPERATING THE MACHINE IN WATER



CS99A825

1. Make sure that the bottom of the stream, or stretch of water in which you will work, can support the weight of the machine.
2. Only the undercarriage must be below water level. The water may come up to the top of the tracks but no higher.

IMPORTANT: *Never work in water if the water level is higher than the tracks.*

3. Before working in water, grease the attachment linkage, turntable bearing and turntable bearing teeth generously.

IMPORTANT: *Do not operate in a fast flowing stream.*

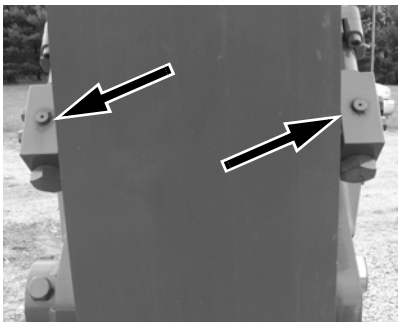
OPERATING ON SLOPING GROUND

WARNING: *Hillside operations can be dangerous. Rain, snow, ice, loose gravel, soft ground, etc... modify terrain conditions. It is up to you to decide if the machine can be used in perfect safety.*

- During hillside operations, be extra careful.
- Make sure the upper structure swing is in locked position and that low travel speed is selected.
- When digging on a slope, avoid swinging the upper structure towards the bottom of the slope with the bucket full. Always keep the travel reduction gears pointing down towards the bottom of the slope.
- Always travel in the same direction as the slope, to prevent the machine from turning over.

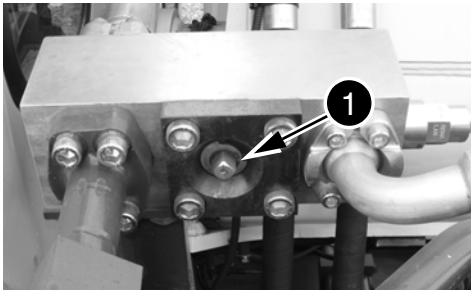
SINGLE FLOW CRUSHER CONFIGURATION

STEP 1



For the crusher, use a hexagonal wrench to place the supply valves in open position. See “Optional tool supply valves” in the “Controls/ Instruments/Accessories” Section.

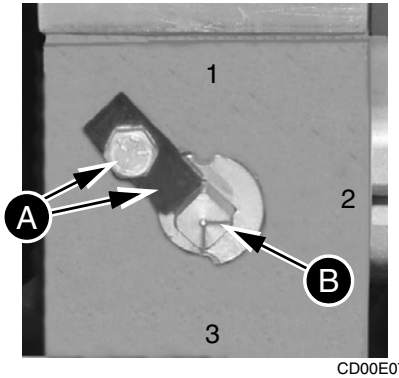
STEP 2



CD00E071

Turn the stop valve (1) counter-clockwise till it contacts with the stop.

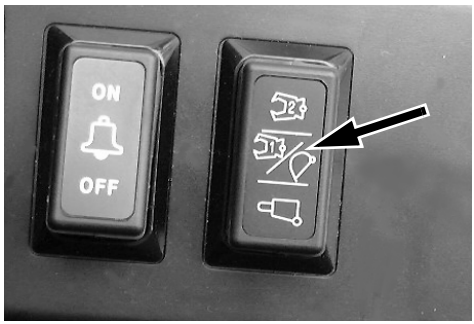
STEP 3



CD00E071

The flow selector valve does not require adjustment.

STEP 4



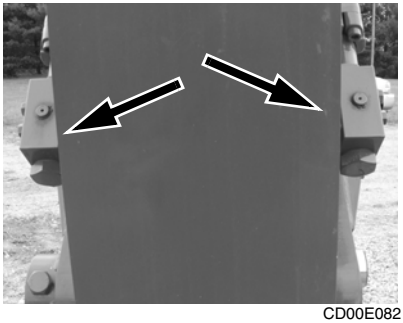
Make sure the control on the left-hand arm is in central position.

STEP 5

BD00M485

Use the button on the bottom of the joystick to operate the crusher.

STEP 6



CD00E082

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

SERVICE INTERVALS

PAGE	SERVICE POINTS	NB OF POINTS	INTERVALS IN HOURS				
			CLEAN	REPLACE	CHECK	GREASE	DRAIN
112/156	Hydraulic breaker (optional)	1			2/10/50 (A)		
135	Engine oil level	1			10		
135	Coolant level	1			10		
135	Hydraulic reservoir level	1			10		
172	Radiator and oil cooler	1	250		10		
173	Fan/alternator belt tension	1			10/250		
177	Attachment	15/2				1000/50	
143	Drain fuel tank sediment	1			50		
143	Drain water separator	1			50		
157	Hydraulic system lines	-			50		
156	Return filter hydraulic breaker	1		100			
149	Drain hydraulic reservoir sediment	1			250		
158	Primary air filter element	1	250 (B)	1000 (C)	250 (B)		
162	Swing reduction gear oil level	1			250		
164	Travel reduction gears oil level	2			250		
171	Track shoe bolt torque	-			250(D)		
181	Air conditioning	-	250		250 (E)		
187	Bolt and nut torque	-			250 (D)		
191	Batteries electrolyte level	2			250		
132	Turntable bearing	1				1000	
133	Turntable bearing teeth	1				500	
137	Engine oil	1					500
138	Engine oil filters	2		500			
144	Fuel filter	1		500			
147	Hydraulic fluid condition	1			1000		
150	Pilot filter	1		2000(F)			
153	Breather filter	1		1000			
159	Secondary air filter element	1		1000 (G)			
162	Swing reduction gear	1				5000	1000 (H)
164	Travel reduction gears	2					1000 (H)
150	Suction filter	1	2000	5000			
151	Return filter	1		2000 (F)			
152	Nephron filter	1		2000			
147	Hydraulic fluid	1		5000			
86	Hose burst check valves (opt)	2				(I)	
181	Cooling circuit	1					(J)
167	Tracks	2	(K)		(K)		

ENGINE

Service specifications

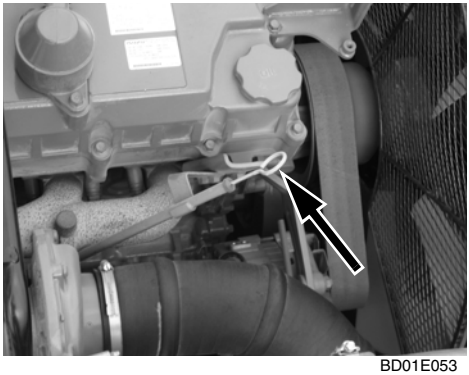
Engine oil level check ..... Every 10 hours or every day
Oil change ..... Every 500 hours
Oil filters replacement ..... Every 500 hours

Level

STEP 1

Park the machine on flat, horizontal ground. Stop the engine and remove the starter switch key.

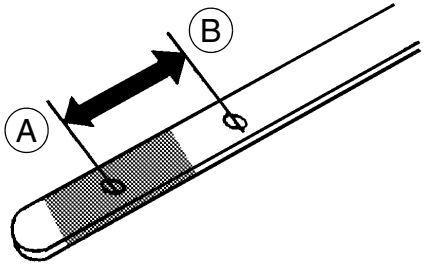
STEP 2



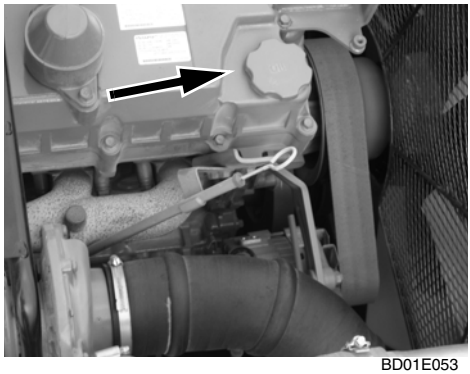
BD01E053

When the engine has been stopped for fifteen minutes, remove the dipstick, wipe it with a clean cloth and replace it in the guide tube as far as it will go. Then take it out again.

STEP 3



CS98M579



BD01E053

If the oil level is below the mark (A) (minimum), remove the oil filler cap, add oil up to the mark (B) (maximum) on the dipstick and then replace the oil filler cap.

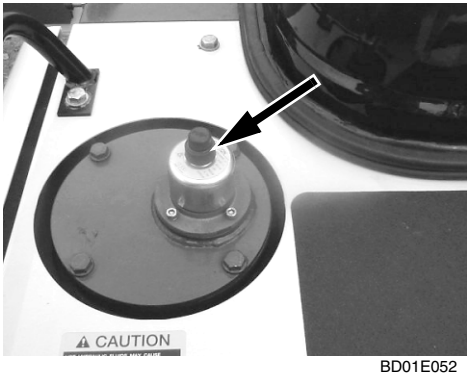
NOTE: The level should not be higher than the mark (B) (maximum) on the dipstick.

STEP 5

CD00E080

Turn the starter switch key to “OFF” position.

STEP 6



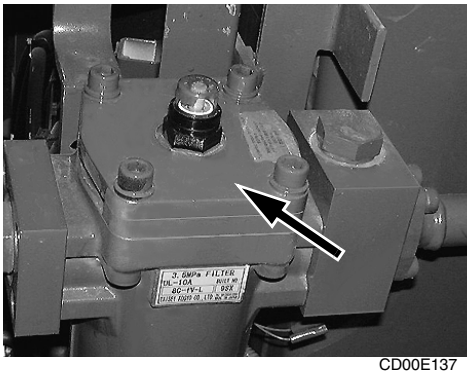
BD01E052

Press the button on top of the breather to release any residual pressure.

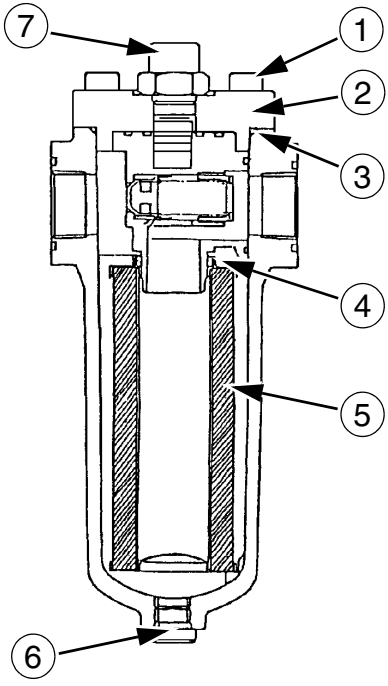
Return filter

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

NOTE: *It is mandatory to use the option control pedal to release all pressure in the hydraulic breaker circuit.*



CD00E137



CS98M622

This filter is equipped with an indicator (7). When the filter is restricted, the filter must be changed.

Remove the drain plug (6) and drain the hydraulic oil.

Remove the four bolts (1) on top of the case and remove the cover (2), indicator and O-ring (3) assembly.

Replace the filter (5) with a new filter.

Discard the damaged O-ring.

Insert a new O-rings (3) and (4) and install the assembly.

Tighten the retaining screws (1) for the cover (2).

Install the drain plug (6).

Start the engine and run it at low speed. Operate the hydraulic breaker and check that there are no leaks.

Checking the hydraulic system lines

Make sure there are no leaks from the hydraulic system hoses, pipes, plugs, connections and fittings and check that all nuts and screws are correctly tightened before applying pressure to the system. In the event of problems, repair, replace or tighten the component concerned.

STEP 7

Adjust tension if necessary and then lower the raised track to the ground.

STEP 8

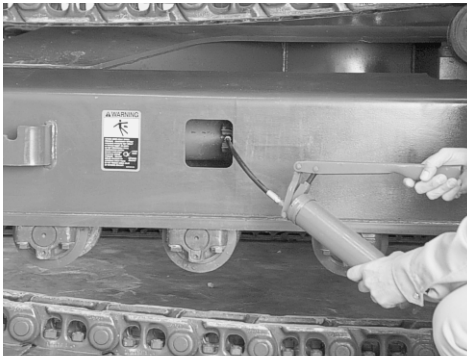
Repeat Steps 3 to 7 for the other track.

Adjusting tension

This operation is to be carried out after the tension has been checked.

To increase tension

STEP 9



BD00K015

With the track in raised position, clean the grease fitting adaptor and connect the grease pump hose to the grease fitting.

Pump grease into the track adjusting cylinder to obtain the right amount of track sag.

STEP 10

BD00K016

The track sag should be between 340 - 360 mm (13.4 to 14.2 in)

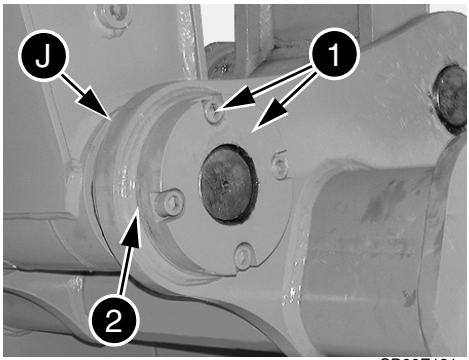
SHIMMING THE BUCKET

The machine is provided with a bucket adjustment mechanism which eliminates the side play in the bucket-to-arm linkage area caused by wear. This delays the effects of wear and thereby increases the service life of the bushings and pins.

NOTE: *If the bucket side play adjustment is not carried out properly, scuffing, unusual noise and side play will occur, causing damage to the O-rings.*

Side play adjustment

Lay the bucket flat on the ground.



CD00E121

Check the play (J) between the arm and the bucket ear.

If there is a lot of play (J), remove the four screws, the cap (1) and the shims (2).

Use the shims (2) as a feeler gauge to determine the number of shims necessary to take up the play (J).

Install the necessary number of shims.

Install the cap (1) and the four screws.

NOTE: *When the screws in the cap (1) are tightened, the inner bushing moves towards the dipper and takes up the play.*

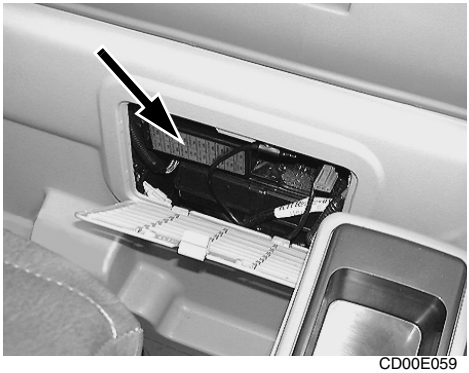
IMPORTANT: *The inner bushing has a lug which prevents it from turning. The cap (1) has an orifice on its inside surface. When installing the cap (1), make sure the lug is inside this orifice.*

ELECTRICAL

FUSES

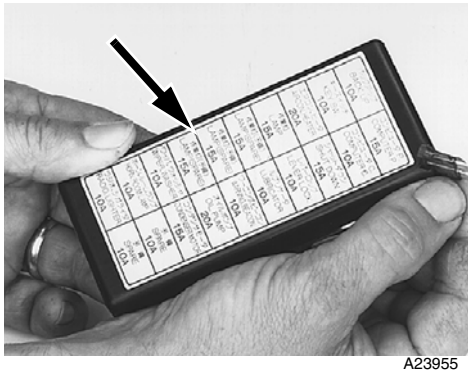
IMPORTANT: *Before proceeding to replace a fuse, turn the starter switch key to "OFF".*

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



CD00E059

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



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A label 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.

SPECIFICATIONS

For Machines with the Manufacturer number 330Q3 06001 +

ENGINE

Make and model.....ISUZU AH-6HK1XYSS
Air induction ..... Turbocharged
Number of cylinders 6
Bore/stroke.....115 mm x 125 mm (4.53 in x 4.92 in)
Displacement .....7 796 cc (475 cu in)
SAE net, horsepower-rated.....202 kW (271 hp) @ 2 000 min/1 (2 000 rpm)
Electrical System
Batteries ..... (2) 12 volt, 128 ampere
System voltage .....24 volts

HYDRAULIC SYSTEM

Main pumps
Variable displacement - axial piston
Quantity 2
Flow each .....284 L/mn (75 gpm)
Working Circuit pressures:
Boom/Arm/Bucket .....4970 PSI (34.3 MPa)
Boom/Arm/Bucket with auto power up .....5400 PSI (37.3 MPa)
Swing Circuit .....4260 PSI (29.4 MPa)
Travel Circuit.....4970 PSI (34.3 MPa)

Pilot pump

Fixed displacement - gear type
Quantity 1
Flow .....30 L/mn (9.5 gpm)

Control Valve

Four control valve sections for left-hand travel, boom, bucket, and arm acceleration.

Five control valve sections for right-hand travel, swing, arm, auxiliary attachment and boom acceleration.

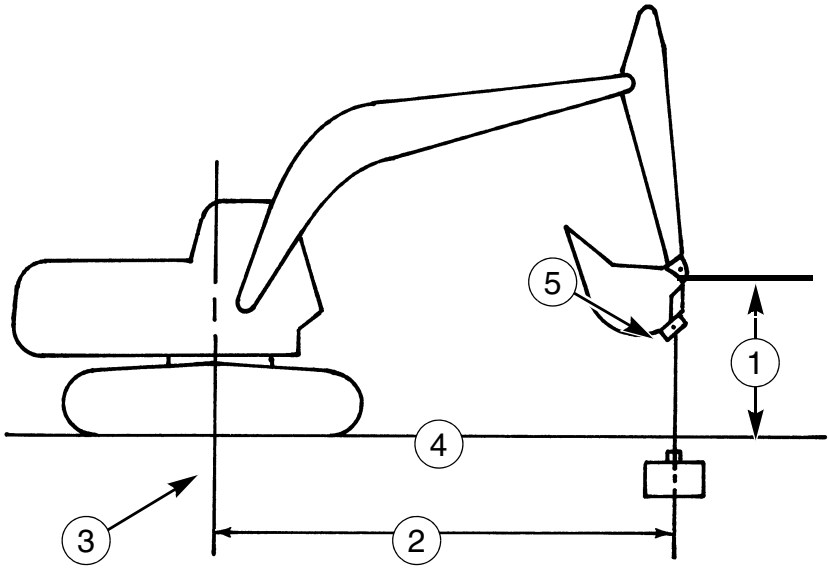
Boom/arm load holding valves.

Swing

Fixed displacement- axial piston motor.

Mechanical disk brake.
Upperstructure swing speed .....9.6 rpm
Hydraulic reservoir capacity ..... 175 L (45 gal)
Total hydraulic system capacity..... 350 L (92 gal)

LIFTING CAPACITIES



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1. Load (Lift) Point Height
2. Load (Lift) Point Radius
3. Swing Pivot
4. Ground Line
5. Load (Lift) Point on Bucket

- The lift point is the lifting eye on the back of the bucket.
- The mass of slings and any auxiliary lifting devices shall be deducted from the rated load to determine the net load that may be lifted.
- All rated lift capacities are based on the machine being level and on a firm supporting surface. For safe working loads, the user is expected to make due allowance for the particular job conditions such as soft or uneven ground, non-level conditions, side loads, hazardous conditions, experience of personnel, etc. The operator and other personnel should fully acquaint themselves with the operator's manual furnished by the manufacturer before operating this machine, and rules for safe operation of equipment shall be adhered to at all times.