

# 225 SPIN ACE TIER III EXCAVATORS

## OPERATOR'S MANUAL

Book Number: 1208



### LINK-BELT TECHNICAL MANUALS

Manuals are available from the Distributor for the operation, service, and repair of the excavator. For prompt convenient service, contact the Distributor for assistance in obtaining the manuals for the excavator.

The Distributor can expedite orders for Operator's Manuals, Parts Manuals, Service Manuals, and Maintenance records.

Always give the model number, excavator serial number, and manufacturer's number of your excavator so your Distributor can provide the correct manuals for your excavator.

**NOTE:** *LBX COMPANY LLC reserves the right to make improvements in design or changes in specifications at any time without incurring any obligation to install them on units previously sold.*

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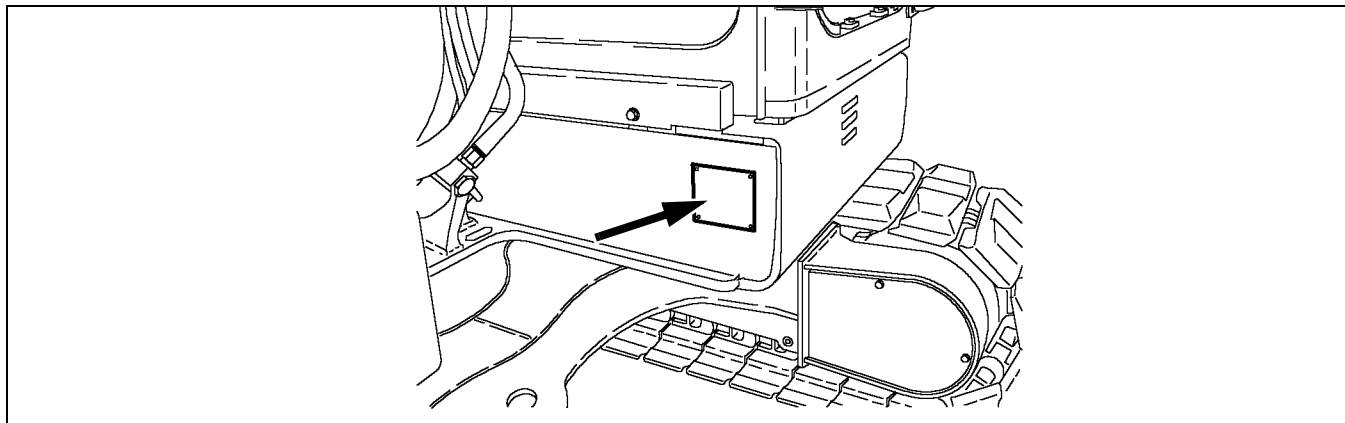
## IDENTIFICATION NUMBERS

### TYPE, SERIAL NUMBER AND YEAR OF MANUFACTURE

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

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

#### Excavator

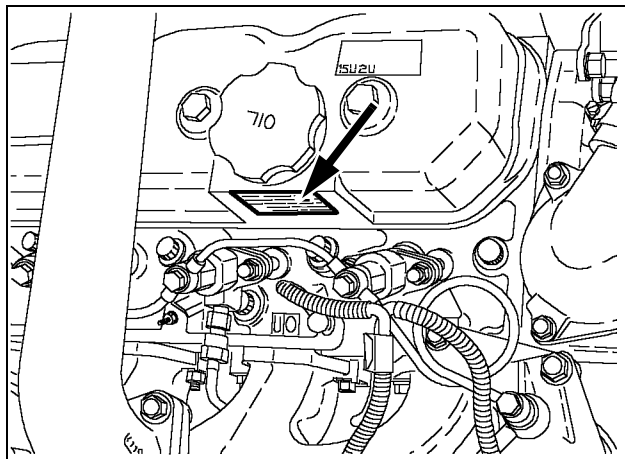


CT02C036

Figure 4

Model Number	
Serial Number	
Manufacturer's Number	

#### Engine



CT02C050

Figure 5

<b>Spin Ace 225 Engine</b>	
▶	_____
	Make and Model
▶	_____
	Serial Number

## SEAT BELT PRECAUTIONS



LBX002

Figure 4

1. RIGHT BELT STRAP
2. LATCH MECHANISM
3. RELEASE LEVER

1. To latch the seat belt, pull the right belt strap to the latch mechanism.
2. Insert the metal end into the latch mechanism on the left side of the seat.
3. To unlatch the seat belt, press the release lever on the right belt strap.
4. The seat belt will come apart.



**WARNING:** Before starting the engine ensure seat belts are securely fastened. The seat belt can help ensure your safety if it is used and properly maintained. Never wear a seat belt loosely or with slack in the belt system. Never wear the belt in a twisted condition or pinched between the seat structural members.

M422A

## QUICK COUPLER PRECAUTIONS

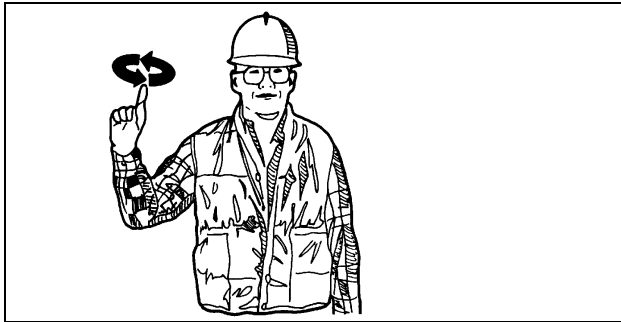
- Always follow the safety procedures of the quick coupler manufacturer if you have one on your machine. See Quick Coupler Operation.

## ENGINE PRECAUTIONS

- The fuel system on the engine is under heavy PSI. Do Not open the high pressure fuel lines with the engine running.

## SPECIFIC PRECAUTIONS TO THIS EXCAVATOR

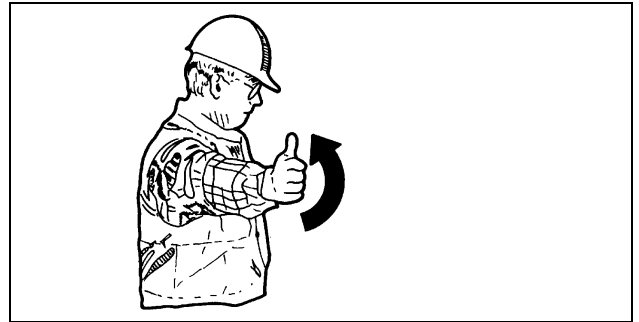
- Keep the load or tool as low as possible while moving the excavator around the jobsite.
- Never smoke while refueling.



PDE0006A

Figure 41

**RAISE LOAD OR TOOL**



PDE0009A

Figure 45

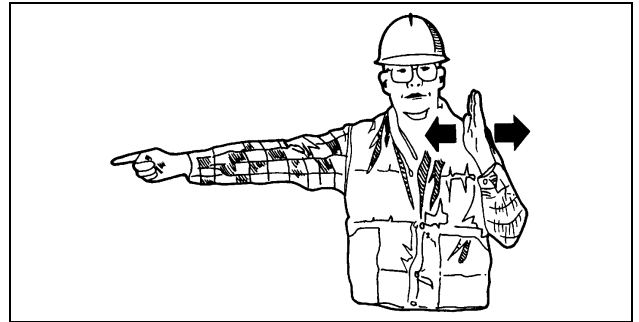
**RAISE TOOL**



PDE0006

Figure 42

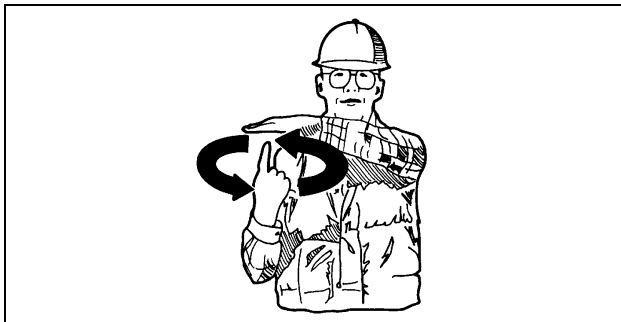
**LOWER LOAD OR TOOL**



PDE0008A

Figure 46

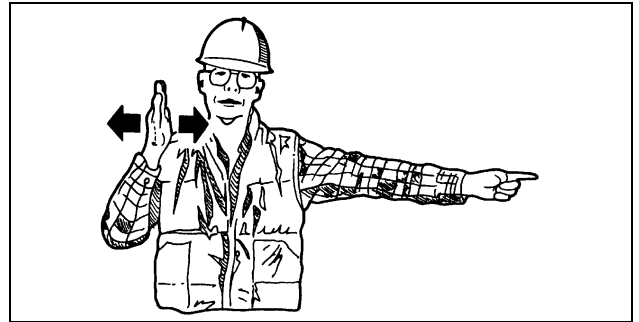
**TURN THE EXCAVATOR TO THE LEFT (SWING LOAD LEFT)**  
To stop movement, stop moving hand and clench fist.



PDE0007A

Figure 43

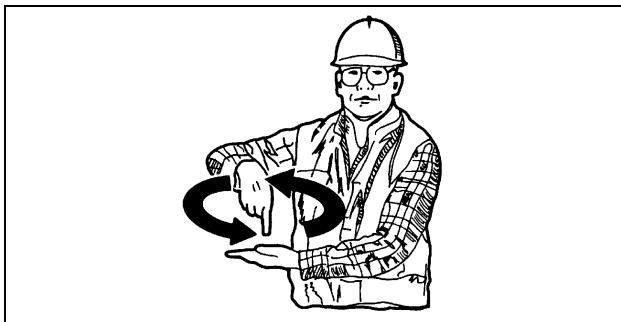
**SLOWLY RAISE THE LOAD OR TOOL**



PDE0008

Figure 47

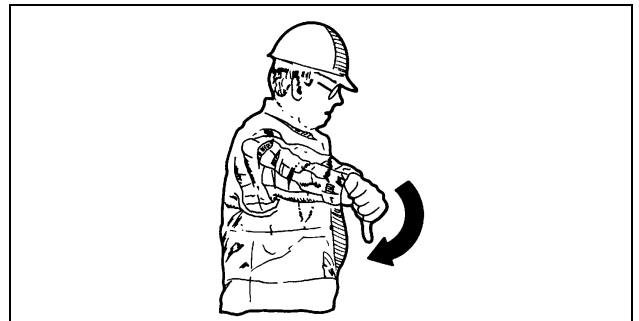
**TURN EXCAVATOR RIGHT (SWING LOAD RIGHT)**  
To stop movement, stop moving hand and clench fist.



PDE0007

Figure 44

**SLOWLY LOWER THE LOAD OR TOOL**

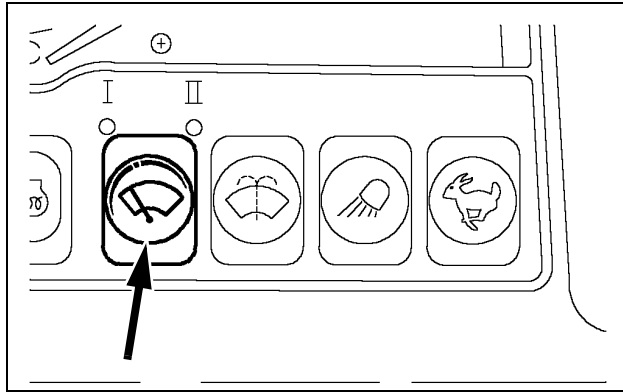


PDE0009

Figure 48

**LOWER TOOL**

### 10. WINDSHIELD WIPER SWITCH



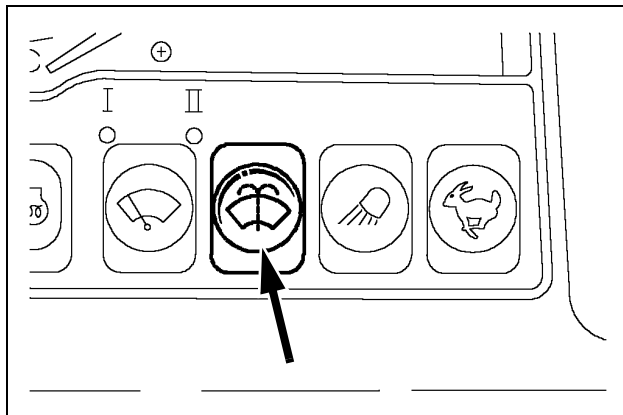
CT02C055

Figure 16

This switch has three positions: Shut down, Intermittent and Continuous. Press the switch for intermittent operation of the windshield wiper, the lamp (I) comes on. Press the switch again to obtain continuous operation of the windshield wiper, the lamp (II) comes on. Press the switch once more for the function to cease.

Do not operate the windshield wiper if the windshield is dry, as this may damage the windshield wiper.

### 11. WINDSHIELD WASHER SWITCH



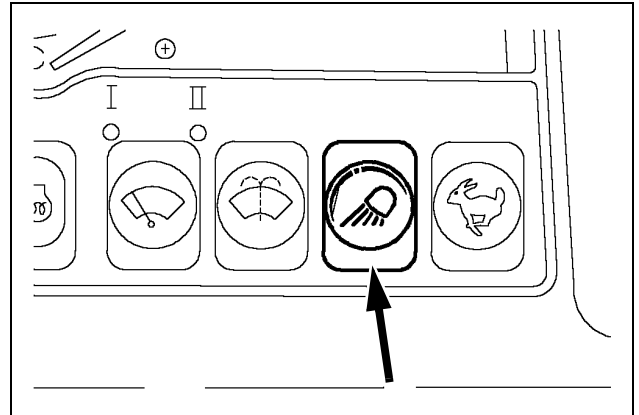
CT02C054

Figure 17

Press and hold the switch for the windshield washer and the windshield wiper to function, release the switch to stop this operation.

Never operate the windshield washer when the reservoir is empty, as this may damage the electric pump.

### 12. WORKING LIGHT SWITCH

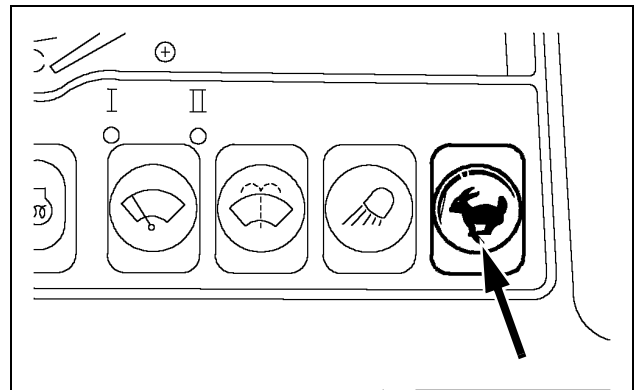


CT02C053

Figure 18

This switch switches the working lights on or off. Press the button, the instrument panel as well as the working lights comes on. Press the button again to switch them off.

### 13. HIGH SPEED TRAVEL SWITCH



CT02C056

Figure 19

When the switch is pressed, the travel speed goes from low to high. A red indicator lamps up when the travel is in high speed mode.

When the engine is started, low speed is automatically selected.

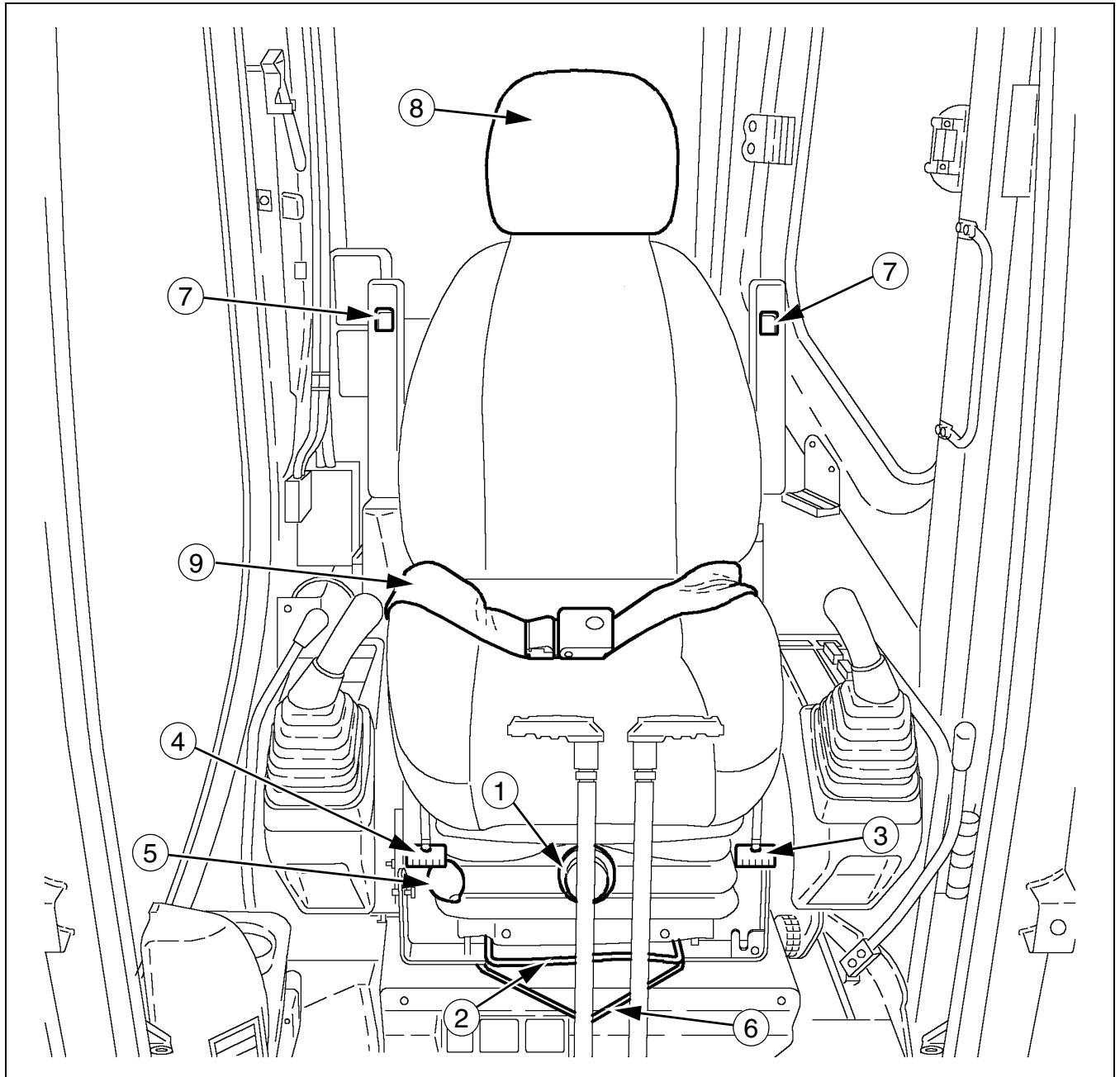
**WARNING:** *If the travel speed is changed during travel, the excavator may veer off course. Shut down the excavator before changing speeds.*

Low speed: Suited for travel on a slope or on difficult terrain.

High speed: Suited for travel on level ground.

As soon as the travel load becomes too great, the excavator automatically returns to low speed.

## OPERATOR'S SEAT



CT02C075A

Figure 46

- |                             |                                |                             |
|-----------------------------|--------------------------------|-----------------------------|
| 1. SUSPENSION ADJUSTMENT    | 4. SEAT BACK ANGLE ADJUSTMENT  | 7. ARMREST ANGLE ADJUSTMENT |
| 2. FORE/AFT ADJUSTMENT      | 5. LUMBAR SUPPORT ADJUSTMENT   | 8. HEADREST                 |
| 3. SEAT POSITION ADJUSTMENT | 6. CONSOLE AND SEAT ADJUSTMENT | 9. SEAT BELT                |

In order to operate the excavator correctly and with maximum efficiency and comfort, adjust the seat to suit the weight and size of the operator.

**NOTE:** *The adjustment of the seat can be done correctly only when the operator is seated in the seat and the engine is shut down.*

## Chapter 4

# OPERATING INSTRUCTIONS

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## TRANSPORTING THE EXCAVATOR


Since transport by rail is subject to special regulations, consult an approved organization.

### ON A TRAILER

**WARNING:** This excavator could slip and fall from a trailer or ramp and cause serious injury. Make sure the trailer and ramps are clean. The excavator should be in line with the trailer before being loaded.

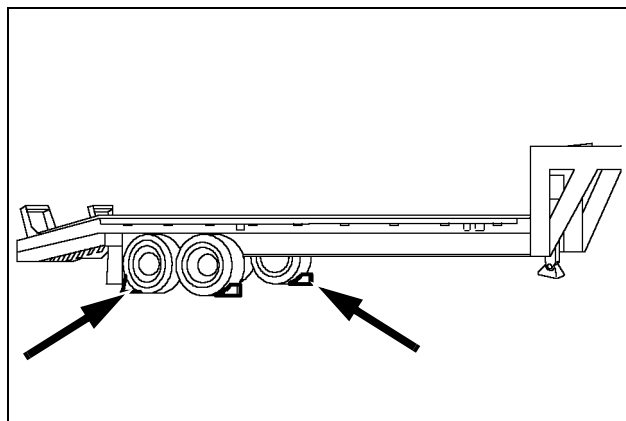


**WARNING:** It is mandatory to remove the counterweight before undertaking any travel without the attachment or transporting the excavator without the attachment.



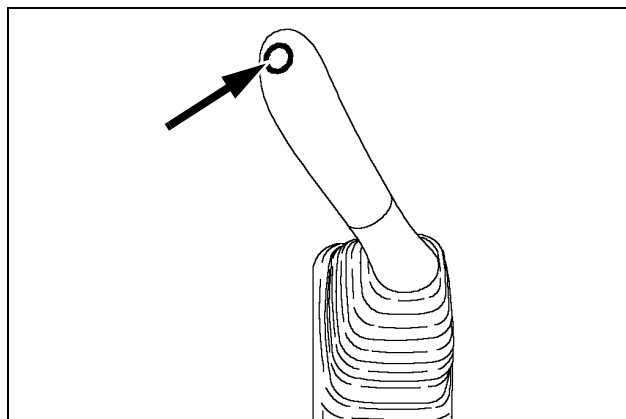
Make sure you know the safety rules and regulations before transporting the excavator. Make sure both trailer and excavator are fitted with the right safety equipment.

1. Place a block behind the trailer wheels. Install the trailer side extensions (if equipped).



CT02C196 Figure 21

2. Select the engine auto idle function on the right-hand lever of the control arm.

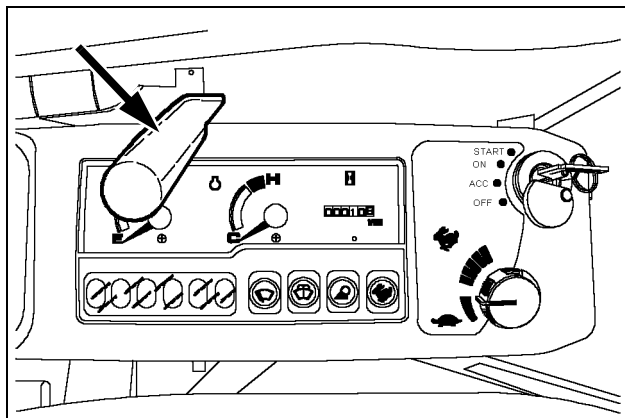


CT02C227 Figure 22

3. Raise the dozer blade. (if equipped)

4. excavator with attachment

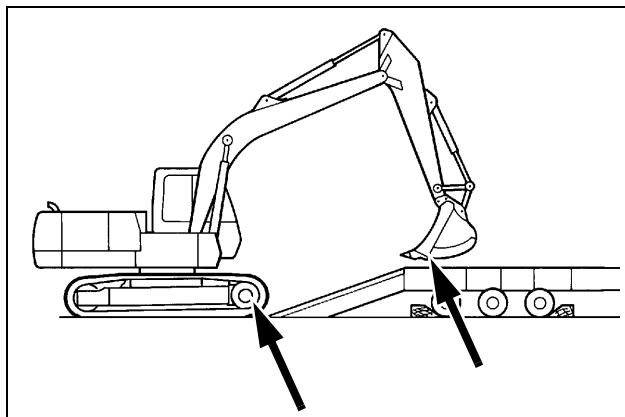
Place the excavator in line with the trailer, with the travel reduction gears towards the access ramps. Raise the attachment and bring it to about twenty centimeters above the bed of the trailer.



CT02C197

Figure 23

**IMPORTANT:** In this position, the travel and steering controls are reversed.



PDH0248

Figure 24

### 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 excavator 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 excavator 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 excavator 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.*

**FLUID AND LUBRICANT CAPACITIES AND SPECIFICATIONS**

**ENGINE**

Type of oil..... See chart below  
 Capacity (with filter change)..... 6.10 gal (23.1 liters)

**COOLING SYSTEM**

System capacity ..... 6.76 gal (25.6 liters)

**FUEL SYSTEM**

Type of fuel..... See chart below  
 Reservoir capacity..... 70.01 gal (265 liters)

**HYDRAULIC SYSTEM**

Type of fluid..... See chart below  
 Total system capacity ..... 54.16 gal (205 liters)  
 Reservoir capacity..... 31.70 gal (120 liters)

**TRAVEL REDUCTION GEARS**

Type of oil..... See chart below  
 Capacity (per reduction gear)..... 1.24 gal (4.7 liters)

Where used	Type of oil	What to use according to different temperature settings					
		+14 (-10)	+32 (0)	+50 (+10)	+68 (+20)	+86 (+30)	+104 (+40) °F (°C)
Engine	Engine oil	SAE 10W-20 CD					
				SAE 30 CD			
		SAE 10W-30 CD					
		SAE 15W-40 CD					
Swing reduction gear Travel reduction gear	Gear oil	SAE 90					
Hydraulic oil tank	Hydraulic oil	ISO-VG46					
Fuel tank	Diesel fuel ASTM-D-975						No. 2D
		No. 1D					
Cooling system	Water+Antifreeze	Add antifreeze					
	Water+Long Life Coolant	Depends on mixing ratio					

**REPLACING THE FUEL PRE-FILTER**

1. Turn the fuel shut-off valve (9) clockwise 90 degrees to close the fuel supply.
2. Clean the area around the filter head (2).
3. Loosen the air bleeding plug (1).
4. Place a receptacle of a suitable capacity under the drain plug (5) and drain the fuel.
5. Remove the case (3) counterclockwise. Remove the element (7).
6. Remove and replace the o-rings (6 and 8).
7. Before installing the new element, apply a thin coat of diesel fuel to the packing of the element.
8. Install the new element (7). Turn the case until the seal comes into contact with the head (2) and tighten to 20.3-.23.1 lbf ft (27.5-31.3 N m).
9. Tighten the drain plug (5) and the air bleeding plug (1).

10. Turn the fuel shut-off valve (9) counterclockwise 90 degrees to open the fuel supply as seen in the figure 30.

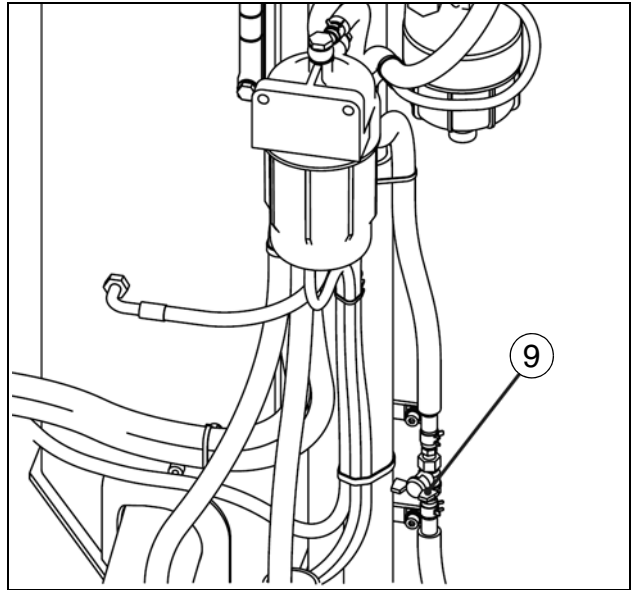
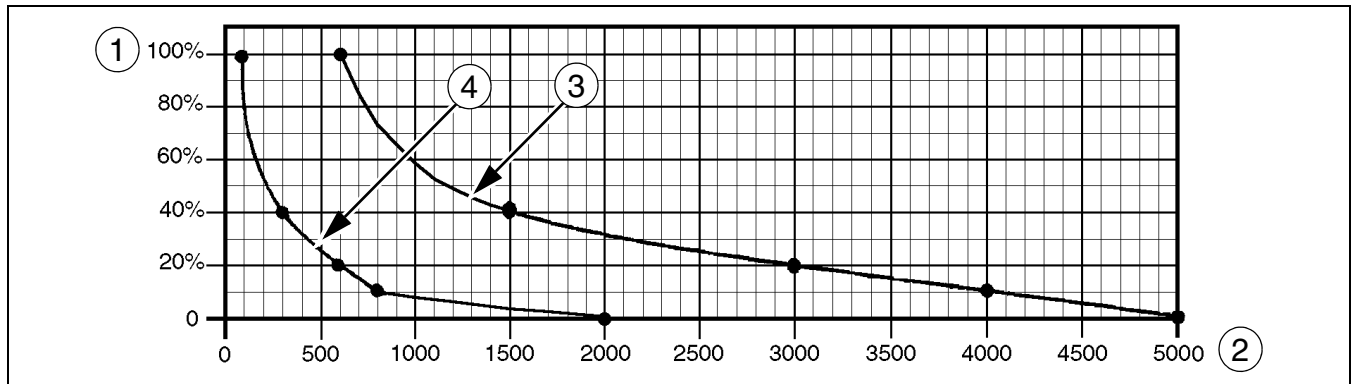


Figure 29

**WARNING:** *Completely wipe off any spilled fuel. It may cause a fire.*

11. After installing the new element, bleed the air form the lines. See Fuel System Air Bleed.

### HYDRAULIC BREAKER (OPTIONAL) - REPLACING HYDRAULIC FLUID AND FILTERS WITH STANDARD HYDRAULIC FLUID



CS99A860A

Figure 47

1. PERCENTAGE OF USE    2. INTERVAL IN HOURS    3. REPLACING HYDRAULIC FLUID    4. REPLACING HYDRAULIC FILTERS

#### HYDRAULIC FLUID

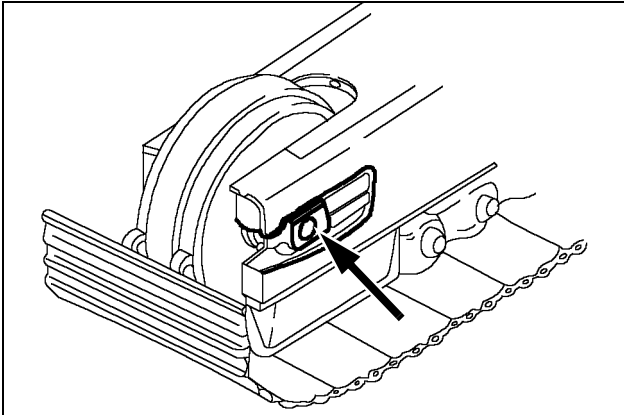
- When using the hydraulic breaker, hydraulic fluid deteriorates more quickly than during ordinary digging. Check the hydraulic fluid level more frequently. In addition, when replacing the filters, also check the condition of the hydraulic fluid.
- Replace the hydraulic fluid and filter element using the following graph as a reference, depending on the operation frequency of the hydraulic breaker.
- Replace the return filter for the hydraulic breaker at the same interval as the element.

#### 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. In the event of problems, repair, replace or tighten the component(s) concerned.

3. Clean the grease adaptor and fitting and then lower the raised track to the ground.
4. Repeat Steps 1 to 3 for the other track.

**IMPORTANT:** *If the grease fitting adaptor is damaged, grease may leak out. Check the condition of the grease fitting adaptor regularly and replace it if necessary.*



CT02D178

Figure 8

**Track Tension Value**

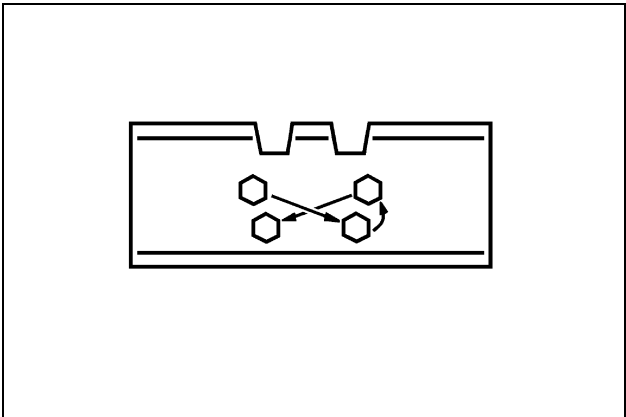
The value (A) should be between:

<b>Rubber tracks</b>	11.0 - 11.8 in. (260 - 280 mm)
<b>Steel tracks</b>	10.2 - 11.0 in (280 - 300mm)

**TIGHTENING TORQUE OF THE TRACK SHOE**

The tightening torque of the bolts should be between:  
267 to 312 Nm (196 to 230 ft lb)

Follow the prescribed order.



CS00E504

Figure 9

### CLEANING THE AIR INTAKE AND AIR RECYCLING FILTERS

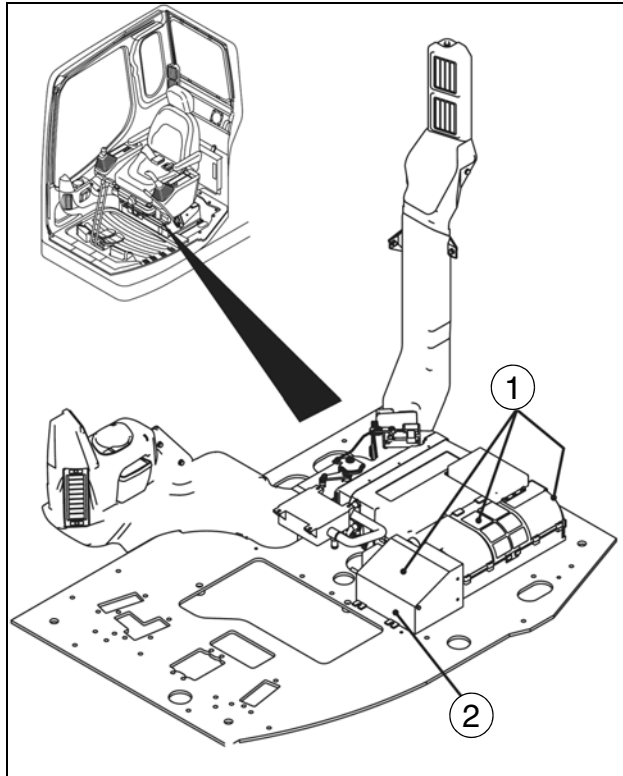
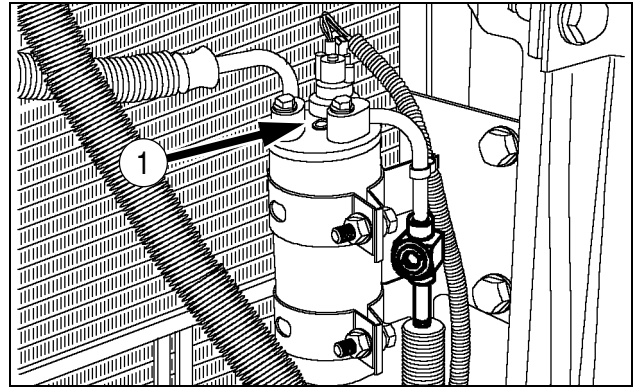


Figure 35

1. Remove the screws and the cover plate located under the operator's seat.
2. Remove the fresh air intake filter (1). Use compressed air to clean the filter. If they are damaged, replace it.
3. Remove the inside air filter (2) under the seat. Use compressed air to clean the filter. If they are damaged, replace it.

**IMPORTANT:** Always protect your face before using compressed air.

### CHECKING THE CHARGE STATE OF THE SYSTEM



CT02D234

Figure 36

1. Turn on the air conditioning system, increase engine speed slightly (1400 to 1600 rpm) and look for bubbles through the sight glass (1).
2. This check should be made approximately one minute after turning on the air conditioning.
  - A. Very few bubbles observed, then transparent at first, then whitish: "Normal".
  - B. The bubbles are numerous: check the unions and consult your LBX Link-Belt dealer.
  - C. No bubbles are visible: check the unions and consult your LBX Link-Belt dealer.

Check if the hydraulic line and air-conditioning hose connectors are dirty, dusty or in need of replacing.

### PLASTIC AND RESIN PARTS

When cleaning the plastic windows, the console, the instrument panel, the indicators, etc. do not use gasoline, kerosene, paint solvents, etc. Only use water, soap and a soft cloth.

The use of gasoline, kerosene, paint solvents, etc. will cause discoloration, cracks or deformation of these parts.

**Chapter 8**  
**SPECIFICATIONS**

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    135 Spin Ace With 7' 10" (2.40 m) Arm With Blade Off ground ..... 8-15

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