

850D/855D CRAWLERS

Operators Manual

9-9470



Reprinted

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SAFETY



WARNING: Operate controls only from seat with seat belt fastened.

Lock transmission control(s) in neutral and apply parking brake before starting engine and before leaving operators seat.

Lower or block elevated components before servicing and when leaving the machine.

321-4188



WARNING: Do not modify ROPS in any manner. Unauthorized modifications such as welding, drilling, cutting or adding attachments could weaken the structure and reduce your protection. Replace ROPS if subjected to rollover or damage. Do not attempt to repair.

See operator's manual for complete instructions and inspection requirements.

321-4192



WARNING: If you service the machine with the lift arms raised, always use the support strut.

1. Empty the loader bucket, raise the loader lift arms to full height and stop the engine.

2. Remove 2 bolts from the support strut and move the support strut forward onto the cylinder rod.

3. Slowly lower the lift arms onto the support strut.

To put the support strut in the storage position, raise the lift arms. move the support strut rearward and install the two bolts.

If you do not follow this procedure, you can cause serious injury or death if the lift arms are lowered by accident.

321-6488



WARNING: Check and service cooling system according to maintenance instructions.

Hot coolant can spray out if the radiator cap is removed.

To remove radiator cap, let system cool, turn to first notch, then wait until all pressure is released.

Scalding can result from fast removal of radiator cap.

321-6672

WINCH OPERATION



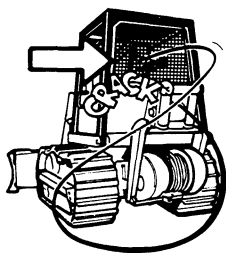
CAUTION: Always use heavy duty gloves when you are handling cable. If the cable has broken strands, you can injure your hands.

47-76



WARNING: Before you operate the winch, make sure the rear screen on the ROPS is correctly installed. The rear screen will give you protection if you break the winch cable.

47-73



790042



WARNING: Before you start each day, check the cable, cable fittings, hooks, etc. Make sure none of these items are damaged. A damaged part can cause an accident.

47-78-A



WARNING: Do not leave the crawler if there is a load connected and there is tension on the winch cable. The load can come loose from the cable and you or persons in the area can be injured.

47-74



WARNING: Do not use a cable that is damaged. A cable is damaged if you can see a decrease in the cable diameter, broken strands or twists.

47-75



WARNING: When you unwind the cable from the winch and you have a load on the cable, always keep three complete loops of cable on the winch drum. If you unwind all the cable from the winch drum, the cable ferrule will come out of the winch drum. Personal injury can result.

47-79



WARNING: Do not permit people to stand in a loop of the cable. Keep all persons away from the cable when you operate.

47-80

CONTROLS AND INSTRUMENTS _____



5. **ENGINE OIL PRESSURE GAUGE:** The engine oil pressure is normal when the gauge pointer is in the green zone when the engine is running. The gauge pointer can move into the left yellow zone when the engine is running at idle speed: this is normal. If the gauge pointer goes into the red zone, stop the engine and look for the problem.



6. **ENGINE HOURMETER:** The engine hourmeter indicates hours and tenths of an hour the engine has run. After you start the engine, look at the right side of the hourmeter window. The space on the right is the operating indicator. The hourmeter is operating when the indicator is turning.



7. **ENGINE RUN SWITCH:** Turn this switch clockwise to RUN, and push the starter button to start the engine. Turn the switch to OFF to stop the engine. See page 49, Starting the Engine.

NOTE: *This switch starts and stops the flow of fuel to the fuel injection pump.*



8. **HORN BUTTON:** Push the button to actuate the horn. The master disconnect switch must be in the ON position.



9. **TRANSMISSION OIL PRESSURE GAUGE:** This gauge indicates the oil pressure of the transmission when the engine is running and the transmission direction control is in FORWARD or REVERSE.

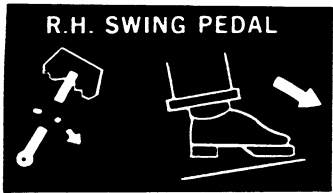
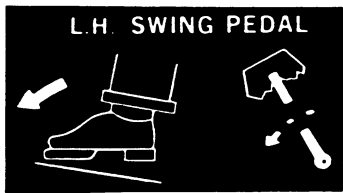
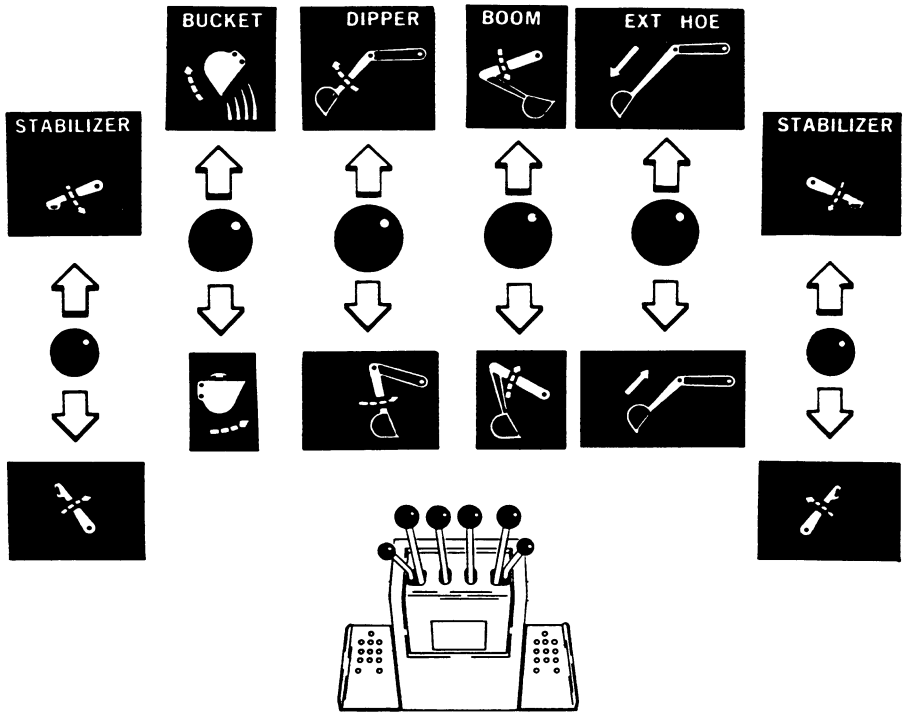
The green area of the gauge indicates normal operating pressure. The gauge pointer can normally move into the left yellow zone when the engine is running at idle speed. Do not run the engine if the gauge pointer moves into the red zone.



10. **CONVERTER TEMPERATURE GAUGE:** This gauge indicates the temperature of the transmission and torque converter oil. The temperature of the oil is normal when the gauge pointer is in the green zone. If the gauge pointer moves into the yellow zone, shift to a lower gear or reduce the operating load of the machine. If the gauge pointer moves into the red zone, stop the machine and run the engine at full throttle. Stop the engine if the gauge pointer stays in the red zone. Look for the problem.

CONTROLS AND INSTRUMENTS _____

EXTENDAHOE CONTROLS WITH FOOT SWING



841642

OPERATING INSTRUCTIONS

Starting the Engine



WARNING: Operate controls only from seat with seat belt fastened.

Lock transmission control(s) in neutral and apply parking brake before starting engine and before leaving operators seat.

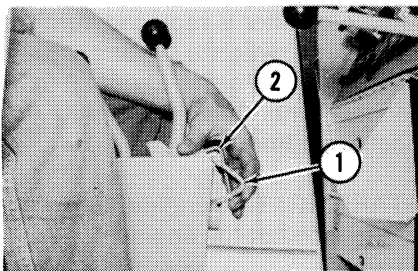
Lower or block elevated components before servicing and when leaving the machine.

321-4188

NOTE: If your engine is equipped with a turbocharger, see page 50 for additional starting information.

NOTE: If the temperature is cold, see pages 52 thru 55 for methods to help start the engine.

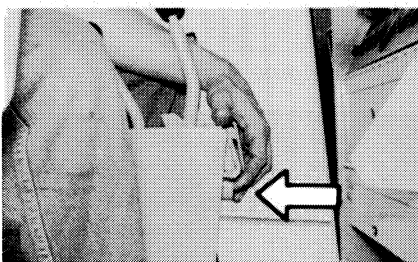
1. Adjust the seat and fasten your seat belt. Make sure you can push the brake pedals completely down with your back against the seat cushion.
2. Make sure the parking brake is engaged.
3. Put the transmission controls in NEUTRAL.
4. Make sure the equipment controls are in NEUTRAL.
5. Select HIGH or LOW transmission range.
6. See the two photographs. Lift up the neutral lock and hold in position with the push rod.
7. Turn the master disconnect switch to ON and turn the engine run switch to RUN.
8. Push the foot throttle 1/4 down.



1. Push Rod
2. Neutral Lock

121527

9. Push the starter button. If the engine starts and stops, do not engage the starter motor again until the starter motor stops turning.



Starter Button

121528

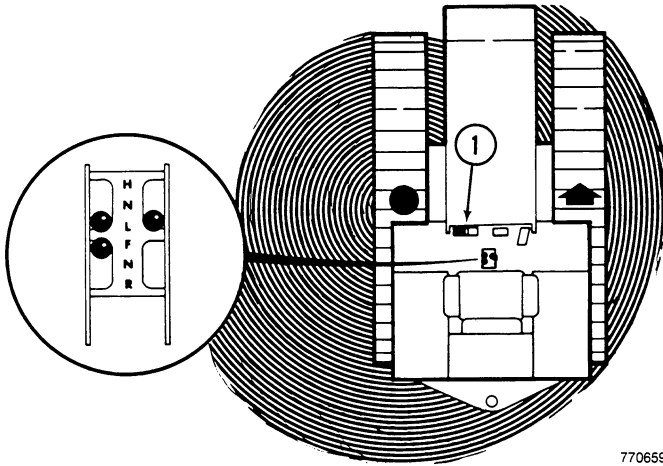
NOTE: Do not operate the starter motor more than 30 seconds at one time. Let the starter motor cool for three minutes before you engage the starter motor again. While the starter motor is engaged, white or black smoke must be seen at the exhaust pipe. If no smoke is seen, check the fuel supply.

OPERATING INSTRUCTIONS _____

BRAKE TURN

1. Put both of the track speed controls in the LOW or HIGH position.
2. Push one of the hydraulic brake pedals completely down.

NOTE: To turn the crawler left, push down the left hydraulic brake. To turn the crawler right, push down the right hydraulic brake pedal.



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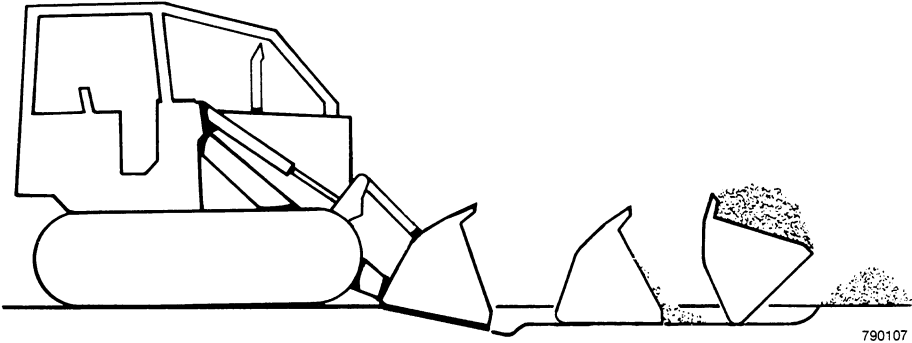
1. Hydraulic Brake Pedals

OPERATING INSTRUCTIONS _____

Excavating

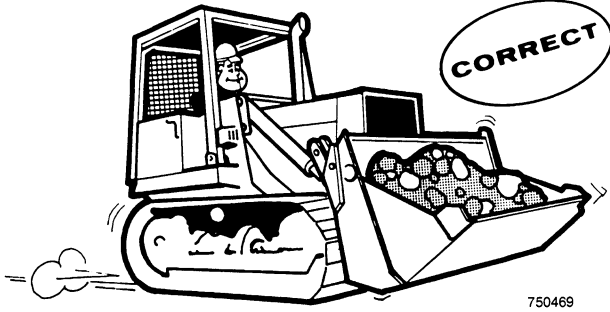
Adjust the position of the bucket so that the front edge is a little lower than the rear. Bucket teeth can give you much help in this type of operation.

Shift the transmission range to LOW and increase the engine speed to full throttle. When the bucket reaches the correct depth, make the bucket level and continue forward. When the bucket is full, roll back and move to the dump area.



Carry the Load Low

WARNING: When you operate the machine, keep the loader bucket as low as possible. This low position gives better balance and permits you to see more clearly. If the bucket is full and you move the machine over ground that is rough or surfaces that can cause the machine to slide, always operate at a slow speed. If you do not use this procedure, the machine can go out of control and cause a rollover. 18-6-D



OPERATING INSTRUCTIONS



CAUTION: Always use heavy duty gloves when you are handling cable. If the cable has broken strands, you can injure your hands.

47-76

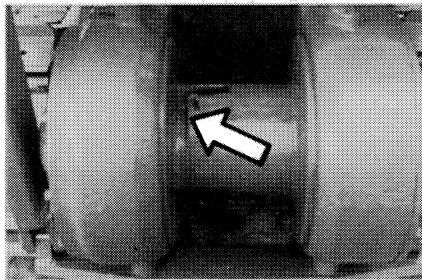


WARNING: When you unwind the cable from the winch and you have a load on the cable, always keep three complete loops of cable on the winch drum. If you unwind all the cable from the winch drum, the cable ferrule will come out of the winch drum. Personal injury can result.

47-79

Installing Cable On The Winch

Cable can be installed on the winch using a ferrule or using a wedge. Use the ferrule type installation when you want the cable to release from the winch drum after all the cable has been pulled out. Use the wedge type installation to keep the cable permanently attached to the drum.

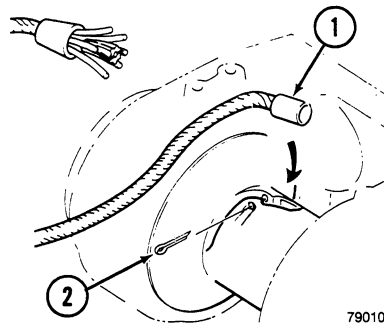


Ferrule Socket

836529

Ferrule Type Installation

Install the ferrule end of the cable in the slot drum. Rotate the drum three turns. Paint a yellow band on the cable at this point. When you unwind the cable from the drum, you must stop when you come to the mark on the cable. Always have three complete loops of cable on the winch drum.



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1. Ferrule
2. Cotter Pin

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OPERATING INSTRUCTIONS

Frost Point

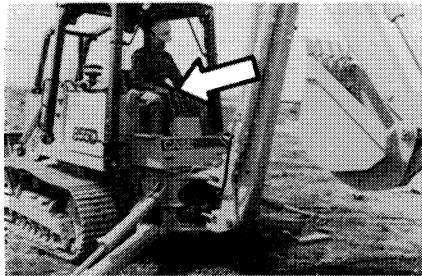
The frost point is used to break frozen ground. Use the following procedure:

1. Start as close to the machine as possible.
2. Put the frost point in a vertical position.
3. Lower the boom to push the frost point into the ground.
4. Pull the dipper control lever to the IN position and the bucket control lever to the LOAD position. This procedure is almost the same as filling the backhoe bucket.
5. After the frost is loose, move about one foot (0.3 m) to the side. Do the same procedure again.

NOTE: Break only as much frost as you can dig in one day. Freezing can occur and you will have to break the frost again in the same area.

Moving the Backhoe Into the Transport Position

1. Use the swing pedals and put the backhoe straight behind the machine.
2. Lower the stabilizers to the ground.
3. Run the engine at 1000 rpm or less.
4. Rotate the bucket in and retract the dipper. If your backhoe has an extendable dipper, retract the dipper to the shortest length.
5. During this procedure the backhoe boom will be moving toward you (past the vertical position).
 - a. Pull the boom control back to the RAISE position.



A845732

MAINTENANCE AND LUBRICATION _____

_____ **EVERY 50 HOURS OF OPERATION** _____

- Check the air cleaner dust valve and cover wing nut See page 106
- Check the coolant reservoir fluid level See page 111
- Drain water and sediment from the primary fuel filter See page 114
- Lubricate the equipment pivot points See pages 101,102,103
- Clean the breather for the winch (if equipped) See page 127

_____ **EVERY 100 HOURS OF OPERATION** _____

- Check the parking brake adjustment See page 56
- Clean the spark arresting muffler See page 135
- Check the winch and adapter oil level (if equipped) See page 128
- Check the winch control fluid level See page 128
- Lubricate the drive shaft universal joints and slip spline
(severe conditions) See page 105

_____ **EVERY 250 HOURS OF OPERATION** _____

- Check the brake master cylinder fluid level See page 141
- Change the engine oil and replace the engine oil filter See page 109
- Check the final drive oil level (each side) See page 122
- Check the tension of the air conditioning drive belt
(if equipped) See page 133
- Check the fluid level of each battery See page 123
- Check the radiator fluid level (coolant cold) See page 111
- Lubricate the brake pedal pivots See page 105
- Lubricate the equipment control pivots See page 103
- Lubricate the suspension seat (if equipped) See page 105

MAINTENANCE AND LUBRICATION _____

ENGINE LUBRICATION SYSTEM

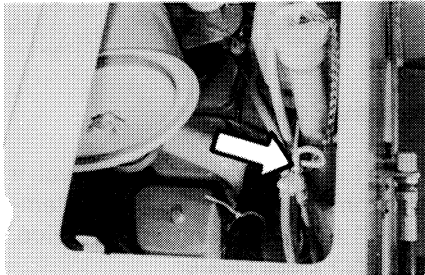
See page 95 for the engine oil specifications.

Park the machine on a level surface when you check the oil level or when you drain the engine oil.

Oil Level

Check the engine oil level each day or after every 10 hours of engine operation. Make sure the engine is not running when you check the oil level.

NOTE: *If the engine has been running, make sure you wait for at least five minutes before you check the oil level.*



Dipstick

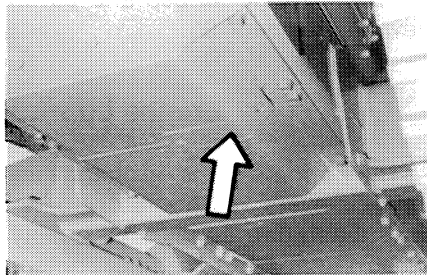
A846141

1. Remove the dipstick.
2. The oil level must be between the FULL and LOW marks on the dipstick.
3. If necessary, add oil to raise the oil level to the FULL mark. Do not fill the crankcase above the FULL mark.

Oil and Filter Change

Change the engine oil and replace the engine oil filter every 250 hours of operation. See the topic Engine Lubricant Analysis Service on page 96.

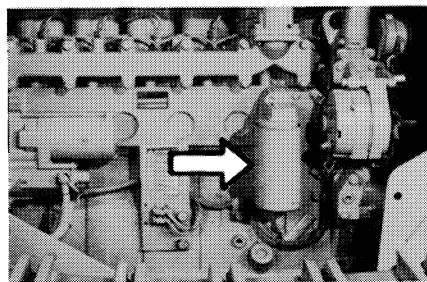
1. If possible, change the oil when the oil is warm. You will remove more contamination from the engine lubrication system with warm oil than with cold oil.
2. Have a container that will hold 18 quarts (17.3 litres).
3. Remove the cover and remove the drain plug to drain the oil.



Drain Plug Cover

A845671

4. Turn the filter counterclockwise. Remove and discard the old filter.



Oil Filter

855263

MAINTENANCE AND LUBRICATION _____

TRANSMISSION AND TORQUE CONVERTER

See page 95 for the transmission and torque converter oil specifications.

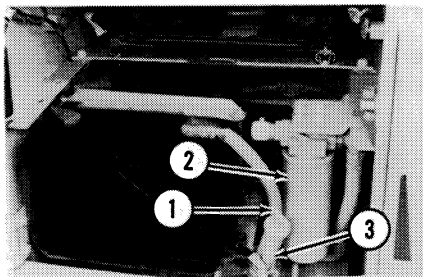
Park the machine on a level surface when you check the oil level or when you drain the oil.

Oil Level

Check the oil level for the transmission and torque converter every 10 hours of operation or each day, whichever occurs first.

Check the oil level with the engine stopped and the oil cold.

1. Open the access door.
2. Remove the dipstick.



1. *Oil Level Dipstick*
2. *Filter*
3. *Breather*

3. The oil level must be between the FULL and LOW marks on the dipstick.

4. If necessary, add oil to raise the oil level to the FULL mark. DO NOT fill the transmission/torque converter above the FULL mark.

Filter

With a new machine, replace the filter after the first 20 hours of operation. Then, replace the filter every 500 hours of operation.

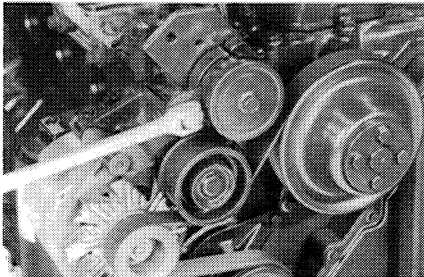
1. Open the access door.
2. Clean the outside of the filter and filter head with cleaning solvent.
3. Rotate the filter counterclockwise and remove the filter. Discard the filter.
4. Clean the gasket surface on the filter head with a clean cloth.
5. Apply a thin layer of clean oil or grease on the gasket of the new filter.
6. Install the filter. Use your hands to tighten the filter 1/4 turn after the filter makes contact with the filter head.
7. Loosen the filter approximately one turn.
8. Tighten the filter until the filter is touching the filter head and then tighten 1/2 turn. DO NOT use a strap wrench to tighten the filter.

MAINTENANCE AND LUBRICATION _____

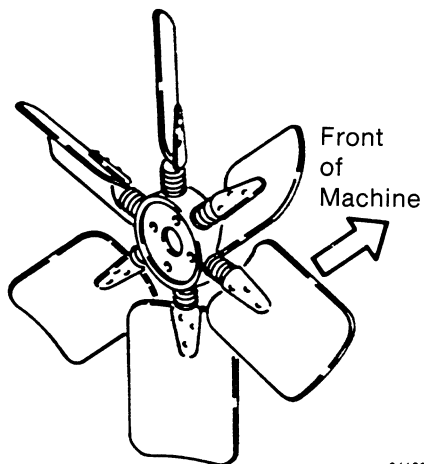
REVERSIBLE FAN POSITIONS

This fan has two positions, (1) PUSHER and (2) SUCTION. The fan blades can be rotated manually.

1. Stop the engine and put a Do Not Operate tag on the instrument panel. Turn the master disconnect switch to OFF and remove the key.
2. Remove the right front engine side shield.
3. Install a 1/2 inch breaker bar in the automatic belt tensioner and lift up to release the belt tension



A846610



Fan in SUCTION Position ⁸⁴¹⁶²⁷

IMPORTANT: Make sure all six blades are rotated to the same position before you start the engine.

NOTE: Spray a small amount of penetrating oil on the shaft of each blade at least five or six times a year. This action will help blade rotation.

5. Release the belt tensioner and install the right front side shield.
6. Remove the Do Not Operate tag.

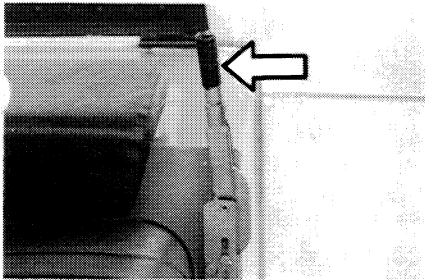
MAINTENANCE AND LUBRICATION _____

Mechanical Foot Brake and Parking Brake

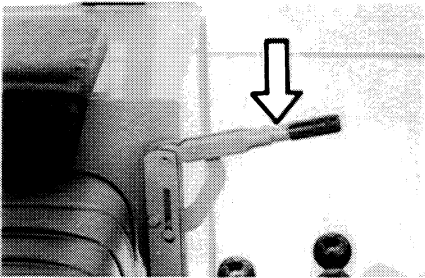
IMPORTANT: *The park brake and manual foot brake must hold the machine when (a) the track range control is in LOW, (b) the track speed control is in HIGH, (c) the track direction control is in FORWARD or REVERSE and when (d) the engine speed is at full throttle. If the crawler moves, proceed as follows:*

ADJUSTMENT AT PARKING BRAKE HANDLE

1. Push the park brake handle forward to the RELEASE position.
2. Turn the knob on the end of the park brake handle clockwise 3 to 4 turns.
3. Pull the parking brake handle back to engage the brakes.



Parking Brake Engaged 121521



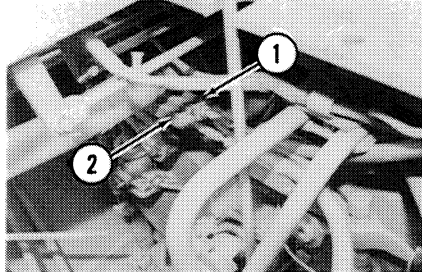
Parking Brake Released 121522

4. Test the brakes as described above. If the crawler still moves, repeat steps 1 and 2.

NOTE: *After you adjust the parking brake handle, do the following to adjust the parking brake and manual foot brake cable.*

ADJUSTMENT OF PARKING BRAKE AND MANUAL FOOT BRAKE CABLES

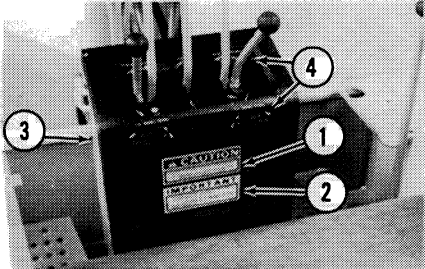
1. Remove both floor plates.
2. Release the parking brake and turn the knob on the end of the parking brake handle counterclockwise until the stop is reached. Turn the parking brake knob clockwise five turns.



1. Parking Brake Cable
2. Mechanical Foot Brake Cable

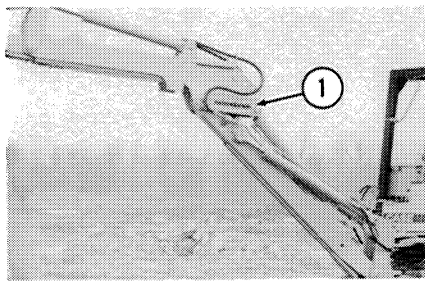
3. See the following illustration on page 140. Loosen the outer lock nut five to six turns.
4. Remove the pin from the adjusting clevis and turn the adjusting clevis clockwise to remove all looseness from the parking brake cable. Reinstall the clevis pin. Release the parking brake.
5. Tighten the outer lock nut.

MAINTENANCE AND LUBRICATION



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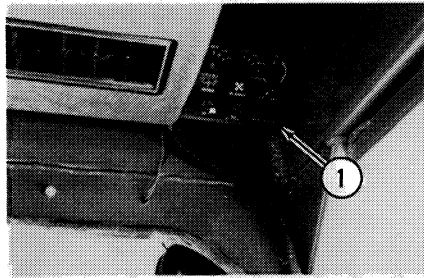
1. 321-3056 (Safety)
2. 321-3058
3. 321-5922
(Optional Hydraulic Boom Lock)
4. Backhoe Controls
 - a. Backhoe with Foot Swing
D123977 (Upper)
D123976 (Lower)
 - b. Backhoe with Hand Swing
D123978
 - c. Extendahoe with Foot Swing
D123941 (Upper)
D123940 (Lower)
 - d. Extendahoe with Hand Swing
D123978 (Upper)
D123948 (Lower)



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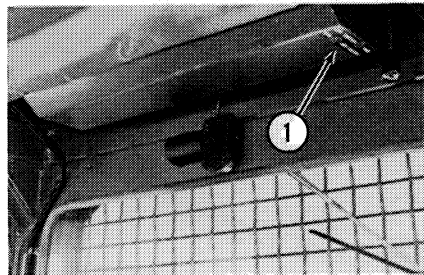
1. D123945 (2 Required)

ROPS Cab



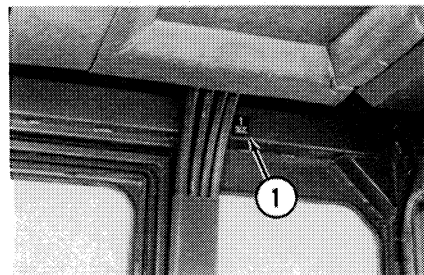
A846138

1. 321-5854



A846134

1. R46825



A846133

1. R46826

SPECIFICATIONS

A	Length - Standard bucket	14 ft 2 in (4.32 m)
	4-in-1 bucket	15 ft 1 in (4.6 m)
	Width - Standard bucket	79 in (2007 mm)
	4-in-1 bucket	79 in (2007 mm)
B	Height - With ROPS	8 ft 10 in (2.69 m)
	Height - With Cab	9 ft 5 in (2.87 m)
	Height - With cab and air conditioning	9 ft 11 in (3.03 m)
C	Dump clearance	
	Standard bucket (45° dump at maximum height)	8 ft 6 in (2.59 m)
	4-in-1 bucket (Maximum height using clam)	10 ft 7 in (3.23 m)
D	Dump reach (45° dump)	
	Standard bucket - Maximum height	35 in (889 mm)
	4-in-1 bucket - Maximum height	40 in (1021 mm)
	Standard bucket (At 7 ft, 2.2 m)	49 in (1245 mm)
	4-in-1 bucket (At 7 ft, 2.2 m)	54 in (1372 mm)
	Dump angle (Maximum angle and height)	
	Standard bucket	50°
	4-in-1 bucket	55°
E	Height to bucket hinge pin	10 ft 10-1/2 in (3.31 m)
F	Dig depth (10° angle)	
	Standard bucket	9-1/2 in (239 mm)
	4-in-1 bucket	12 in (305 mm)
G	Overall height maximum	
	Standard bucket	14 ft 10 in (4.52 m)
	4-in-1 bucket	14 ft 5 in (4.39 m)
H	Bucket roll-back at ground line	
	Standard bucket	40°
	4-in-1 bucket	45°
J	Ground clearance	13 in (330 mm)
	Lift capacity (Maximum height)	
	Standard bucket	7500 pounds (3402 kg)
	4-in-1 bucket	6600 pounds (2994 kg)
	Maximum clam opening (4-in-1 bucket)	47-1/4 in (1201 mm)

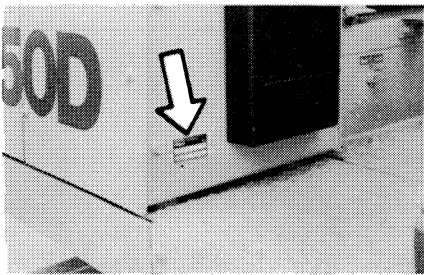
PRODUCT IDENTIFICATION AND SERIAL NUMBERS _____

PRODUCT IDENTIFICATION AND SERIAL NUMBERS

Write your machine Model number, Product Identification Number (PIN), and Serial numbers on the lines provided. If needed, give these numbers to your Case dealer when you need parts or information for your machine.

Make a record of the numbers. Keep the record and your Manufacturer's Statement of Origin in a safe place. If the machine is stolen, report the numbers to your local law enforcement agency.

Model/PIN Number

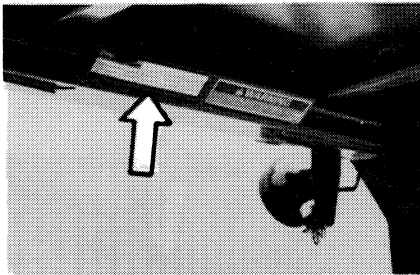


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Model Number _____

Product Identification Number _____

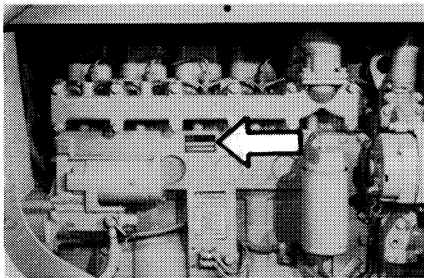
ROPS Canopy



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S/N _____

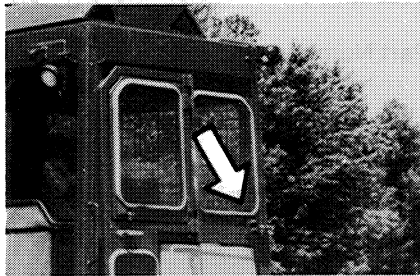
Engine



855263

S/N _____

ROPS Cab



A846165

S/N _____

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