1150
Crawler

Operators Manual

9-2082

Reprinted

CASE

The transmission serial number plate is located on the upper rear of the transmission.

The space below is provided for the serial numbers of your unit.

Crawler_____Engine_____

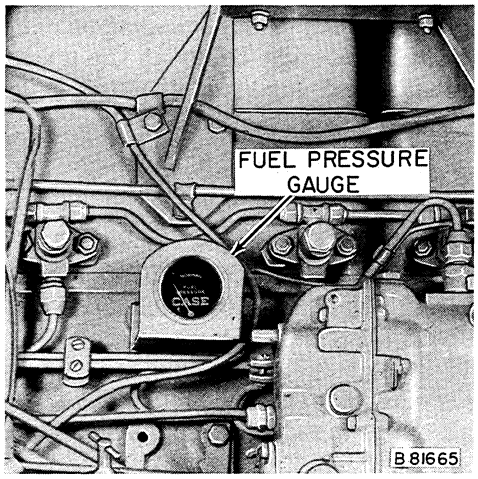
Transmission_____

IMPORTANT!

"Right Hand" and "Left Hand", when used in this manual, indicate the right and left sides of the machine as viewed from the operator's seat.

HOURMETER: This instrument shows the hours and tenths of hours that the engine has run. It provides an accurate means of knowing when the Crawler is to be serviced. The hourmeter operates electrically and is turned on and off by an oil pressure switch.

TACHOMETER: This instrument indicates engine speed in revolutions per minute (R.P.M.'s). It is standard equipment on this Crawler.



FUEL PRESSURE GAUGE: Refer to Figure 7. This gauge indicates the condition of the fuel filters. When the needle is pointing in the green zone the filters are in good condition. Refer to page 57.

Figure 7 - Location of Fuel Pressure Gauge

Controls

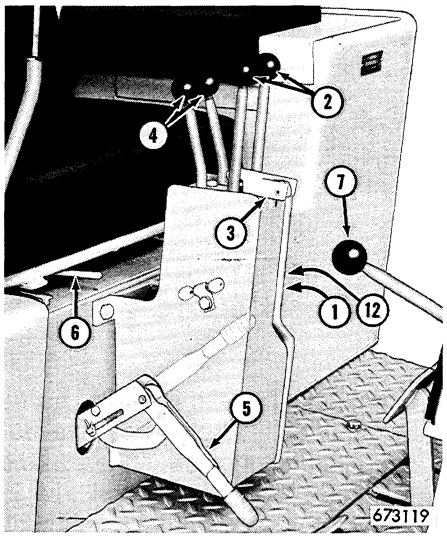


Figure 8 - Operating Controls

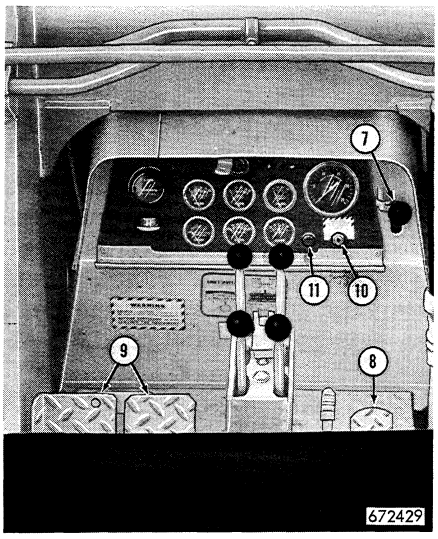


Figure 9 - Operating Controls

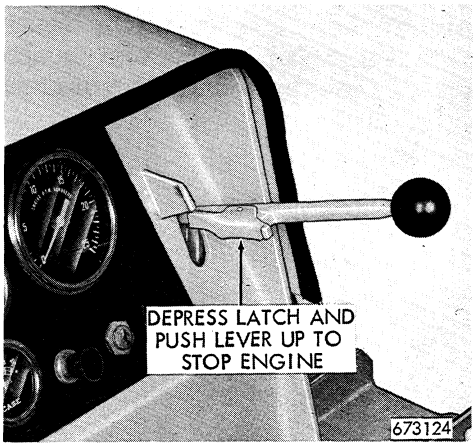


Figure 16 - Hand Throttle and Fuel Shut-Off

DRIVING THE CRAWLER

Starting

After the engine has warmed up, throttle it down to idle speed and release the parking brake. Shift the track speed control levers into high or low range and the direction control levers into the forward position. Increase the engine speed as required.

Do not operate the Crawler at or near "stall speed" as this may cause the transmission-torque converter oil to overheat and damage the system. (Refer to page 14 under "TORQUE CONVERTER OIL TEMPERATURE GAUGE" for a definition of "stall speed".)

Shifting

The Crawler may be shifted from high to low speed at any time using the track speed control levers. However, if it becomes necessary to change from high to low range, stop the Crawler and follow the instructions on page 16 for shifting the dual range control lever.

Steering

This Crawler may be steered in four ways:

GRADUAL TURN: A gradual turn is made by shifting a direction control lever to neutral while moving forward. To turn left, shift

TEN WEEKS (600 HOURS)

1. Replace filter element in equipment hydraulic system and transmission—torque converter hydraulic system.

2. Clean filter screen in equipment hydraulic system and transmission - torque converter hydraulic system.

3. Clean cooling system, if necessary.

4. Change the transmission - torque converter oil filters.

5. Inspect the generator brushes and commutator.

6. Lubricate driveshaft splined shaft.

1200 HOURS

1. Change transmission - torque converter oil.

2. Change final drive lubricant.

3. Change the hydraulic oil.

PERSONAL SAFETY PRECAUTIONS

1. Before starting the engine, be sure all operating controls are in neutral and the parking brake is set.

2. Keep brakes in proper adjustment.

3. Always be properly seated in the operator's seat before operating any of the controls.

5. Keep Crawler in gear when going down steep grades.

6. Drive at speeds slow enough to insure safety and maintain complete control, especially over rough terrain.

7. Never leave a Crawler unattended while the engine is running.

8. Never dismount from the Crawler while it is in motion.

9. Never permit persons other than the operator to ride on the Crawler.

10. Use caution in removing the radiator pressure cap when the engine is hot.

AIR CLEANING SYSTEM

The air cleaning system is composed of parts which require servicing at different intervals, depending on working conditions. NEVER attempt to service any part of the system while the engine is running.

Weather Cap

The weather cap protects the air cleaner from rain and prevents chaff and coarse particles of dirt from entering the air cleaner. Keep the screen clean of all chaff, oil, or dust. A clogged screen will reduce engine power by restricting the air flow.

Inspect the weather cap daily and clean as required. The cap can be cleaned by back blowing with compressed air or washing in clean hot water, preferably water containing a small amount of non-sudsing detergent.

Air Cleaner Service Indicator

The air cleaner service indicator signals when air cleaner service is required. After starting the engine, the red band on the indicator may rise enough to cover a portion of the yellow. THIS SHOULD NOT BE MISTAKEN AS A SIGNAL FOR ELEMENT SERVICE. When the filter element reaches maximum allowable restriction, the red band will completely cover the yellow band.

Figure 27 - Air Cleaner Indicator

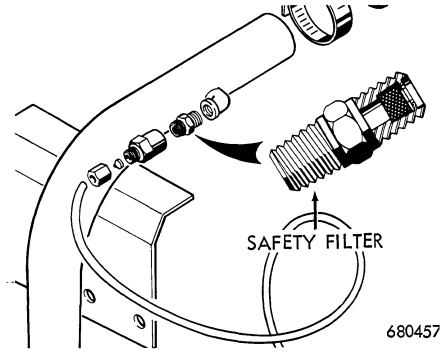


Figure 28 - Safety Filter

Safety Filter

A safety filter is built into the connector which joins the tube from service indicator to the air intake line. This filter prevents unfiltered air from entering the engine, if the tube

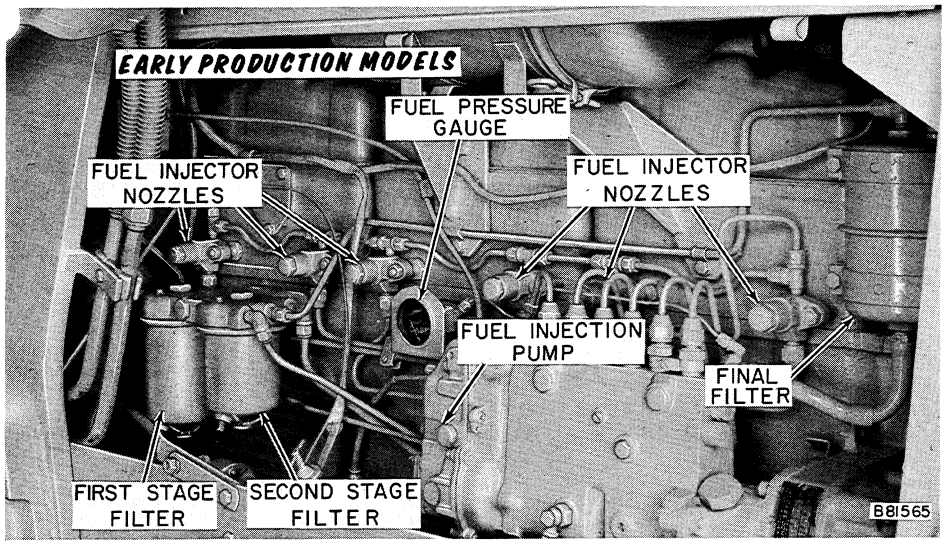


Figure 37 - Fuel Filters, Injection Pump, and Nozzles

FUEL INJECTION PUMP: Receives the fuel from the transfer pump, meters, and distributes it under extremely high pressure to the six injector nozzles in the cylinder head.

FUEL INJECTOR NOZZLES: These nozzles (one for each cylinder) receive the metered fuel from the injection pump, atomize it mechanically, and direct it into the combustion chamber in a definite spray pattern. Fuel leaking off the nozzle valves is routed back to the fuel tank through a return line.

Servicing of the injection pump or nozzles requires specialized equipment such as gauges, tools, etc. Therefore, work of this nature must ALWAYS be done by your Authorized Case Dealer.

FUEL PRESSURE GAUGE: The fuel pressure gauge is to be used as a guide for determining when to service the fuel filters. Refer to page 57.

Bleeding The System

EARLY PRODUCTION MODELS

The fuel system must be bled as a result of: (1) Engine running out of fuel; (2) Removing parts for service or repair; or (3) Engine being stored for a considerable period of time.

After running out of fuel, it may be possible to start the engine without bleeding, but small amounts of air left in the filters will result in lack of power and stalling when a load is applied.

The flushing oil in the fuel system will cause a blue-white exhaust smoke for a short time. This will not damage the engine.

ELECTRICAL SYSTEM

Instrument Panel Light

The instrument panel light bulb is controlled by the headlight switch. To replace the instrument panel bulb, pull the light hood off and replace the bulb.

Headlights And Rear Working Light

All genuine Case 24 volt Replacement Sealed Units have a label marked "24-V" or are stamped "24-V" on the back of the unit. This marking is placed on the unit to make sure you do not install a 6 or 12 volt sealed unit which would burn out immediately.

To gain access to the headlights open the radiator lid. This unlocks the grill and it may be pulled out.

To install a new sealed unit, roll the rubber lip from the edge of the sealed unit. Remove the old unit and disconnect the wires. When installing the new unit be sure the connections are tight; then roll the rubber lip over the edge of the new unit.

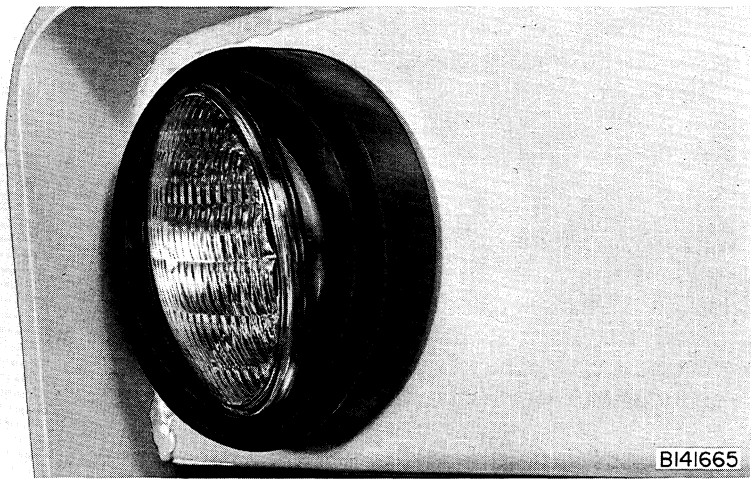


Figure 46 - Removing Headlights

During the bleeding operation, the clutch cutout control lever must be in the Engaged position. (See Page 18.)

To bleed the slave cylinders, perform steps 1 through 4 as described under Standard Models procedure. Access to the slave cylinders can also be had by removing the rear floor plate.

Remove operator's seat cushion for access to the transmission control valve bleed screws. See Figure 56. Bleed valve as follows:

1. Have an assistant pump up the brakes.

2. Loosen the bleed screw on the transmission control valve.

3. Have assistant depress the brake pedal and hold it down. Tighten bleed screw, and release the brake pedal.

4. Repeat the preceding steps until a steady stream of brake fluid flows from the bleed screw hole as the pedal is depressed.

Each brake is a separate system and must be bled separately at its own slave cylinder and transmission control valve. After the brakes have been bled, refill the master cylinders to the proper level. Use a brake fluid meeting SAE 70 R1 specifications.

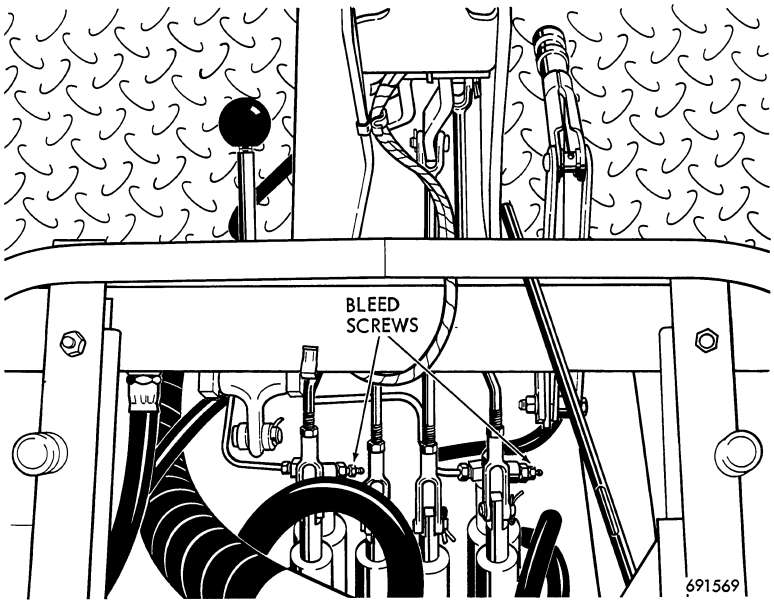


Figure 56

3. Lower the crawler onto the track and position the unit so that the drive sprocket is close to the end of the track chain. Pull the chain halfway up onto the sprocket and block with a brace.

NEVER PLACE FINGERS BETWEEN TRACK SHOES WHEN INSTALLING TRACKS.

4. Install the track chain by one of these methods:

   a. Hoist: If a hoist is available, attach the hoist to the front end of the track, carry it over the idler and carrier rollers, and onto the sprocket.

   b. Hand cable winch: Attach cable winch to front of track chain and pull chain over the idler, carrier rollers, and onto the sprocket.

5. Engage the two ends of the chain and insert the master pin, machined end first, from the inboard side of the track. Drive pin into links with hammer. Figure 64.

WEAR SAFETY GLASSES WHILE DRIVING PIN.

Track Installation

(Models With Track Seals)

Perform Steps 1 through 4 described above.

5. Two special holding tools must be fabricated. Figure 65.

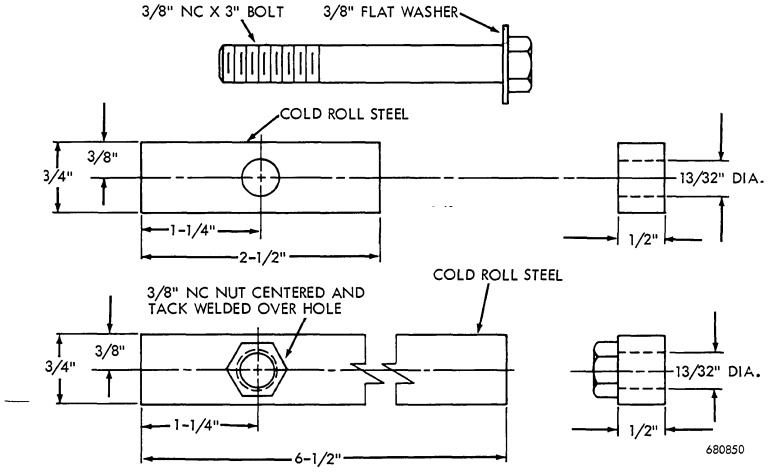


Figure 65

The transmission breather filter is located beneath the operator's seat on top of the transmission. It contains an "edge-wound" element, see Figure 77.

The transmission breather filter element should be removed, cleaned, and inspected after each 120 hours of operation. The element is readily cleaned by soaking in solvent and back blowing with compressed air.

Final Drives

Check the final drive oil levels every 120 hours. With the Crawler on level ground, remove the oil level plug located on each final drive housing, see Figure 78, and inspect the oil level. The oil level must be even with the plug.

If it is necessary to add oil, pour the SAE #90, API-GL-4 gear lubricant into the filler opening until the oil is even with the level plug opening. THE OIL MUST BE ADDED SLOWLY TO INSURE THE PROPER OIL LEVEL IS REACHED.

Drain the final drives after every 1200 hours operation, or twice a year, whichever occurs first. See Figure 79 for the location of the drain plugs.

After the oil has been completely drained, replace the drain plugs, and refill the final drives with the proper lubricant as indicated above.

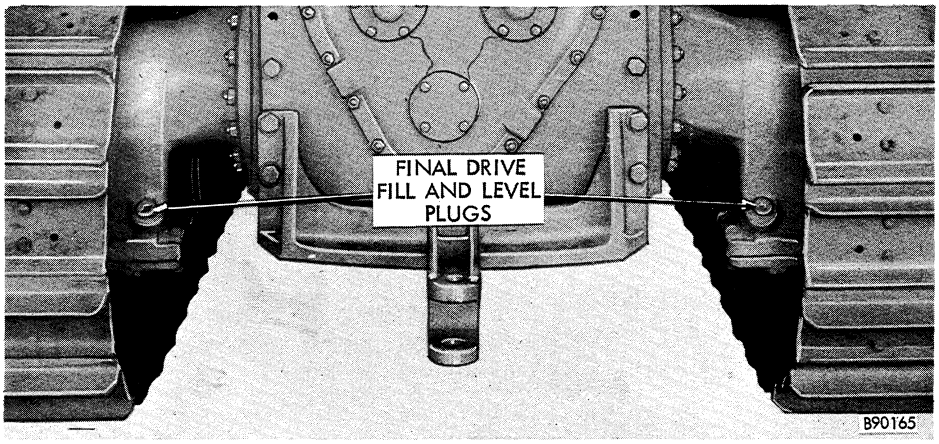


Figure 78 - Final Drive Level and Fill Plugs

*A.	Overall Height (Loader Fully Raised) Bucket Level	15' 2"
*B.	Height to Bucket Hinge Pin (Fully Raised)	11' 2"
C.	Dump Over Height	10' 10"
*D.	Dump Clearance (Fully Raised - 45° Dump)	8' 5"
*E.	Dump Reach (Fully Raised - 45° Dump)	3' 6-1/4"
*F.	Dump Reach (7 ft. Dump Height - 45° Dump)	4' 4-3/4"
*G.	Reach (Bucket Flat on Ground)	6' 7-1/4"
*H.	Dump Angle (Fully Raised)	45°
*J.	Bucket Rollback (At Ground Level)	40°
	Bucket Rollback (At 18" Carry)	43°
*K.	Digging Depth Below Ground Line (Bucket at 0° Angle)	5"
*L.	Digging Depth Below Ground Line (Bucket at 8° Angle)	10-1/2"
*	Bucket Capacities	1-1/2, 1-3/4 and 2 cu. yds.
*	Bucket Widths (1-1/2 cu. yds.)	81"
	Bucket Widths (1-3/4 cu. yds.)	81"
	Bucket Widths (2 cu. yds.)	87"
*	Breakout Force (Pivot is 24.6" to rear of cutting edge)	22,100 lbs.
	Hydraulic Lift Capacity	21,000 lbs.
*	Lift Capacity (To Full Height)	7,850 lbs.
	Lift Capacity (To 18" Carry)	14,950 lbs.
*	Raising Time (To Full Height)	6.2 seconds
*	Dumping Time	1.7 seconds
*	Lowering Time (From Full Height)	4.7 seconds
	Grading Angle	up to 105°
*	Overall Height (To Top of Loader Frame)	6' 5-3/4"
	Overall Height (To Top of Exhaust Stack)	7' 11-1/2"
*	Overall Length (Bucket Flat - To Rear of Counterweight)	197"
*	Overall Width (At Bucket)	81"
*	Ground Clearance (At Drawbar)	12"
*	Counterweight	3,280 lbs.

(SPECIFICATIONS TAKEN WITH 1-3/4 YD. BUCKET)

HYDRAULIC SYSTEM

Hydraulic Pump	Constant-Drive, Gear Type, Driven from the Torque Converter
*Pump Capacity	54 G.P.M. @ 1850 R.P.M. @ 1650 ± 50 PSI
Reservoir Refill Capacity	14 U.S. Gallons
*Hydraulic System Filters	
Suction Line	100 Wire Mesh, Reuseable Screen
Return Line	40 Micron, Replaceable Element
Control Valve	3 or 4 Spool Sectional Type
Main Relief Valve Pressure Setting	1650 P.S.I. ±50

Dumping the Bucket

When the bucket is dumped at low engine R.P.M., gravity will pull the bucket "under" faster than the hydraulic pump will fill the cylinder. If the cylinder is not full of oil when digging, the bucket will tend to roll back. To prevent this condition, run the engine at high R.P.M. when dumping, never at low R.P.M., unless this is not possible. If this is not possible, retract bucket cylinders hydraulically until the relief valve can be heard by-passing. This will fill the cylinders with oil and eliminate the bucket "rolling back" as it is pushed into a load.

It is not necessary to use the brakes when emptying the bucket. Use the direction control lever and foot throttle to control the machine. Approach the dump area with the bucket at proper dumping height, decelerate, push the control lever forward and to the right - accelerate. This will throw the load out of the bucket. Use extreme care and plenty of practice to perfect this method of emptying the bucket.

When loading a hopper of trucks it may be more desirable to use the brakes and stop when dumping. This will permit the operator to maintain high engine R.P.M. for efficient dumping without power to the tracks when the brakes are applied.

Truck Loading

Keep the wind to your back for dumping into a truck when loading trucks. This eliminates a chance of dust and loose material blowing into your face and impairing visibility. This also reduces engine air cleaner maintenance.

Start raising the bucket so it will just reach dumping height at the time you arrive at the dump area.

If one side of the truck is lower than the other, try to spot the truck so you dump over the low side. This improves reach and distribution of the load in the truck.

Reach over and dump into the far side of the truck first. Fill the truck gradually from the far side to the near side in order to distribute the load in the truck properly.

DROTT 4-IN-1 BUCKET

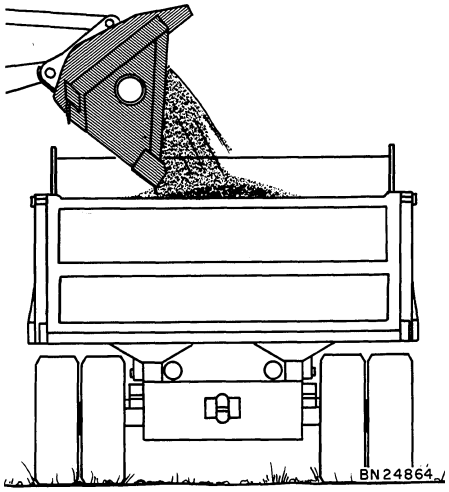


Figure 110 - Front Dumping

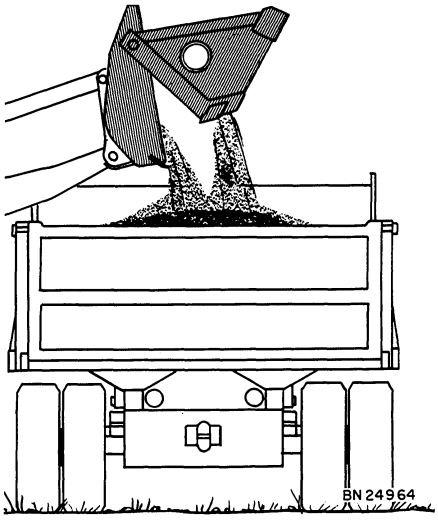


Figure 111 - Bottom Dumping

operating instructions

The following instructions pertain to the operation of the Dozer only. Refer to page 13 for Crawler operating instructions.

Power Angle-Tilt Dozer

MODELS BEFORE SERIAL NO. 7109299

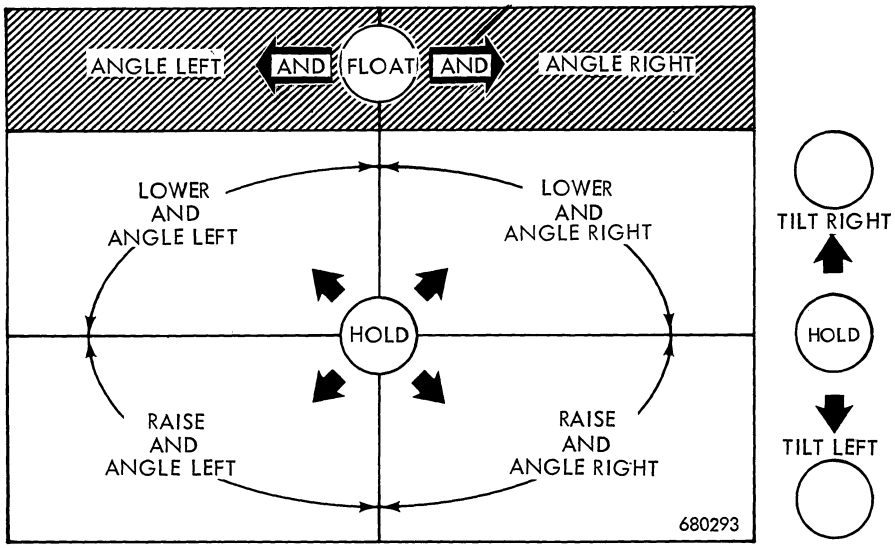


Figure 118 - Power Angle-Tilt Dozer Combined Positions

DOZER CONTROL LEVERS

A single lever controls all raising, lowering and angling of the dozer blade. One additional lever is used to control blade tilt.

The single lever positions are FLOAT, LOWER, HOLD, RAISE, ANGLE RIGHT and ANGLE LEFT. The additional lever provides TILT LEFT, HOLD and TILT RIGHT.

FLOAT POSITION

With the control lever in the float position, the blade is free to follow the contour of the ground. To place the control lever in the float position, push it as far forward as it will go. It is necessary to use a little extra pressure to place the lever in the float position because it is a detented position. This means

HYDRAULIC CYLINDERS

Check cylinder piston rods for scratches or score marks. Long longitudinal score marks, showing the effects of misalignment or sharp particles imbedded in the wiper ring, should be polished out. If the marks are excessively deep, have the piston rod replaced.

Scratches and score marks can be removed by using a strip of medium grit emery cloth. Always polish with a rotating, rather than a lengthwise motion.

If the unit is to be stored or unused for an extended period of time, one week or longer, the hydraulic cylinder piston rods should be coated to prevent rusting.

Recommended for this purpose:

Lubri Plate 110 ..... Fish Bros. Refining Co.
Texaco Rust Proof (Compound L) ..... Texaco Inc.

Control Cables

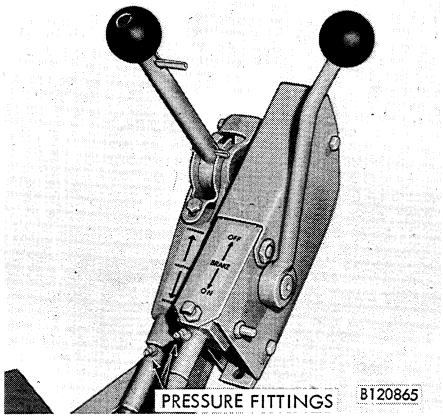


Figure 131 - Control Cable Pressure Fittings

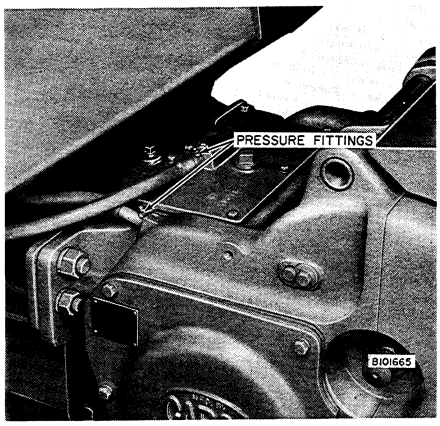


Figure 132 - Control Cable Pressure Fittings

Lubricate the four pressure fittings, one on each end of the brake and shift control cables, with Lithium "Soap-Base" grease at least once a week.

OPERATING INSTRUCTIONS

The winch controls include a shift control lever, a brake control lever, and a free-spool control knob. The shift and brake control levers connect through flexible cables to the winch.

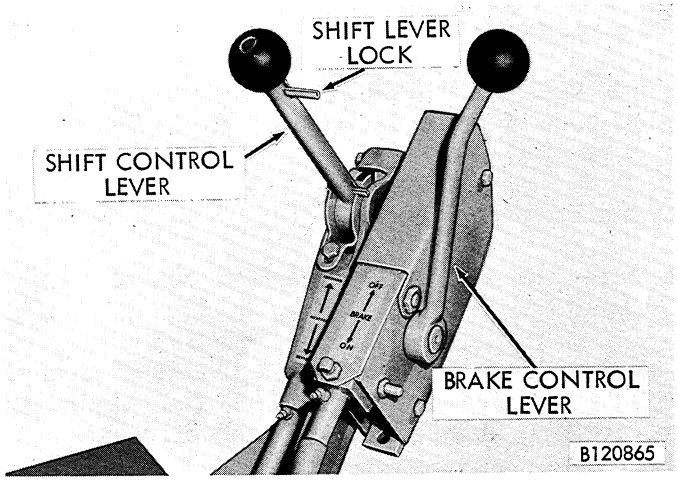


Figure 133 - Winch Control Levers

Ripper