450
Crawler

Operators Manual

9-1606

CASE

Reprinted

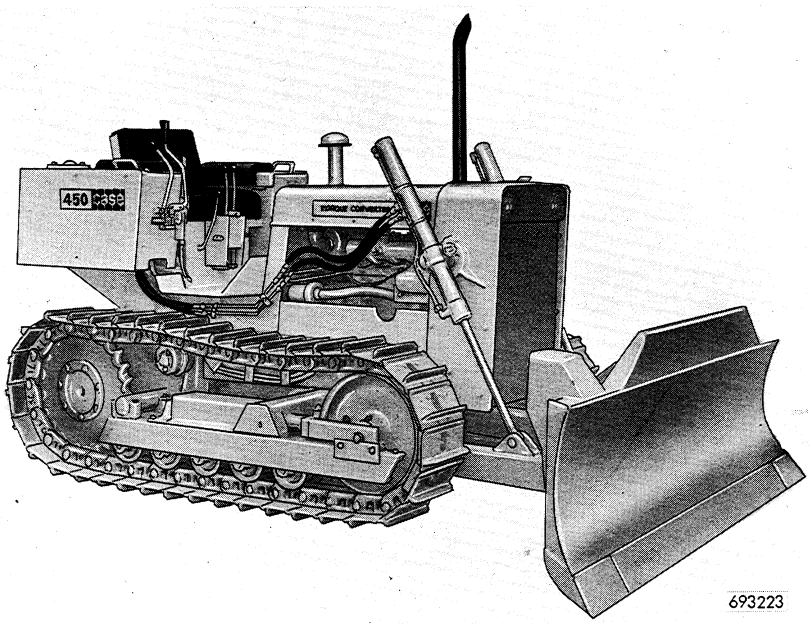

Figure 3 - Power Angle-Tilt Dozer

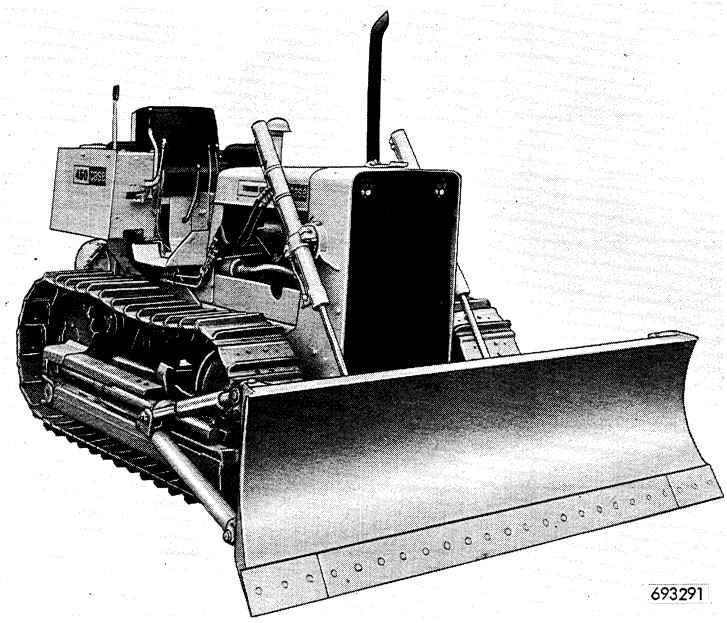

Figure 4 - Power Angling Dozer

shows a yellow band. When the filter reaches maximum restriction from dust and dirt, a red band will completely cover the yellow band indicating the need for filter servicing. After starting the engine, the red band may rise enough to cover a portion of the yellow band; this should not be mistaken as an indication for servicing.

3. ENGINE OIL PRESSURE GAUGE: After the engine is warmed up, this gauge should register 50 to 75 psi at about 2000 engine rpm during normal operating conditions.

4. AMMETER: The ammeter pointer should show a high charging rate when the engine is first started. As the battery becomes charged, the pointer should go gradually back to near zero. If the lights are turned on, the charging rate will increase automatically for the additional electrical load. If ammeter indications are not as described above, check the electrical system.

5. LIGHT SWITCH: Turn the switch clockwise (to the right) to operate head, tail and dash lights.

6. KEY SWITCH: (See Figure 9) Key positions are:

   (1) Off - Key is in vertical position.

   (2) Accessories - Turn key counterclockwise (to the left) for lighting only.

   (3) Ignition - Turn key clockwise (to the right) for activating the ignition circuit and accessories.

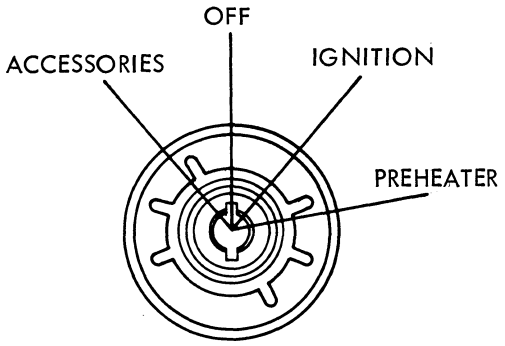

Figure 9 - Key Switch Positions

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COOLANT HEATER

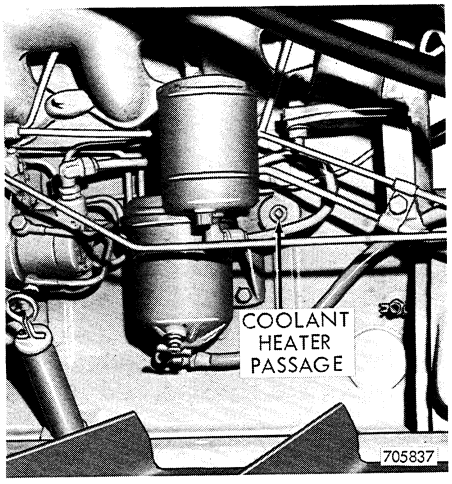

Figure 13

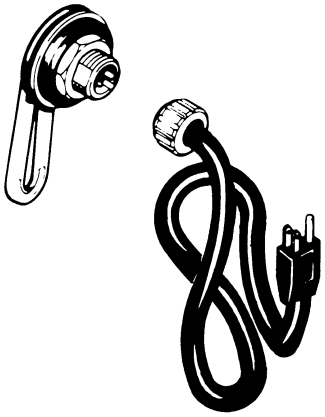

Figure 14

The engine cylinder block is provided with a passage for installing a coolant heater plug which is available from your Authorized Case Dealer. The passage is located on the left-hand side of the engine, immediately to the rear of the fuel filters mounting bracket. See Figure 13. The passage is closed with a socket head plug.

To install the coolant heater, drain enough coolant from the radiator and engine block so that it does not pour out of the heater passage after the plug is removed. Follow the heater manufacturer's instructions for the heater installation, and replace the coolant.

TRACTOR OPERATION

Crawler Driving

Operator's Seat

Before starting the engine, adjust the operator's seat cushion to the most convenient and comfortable position. Raise the cushion, loosen the four adjusting bolts, replace cushion, slide cushion forward or backward as desired, raise cushion and tighten bolts. See Figure 62.

Adjust and buckle the seat belt if the seat is so equipped. The belt is an optional item, available from your Authorized Case Dealer.

Equipment Hydraulic System

Cleanliness of both oil and equipment has top priority when the hydraulic fluid is added and when the system is drained and refilled. When adding oil to the system, be sure the oil, funnels and containers are clean. Wipe off dirt around the hydraulic tank filler cap before putting in oil. Dirt is the most detrimental contaminant of a hydraulic system. The best way to avoid it is to prevent its entry into the system.

Cheap grades of oil are unsuited for use in hydraulic systems. In operating complex and precision hydraulic pumps and systems, the choice of a superior hydraulic oil is the key to long life and low maintenance. In cooperation with a leading refinery, Case TCH Fluid has been developed as a scientific answer to the protection of these finely machined components.

Case TCH Fluid is nonfoaming and for all weather use. Your Case Dealer has this oil in stock or can get it for you.

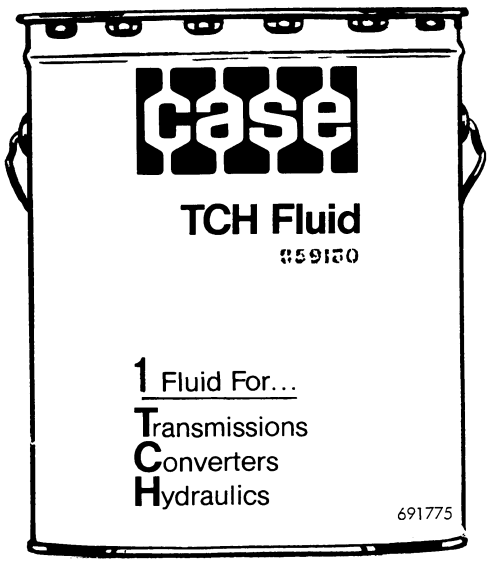

Figure 19

Prescreener Cap

The prescreener cap protects the air cleaner from rain and screens out coarse dirt particles from air entering the intake stack.

The cap should be checked daily and cleaned as required. Clean dust and dirt from the cap by back blowing with compressed air. Clean oil and sticky materials from the cap by washing in clean, hot water preferably containing a small amount of nonsudsing detergent.

Restriction Indicator

The air cleaner restriction indicator shows when servicing is required for the air cleaner by measuring the vacuum pressure in the intake manifold.

When the air cleaner filter is dust free and the intake air flow in unrestricted, the indicator will show the yellow band clearly. When accumulated dust on the filter causes maximum air flow restriction, the red band will rise and completely cover the yellow band; this means the air cleaner should be serviced immediately.

NOTE: After starting the engine, the red band on the indicator may rise enough to cover a portion of the yellow band. This should not be mistaken as a signal for element servicing.

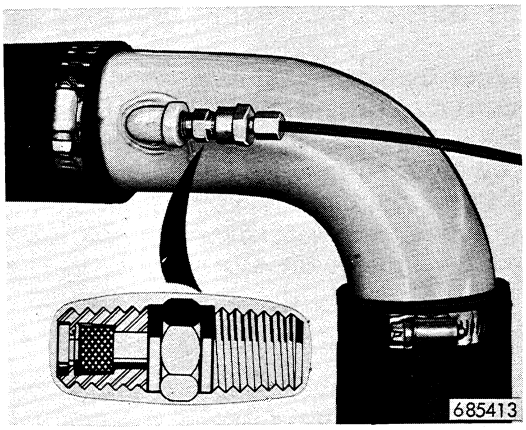

Figure 25

NOTE: Servicing of the injection pump and nozzles requires specialized equipment, gauges and tools.Work of this type must always be done by your Authorized Case Dealer.

Cleaning Fuel System

Water that collects in the fuel system must be removed at regular intervals. The water is the result of condensation in the fuel tank; being heavier than diesel fuel, it settles in the tank bottom, the tank water trap, and the fuel sediment bowl.

If the crawler has been left inoperative for several days with a partially filled fuel tank, there may be water in the fuel tank.

Fuel Tank

The fuel tank should be filled at the end of each daily operation. A full tank will prevent water condensation.

The fuel tank strainer, located beneath the tank filler cap, should be cleaned when necessary of accumulated sediment or foreign particles. See Figure 62.

The use of Case Diesel Fuel Conditioner is also helpful in controlling condensation in the tank. See page 33.

Water Trap

The fuel tank water trap, located under the left rear side of the tank, should be drained every 300 hours of accumulated water.

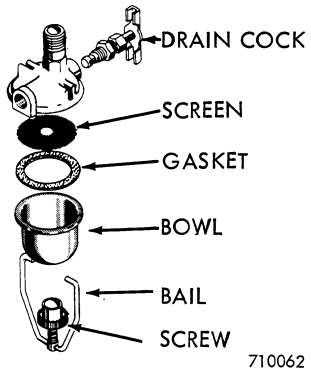

Figure 34

Bleeding The Brakes

Models Without Clutch Cutout

If air has entered the brake system, it must be bled from the lines for proper brake operation. Each brake is a separate system and must be bled separately.

For access to the brake lines, remove the rear floor plate. Bleeding the brakes is normally a two-man operation:

1. Have an assistant pump up the brake with the foot pedal.
2. Loosen the bleed screw on the brake slave cylinder, which is located just below the brake actuating lever on the transmission.
3. Have an assistant depress the brake pedal and hold it down. Tighten the 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.

After both brake systems have been bled, refill the brake master cylinders to within 1/2" of the top of the reservoir. Use a brake fluid meeting SAE J1703 specifications.

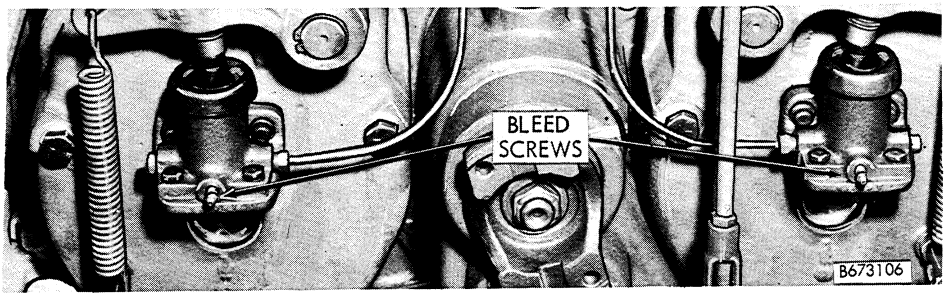

Figure 41

Models With Clutch Cutout

If air has entered the brake system, it must be bled at four locations — the slave cylinders and the transmission control valves.

Each brake is a separate system and must be bled separately, at its own slave cylinder and transmission control valve. The slave cylinder must be bled first.

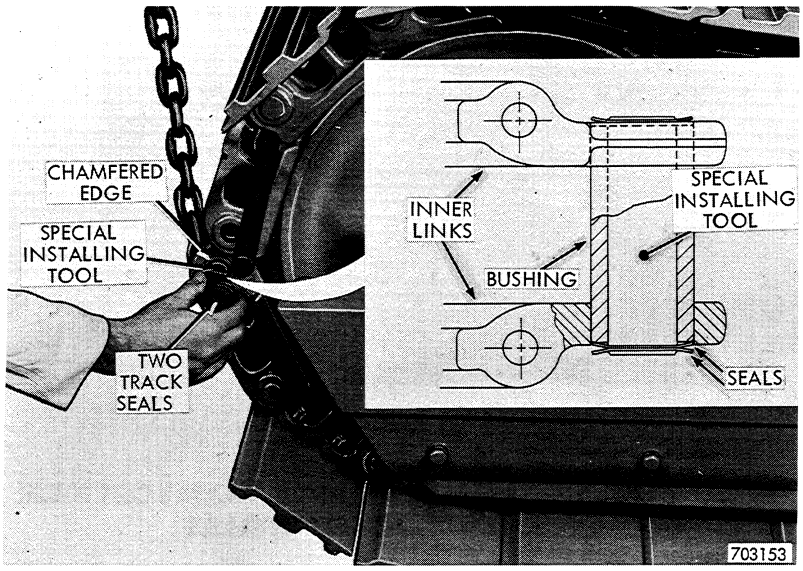

Figure 53

NOTE: Back up the outside link with a piece of steel when driving the master pin.

11. Replace the two track shoes and torque 135 to 155 ft. lbs. Readjust the track tension as is described on page 69.

WARNING: Never place fingers between track shoes when installing tracks.

DRIVESHAFT

Grease the driveshaft universal joints every 120 hours. Use lithium-soap base grease.

Remove rear floor plate. Turn driveshaft until the two grease fittings on the joints are in reachable position. Lubricate until clean grease appears around seals. See Figure 54.

CAUTION: Do not use a high pressure grease gun which could rupture the seals on the joints. Use a low pressure, hand pump gun.

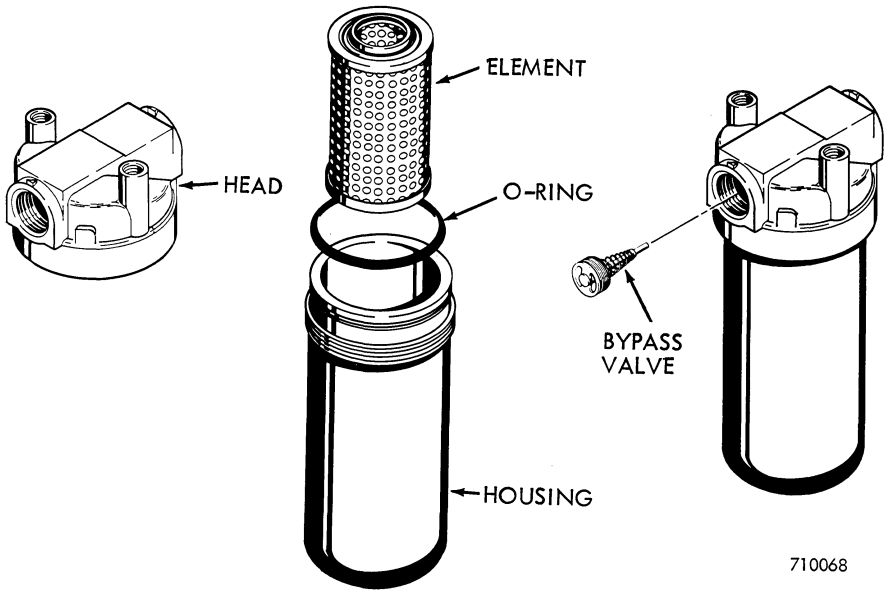

Figure 64

Control Level Pivot

A grease fitting is located on the pivot of the equipment control lever which combines the life and tilt positioning. The pivot should be lubricated every 300 hours of operation with lithium-soap base grease.

Hydraulic Cylinders

Check cylinder piston rods for scratches or score marks. Long longitudinal score marks, showing the effects of misalignment of 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 lengthwise motion.

If the hydraulic cylinders will not hold the load (when the control lever is in neutral) or raises slowly, it could indicate that the piston packing is worn. If it is determined the leak is in the piston (rather than in the control valve), the cylinder must be serviced.

LUBRICATION

Lubrication of the loader requires only a few minutes of daily attention. Use only a high grade grease of unvarying specifications. Always buy lubricants from a reputable dealer who handles a reliable product.

Hydraulic System

See page 82 for information on the equipment hydraulic system.

Pressure Fittings

Before applying a grease gun to pressure fittings, wipe all accumulated dirt from each fitting tip. Lubricate fittings every 10 hours or daily. If the loader operates in severe or abnormal condition, such as mud or water, lubricate every 5 hours or twice daily. See Figure 68.

Recommend Lubricants

Below 32° F . . . . Multipurpose or No. 1 lithium-soap base grease

Above 32° F. . . . . Multipurpose or No. 2 lithium-soap base grease

Rock salt	3650 (1656)
Sand -	
Dry, loose	2400-2850 (1089-1293)
Moist to wet	3250 (1474)
Sand and gravel	2300-3200 (1043-1452)

Bulldozing With Bucket

With the bucket in the dump position, the loader can be used for bulldozing various amounts of dirt by controlling the tilt of the bucket.

Backdragging dirt can be done with the bucket in the dump position. The amount backdragged is controlled by bucket tilt. There is ample room between the bucket back and crawler front to allow large amounts of dirt to be moved.

With the bucket in a horizontal position, loose earth can be compacted by down pressure on the bucket.

Putting the control lever in the Float position lets the bucket follow ground contours and deposit dirt in all crevices and cavities.

Basement Digging

Area must be laid out so no more dirt is moved than necessary.

Strip off the top soil and stock pile it away from the excavation, for use in leveling and landscaping.

Remove subsoil, either stock near the entrance to the excavation or place it in trucks for hauling away.

Ramp one end of the excavation , full width if possible, so that the operator can make full cuts any place in the excavation. The ramp can be inside or outside the excavation, depending on conditions.

When the excavation has been completed, it is necessary to clean out ramp. This can be accomplished by one of the following methods.

If the original ramp was inside the excavation, it will be necessary to leave enough of the ramp at one end to remove the crawler. This portion of the ramp will have to be cleaned out by some other method.

Dimensions

A	*Overall operating height, SAE	163-1/2" (4153 mm)
B	*Height to bucket hinge pin, maximum height	125" (3175 mm)
	Overall height - To top of exhaust stack	86-1/2" (2197 mm)
	*Less exhaust stack	69" (1753)
	Overall width - *At track	62" (1575 mm)
	At bucket	69-1/2" (1765 mm)
C	*Overall length, bucket on ground	161" (4089 mm)
	*Ground clearance, at drawbar	11" (279 mm)
	*Turning clearance circle, pivot turn	240" (6096 mm)
	Dozer cutting edge width	67-1/4" (1708 mm)
	Dozing depth	1-3/4" (44 mm)
	Maximum clam opening	44-1/2" (1130 mm)
	Moldboard height	38-3/4" (984 mm)

Operating Data

	*Breakout force, SAE J732C, dump cylinders	6,925 lbs. (3141 kg)
	*Maximum lift capacity, rear of unit not tied down, from groundline to maximum height	4,200 lbs. (1905 kg)
	*Raising time, bucket empty, from groundline to maximum height	6.3 sec.
	*Dumping time, full bucket	1.5 sec.
	*Lowering time, power down, bucket empty, from full height to groundline	3.5 sec.
	*Dump clearance at maximum height -	
D	At 45° dump	95" (2413 mm)
	Clam fully open	123" (3124 mm)
	*Dump reach -	
E	At maximum height, 45° dump	27-3/8" (695 mm)
F	At 7' dump height, 45° dump	36-3/4" (933 mm)
	*Reach, bucket on ground	63-3/4" (1619 mm)
	Bucket rollback -	
G	*At ground level	37°
	At 18" carry	48°
	*Digging depth below ground -	
	Bucket level	4-1/2" (114 mm)
H	Bucket at 4° angle	8" (203 mm)
I	*Maximum dump angle, maximum height	45°
	Grading angle	Up to 108°

Power Angle-Tilt Dozer

1. Lift cylinder trunnion (3 each side) 6
2. Lift cylinder rod pivot (1 each side) 2
3. Angle cylinder (2 each cylinder) 4
4. Tilt cylinder (1 each end) 2

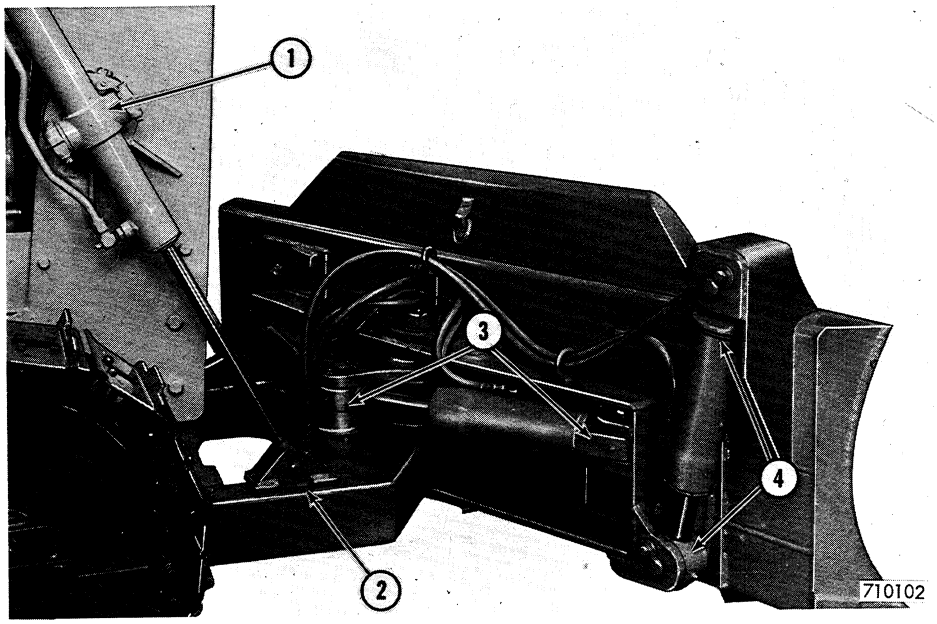

Figure 99 - Power Angle-Tilt Dozer

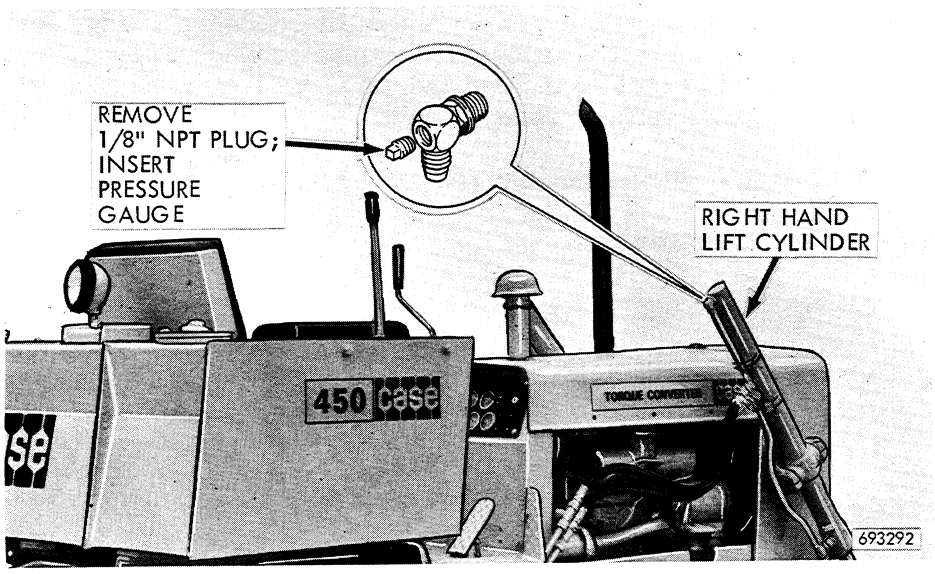

Figure 106

Power Angle—Tilt Dozer

Lift Trunnion Positions

The lift cylinder trunnions are equipped with off-center cylinder pivots. Rotating the trunnions 180 degrees in their races provides the lift cylinders with two positions: (1) an upper position for the standard angle-tilt dozer blade, and (2) a lower position for dozer blades equipped with a forestry grill guard. See Figure 107.

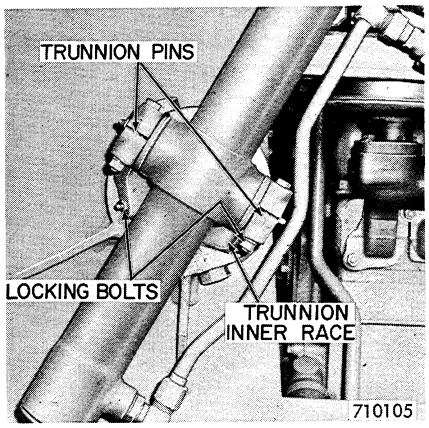

Figure 107

SERIAL NUMBER LOCATION

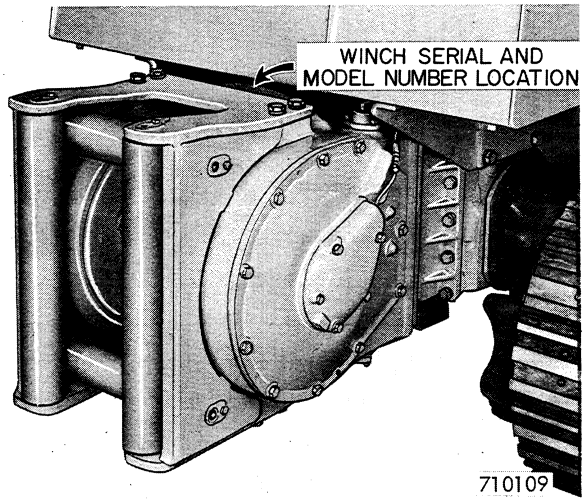

Figure 113 - Model 19 Winch

When ordering parts from your Authorized Case Dealer, always specify the model and serial number of your crawler and winch.

SPECIFICATIONS

Specifications preceded by an asterisk (*) conform to IEMC or SAE definitions.

Operating Data

*Line pull, transmission in low range -
Bare drum . . . . . 21,300 lbs. (9661 kg) @2000 engine rpm
Full drum . . . . . 13,000 lbs. (5897 kg) @2000 engine rpm
*Drum height, from ground to winch centerline . . . 26" (660 mm)
Height, from ground to top of winch. . . . . 36-1/2" (927 mm)
Height, from ground to top of fairleads . . . . . 38-3/4" (984 mm)
Ground clearance, at bottom rear of winch. . . . . 16" (406 mm)
Ground clearance, with fairleads. . . . . 14-1/2" (368 mm)