SECTION INDEX

This manual covers the instructions for operation, lubrication, adjustments and maintenance for normal daily care. These instructions are divided into thirteen sections to simplify your reference to the information most important to you. Refer to Table of Contents on next page for a complete list of subjects covered within each section.

This manual has been prepared to help you operate and maintain your machine with utmost efficiency and safety. Read this manual thoroughly and learn your machine before you attempt to operate it.

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MAIN FRAME

DESCRIPTION
Each main frame component is composed of many smaller items welded together to form a single rigid assembly. Bushings are pressed into bores at pivot points and the grille is bolted to the rear of the rear frame section. The two frame sections are connected at their hinge points by a pin and bearing assembly. The rear axle bolster is connected to the rear main frame by pin and bushing arrangement.

The frame locking bar is pinned and locked to the right-hand side of the rear frame section in its rest position. The bar and pins are used to lock the two tractor halves when the tractor is serviced or transported.

To lock the tractor halves in the straight position, the rear pin and cotter pin are removed, the bar swung forward and aligned with hole in forward section and pins replaced (Fig. 3).
REMOVAL

The radiator and oil cooler may be removed from the engine compartment by removing the grille and properly supporting the hood.

Position unit under an overhead hoist and apply the parking brake. Position safety bar (1, Fig. 33) and pins (2) in the straight lock position.

Fig. 33. Safety Bar

Remove battery cables (1, Fig. 34) from batteries (2) on each side of the unit. Remove ground cable first.

Fig. 34. Battery Connections

In order to remove the grille, capscrews (1, Fig. 35) are removed connecting the hood to the grille and capscrews (2) are loosened connecting hood to bulkhead.

Fig. 35. Remove Hood

Using a block of wood prop the rear of the hood high enough to eliminate interference with grille.

Disconnect and tag electrical wires from the rear driving lights.

Remove tail light brackets (2, Fig. 36) by removing capscrews and nuts (1). With tail lights removed, disconnect electrical wires and tag.

Fig. 36. Tail Lights

With a suitable hoist attached, remove capscrews (1, Fig. 37) on each side of the grille and lower grille (2) to floor.

Disconnect transmission oil cooler lines (1, 2, Fig. 38) from the bottom of the oil cooler (4). Insert plastic plugs into both the oil cooler and disconnected lines (1, 2) to keep fluid from dripping.

Remove capscrews and nuts securing the top of the oil cooler to the radiator. Secure cooler to overhead...
thickness equal to the gap. To this shim pack add the recommended additional shims (refer to "TOLERANCES").

Additional Shim Pack: __________

The total shim pack should equal the measured gap plus the required additional shims or as close as possible to this dimension on the plus side.

Remove the retainer and install the entire shim pack. Install the retainer and secure with all capscrews.

Coat the threads of each capscrew with "LOCTITE PLASTIC GASKET" before installation. Tighten the capscrews to the recommended final torque (refer to "SPECIAL TORQUES") WHILE ROTATING THE WHEEL HUB.

Final Torque: __________

Lubricate a new seal ring (1, Fig. 11) with grease and install on wheel hub shoulder. Be sure there are no twists in seal ring.

Use a depth micrometer to measure thru a bolt hole in the retaining ring to a heavy feeler gauge held across a threaded bolt hole in the spindle. ADD the thickness of the feeler gauge to the micrometer reading and SUBTRACT the MEASURED thickness of the retaining ring to determine gap. (Average the measured result of readings taken at two different locations.)

Using a suitable sling and hoist, position the planetary carrier assembly (1, Fig. 26) on the axle. As carrier is installed planet gear teeth must mesh with ring gear teeth; large cut-out in carrier must be in alignment with cut-out in wheel hub.

Be sure carrier assembly (3, Fig. 27) is flush against wheel hub (1). Install the flat head capscrews (2) to secure the two assemblies and tighten capscrews to recommended torque (refer to "SPECIAL TORQUES").

Torque: __________

Using the axle removal and installation tool (1, Fig. 28) (refer to "SPECIAL TOOLS") install the axle in the housing.

Using the tool as a lever, raise the inner end of the axle shaft to engage the differential side gear splines. As the sun gear end of the shaft enters the planetary assembly align the shaft gear teeth with the planet gear teeth.
a. Loosen and remove the valve housing (12, Fig. 57) from the control valve body (20). The relief valve may be placed on a bench for further disassembly.

b. Remove the plug (6) from the housing (12). If desirable, the plug assembly may be left intact. In this manner the valve setting will remain unchanged. For a thorough inspection however, the valve must be completely disassembled.

c. Remove the "O" rings (7-11) and back-up ring (10) from the plug (6) and discard the rings.

d. Remove the acorn nut (1), jam nut (4) and copper washers (3-5) from the adjusting screw (2).

e. Remove the adjusting screw (2), spring (8) and pilot poppet (13) from the plug bore.

f. Remove the check valve poppet (9) from the housing (12). Remove and discard the "O" ring (15) from the housing (12).

g. Remove the springs (14-16), poppet (19) and piston (21) from the check valve poppet (9). Remove and discard the "O" ring (17) and back-up ring (18) from the poppet (19).

h. Place the pilot poppet (13) in the center bore of the plug (6). Install the spring (8) in the plug center and over the stem of the pilot poppet (13).

i. Place housing (12) over poppet assembly and thread plug (6) into housing. Hold housing and tighten plug securely.

**INSPECTION**

Refer to "INSPECTION" under "MAIN CONTROL VALVE."

**ASSEMBLY**

a. Install new "O" ring (17, Fig. 57) and back-up ring (18) on poppet (19).

b. Lubricate the rings with clean hydraulic fluid. Install the large poppet (19) in the check valve poppet (9).

c. Install the piston (21) in the center bore of the poppet (19).

d. Install the small spring (16) over the piston (21) and place the poppet assembly aside.

e. Thread the adjusting screw (2) into the plug center bore until it begins to compress the spring (8).

f. Install a new back-up ring (10) in the groove in the center of the plug (6). Install a new "O" ring (11) below the back-up ring. Install a new "O" ring (7) in the groove below the flange of the plug (6).

h. Lubricate the "O" ring (11) and back-up ring (10) with clean hydraulic fluid. Place the large spring (14) over the small diameter of the plug (6). Carefully slide the poppet assembly (9-16-19-21) over the plug.

**NOTE:** Be sure springs (14-16) do not link or bind and are seated correctly.

i. Place housing (12) over poppet assembly and thread plug (6) into housing. Hold housing and tighten plug securely.