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All information, illustrations, and specifications contained in this technical manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

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# Section 10

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TRANSMISSION

Type
Gear selections
Shifting

Collar shift
8 forward and 4 reverse
4 speeds each in high, low, and reverse ranges. Park lock included.

DIFFERENTIAL AND FINAL DRIVES

Planetary reduction gear and differential with spiral bevel gears.

DIFFERENTIAL LOCK

Hand or foot operated; spring-loaded out of engagement.

PTO

Single, 540 rpm rear powershaft continuous-running.

Power Shaft Speeds (in rpm)

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<td>650</td>
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HYDRAULIC SYSTEM

Open center, constant oil flow system; also includes rockshaft and selective control valves.

Relief valve setting ........ 148 to 150 kp/cm² (2105 to 2130 psi)

Pump ........ gear pump driven by the engine

POWER STEERING

The steering system is an "open center" type independent from the tractor hydraulic system. It is connected to the front wheels by means of a steering linkage.

Relief valve setting ........ 148 to 150 kp/cm² (2105 to 2130 psi)

Pump ........ gear pump driven by the engine

MANUAL STEERING

The manual steering is a recirculating ball bearing, worm and nut type. A number of steel balls between ball nut and steering wheel shaft provide for positive engagement of steering wheel and steering linkage.

HYDRAULIC BRAKES

The disk brakes run in an oil bath and are hydraulically controlled.

CAPACITIES

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<th>Imp.gals</th>
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TRAVEL SPEEDS

See Operator's Manual

FRONT AND REAR WHEELS

For tire sizes, treads, inflation pressure and weights see Operator's Manual.

DIMENSIONS AND WEIGHTS


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REMOVAL AND INSTALLATION OF FINAL DRIVES

REMOVAL

NOTE: The removal of both final drives is explained below. If only one final drive is to be removed, do necessary work only.

For safety disconnect ground straps at batteries.

Lift up rear of tractor by means of suitable jack or hoist and remove rear wheels.

CAUTION: Support transmission safely to prevent tipping of tractor.

Disconnect rear wiring harness at connector.

Remove rear fenders and roll-over guard.

Disconnect brake lines on both rear axle housings.

![Fig. 6 - Oil Manifold and System Pressure Relief Valve Installed](image)

1 Oil manifold
2 System pressure relief valve
3 Pressure line from hydraulic pump
4 Pressure line to quick coupler (tractor with selective control valve)
5 Oil manifold and final drive attaching screws
6 Pressure line to dump valve and rockshaft
7 Return line
8 Selective control valve (if equipped)

Disconnect pressure lines 3 and 5 (fig. 6) at elbows and return line 7 at oil manifold 1. Disconnect pressure line 4 at selective control valve 8 (if equipped). Remove two cap screws 5 attaching oil manifold to right-hand final drive housing. Lift off oil manifold together with system pressure relief valve 2 and selective control valve 8 (if equipped).

Cover connections and exposed openings with plastic plugs or caps to keep out foreign particles.

![Fig. 7 — Removing Final Drive](image)

1 Final drive housing
2 Pressure ring
3 Brake disk
4 Final drive shaft

Attach final drive to hoist. Remove final drive attaching screws and pull final drive housing from transmission case. Withdraw housing evenly until final drive shaft gear is no longer in mesh with planetary gears of final drive.

INSTALLATION

NOTE: If the brake disk was removed, install it with the brass-interwoven upper facing toward brake surface of the transmission case.

Position new gasket between final drive housing and transmission case.

Attach final drives to transmission case by means of a suitable hoist. Make sure final drive shaft gear indexes with planetary gears and that the dowels are properly aligned.

Tighten final drive attaching screws to the specified torque.

Attach oil manifold, with system pressure relief valve and selective control valve (if equipped) to final drive housing.

Connect all oil lines.

Connect brake lines and bleed brakes, as explained in section 60, group 15.

Install rear fenders. Connect rear wiring harness at connector.

Install rear wheels and tighten to the specified torque.

IMPORTANT: Connect ground straps to negative (-) poles of batteries.
Section 20
ENGINE

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**ASSEMBLY**

When attaching yoke 4 (fig. 4) to ball nut, make sure that closed side of yoke faces ball guides of ball nut (see fig. 4).

Secure yoke with two cap screws provided and tighten to the specified torque.

Install steering wheel shaft assembly (take care of steering housing oil seal) so that ball guides of ball nut face front side of steering housing. Pack one of the two barrel bearings with grease and install on steering wheel shaft with bearing cone facing upward. Insert both thrust washer halves and secure by means of snap ring.

Push steering wheel shaft into housing until barrel bearing is against housing shoulder. Pack bearing and thrust washers liberally with grease. Then slide second barrel bearing on steering wheel shaft so that cone bottoms on thrust washers (opposite that of lower barrel bearing).

Make sure that all parts are well greased and screw bearing adjuster in steering housing.

**ADJUSTMENT**

Turn ball nut so that it is at the bottom of the steering wheel shaft worm. Hook spring scale into bore of yoke as shown in fig. 5 and tighten bearing adjuster 1 (fig. 5) until a specified force is required to move the yoke (see Specifications).

Tighten adjuster lock nut to specified torque. Hold adjuster while tightening.

**INSTALLATION**

For installation, reverse removal procedure.

Use new gasket between steering housing and clutch housing.

**NOTE:** When positioning steering housing assembly, be sure that side of yoke marked "R" is toward the right side of the tractor (see inset, fig. 3).
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HYDRAULIC SYSTEM

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Litho in U.S.A.
The belt pulley assembly is driven by the PTO stub shaft. It is a straight bevel gear type unit and is attached to the transmission case.

Drain oil from pulley case by removing filler plug. Remove pulley guard. Remove pulley from shaft, using a puller if necessary.