

SECTION

O

**SERVICING THE
STEERING SYSTEM**

STEERING GEAR

(Refer to Figure O-1)

Removal and Disassembly

1. Remove the steering wheel medallion (1), nut (2), steering wheel (3), seals (9), bearing spacer (10) and retainer (11).
2. Disconnect the steering gear linkage at the lever assembly.
3. Remove mounting capscrews and U-bolt which mount the steering gear assembly to the tractor main frame, then maneuver the steering gear assembly out the bottom of the tractor.
4. Remove lock nut (13), adjusting nut (14), lever assembly (19), retainer (18) and gasket (17) from the housing (12).
5. Remove adjustment plug (16).
6. Install cam-tube (7) and bearing assemblies (8) out the bottom of the housing.
7. Remove bearing cups (4) and bearing assemblies (8).
8. Remove jam nut (21) and adjusting screw (20) from the lever assembly (19).

Inspection

1. Thoroughly clean all parts before inspection. Replace all damaged or badly worn parts.
2. Inspect bearing assemblies (8) for worn or pitted balls, damaged retainer or cups. Replace as necessary.
3. Inspect cam and tube assembly (7) for misalignment, cracks or damaged threads.
4. Replace seals, bearing spacer and gasket each time the steering gear is disassembled.

Assembly and Installation

1. If necessary, install new balls (5) in retainers (6). Then install ball and retainer assemblies (8), cup (4) onto cam and tube assembly (7).
2. Install cam-tube (7) and bearing assemblies (8) into housing assembly (12), and secure with adjustment plug (16). Tighten adjustment plug until it is tight against the balls. Through a hole in the housing assembly, stake the adjusting plug with a center punch.
3. Install gasket (17), retainer (18) lever assembly (19) to housing and secure with washer (15), adjusting nut (14) and lock nut (13). Refer to Page O-4 for proper adjustment.
4. Install adjusting screw (20) and lock nut (21). Refer to Page O-4 for proper adjustment.
5. If necessary, replace fitting (22).
6. Fill the gear box with approximately 1/4 pound of No.1 Lithium base grease.
7. Mount the steering gear assembly to the tractor main frame. Torque capscrews and nuts to the value specified in the Specification Section.
8. Connect the steering gear linkage to the lever assembly (19).
9. Install retainer (11), bearing (10), seals (9), steering wheel (3), nut (2) and medallion (1).

Disassembly, Inspection and Assembly

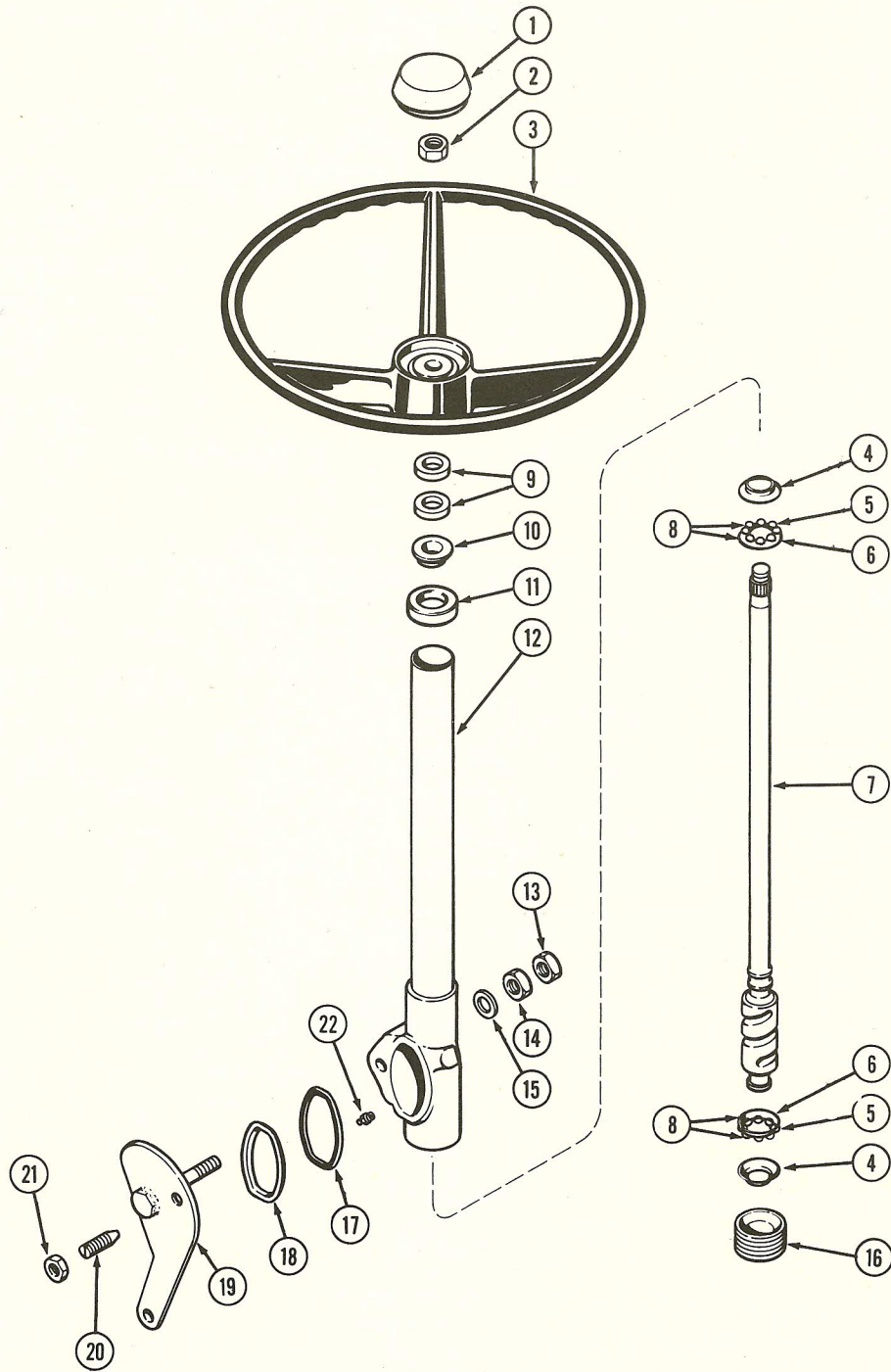


Figure O-1

STEERING GEAR ADJUSTMENT

Worm Shaft End Play Adjustment

Raise and block up the front end of the tractor so the front wheels are off the ground.

The end play (up and down) of the worm shaft is adjusted by loosening or tightening the adjusting plug located at the bottom end of the steering gear assembly. When the worm shaft is correctly adjusted, there should be no noticeable end play at the steering wheel.

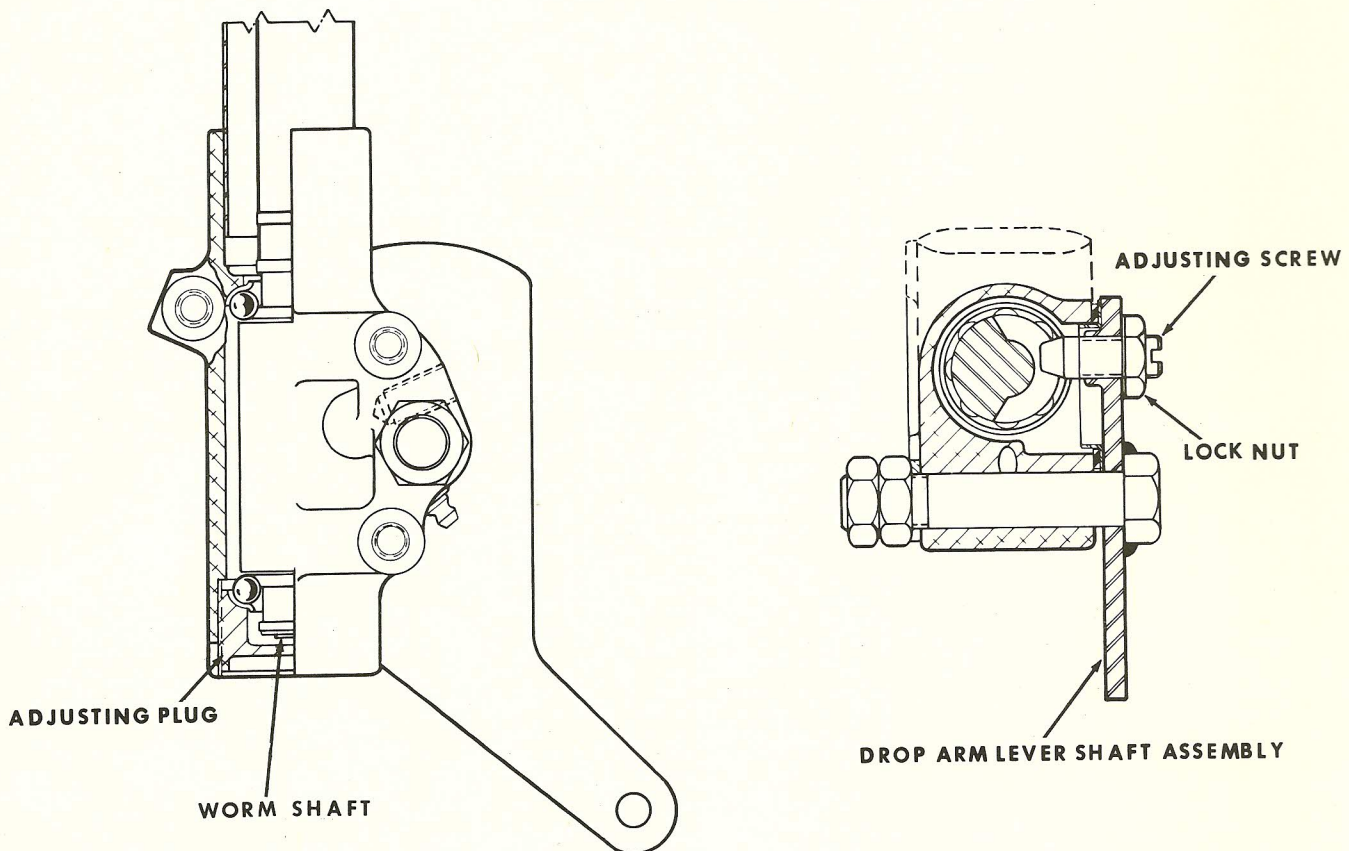


Figure O-2

Worm Gear Adjustment

Raise and block up front end of tractor so front wheels are off the ground.

End play in the drop arm lever shaft assembly can easily be removed by means of the slotted adjusting screw located on the right hand side of the steering gear box on the drop arm lever shaft assembly. Always make this adjustment midway between full right and full left turns. Loosen the jam nut on the adjusting screw and turn the screw in sufficiently to just remove the end play. Be sure no binding is present. After making the adjustment, turn the steering wheel as far as possible to the left and to the right to make sure there is no binding present during any portion of the steering wheel travel. Lock the adjusting screw with the lock nut when the adjustment is completed.

130 FRONT AXLE Removal and Disassembly

NOTE Block up front of tractor.

1. Disconnect the drag link (4) from the spindle (13).
2. Remove wheel cover (if so equipped) cotter pin (8), washer (9) and wheel assembly.
3. Remove cotter pin (7), pin (6) and tie rod

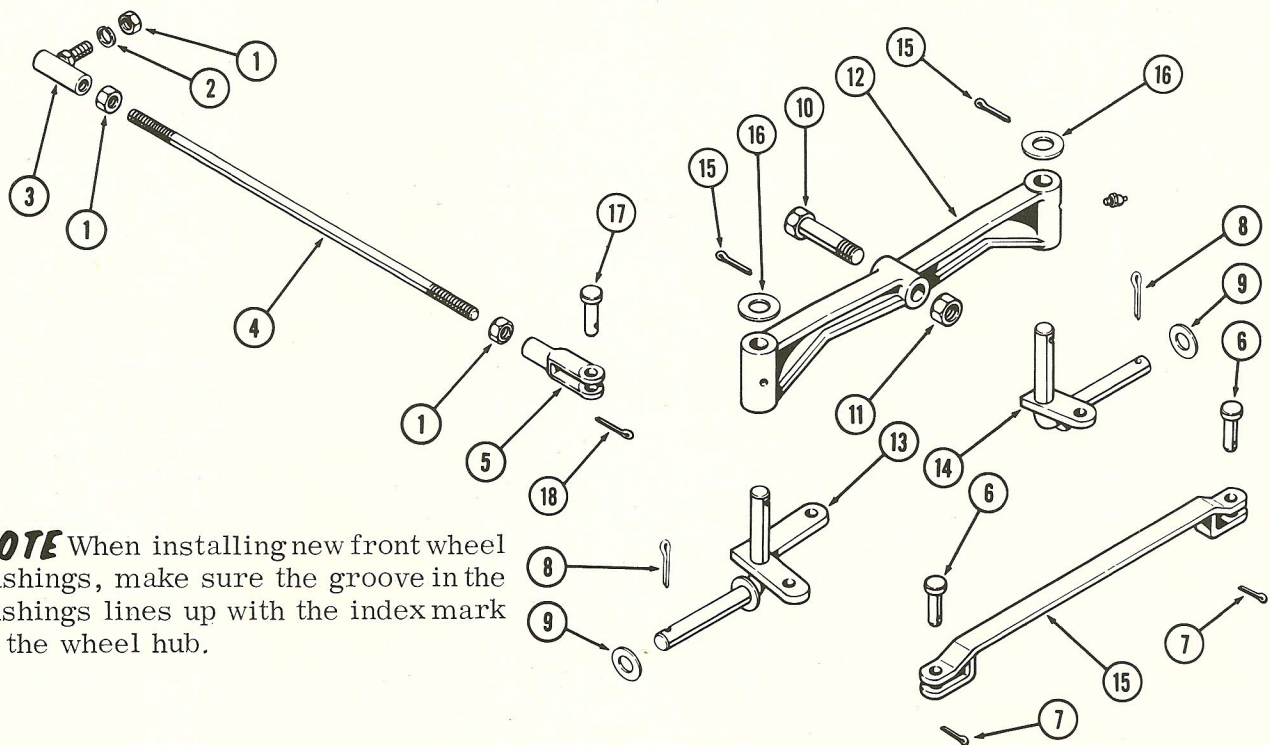
(15).

4. Remove cotter pin (15), washer (16) spindle and king pin (13) or 14).
5. Remove axle mounting bolt nut (11), bolt (10) and axle (12).

Inspection

With the axle completely removed and disassembled, the component parts can easily be cleaned and inspected for wear, cracks and burrs. All parts that are worn or damaged must be replaced.

The wheel bushings must be inspected for cracks and excessive wear. Insert the spindle in the wheel and check for excessive side clearance. Replace if excessively worn. Also check the fit of the king pin in the axle. Replace if worn excessively.



NOTE When installing new front wheel bushings, make sure the groove in the bushings lines up with the index mark of the wheel hub.

Figure O-3

Assembly and Installation

1. Install the axle (12) using the mounting bolt (10) and nut (11). Tighten nut securely so there is a slight drag when the axle is oscillated.
2. Install the spindle and king pin (13) in the axle (12) and secure with washer (16) and cotter pin (15).
3. Install tie rod (15) using pin (6) and cotter pin (7).
4. Install front wheel and secure with washer (9) and cotter pin (8). Install hub cap (if so equipped.)
5. Connect the drag link (4) using pin (6) and cotter pin (7).
6. Refer to operator's manual for proper lubrication.

180 FRONT AXLE Removal and Disassembly

NOTE Block up front of tractor.

1. Disconnect the drag link (23) from the spindle (32).
2. Remove cotter pins (27), washer (28) and wheel assembly.
3. Remove nut (20), lockwasher (21) and tie

rod (34).

4. Remove cotter pin (36), washer (37) spindle king pin (32) or (33).
5. Remove axle mounting bolt nut (30), bolt (29) and axle (31).

Inspection

With the axle completely removed and disassembled, the component parts can easily be cleaned and inspected for wear,

cracks and burrs. All parts that are worn or damaged must be replaced.

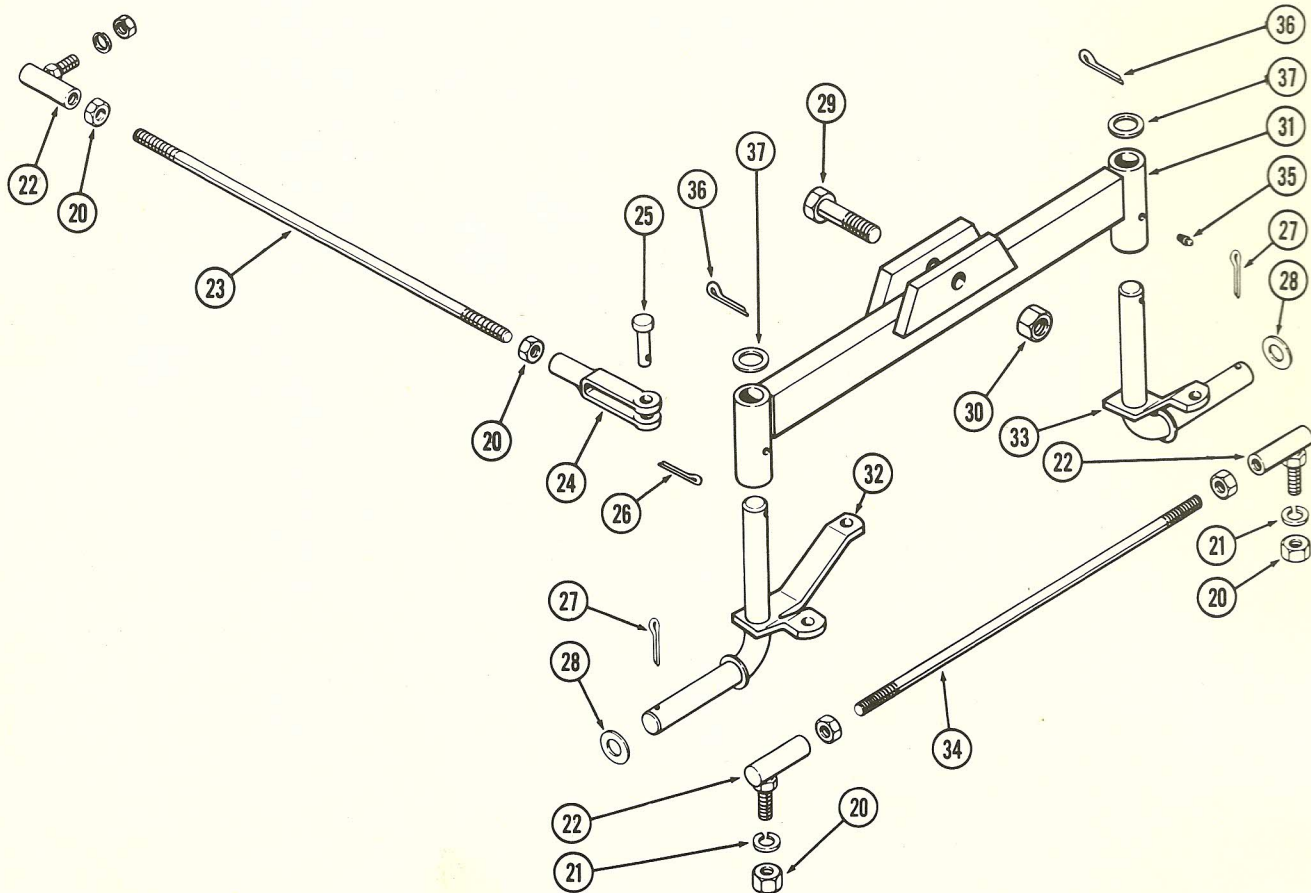


Figure O-4

Assembly and Installation

1. Install the axle (31) using the mounting bolt (29) and nut (30). Tighten nut securely so there is a slight drag when the axle is oscillated.
2. Install the spindle and king pin (32) in the axle (31) and secure with washer (28) and cotter pin (27).
3. Install tie rod (34) using nut (20) and lock-

washer (21).

4. Install front wheel and secure with washer (28) and cotter pin (27).
5. Connect the drag link (23) using pin (25) and cotter pin (26).
6. Refer to operator's manual for proper lubrication.

FRONT WHEEL TOE-IN (180 ONLY)

Measuring Toe-In

1. Locate the tractor on a hard level surface preferably concrete. Place front wheels in a straight ahead position.
2. Make sure the front tire pressures are equal.
3. Starting at the front or leading edge of the front wheels, place a chalk mark on each tire center line in line with the spindle. Do the same at the rear or trailing edge of each front wheel.
4. Measure the distance between the tire center lines at the chalk marks.

THE DISTANCE BETWEEN MEASUREMENT A MUST BE $\frac{1}{8}$ TO $\frac{3}{8}$ INCH LESS THAN MEASUREMENT B. BOTH MEASUREMENTS - FRONT AND REAR MUST BE TAKEN AT THE SAME HEIGHT ABOVE THE FLOOR.

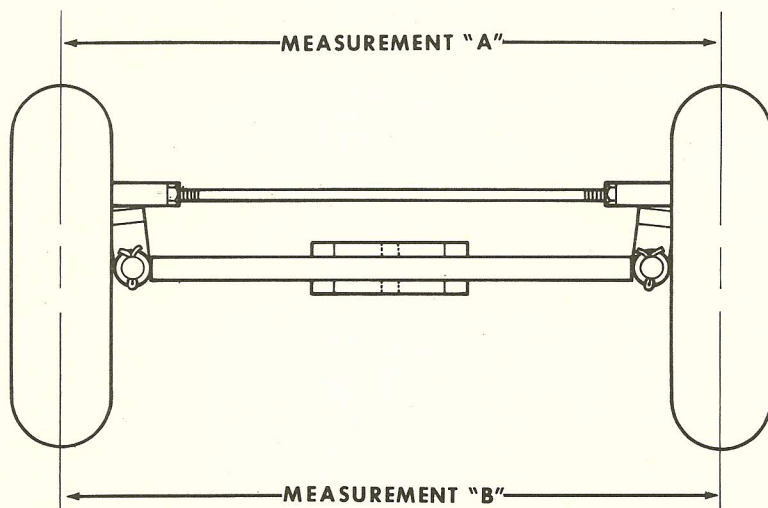


Figure O-5

Toe-In Adjustment

1. Loosen both tie rod ball joints.
2. Turn both ball joints on or off the tie rod an equal amount. Retighten the ball joints when correct toe-in is obtained. Turning the ball joints on the tie rod increases the toe-in. Turning the ball joints off the tie rod decreases the toe-in.



NOTE: The J. I. Case Company reserves the right to make improvements in design or changes in specifications at any time without incurring any obligation to install them on units previously sold.