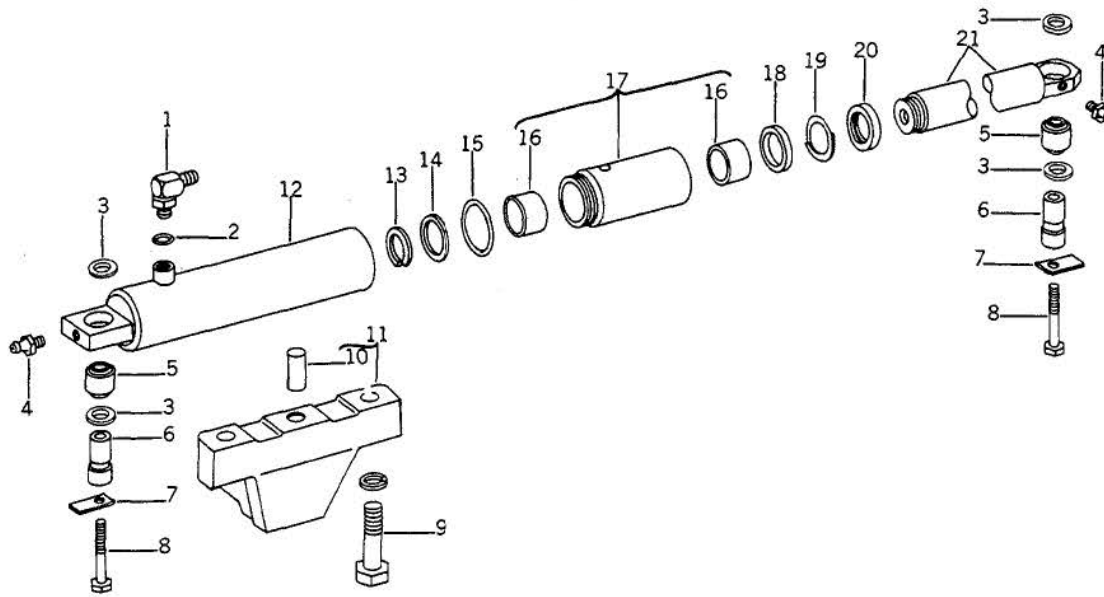


STEERING CYLINDERS



R 15047

- | | | | |
|----------------------------------|-----------------------|-----------------------|--------------------------------|
| 1—Elbow (2 used) | 6—Pin (4 used) | 11—Bracket (2 used) | 16—Bushing (4 used) |
| 2—O-Ring (2 used) | 7—Lock Plate (4 used) | 12—Cylinder (2 used) | 17—Cylinder Extension (2 used) |
| 3—Washer (8 used) | 8—Cap Screw (4 used) | 13—Snap Ring (2 used) | 18—V-Packing Block (2 used) |
| 4—Grease Fitting (4 used) | 9—Cap Screw (4 used) | 14—Washer (2 used) | 19—Backup Ring (2 used) |
| 5—Self-Aligning Bushing (4 used) | 10—Dowel Pin (2 used) | 15—O-Ring (2 used) | 20—Oil Seal (2 used) |
| | | | 21—Piston |

Fig. 12—Exploded View of Steering Cylinder

REMOVAL AND REPAIR

Remove hoses, cap screws, pins, and washers from each end of the cylinder and the cylinder from the tractor.

NOTE: A puller may be needed to remove pins. Pins are threaded to facilitate removal.

Use a spanner wrench to remove the cylinder extension and piston. Remove snap ring, washer, and piston from the extension.

Inspect all parts for wear or damage. Replace parts as necessary.

ASSEMBLY AND INSTALLATION

Dip all parts, except those in contact with Loctite sealant, in clean John Deere Type 303 Special-Purpose oil before assembly.

Assemble parts in reverse order of removal. Use new O-rings and seals.

Install a steel washer on each side of the self-aligning bushings on each end of the cylinder.

Install pins and insert cap screws and lock plates.

Tighten cap screws to mounting bracket and bell-crank.

Install cylinder hoses.

Bleed the steering system.

SPECIFICATIONS

STEERING VALVE

Item	New Part	Wear Tolerance
O.D. of steering valve piston	3.3700 to 3.3720 in.	
I.D. of steering valve cylinder	3.3740 to 3.3770 in.	
O.D. of piston rod	1.1220 to 1.1230 in.	
I.D. of cylinder cover piston rod	1.1260 to 1.1280 in.	
O.D. of control valves	0.7480 to 0.7490 in.	
I.D. of control valve bore	0.7500 to 0.7520 in.	
I.D. of steering shaft bushing installed	0.8800 to 0.8840 in.	.003 in.
O.D. of steering shaft at bushing	0.8740 to 0.8760 in.	
Included angle of control valve	100°	
Included angle of control valve seat	90°	
O.D. of steering shaft at oil seal	0.8740 to 0.8760 in.	
Valve operating shaft nut installed clearance	5/16 in.	
Valve operating lever shaft end play	0.003 in. max.	

ADJUSTMENT

Valve operating shaft (fore-and-aft movement) 0.060 in. (0.030 in. either way from center)
 (use 0.030 in. side of tool)

Specifications sequence for adjusting steering control valves:

**Adjusting screw location with
 valve operating collar on top**

- Upper Left
- Upper Right
- Lower Right
- Lower Left

**Valve operating lever movement
 measured on adjusting screw**

- 0.0030 ± 0.0005 in.
- 0.0010 ± 0.0005 in.
- 0.0030 ± 0.0005 in.
- 0.0010 ± 0.0005 in.

STEERING CYLINDERS

Item	New Part	Wear Tolerance
I.D. of steering cylinder extension bushing	1.6900 to 1.6930 in.	
I.D. of steering cylinder	1.5000 in.	
O.D. of steering cylinder piston	1.6865 to 1.6880 in.	