

Disassembly

Cleanliness is extremely important when repairing hydraulic Steering Control Units (SCU). Work in a clean area. Before disconnecting the hydraulic lines, clean the port area of the SCU. Before disassembly, drain the oil, then plug the ports and thoroughly clean the exterior of the SCU. During repairs, always protect machined surfaces.

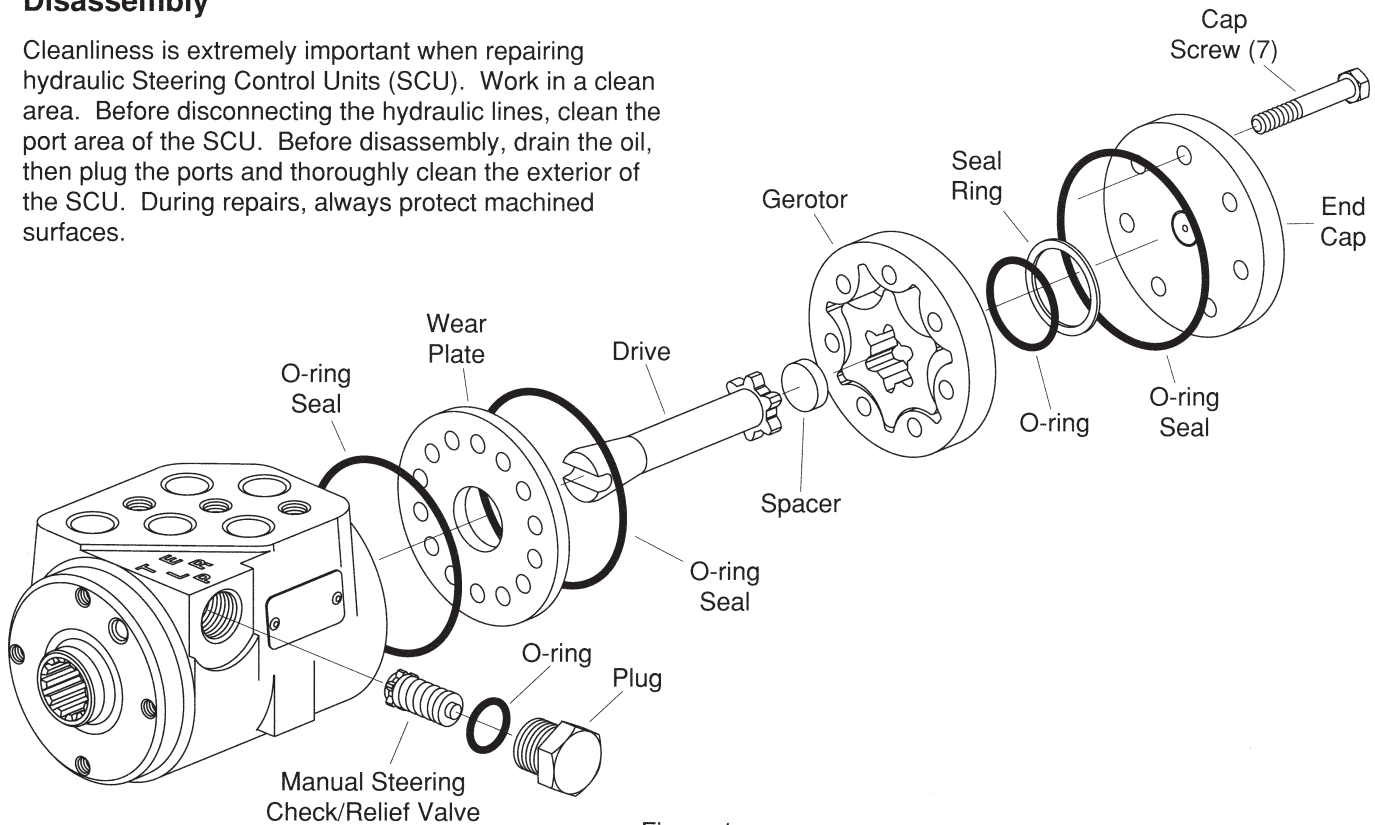


Figure 1

1 Remove the 7 cap screws and disassemble the SCU as shown in figure 1.

2 Remove the plug and manual steering check as shown in figure 1.

Note: The manual steering check may be a check ball or a check/relief valve.

3 Slide the spool and sleeve from the housing, see figure 2.

4 Remove the thrust bearing and bearing races.

5 Remove the quad seal.

6 Using a small blade screwdriver, carefully pry the dust seal from the housing.

Important: Do not damage the dust seal seat.

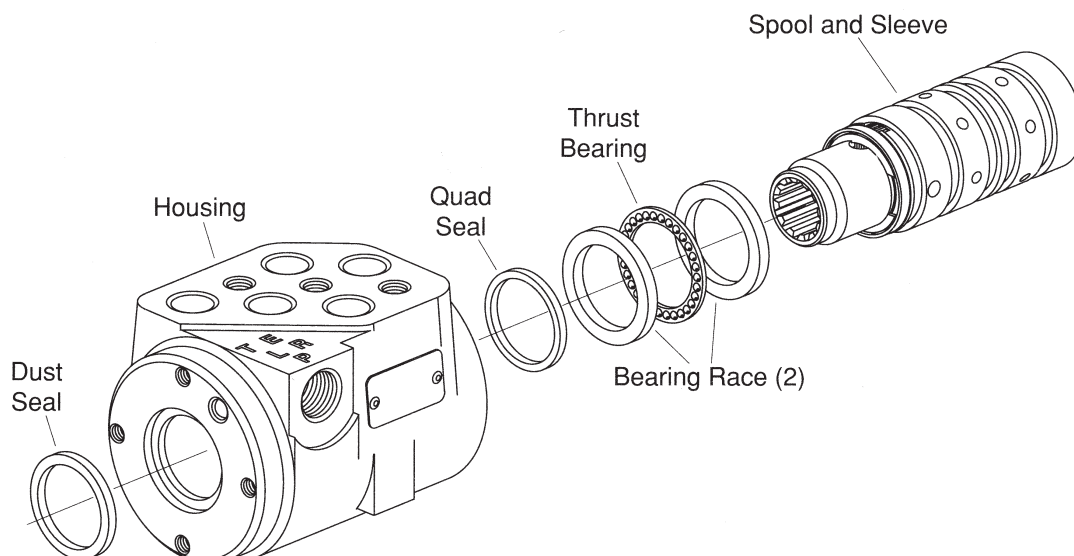


Figure 2

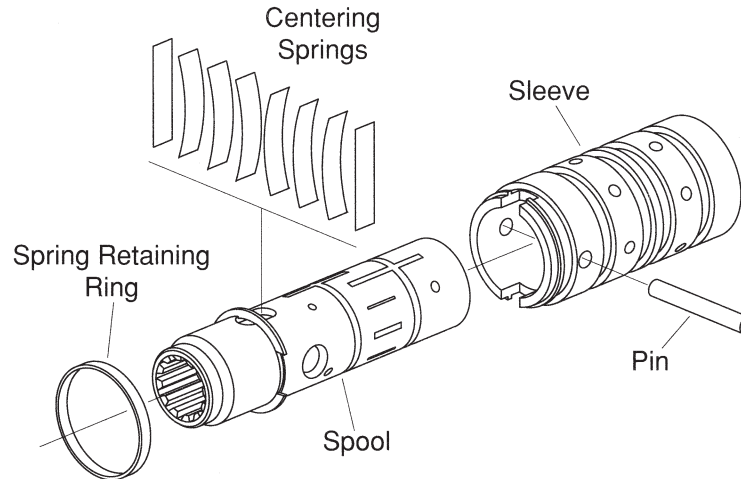


Figure 3

7 Remove the pin that holds the spool and sleeve together, see figure 3.

8 Carefully slide the spool out of the sleeve. The springs and retaining ring will stay with the spool as it's removed.

9 Remove the retaining ring and springs.

Caution: The centering springs are under tension; remove the retaining ring carefully.

Reassembly

Check all mating surfaces. Replace any parts with scratches or burrs that could cause leakage. Wash all metal parts in clean solvent. Blow them dry with pressurized air. Do not wipe parts dry with paper towels or cloth. Lint in a hydraulic system will cause damage.

Note: Always use new seals when reassembling hydraulic steering control units. Refer to parts list 6-323 for seal kit part numbers, replacement parts, and ordering information.

Important: During reassembly lubricate the new seals with a petroleum jelly like Vaseline. Also lubricate machined surfaces and bearings with clean hydraulic fluid.

10 Install the quad seal:

- Put one of the bearing races and sleeve into the housing.
- Together, the housing and bearing race create a groove into which the quad seal will be installed.
- Hold the bearing race tightly against the input end of the housing by pushing on the gerotor end of the sleeve.
- Fit the quad seal into its seat through the input end of the housing. Be sure the seal is not twisted.
- Remove the sleeve and bearing race.

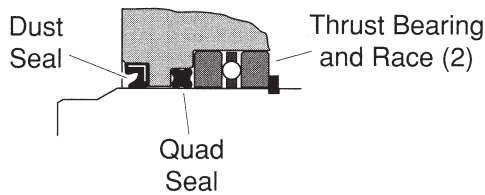


Figure 4

- 11 Lubricate and install the dust seal, see figure 4 for correct seal orientation.
- 12 Install the centering springs in the spool. It is best to install the two flat pieces first. Next, install the curved pieces, three at a time.
- 13 Fit the retaining ring over the centering springs.
- 14 Apply a light coating of clean hydraulic fluid to the spool and slide it into the sleeve. Be sure the centering springs fit into the notches in the sleeve.
- 15 Install the pin, see figure 3.
- 16 Apply a light coating of petroleum jelly to the inner edge of the dust and quad seals.
- 17 Put the thrust bearing and races into the housing. The thrust bearing goes between the two races, see figure 2.
- 18 Apply a light coating of clean hydraulic fluid to the spool and sleeve assembly and slide it into the housing.

Important: Do not damage the dust or quad seals.

- 19 Clamp the housing in a vise as shown in figure 5. Use just enough clamping force to hold the housing securely.

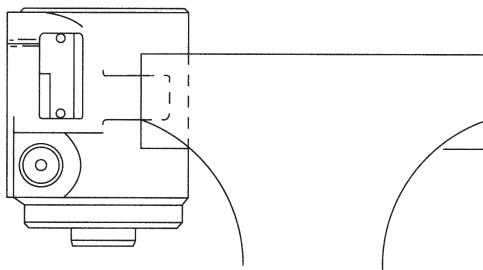


Figure 5

- 20 Lubricate and install a new o-ring seal in the groove in the housing.
 - 21 Install the wear plate and align the holes in the wear plate with threaded holes in the housing.
- Note:** The holes in the wear plate are symmetrical.
- 22 Install the drive, be sure the slot in the drive engages the pin.
 - 23 Lubricate and install a new o-ring seal in the groove in the wear plate.
 - 24 Install the gerotor and align the screw holes.
 - 25 Lubricate and install a new o-ring seal in the groove in the gerotor ring.
 - 26 Lubricate and install a new o-ring and seal ring in the groove in the gerotor star.
 - 27 Install the spacer.
 - 28 Install the end cap and 7 cap screws. Tighten the cap screws, in a criss-cross pattern, to 140 -160 lb-in. [16 -18 Nm].
 - 29 Remove the SCU from the vise.
 - 30 Install the relief valve/check or check ball and plug. Use a new o-ring and tighten the plug to 150 lb-in. [17 Nm].