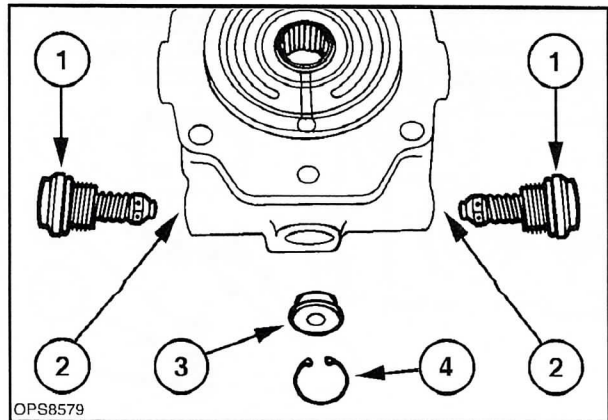
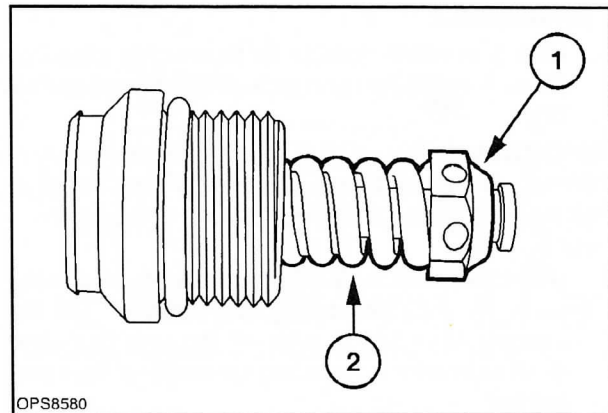


31. 6. Two directional relief valves, 1, are located in each transmission. These relief valves limit the maximum system pressure to 345 bar (5000 PSI). Relief valve pressures are factory set and should not be changed.
32. 7. Check the seat area, 2, in the back plate for scratches that could prevent the relief valves from sealing properly.
33. 8. Inspect the end plug, 3, and retaining ring, 4.



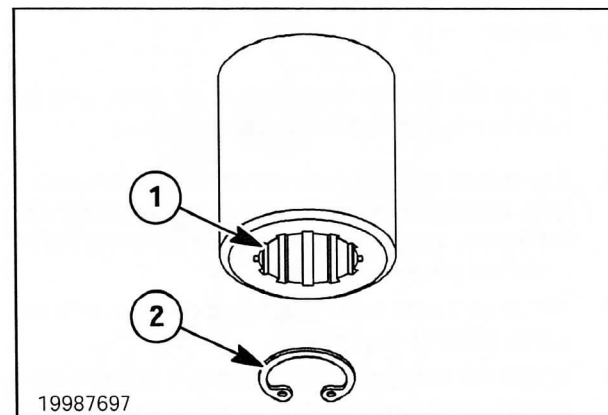
86

34. 9. Check the relief valves for scratches in the seat areas, 1. Also check for broken springs, 2. If problems are found, the complete relief valve must be replaced.



87

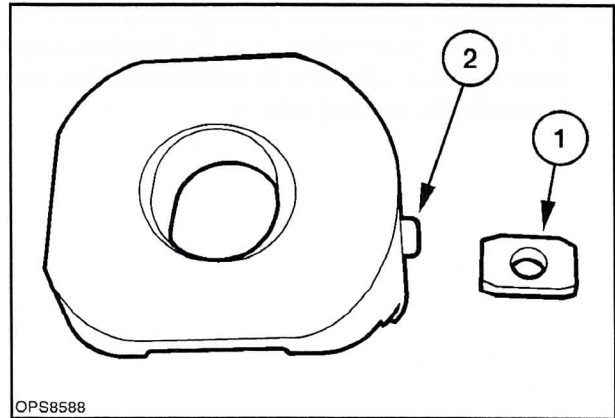
LS190 skid steers only - Inspect the splines, 1, of the coupler for wear or damage. Remove the inside snap ring, 2, and inspect for damage. Replace if necessary. (The coupler is part #86566800 and the snap ring is part #49894.)



88

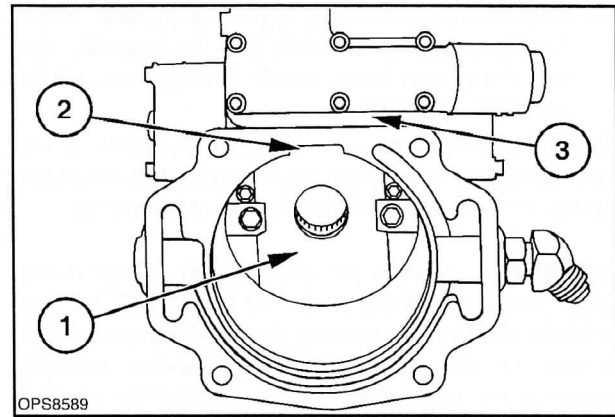
## 13. Camplate

- a. Reinstall the servo piston follower, 1, onto the camplate aligning pin, 2.



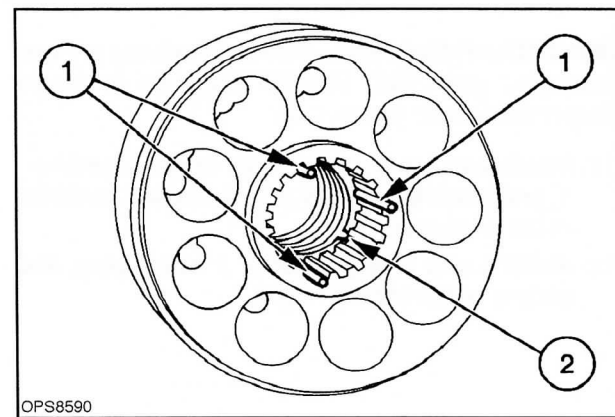
97

- b. Coat the cradle bushing, 1, previously installed with the cradle assembly in the pump housing, with SAE 10W-30 oil.
- c. Carefully align the servo piston follower with the notch in the pump housing opening, 2, and slide the camplate into the pump housing.
- d. Make certain that the servo piston follower, 1, Figure 97, on the camplate is aligned with the large groove in the servo piston assembly, 3, to ensure correct positioning of the camplate.



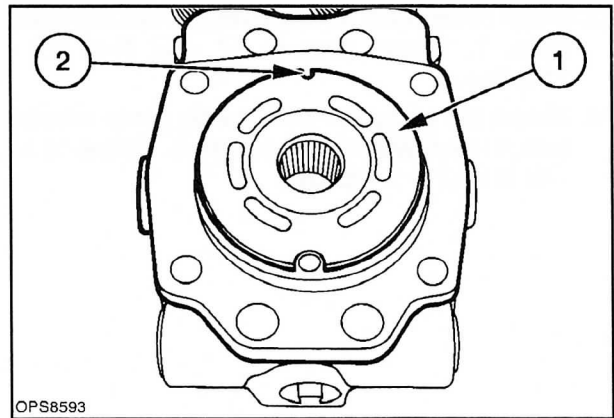
98

14. Check the three piston block loading pins, 1. Make sure they are seated properly in the over-size grooves in the splines and held in place by the retaining ring, 2.



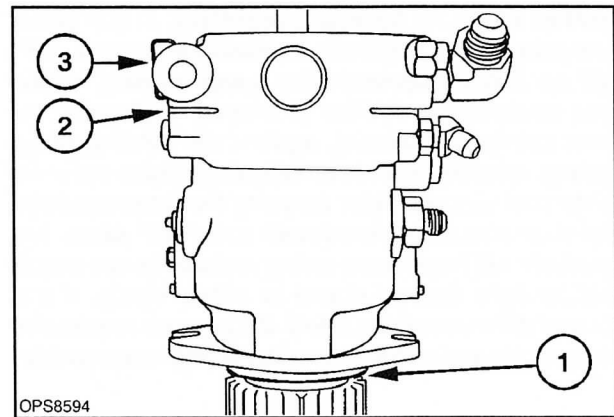
99

19. Apply a small amount of petroleum jelly to the steel side of the valve plate, 1, to hold it in place during assembly. Align the small notch on the outer edge of the valve plate with the backplate indexing pin, 2, and install with the steel side toward the backplate. The brass side of the valve plate should be next to the piston block when assembled.



102

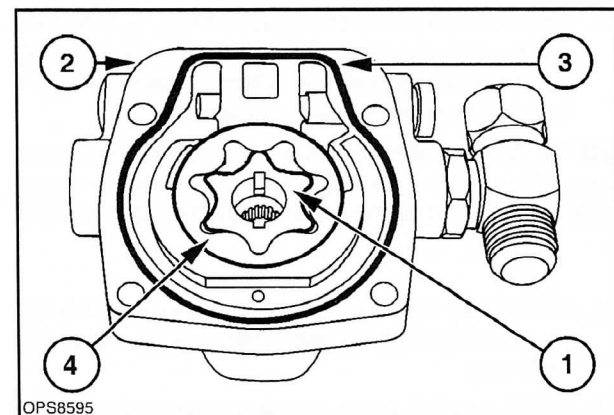
20. Clamp the pump assembly in a protected jaw vise at the pilot flange, 1, with the open end up. Install a new gasket, 2, between the pump housing and backplate, and slide the backplate, 3, down over the shaft. Make sure the ports are positioned correctly and the gasket and valve plate are aligned.



103

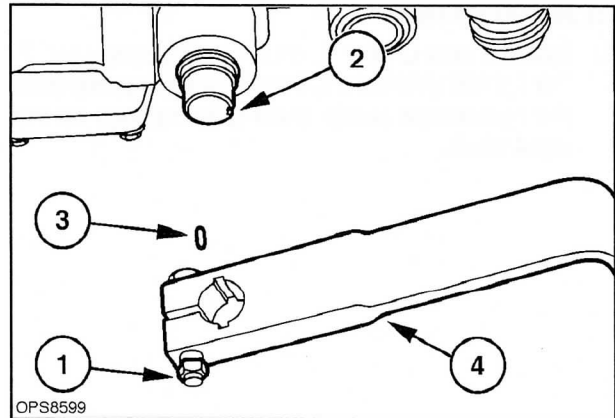
**NOTE:** With no gerotor pump, go to step 23.

21. Install the gerotor pump drive key and inner gerotor ring, 1, onto the pump shaft. Lubricate the inner gerotor ring.
22. Install the charge pump adaptor assembly, 2, onto the pump housing. Make sure the molded O ring, 3, stays in place and that the inner and outer gerotor rings, 1 and 4, are properly aligned.



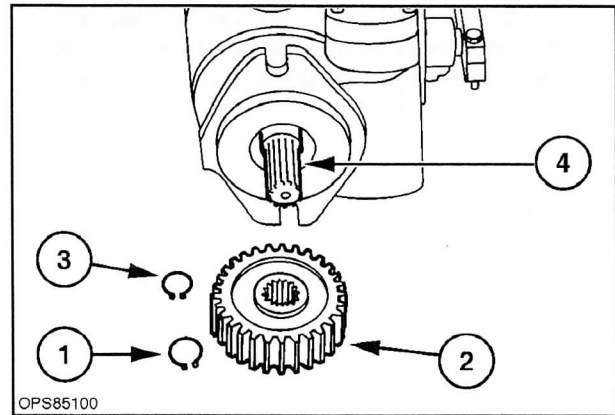
104

28. Install key, 3, into slot in trunnion shaft, 2, and install control arm, 4, onto shaft. Secure with 5/16" x 2" cap screw and locknut, 1. Torque to 20 N-m (15 ft. lbs.). Right side shown.



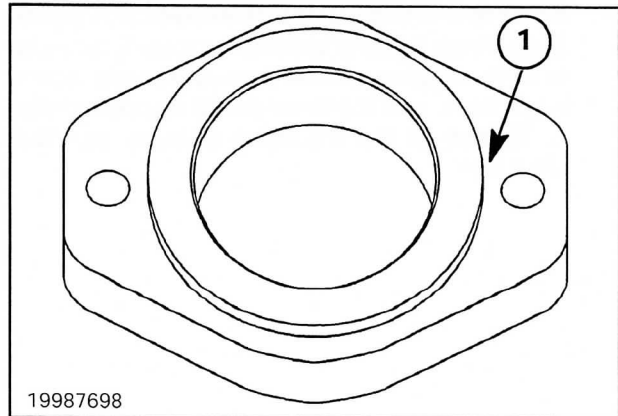
108

29. Install inner retaining ring, 3, drive gear, 2, and outer retaining ring, 1, onto pump drive shaft, 4.
30. Install the pumps onto the engine bell housing attaching plate, using 1/2" x 1-1/4" cap screws and washers. Torque to 87 N-m (64 ft. lbs.).



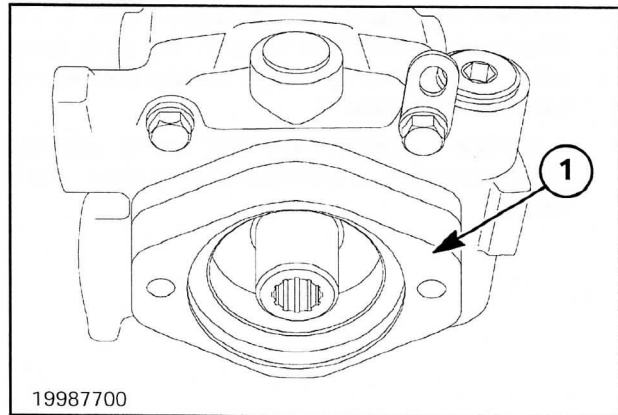
109

4. LS190 skid steers only - Install an O ring, 1, on the spacer.



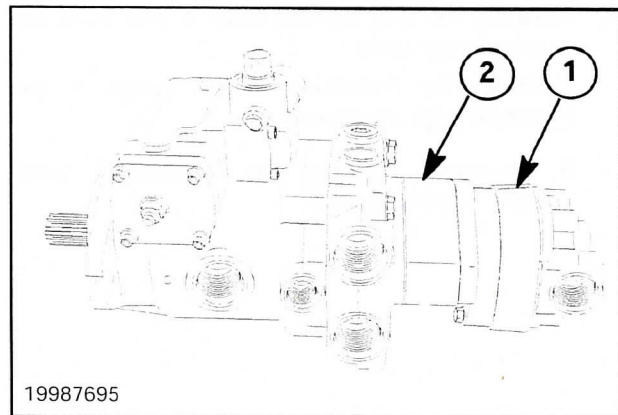
113

5. LS190 skid steers only - Place the spacer, 1, in place on the hydrostatic pump pilot.



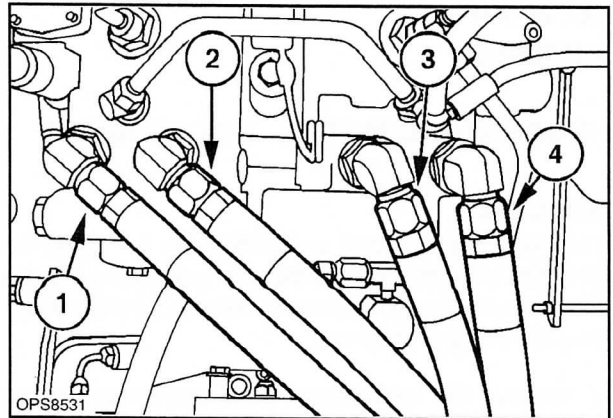
114

6. LS190 skid steers only - Place the gear pump, 1, with O ring on the spacer, 2. The assembly should be tight when assembled. The O rings on the pump pilots should form a solid seal to the spacer. Install the pump capscrews and tighten to 37 - 42 N·m (27 - 31 ft. lbs.).



115

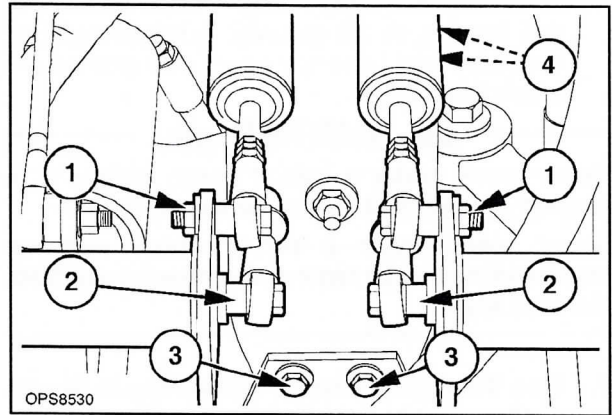
10. Connect the hydraulic lines, 1 through 4, referring to the identification marks made during removal.



119

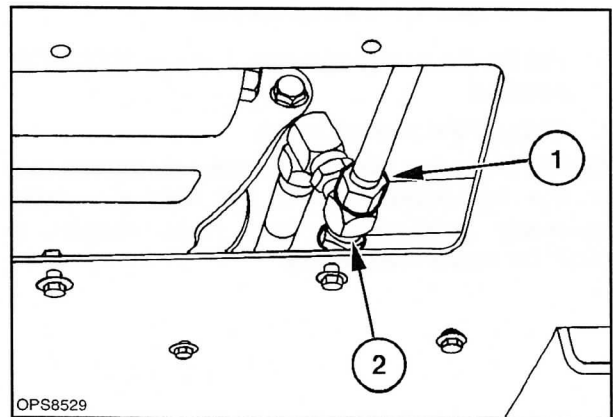
11. Lower the entire neutralizer assembly into place. Reconnect the dampener shocks, 1, and neutralizer assemblies, 2.

Install the four neutralizer assembly attaching bolts, 3 and 4.



120

12. Make sure the return line, 1, is installed into the tee, 2, connecting to the hydraulic reservoir. Reinstall all shields and fittings removed during hydrostatic pump removal.



121