

3000 SERIES CAST IRON TRANSMISSION ADDENDUM



Cast Iron Transmission Disassembly

Transmission Inspection and Disassembly



Figure 1

Inspection

1. Inspect the pump adapter to make certain it is rotating the hydraulic input shaft.
2. Inspect the center hex jam nut and flat washer that secures the pump adapter to the hydraulic input shaft.
3. Inspect the connection between the hydro arm and the trunion arm behind the neutral return link.
NOTE: Make certain the hex screw securing the flat washer, hydro arm and neutral return plate is tight.
4. Inspect the set screw securing the hydro arm to the trunion shaft.
5. Inspect the clearance between the hydro bypass spring plate and the bypass valve on the hydro pump.

NOTE: The hydro bypass spring plate must not touch the bypass valve.

Transmission Disassembly

1. Place a suitable oil drain pan below the hydro-static transmission.

2. Remove and set aside the oil drain plug using a 16mm socket. See Figure 2.

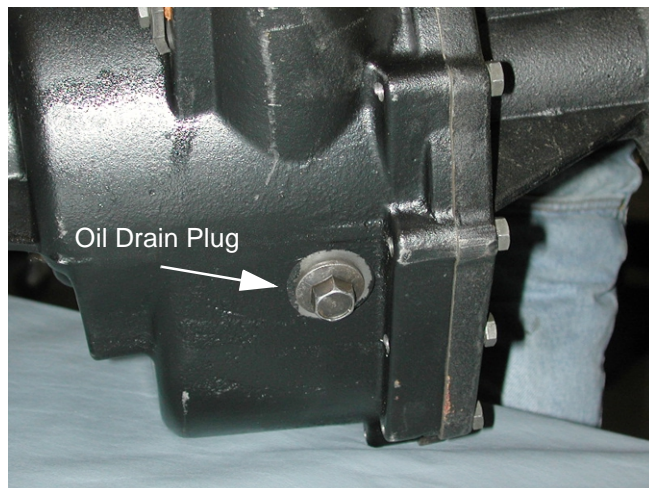


Figure 2

NOTE: The oil drain plug must be removed and set aside before disassembly, to allow the differential assembly to be removed.

3. Remove the hydraulic oil filter and drain any remaining fluid. See Figure 1.

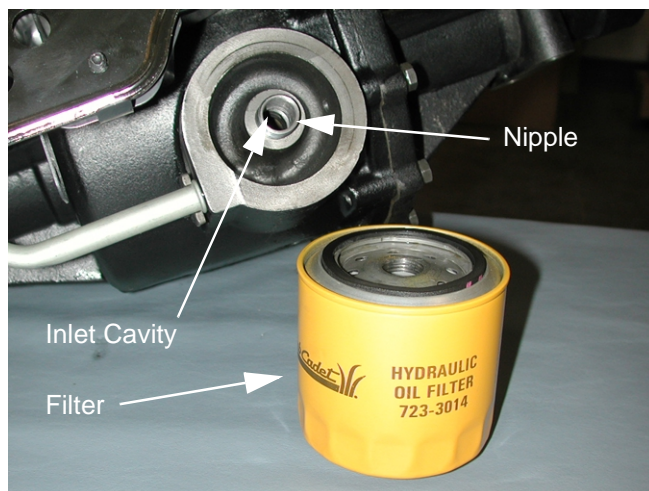


Figure 1

NOTE: The filter part number is 723-3014.

4. Inspect the hydraulic oil filter, filter nipple, and inlet cavity for contamination.

Cast Iron Transmission Disassembly

5. Remove the center hex lock nuts securing the axle hubs to the axles using a 1-5/16" socket. See Figure 2.



Figure 2

7. Remove the hex screw and clamp securing the hydraulic pickup tube to the charge pump using a 7/16" socket. See Figure 4.

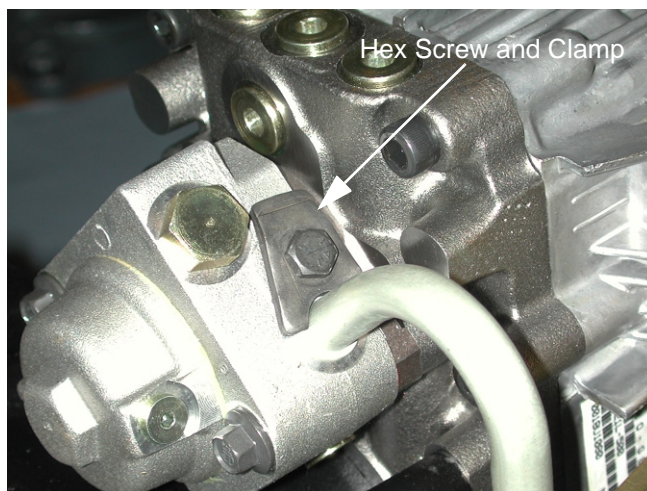


Figure 4

6. Chock and level the hydrostatic transmission from below. See Figure 3.

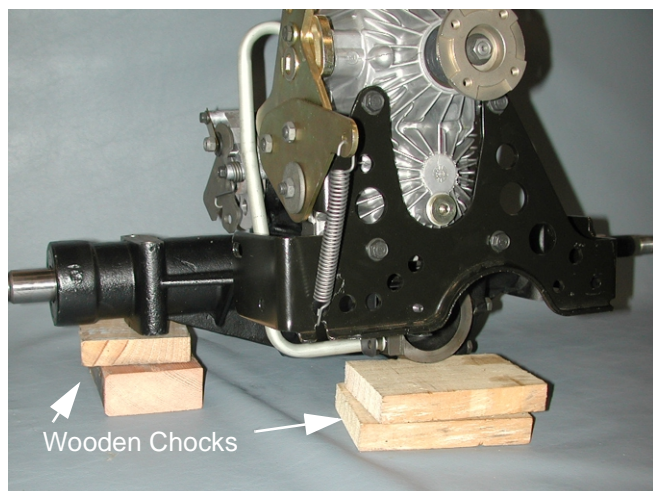


Figure 3

8. Remove the hex screw and clamp securing the hydraulic pickup tube to the transmission housing using a 7/16" socket. See Figure 5.

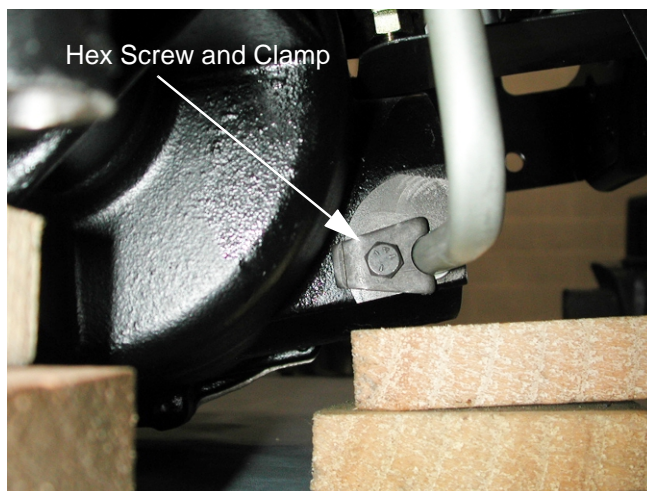


Figure 5

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9. Remove the hydraulic pickup tube and inspect for contamination. See Figure 6.

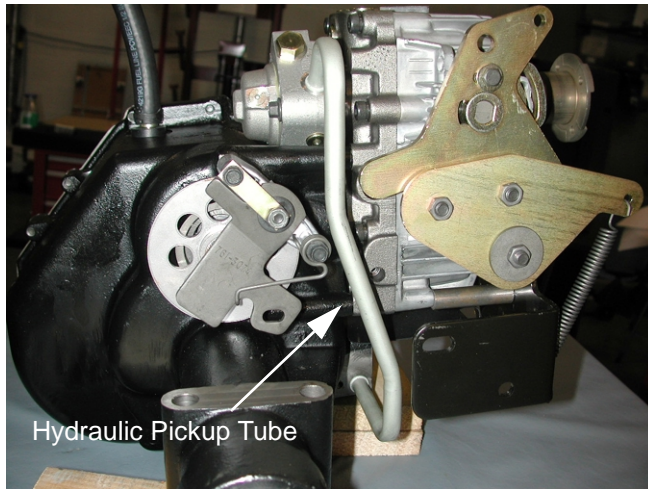


Figure 6

10. Remove and replace the "O" ring on each end of the pickup tube. See Figure 7.

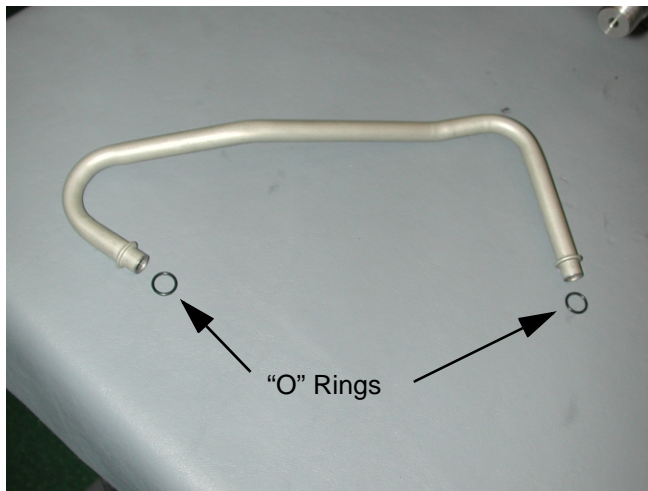


Figure 7

11. Inspect and cap the input and output ports where the hydraulic pickup tube was removed. See Figure 8.

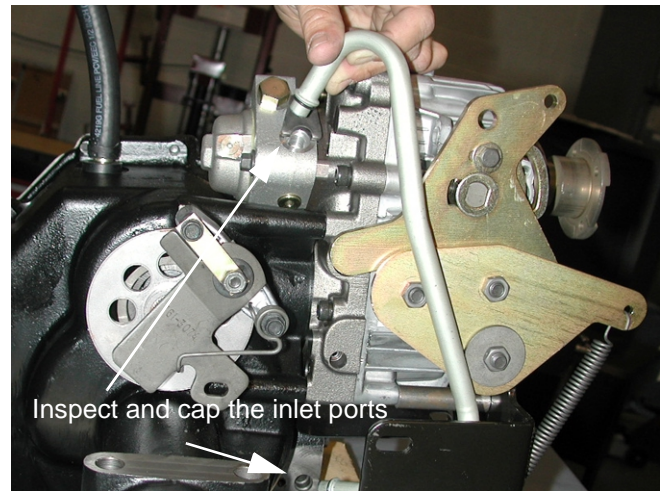


Figure 8

12. Remove the extension spring from the torque bracket using a short piece of recoil rope. See Figure 9.

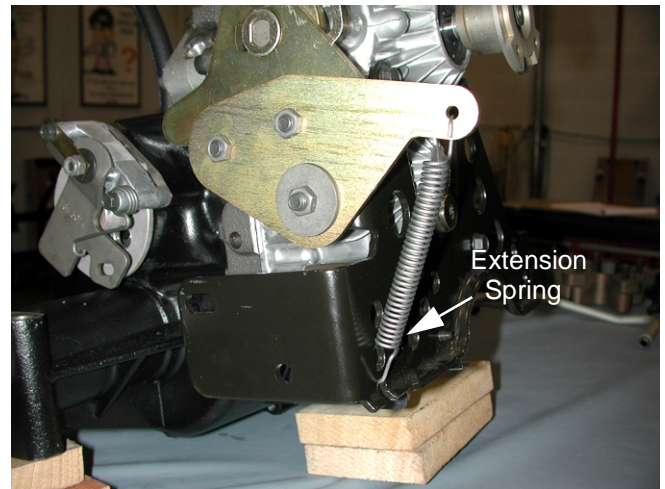


Figure 9

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13. Remove all four 5.5" hex bolts securing the torque bracket, hydrostatic pump and long spacers to the transmission housing using a 1/2" socket. See Figure 10.

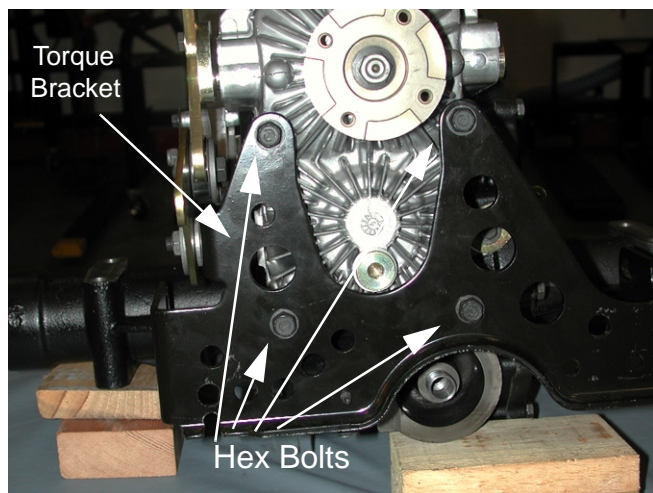


Figure 10

NOTE: Both long spacers go on the bottom bolts.

14. Remove the torque bracket assembly.
15. Remove the hydrostatic pump from the transmission housing. See Figure 11.

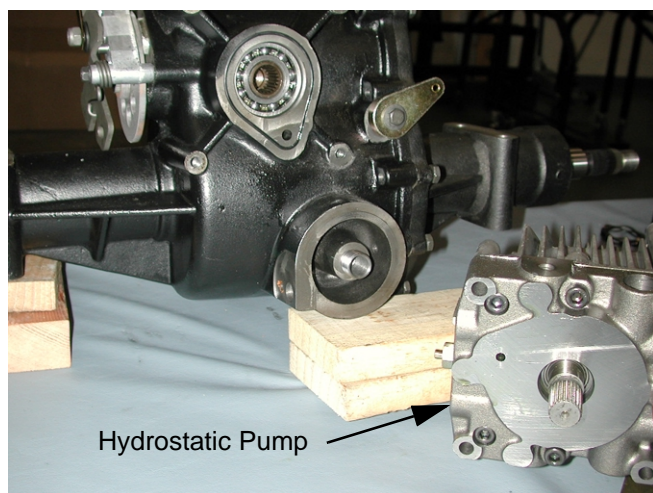


Figure 11

16. Remove and replace the large "O" ring from the transmission housing. See Figure 12.

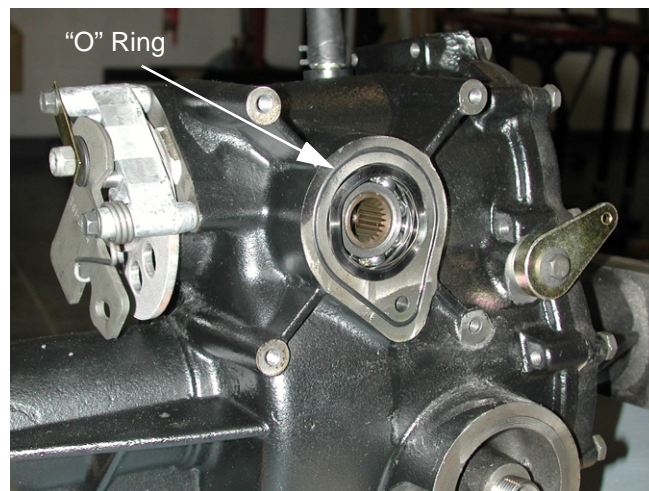


Figure 12

17. Remove the spring washer from the input bearing. See Figure 13.



Figure 13

18. Grasp both axles assemblies and rotate them as follows:
 - Opposite directions
 - Forward direction - together
 - Reverse direction - together

NOTE: There should be no binding.

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19. Remove both self tapping screws securing the brake assembly to the transmission housing using a 3/8" socket. See Figure 14.

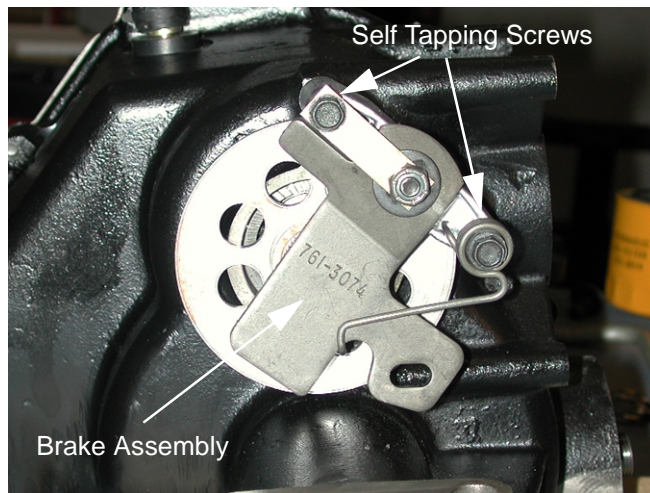


Figure 14

20. Remove the brake assembly.
21. Remove the brake disc.
22. Remove the oil seal from the 9T output shaft.
23. Disassemble and inspect the brake assembly for damage or wear. See Figure 15.

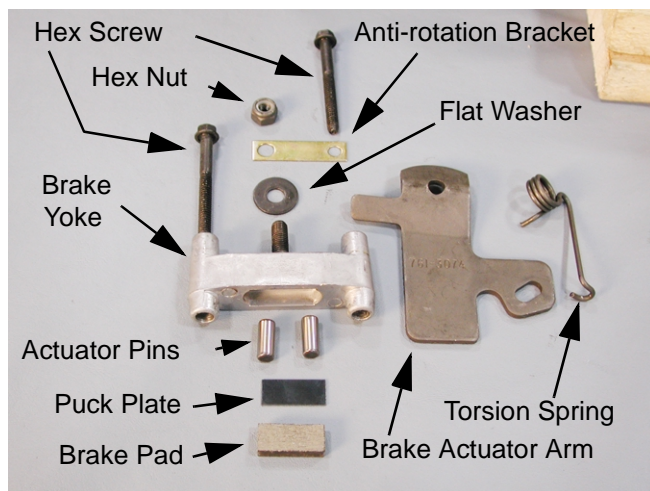


Figure 15

NOTE: Lubricate the actuator pins before reassembling. See Figure 16.

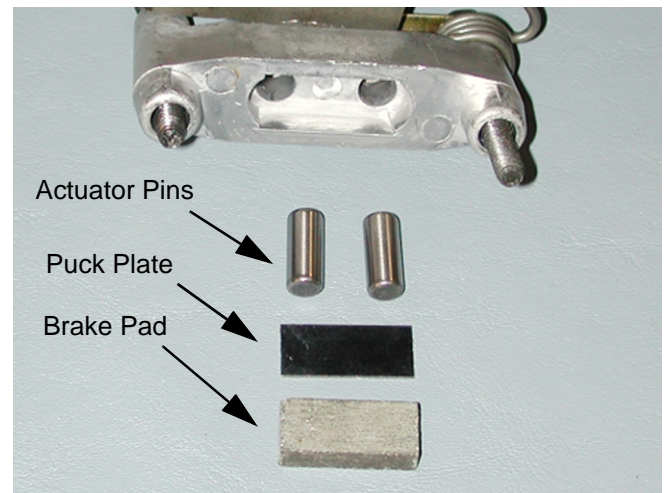


Figure 16

24. Loosen and slide the hose clamp up the vent tube using a large pair of pliers. See Figure 17.

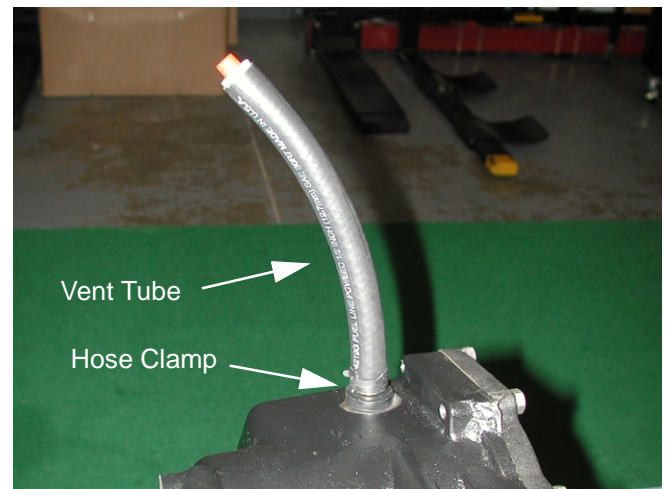


Figure 17

25. Remove the vent tube from the pipe fitting.

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26. Remove all 14 hex bolts securing the left housing to the right housing using a 1/2" socket. See Figure 18.

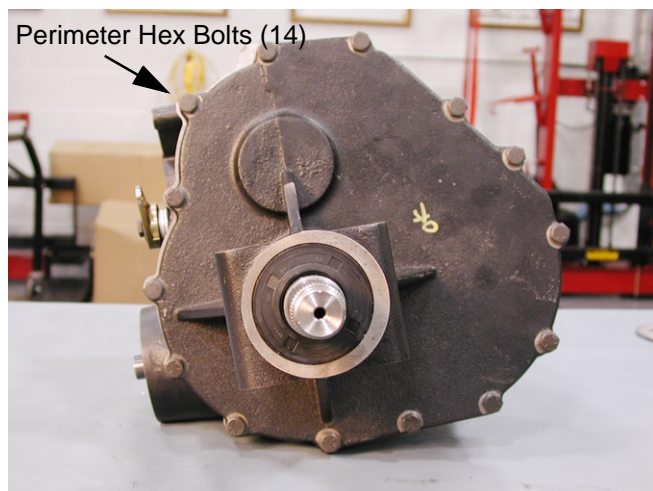


Figure 18

NOTE: Loctite all the screws during assembly.

27. Slowly remove the left housing from the axle assembly. See Figure 19.

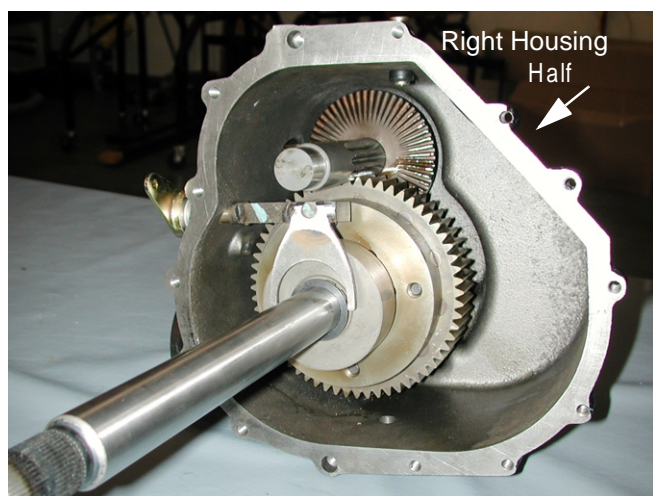


Figure 19

NOTE: Loctite sealer is used between the two case halves during production, and a scraper may be needed to separate the housings from one another.

28. Pull on the differential lock actuator using a fish scale, and make certain the differential engages with less than 35 pounds of pull. See Figure 20.

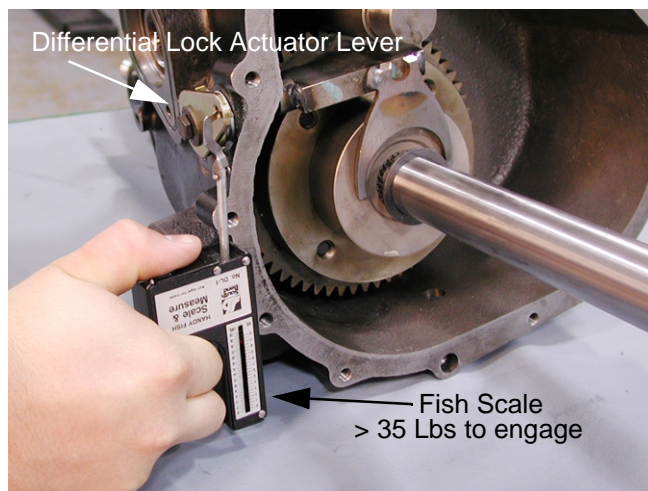


Figure 20

29. Remove the hex cap screw securing the actuator arm to the differential lock assembly using a 7/16" socket. See Figure 21.

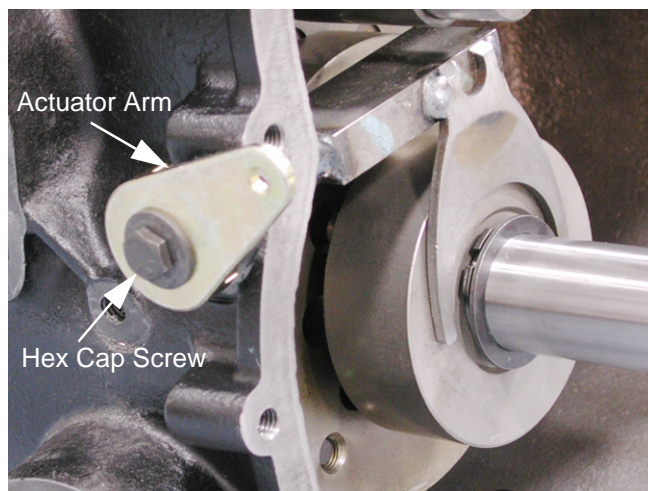


Figure 21

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30. Remove the differential lock assembly and inspect for wear or damage. See Figure 22.

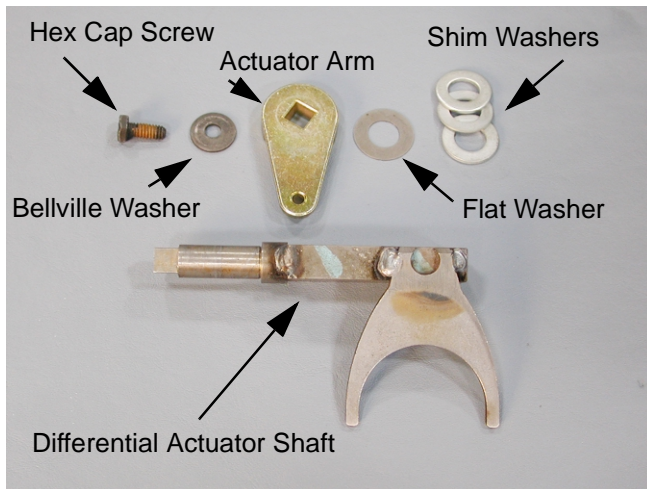


Figure 22

31. Remove the input pinion and bearing from the housing using a soft mallet. See Figure 23.

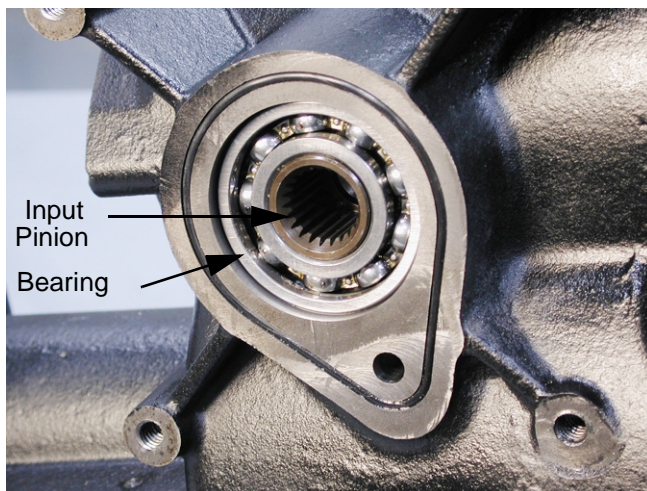


Figure 23

32. Slowly remove the output shaft, 54T bevel gear and differential assembly together. See Figure 24.

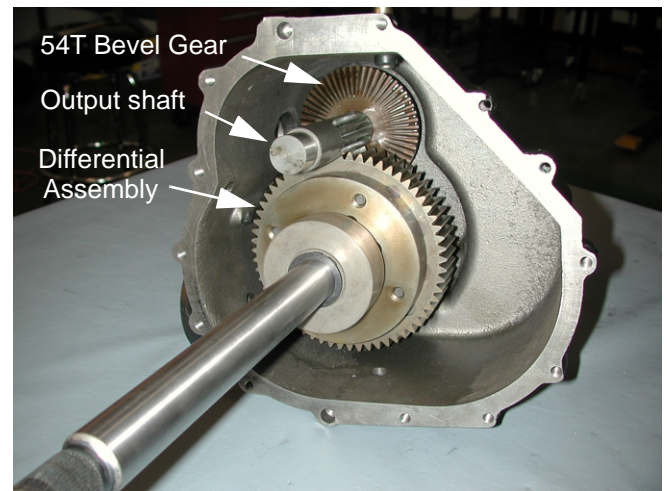


Figure 24

NOTE: Make certain the 54T bevel gear does not drop to the bottom of the transmission housing.

33. Remove the flat washer from the left axle.
34. Place the differential assembly in a vice (horizontally) and break all hex bolts free using a 9/16" socket. See Figure 25.

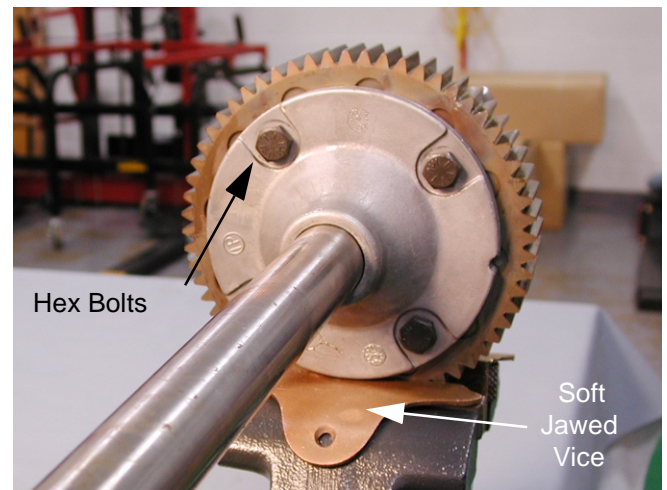


Figure 25

NOTE: Only use a vice with soft-jaws.

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35. Place the differential assembly in a the vice (vertically) with the hex bolts facing up. See Figure 26.

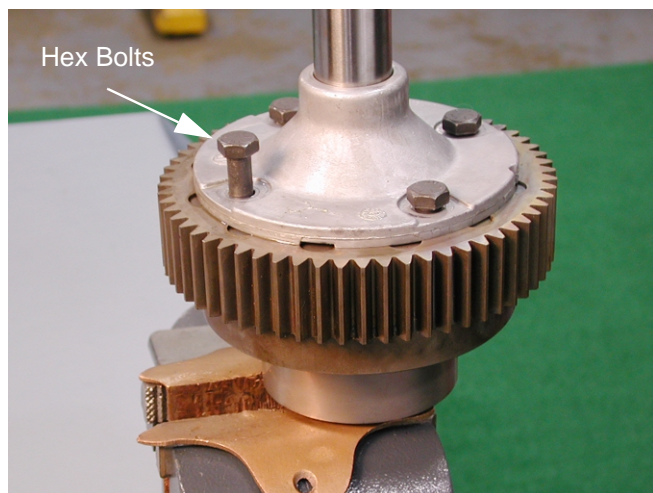


Figure 26

NOTE: Only use a vice with soft-jaws.

36. Remove all four hex bolts securing the differential assembly together using a 9/16" socket. See Figure 27.

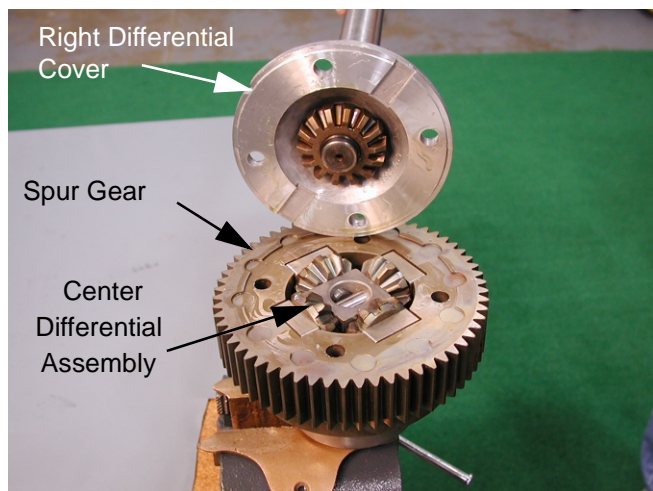


Figure 27

NOTE: Torque the hex bolts to 220-280 in.-lbs. during assembly.

37. Remove the right differential housing cover and flat washer from the right axle.

38. Remove both of the spiral retaining rings that secure the right axle side gear to the axle using a small flat-blade screw driver. See Figure 28.

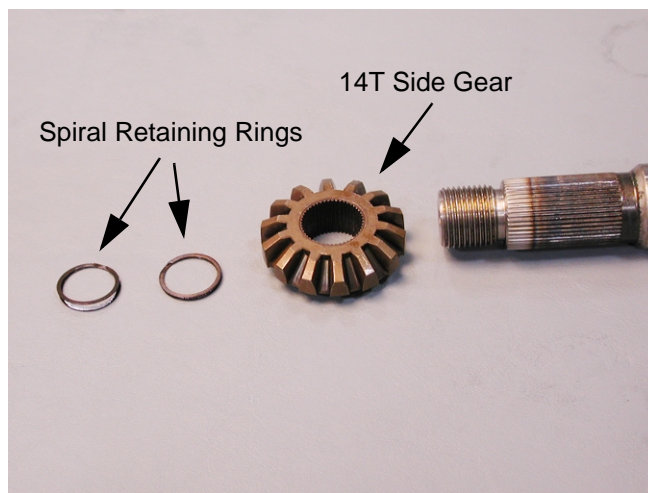


Figure 28

39. Remove the 14T side gear.
40. Remove the 60T spur gear from the center differential assembly. See Figure 29.

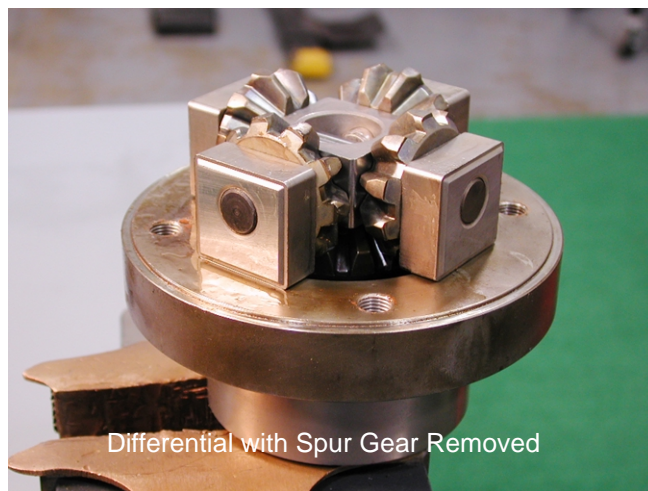


Figure 29

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41. Disassemble the center differential assembly and inspect for wear or damage. See Figure 30.

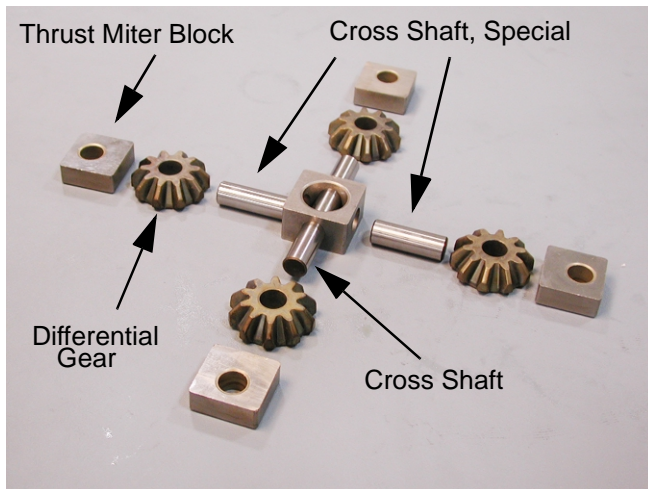


Figure 30

NOTE: Make certain the thrust miter blocks are orientated correctly during assembly. See Figure 29.

42. Remove both spiral retaining rings from the left axle using a flat-blade screw driver. See Figure 31.

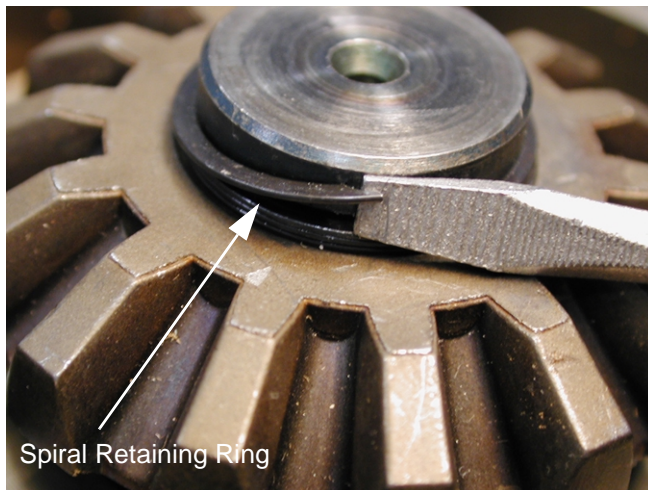


Figure 31

43. Remove the 14T side gear, differential lock housing, thrust washer, comp spring and differential engagement collar from the left axle, and inspect for wear or damage. See Figure 32.

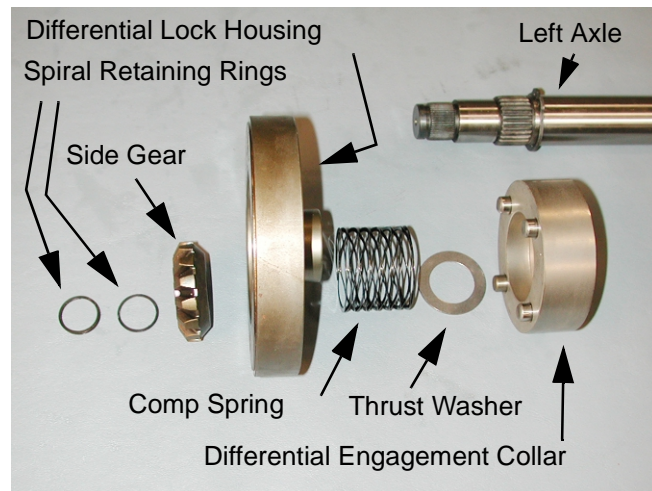


Figure 32

44. Inspect the bearings in the housing for wear or damage. See Figure 33.

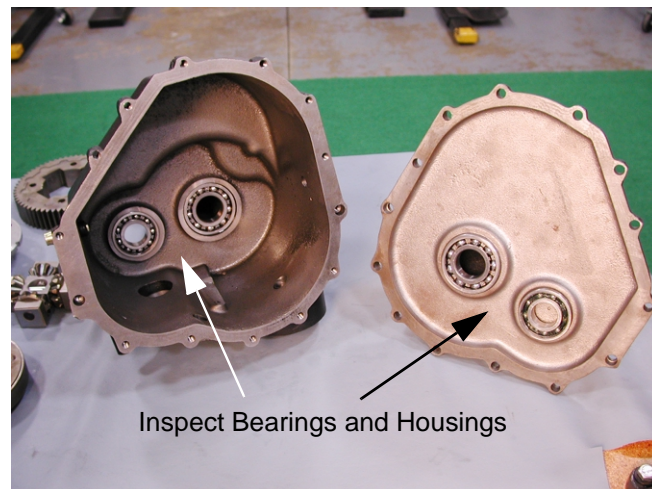


Figure 33

45. Clean the mating surfaces of the two transmission housings.

NOTE: Use Loctite 598 between the transmission housing mating faces during assembly.

46. Remove and replace the outer bearing seals.

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47. Inspect the outer bearings for damage or wear.
See Figure 34.

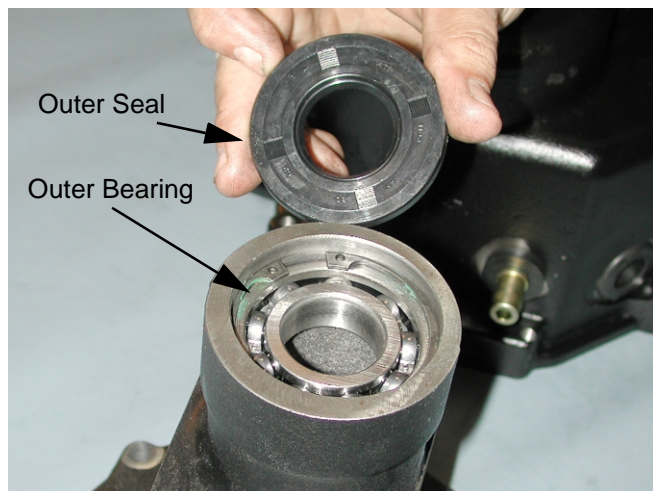


Figure 34