

**Vehicle » Transmission and Drivetrain » Transfer Case » Service and Repair » Procedures » Isuzu T150 » Overhaul (Unit Repair) » 1. Transfer Case Disassemble**

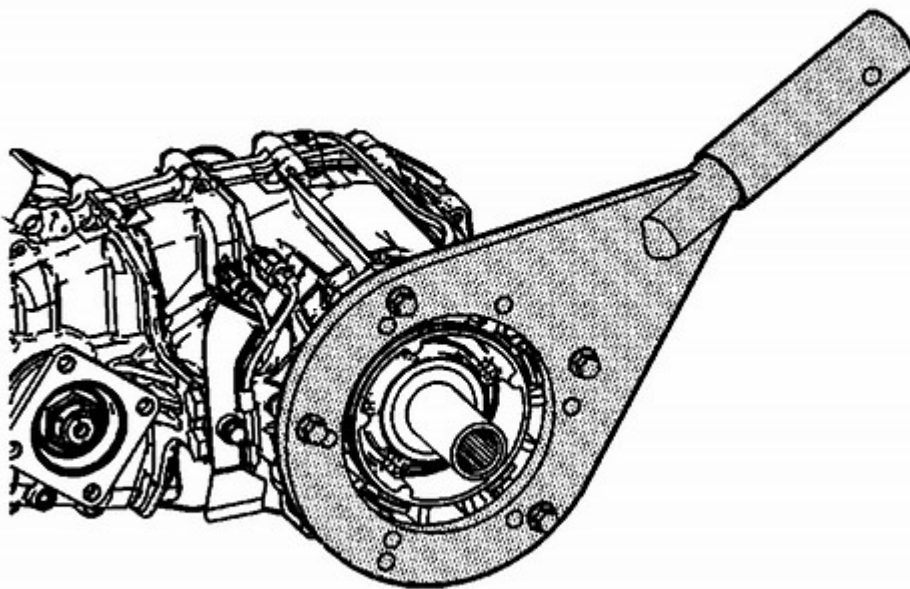
## Transfer Case Disassemble

### ^ Tools Required

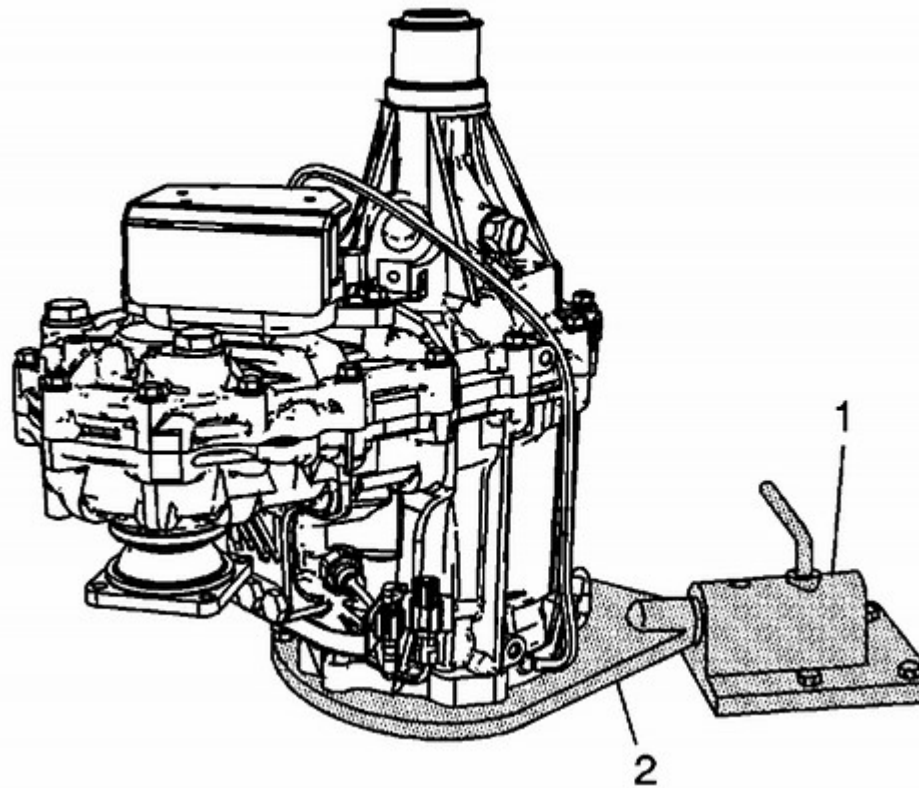
- J 3289-20 Holding Fixture
- J 8092 Universal Driver
- J 8614-01 Flange and Pulley Holding Tool
- J 22912-01 Rear Pinion and Axle Bearing Remover
- J 23907 Slide Hammer with Bearing Adapter
- J 26941 Bushing and Bearing Remover - 3-4 inch
- J 29369-2 Bushing and Bearing Remover - 2-3 inch
- J 45278 Seal Remover
- J 45759 Assembly Fixture
- J 45933 Isuzu Transfer Case Assembly/Disassembly Kit
- J 46199 Front Output Shaft Bearing Remover and Installer



Zoom and Print Options

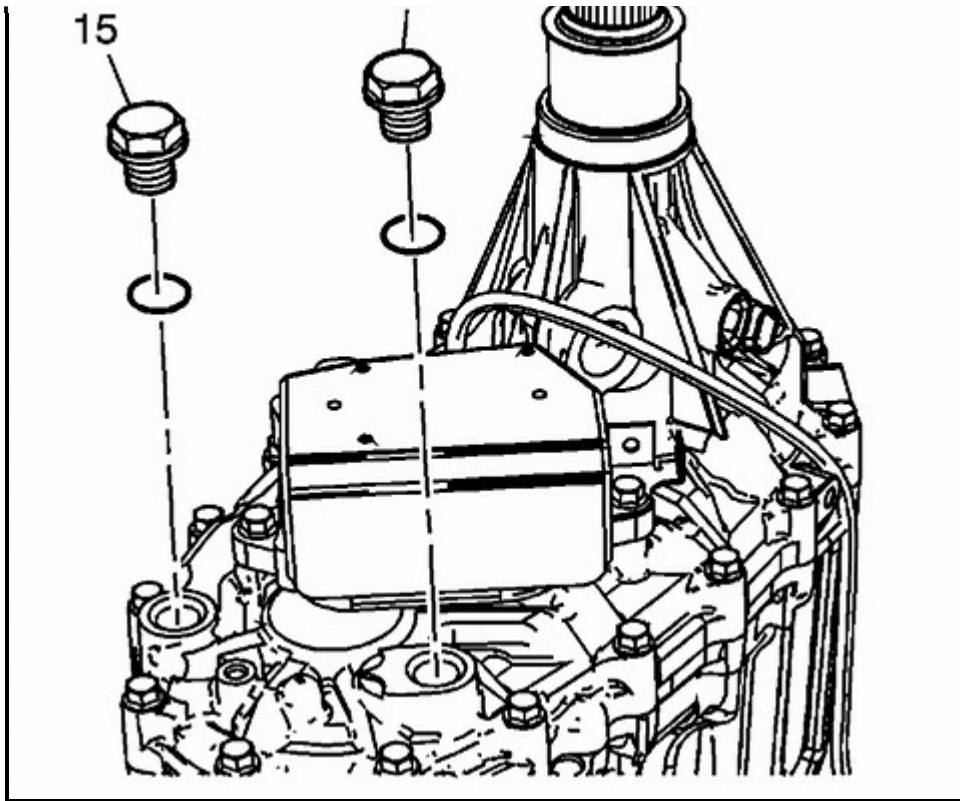


  **Zoom and Print Options**



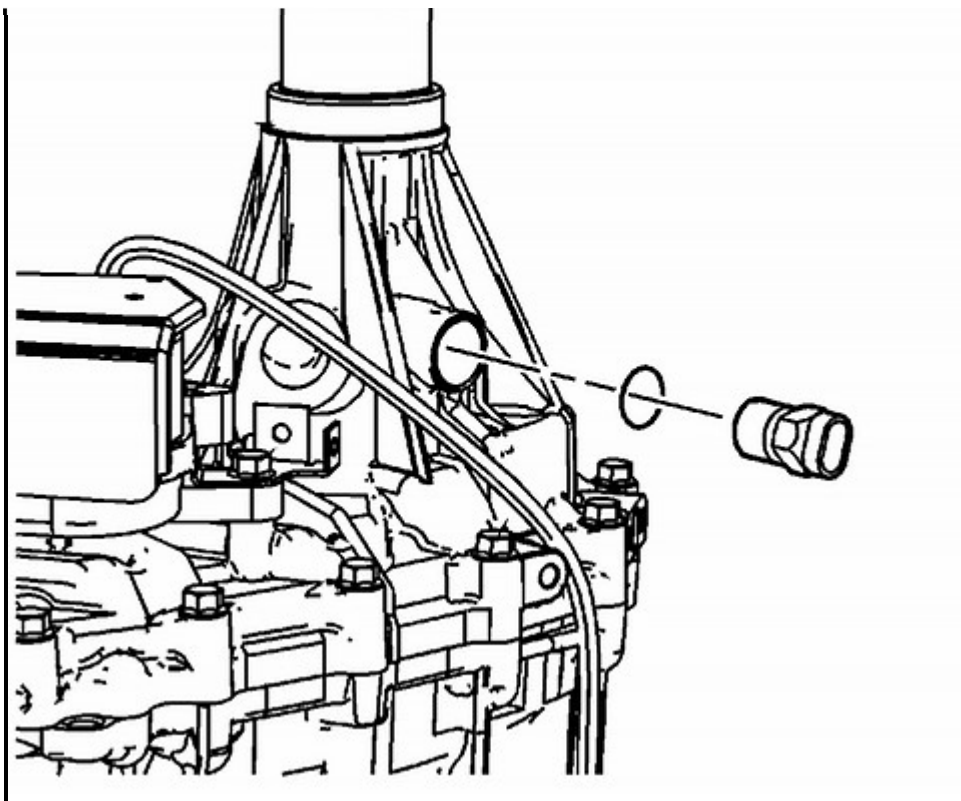
2. Mount the J 3289-20 (1) to a sturdy workbench.
3. Install the J 45759 (2), with the transfer case, into the J 3289-20 (1) and secure with the pivot pin.

  **Zoom and Print Options**



4. Remove the drain plug (15) and the fill plug (10).
5. Drain the oil.

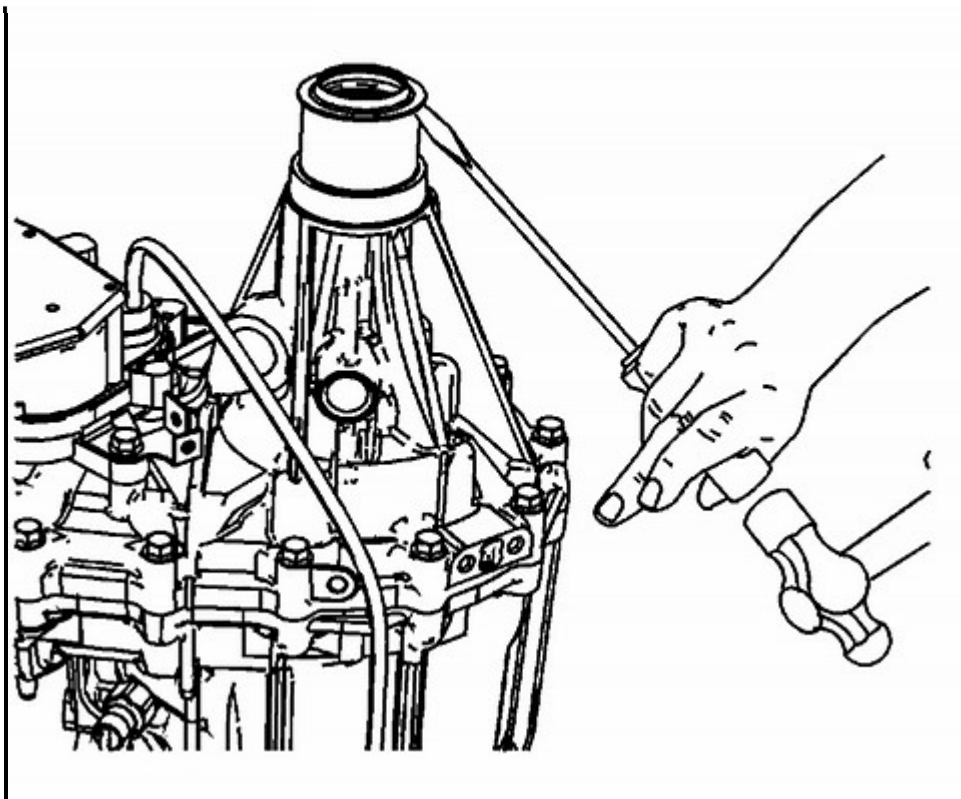
 **Zoom and Print Options**



6. Remove the vehicle speed sensor and O-ring seal.



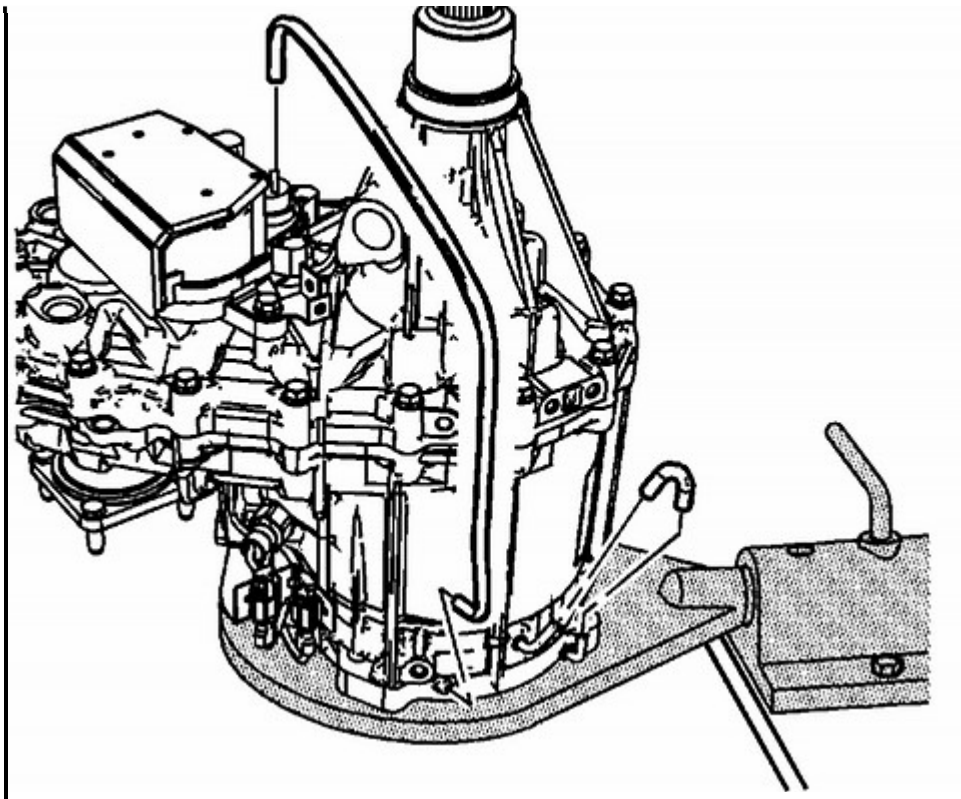
Zoom and Print Options



7. Remove the rear output shaft seal.



**Zoom and Print Options**

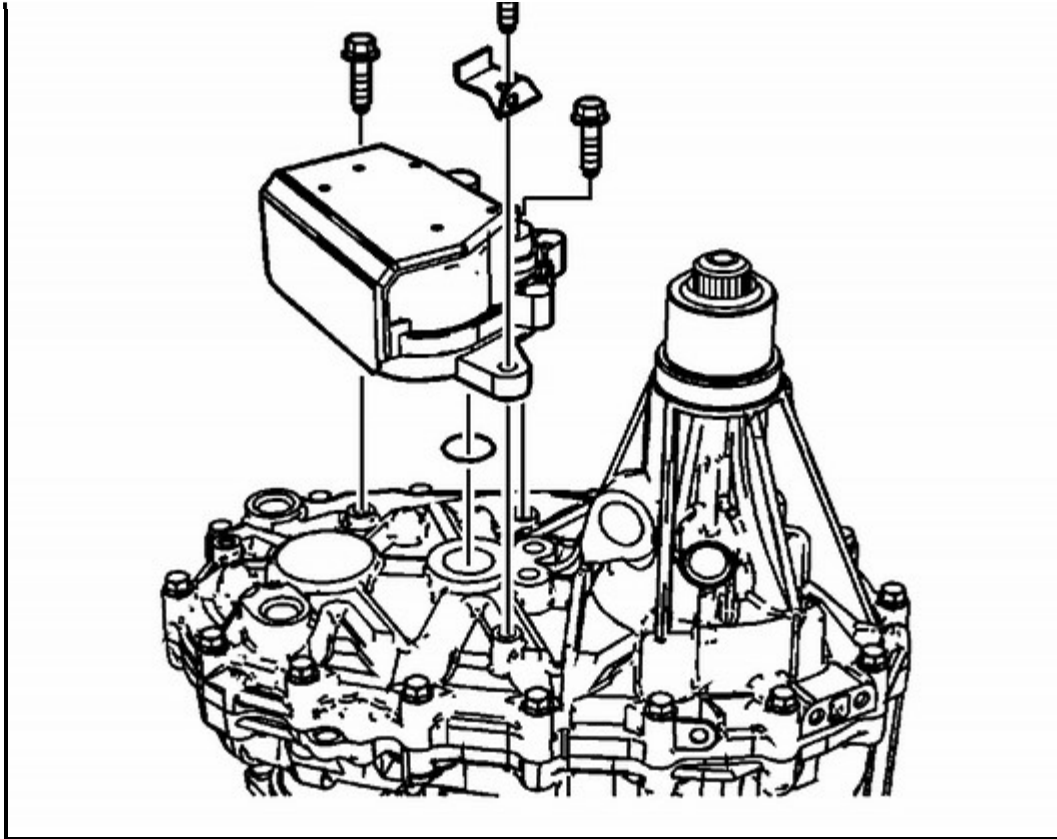


8. Remove the vent hose to the actuator assembly.
9. Remove the breather hose.



**Zoom and Print Options**

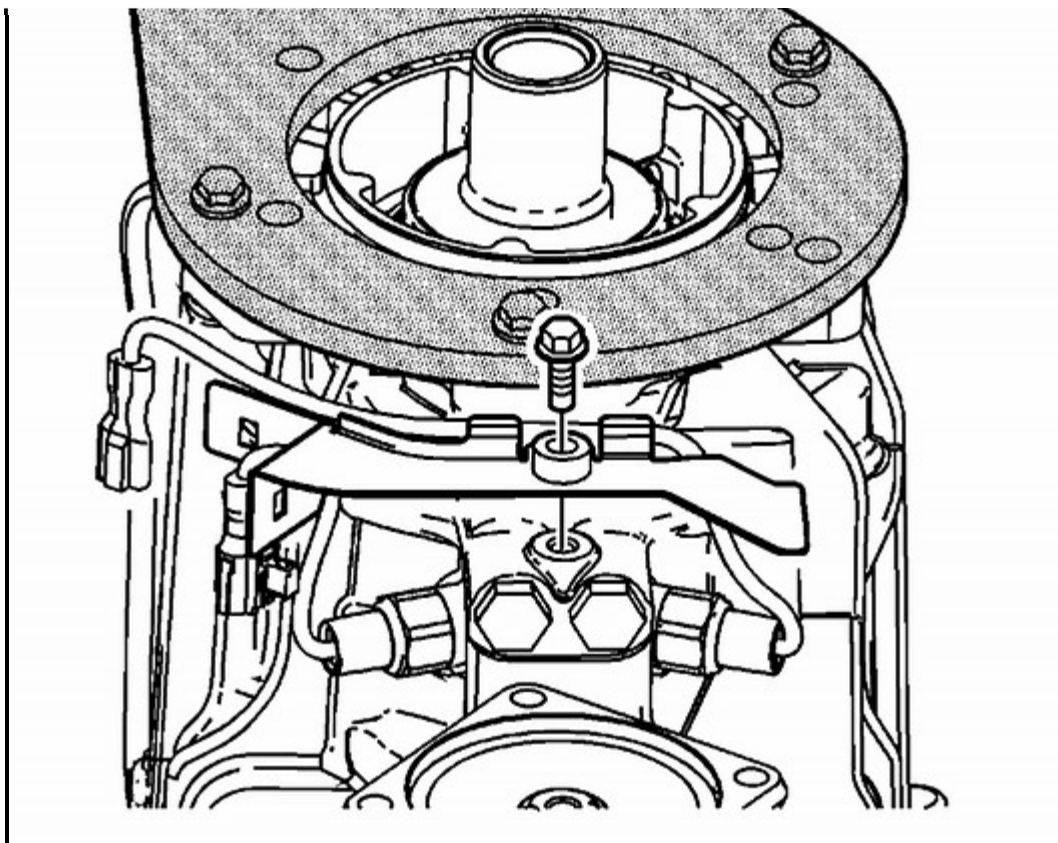




10. Remove the actuator assembly bolts and wire harness bracket.
11. Remove the actuator assembly and the O-ring seal.



**Zoom and Print Options**

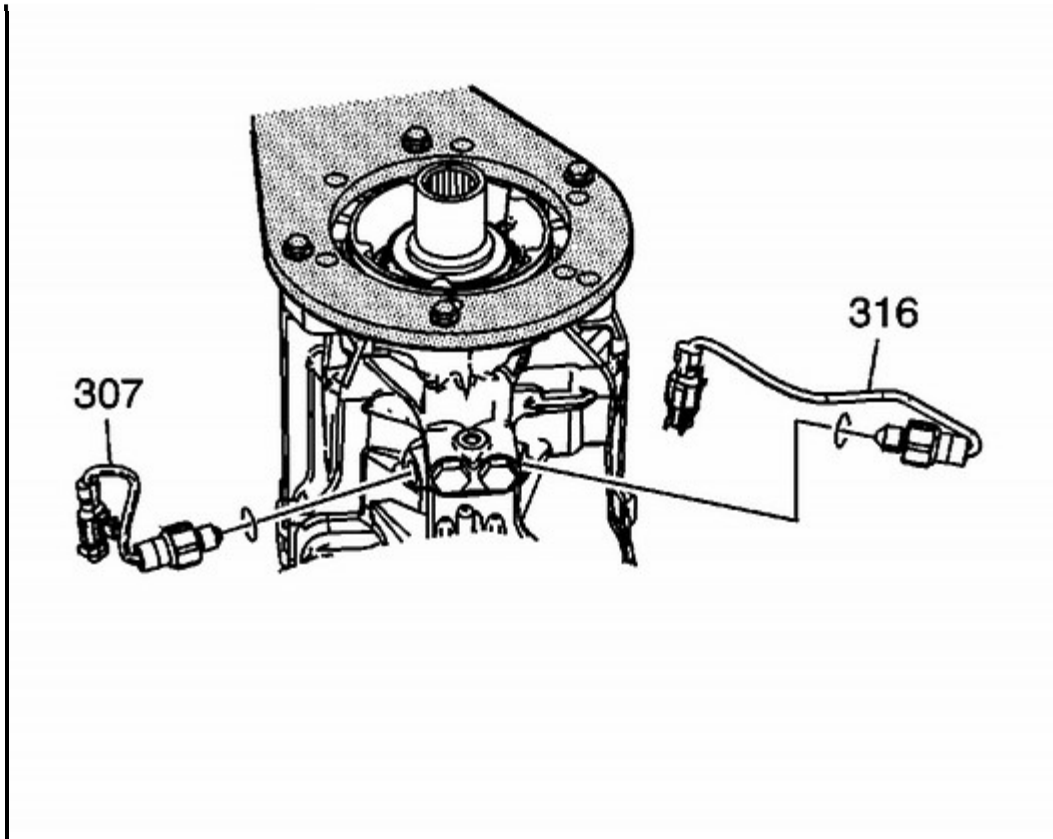


12. Remove the wiring harness connectors, for the switches, from the switch connector bracket.
13. Remove the bolt for the connector bracket.
14. Remove the connector bracket and spacer.



#### Zoom and Print Options



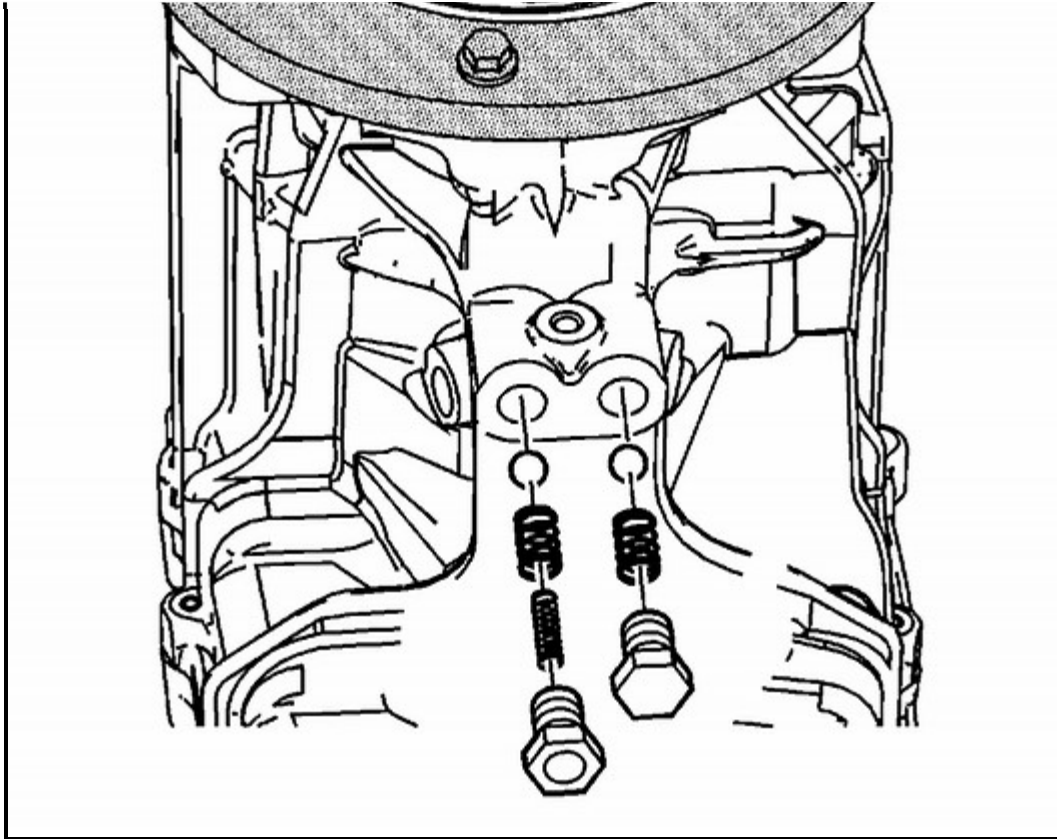


15. Remove the 2/4 switch assembly (316) with the copper gasket. The 2/4 switch has the gray wiring harness connector.

16. Remove the NEUTRAL start switch (307) with the copper gasket. The NEUTRAL start switch has the brown wiring harness connector.



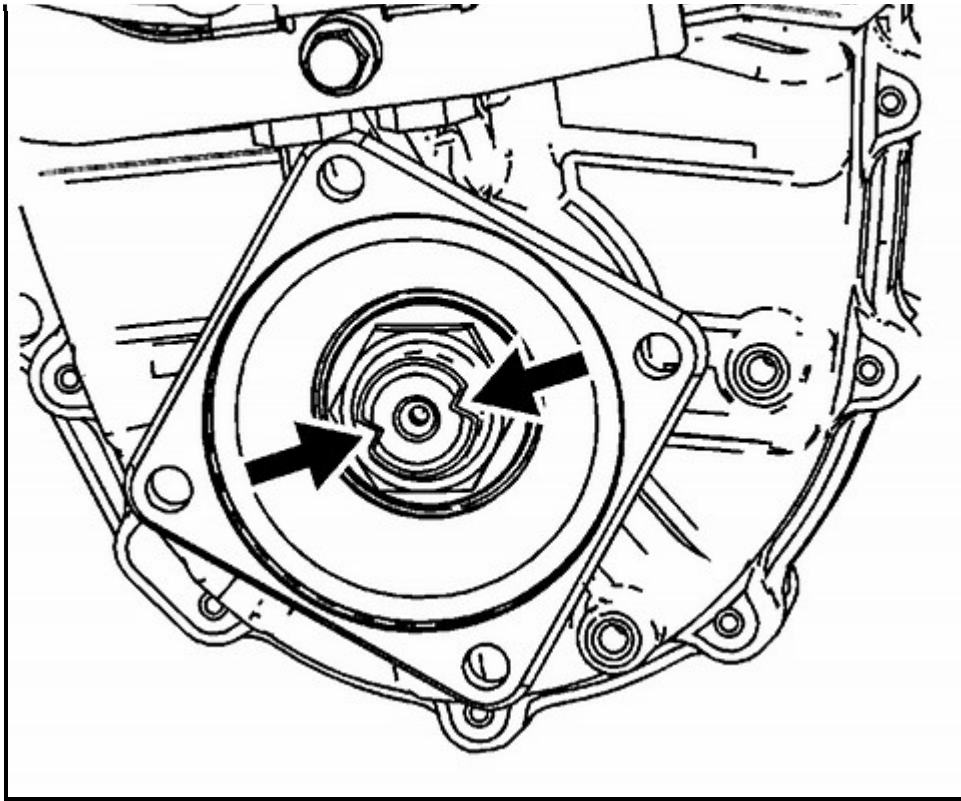
#### Zoom and Print Options



17. **Important:** Depending on design levels, this transfer case may or may not have an additional spring nesting inside the high/low shift shaft detent.

Remove the detent plugs, springs and balls.

  **Zoom and Print Options**

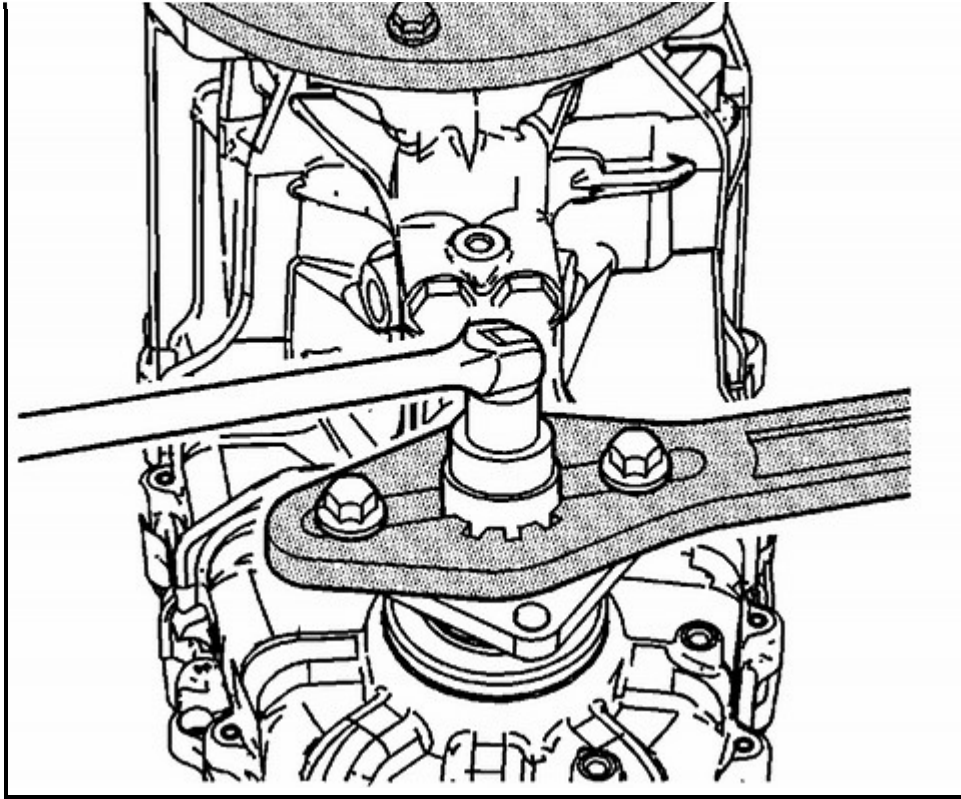


18. **Important:** In order to easily remove the nut, ensure the staked areas are completely bent out from the shaft.

Using a suitable punch, bend the stakes out on the yoke flange nut.



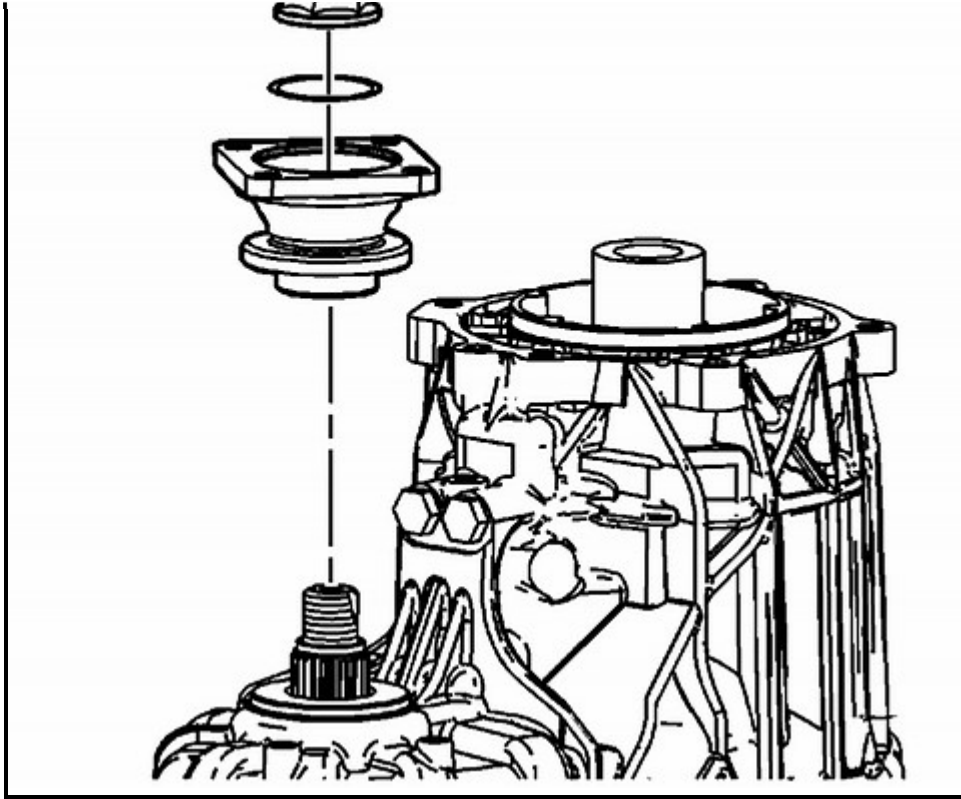
**Zoom and Print Options**



19. Using the J 8614-01, loosen the yoke flange nut.



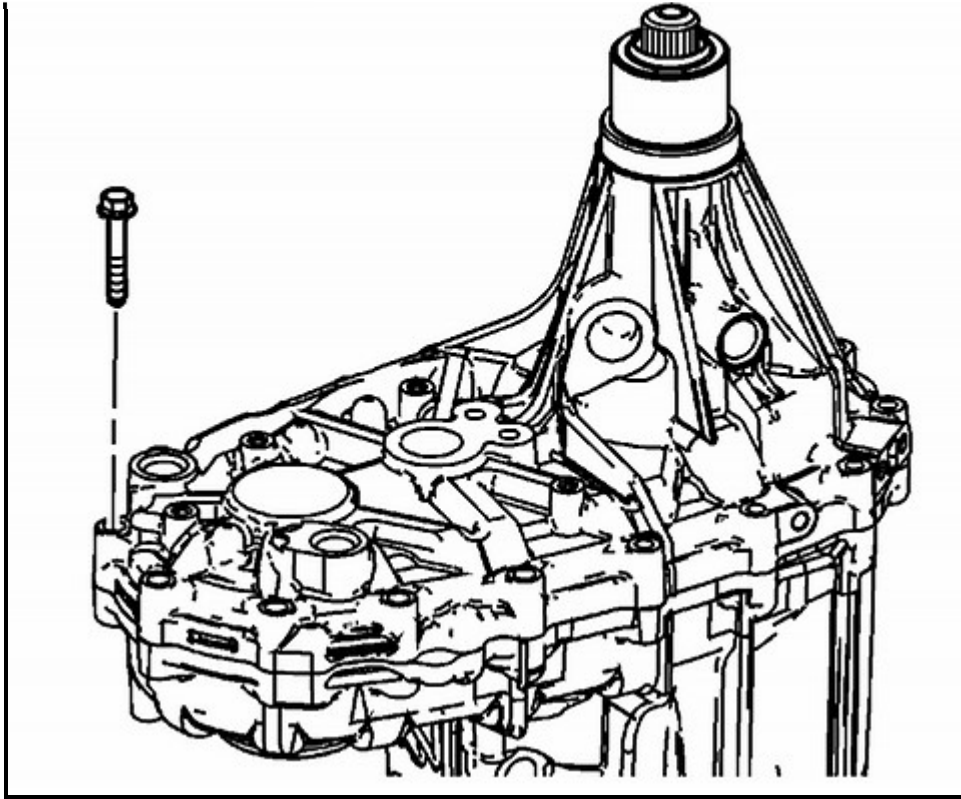
Zoom and Print Options



20. Remove the yoke flange nut, the O-ring seal, and the front output yoke flange.
21. Discard the nut and O-ring seal after removal.



#### Zoom and Print Options

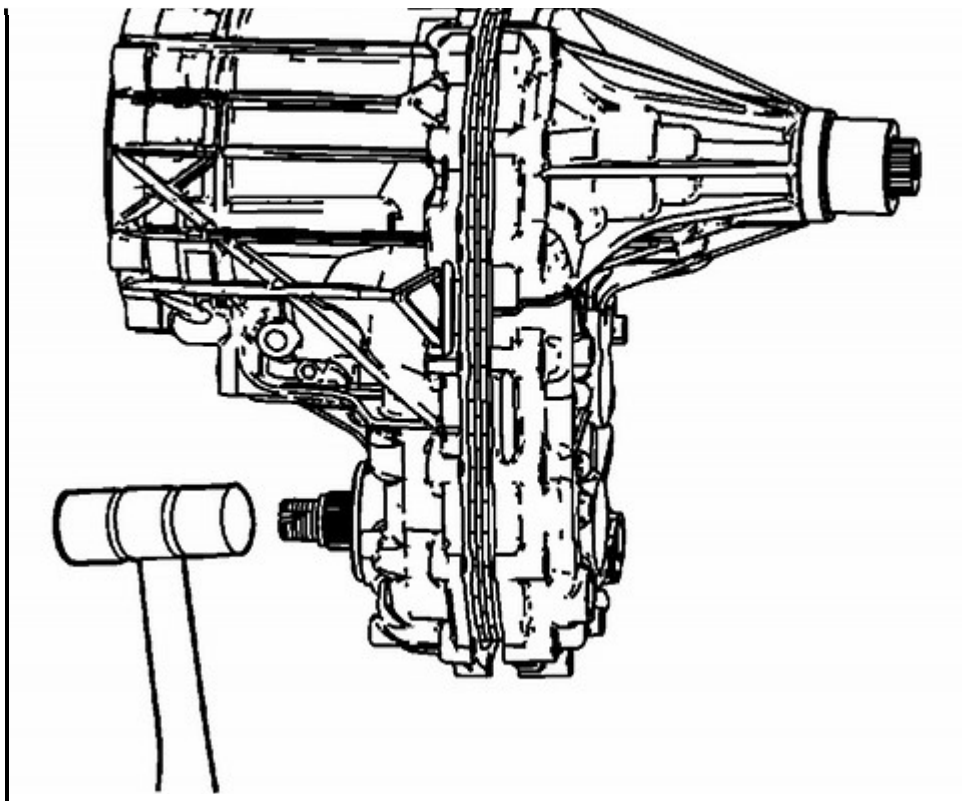


22. Remove the case half bolts.



Zoom and Print Options

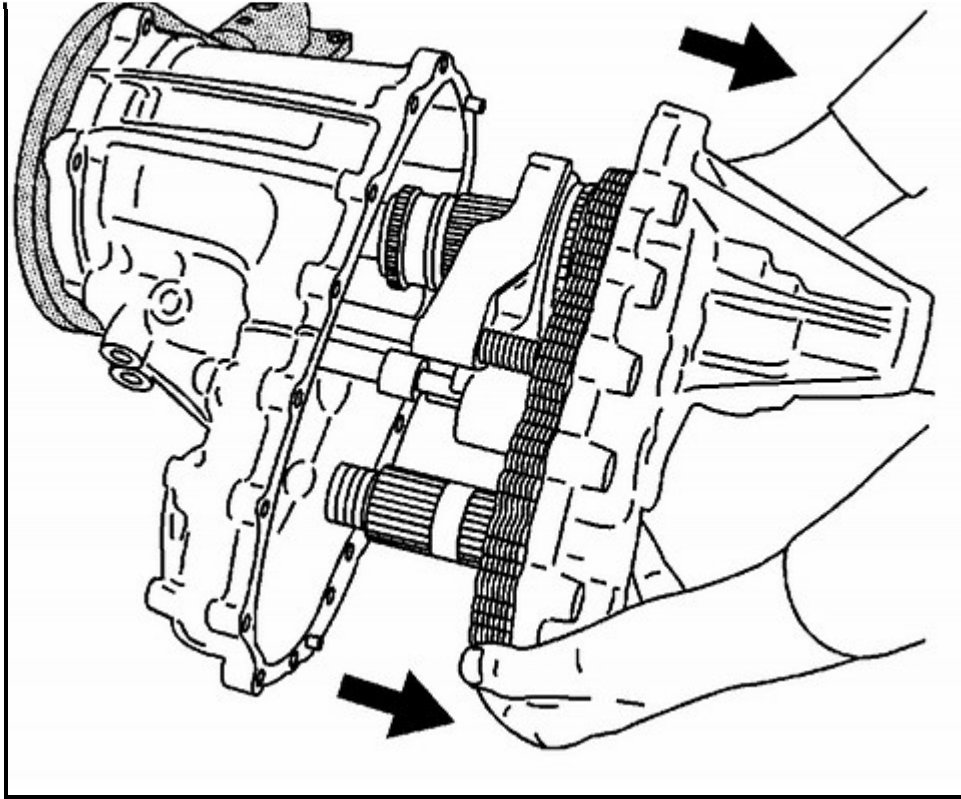




23. Using a soft face hammer on the rear case half, shear the case half sealer.
24. Using a soft face hammer on the end of the front output shaft, separate the case halves.



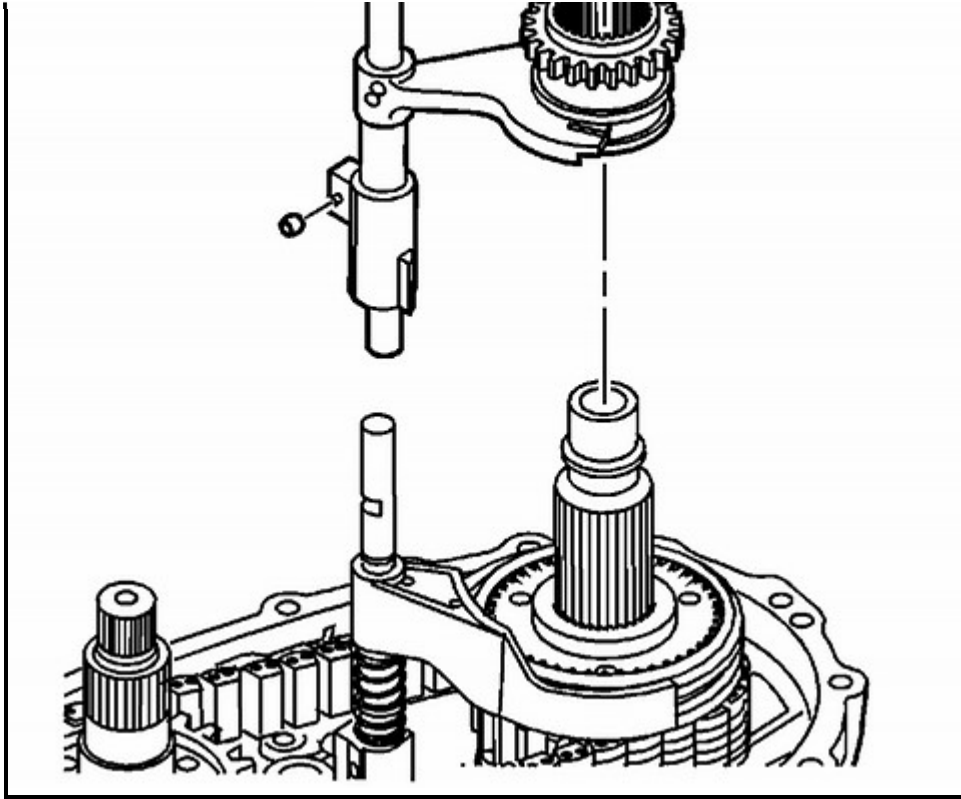
#### Zoom and Print Options



25. **Important:** Hold the rear case half straight to the front case when removing. It may be necessary to reach in and hold the shift forks in position. Watch for pieces to fall out of the cases, if not removed straight and if the shift forks bind.

Carefully remove the rear case half from the front case half. Only the input shaft, with the planetary carrier assembly, will remain in the front case half.

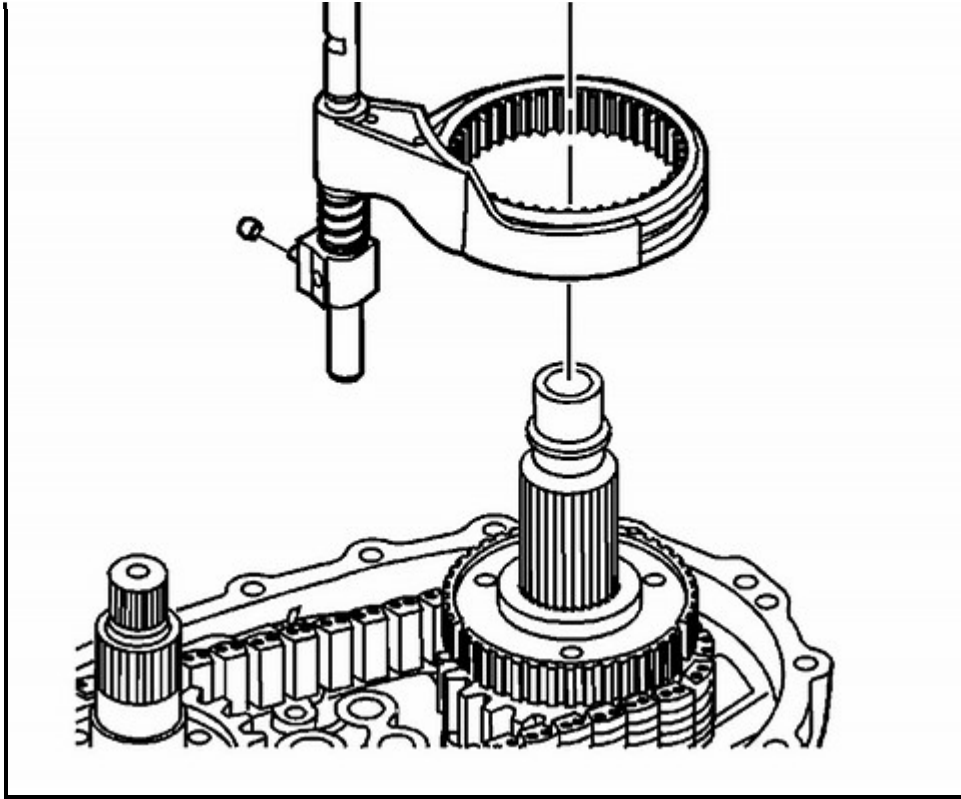
 **Zoom and Print Options**



26. Remove the high/low shift fork, with the high/low range sleeve and fork, from the output shaft.
  - ^ The 2/4 synchronizer sleeve may have to be moved forward.
  - ^ The roller on the shift fork may fall off because it is not fastened.
27. Remove the high/low shift fork from the range sleeve.



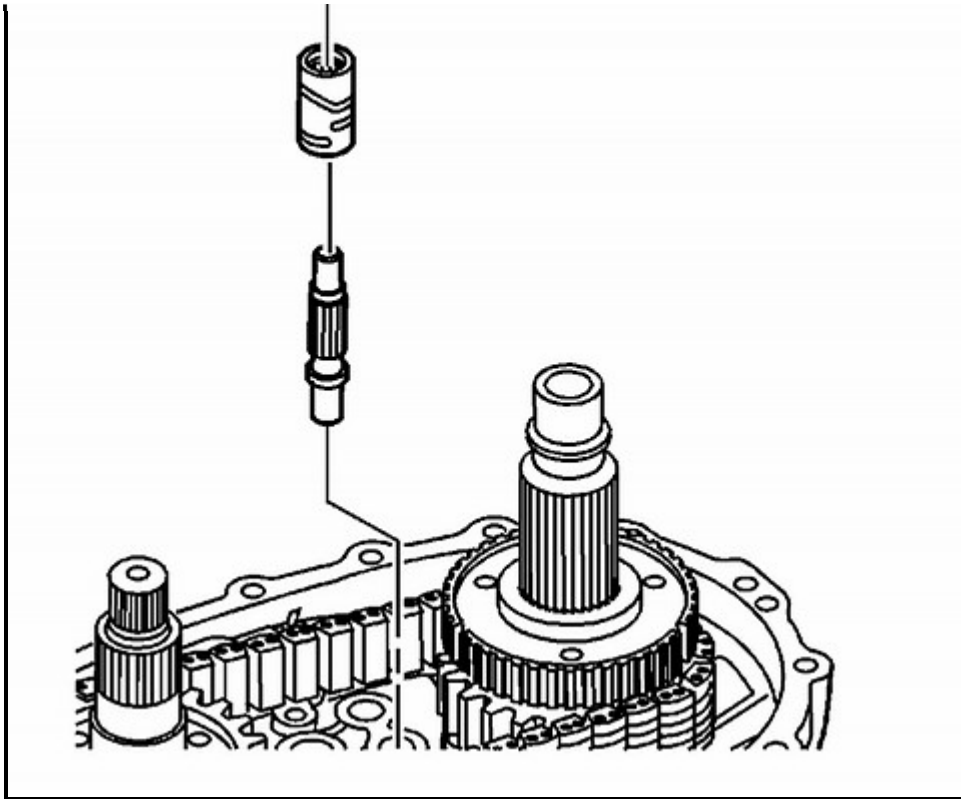
#### Zoom and Print Options



28. Remove the 2/4 wheel drive shift fork, and the 2/4 wheel drive synchronizer sleeve. The roller on the shift fork may fall off because it is not fastened.
29. Remove the shift fork from the sleeve.



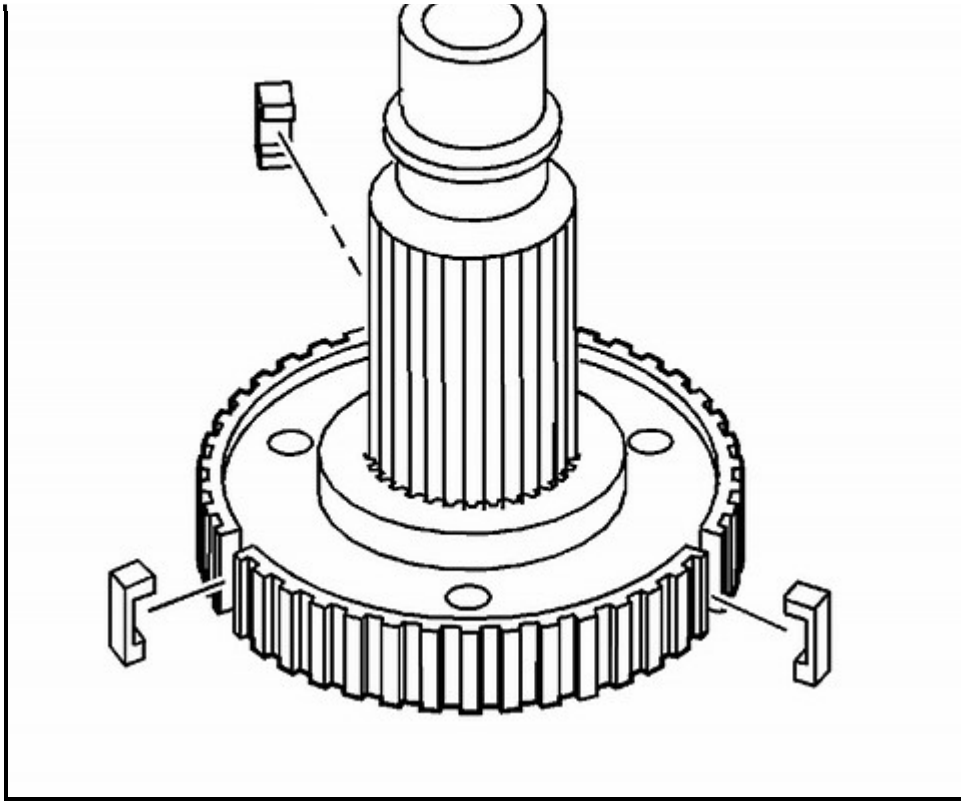
#### Zoom and Print Options



30. Remove the control actuator shaft and the cam.



Zoom and Print Options

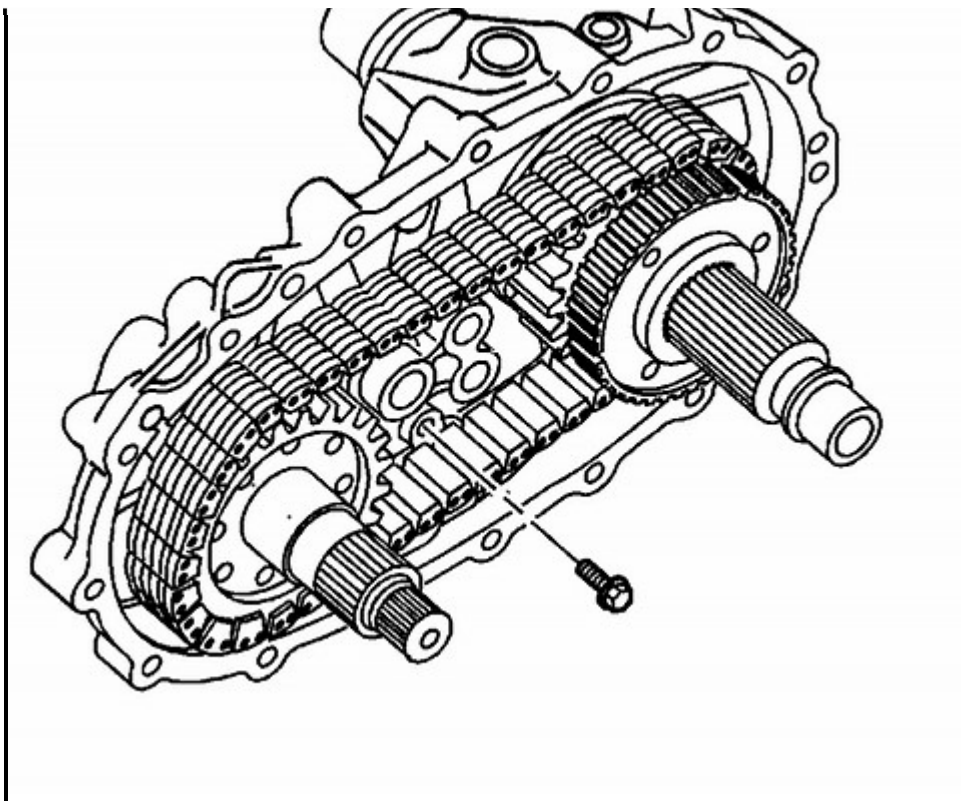


31. Remove the 2/4 wheel drive synchronizer inserts from the synchronizer hub.



**Zoom and Print Options**

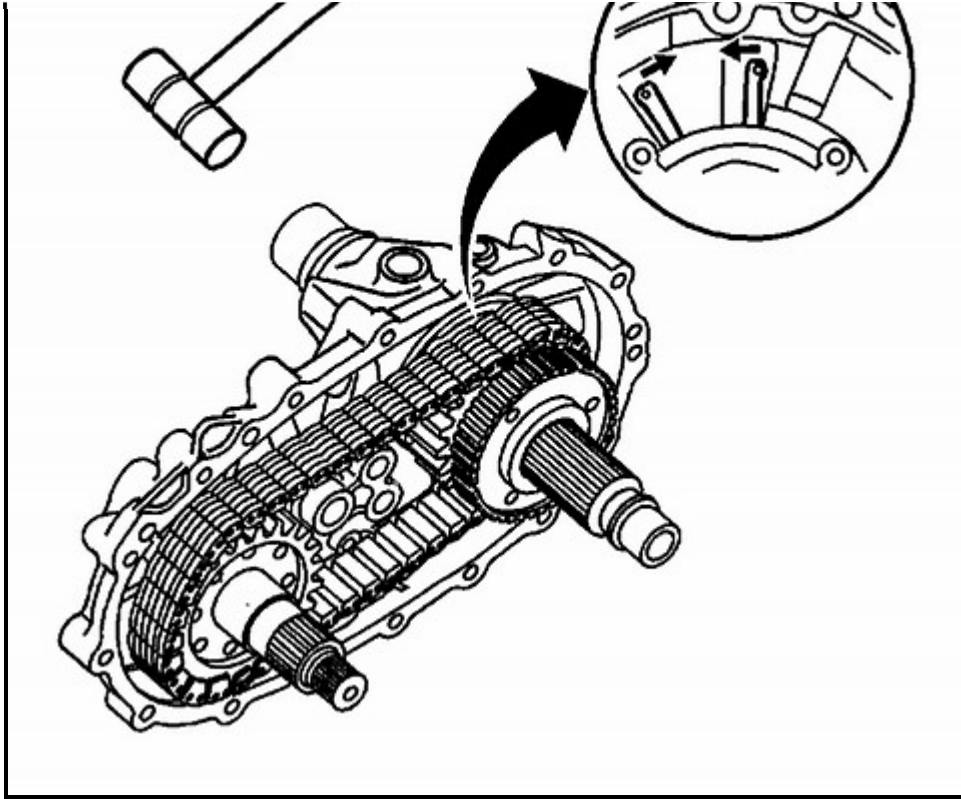




32. Remove the bolt retaining the oil pump pick-up tube.



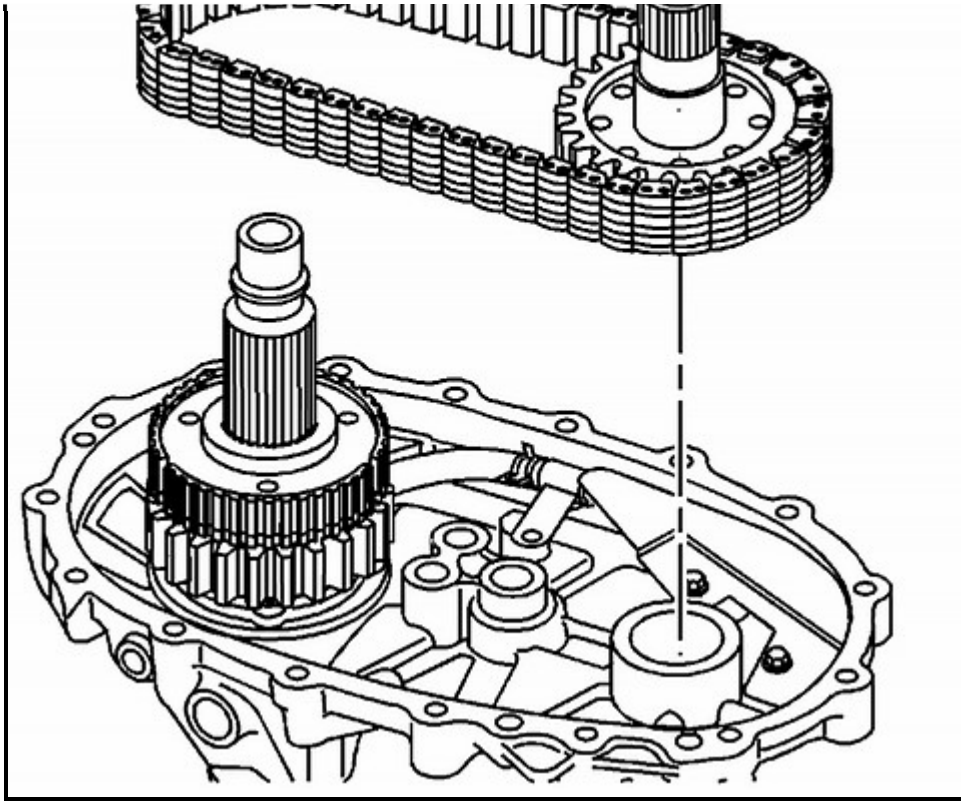
Zoom and Print Options



33. Using snap ring pliers, squeeze together the retaining ring for the rear output shaft rear bearing.
34. Using a soft face hammer on the rear output shaft, remove the rear output shaft assembly until the rear output shaft bearing is just out of the case.



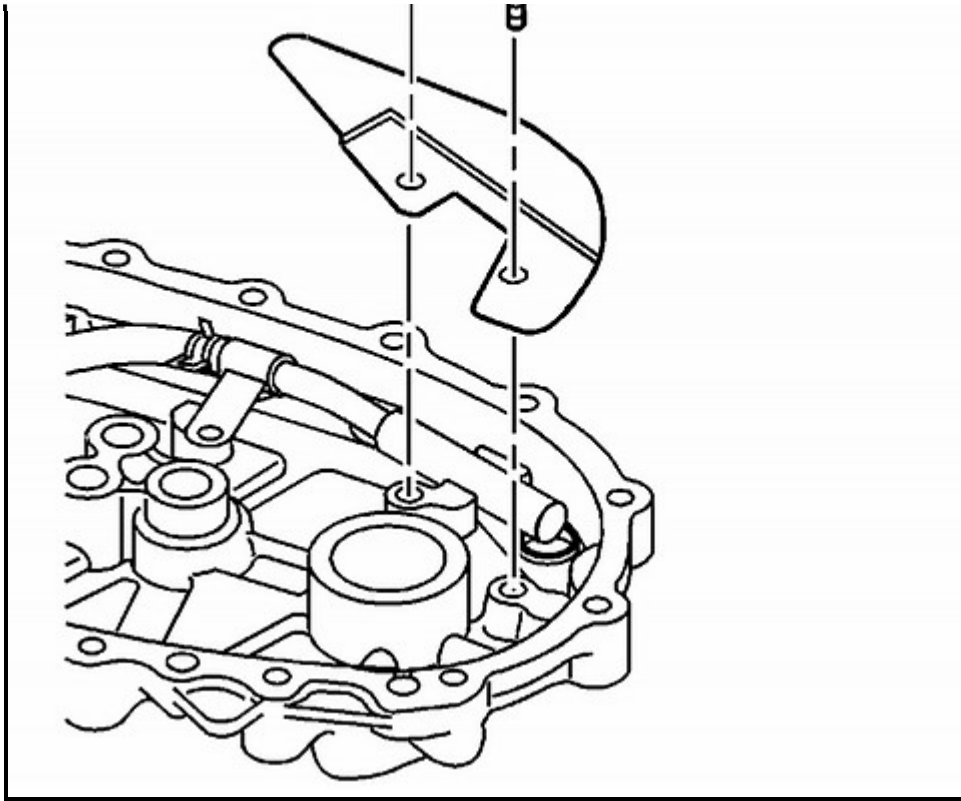
#### Zoom and Print Options



35. Remove the front output shaft and the drive chain.



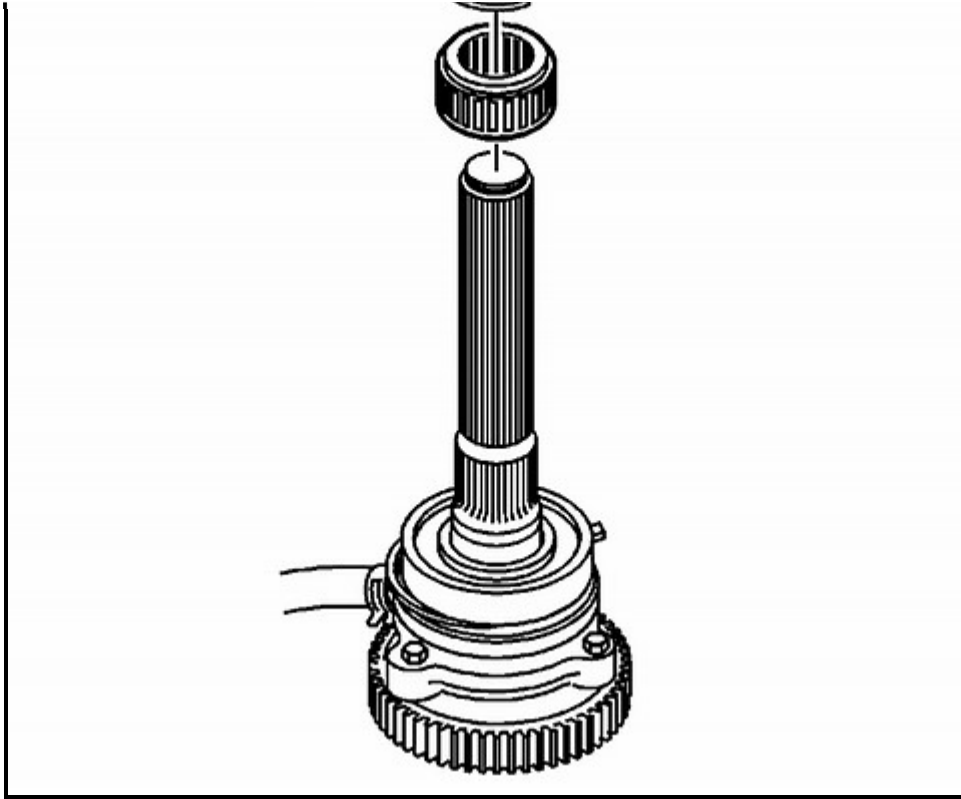
Zoom and Print Options



36. Remove the bolts and the oil deflector.
37. Remove the rear output shaft assembly completely from the rear case half.



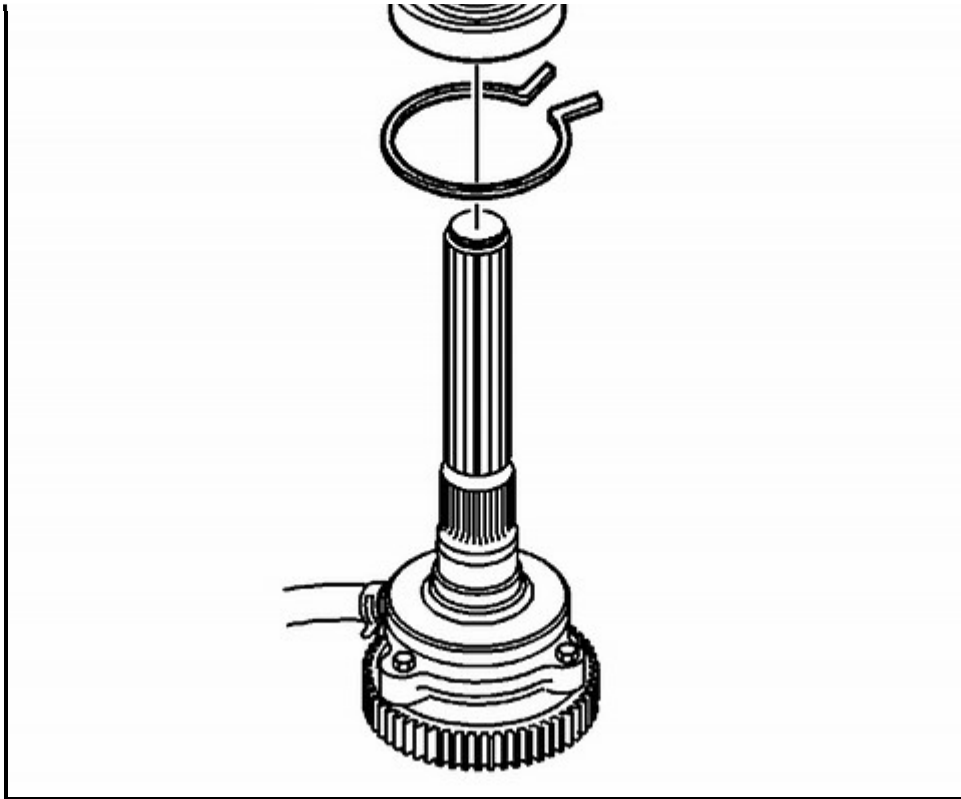
**Zoom and Print Options**



- 38. Remove the rear output shaft retaining ring.
- 39. Remove the speed sensor reluctor wheel.



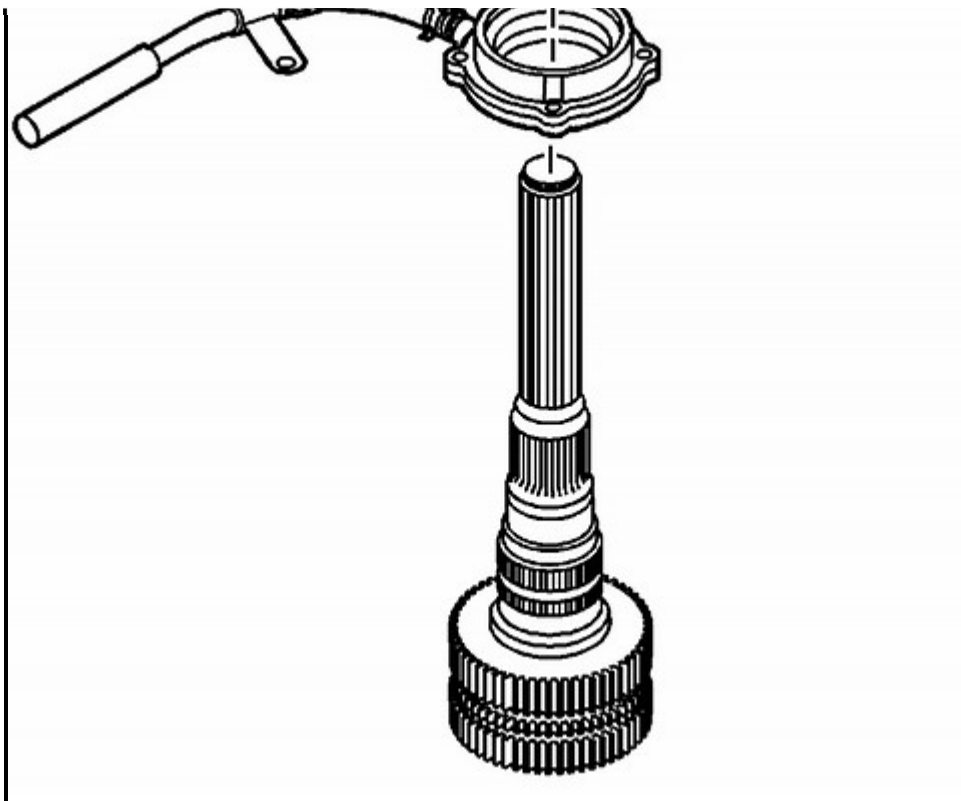
#### Zoom and Print Options



- 40. Remove the rear output shaft bearing.
- 41. Remove the rear output shaft bearing outer retaining ring.



#### Zoom and Print Options

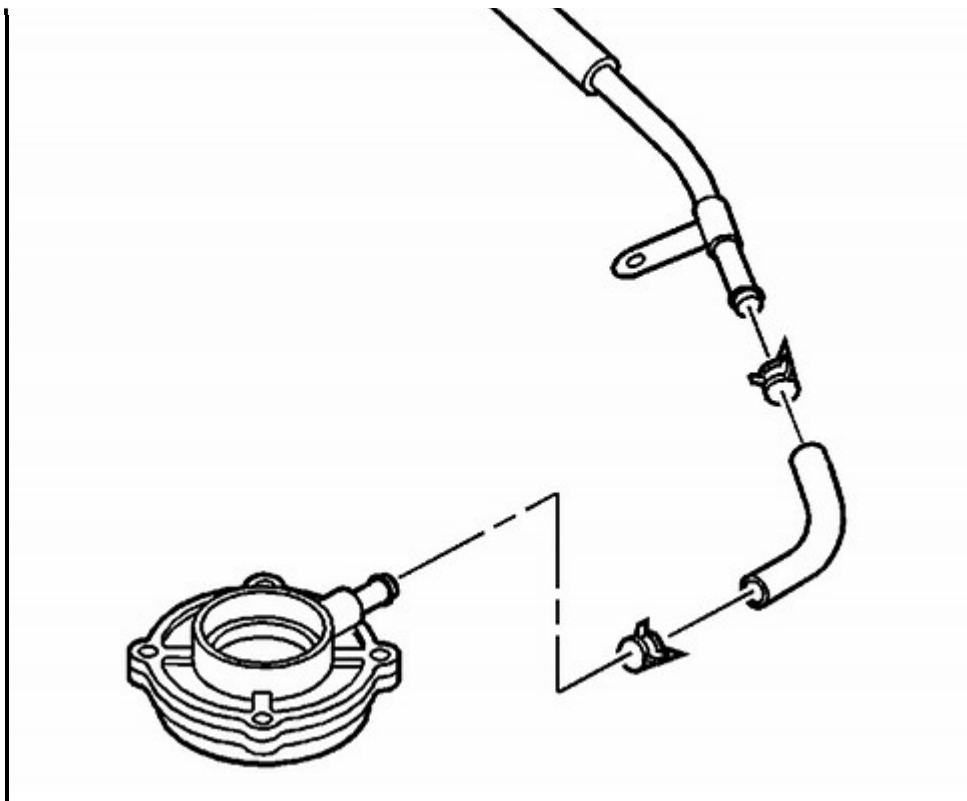


42. Remove the oil pump assembly with suction hose.



Zoom and Print Options

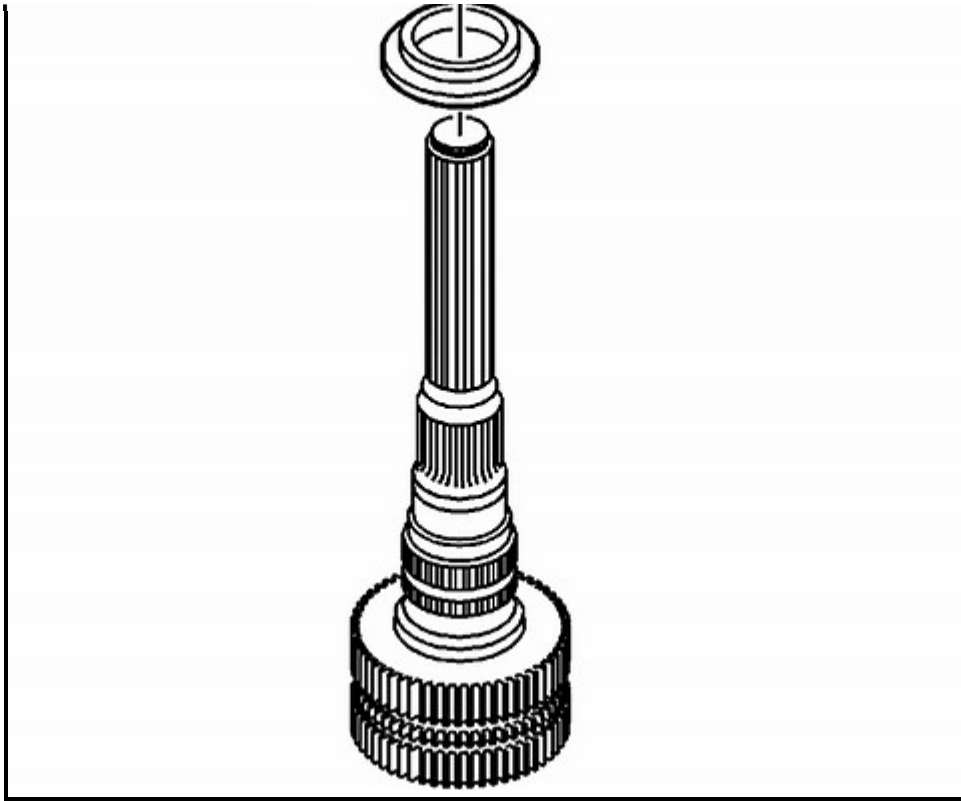




- 43. Remove the oil pump suction hose from the oil pump.
- 44. Remove the oil pump suction hose from the oil pump screen.



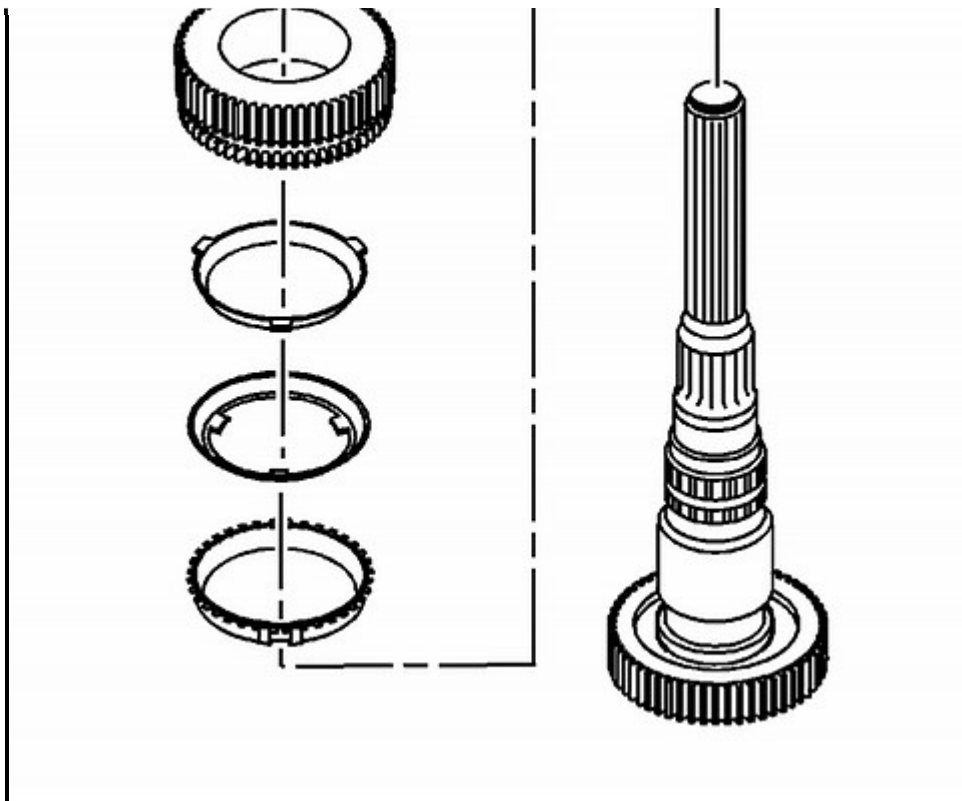
#### Zoom and Print Options



- 45. Remove the drive sprocket retaining ring.
- 46. Remove the drive sprocket thrust washer.



#### Zoom and Print Options

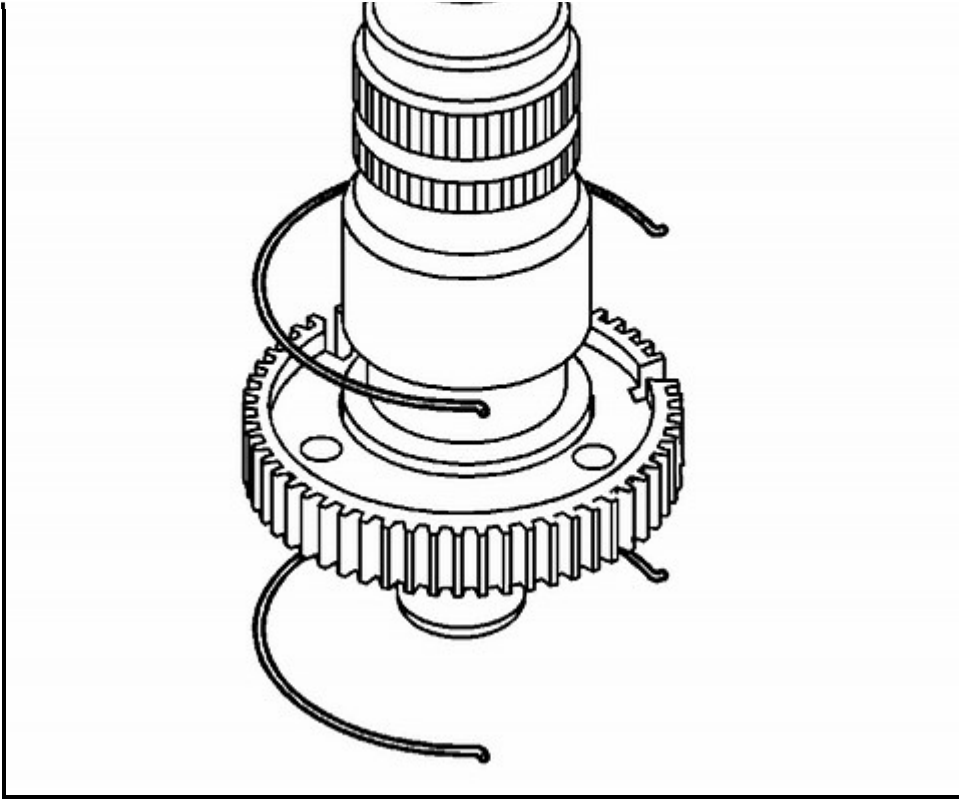


47. Remove the drive sprocket.

48. Remove the synchronizer blocking ring, middle ring and inner ring.



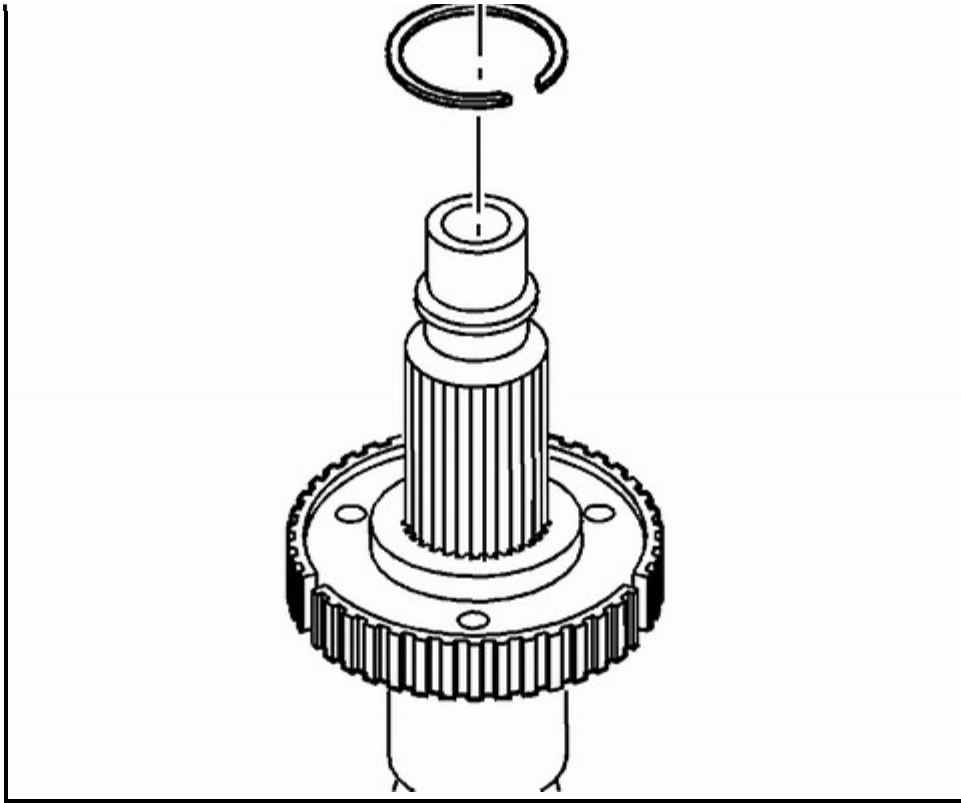
**Zoom and Print Options**



49. Remove the springs from the synchronizer hub.



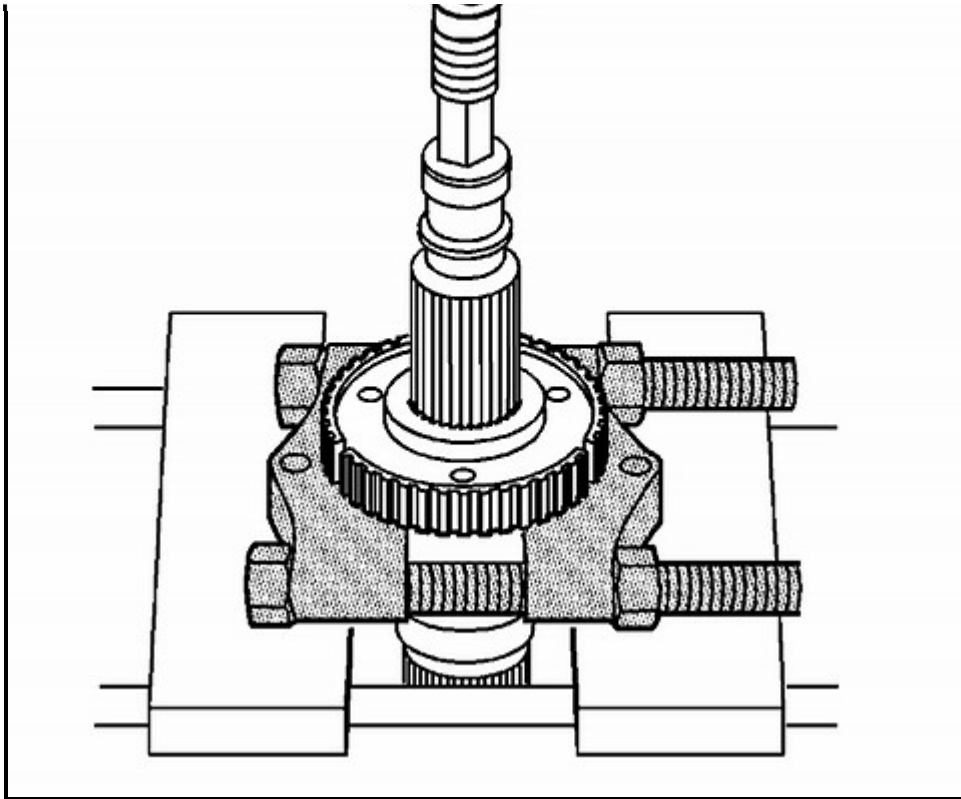
Zoom and Print Options



50. Remove the synchronizer hub retaining ring.



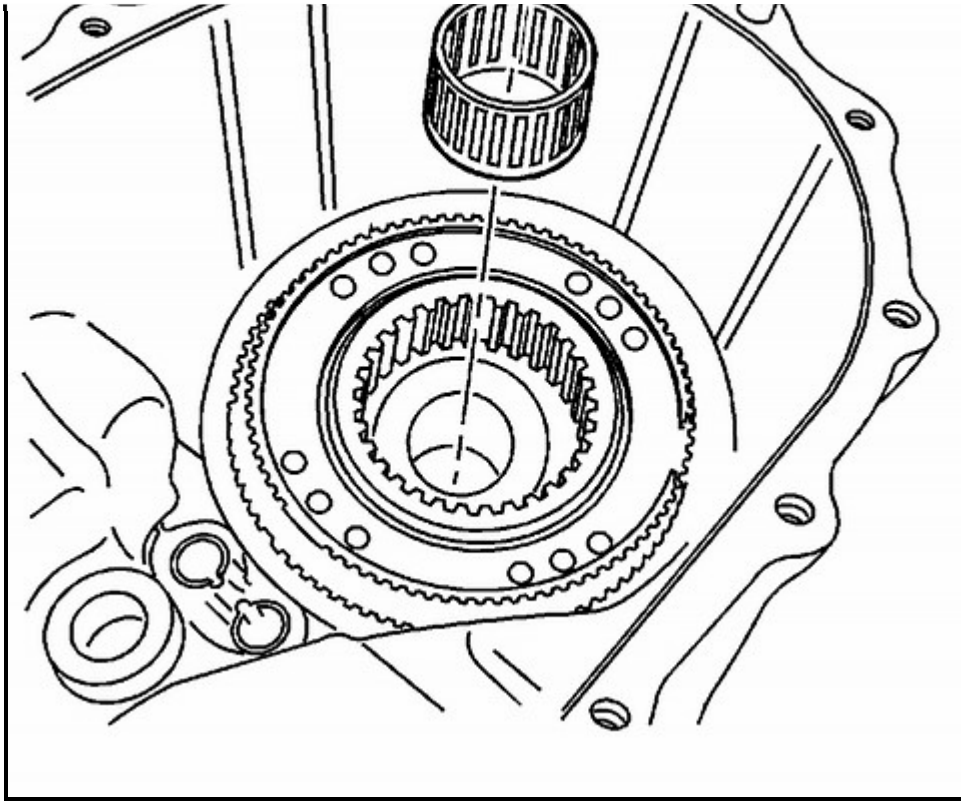
Zoom and Print Options



51. Using a hydraulic press and the J 22912-01, remove the synchronizer hub from the rear output shaft.



**Zoom and Print Options**

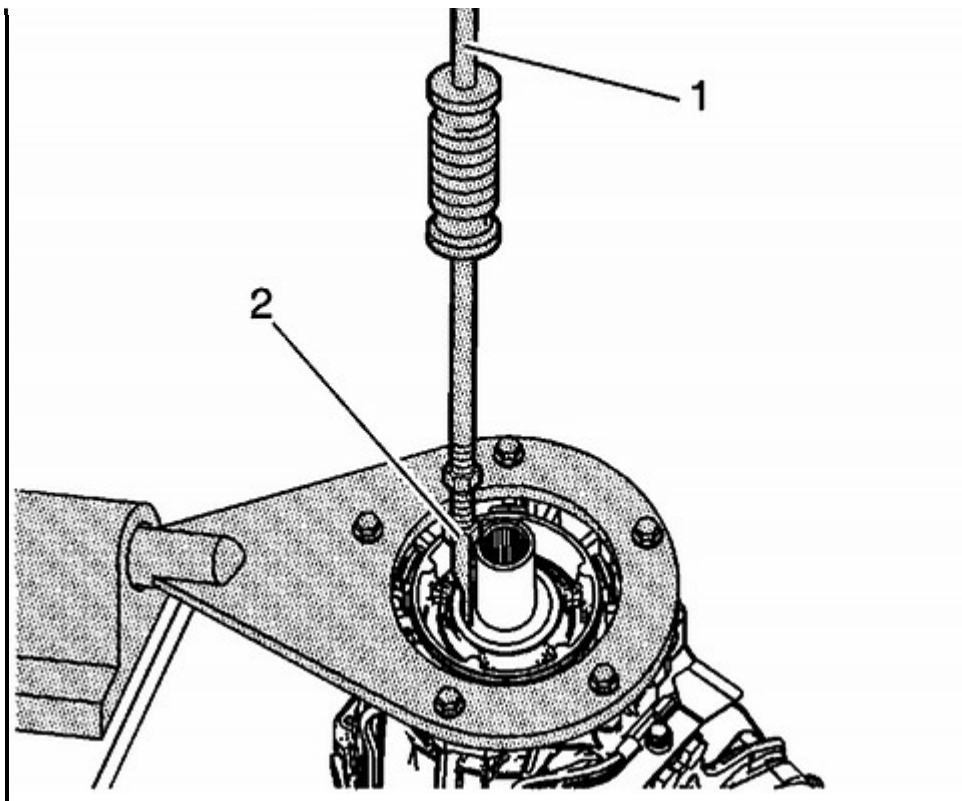


52. Remove the rear output shaft front support bearing from inside of the input shaft.



Zoom and Print Options





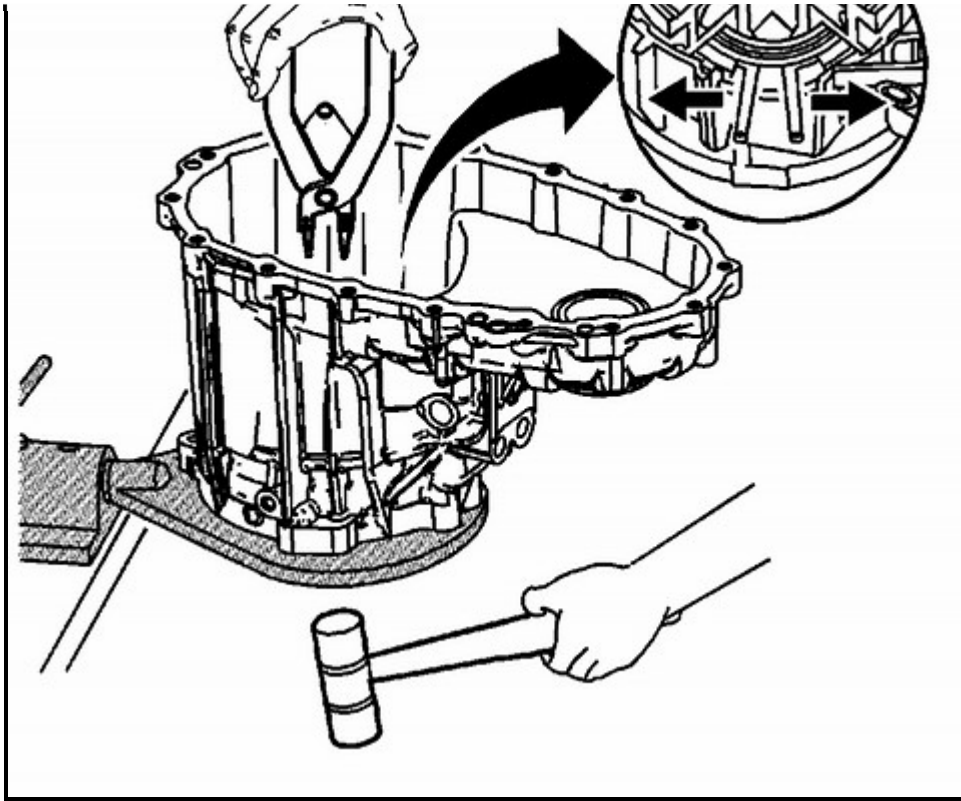
53. Using the J 23907 (1) and the J 45278 (2), remove the input shaft seal.

^ There is not a shoulder to prevent the seal from going into the case.

^ Turn, and hold the J 45278 (2) under the seal for removal.



#### Zoom and Print Options



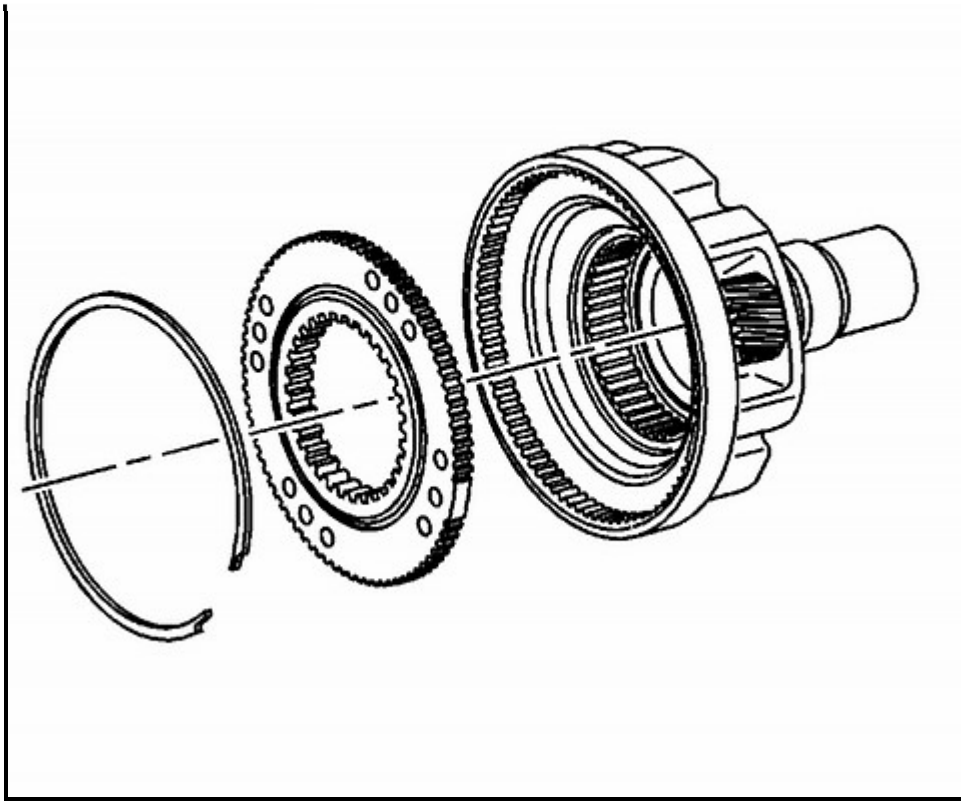
54. Using a large pair of snap ring pliers, spread the retaining ring for the planetary carrier bearing.

55. **Important:** Ensure the snap ring pliers do not catch on the ribs in the case. The retaining ring must be completely spread open.

While the retaining ring is spread, use a soft face hammer on the input shaft to remove the planetary carrier assembly.



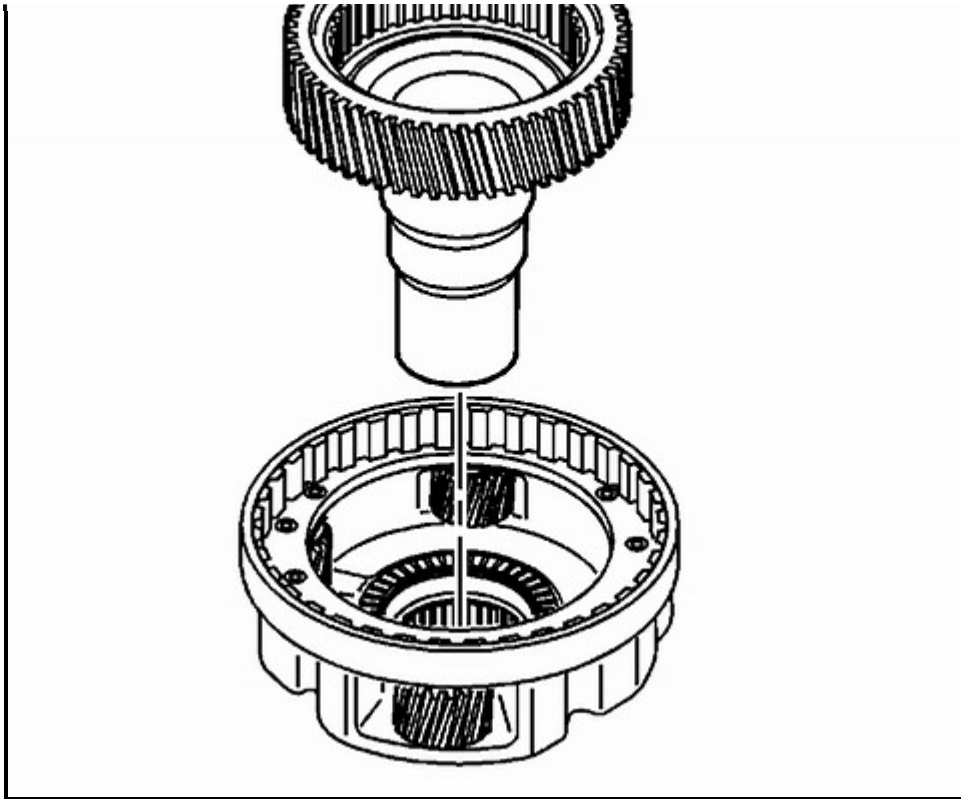
**Zoom and Print Options**



- 56. For assembly purposes, mark the relationship of the planetary carrier low gear to the planetary carrier.
- 57. Remove the retaining ring for the planetary carrier low gear.
- 58. Remove the planetary carrier low gear.



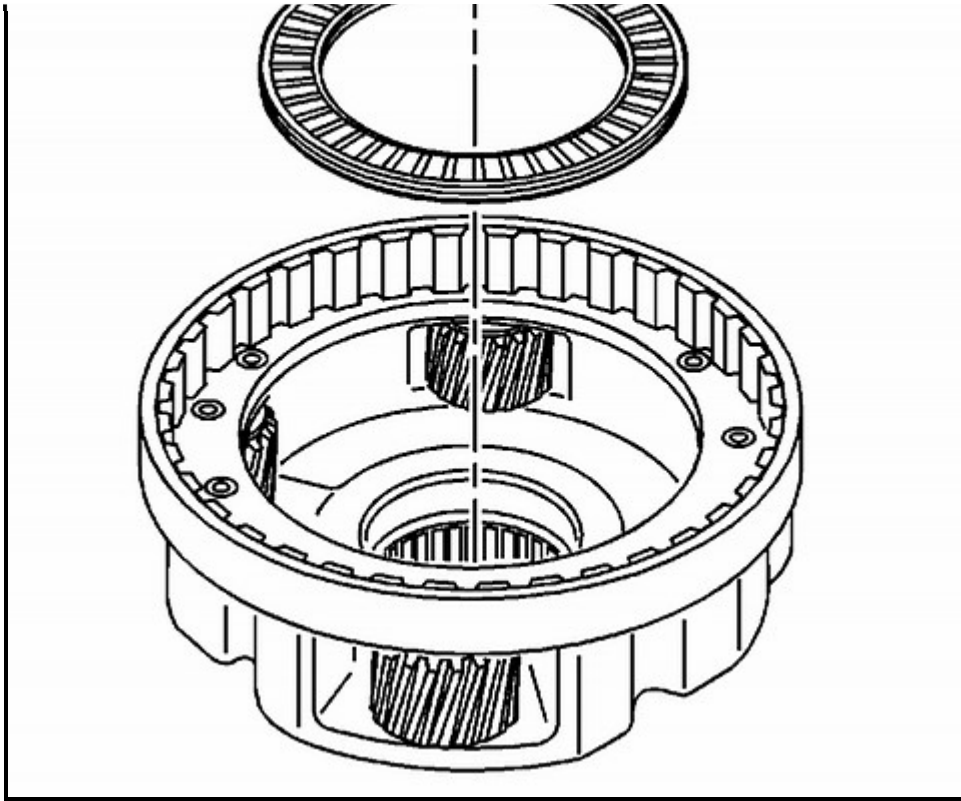
#### Zoom and Print Options



59. Remove the input shaft from the planetary carrier assembly.



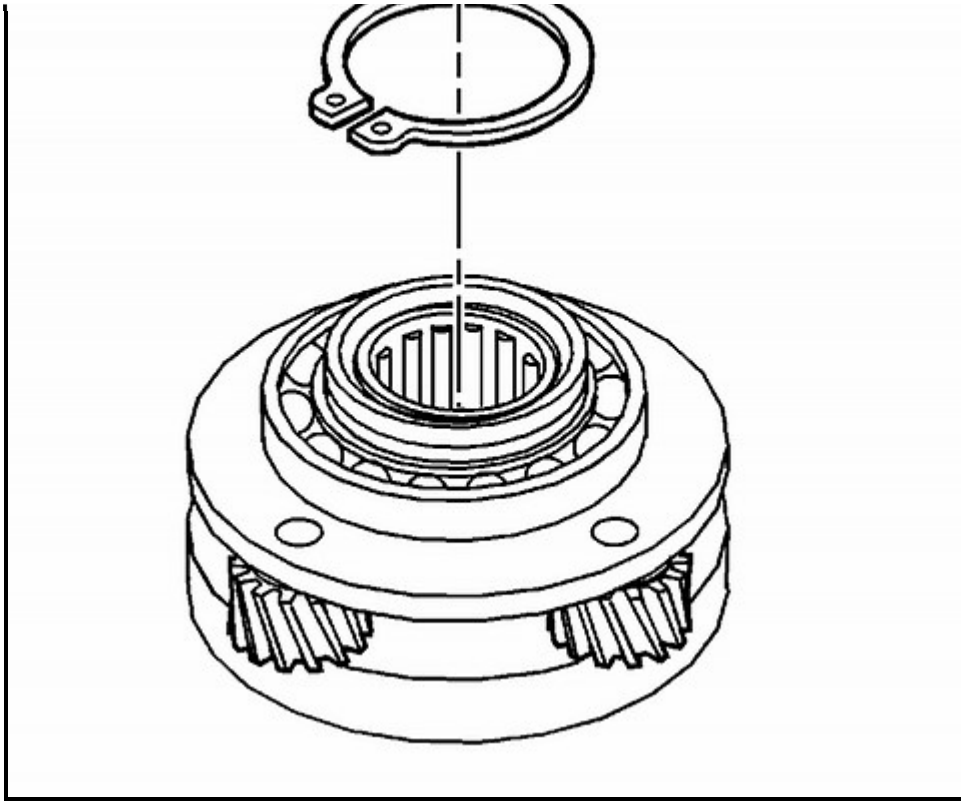
Zoom and Print Options



60. Remove the input shaft thrust bearing.



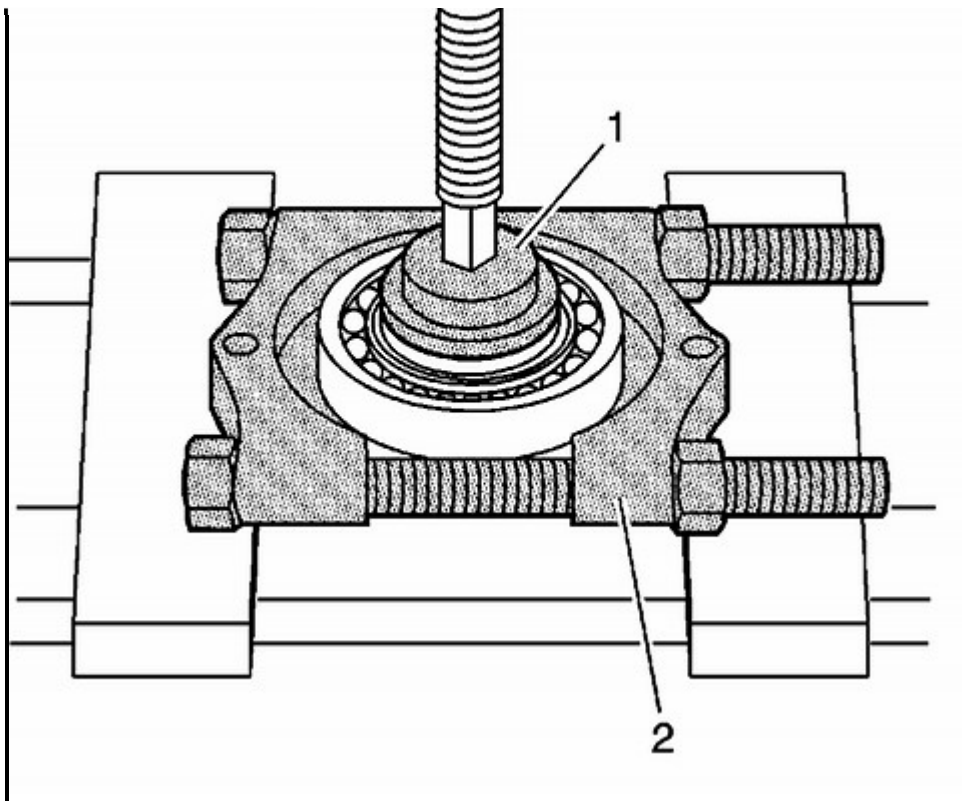
Zoom and Print Options



61. Remove the planetary carrier assembly bearing retaining ring.



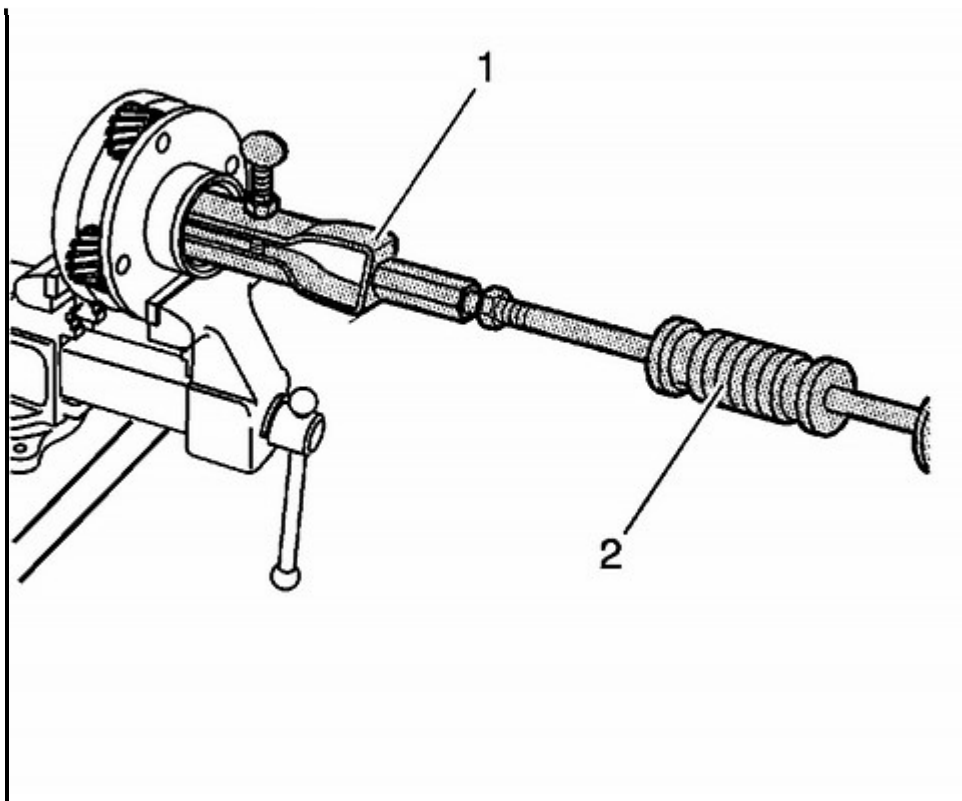
Zoom and Print Options



62. Using a hydraulic press with the J 45933-1 (1) of the J 45933 and the J 22912-01 (2), remove the planetary carrier bearing.



Zoom and Print Options

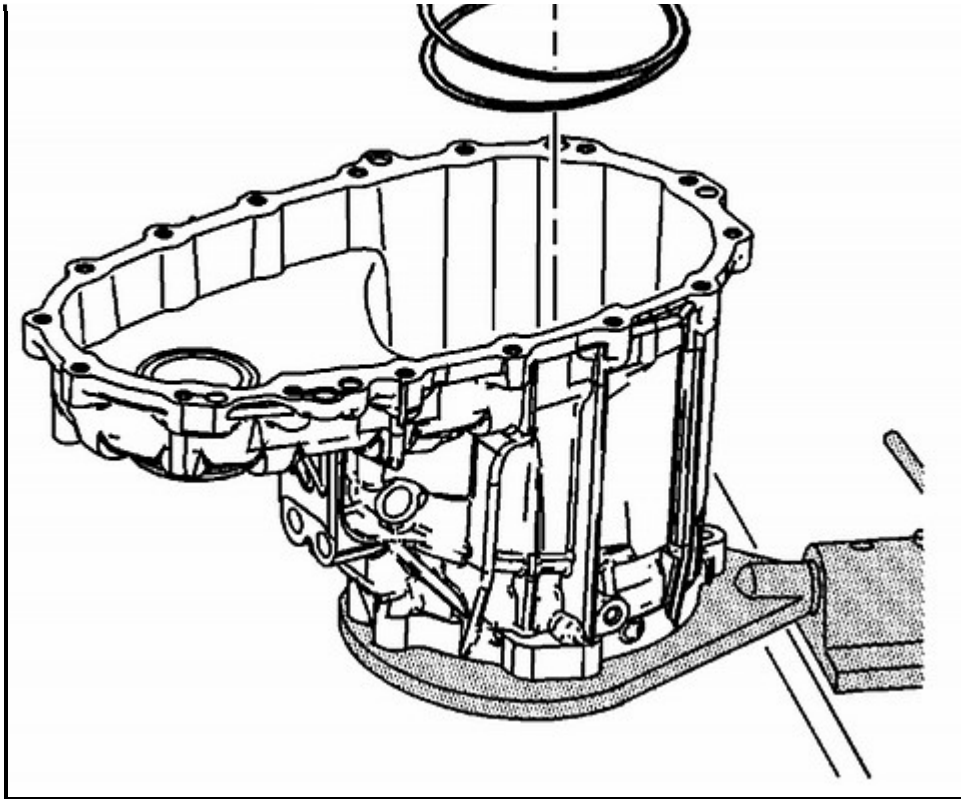


63. Using the J 26941 (1) and the J 23907 (2), remove the input shaft bearing from the planetary carrier.



**Zoom and Print Options**

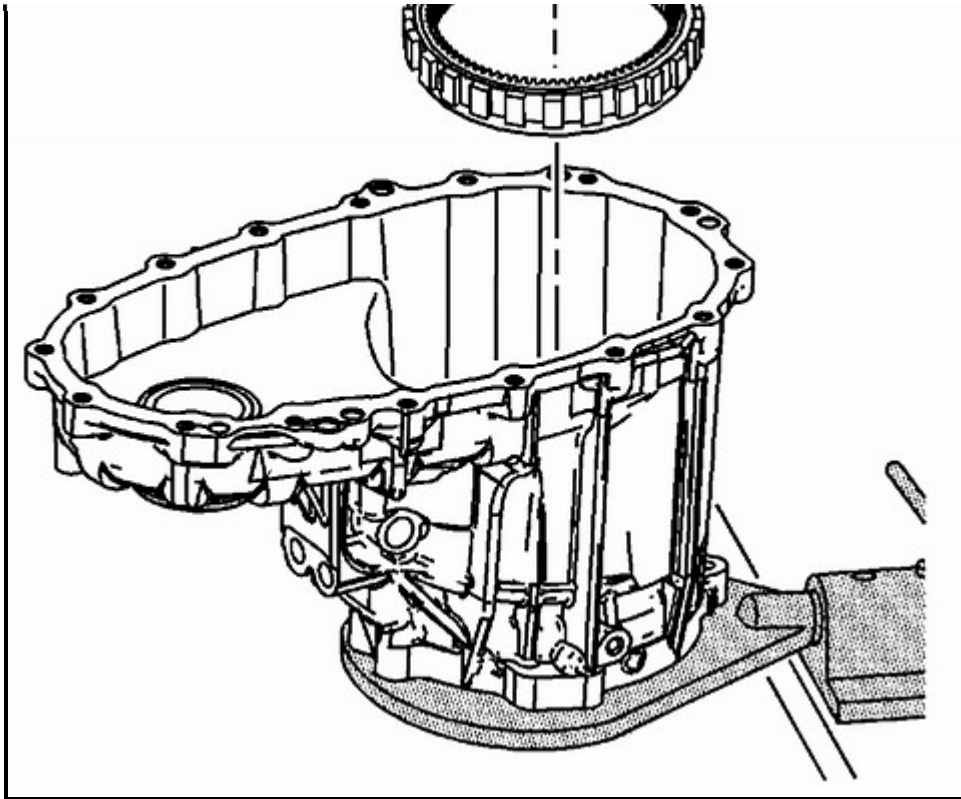




64. Remove the annulus gear spiral retaining ring.



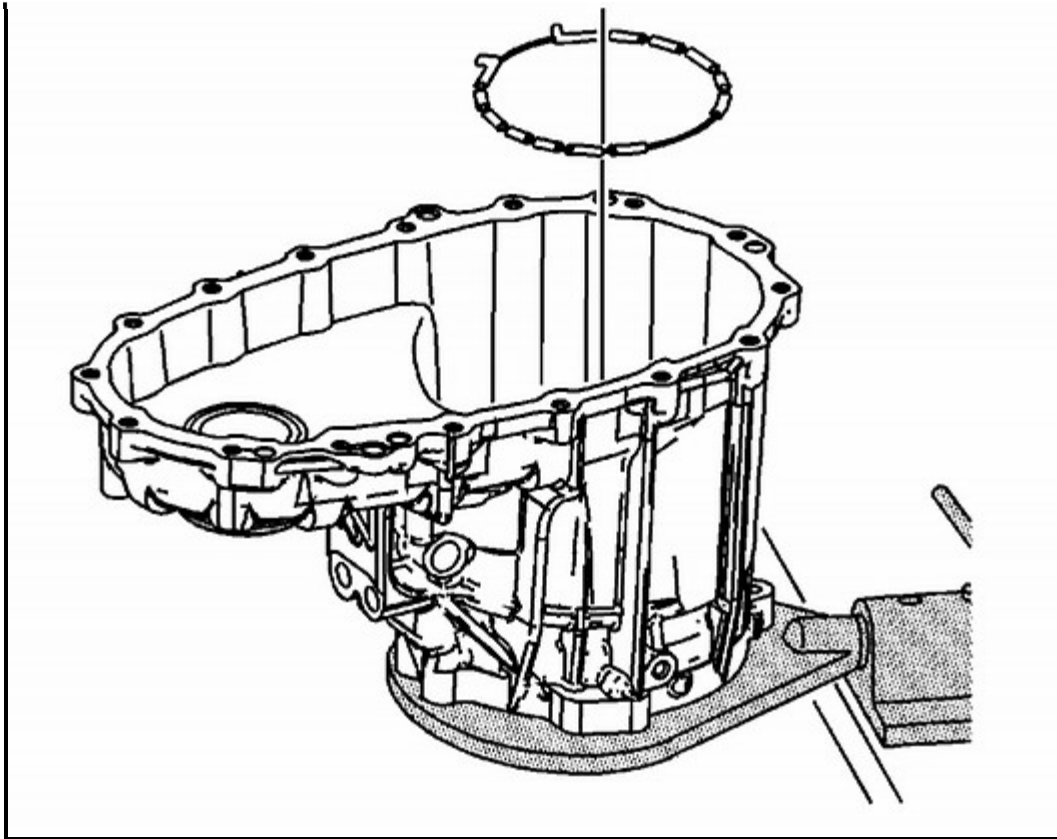
Zoom and Print Options



65. Remove the annulus gear.



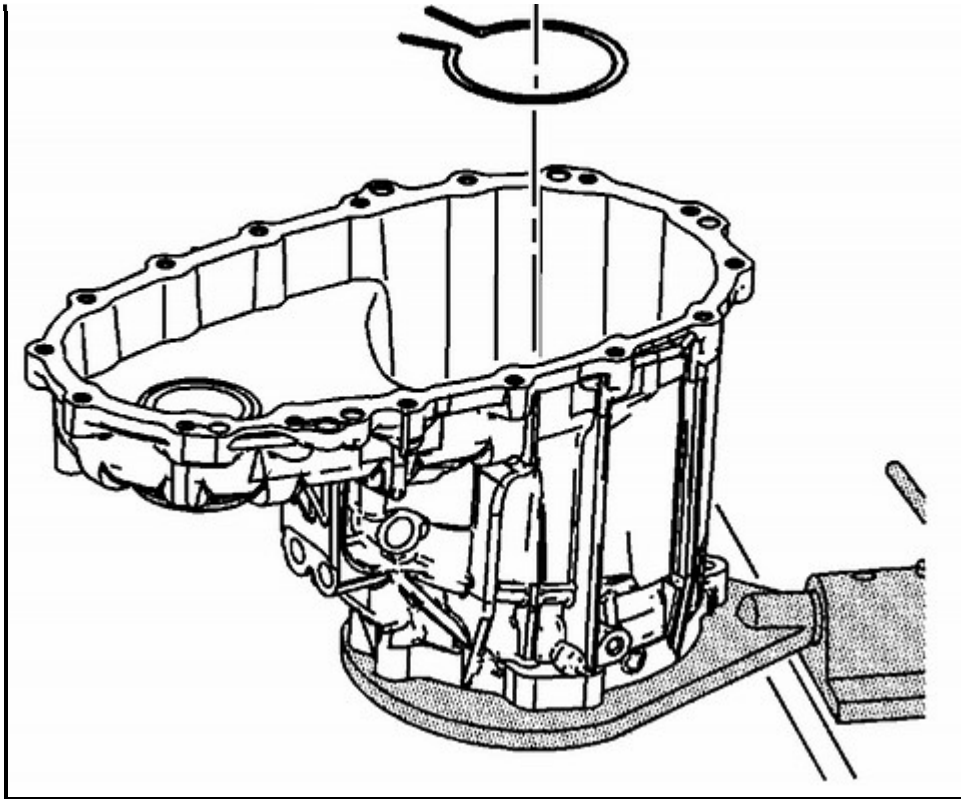
Zoom and Print Options



66. Remove the annulus gear damper.



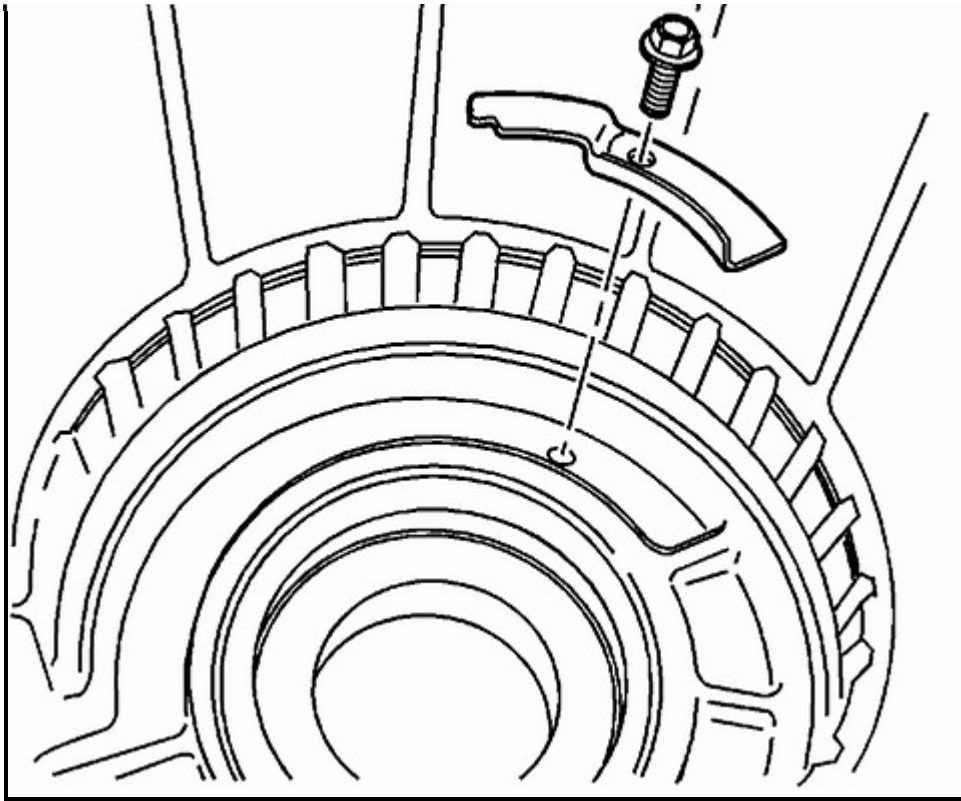
Zoom and Print Options



67. Remove the carrier bearing outer retaining ring from the front case.



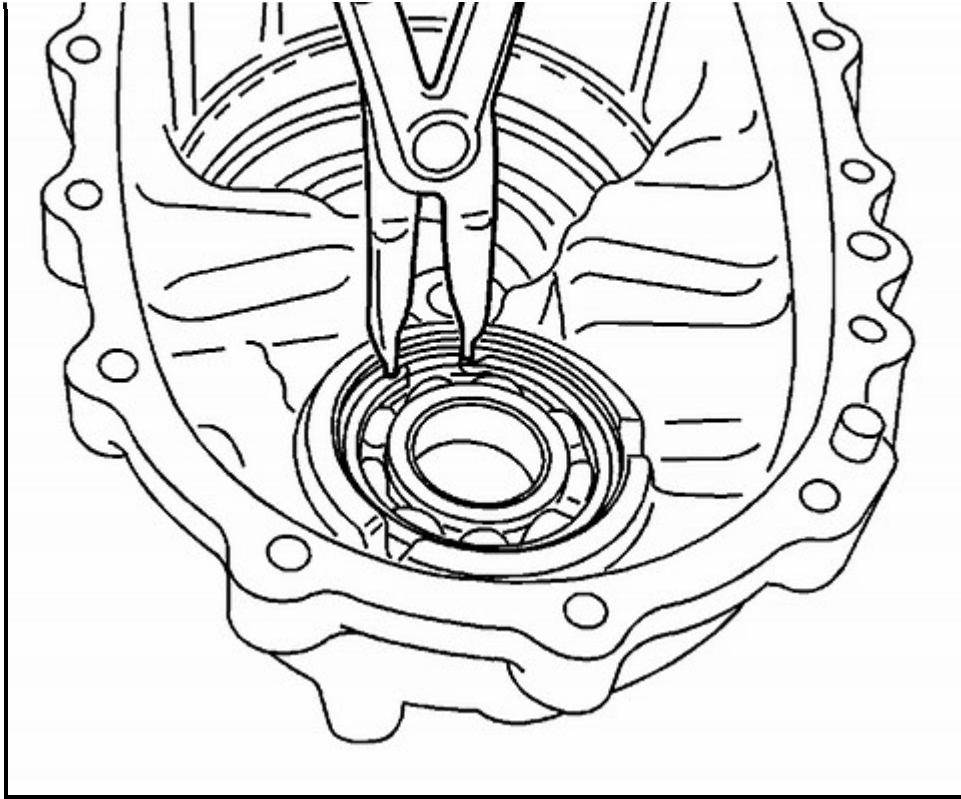
Zoom and Print Options



68. If necessary, remove the breather baffle and bolt.



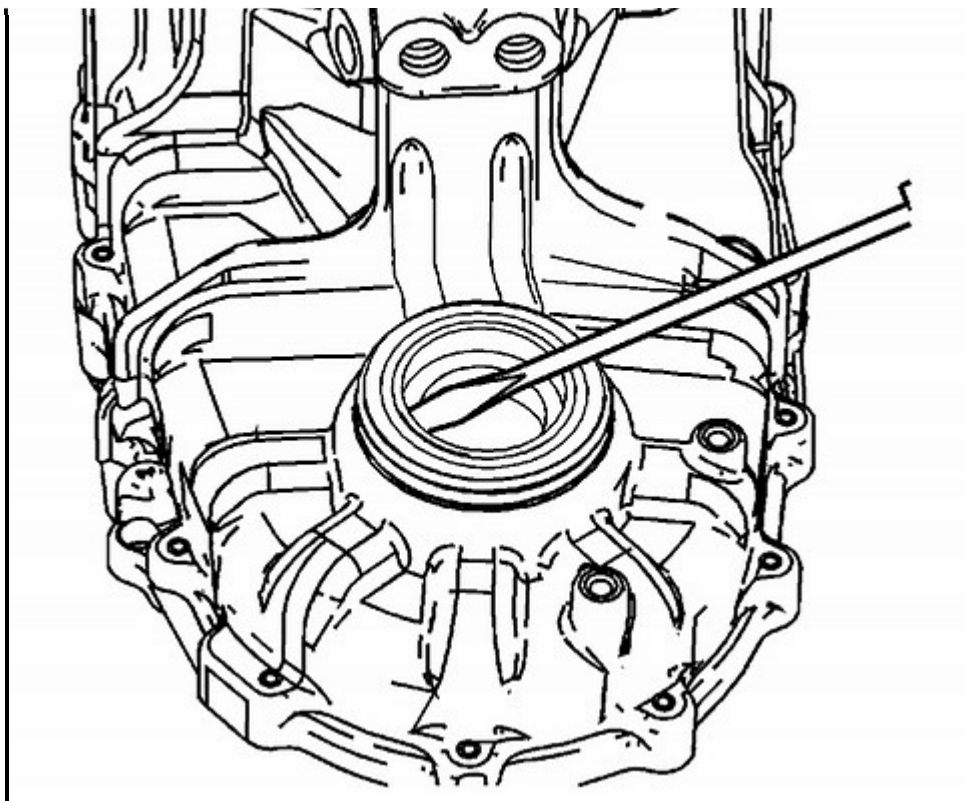
Zoom and Print Options



69. Remove the front output shaft front bearing retaining ring.



**Zoom and Print Options**

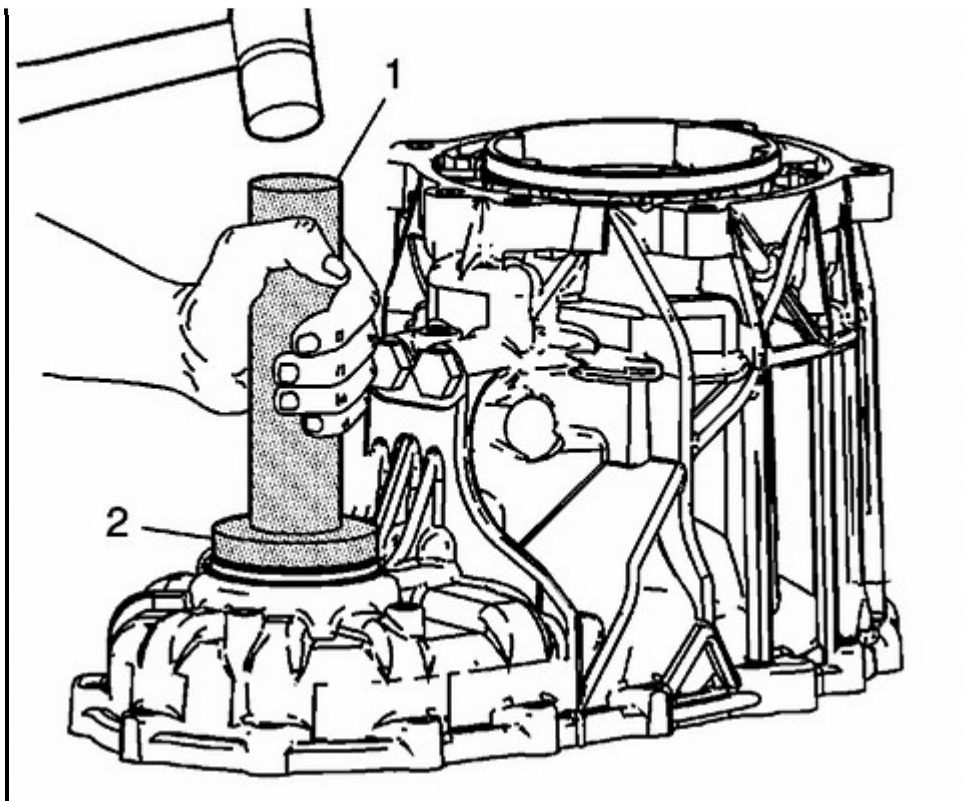


- 70. Remove the front output shaft seal.
- 71. Remove the front case half from the J 45759.



#### Zoom and Print Options





72. Inspect the front output shaft bearing for being faulty.

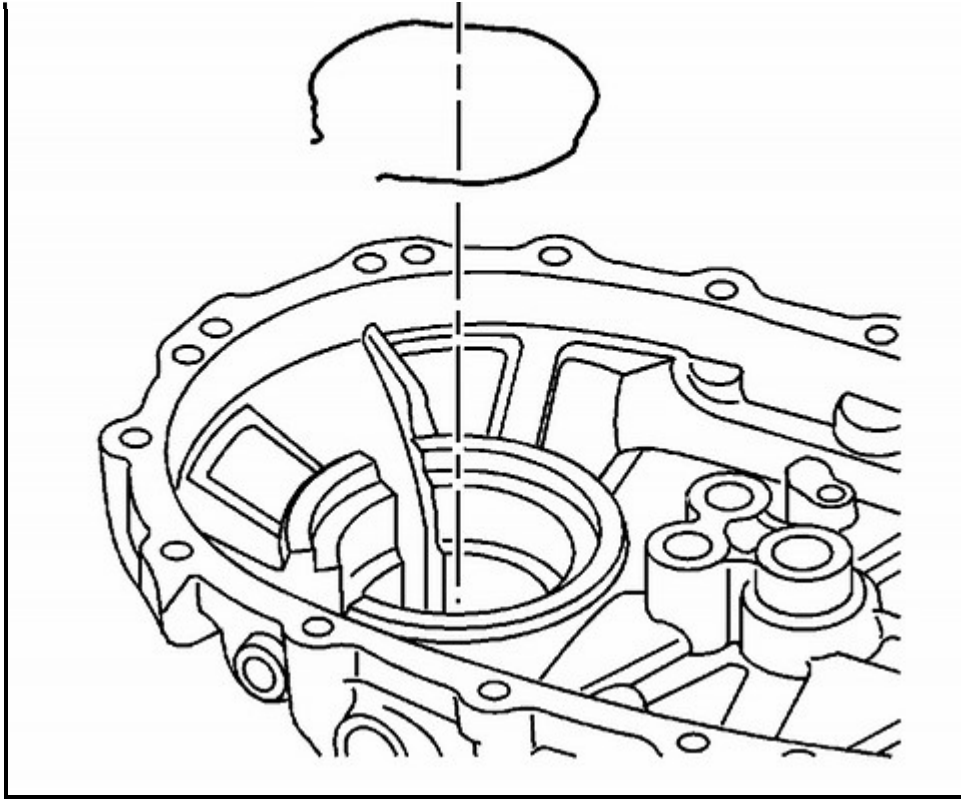
73. Using the J 8092 (1) and the J 46199 (2), remove the front output shaft front bearing.

74. Discard the bearing after removal.



#### Zoom and Print Options

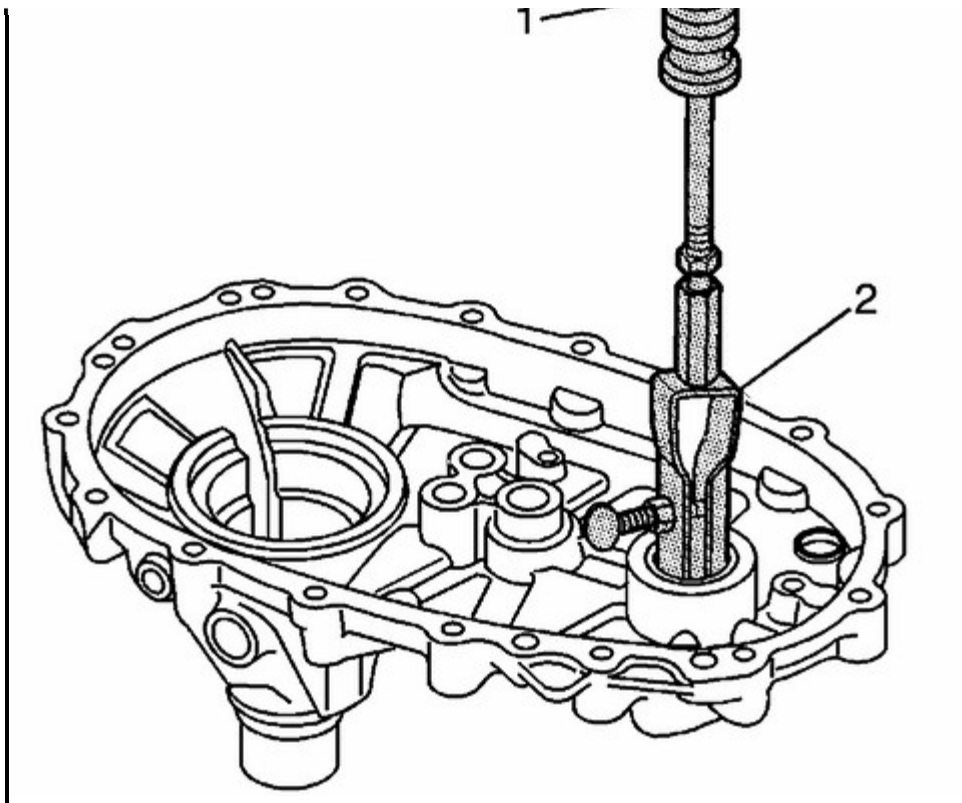




75. Remove the oil pump retaining ring from the rear case half.



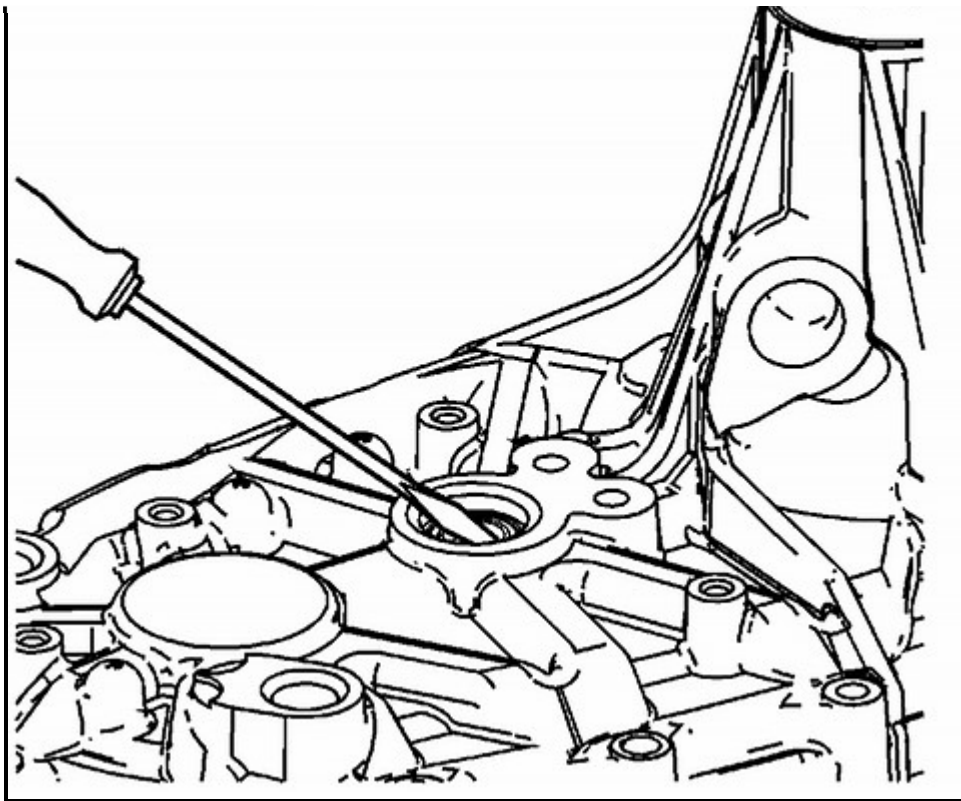
Zoom and Print Options



76. Using the J 23907 (1) and the J 29369-2 (2), remove the front output shaft rear bearing from the rear case half. Do not use the bearing after removal.



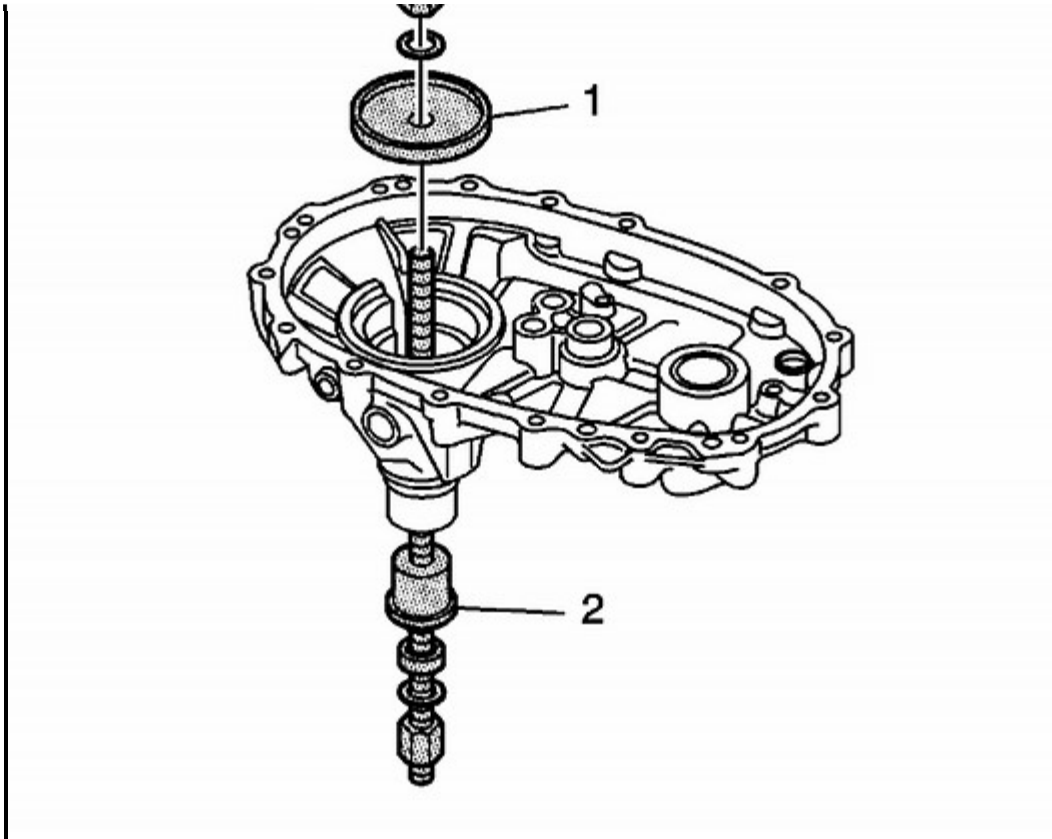
**Zoom and Print Options**



77. Remove the control actuator shaft seal from the rear case.



Zoom and Print Options



78. Inspect the rear bushing for being faulty.

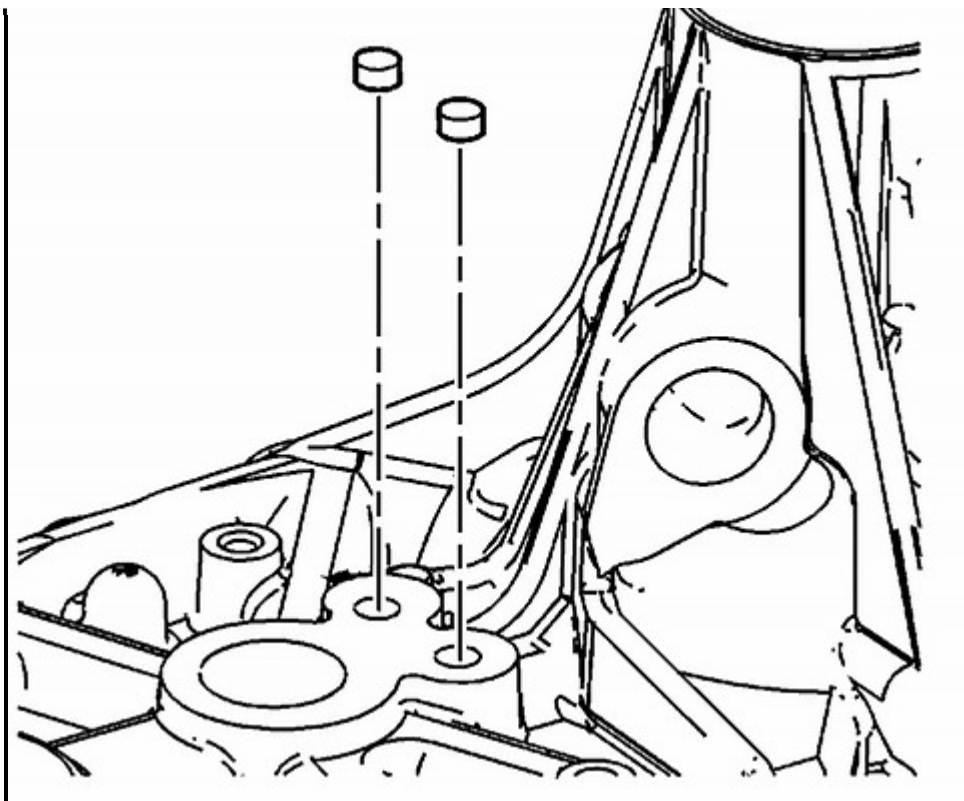
**79. Important:**

- ^ Use the thrust bearing between the J 45933-4 (2) and a washer.
- ^ Ensure the threads, of the threaded shaft, on the J 45933 are lubricated with the supplied lubricant.

If the rear bushing is faulty, remove the bushing using the J 45933-4 (2) and the J 45933-3 (1) of the J 45933.



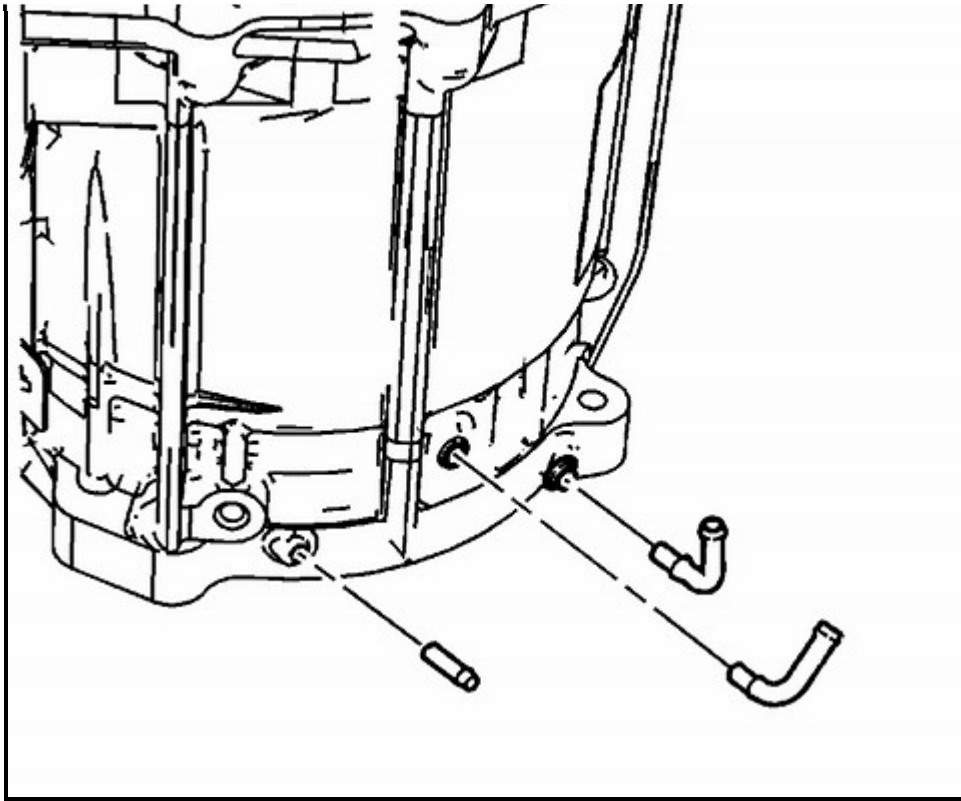
**Zoom and Print Options**



80. If necessary, remove the shift shaft plugs.



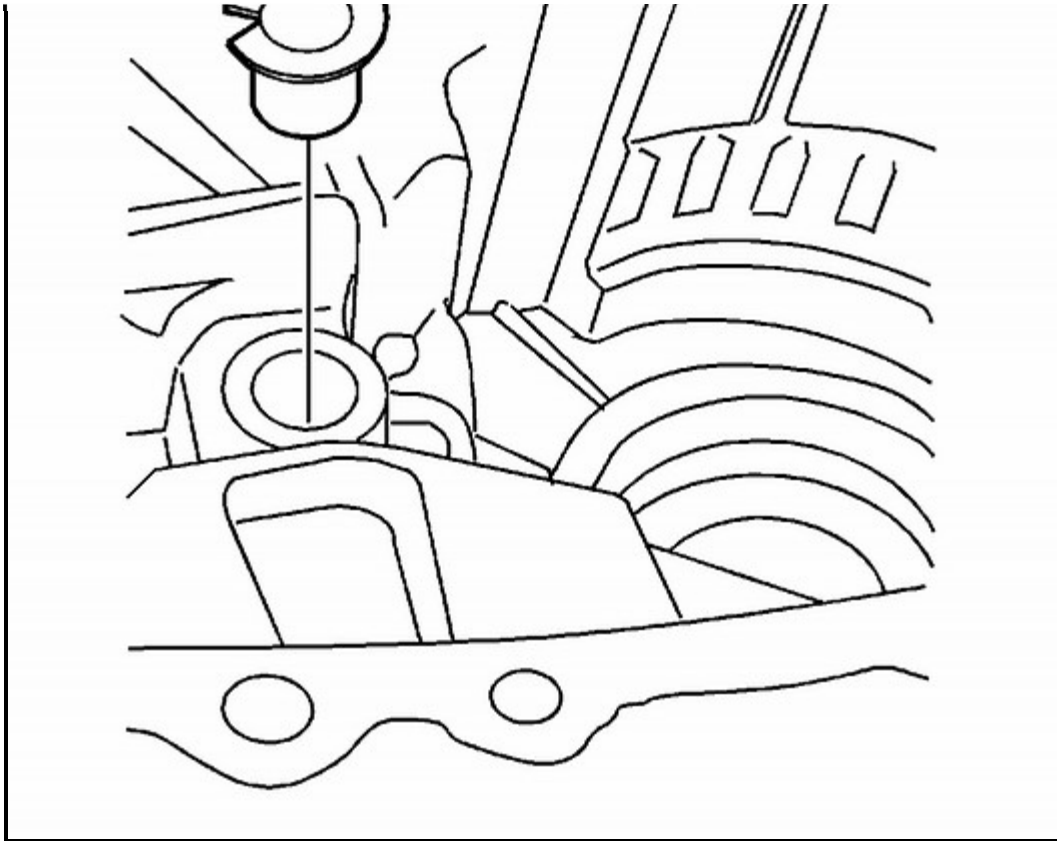
Zoom and Print Options



81. If necessary, remove the vent or breather hose pipes.



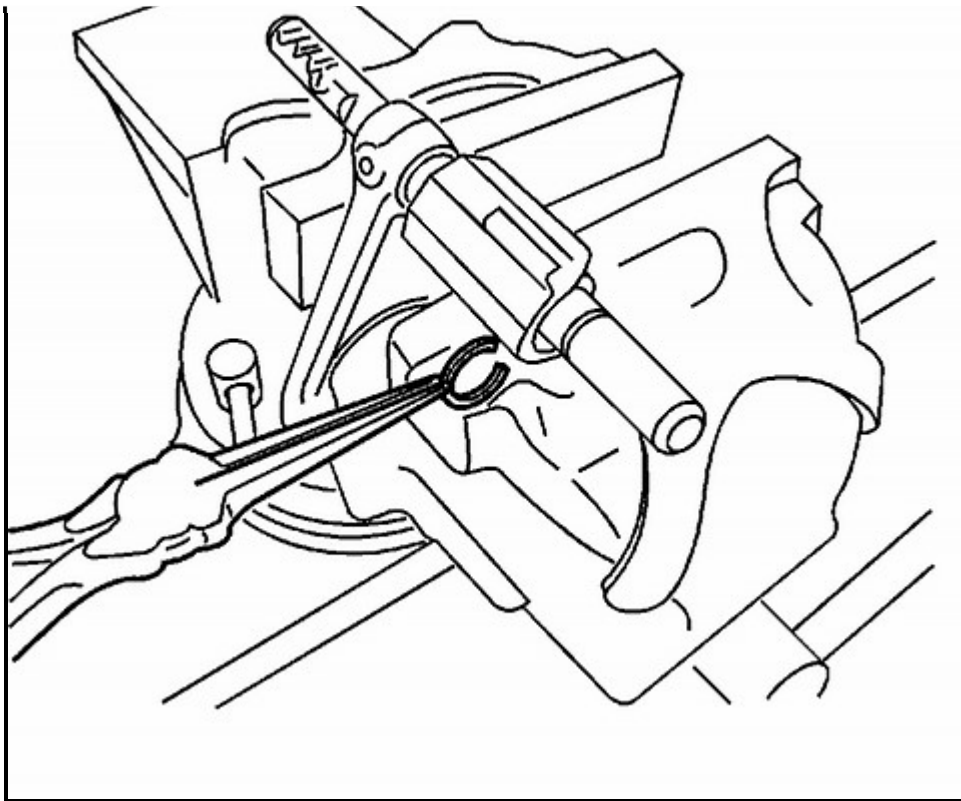
Zoom and Print Options



82. If necessary, remove the control actuator shaft bushing.



**Zoom and Print Options**



83. **Important:** Only disassemble the shift forks if components require replacement.

Disassemble the high/low shift fork by compressing the spring in a vise.

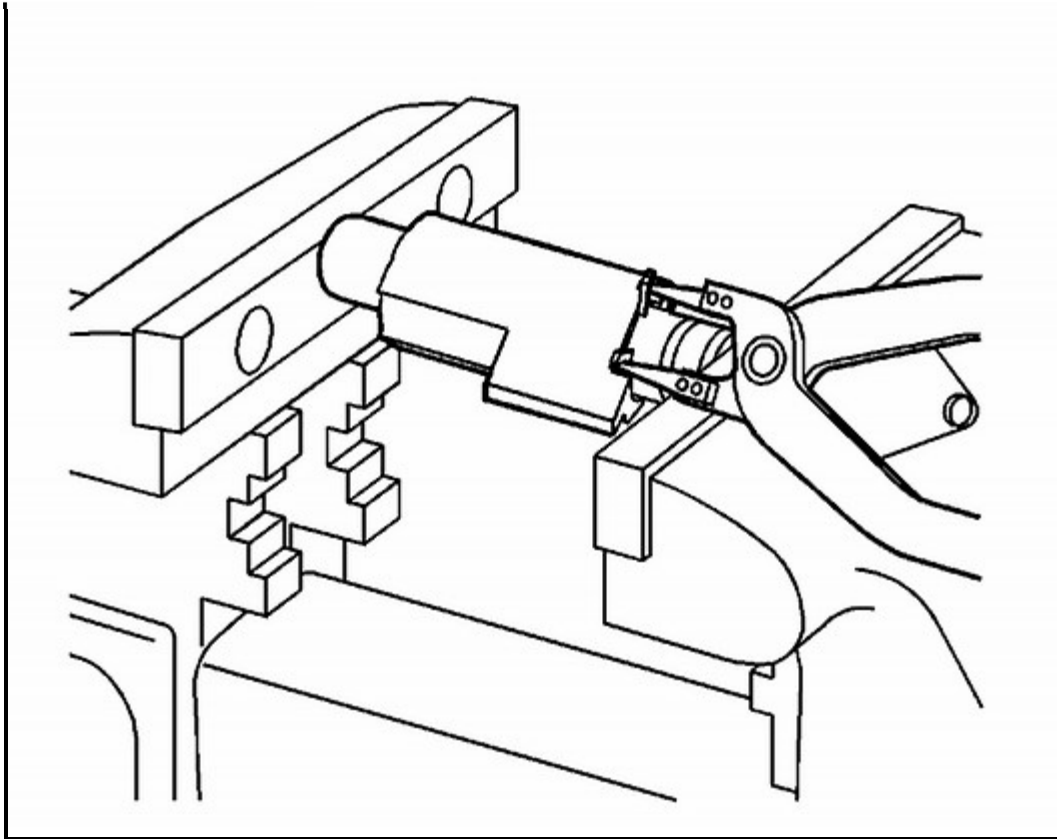
84. Remove the retaining ring from the shift shaft.

85. Remove the shift fork assembly from the vise and remove the shift block.



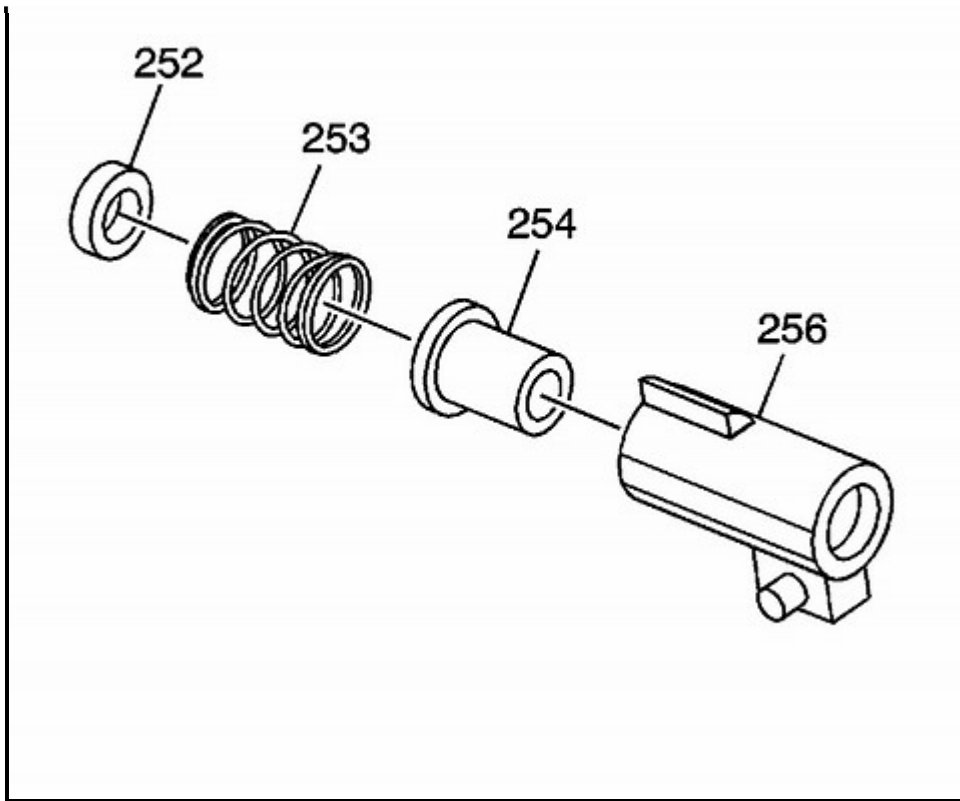
**Zoom and Print Options**





86. Using a socket and vise, compress the spring in the high/low shift block. Use a small enough diameter socket to allow removal of the inner retaining ring.
87. Remove the inner retaining ring from the shift block.

 **Zoom and Print Options**

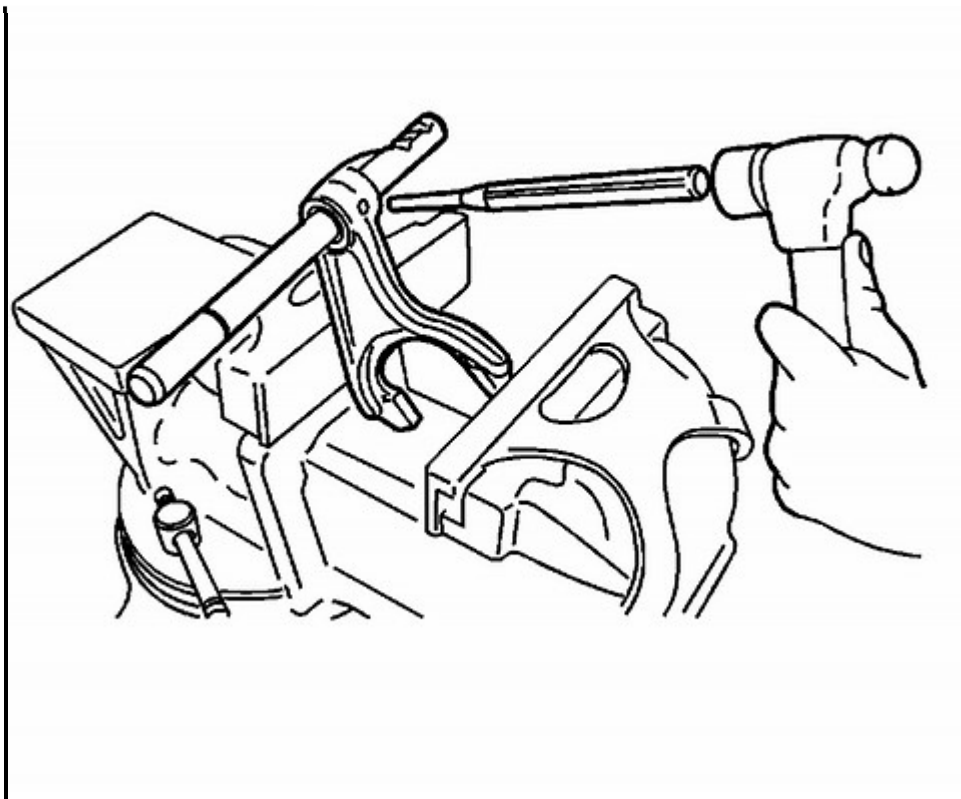


88. Remove the shift block from the vise.

89. Remove the spring seat (252), the spring (253) and the block collar (254) from the shift block (256).



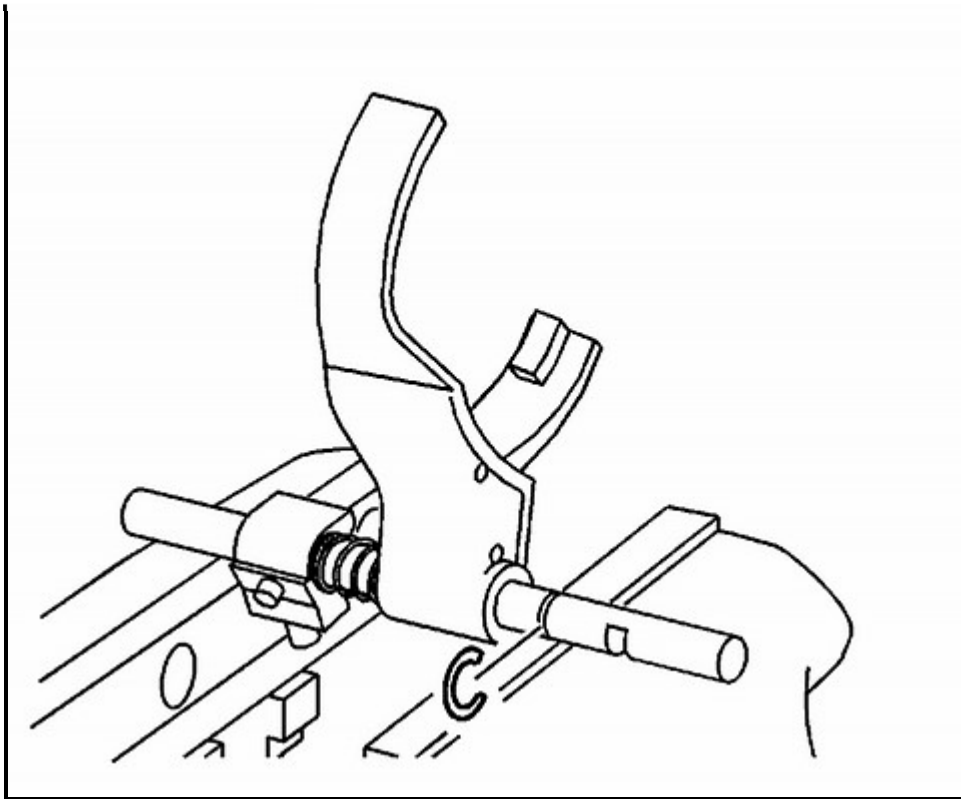
#### Zoom and Print Options



- 90. Remove the roll pin from the high/low shift fork.
- 91. Remove the shift fork from the shift shaft.



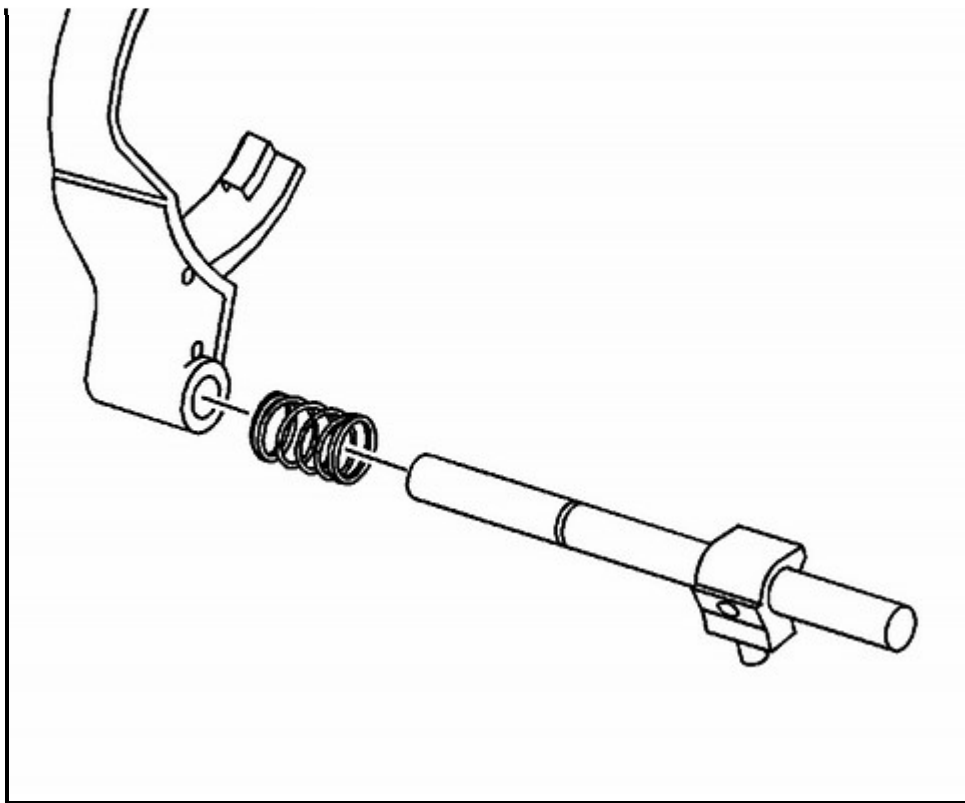
#### Zoom and Print Options



- 92. Disassemble the 2/4 shift fork by compressing the spring in a vise.
- 93. Remove the retaining ring from the shift shaft.



#### Zoom and Print Options



94. Remove the 2/4 shift fork and spring from the shift shaft. The shift block is serviced with the shift shaft.