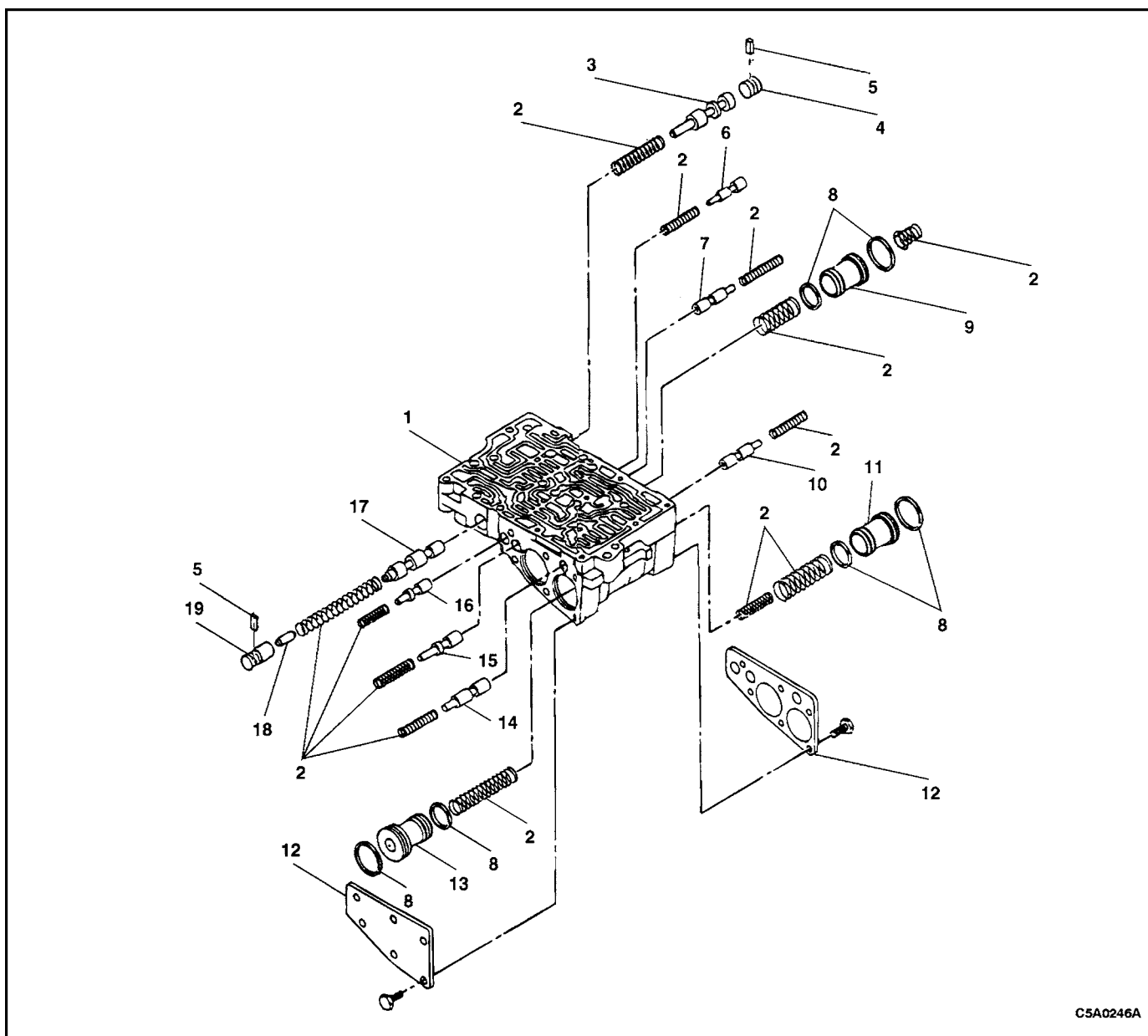
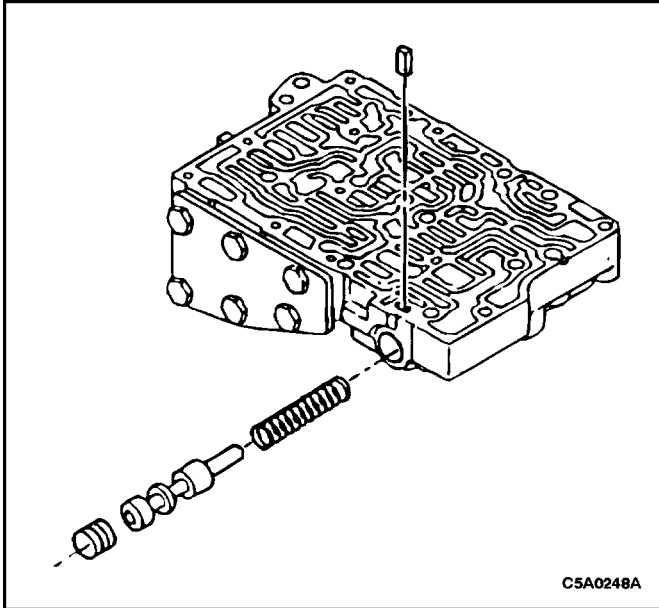


## LOWER VALVE BODY



C5A0246A

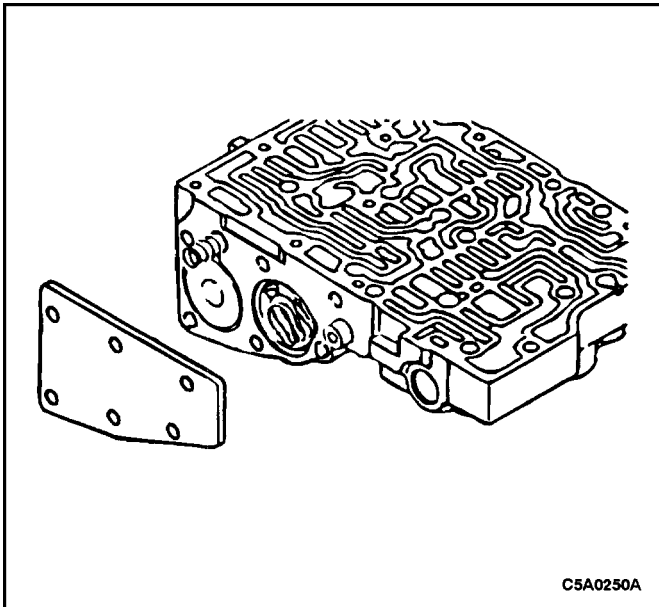
- |                              |                                   |
|------------------------------|-----------------------------------|
| 1. Lower Valve Body          | 11. C2 Accumulator Piston         |
| 2. Valve Spring              | 12. Cover Plate                   |
| 3. Secondary Regulator Valve | 13. C3 Accumulator Piston         |
| 4. Retainer                  | 14. C3 Accumulator Valve          |
| 5. Key                       | 15. B1 Accumulator Valve          |
| 6. Accumulator Control Valve | 16. Coast Modulator Valve         |
| 7. B2 Accumulator Valve      | 17. Lockup Control Valve          |
| 8. Seal Rings                | 18. Lockup Control Plunger        |
| 9. B2 Accumulator Piston     | 19. Lockup Control Plunger Sleeve |
| 10. C2 Accumulator Valve     |                                   |



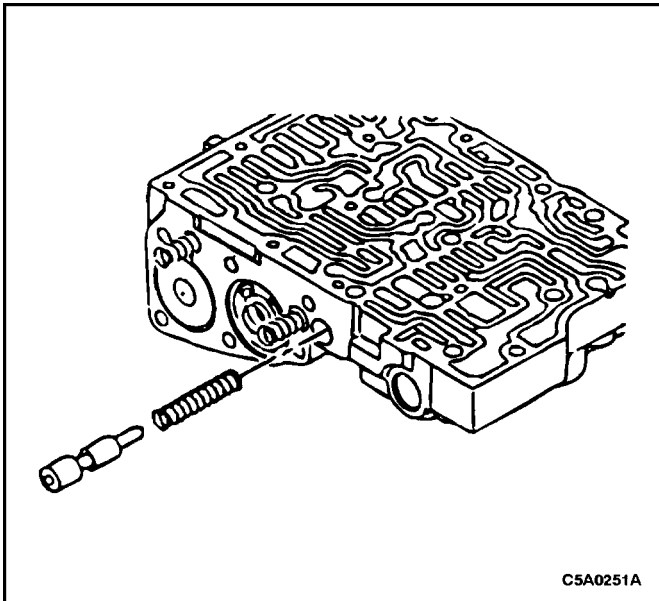
1. Remove the key, the retainer, the secondary regulator valve and the valve spring.

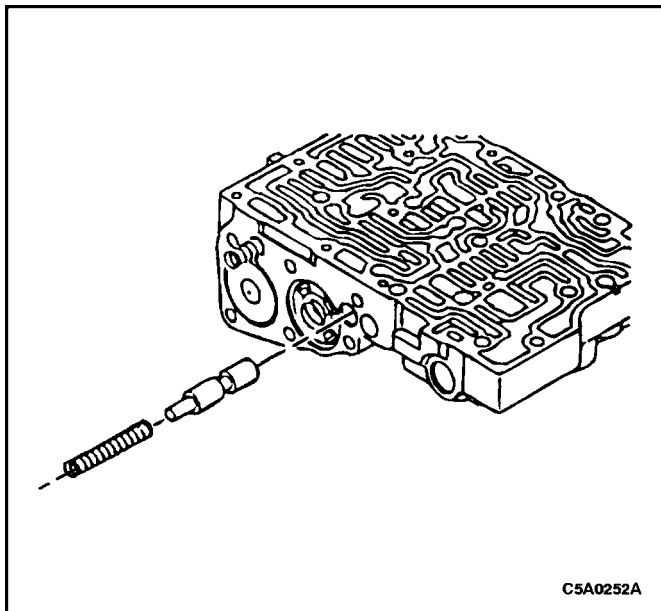
**Notice :** Discard the gasket.

2. Remove the cover plate and gasket.



3. Remove the valve spring and the accumulator control valve.

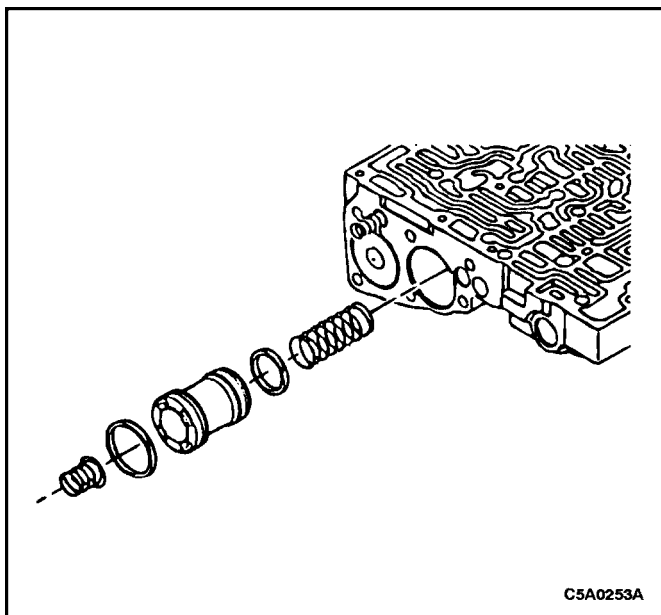




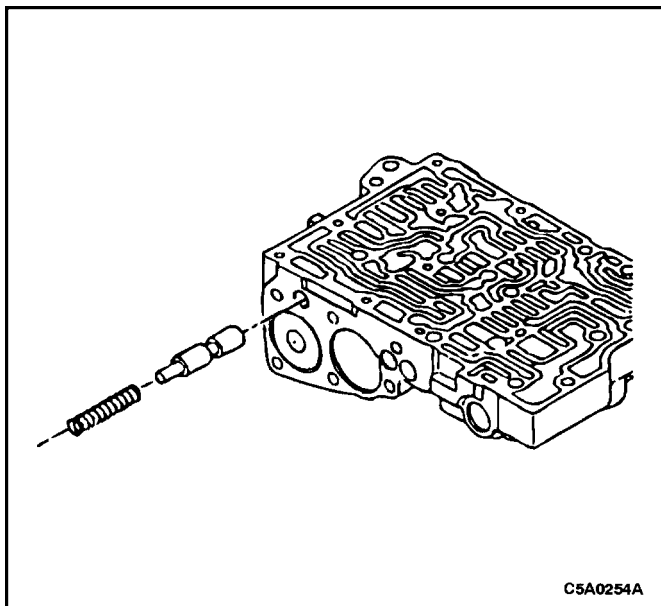
4. Remove the valve spring and the B2 accumulator valve.

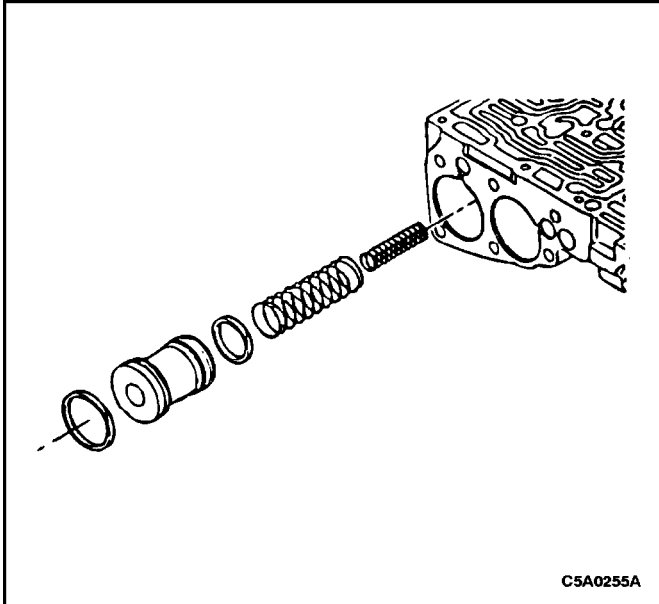
**Notice :** Remove the seal rings from the piston and discard them.

5. Remove the B2 accumulator piston and the springs.



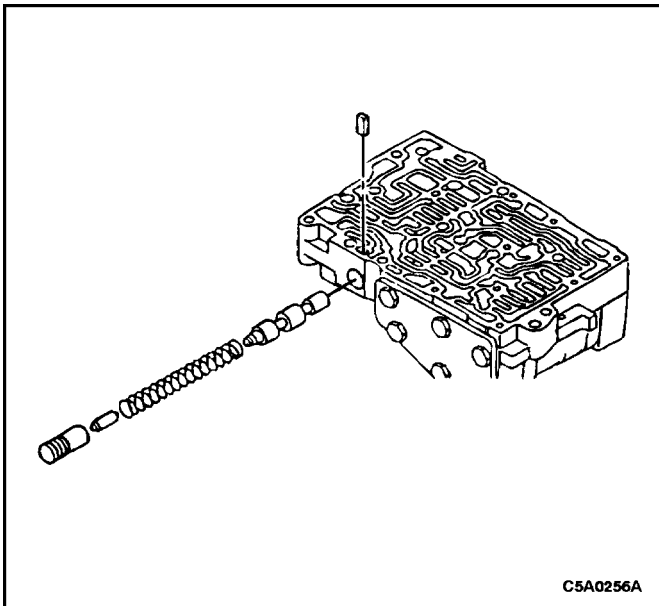
6. Remove the valve spring and the C2 accumulator valve.



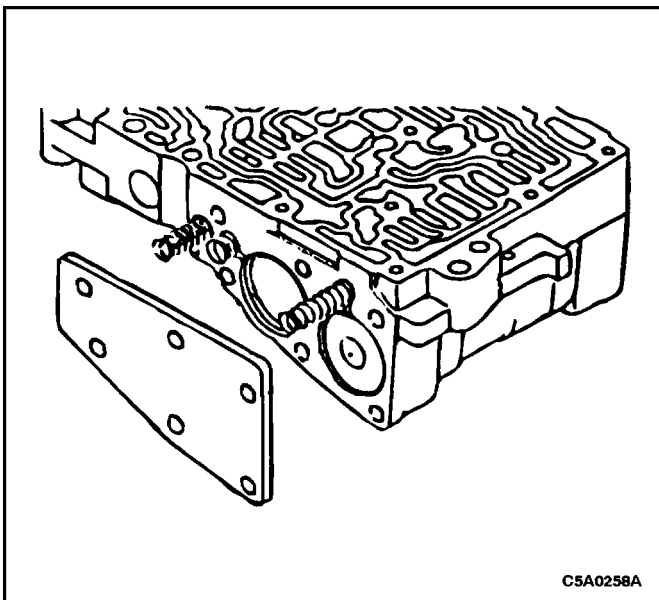


**Notice :** Remove discard the seal rings from the piston.

7. Remove the C2 accumulator piston and the springs.

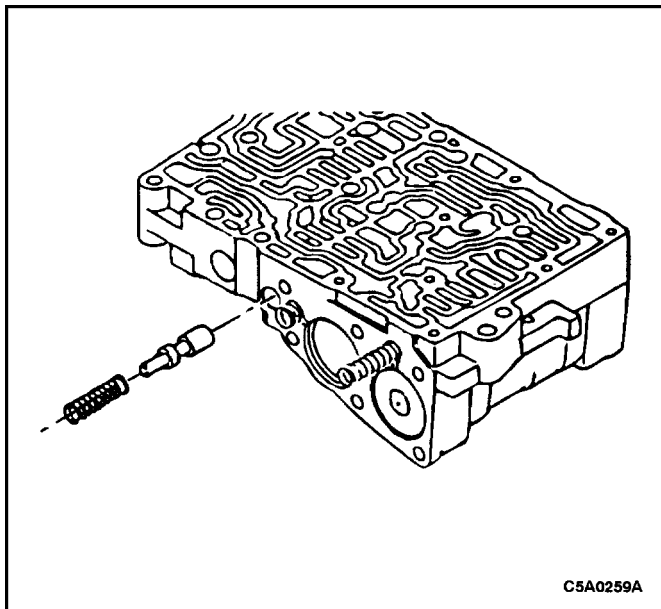


8. Remove the key, the lockup control plunger sleeve, lockup control plunger, the valve spring and the lockup control valve.

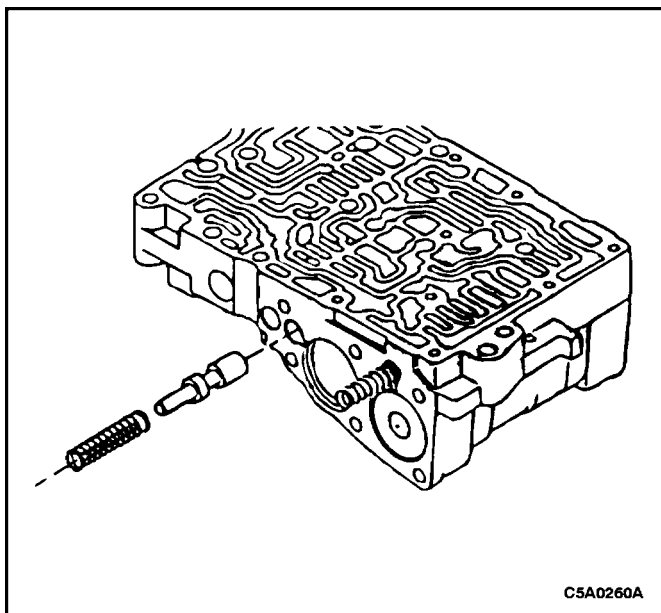


**Notice :** Discard the gasket.

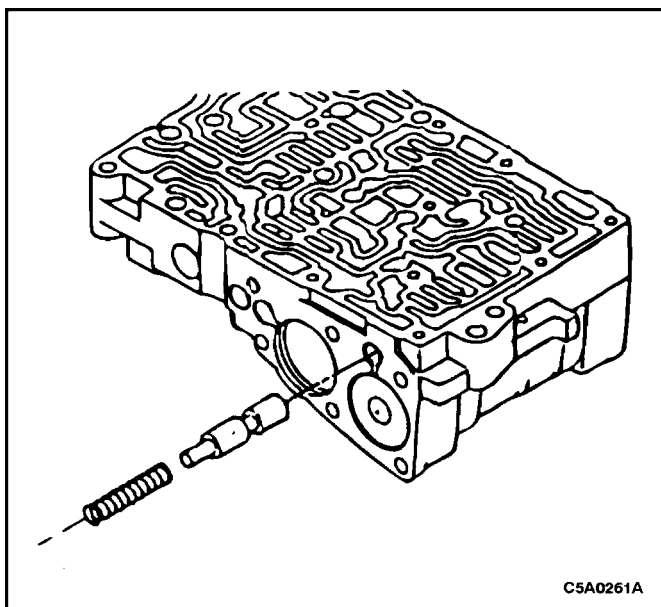
9. Remove the cover plate and gasket.



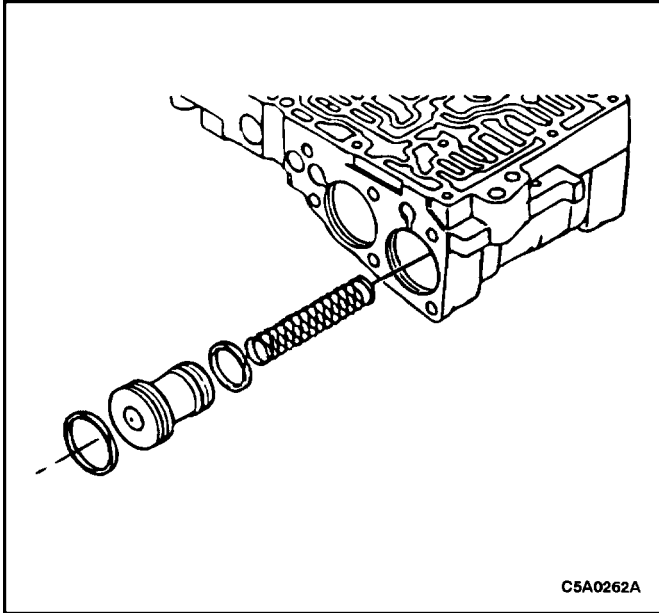
10. Remove the valve spring and the coast modulator valve.



11. Remove the valve spring and the B1 modulator valve.

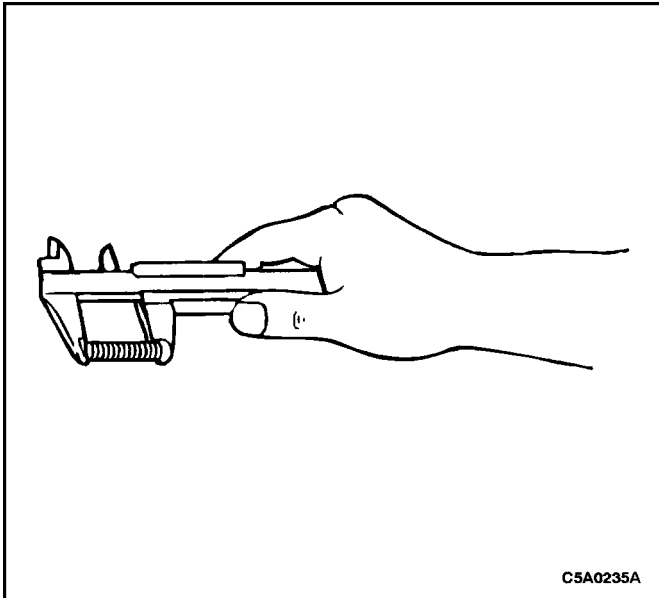


12. Remove the valve spring and the C3 modulator valve.



**Notice :** Remove the seal rings from the piston and discard them.

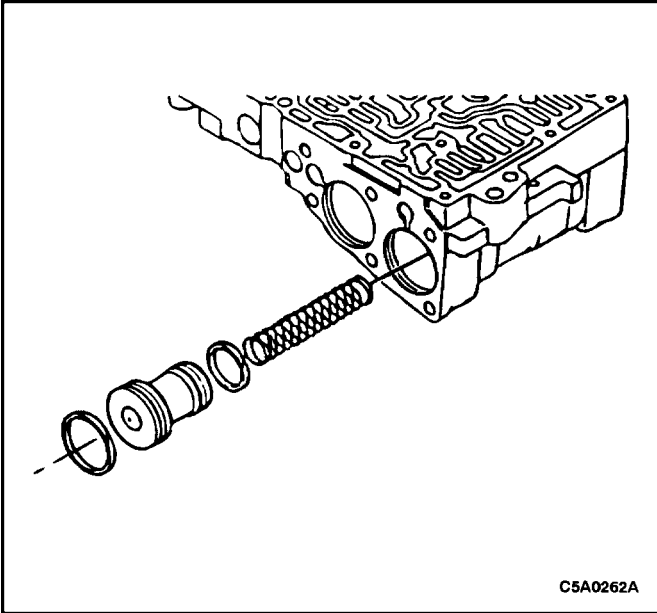
13. Remove the C3 accumulator piston and spring.



14. Inspect the valve springs.

- Using vernier calipers, measure the free length and outer diameter of the spring. If it does not meet specifications, replace it.

Valve or Piston	Valve Spring Free Length in (mm)	Valve Spring Outer Diameter in (mm)
Secondary	1.5 (37.4)	0.39 (10.0)
Regulator Accumulator	1.0 (26.6)	0.28 (7.2)
Control B2 Valve	1.3 (32.77)	0.27 (7.0)
B2 Piston–Inner	0.59 (15.0)	0.47 (11.9)
B2 Piston–Outer	1.8 (46.0)	0.60 (15.2)
C2 Piston–Inner	1.4 (37.0)	0.40 (10.3)
C2 Piston–Outer	1.8 (46.0)	0.60 (15.3)
C2 Accumulator	1.2 (30.67)	0.27 (7.0)
LockUp Control	2.5 (64.94)	0.38 (9.6)
Coast Modulator	0.95 (24.37)	0.28 (7.2)
B1 Modulator	1.0 (25.94)	0.31 (8.0)
C3 Piston	1.8 (46.0)	0.46 (11.6)
C3 Accumulator	1.2 (30.67)	0.27 (7.0)



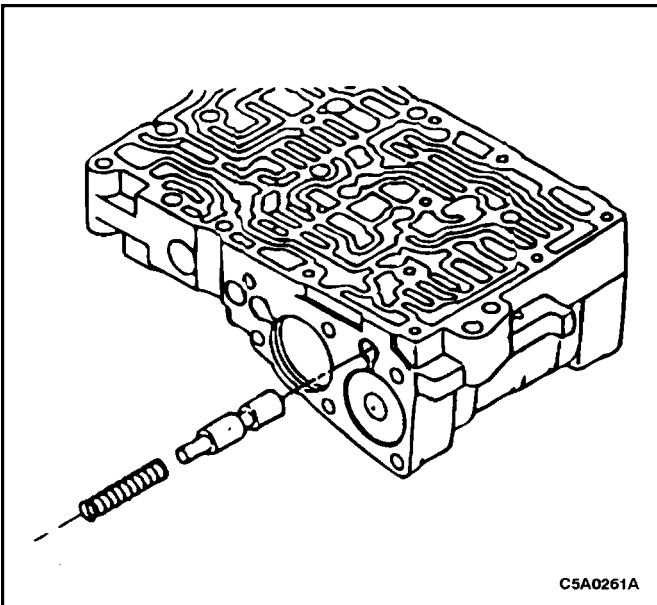
## Assembly Procedure

**Notice :** Inspect the piston for damage or wear. Replace if necessary.

**Notice :** The piston should fit snugly in the bore.

**Notice :** Coat the piston, spring and seal rings with Texaco 1854 automatic transmission fluid prior to assembly.

1. Install new seal rings on the piston. Then install the spring and C3 accumulator piston.

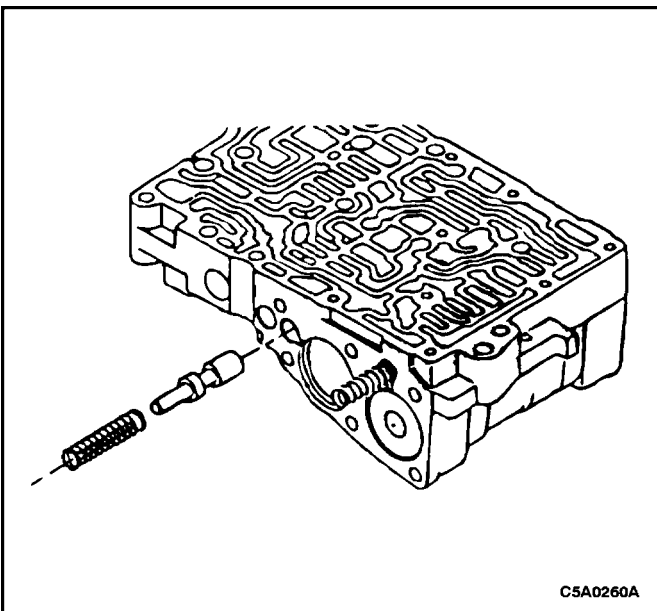


**Notice :** Inspect the valve for damage or wear. Replace if necessary.

**Notice :** The valve should fit snugly in the bore.

**Notice :** Coat the valve and spring with Texaco 1854 automatic transmission fluid prior to assembly.

2. Install the C3 modulator valve and the valve spring.

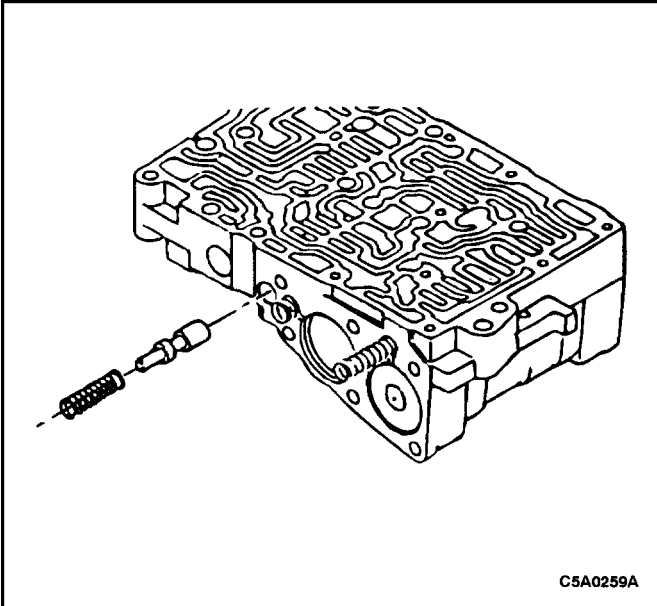


**Notice :** Inspect the valve for damage or wear. Replace if necessary.

**Notice :** The valve should fit snugly in the bore.

**Notice :** Coat the valve and spring with Texaco 1854 automatic transmission fluid prior to assembly.

3. Install the B1 modulator valve and the valve spring.

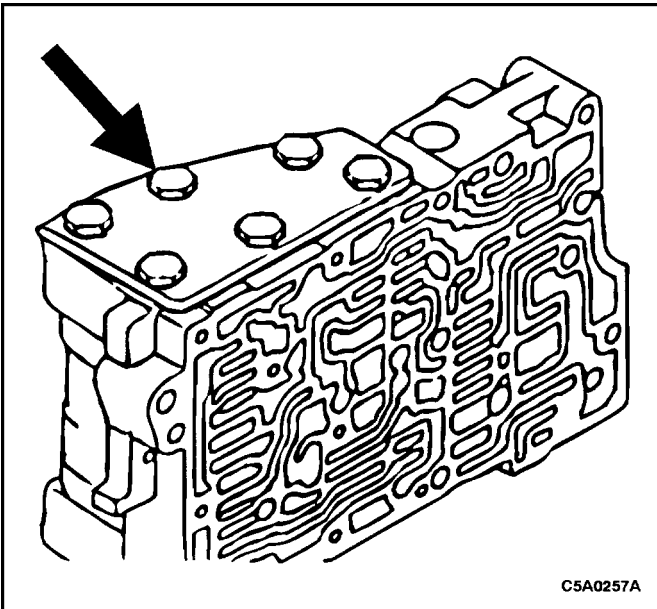


**Notice :** Inspect the valve for damage or wear. Replace if necessary.

**Notice :** The valve should fit snugly in the bore.

**Notice :** Coat the valve and spring with Texaco 1854 automatic transmission fluid prior to assembly.

4. Install the coast modulator valve and the valve spring.

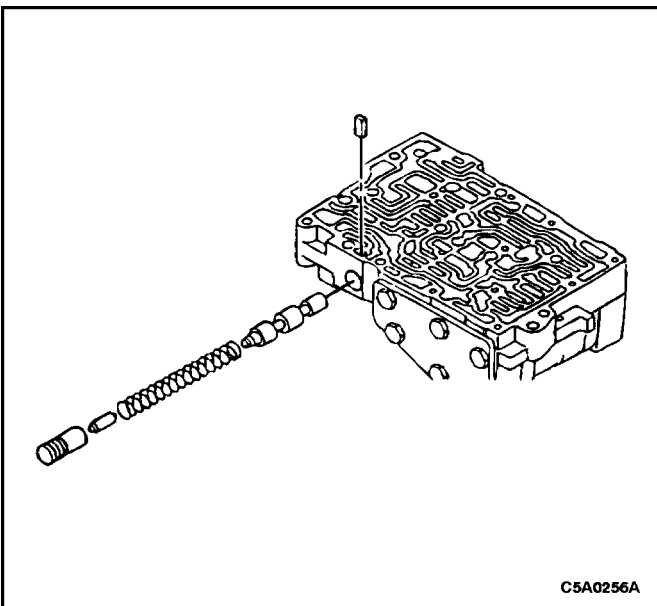


**Notice :** Tighten the six bolts evenly and gradually.

5. Install a new gasket and the cover plate.

### **Tighten**

Tighten the bolts to 6-7 N•m (53-62 lb-in).



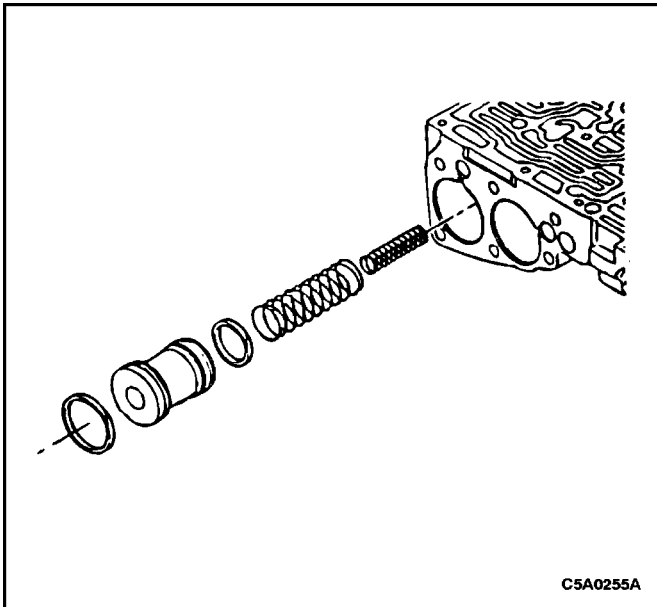
**Notice :** Inspect the valve for damage or wear. Replace if necessary.

**Notice :** The valve should fit snugly in the bore.

**Notice :** Coat the valve, spring, plunger and sleeve with Texaco 1854 automatic transmission fluid prior to assembly.

6. Install the lockup control valve and the valve spring. Insert the lockup control plunger in the lockup control plunger sleeve and install into the valve body. Push in the key.



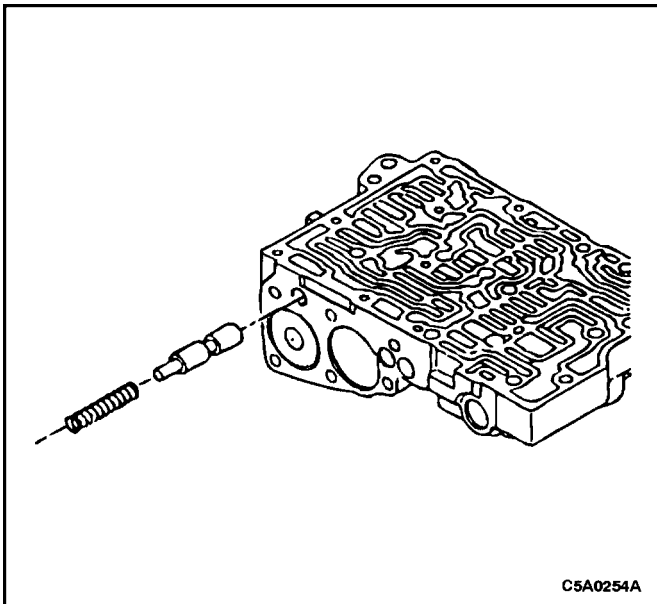


**Notice :** Inspect the valve for damage or wear. Replace if necessary.

**Notice :** The piston should fit snugly in the bore.

**Notice :** Coat the piston, springs and seal rings with Texaco 1854 automatic transmission fluid prior to assembly.

7. Install new seal rings on the piston. Then install the springs and C2 accumulator piston.

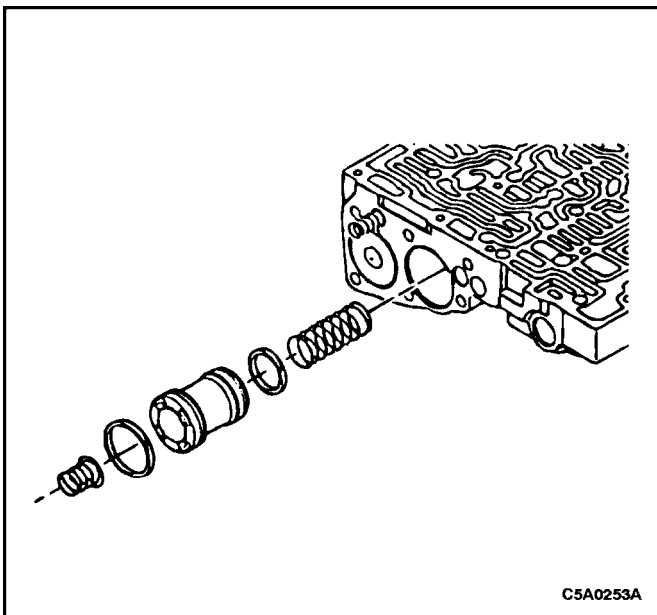


**Notice :** Inspect the valve for damage or wear. Replace if necessary.

**Notice :** The valve should fit snugly in the bore.

**Notice :** Coat the valve and spring with Texaco 1854 automatic transmission fluid prior to assembly.

8. Install the C2 accumulator valve and the valve spring.

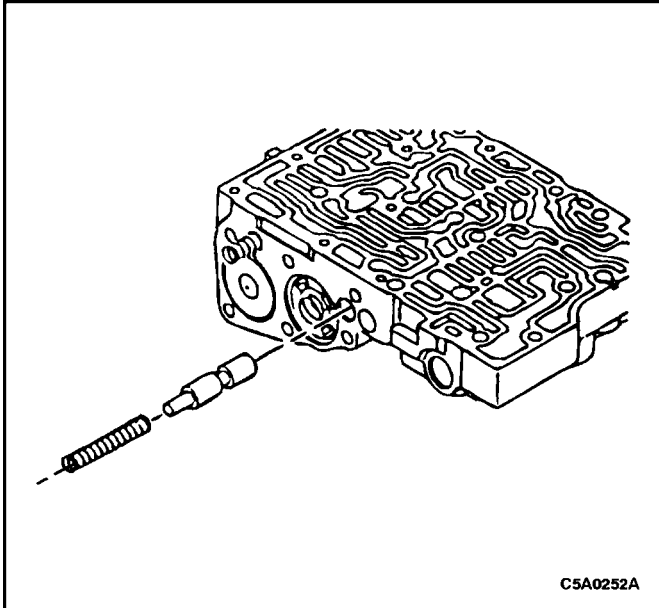


**Notice :** Inspect the valve for damage or wear. Replace if necessary.

**Notice :** The piston should fit snugly in the bore.

**Notice :** Coat the piston, springs and seal rings with Texaco 1854 automatic transmission fluid prior to assembly.

9. Install new seal rings on the piston. Then install the springs and B2 accumulator piston.

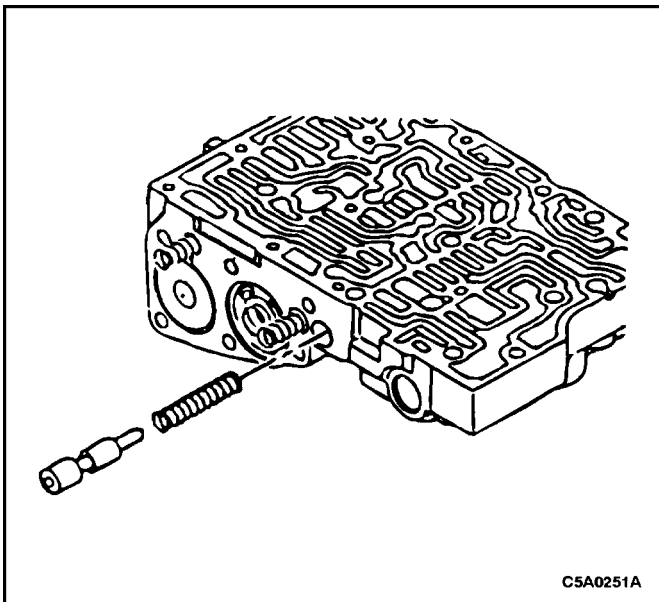


**Notice :** Inspect the valve for damage or wear. Replace if necessary.

**Notice :** The valve should fit snugly in the bore.

**Notice :** Coat the valve and spring with Texaco 1854 automatic transmission fluid prior to assembly.

10. Install the B2 accumulator valve and the valve spring.

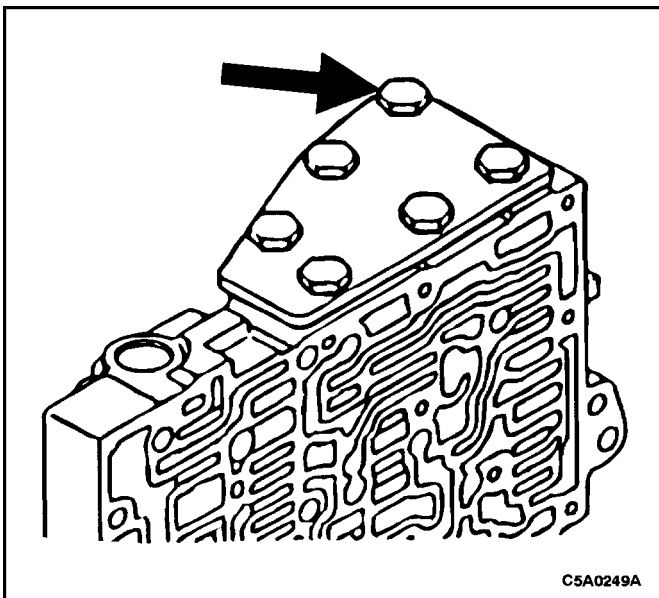


**Notice :** Inspect the valve for damage or wear. Replace if necessary.

**Notice :** The valve should fit snugly in the bore.

**Notice :** Coat the valve and spring with Texaco 1854 automatic transmission fluid prior to assembly.

11. Install the accumulator control valve and the valve spring.

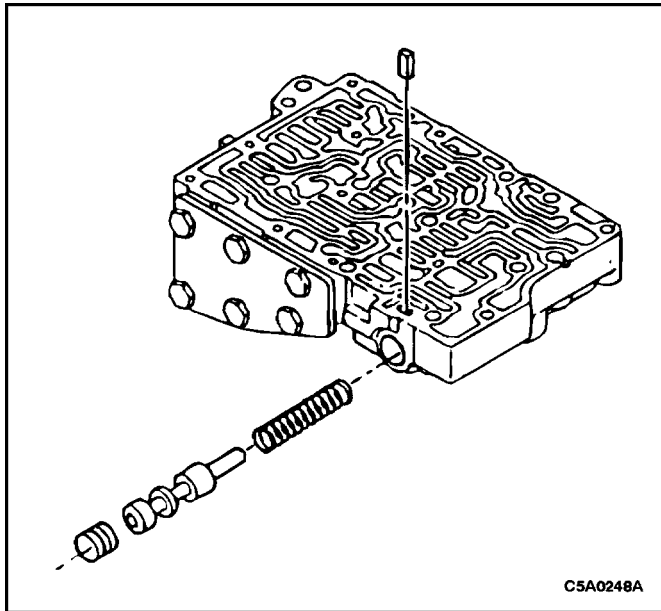


**Notice :** Tighten the bolts evenly and gradually.

12. Install a new gasket and the cover plate.

### **Tighten**

Tighten the bolts to 53–62 lb-in (6–7 N•m).



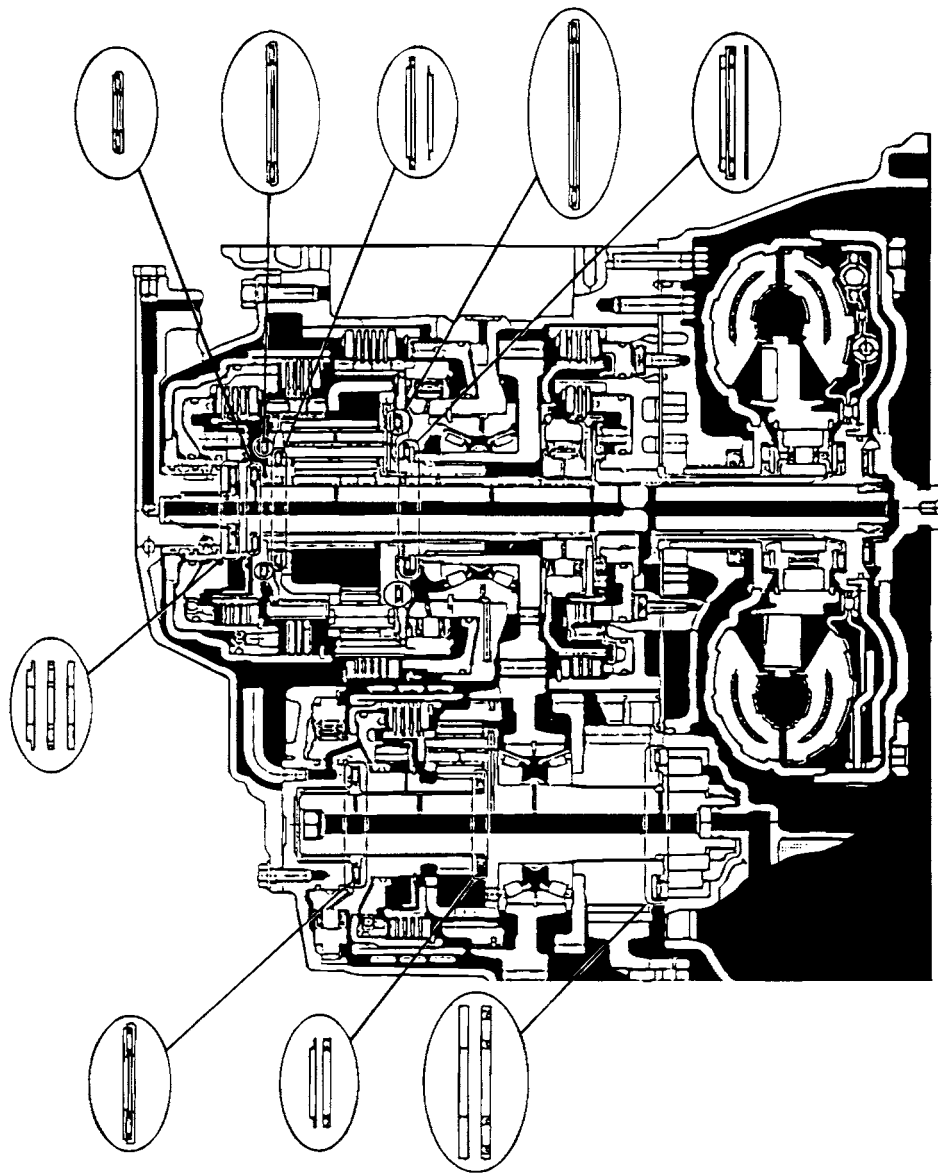
**Notice :** Inspect the valve for damage or wear. Replace if necessary.

**Notice :** The valve should fit snugly in the bore.

**Notice :** Coat the valve, spring and retainer with Texaco 1854 automatic transmission prior to assembly.

13. Install the valve spring, the secondary regulator valve and the retainer. Push in the key.

## BEARING AND THRUST WASHER LOCATION



C5A0333A

**Bearing and Thrust Washer Location**

	Diameter	1 in (mm)	2 in (mm)	3 in (mm)	4 in (mm)	5 in (mm)	6 in (mm)	7 in (mm)	8 in (mm)
Thrust Washers	Outer	2.3 (58.0)		2.1 (54.0)	2.9 (74.0)		1.6 (41.0)		
	Inner	1.7 (43.8)		1.5 (39.0)	2.0 (53.0)		0.53 (13.5)		
Front Bearings	Outer	2.4 (61.7)	3.5 (88.7)	2.2 (57.0)	2.7 (68.5)	1.6 (42.0)	1.6 (41.7)	71.0 (2.8)	1.6 (41.8)
	Inner	1.8 (46.0)	2.8 (72.4)	1.5 (39.0)	2.0 (50.0)	0.87 (22.1)	0.90 (23.0)	49.0 (1.9)	1.1 (28.6)
Thrust Washers – Rear	Outer						1.6 (41.0)	71.0 (2.8)	2.2 (57.3)
	Inner						0.60 (15.3)	49.1 (1.9)	1.4 (36.3)

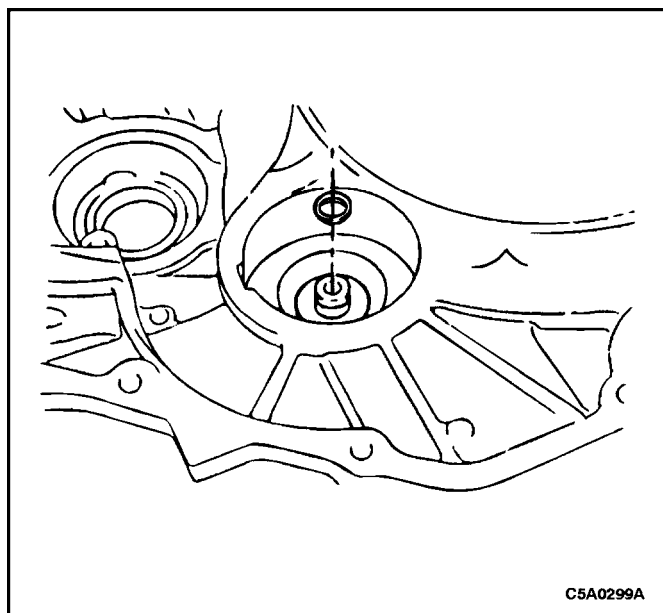
## MAJOR COMPONENT ASSEMBLY

### Tools Required

KM 674 Oil Seal Installer

### Assembly Procedure

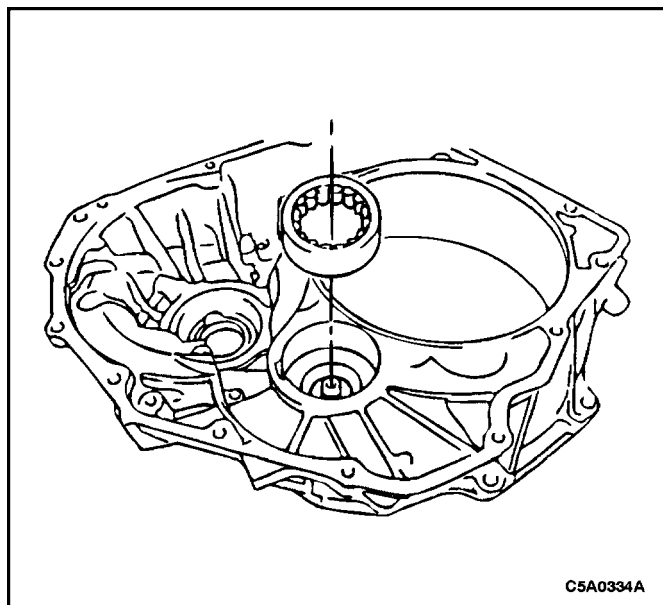
1. Clean components using a clean, high-quality parts cleaning solvent and use compressed air to dry all parts. Inspect all parts for damage or wear.



**Notice :** Apply Texaco 1854 automatic transmission fluid to the seal ring.

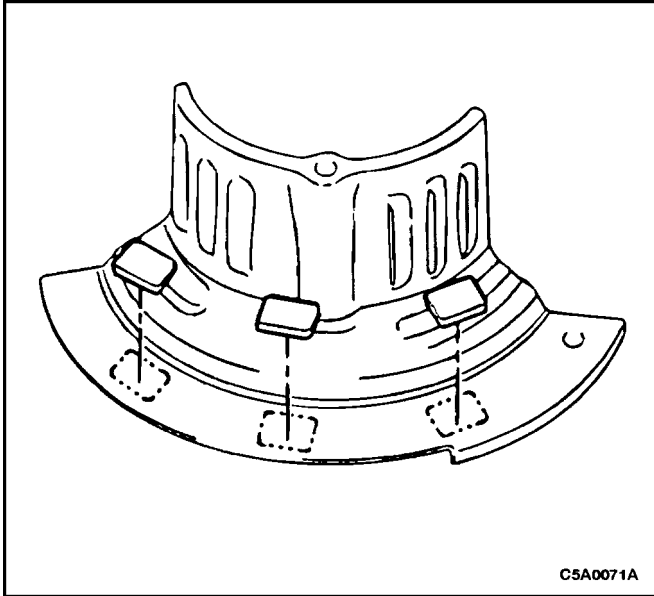
**Notice :** Do not spread the seal ring ends more than necessary.

2. Install a new seal ring on the transaxle housing.

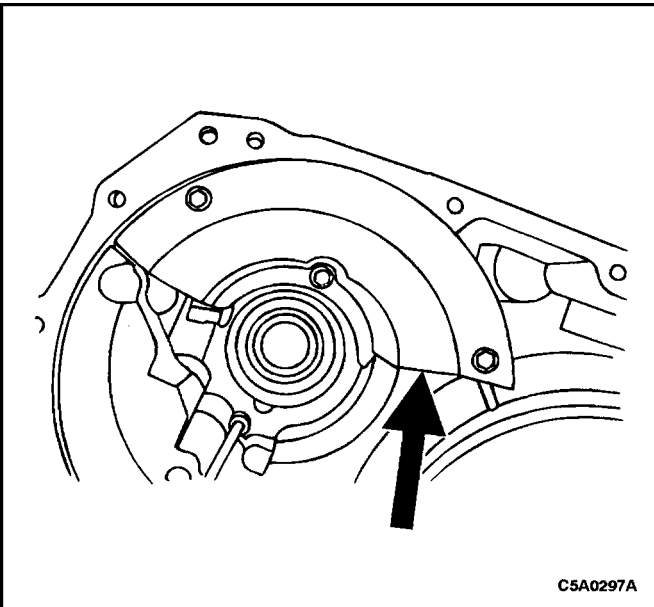


**Notice :** Press the bearing until it touches the housing.

3. Using a suitable press, install the bearing in the transaxle housing.



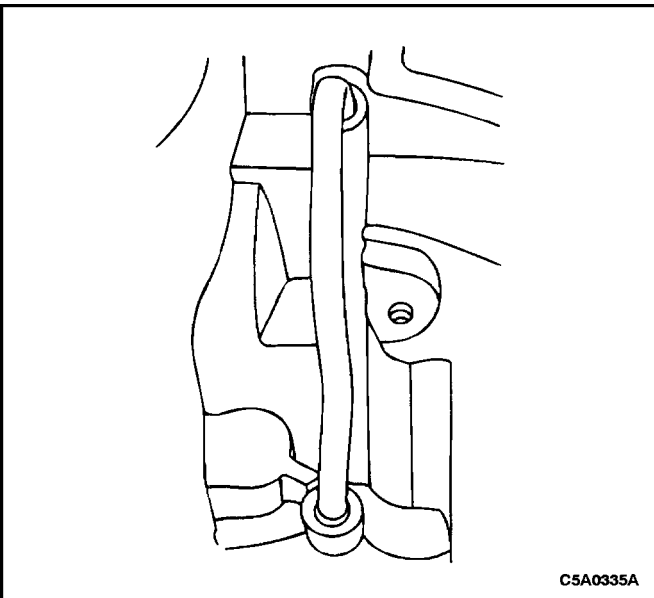
4. Install the magnets on the oil reserve plate.



5. Install the oil reserve plate.

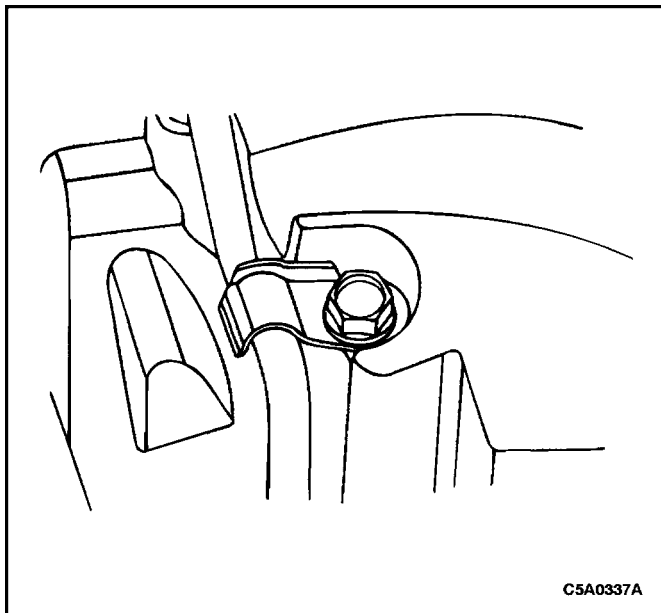
**Tighten**

Tighten the bolts to 35–62 lb-in (4–7 N•m).

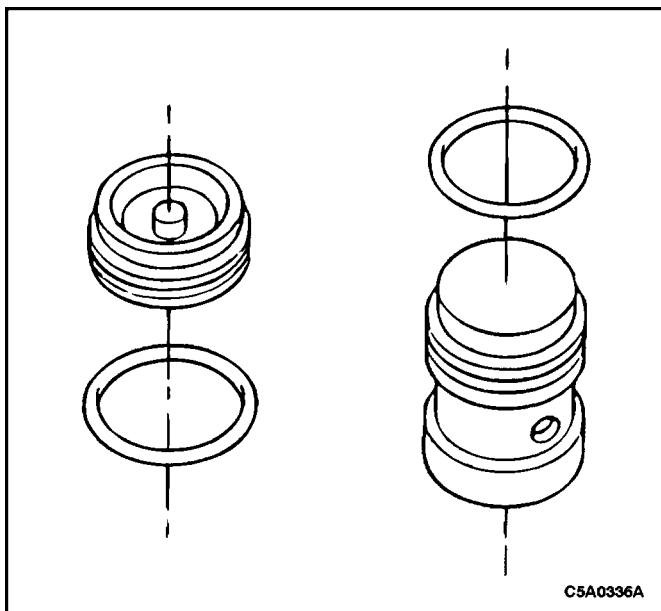


**CAUTION : Do not bend or damage the tube.**

6. Install the lubricant apply tube.
  - Using a plastic hammer, tap the tube into place.

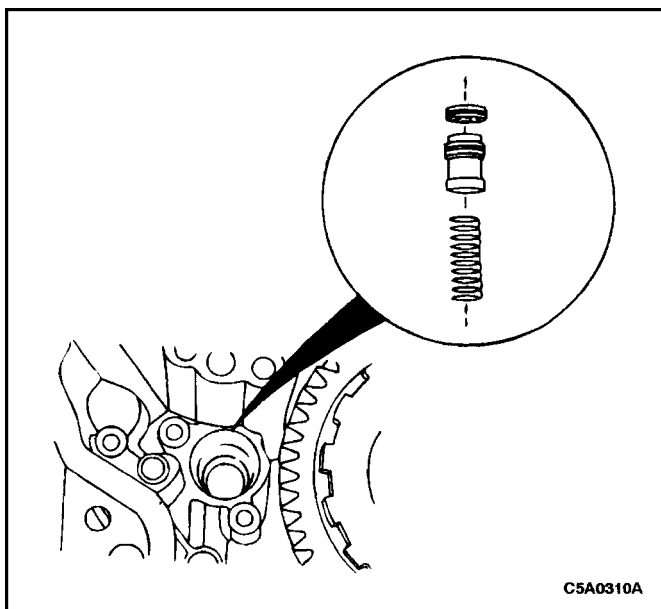


7. Install the apply tube clamp and bolt.

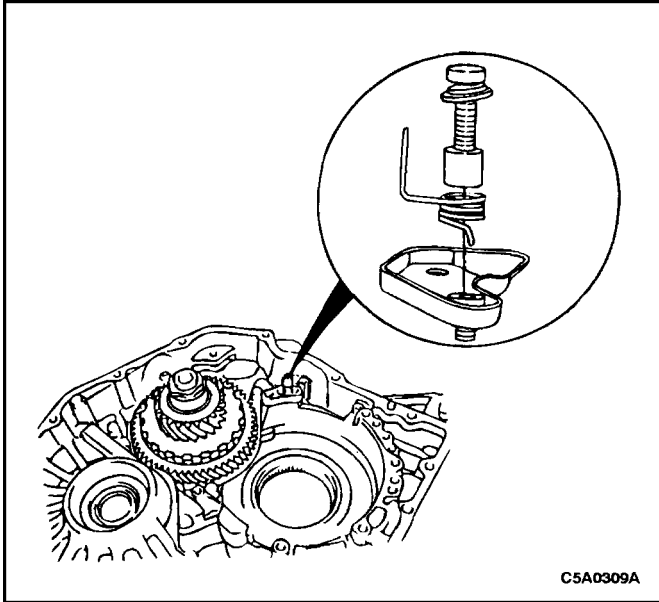


**Notice :** Apply Texaco 1854 automatic transmission fluid to the O-rings and the piston bore.

8. Install new O-rings on the underdrive brake accumulator cover and the underdrive brake accumulator piston.



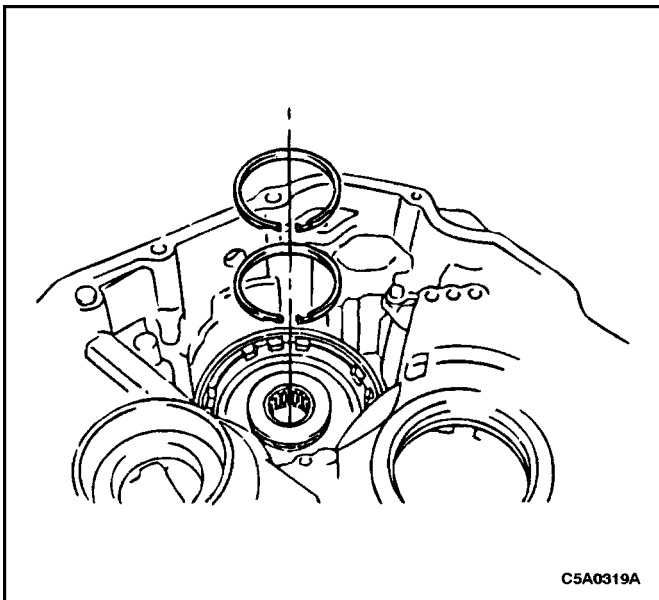
9. Install the accumulator piston spring, the underdrive brake accumulator piston and the underdrive brake accumulator cover.



10. Install the underdrive brake accumulator bracket, the spring guide sleeve, the spring and the two bracket bolts.

**Tighten**

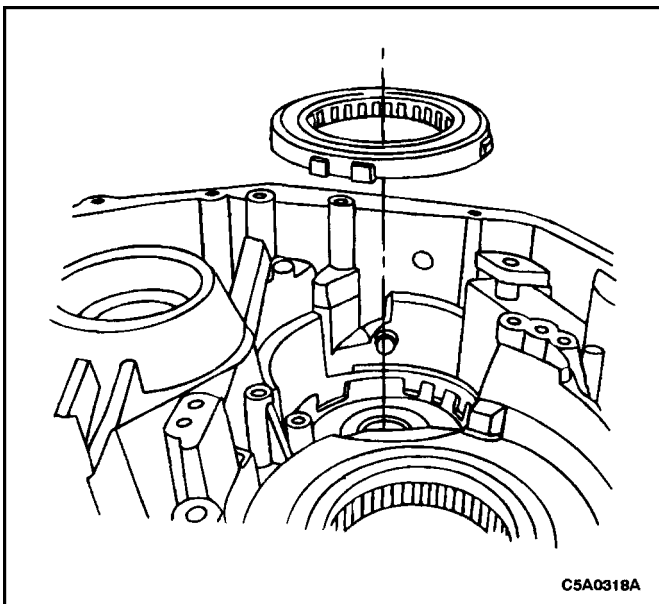
Tighten the bolts to 71–106 lb-in (8–12 N•m).



**Notice :** Apply Texaco 1854 automatic transmission fluid to the seal rings.

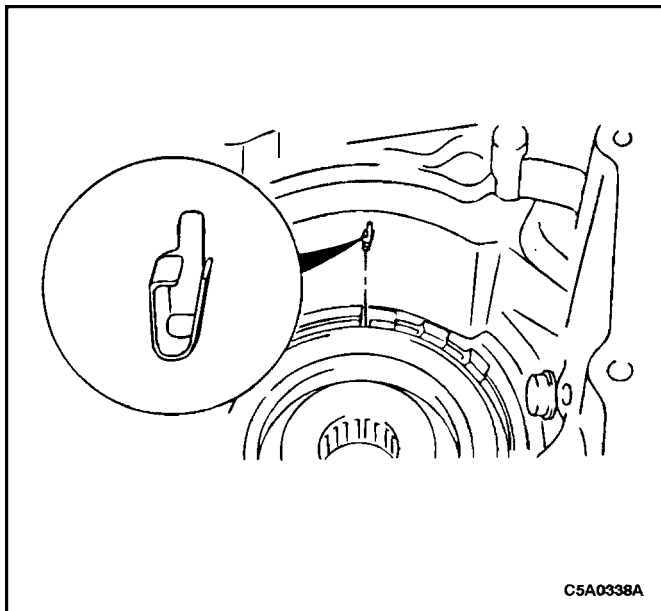
**Notice :** Do not spread the seal ring ends more than necessary.

11. Install new seal rings of the underdrive clutch drum.

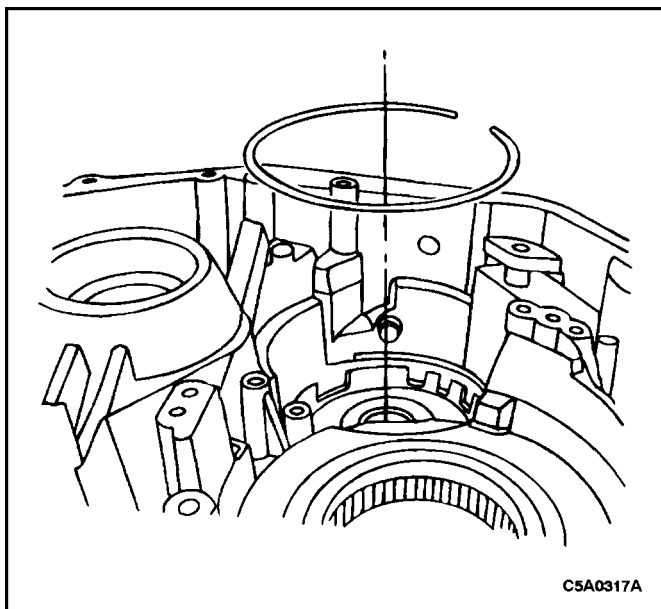


12. Install the underdrive one-way clutch.

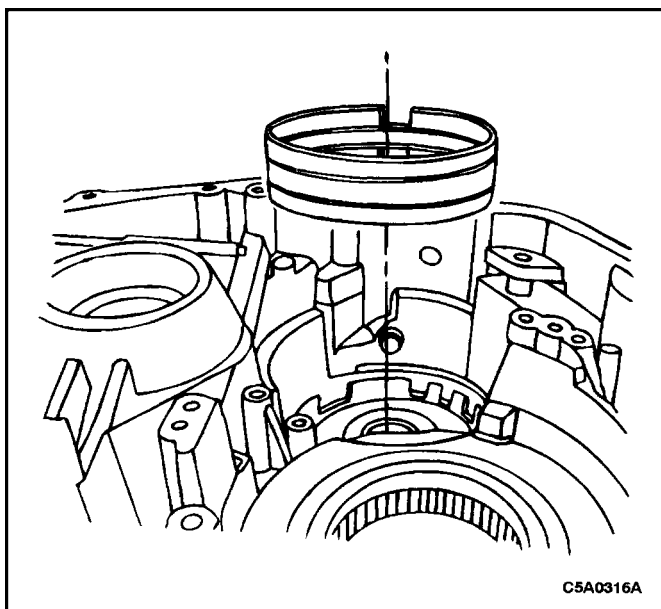




13. Install the underdrive one-way clutch outer race retainer as shown.

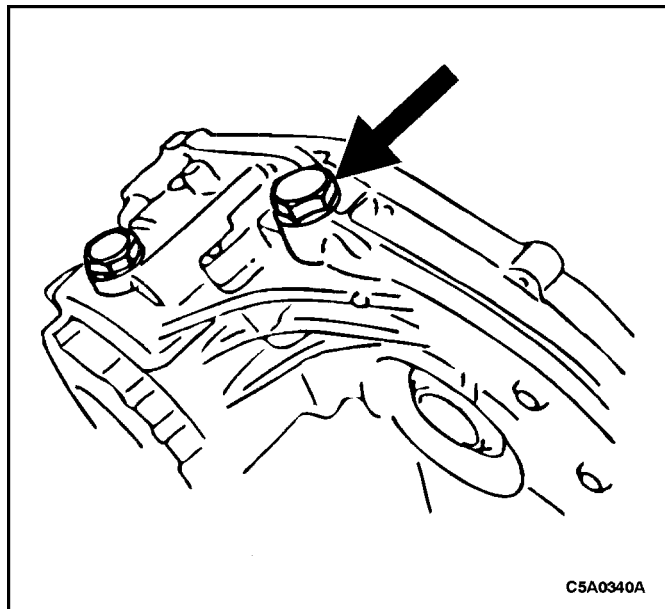


14. Install the snap ring.



**Notice :** Align the brake band with the position of the anchor bolt.

15. Install the underdrive brake band.

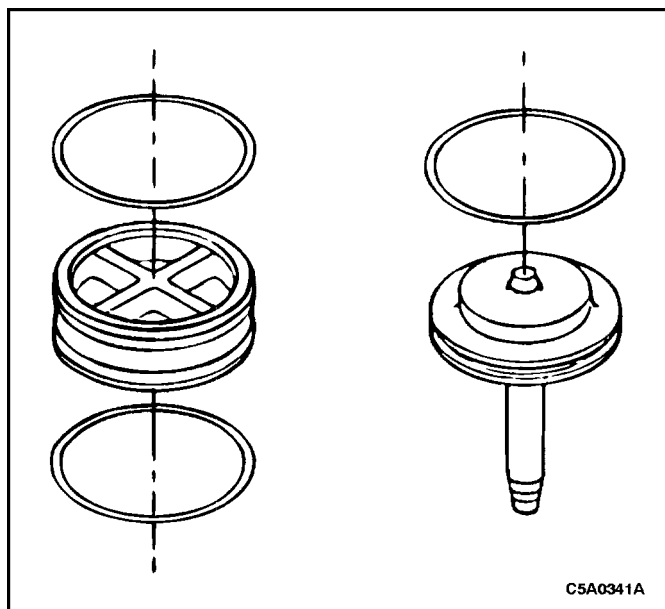


**Notice :** Apply Texaco 1854 automatic transmission fluid to the O-ring.

16. Install a new O-ring on the anchor bolt. Install the anchor bolt.

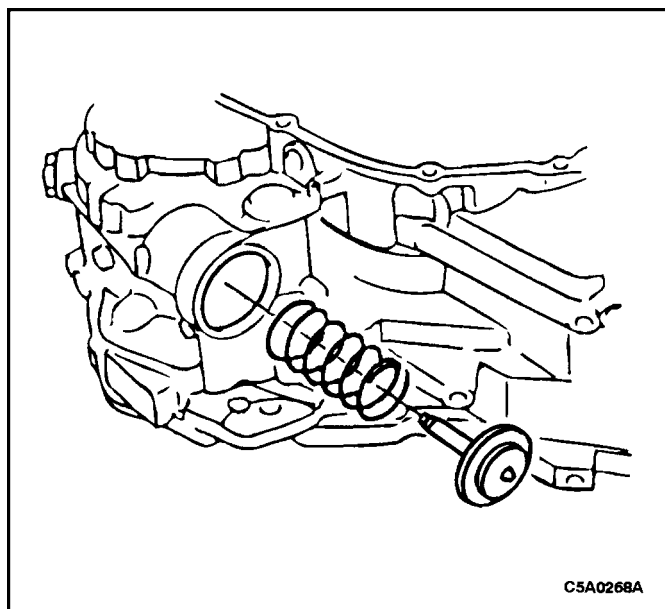
**Tighten**

Tighten the bolt to 98–147 lb-ft (133–200 N•m).



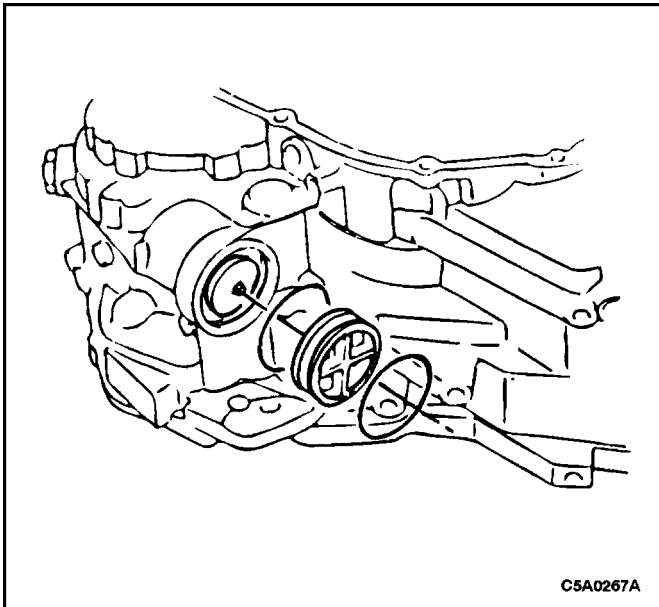
**Notice :** Apply Texaco 1854 automatic transmission fluid to the O-rings.

17. Install new O-rings on the underdrive brake piston and the underdrive brake piston cover.

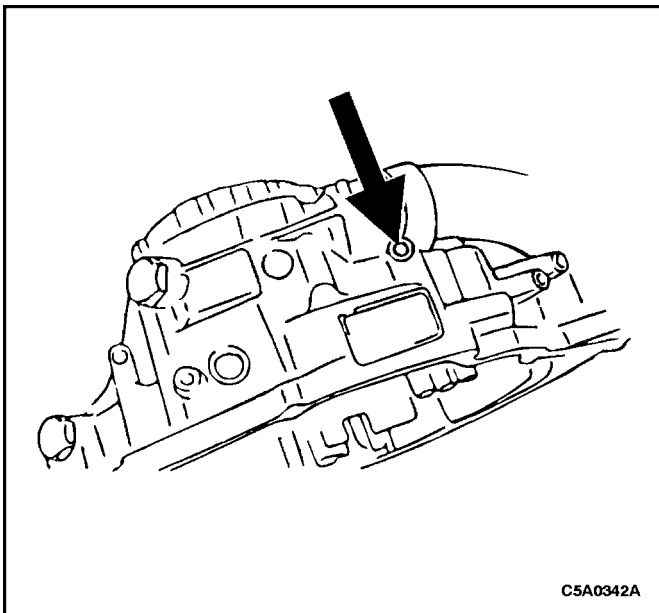


**Notice :** Set the piston rod in the brake band depression.

18. Install the spring and underdrive brake piston.

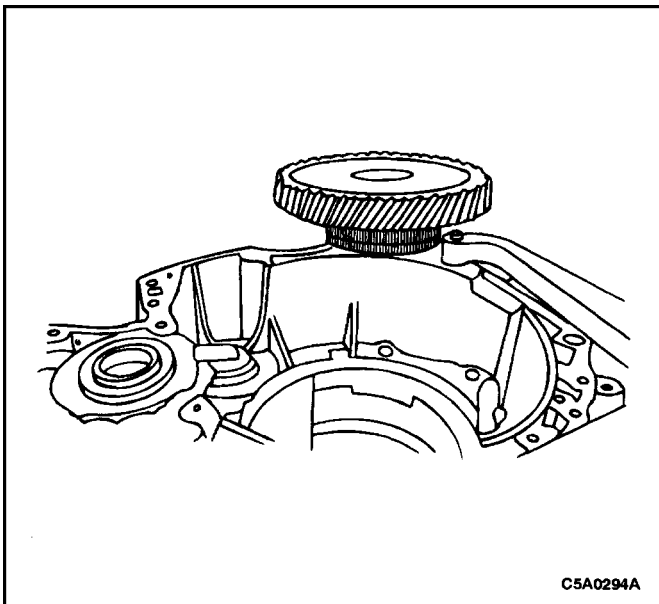


19. Install the underdrive brake piston cover and the snap ring.

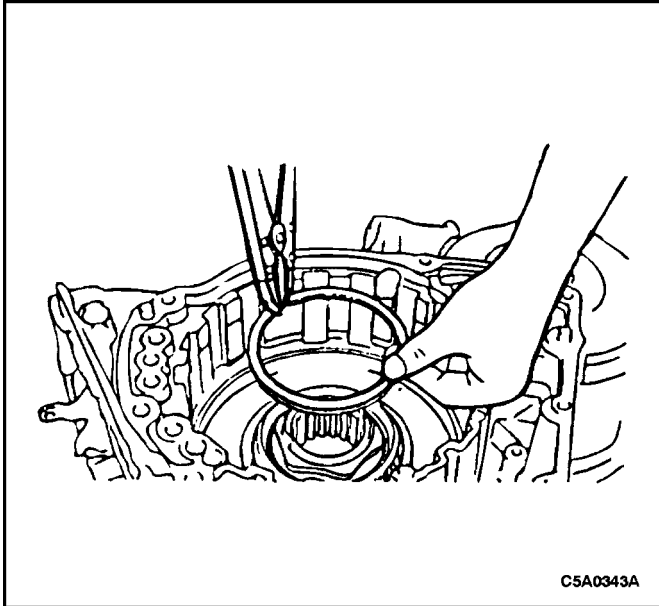


**WARNING : USE CAUTION WHEN CHECKING COMPONENTS WITH COMPRESSED AIR OR INJURY MAY RESULT.**

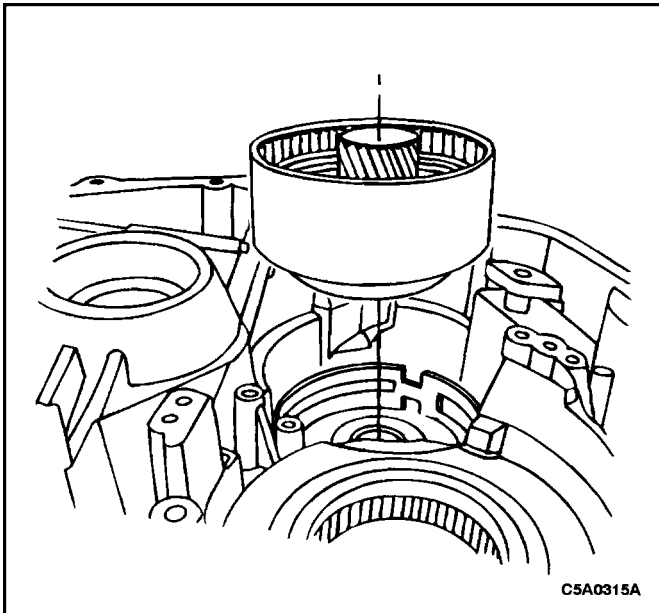
20. Inspect the underdrive brake piston stroke.
- Measure the brake piston stroke by applying compressed air into the passage shown. The piston stroke should be 5.48–7.02 mm. If the stroke is not within specifications, replace the piston rod with a longer one.



21. Install the counter drive gear into the transaxle case.



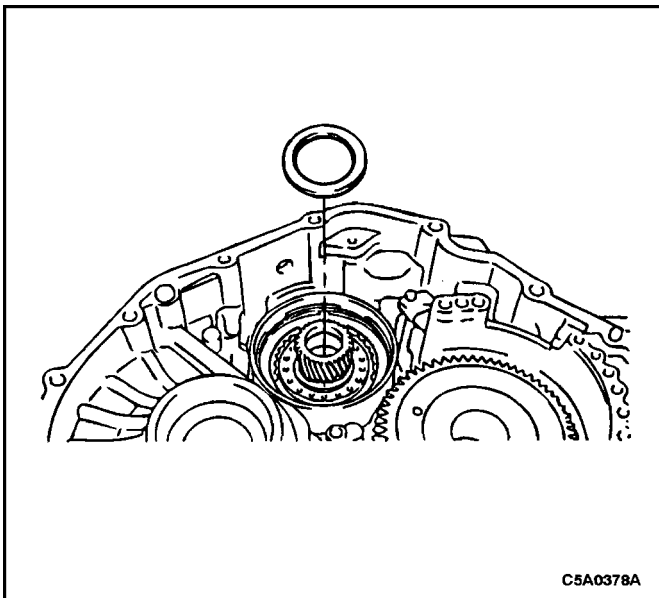
22. Install the snap ring.



**Notice :** Apply Transjel Assembly Lubricant J-36850 or equivalent to the thrust washer before installing.

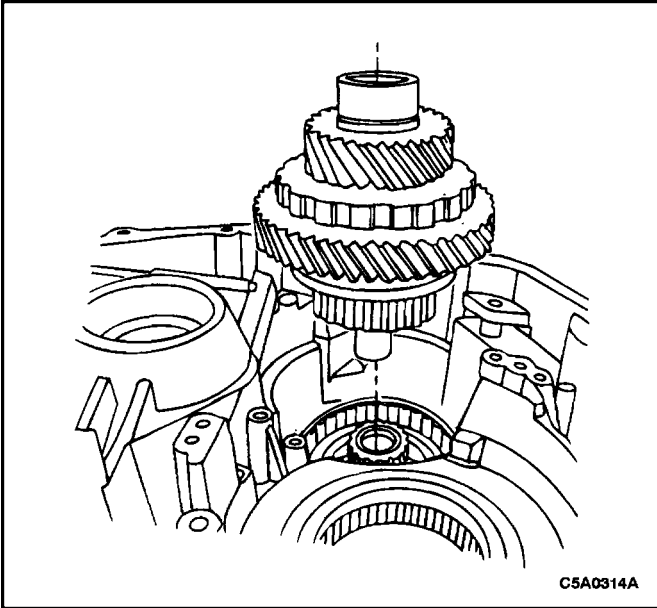
23. Install the thrust washer and the underdrive clutch.

- Make sure the underdrive clutch turns freely counterclockwise and locks clockwise.



**Notice :** Apply Transjel Assembly Lubricant J-36850 or equivalent to the thrust washer before installing.

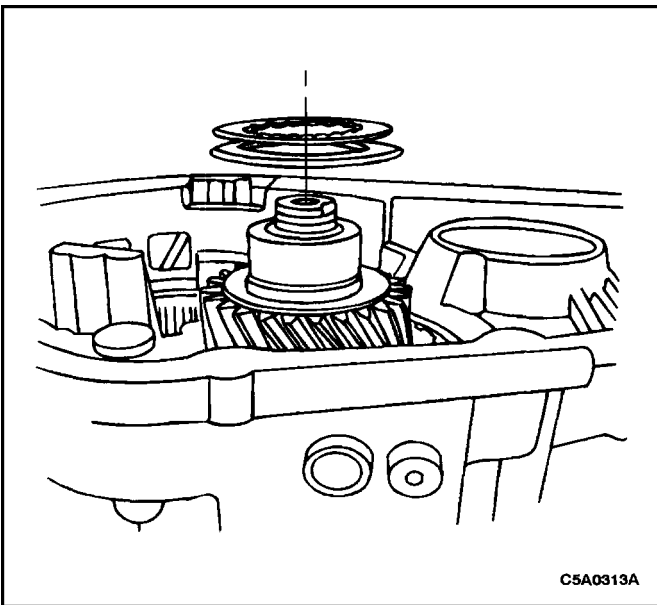
24. Install the thrust washer.



**Notice :** Apply Transjel Assembly Lubricant J-36850 or equivalent to the thrust washer before installing.

25. Install the thrust bearing to the rear side of the underdrive planetary gear. Install the planetary gear.

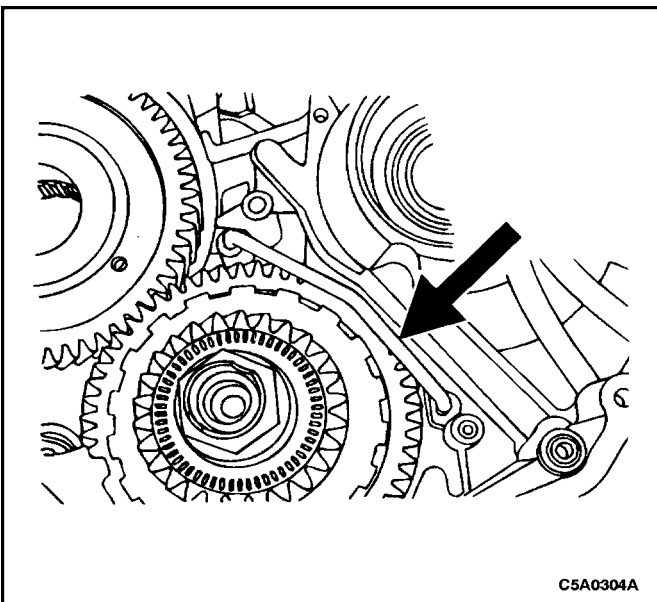
- Make sure the counterdrive and counterdriven gear rotate smoothly.
- Align the teeth of the clutch friction plates before installing the planetary gear.



**Notice :** Apply Transjel Assembly Lubricant J-36850 or equivalent to the thrust washer before installing.

**Notice :** Make sure the roller bearings are facing up.

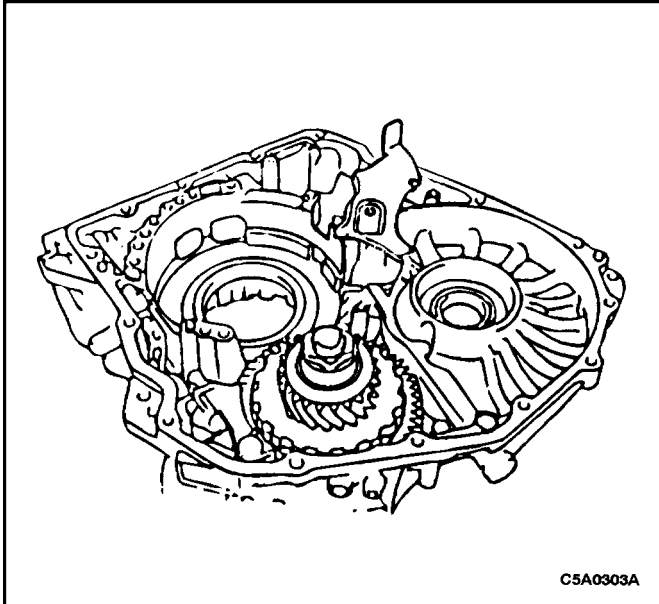
26. Install the thrust washer and bearing.



**CAUTION :** Do not bend or damage the tube.

27. Install the lubricant apply tube.

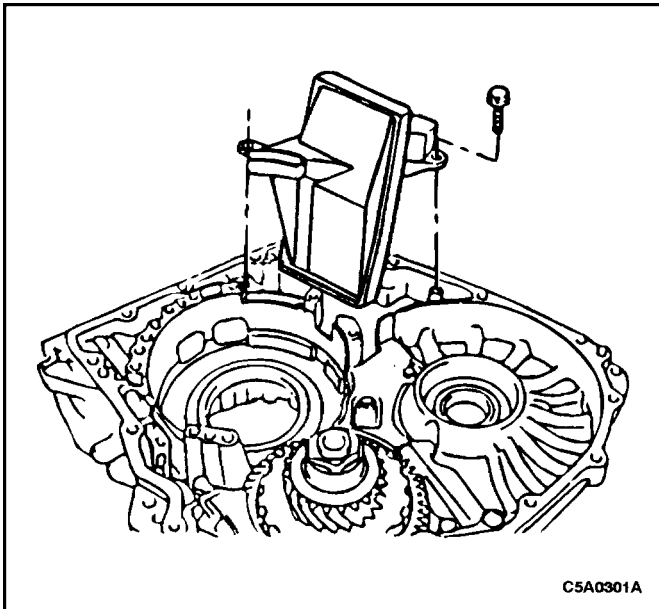
- Using a plastic hammer, tap the tube into place.



28. Install the oil reserve plate.

**Tighten**

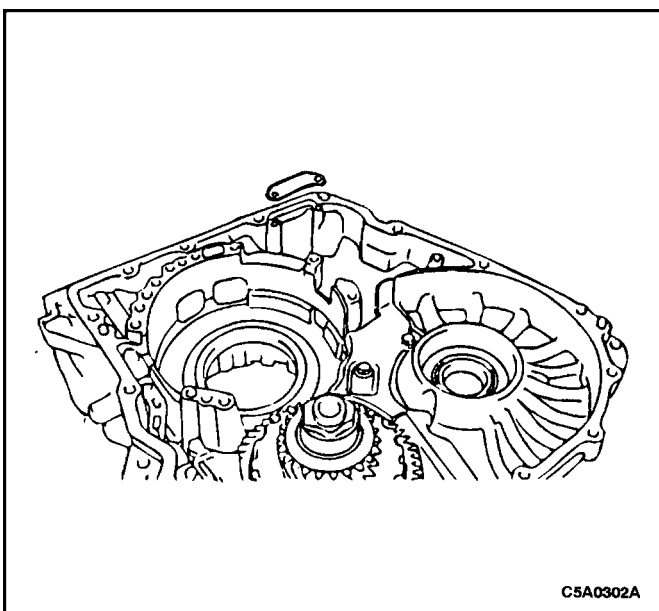
Tighten the bolts to 35–62 lb-in (4–7 N•m).



29. Install the oil filter.

**Tighten**

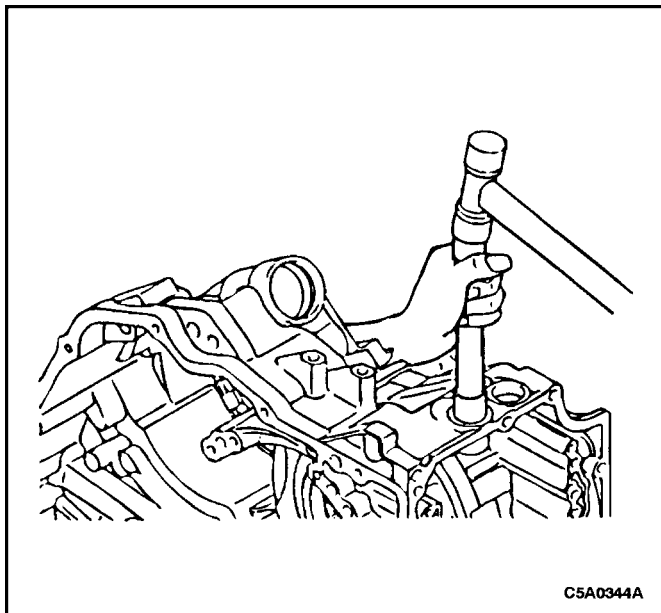
Tighten the bolt to 35–62 lb-in (4–7 N•m).



30. Install the transaxle case plate.

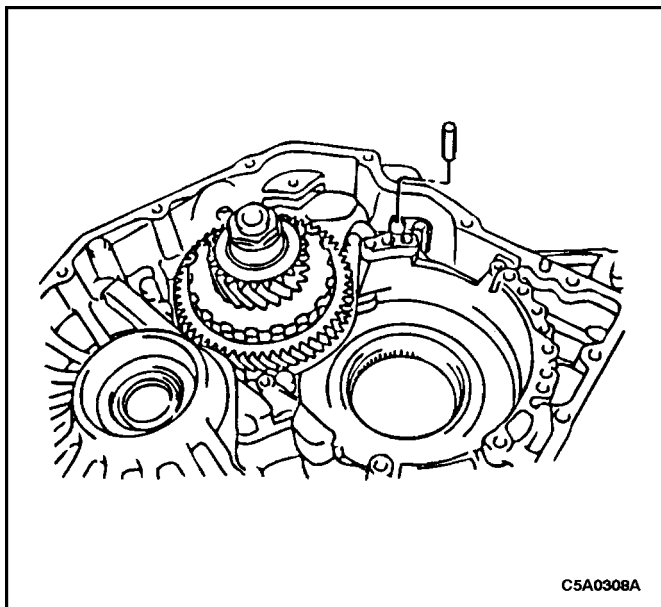
**Tighten**

Tighten the bolt to 35–62 lb-in (4–7 N•m).

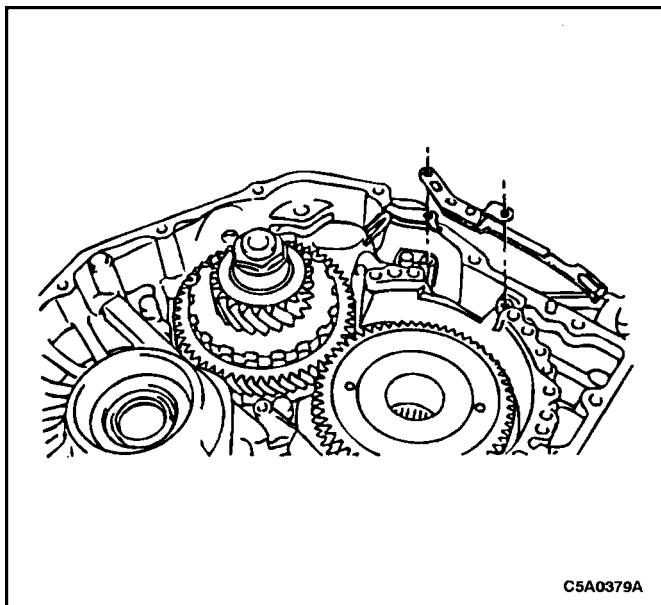


**Notice :** Apply Texaco 1854 automatic transmission fluid to the seal and seal bore.

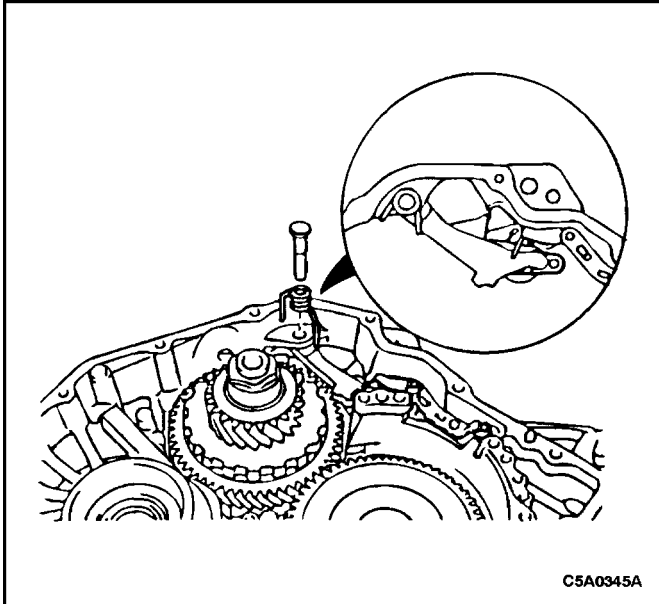
31. Using a seal driver, install a new manual valve lever oil seal.



32. Install the parking lock pin

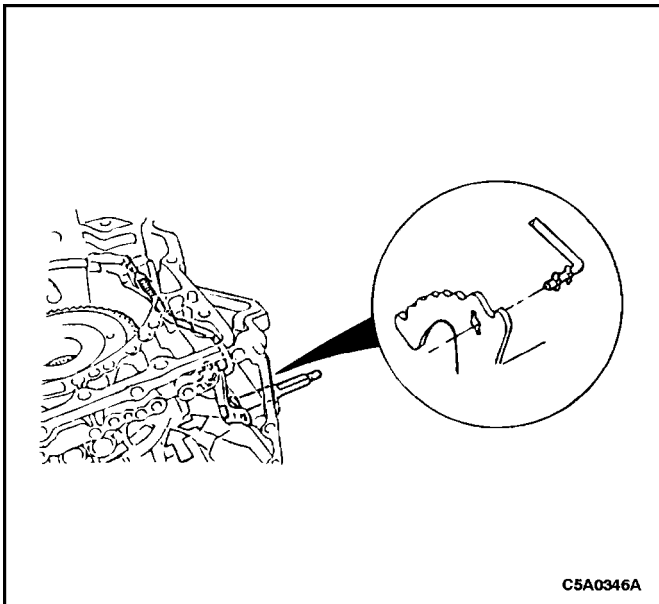


33. Install the cam plate, detent spring and the parking lock rod. Install the detent spring bolts, but do not tighten at this time.



**Notice :** Make sure the cam plate and the parking pawl spring are in the positions shown.

34. Install the parking lock pawl. Place the spring on the parking lock pawl shaft and install them into the transaxle case.

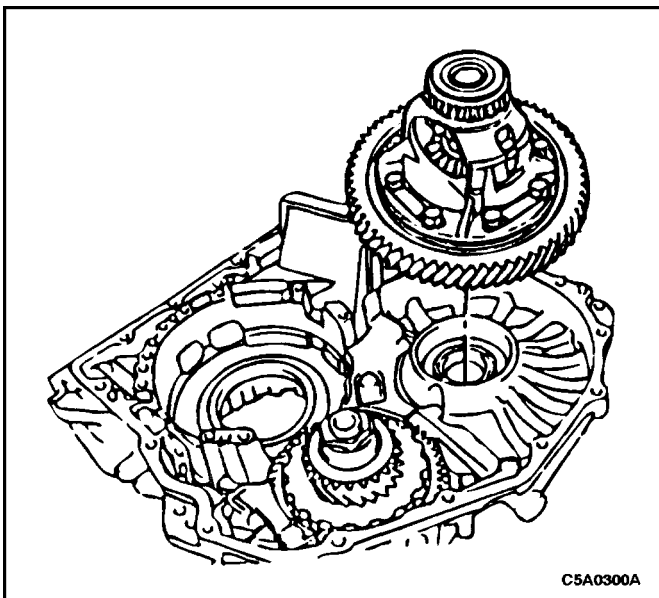


**Notice :** Check that the detent spring tip roller is centered on the manual valve lever.

35. Install the manual valve lever. Connect the parking lock rod to the manual valve lever. Place the detent lever on the manual valve lever.

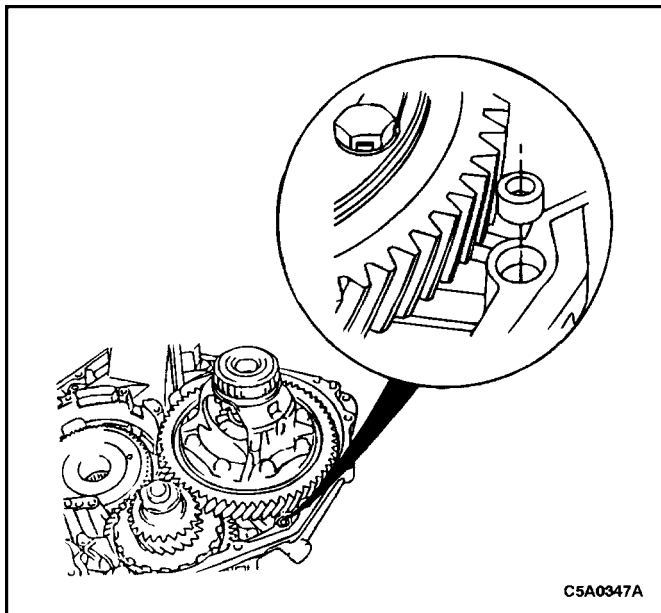
**Tighten**

Tighten the detent spring bolts to 71–106 lb-in (8–12 N•m)



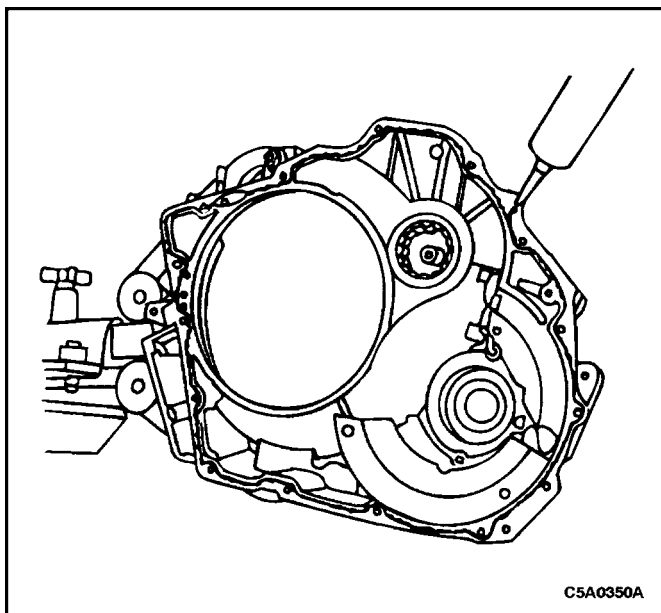
36. Install the differential case.



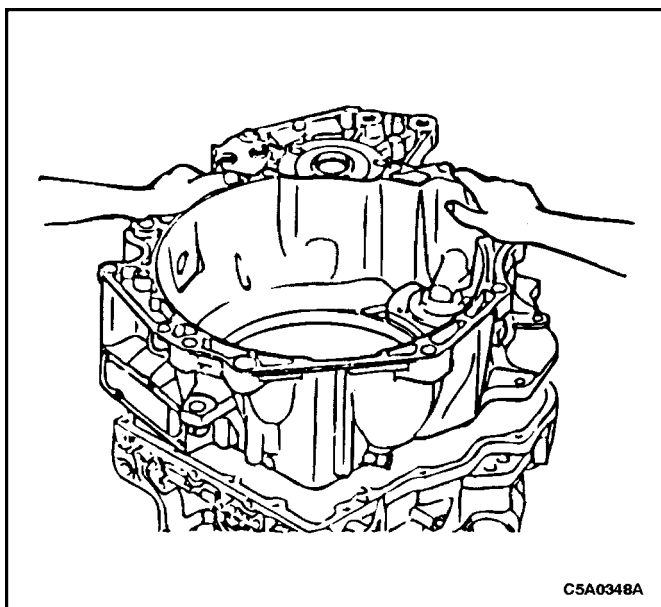


**Notice :** Apply Texaco 1854 automatic transmission fluid to the seal.

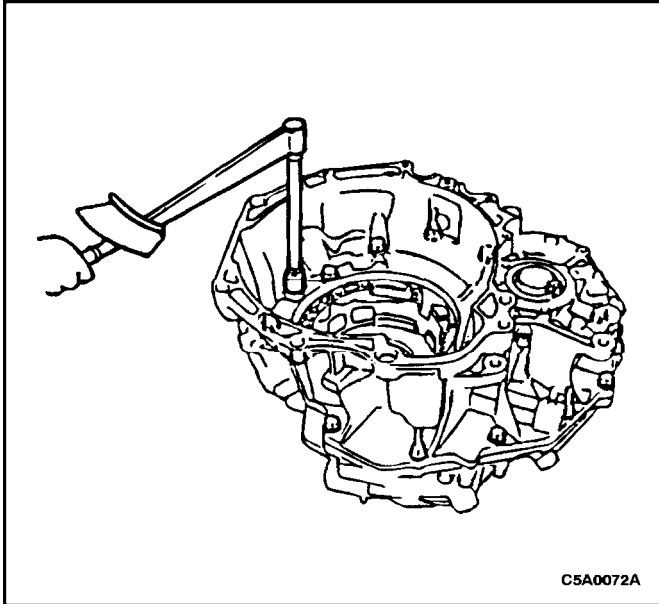
37. Install a new apply seal.



38. Apply sealer to the transaxle case.



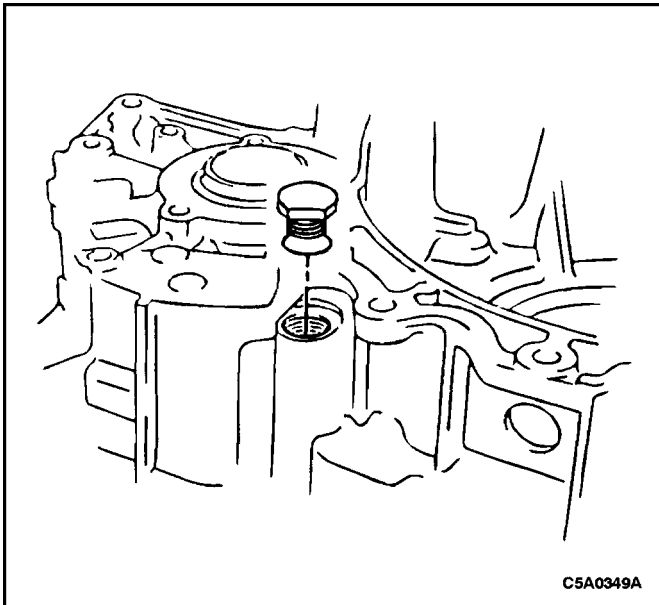
39. Install the transaxle housing to the transaxle case.



40. Install the housing-to-case bolts.

**Tighten**

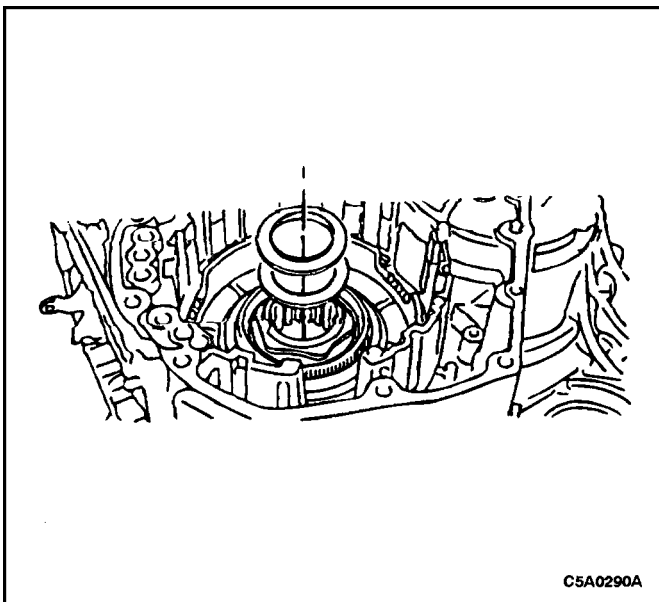
Tighten the bolts to 17–26 lb–ft (23–35 N•m).



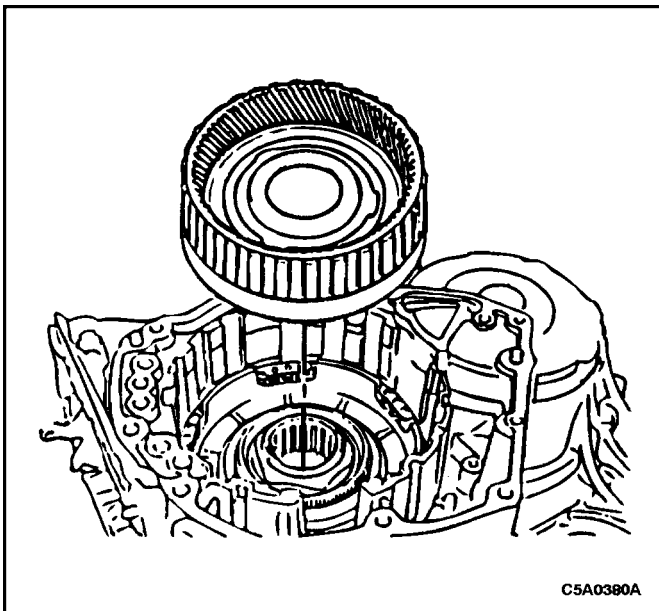
41. Install the drain plug with a new gasket.

**Tighten**

Tighten the plug to 17–40 lb–ft (23–55 N•m).

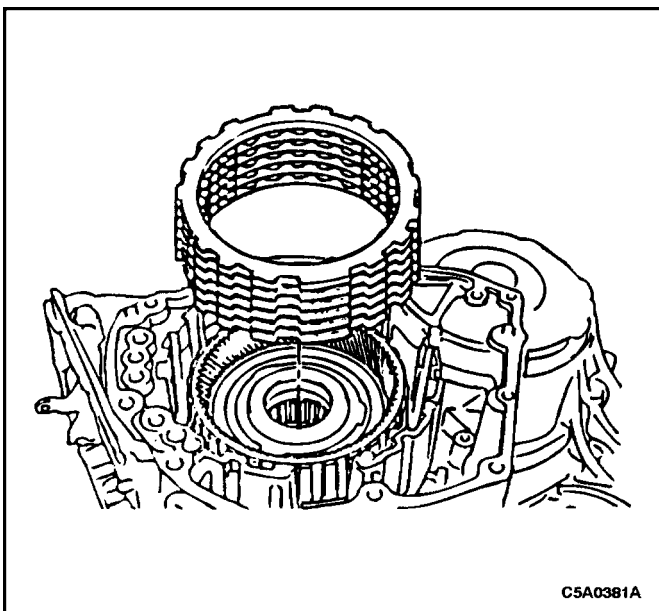


42. Place the thrust bearing and race on the front planetary ring gear flange.



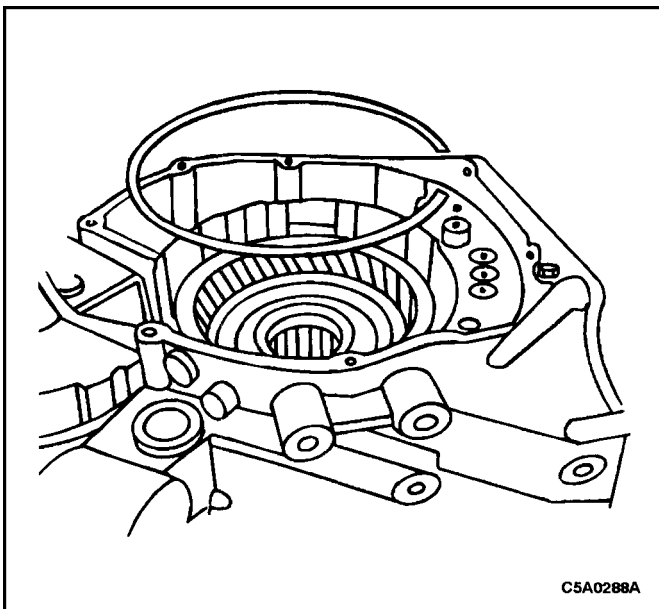
**Notice :** Make sure that the ring gear turns freely counter-clockwise and locks clockwise.

43. Install the front planetary ring gear flange and the one-way clutch assembly.

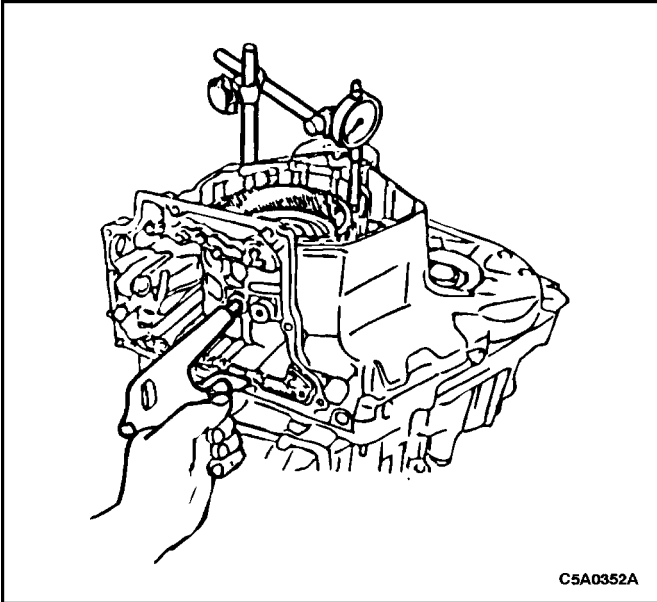


**Notice :** The installation order is: pressure–friction–steel–friction– steel–friction–steel–friction–steel–friction–pressure.

44. Install the low/reverse clutch pack and the clutch pressure plates.



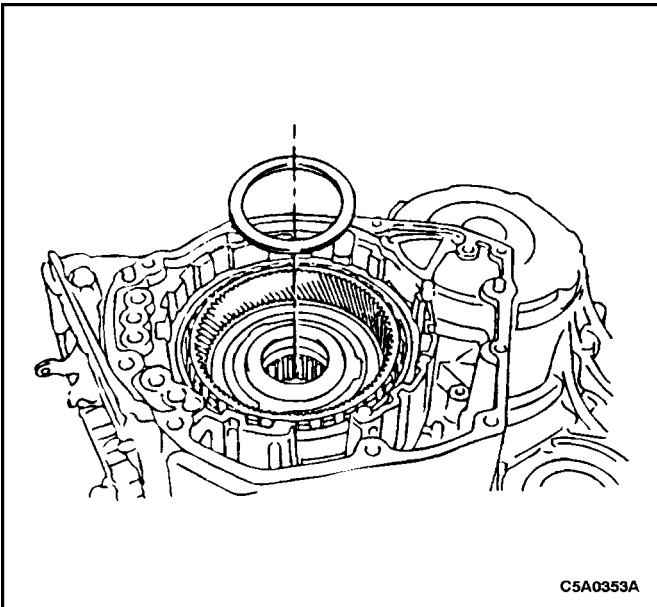
45. Install the snap ring.



**WARNING : USE CAUTION WHEN CHECKING COMPONENTS WITH COMPRESSED AIR OR INJURY MAY RESULT.**

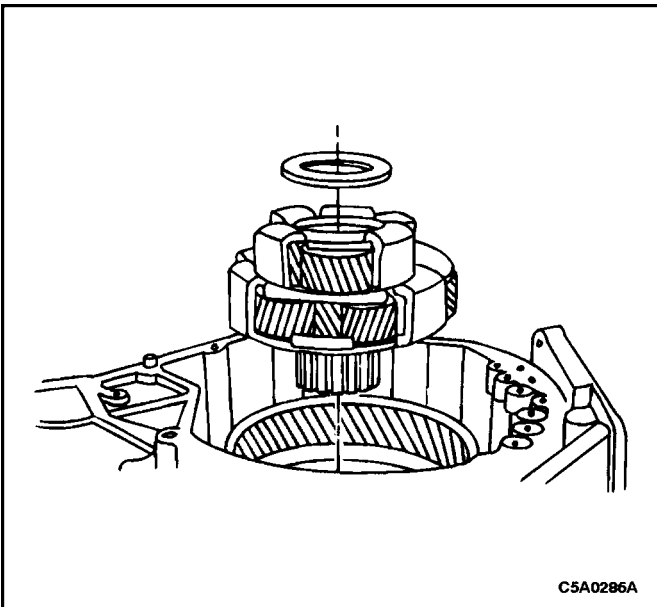
46. Verify the operation of the low/reverse brake piston.

- Apply 57 psi (396 kPa) of compressed air into the oil passage shown and measure the piston stroke. The piston stroke is 0.069–0.100 in (1.75–2.55 mm). The clutch pack should make a solid apply sound, with no whistle or signs of leakage.



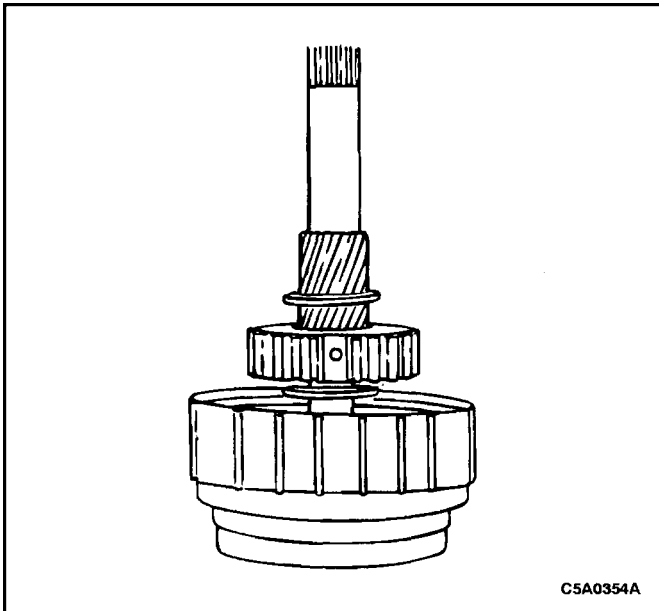
**Notice :** Apply Transjel Assembly Lubricant J-36850 or equivalent to the thrust washer before installing.

47. Install the thrust washer.



**Notice :** Apply Transjel Assembly Lubricant J-36850 or equivalent to the thrust washer before installing.

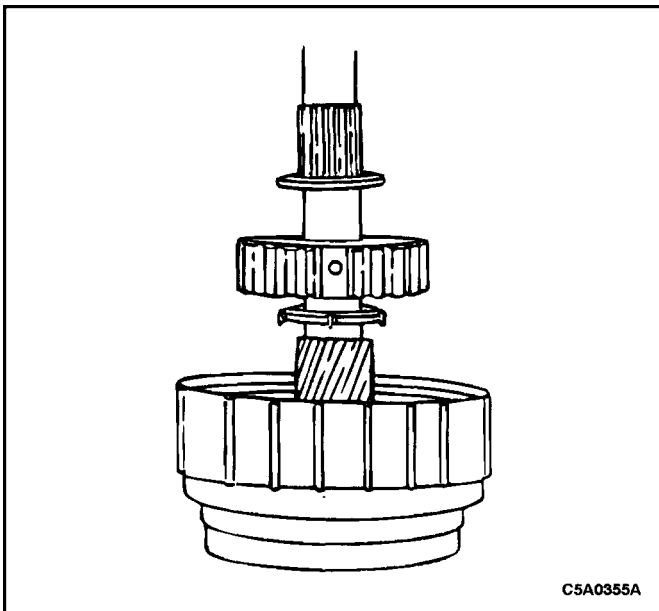
48. Install the planetary carrier and the thrust washer.



**Notice :** Apply Transjel Assembly Lubricant J-36850 or equivalent to the thrust bearing before installing.

**Notice :** Align the teeth of the clutch friction plates.

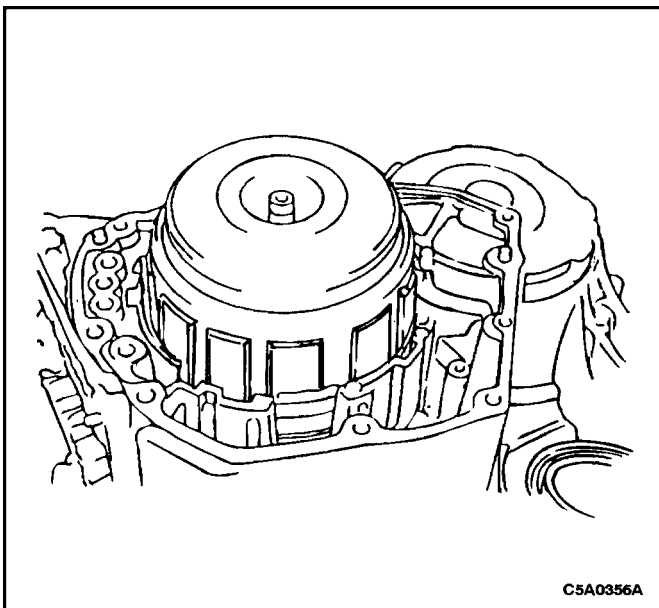
49. Install the planetary sun gear and thrust washer into the forward/direct clutch. Place the thrust bearing on the planetary sun gear.



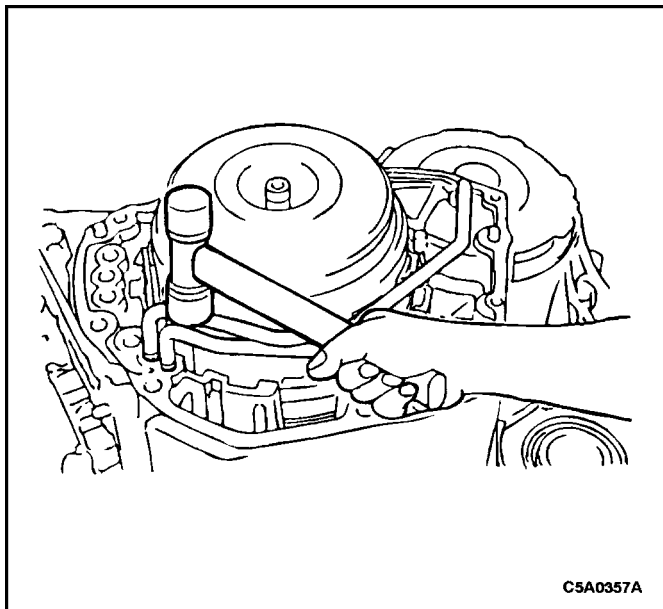
**Notice :** Apply Transjel Assembly Lubricant J-36850 or equivalent to the thrust bearing before installing..

**Notice :** Align the teeth of the clutch friction plates.

50. Install the rear planetary ring gear and thrust washer into the forward/direct clutch. Place the thrust bearing on the rear planetary ring gear.



51. Install the forward/direct clutch assembly.



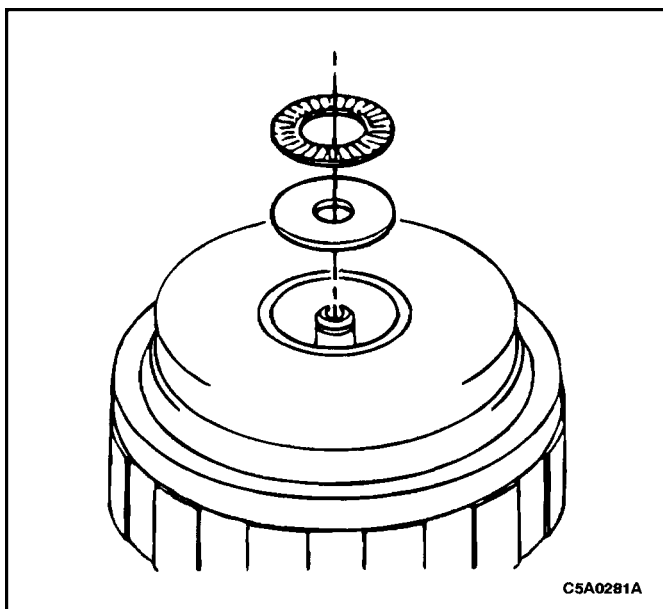
**CAUTION :** *Do not bend or damage the tube.*

52. Install the lubricant apply tubes.

- Using a plastic hammer, tap the tube into place.

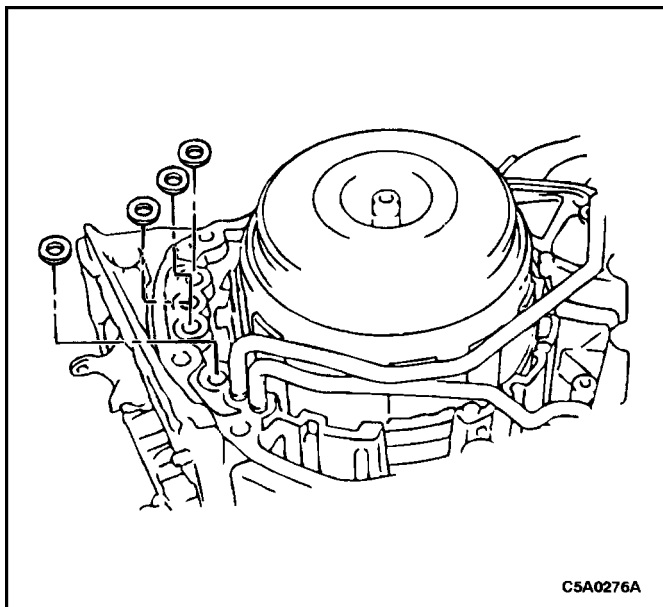
**Tighten**

Position the tube clamp and tighten the bolt to 35–61 lb-in (4–7 N•m).



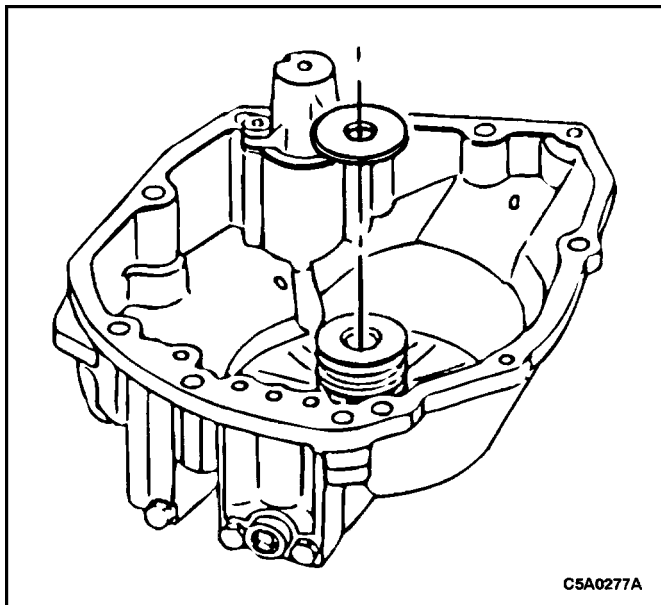
**Notice :** Apply Transjel Assembly Lubricant J-36850 or equivalent to the thrust bearing before installing.

53. Install the thrust bearing and race.

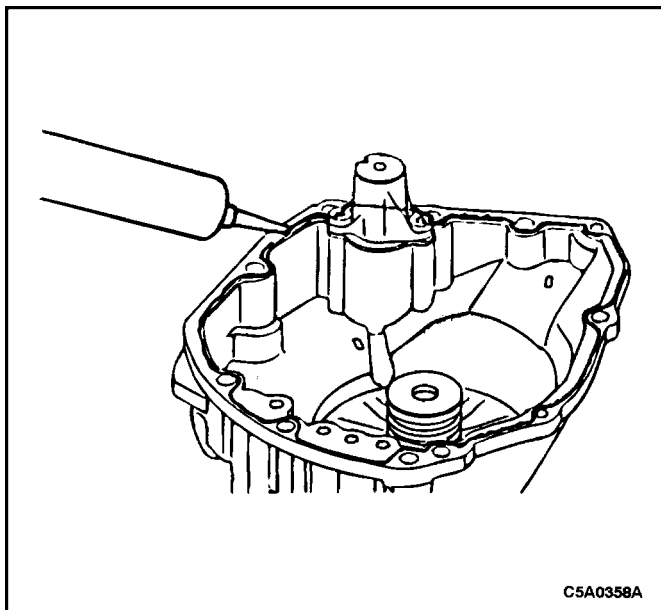


**Notice :** Apply Transjel Assembly Lubricant J-36850 or equivalent to the seals before installing.

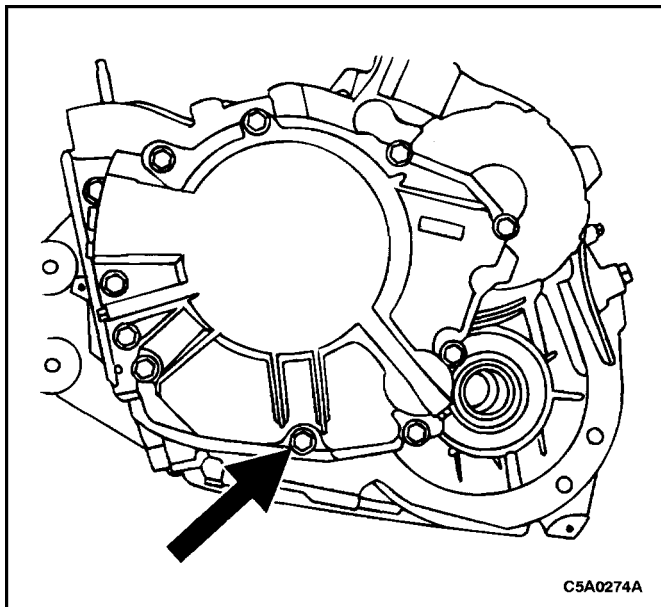
54. Install four new apply seals.



55. Install the thrust washer on the rear case.



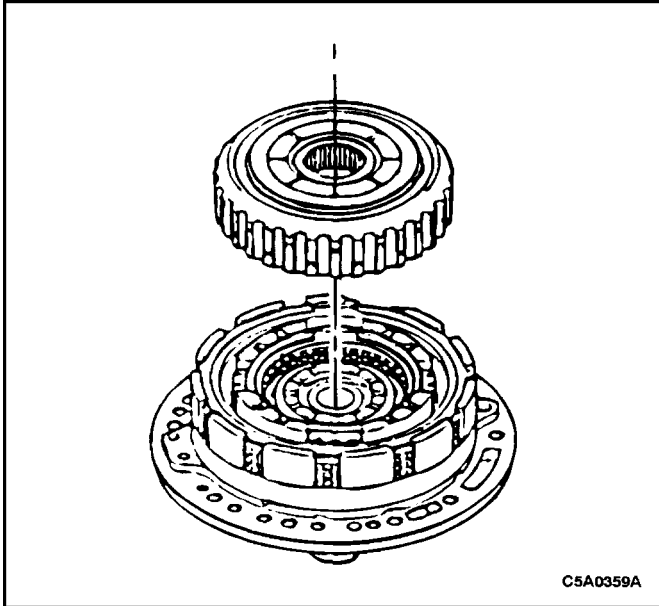
56. Apply sealer to the rear case.



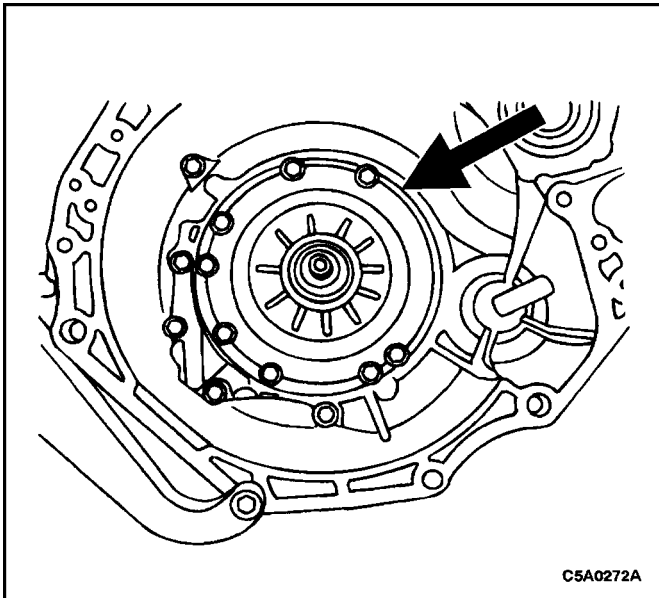
57. Install the rear case.

**Tighten**

Tighten the M6 bolts to 71–106 lb-in (8–12 N•m) and the M8 bolts to 15–22 lb-ft (20–29 N•m).



58. Install the brake hub and one-way clutch assembly into the oil pump.



**Notice :** Apply Texaco 1854 automatic transmission fluid to the O-ring and oil pump bore.

**Notice :** Make sure there is some thrust play of the input shaft before installing the oil pump.

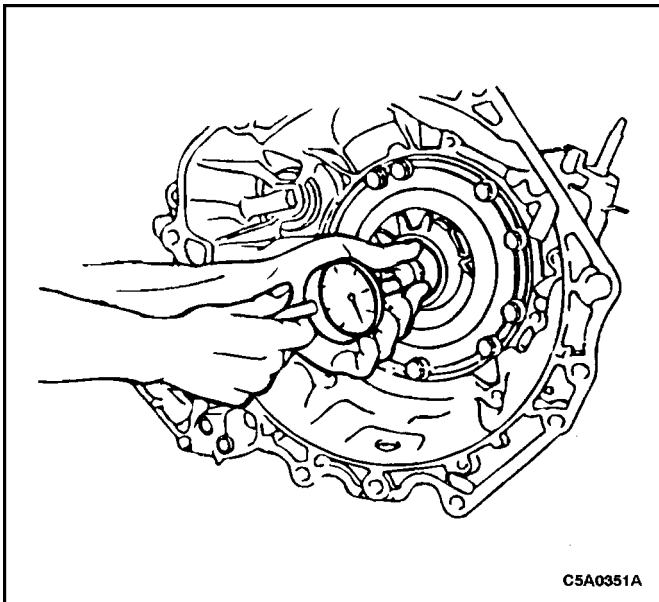
**Notice :** Install the bolts evenly and gradually.

59. Install the oil pump.

- Install the oil pump through the input shaft with the transmission in the horizontal position. Lightly press the oil pump into the transaxle case.

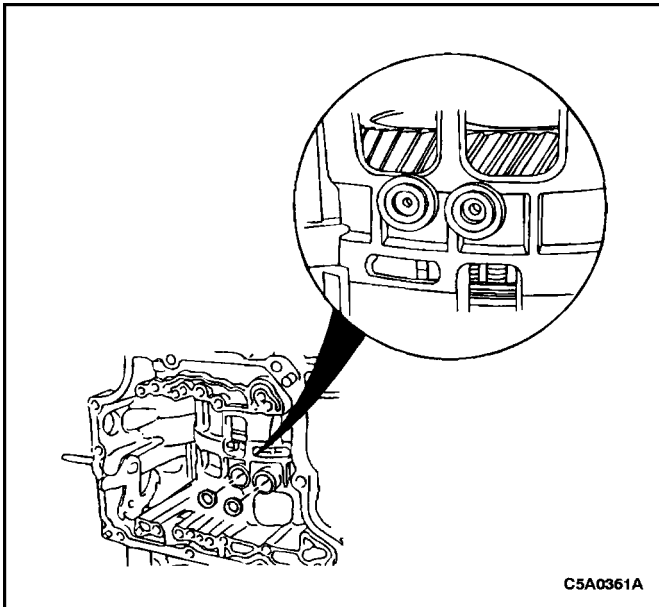
**Tighten**

Tighten the bolts to 15-22 lb-ft (20-29 N•m).



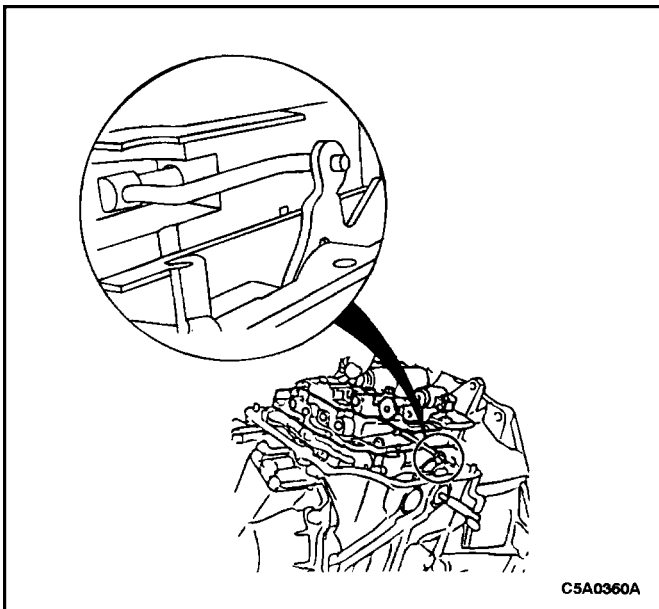
60. Using a dial indicator, measure the thrust play of the input shaft. The thrust play should be 0.005-0.035 in (0.372-0.90 mm).





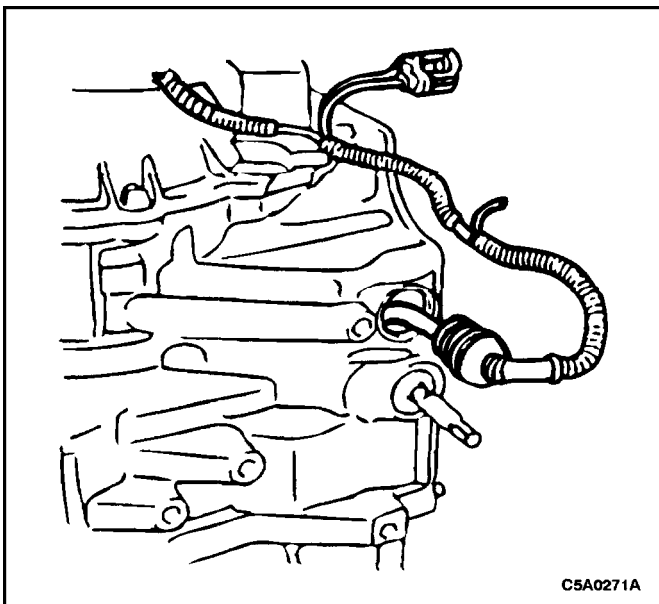
**Notice :** Apply Transjel Assembly Lubricant J-36850 or equivalent to the seals before installing.

61. Install two new apply seals.

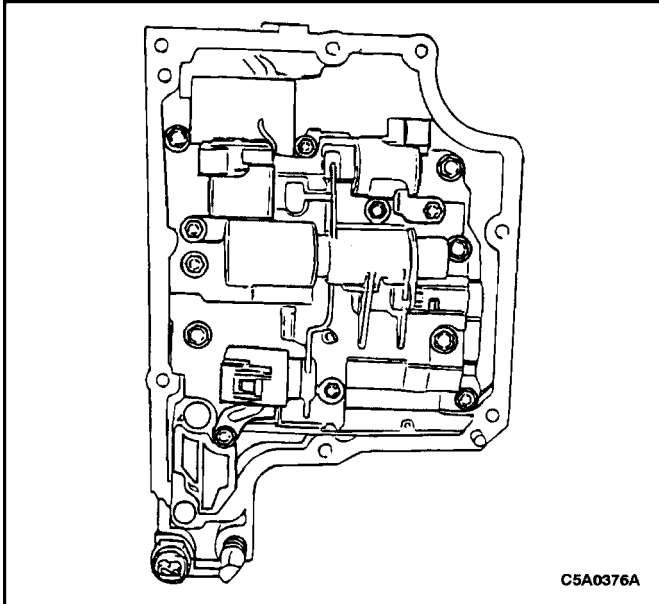


62. Install the valve body.

- Holding the valve body in place, connect the manual valve connecting rod to the manual detent lever.



63. Install the solenoid wire harness.

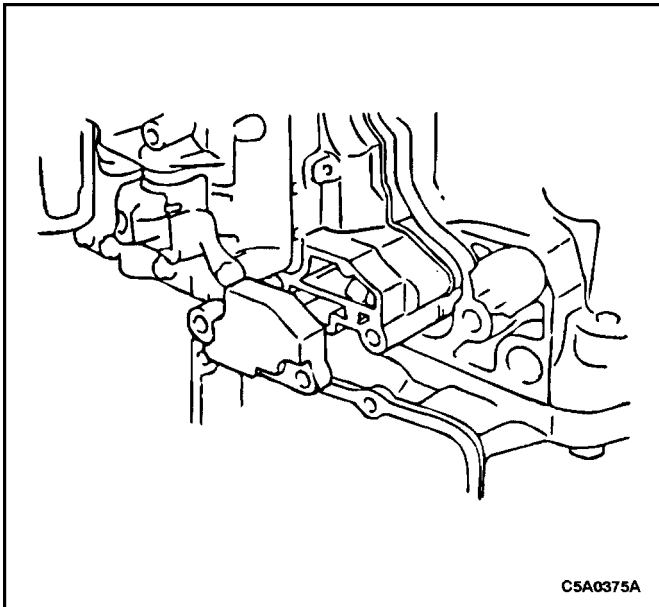


**Notice :** Tighten the bolts evenly and gradually.

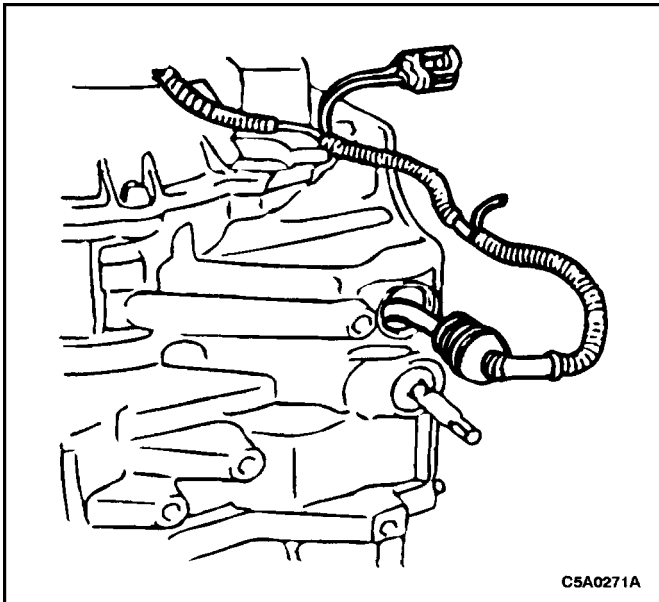
64. Install the seven bolts

**Tighten**

Tighten the bolts to 53–62 lb-in (6–7 N•m).



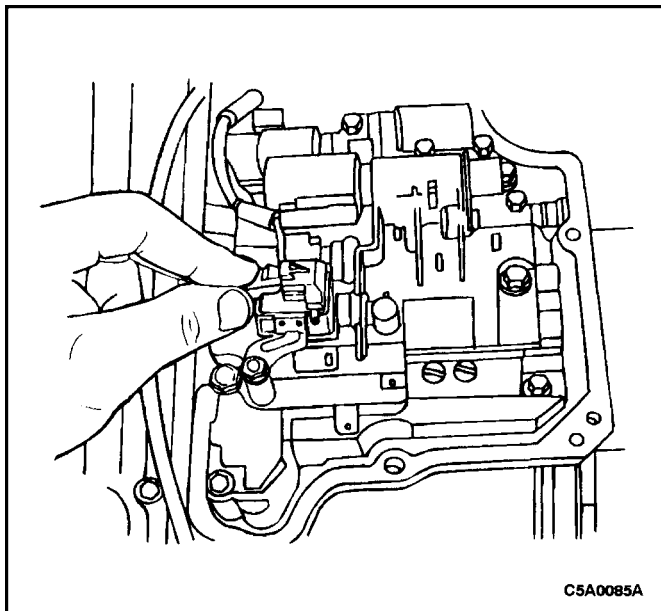
65. Install the suction cover with a new gasket.



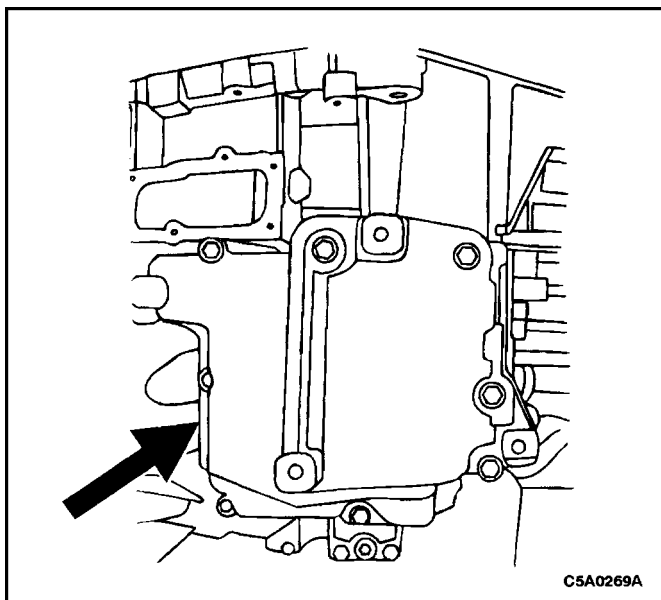
**Notice :** Install a new O-ring on the harness.

**Notice :** Apply Texaco 1854 automatic transmission fluid to the O-ring and to the harness case bore.

66. Install the solenoid wire harness.



67. Connect the solenoid electrical connectors.

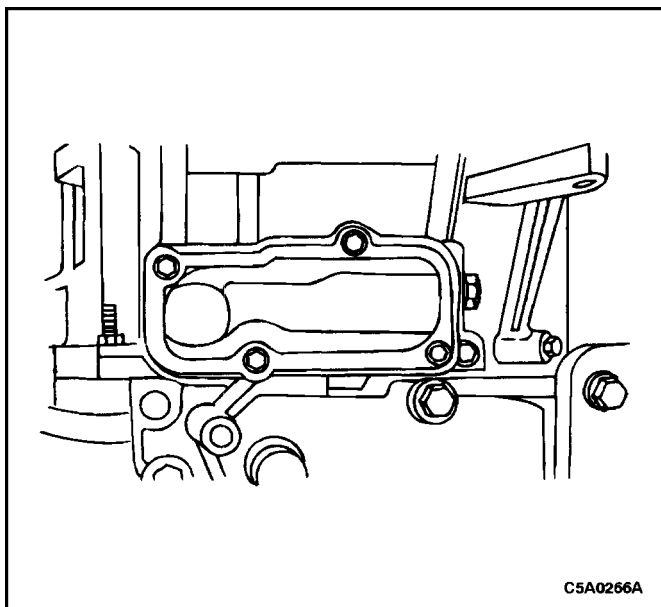


**Notice :** Use sealer on the side cover.

68. Install the valve body cover.

**Tighten**

Tighten the bolts to 15–22 lb–ft (20–30 N•m)

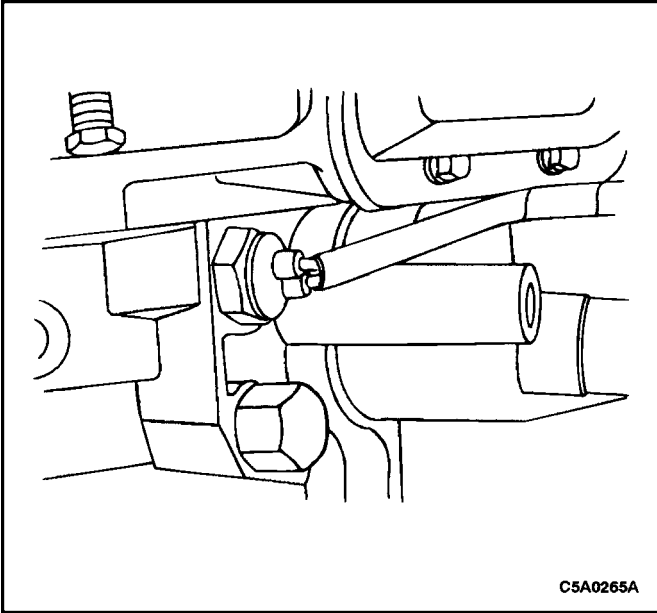


**Notice :** Use sealer on the housing cover.

69. Install the transaxle housing cover.

**Tighten**

Tighten the bolts to 53–78 lb–in (6–9 N•m).

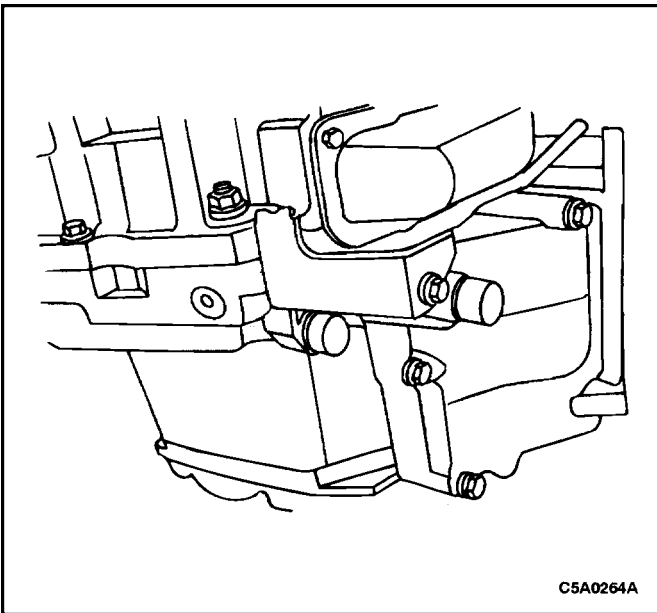


**Notice :** Apply Texaco 1854 automatic transmission fluid to the O-ring.

70. Install the Transmission Fluid Temperature (TFT) sensor with a new O-ring.

**Tighten**

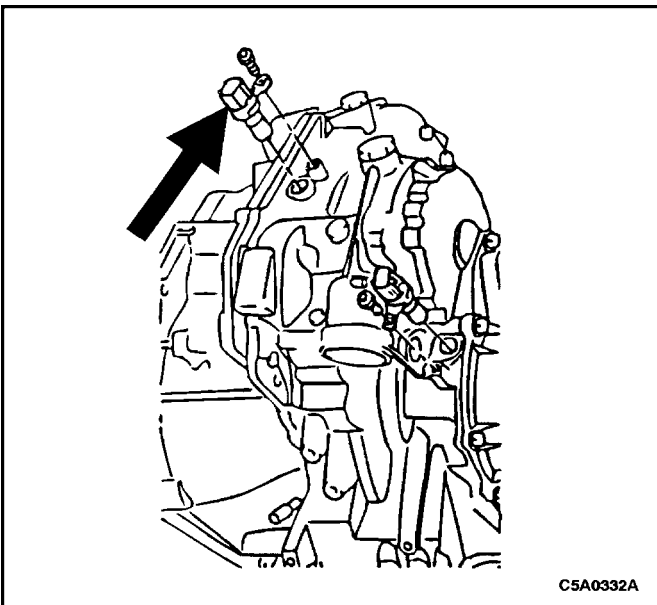
Tighten the sensor to 62–115 lb-in (7–13 N•m).



71. Install the TFT protector bracket.

**Tighten**

Tighten the bolts to 15–22 lb-ft (20–29 N•m).



**Notice :** Install new O-rings on the input shaft speed (ISS) and output shaft speed (OSS) sensors.

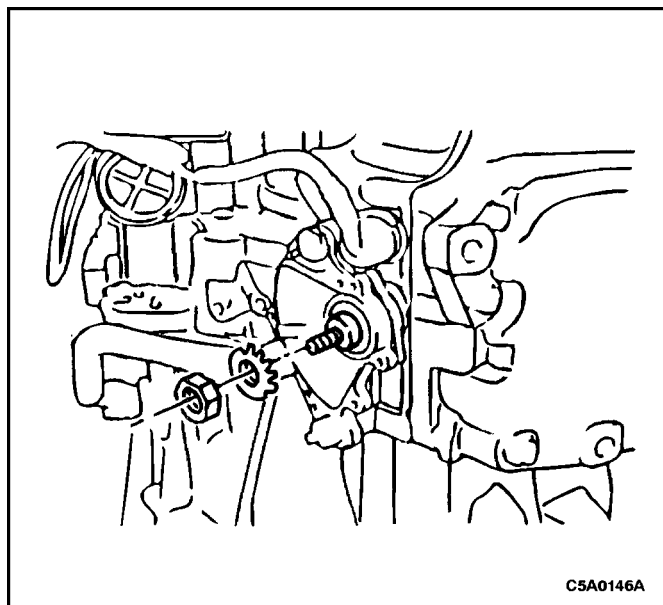
**Notice :** Apply Texaco 1854 automatic transmission fluid to the O-rings and to the case bore of the ISS and OSS sensors.

72. Install the input shaft speed (ISS) and output shaft speed (OSS) sensors.

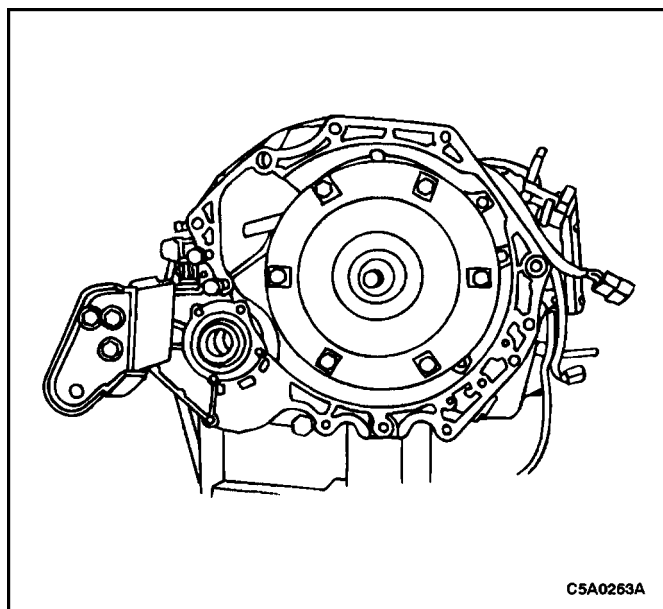
**Tighten**

Tighten the bolts to 35–62 lb-in (4–7 N•m).

73. Connect the wire harness to the ISS, OSS and to the TFT sensors.



74. Install the park/neutral position (PNP) switch. Refer to "Park/Neutral Position (PNP) Switch" in this section.



75. Install the torque converter.