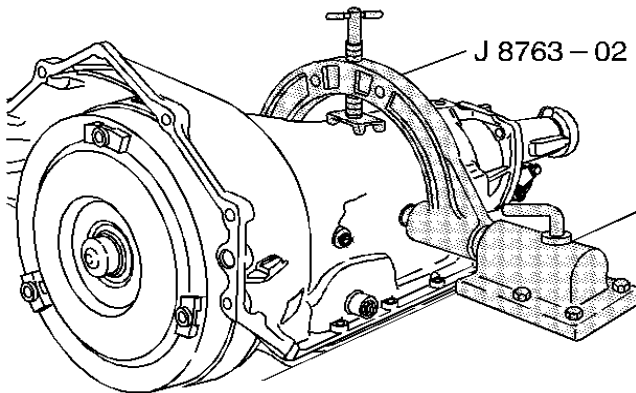


4L60-E Overhaul Procedures

Holding Fixture Installation

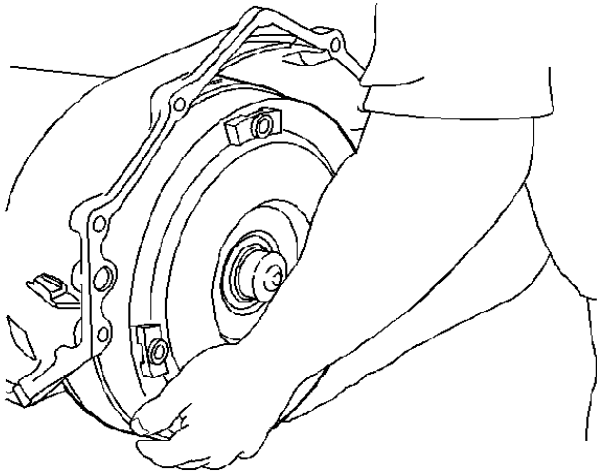
Tools Required

[J 8763-02](#) Holding Fixture and Base



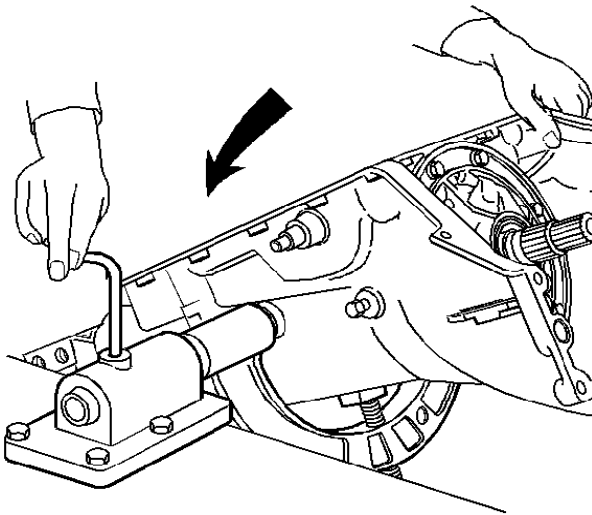
1. Install the holding fixture onto the transmission.
2. Install the holding fixture into the base.

Torque Converter Assembly Removal



Remove the torque converter.

Drain Oil

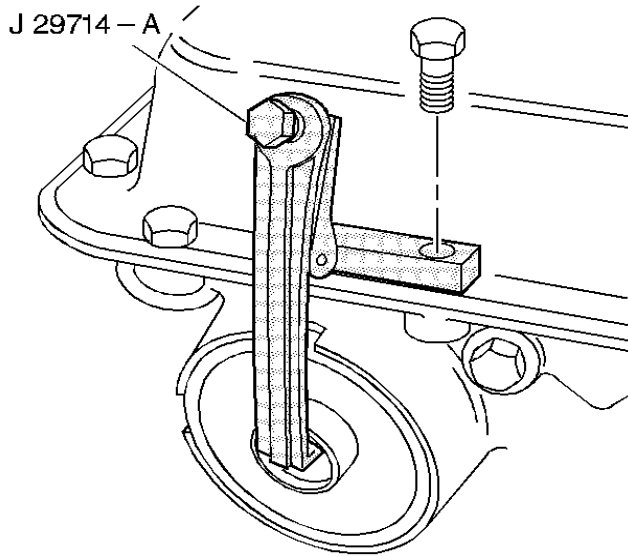


Rotate the transmission so that the bell housing is up. Allow the transmission fluid to drain from the case extension.

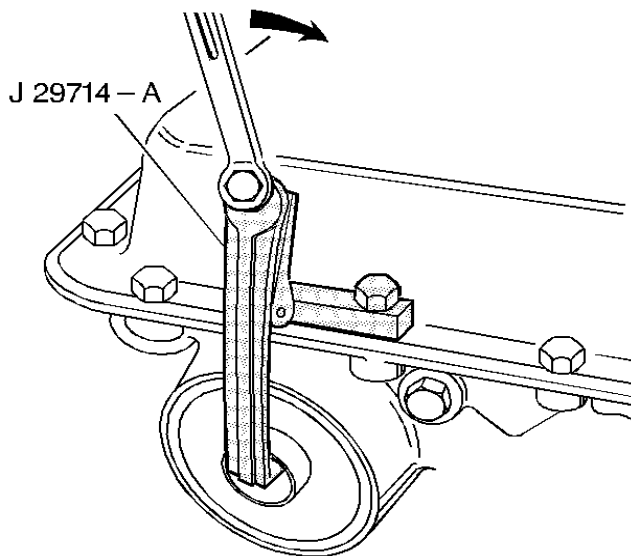
2-4 Servo Cover and Assembly Removal

Tools Required

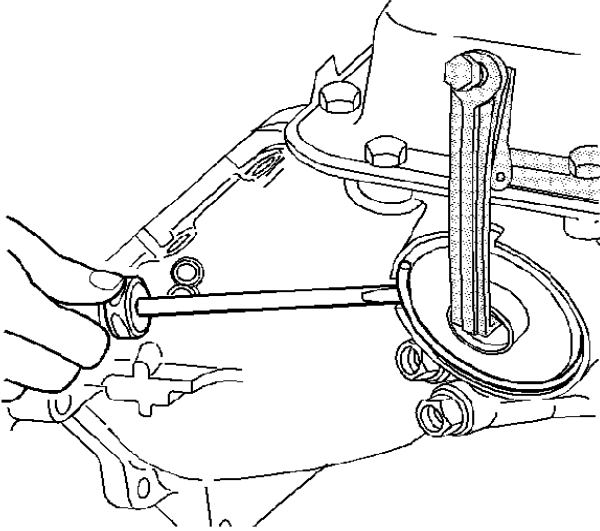
[J 29714-A](#) Servo Cover Compressor



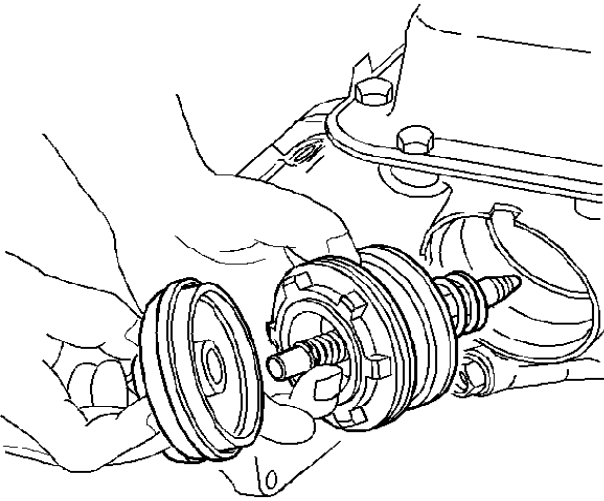
1. Install the servo cover compressor.



2. Tighten the bolt to compress the servo cover.

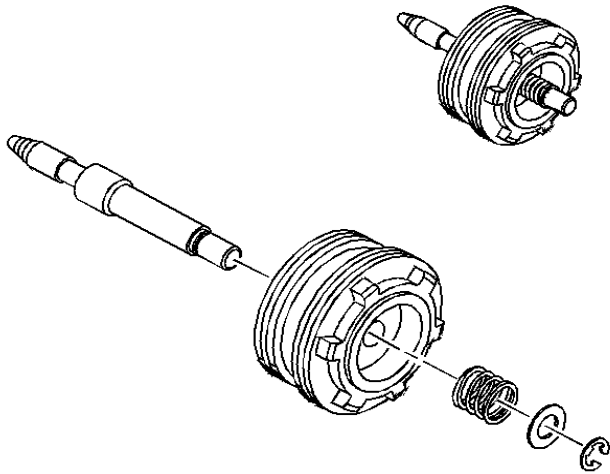


3. Remove the servo cover retaining ring.



4. Remove the servo cover and O-ring seal. If the servo cover seems to be hung up on the seal, cut and remove the O-ring seal before removing the cover.
5. Remove the 2-4 servo assembly.

2-4 Servo Disassemble

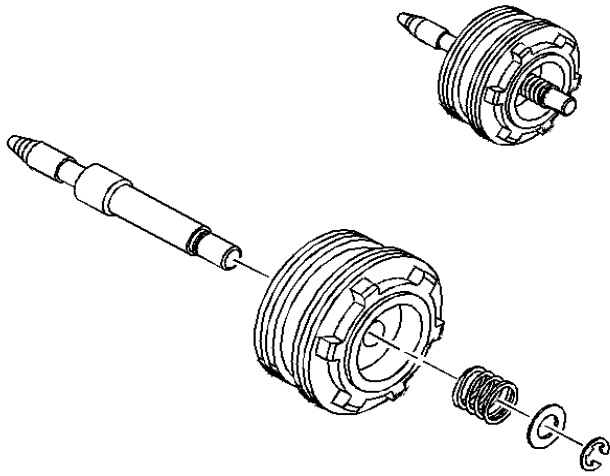


Disassemble the 2-4 servo assembly.

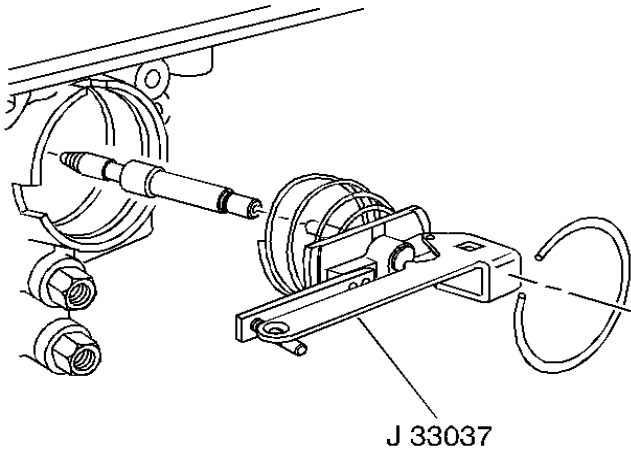
2-4 Servo Pin Length Check

Tools Required

[J 33037](#) 2-4 Intermediate Band Apply Pin Gage

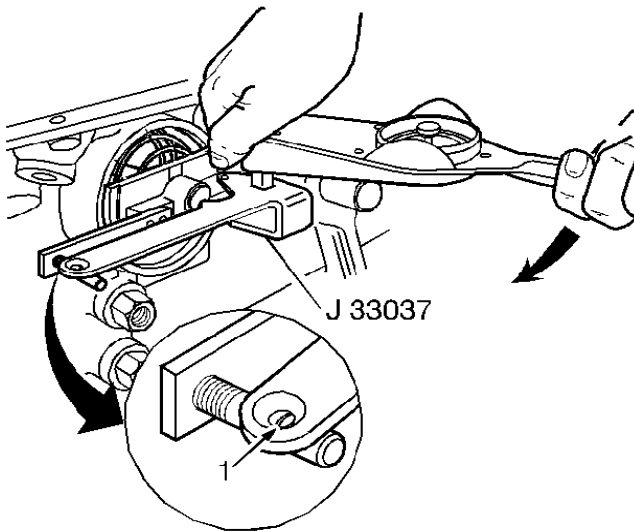


1. Disassemble the 2-4 servo assembly.



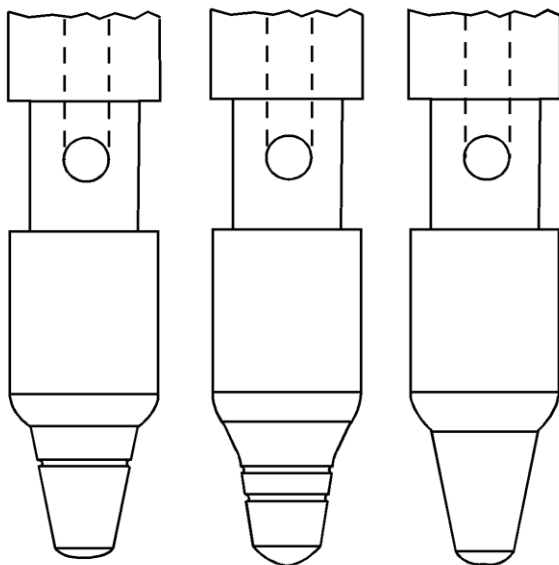
2. Install the band apply pin and the [J 33037](#).

3. Install the servo cover retaining ring to secure the tool.



4. Apply 11 N·m (98 lb in) torque. If the white line appears in the gage slot (1), the pin length is correct.
5. If a new pin is needed, refer to [2-4 Servo Pin Selection](#) in order to determine correct pin length.

2-4 Servo Pin Selection



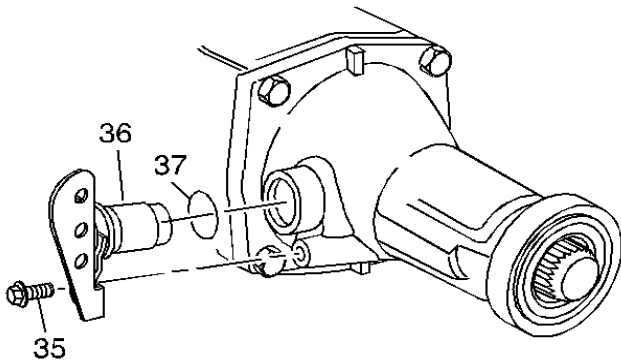
<u>Pin Selection</u>		Pin Identification
Pin Length		
mm	inch	
65.82-66.12	2.59-2.60	1 Groove
67.23-67.53	2.65-2.66	2 Grooves
68.64-68.94	2.70-2.71	No Groove

Speed Sensor and Case Extension Removal

Removal Procedure

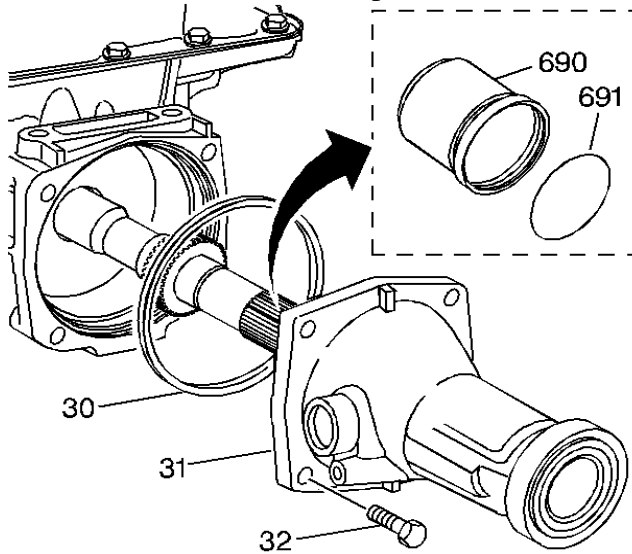
Tools Required

[J 29837-A](#) Output Shaft Support Fixture

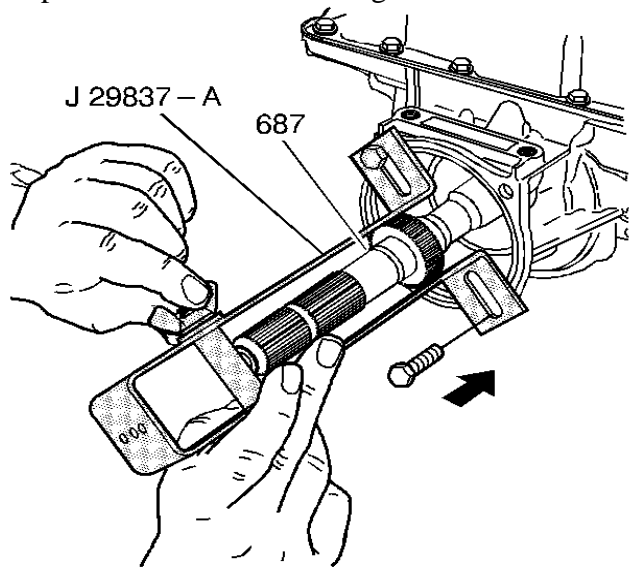


1. Remove the sensor retaining bolt.

2. Remove the speed sensor and O-ring seal.

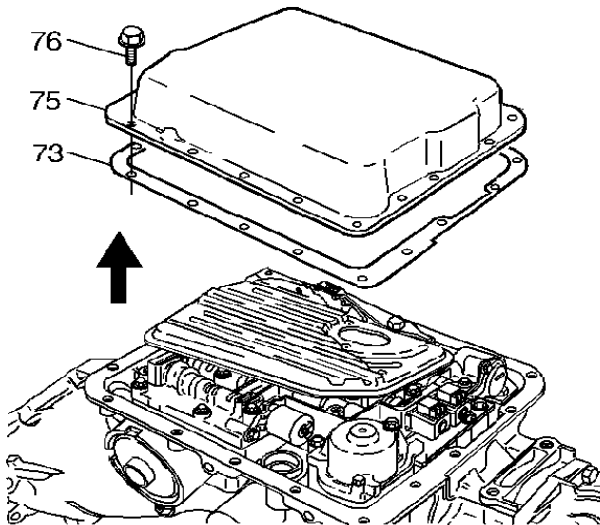


3. Remove the case extension bolts.
 4. Remove the case extension and the case seal.
 5. Remove the output shaft sleeve and the output shaft O-ring seal. Not all models use an output shaft sleeve and O-ring seal.

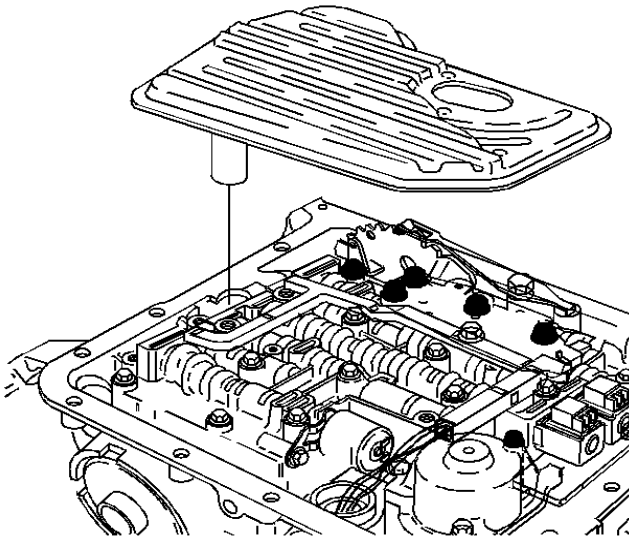


6. Install the output shaft support fixture. If the output shaft support fixture is not used, the output shaft may fall free when the input carrier retaining ring is removed.

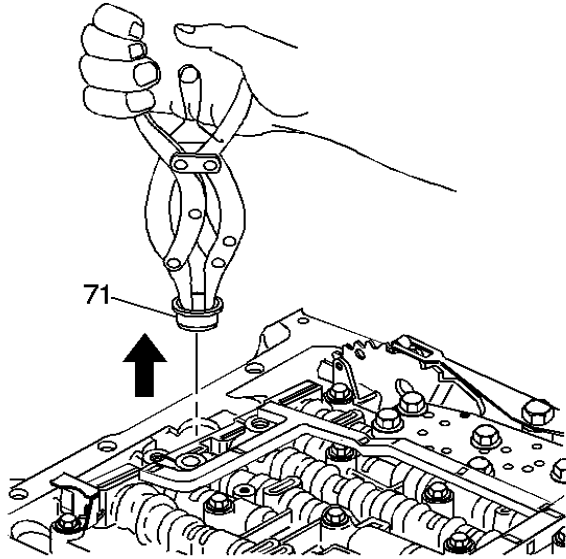
Pan and Filter Assembly Removal



1. Spray the ends of the transmission oil pan screws with penetration oil.
2. Remove the transmission oil pan screws.
3. Remove the transmission oil pan and the transmission oil pan gasket.

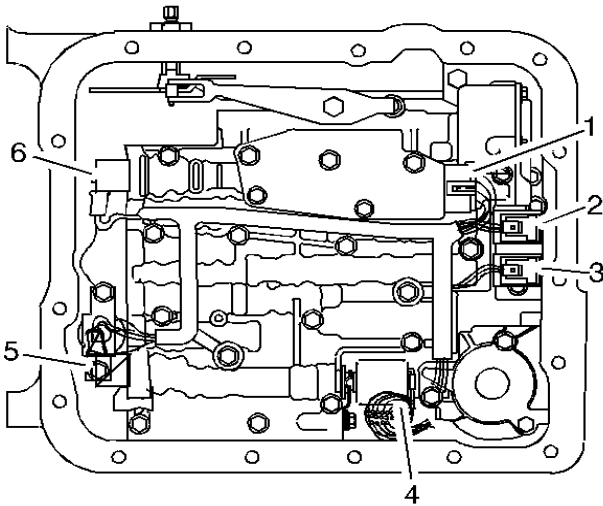


4. Remove the transmission oil filter assembly.
 - A. Pry the metal from the top of the filter and pull the top away.
 - B. Open the filter.
5. The filter may need diagnosis. Inspect the following items for wear or corrosion:
 - Clutch material
 - Bronze slivers indicating bushing wear
 - Steel particles

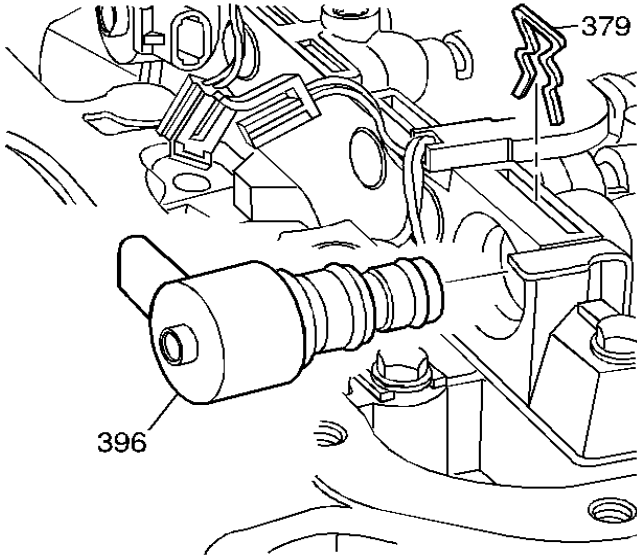


6. Remove the oil filter seal.

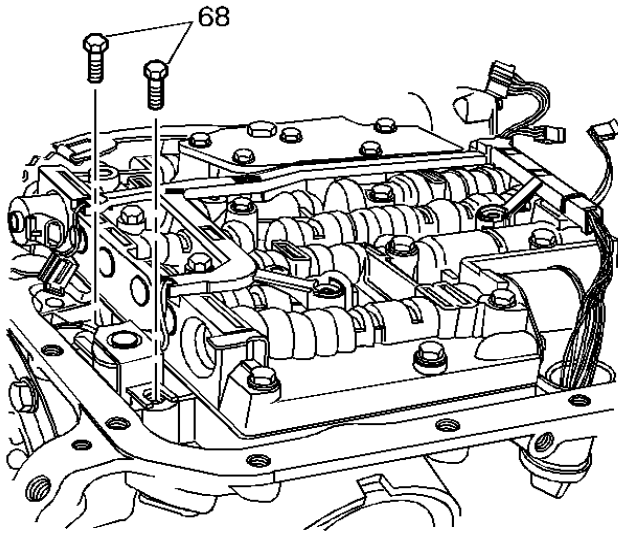
Valve Body and Wiring Harness Removal



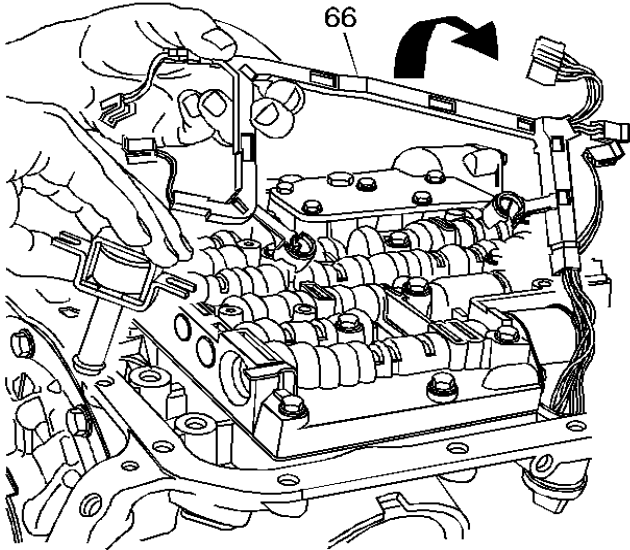
1. Remove all electrical connectors (1-6) from the electrical components.



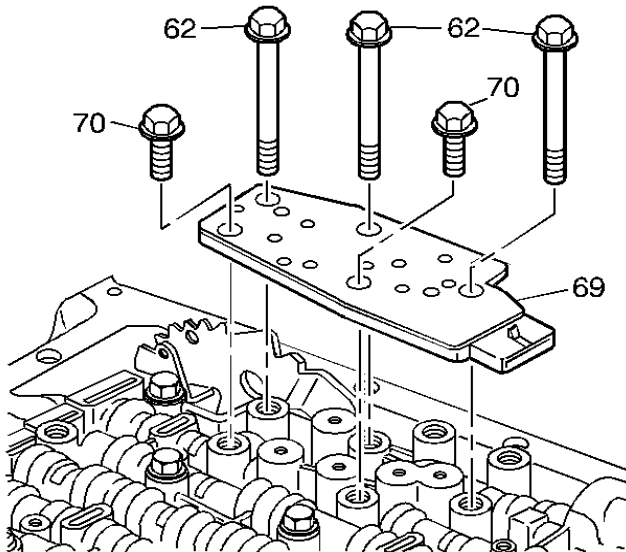
2. Remove the TCC PWM retainer clip (379).
3. Remove the TCC PWM solenoid (396).



4. Remove the TCC solenoid bolts (68).

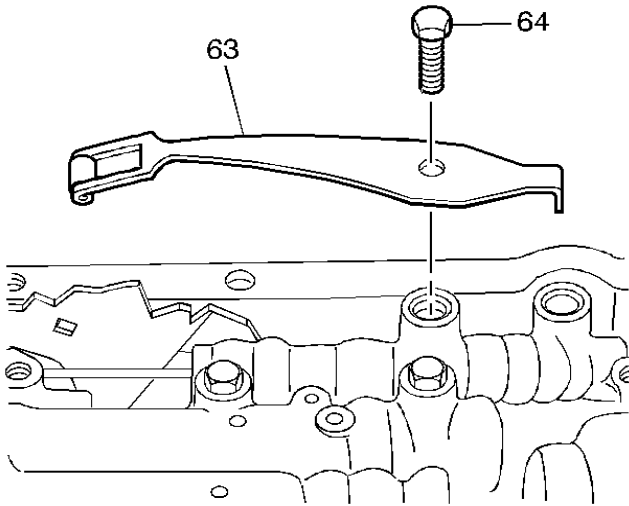


5. Remove the TCC solenoid and wiring harness (66). Turn the wiring harness over so that it hangs over the side of the transmission.

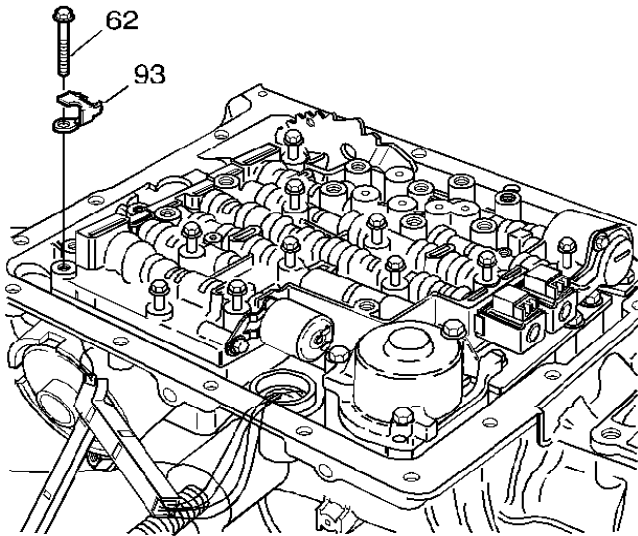


6. Remove the Transmission Fluid Pressure Manual Valve Position Switch (TFP Val. Position Sw.) Assembly bolts (62, 70).

7. Remove the TFP Val. Position Sw. (69).

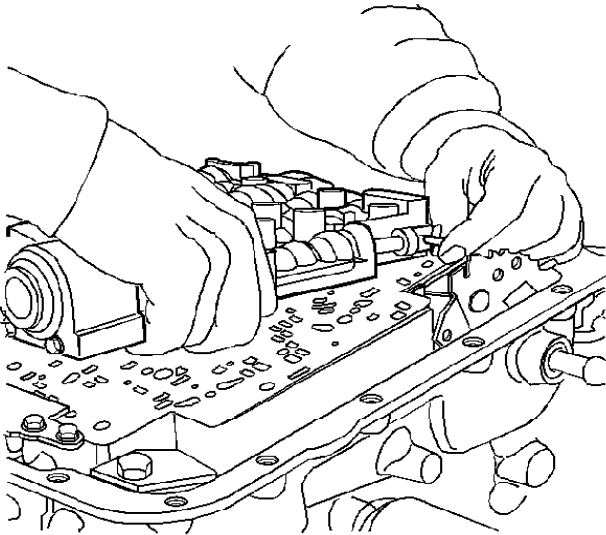


8. Remove the manual detent spring bolt (64).
9. Remove the manual detent spring assembly (63).

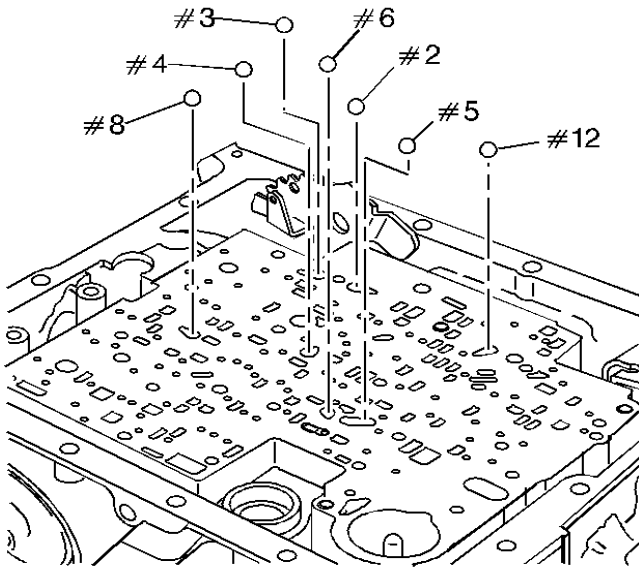


10. Remove all valve body bolts (62).

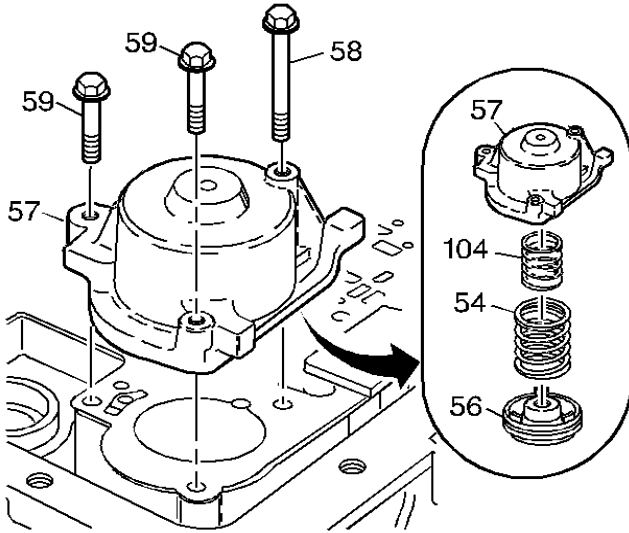
11. Remove the fluid level indicator stop bracket (93).



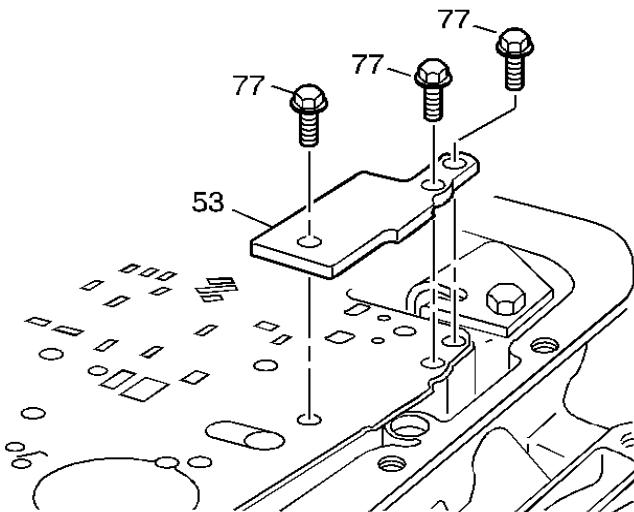
12. Lift the valve body carefully so that the checkballs remain on the spacer plate in the correct location. While lifting the valve body, disconnect the manual valve link from the manual valve.



13. Remove the seven valve body checkballs (2-6, 8, 12).

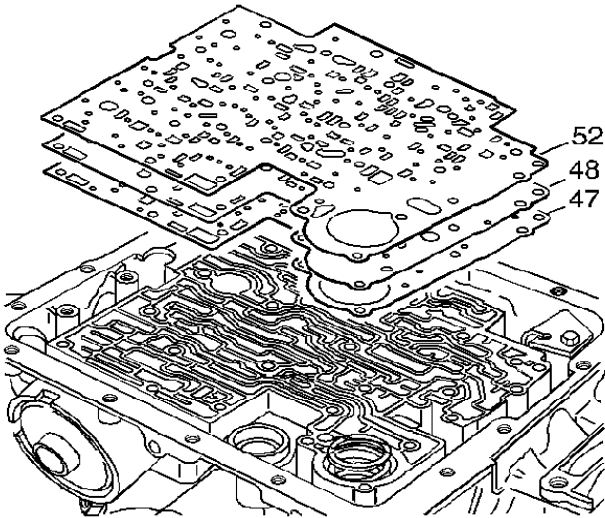


14. Remove the accumulator cover bolts (58, 59).
 15. Remove the 1-2 accumulator cover and pin assembly (57).
 16. Disassemble the 1-2 accumulator assembly (54, 56, 57, 104).

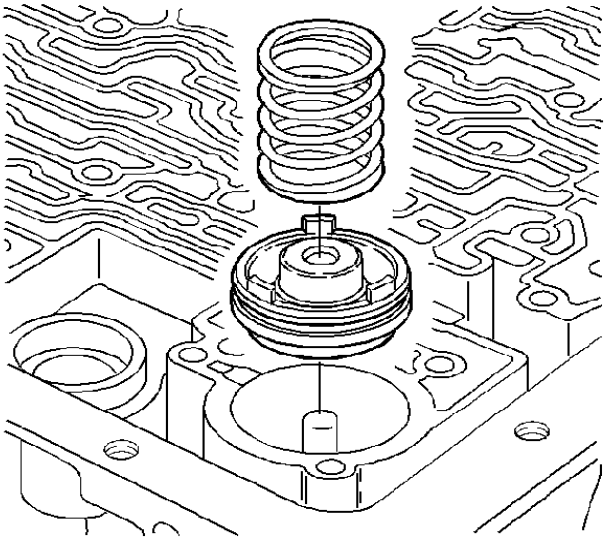


17. Remove the spacer plate support bolts (77).

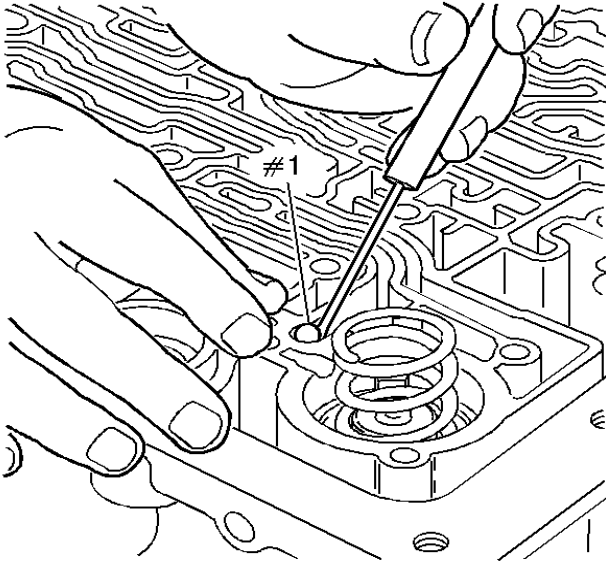
18. Remove the spacer plate support (53).



19. Remove the spacer plate to valve body gasket (52), the valve body spacer plate (48) and the spacer plate to case gasket (47). Discard gaskets. Do not reuse.



20. Remove the 3-4 accumulator spring (model dependent) and the 3-4 accumulator piston.

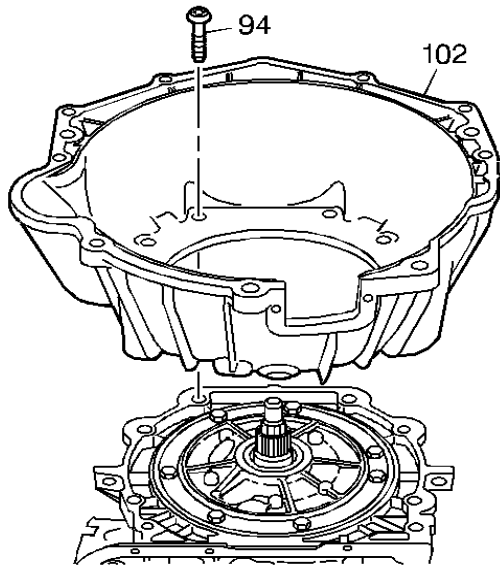


21. Remove the case checkball.

Converter Housing Removal

Tools Required

[J 41510](#) 50 mm Torx Plus Bit

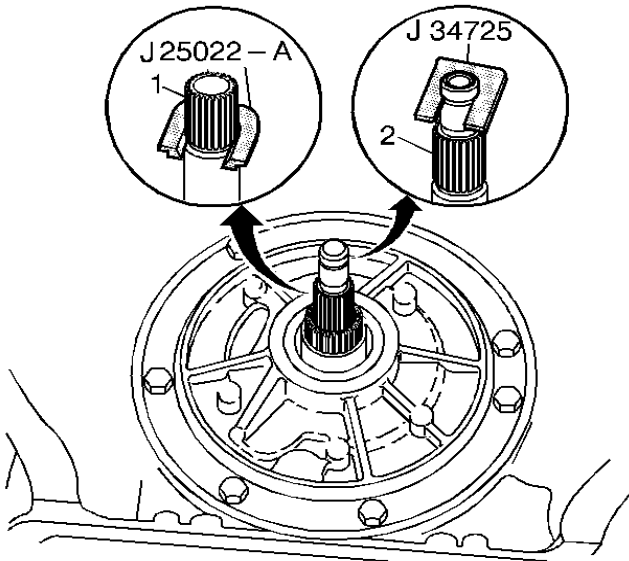


1. Remove the converter housing bolts (94). Use the [J 41510](#).
2. Remove the converter housing (102).

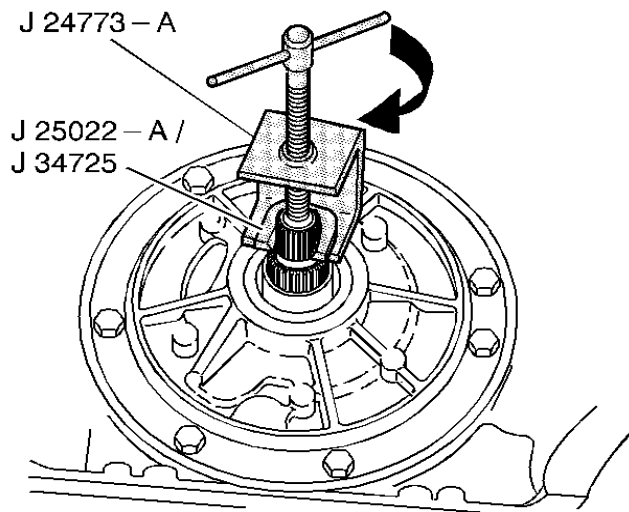
Transmission End Play Check

Tools Required

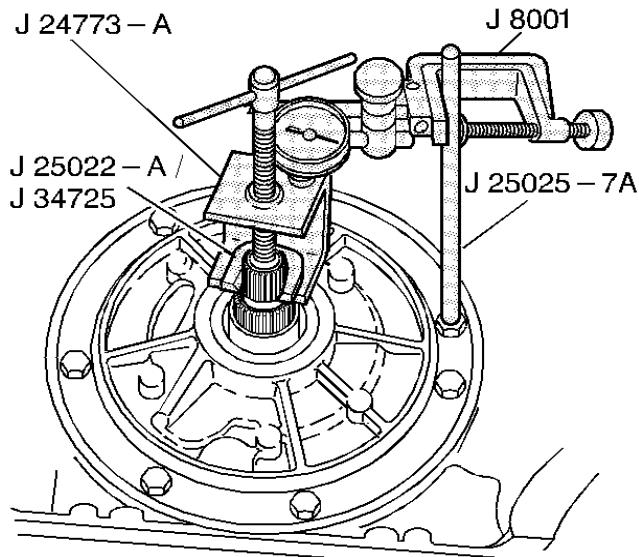
- [J 25022-A](#) End Play Fixture Adapter (245 mm)
- [J 34725](#) End Play Fixture Adapter (298 mm)
- [J 24773-A](#) Oil Pump Remover and End Play Checking Fixture
- [J 8001](#) Dial Indicator Set
- [J 25025-7A](#) Dial Indicator Mounting Post



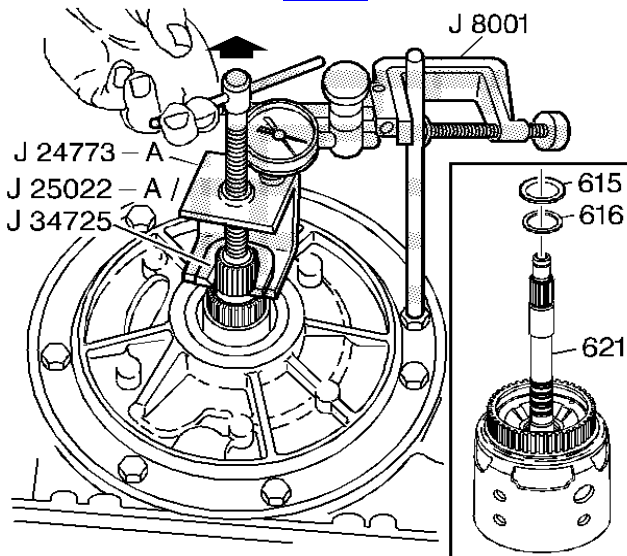
1. Install an end play fixture adapter.
 - Use [J 25022-A](#) for a 245 mm turbine shaft (1).
 - Use [J 34725](#) for a 298 mm turbine shaft (2).



2. Install the [J 24773-A](#).



3. Remove an oil pump bolt.
 4. Install [J 25025-7A](#) (or a 278 mm or 11 in bolt) and lock nut.
 5. Install [J 8001](#).

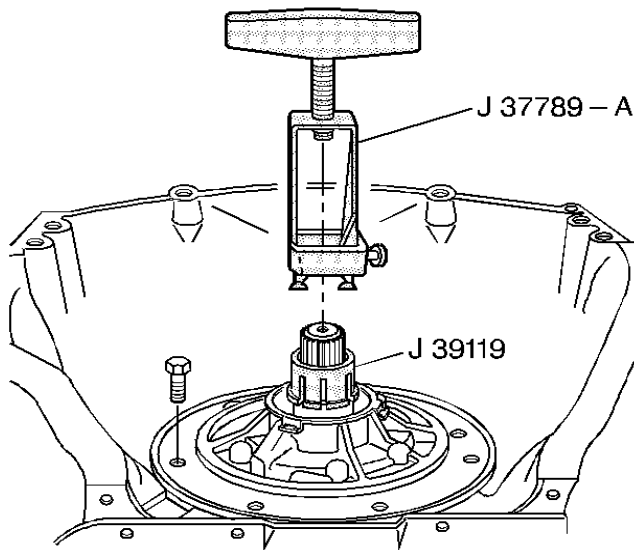


6. Set the [J 8001](#) to zero.
 7. Pull up on [J 24773-A](#).
 8. The end play should be 0.13-0.92 mm (0.005-0.036 in).
 9. The selective washer (616), which controls the end play, is located between the input housing (621) and the thrust bearing (615) on the oil pump hub. If the dial indicator shows no end play, the selective washer (616) and thrust bearing (615) may have been misassembled.

Oil Pump Removal

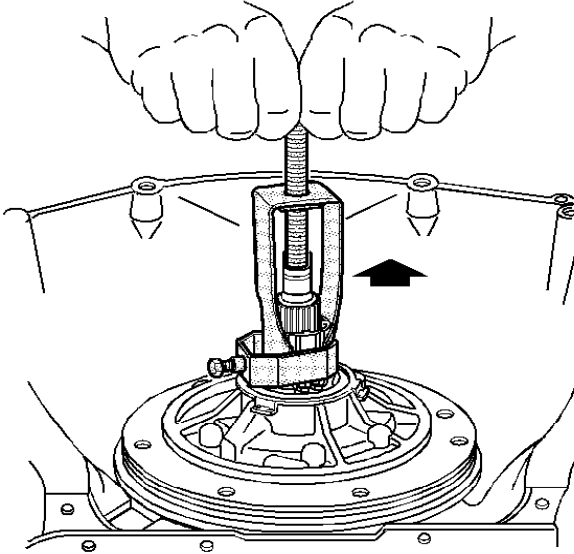
Tools Required

- [J 37789-A](#) Pump Remover and Installer
- [J 39119](#) Adapter

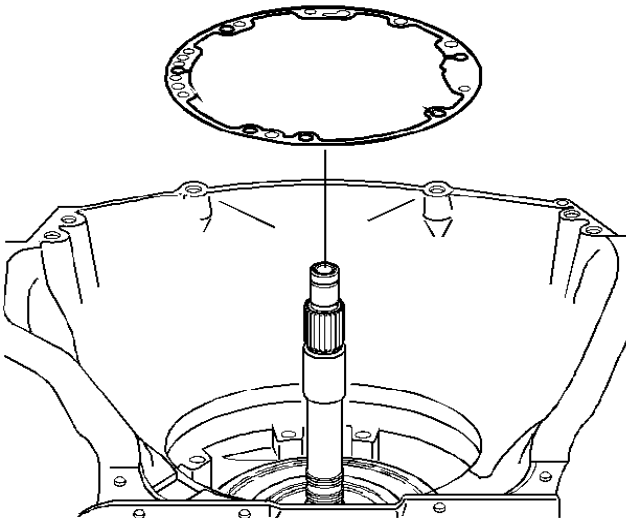


1. Remove all pump bolts.
2. Install [J 39119](#) in order to remove the oil pump.

3. Install [J 37789-A](#).



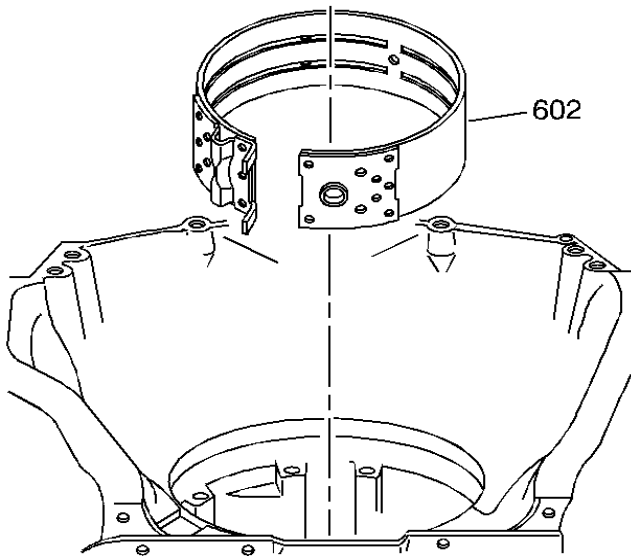
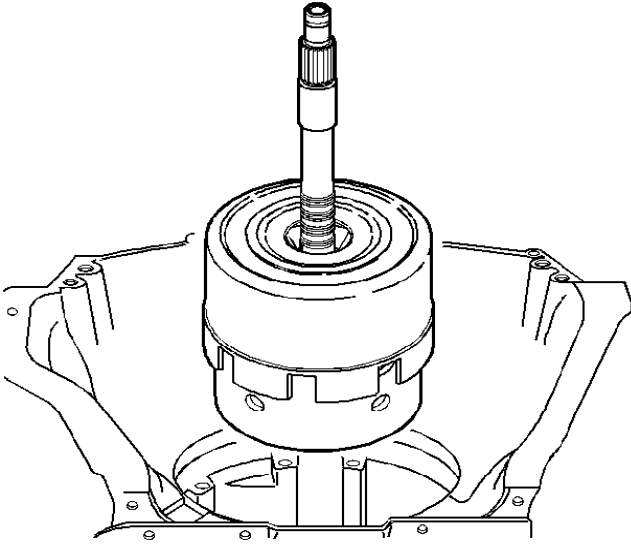
4. Tighten the nut with a wrench. This will tighten the oil pump removal tool around the adapter.
5. Turn the T-handle on top of [J 37789-A](#).



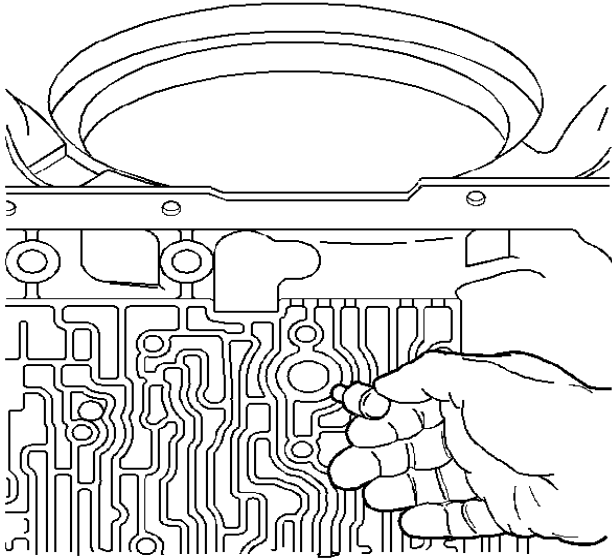
6. Lift the pump out the case.
7. Separate the pump cover from the case gasket.

2-4 Band, Input Clutches, Input Gear Set Removal

1. Remove the input housing, shaft assembly, reverse input clutch housing, and the drum assembly.

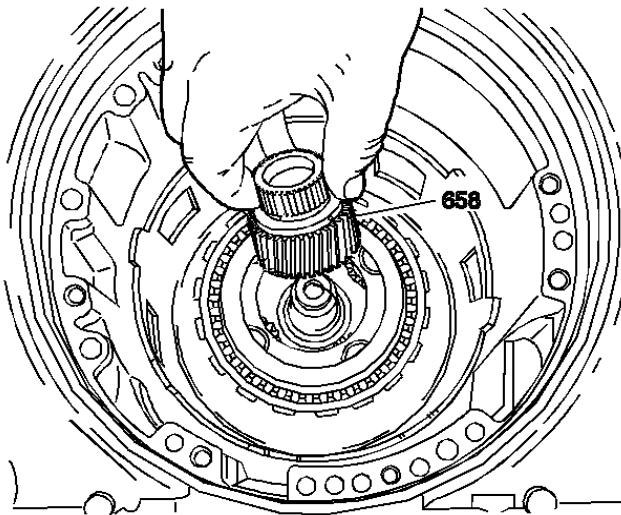


2. Remove the 2-4 band assembly.

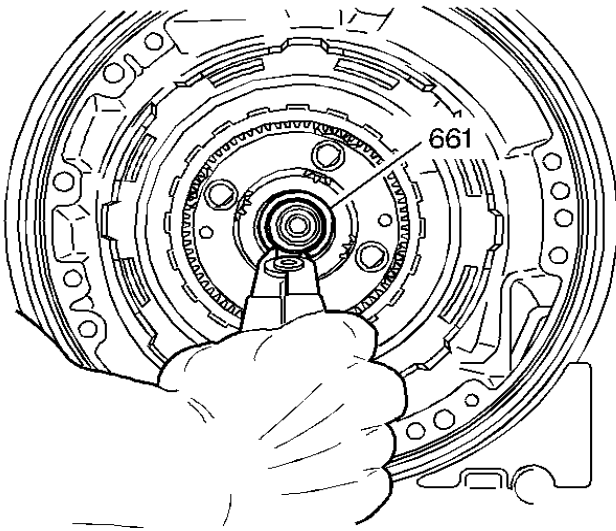


3. Remove the band anchor pin.

Reaction Gear Set Removal



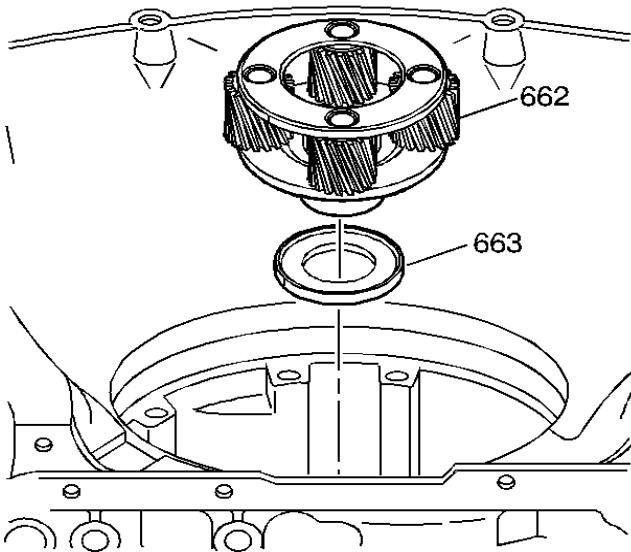
1. Remove the input sun gear.



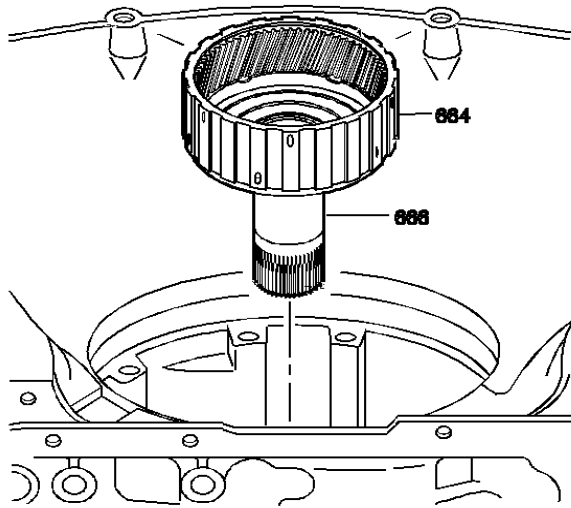
Important

Do not overexpand the retainer.!

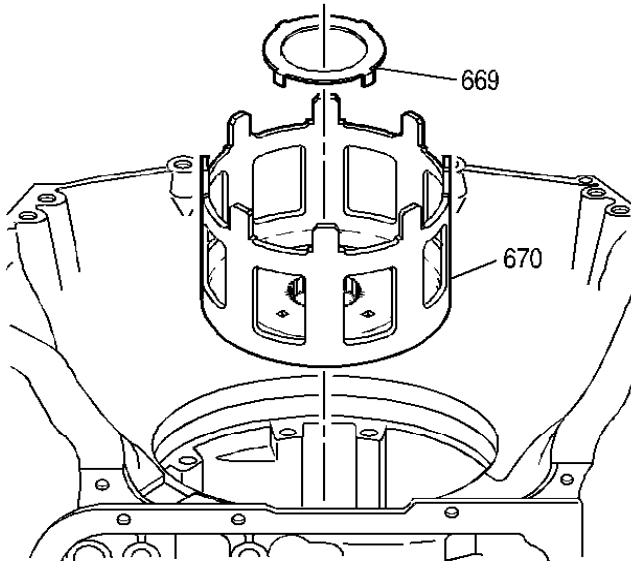
2. Remove the output shaft to input carrier retainer.



3. Remove the input carrier assembly and remove the bearing assembly.



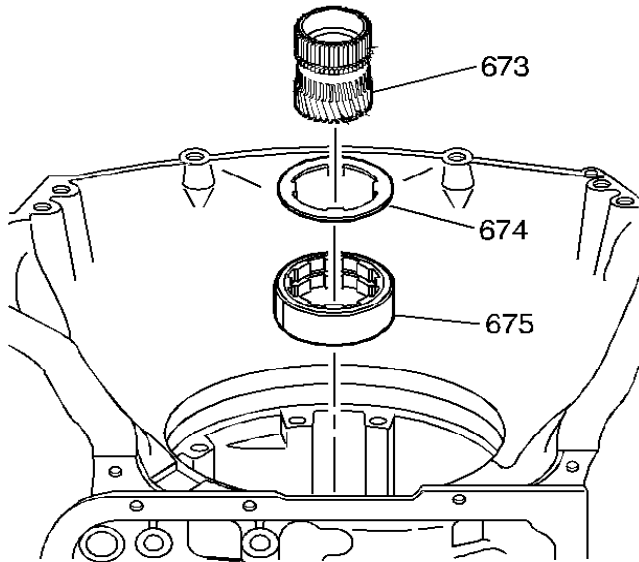
4. Remove the input internal gear and the reaction carrier shaft.



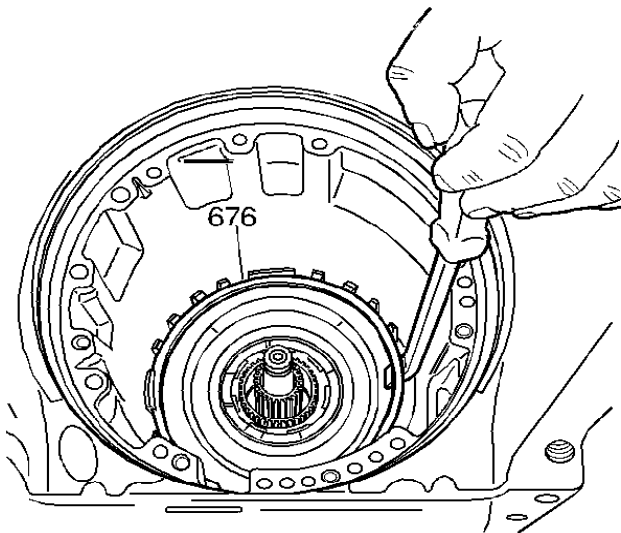
5. Remove the thrust washer and reaction sun shell.

Output Shaft, Reaction Gear, Low/Rev Clutch Removal

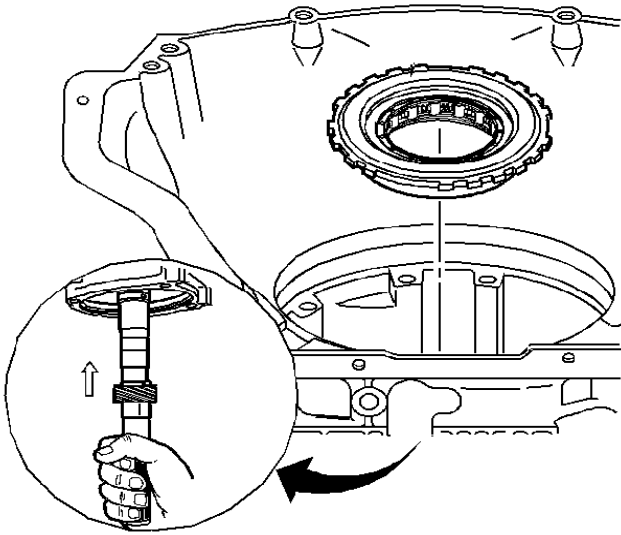
Tools Required

[J 29837](#) Output Shaft Support Fixture

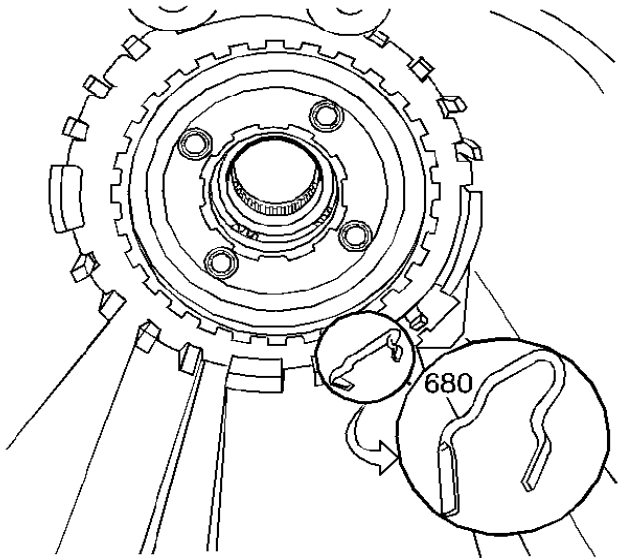
1. Remove the following components: reaction sun gear; thrust washer; and the low/reverse roller clutch race.
 - A. The reaction sun gear
 - B. The thrust washer
 - C. The low/reverse roller clutch race



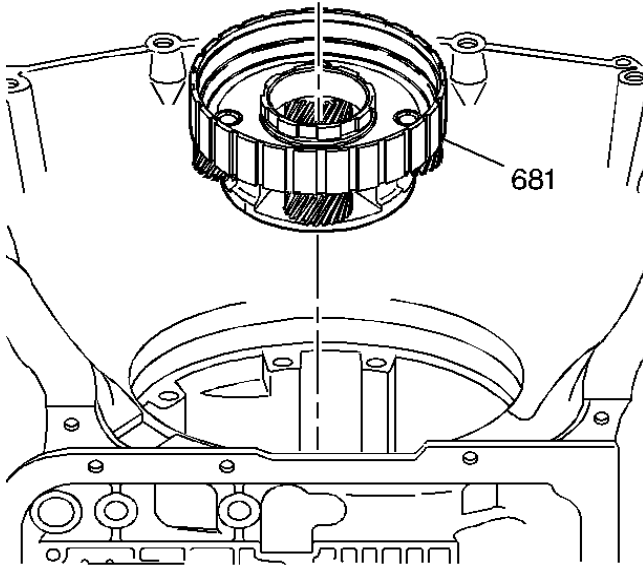
2. Remove the low/reverse support retainer ring.



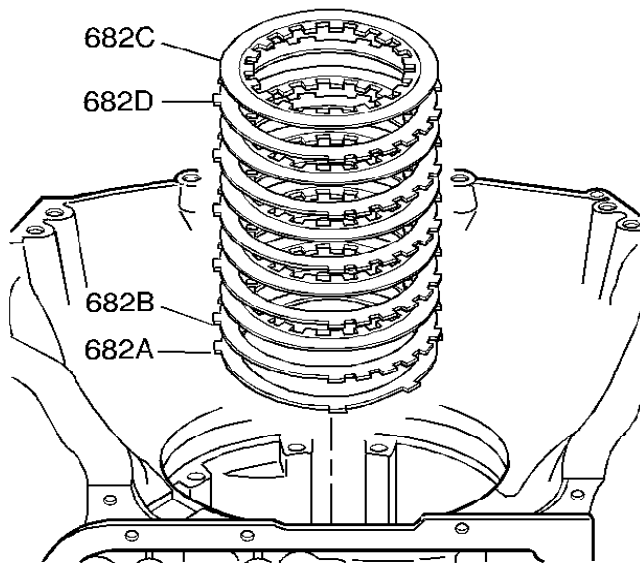
3. Push up on the output shaft in order to loosen the low/verse clutch support.
4. Remove the low/reverse clutch support.



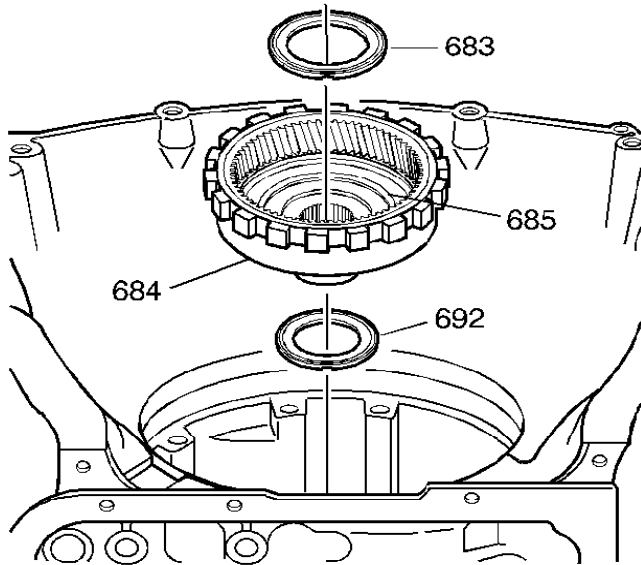
5. Remove the transmission spring (low/reverse clutch support retainer).



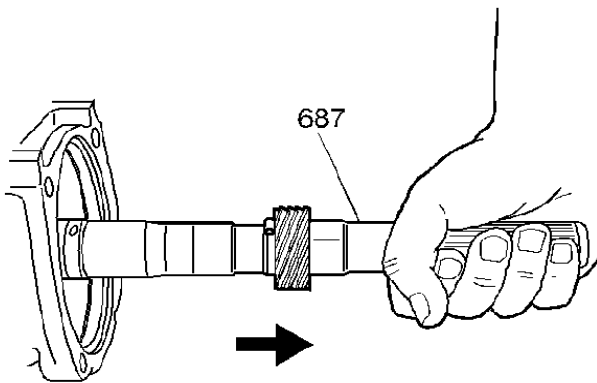
6. Remove the reaction carrier assembly.



7. Remove the following components:
- . The low/reverse clutch fiber plate assembly
 - A. The low/reverse clutch steel plates
 - B. The spacer
 - C. The low/reverse clutch selective plate
 - D. The low/reverse clutch waved plate

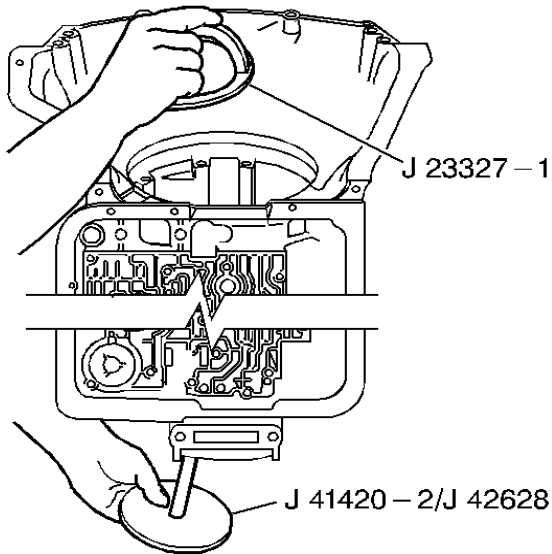


8. Remove the following components:
 - . The thrust bearing assembly (reaction carrier support)
 - A. The internal reaction gear
 - B. The internal reaction gear support
 - C. The reaction gear support bearing
9. Remove the output shaft support fixture.

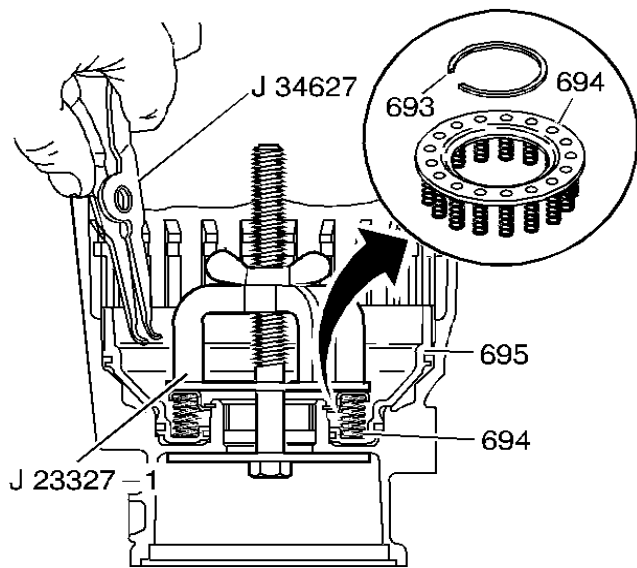


10. Remove the output shaft.

Low and Reverse Clutch Piston Removal

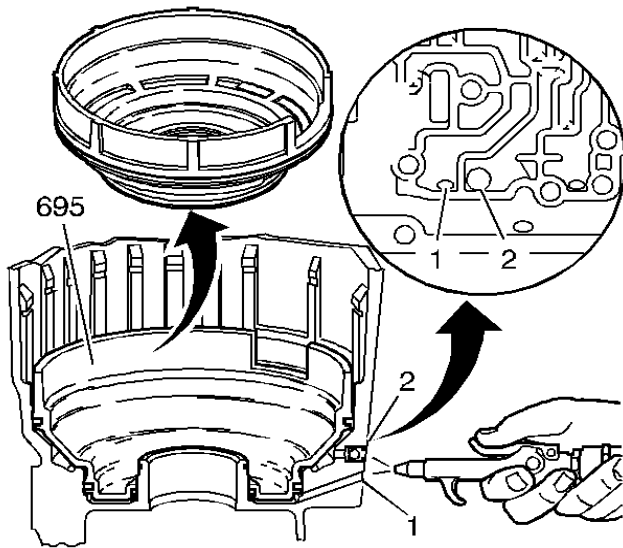


1. Install the clutch spring compressor.
 - One piece case -- use J 41420-2 Disc
 - Two piece case -- use J 42628 Disc



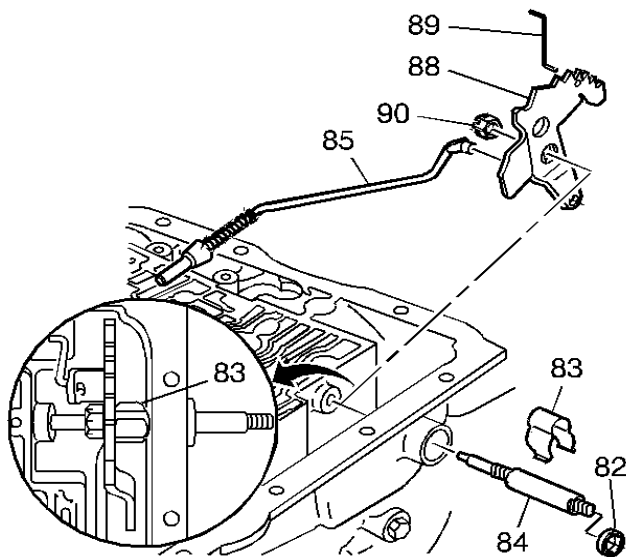
2. Tighten the clutch spring compressor.

3. Remove the low/reverse clutch retainer ring.
4. Remove the low/reverse the clutch spring assembly

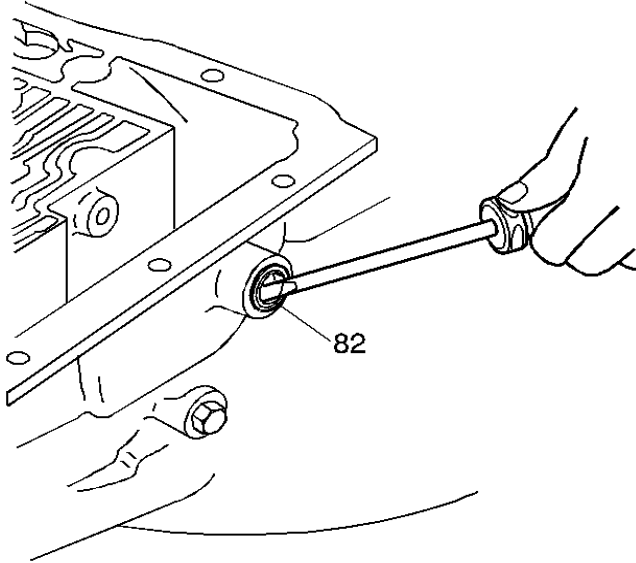


5. Blow compressed air into the case passage to remove the low/reverse clutch piston.

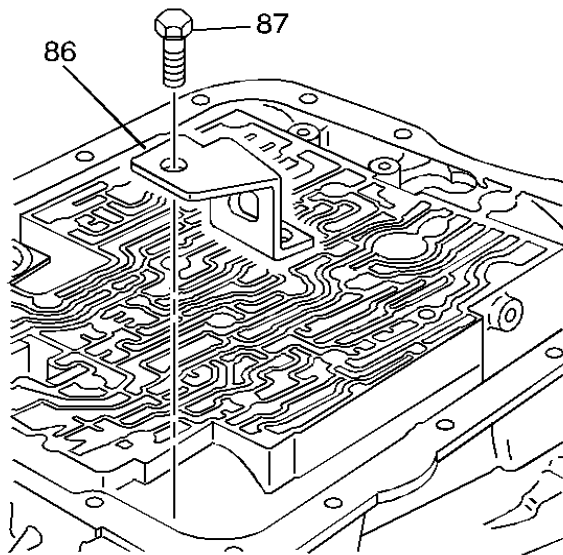
Inner Manual Linkage Removal



1. Remove the following parts: hex head nut (90) and the manual valve link (89); inside detent lever (88) and the parking lock actuator assembly (85); manual shaft retainer (83) and the manual shaft (84).

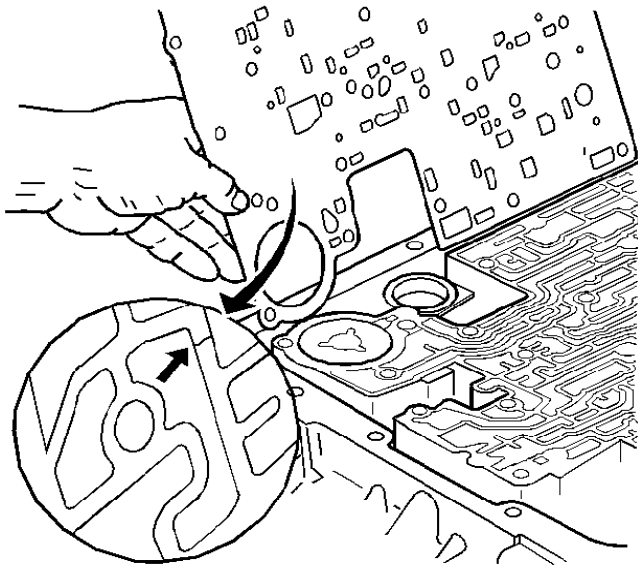


2. Remove the manual shaft seal (82) with a screwdriver.

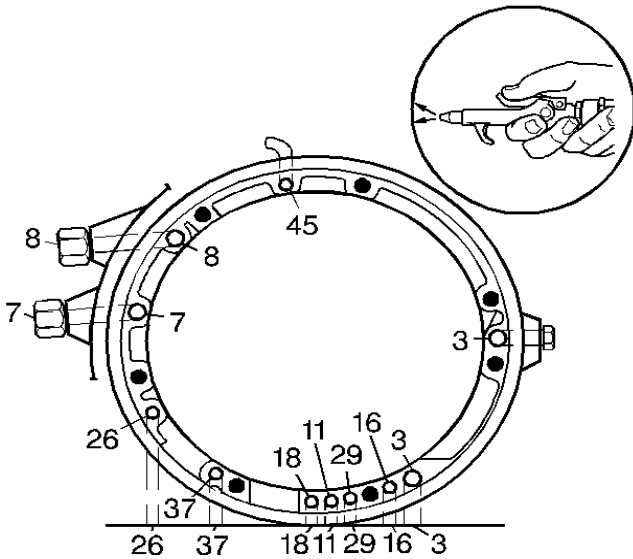


3. Remove the following components:
 - A. The parking lock bracket bolt (87)
 - B. The parking lock bracket (86)

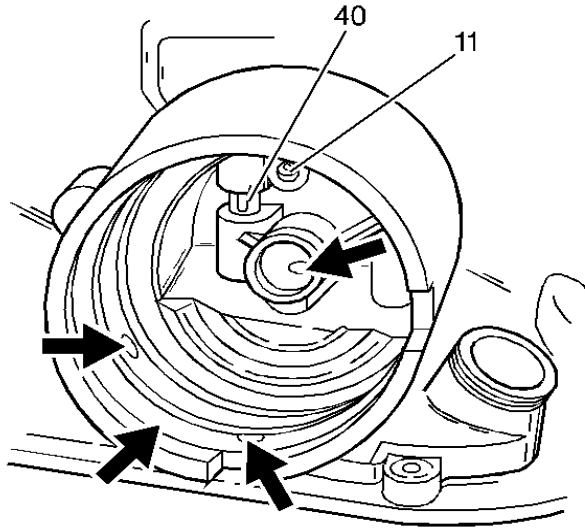
Case Assembly Inspection



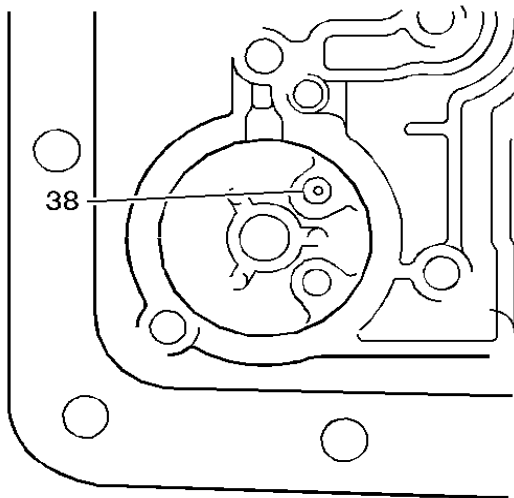
1. Inspect the spacer plate to case gasket for witness marks. The witness marks should be complete. Incomplete witness marks may come from an uneven case surface or from cross channel leaks.



2. Using compressed air, blow into all of the case fluid passages (3, 7, 8, 11, 16, 18, 26, 29, 37, 45) to ensure that all case fluid passages are clear of any obstruction.



3. Inspect the 2-4 servo bore, the 3rd accumulator retainer and ball assembly (40), the orifice cup plug (11) in the servo bore, and the 2nd apply piston pin bore for any of the following conditions:
- Porosity
 - Burrs
 - Debris
 - Any other damage



4. Inspect the 3-4 accumulator bore and the orifice cup plug (38) for any of the following conditions:

- Porosity
 - Burrs
 - Blockage
 - Any other damage
5. Inspect all bolt holes for thread damage. Use heli-coil to repair damaged threads.
 6. Inspect the cooler connectors for damage and proper torque. **Specification**

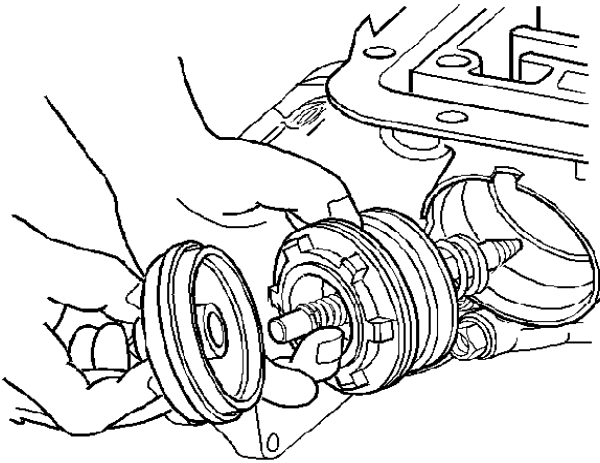
Cooler connector torque should be 38 N·m (28 lb ft)

Retainer and Ball Assembly Leak Check

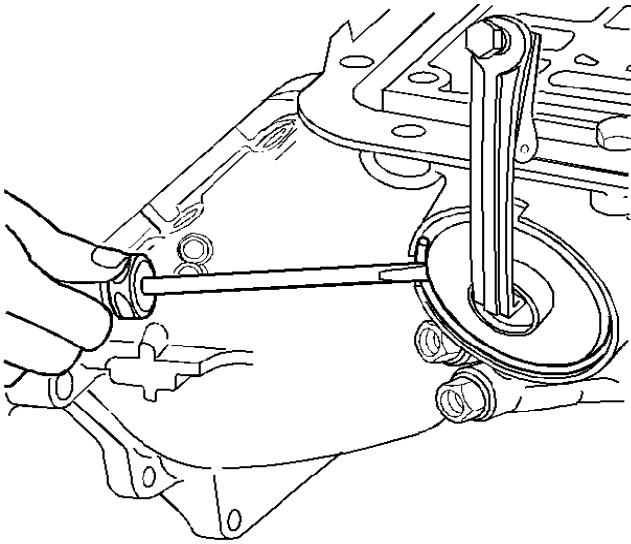
[Installation Procedure](#)

Tools Required

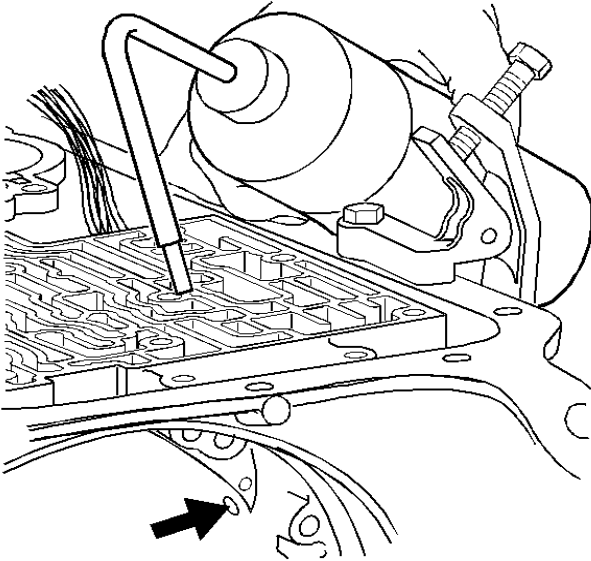
[J 29714-A](#) Servo Cover Compressor



1. Install the 2-4 servo into the case.

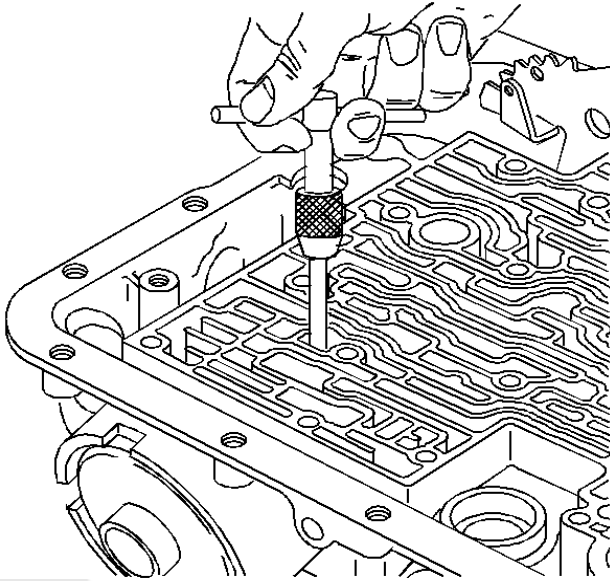


2. Use the [J 29714-A](#) in order to compress the servo cover.
3. Install the servo cover retaining ring.

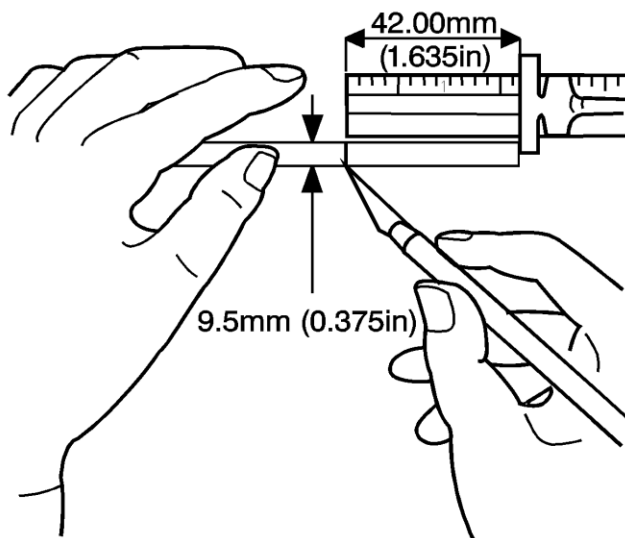


4. Pour the solvent into the accumulator bore until the channel is filled. Watch for leaks in the case channel.
5. If leakage is observed, replace the third accumulator retainer and ball assembly.

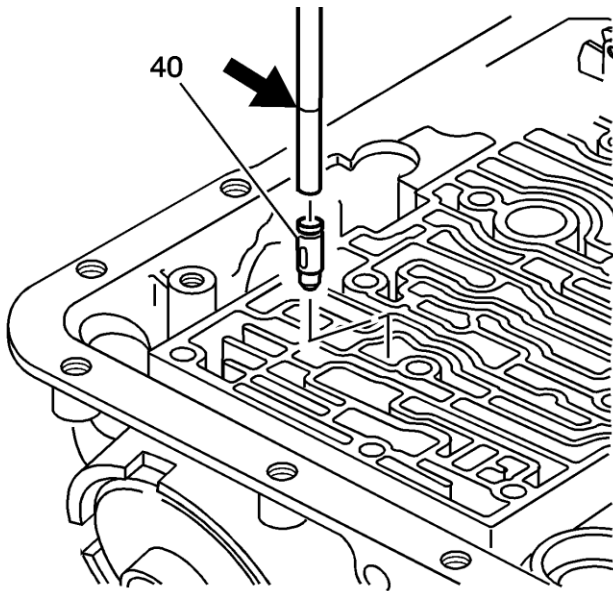
Third Accumulator Retainer and Ball Replacement



6. Remove the third accumulator retainer and ball assembly, using a 6.3 mm (0.25 in) #4 screw extractor.

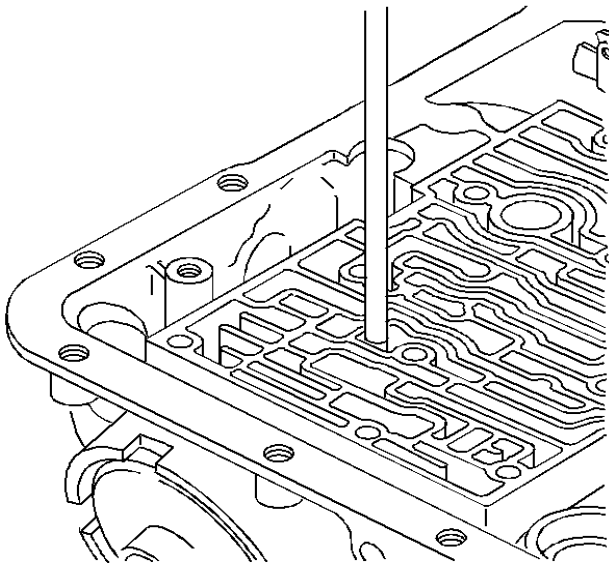


7. Scribe a mark at 42 mm (1.653 in) on a 9.5 mm (0.375 in) diameter metal rod. The scribe mark is used to gage the proper depth of the third accumulator retainer and ball assembly.

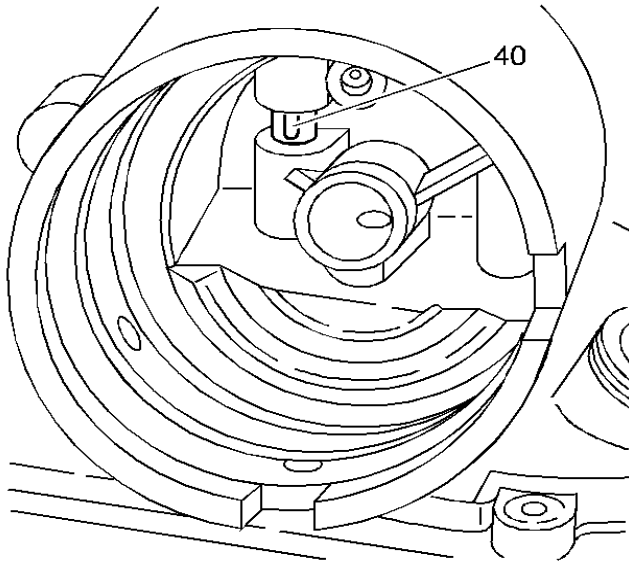


8. Perform the following functions:

- A. Line up the oil feed slots in the third accumulator retainer and ball assembly (40) with the servo bore.
- B. Using the 9.5 mm (0.375 in) diameter metal rod, install the third accumulator retainer and ball assembly.



9. Ensure that the third accumulator retainer and ball assembly and the scribe mark on the rod are flush with the case surface.



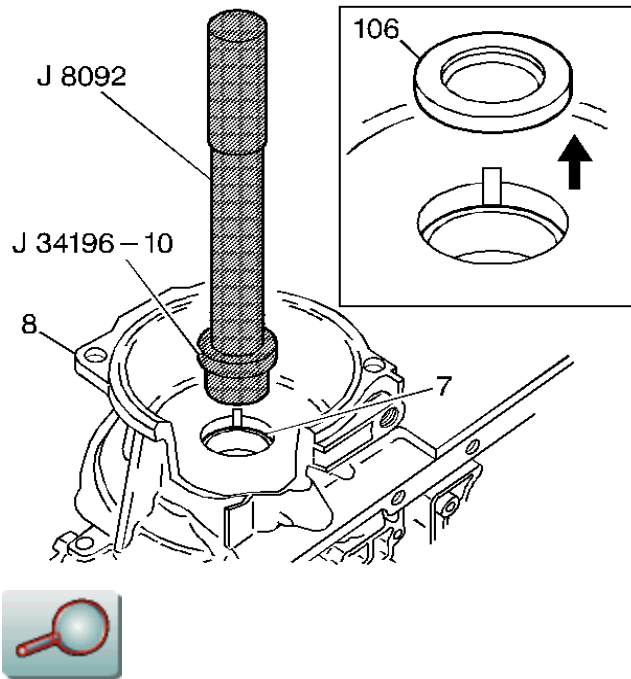
10. Check the third accumulator retainer and ball assembly (40) for alignment. The slot in the retainer must be completely open in the servo bore.
-

Case Bushing

Removal Procedure

Tools Required

- [J 8092](#) Driver Handle
- [J 34196-B](#) Bushing Set

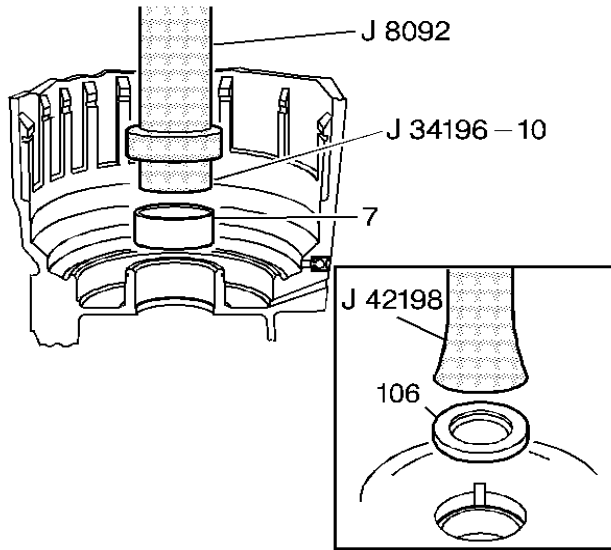


13. Remove the case rear oil seal (106) (Y-car Only).
14. Remove the case bushing (7) using [J 8092](#) and [J 34196-B](#).

Installation Procedure

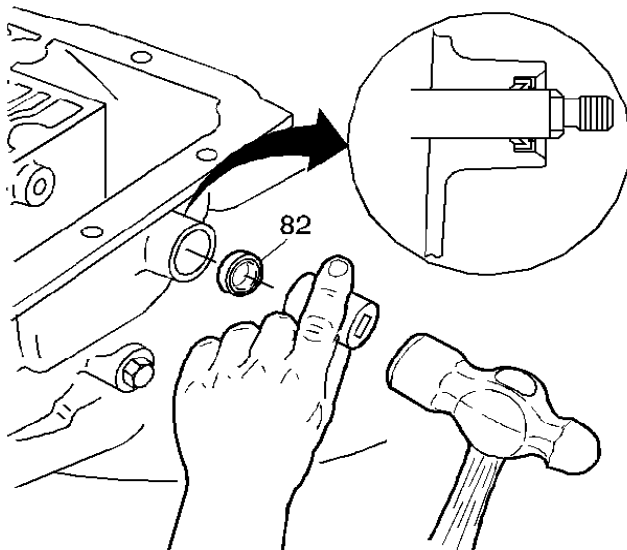
Tools Required

- [J 8092](#) Driver Handle
- [J 34196-B](#) Bushing Set
- [J 42198](#) Case Rear Oil Seal Installer



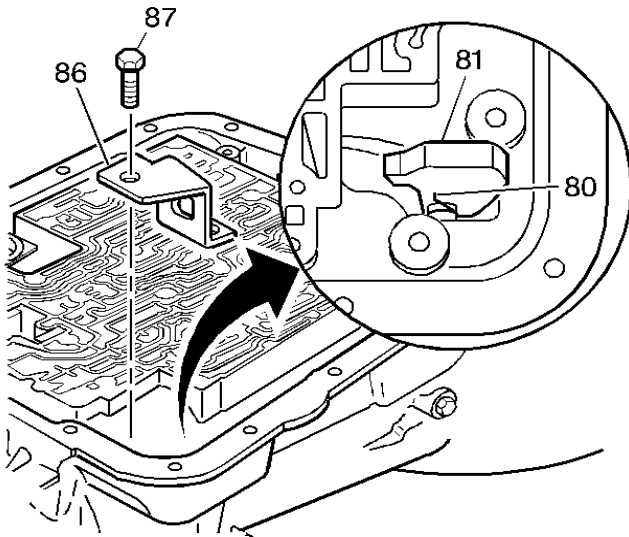
18. Install a case bushing (7) using [J 8092](#) and [J 34196-B](#).
19. Install a case rear oil seal (106) (Y-car Only) using [J 42198](#).

Manual Shaft Seal Installation



Install a new manual shaft seal (82).

Inner Manual Linkage Installation



20. Install the parking lock bracket (86).

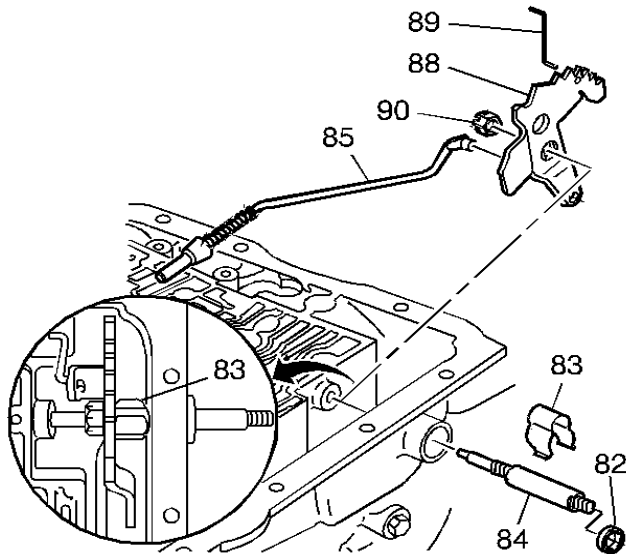
Notice

Use the correct fastener in the correct location. Replacement fasteners must be the correct part number for that application. Fasteners requiring replacement or fasteners requiring the use of thread locking compound or sealant are identified in the service procedure. Do not use paints, lubricants, or corrosion inhibitors on fasteners or fastener joint surfaces unless specified. These coatings affect fastener torque and joint clamping force and may damage the fastener. Use the correct tightening sequence and specifications when installing fasteners in order to avoid damage to parts and systems.

21. Install the parking lock bracket bolt (87). **Tighten**

Tighten the bolt to 31 N·m (23 lb ft).

22. Inspect the following items:
- The parking brake pawl (81) for damage or cracks
 - The parking pawl return spring (80) for being broken or missing



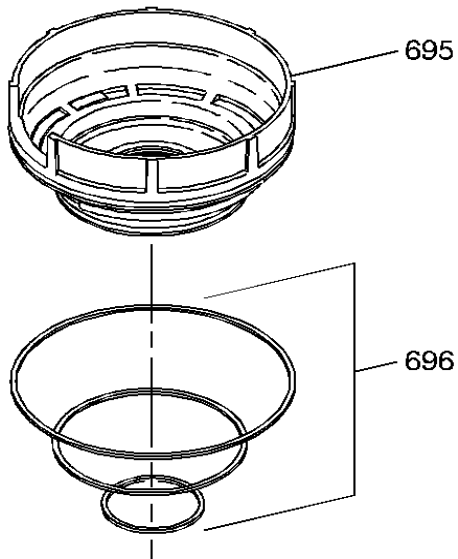
23. Inspect the following items:
- The manual shaft retainer (83) for damage or cracks
 - The manual shaft (84) for damage or burrs
 - The parking lock actuator assembly (85) for damage
 - The inside detent lever (88) for damage or cracks
 - The manual valve link (89) for damage
 - The hex head nut (90) for damage or stripped threads
24. Install the following items:
- The inside detent lever (88)
 - The parking lock actuator assembly (85)
 - The manual shaft (84) (model dependent)
 - The manual shaft retainer (83)
 - The hex head nut (90)
 - The manual valve link (89) **Tighten**

Tighten the nut to 31 N·m (23 lb ft).

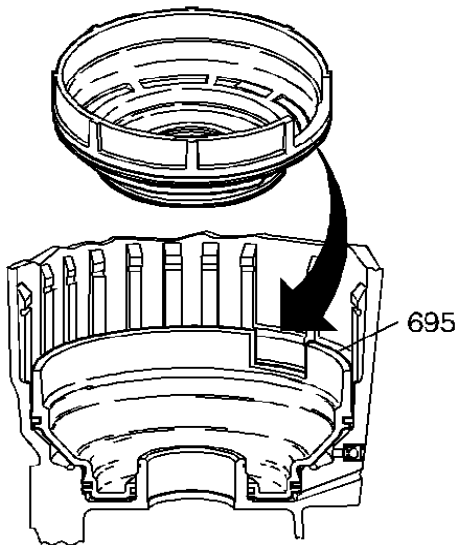
Low and Reverse Clutch Piston Installation

Tools Required

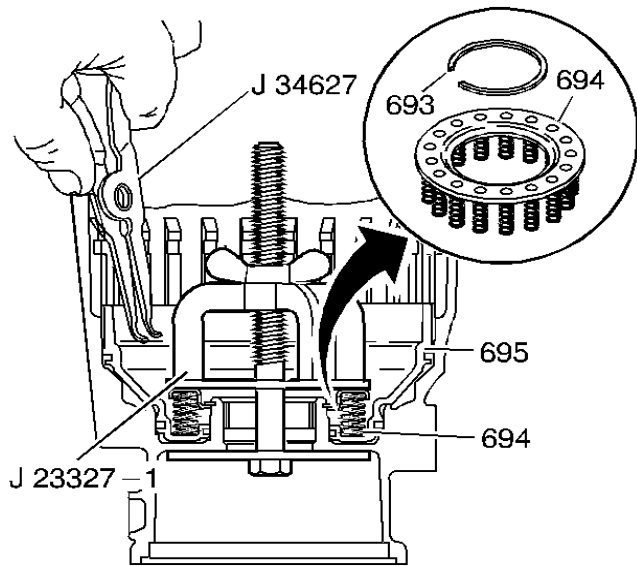
- [J 23327-1](#) Forward Clutch Spring Compressor (Bridge)
- [J 34627](#) Snap Ring Remover and Installer
- [J 36850](#) Transjel Lubricant



28. Install the transmission (low and reverse clutch outer, center, inner) seals (696) on the low and reverse clutch piston (695).
29. Lubricate the seals with assembly lubricant [J 36850](#) or an equivalent.

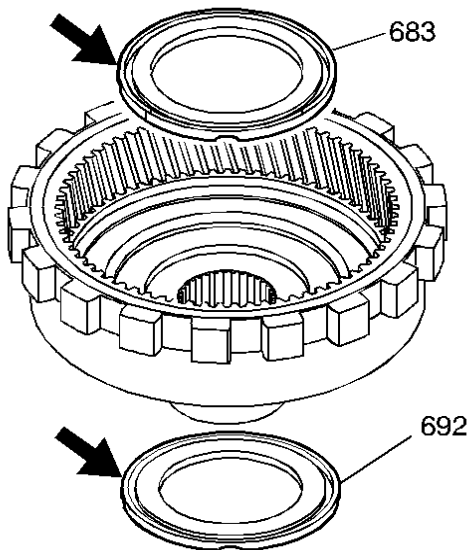


30. Install the low and reverse clutch piston (695) into the case. The notch in the piston must be aligned with the parking brake pawl window, in the case.

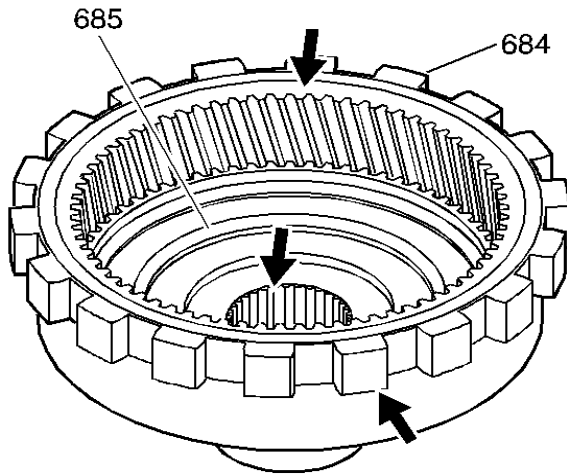


31. Install the low and reverse clutch spring assembly (694).
 . Using the [J 23327-1](#), compress the low and reverse clutch spring
 assembly (694).
 A. Using [J 36850](#) install the low and reverse clutch retainer ring (693).

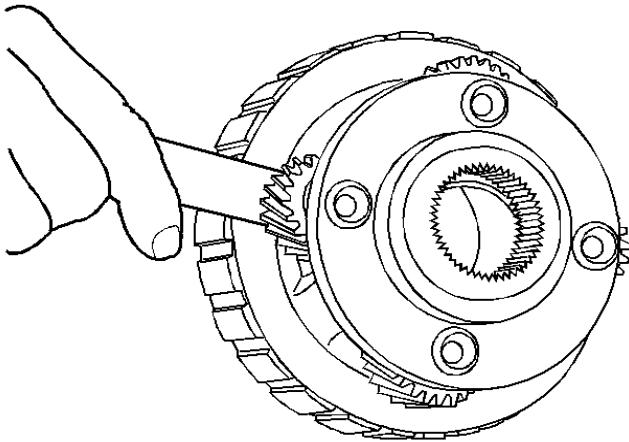
Reaction Gear and Carrier Inspection



32. Inspect the reaction carrier/support thrust bearing assembly (683) for damage.
 33. Inspect the reaction gear support to case bearing (692) for damage.



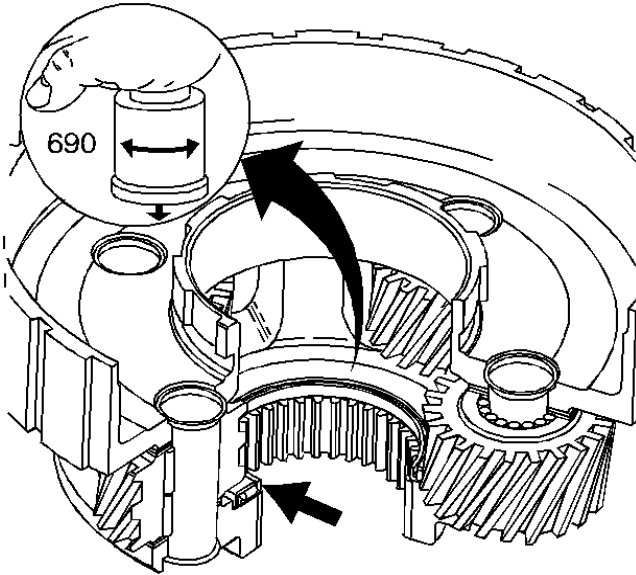
34. Inspect the internal reaction gear (684) and the internal reaction gear support (685) for proper assembly, stripped splines, cracks, teeth, and lug damage.



35. Check the reaction carrier pinion end play. The end play must not exceed 0.61 mm (0.024 in). Inspect the reaction carrier for the following conditions:

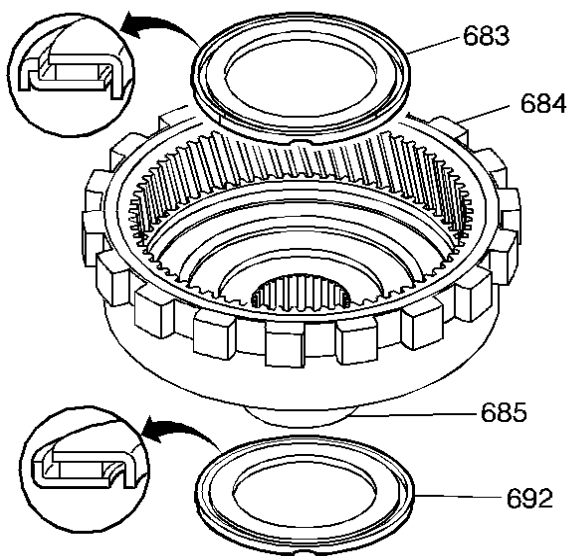
- Pinion gear damage
- Proper pinion staking
- Excessive pinion washer wear
- Keystoned pinion gears

36. Ensure that the pinions turn freely.

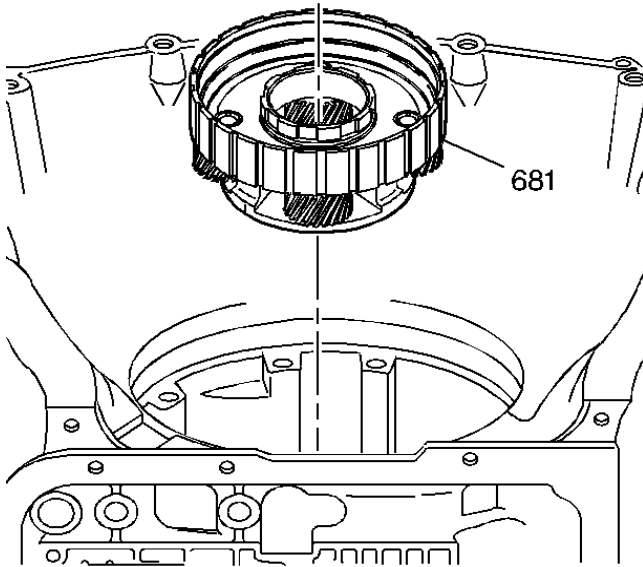


37. Inspect the reaction carrier captive thrust bearing for wear or damage.
 Without touching the pinion gears, place a bushing or an output shaft sleeve (690) onto the bearing race, and turn it with the palm of your hand.
 A. Any imperfections will be felt through the bushing.

Reaction Gear and Carrier Installation



38. Install the reaction carrier thrust and the support bearing into the internal reaction gear support.
39. Install the internal reaction gear and the support into the case.

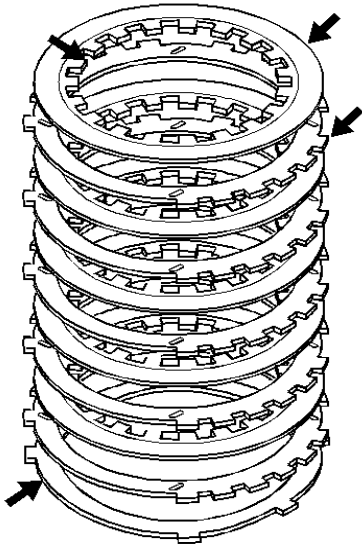


40. Install the reaction carrier assembly into the internal reaction gear.

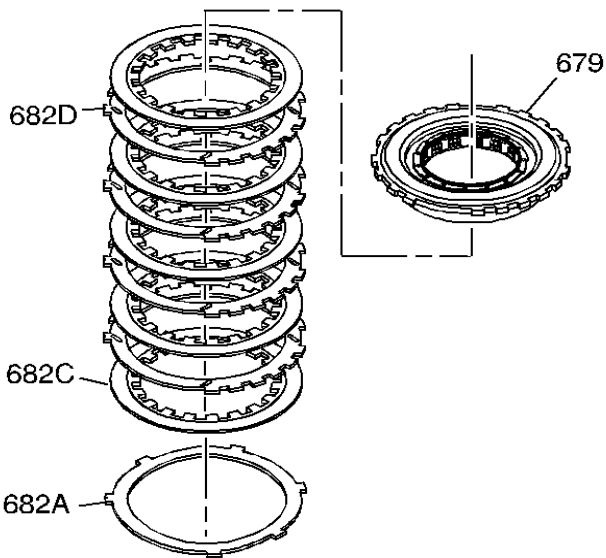
Low and Reverse Clutch Spacer Plate Selection

Tools Required

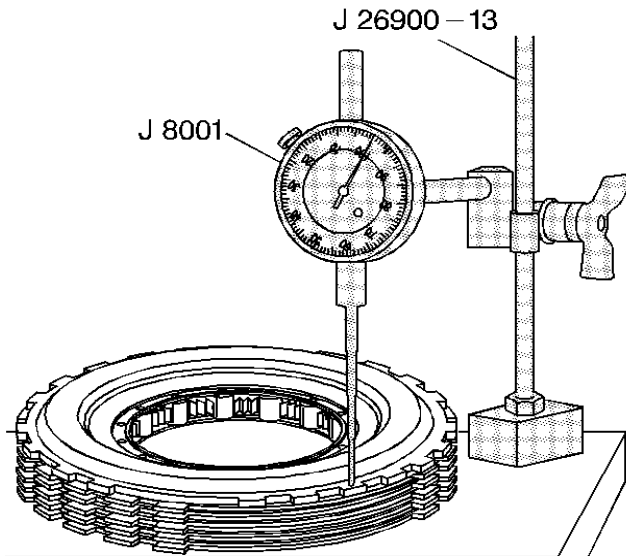
- [J 8001](#) Dial Indicator Set
- [J 26900-13](#) Magnetic Indicator Base



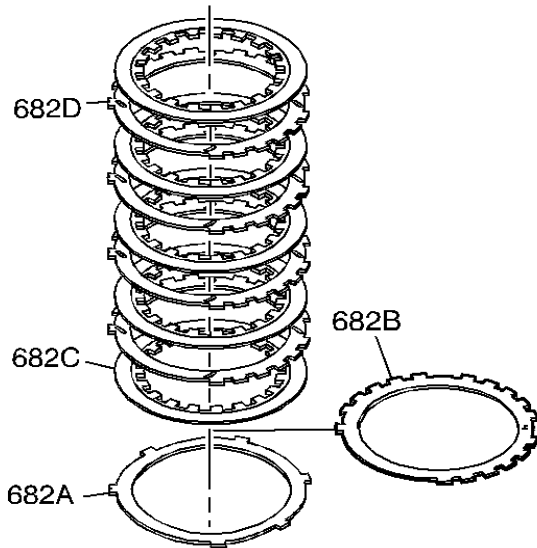
43. Inspect the low and reverse clutch plates for the following conditions:
- Composition material wear
 - Composition material heat damage
 - Composition material delamination
 - Steel plates heat damage
 - Steel plates surface finish damage



44. Stack the low and reverse clutch plate assembly on a flat surface in the following order:
- . One waved plate (682A)
 - A. Five fiber plate assemblies (682C) and four steel plates (682D), starting with one fiber plate assembly and alternating with steel
 - B. Low and reverse clutch support (679)

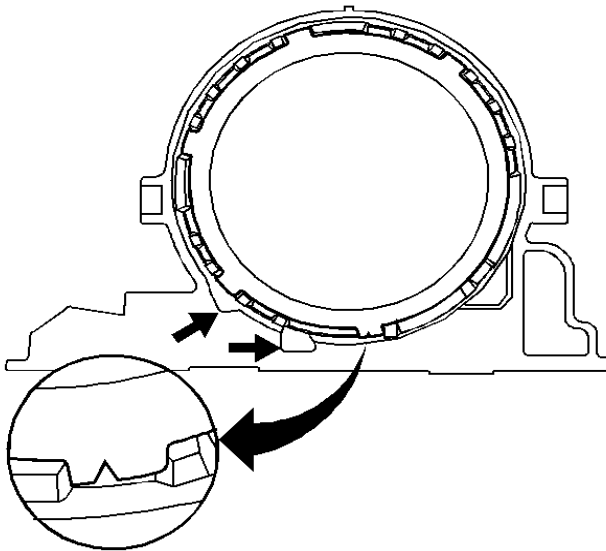


45. Using the [J 8001](#) and the [J 26900-13](#), measure the height of the clutch pack from the work surface to the top of the low and reverse clutch support.
46. Refer to *Low and Reverse Clutch Spacer Plate Selection* in order to select the proper thickness of the low and reverse clutch selective spacer plate (682B).



47. Install the proper selective spacer plate (682B) between the wave plate (682A) and the first fiber plate assembly (682C), with the identification side up. The overall height for the clutch pack including the selective spacer plate should be 29.22-29.90 mm (1.15-1.18 in).

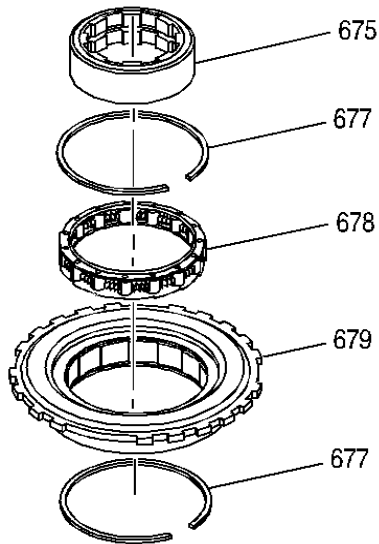
Low and Reverse Clutch Plates Installation



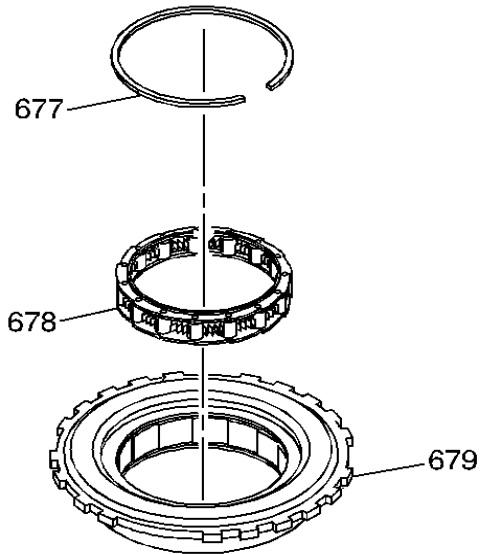
48. Install the wavy plate.

49. Install the correct selective spacer plate (from the selection procedure).
 50. Install the five fiber plate assemblies and four steel plates, starting with one fiber plate assembly and alternating with steel.
 51. Index the steel plate splines in the case as shown.
-

Low and Reverse Clutch Support Disassemble

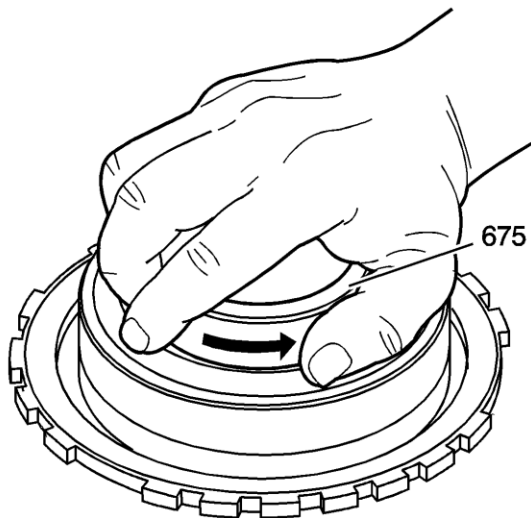


52. Remove the low and reverse roller clutch race (675) from the low and reverse clutch support (679). Inspect the race for damage and surface finish.
53. Remove the low and reverse roller retainer ring (677) and the low and reverse roller clutch assembly (678). Inspect the roller clutch assembly for damaged rollers and broken springs.
54. Inspect the low and reverse clutch support (679) for loose cam and cam surface finish. Check the support for cracks and damaged lugs.



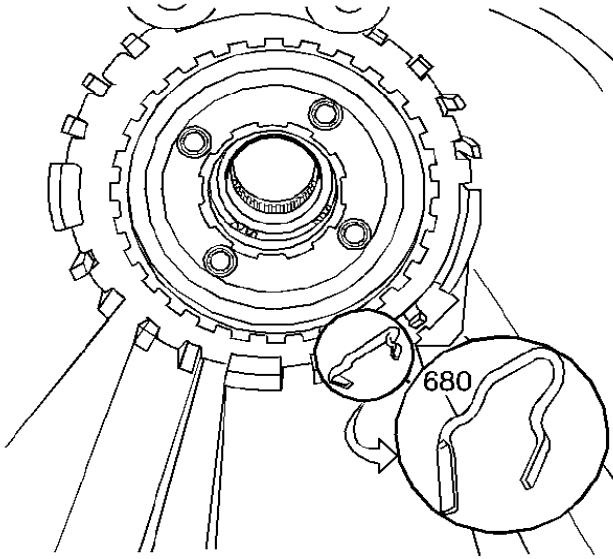
55. Clean and install the low and reverse roller clutch assembly (678) into the low and reverse clutch support (679). Install the low and reverse retainer ring (677).

Low and Reverse Clutch Support Installation

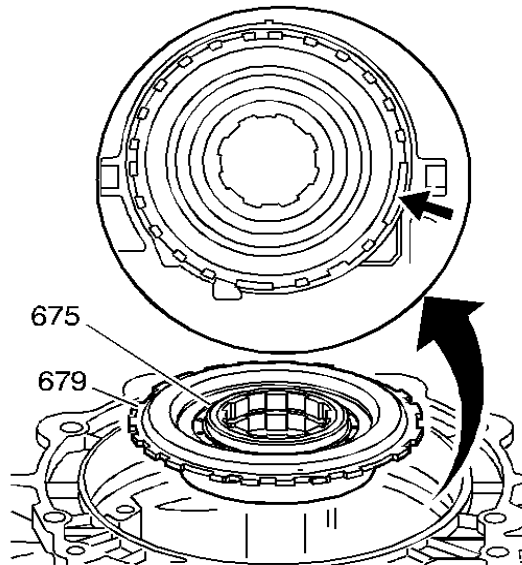


56. Install the low and reverse roller clutch race (675). Simultaneously, turn and insert the race.

57. Rotate the race in order to verify proper operation. The race should only rotate in one direction.



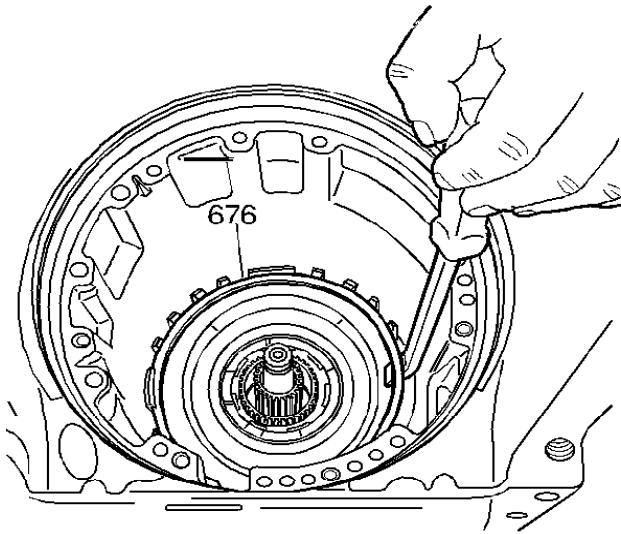
58. Install the low and reverse clutch support retainer spring (680) into the case.



Important

Align the wide low and reverse clutch support notch with the wide case lug.

59. Install the low and reverse clutch support (679), roller clutch and roller clutch race (675) assembly into the case. Position the hub side down during the installation.

**Important**

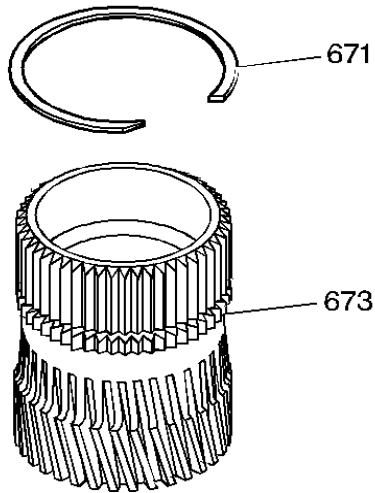
Align the opening of the low and reverse clutch support retainer ring (676) with the low and reverse clutch support retainer spring (680). It is important that the low and reverse clutch support retainer ring opening is centered around the retainer spring. This will allow the retainer ring to fully seat in all of the transmission case lugs. If the retainer ring lays up against the retainer spring, the retainer ring will not fully seat. Possible damage to the transmission case lugs can occur if the low and reverse clutch support retainer ring is not fully seated in the transmission case lug.

60. Install the low and reverse support retainer ring (676) into the case.
-

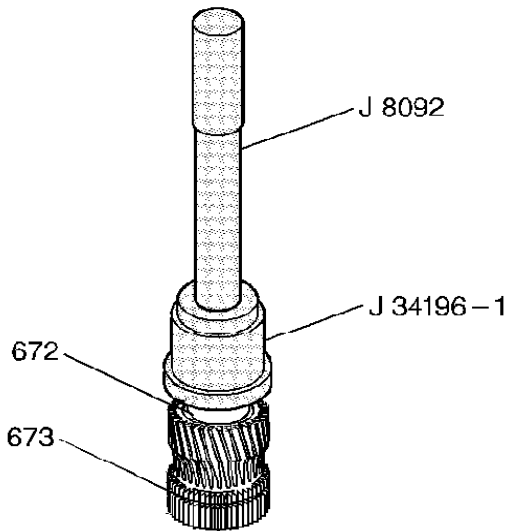
Reaction Sun Gear and Shell Installation

Important

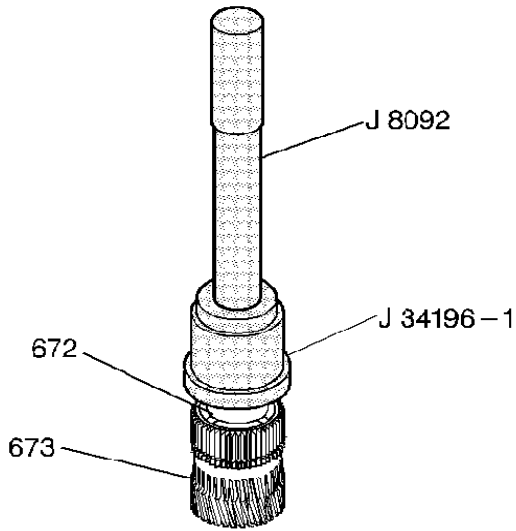
Do not remove the retaining ring, except to replace it.



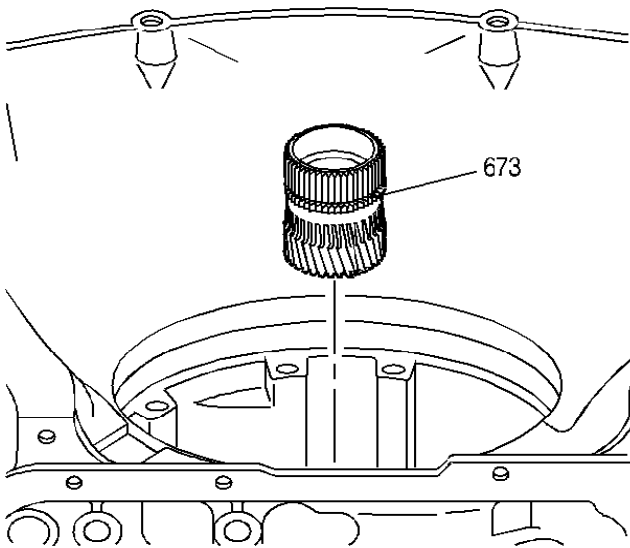
61. Inspect the reaction sun gear for the following defects:
- Nicks
 - Scores
 - Damaged spline or teeth
 - A worn bushing
 - A loose or weak retaining ring



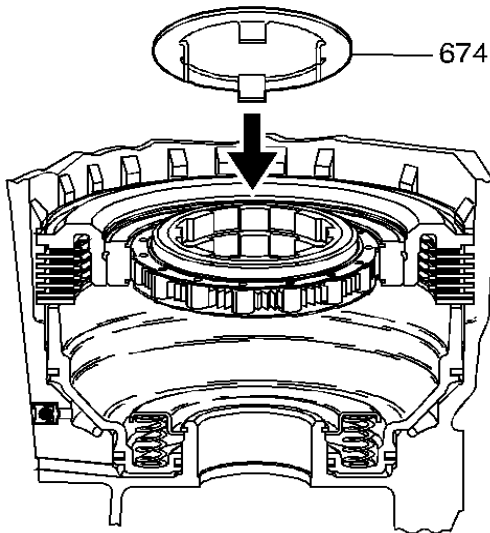
62. Remove the reaction sun bushing, if a bushing replacement is needed.



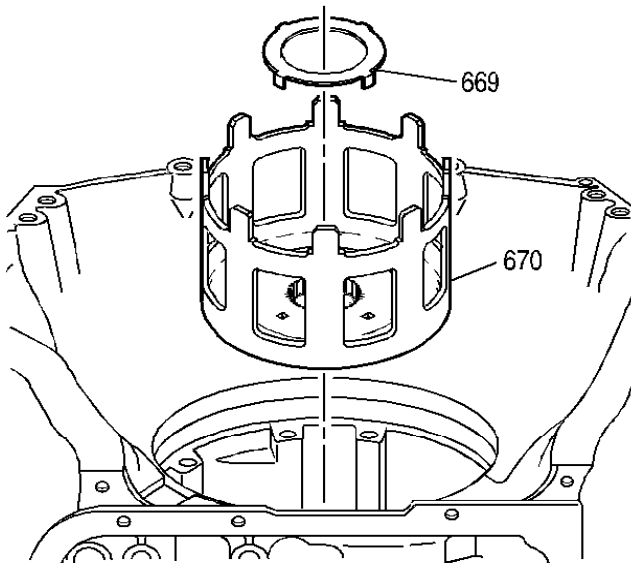
63. Install a reaction sun bushing.



64. Install the reaction sun gear into the reaction carrier.



65. Install the thrust washer.

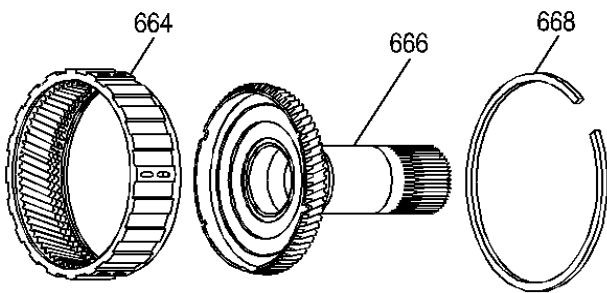


66. Install the reaction sun shell into the reaction sun gear.
 67. Install the reaction sun gear shell thrust washer into the reaction sun shell.
 68. Index the tangs onto the thrust washer and into the reaction sun shell.

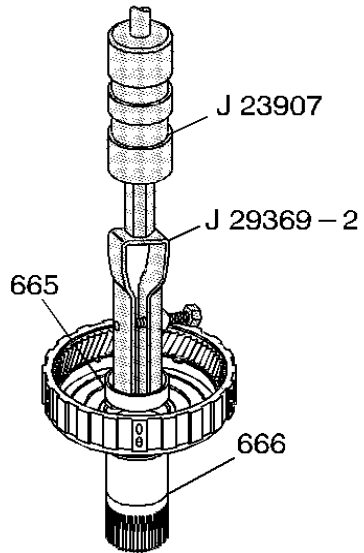
Reaction Carrier Shaft Replacement

Removal Procedure**Tools Required**

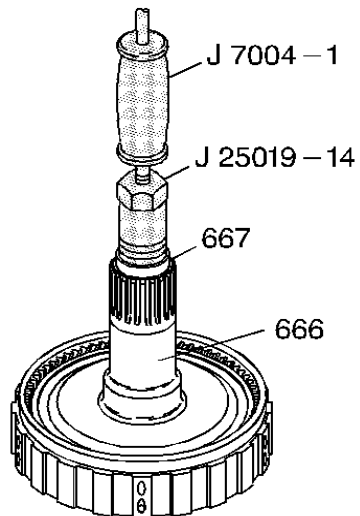
- [J 8092](#) Universal Driver Handle - 3/4 in - 10
- [J 7004-A](#) Universal Remover
- [J 23907](#) Slide Hammer with Bearing Adapter
- [J 25019-14](#) Stator Pump Bushing Remover
- [J 29369-2](#) Bushing and Bearing Remover 2-3 in
- [J 34196-B](#) Transmission Bushing Service Set



75. Remove the reaction carrier shaft/internal gear retainer (668) and the reaction carrier shaft (666) from the input internal gear (664).
76. Inspect the reaction carrier shaft (666) and the input internal gear (664) for the following defects:
 - Scoring
 - Cracking
 - Damaged or worn bushings
 - A cracked shaft
 - A damaged spline
 - Damaged gear teeth

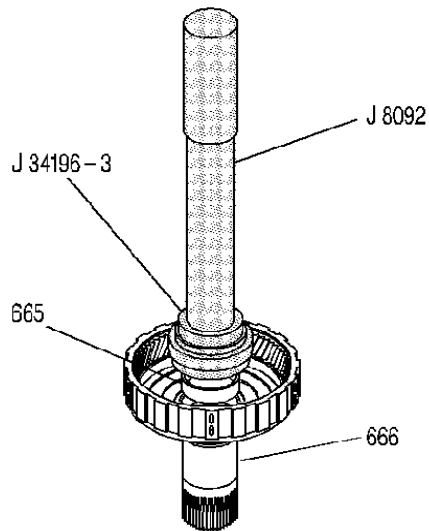


77. Using [J 29369-2](#) with [J 23907](#) , remove the reaction carrier shaft front bushing (665).

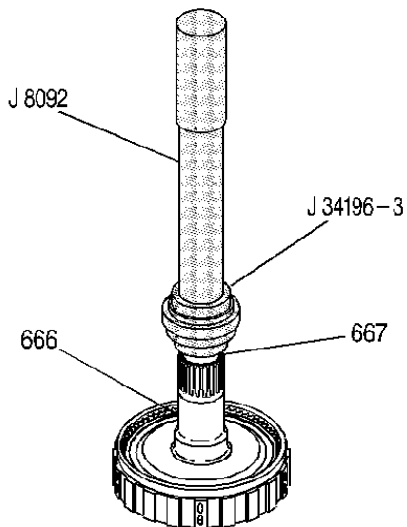


78. Using [J 25019-14](#) with [J 7004-A](#) , remove the reaction carrier shaft rear bushing (667).

[Installation Procedure](#)



79. Using J 34196-3 which is part of kit [J 34196-B](#) with [J 8092](#) , install a new reaction carrier shaft front bushing (665).



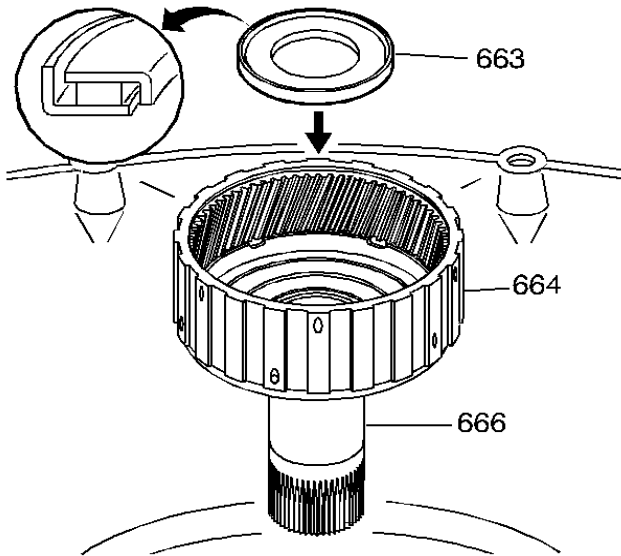
80. Using J 34196-3 which is part of kit [J 34196-B](#) with [J 8092](#) , install a reaction carrier shaft rear bushing (667).

Input Internal Gear, Reaction Shaft Installation

Installation Procedure

Tools Required

- [J 34196-B](#) Bushing Set
- [J 8092](#) Driver Handle



83. Install the input internal gear and shaft assembly into the sun gear shell. Index the shaft spline into the reaction carrier.
84. Install the input carrier shaft bearing thrust assembly.

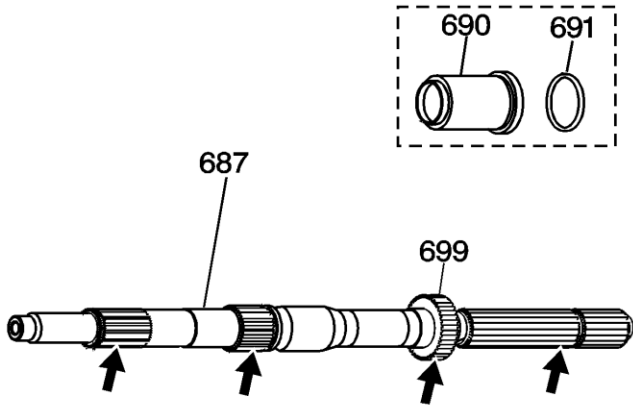
Internal Transmission Speed Sensor Rotor Replacement

Removal Procedure

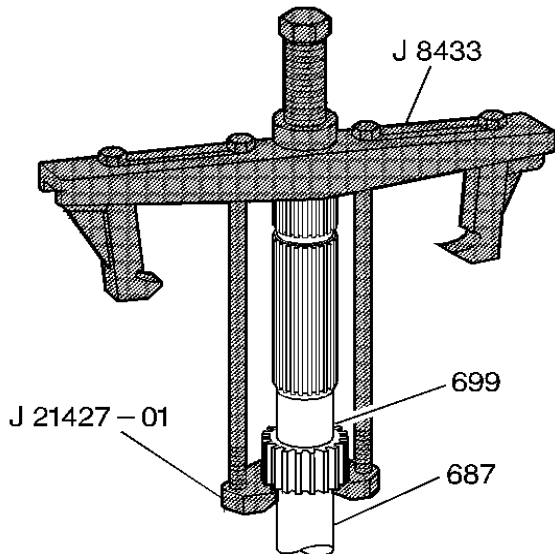
Tools Required

- [J 8433](#) Two Jaw Puller
- [J 21427-A](#) Speedometer Gear Puller Adapter

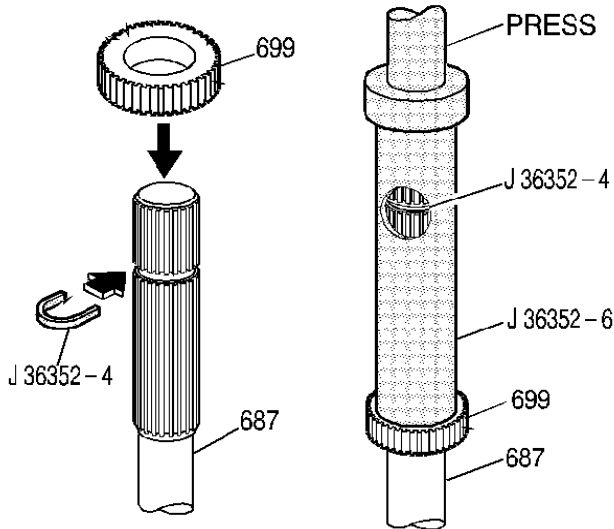
- o [J 36352](#) Speed Sensor Rotor Installer Kit



- 88. Inspect the internal transmission speed sensor rotor (699) for cracks or damaged teeth.
- 89. Inspect all splines on the output shaft (687) for cracks or damaged splines.
- 90. Remove the output shaft seal (691) and the output shaft sleeve (690) (model dependent) 2WD units only.



- 91. If the internal speed sensor rotor (699) is damaged, replace it.
- 92. Using [J 8433](#) with [J 21427-01](#) , remove the internal speed sensor rotor (699) from the output shaft (687).

Installation Procedure**Important**

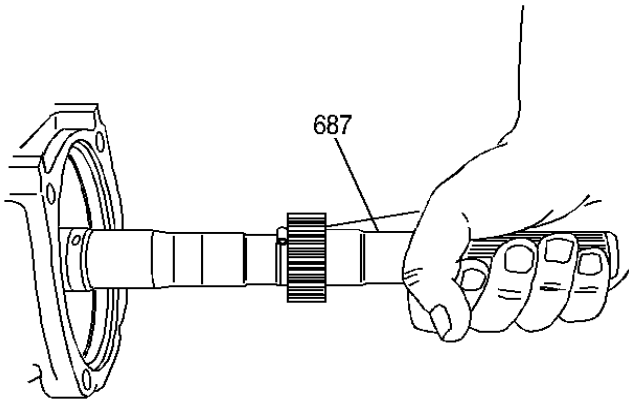
Do not re-use an internal speed sensor rotor that has been removed.

93. Slip a new internal speed sensor rotor (699) over the output shaft splines.
94. Install the [J 36352-4](#) in the groove on the output shaft (687).
95. Place the [J 36352-6](#) on the output shaft (687). Press on the [J 36352-6](#) until it contacts the [J 36352-4](#) in the window (the [J 36352-4](#) will be a positive stop for the [J 36352-6](#)).

Output Shaft Installation

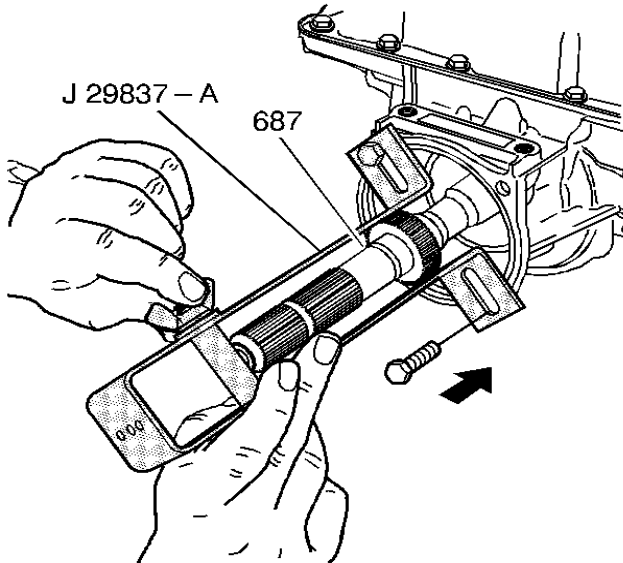
Tools Required

[J 29837-A](#) Output Shaft Support Fixture



96.

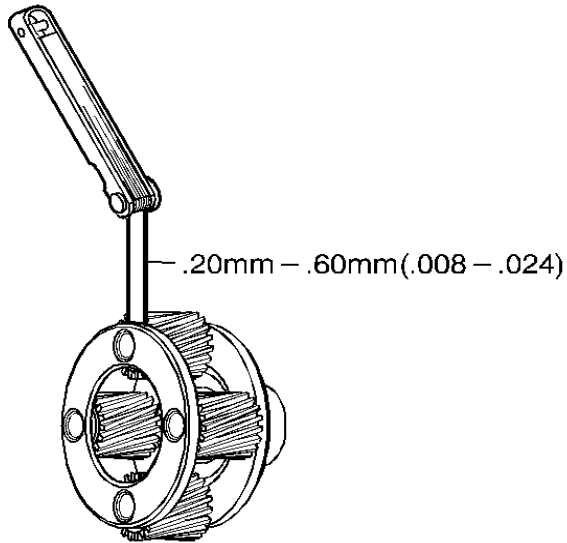
Install the output shaft.



97.

Install the output shaft support fixture.

Input Carrier Inspection

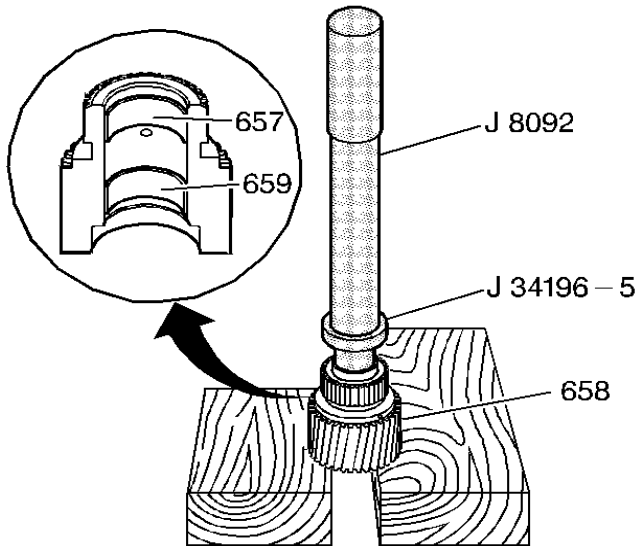


98. Check the input carrier pinion end play. The end play must not exceed 0.61 mm (0.024 in).
99. Inspect the input carrier for pinion gear damage, proper pin stake and keystoneed pinion gears. Pinions must rotate freely.

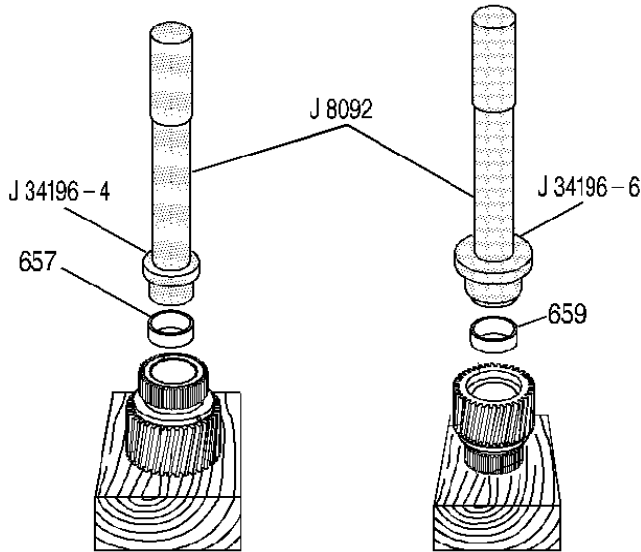
Input Sun Gear Bushings Replacement

Tools Required

- [J 8092](#) Driver Handle
- [J 34196-B](#) Bushing Set

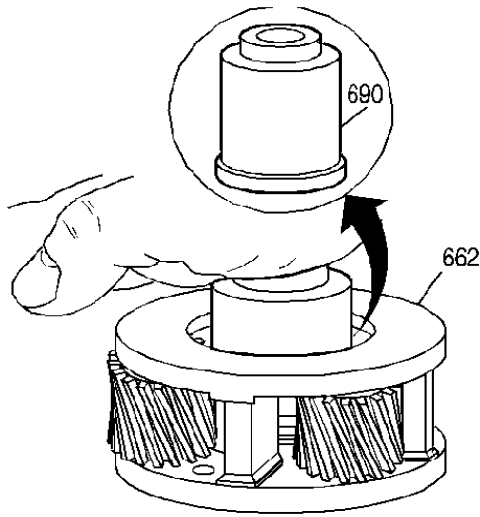


102. Remove the input sun gear front and rear bushings.

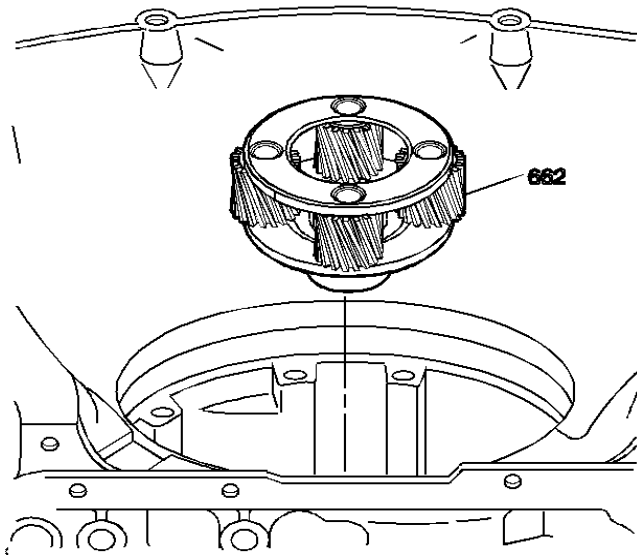


103. Install the input sun gear front and rear bushings.

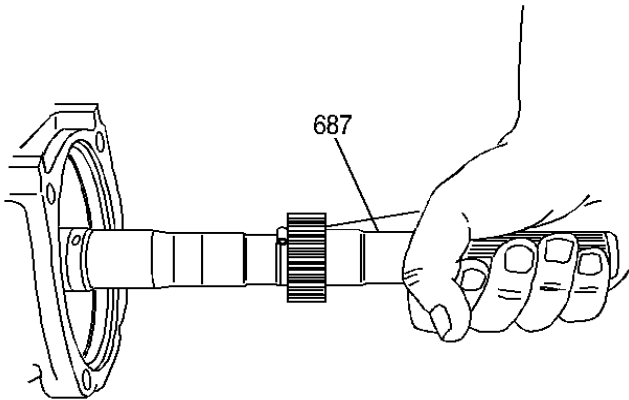
Input Carrier Inspection and Installation



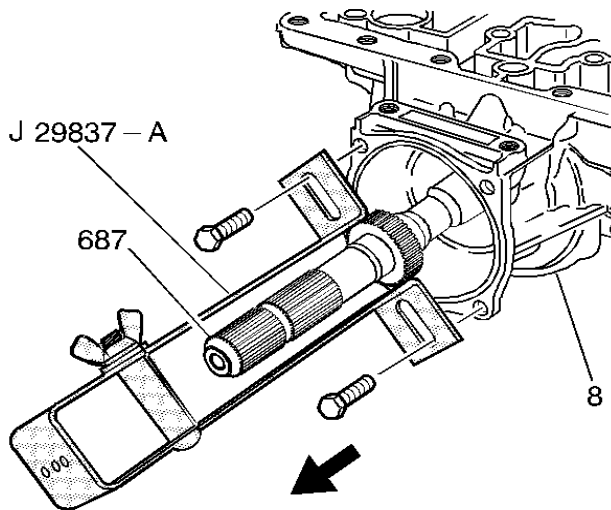
104. Inspect the captive thrust bearing assembly. To check the captive thrust bearing in the carrier for wear, place a bushing or an output shaft sleeve onto the bearing race and turn it with the palm of your hand. Do not touch the pinion gears. Any imperfections will be felt through the bushing.



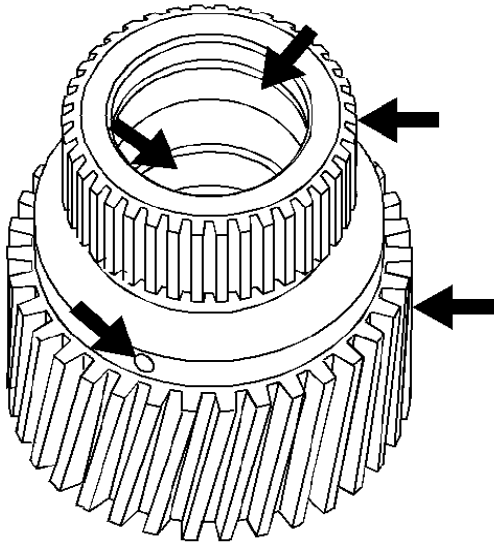
105. Install the input carrier assembly onto the output shaft.



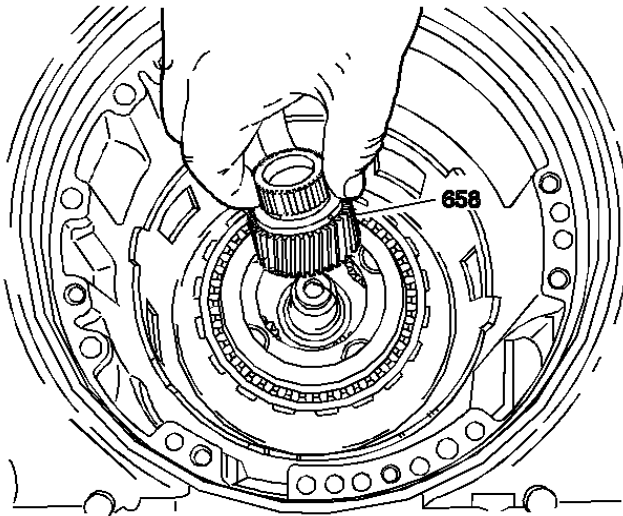
106. Place the output shaft into the input carrier retainer.
- Do not over expand the ring during the installation.
 - Do not reuse the old retainer ring if it has been over expanded.



107. Remove the output shaft support fixture.



108. Inspect the input sun gear for any of the following conditions:
- Damage
 - Wear
 - Cracks
 - Damaged spline or gear teeth



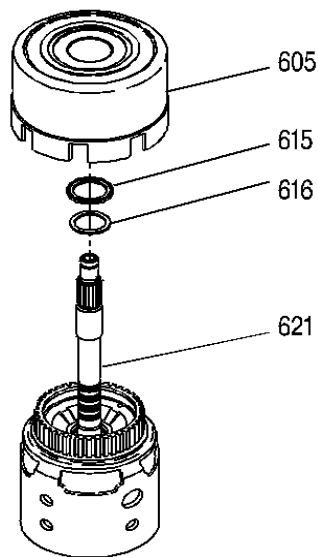
109. Install the input sun gear into the input carrier.
 110. Rotate the sun gear teeth into the pinion gear teeth.

Input Clutch Assembly Disassemble

[Removal Procedure](#)

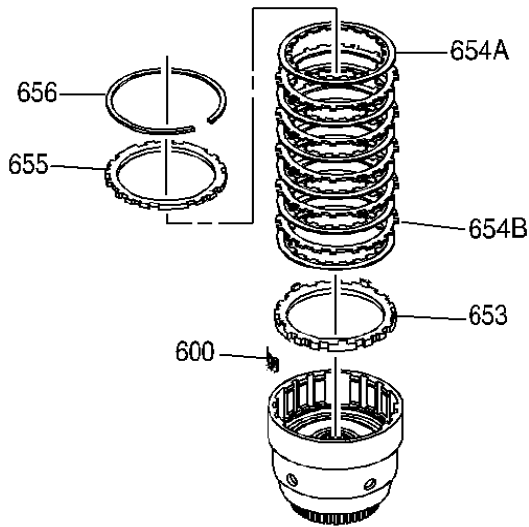
Tools Required

- [J 23327-1](#) Clutch Spring Compressor
- [J 23456](#) Clutch Spring Compressor Press
- [J 25018-A](#) Clutch Spring Compressor Adaptor

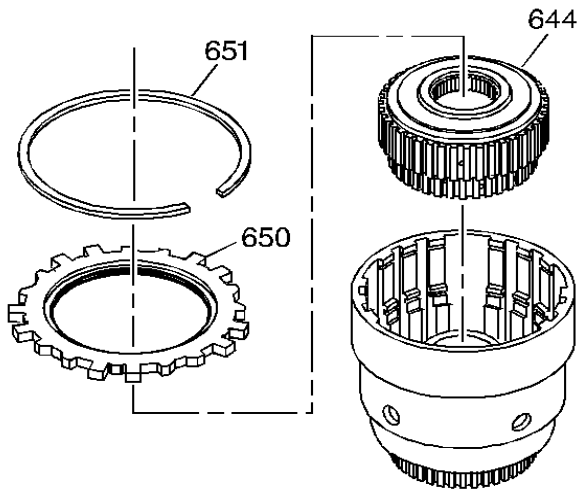


114. Remove the reverse input clutch housing; and the drum assembly from the input clutch assembly.
115. Remove the stator shaft/selective washer bearing assembly.

116. Remove the thrust selective washer.

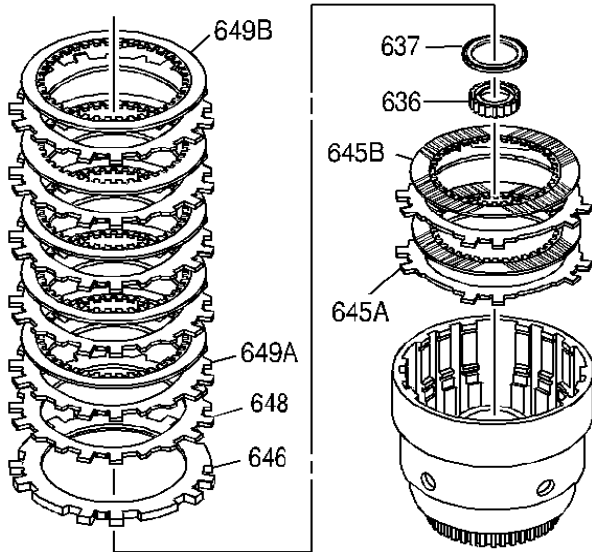


117. Remove the 3rd and 4th clutch backing plate retainer ring.
 118. Remove all 3rd and 4th clutch plates.

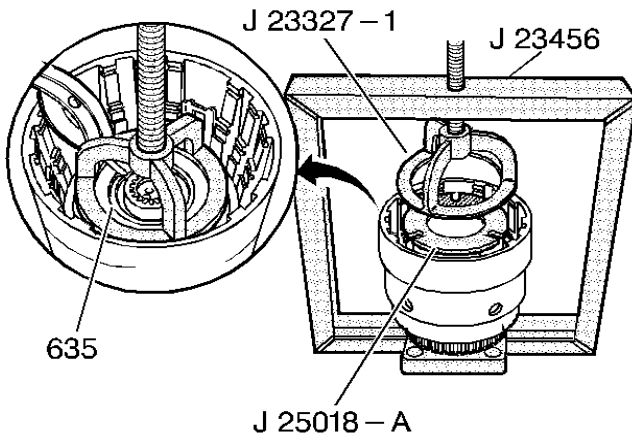


119. Remove the forward clutch backing plate retainer ring.
 120. Remove the forward clutch backing selective plate.

121. Remove the forward clutch sprag assembly.

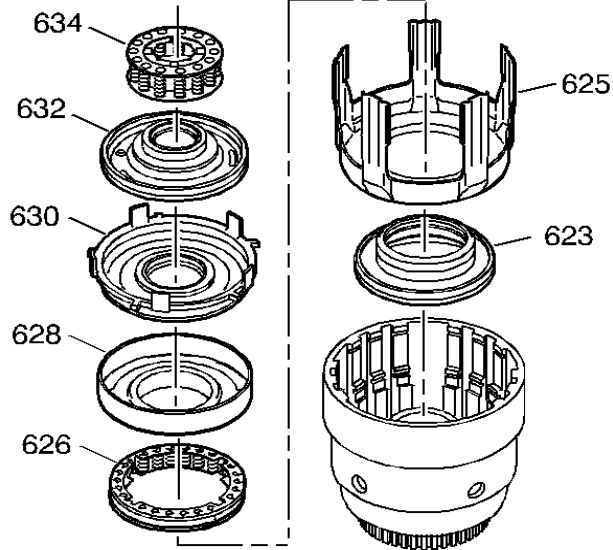


122. Remove all forward clutch plates.
 123. Remove the input sun gear bearing assembly.
 124. Remove the input housing to the output shaft seal.
 125. Remove all overrun clutch plates.



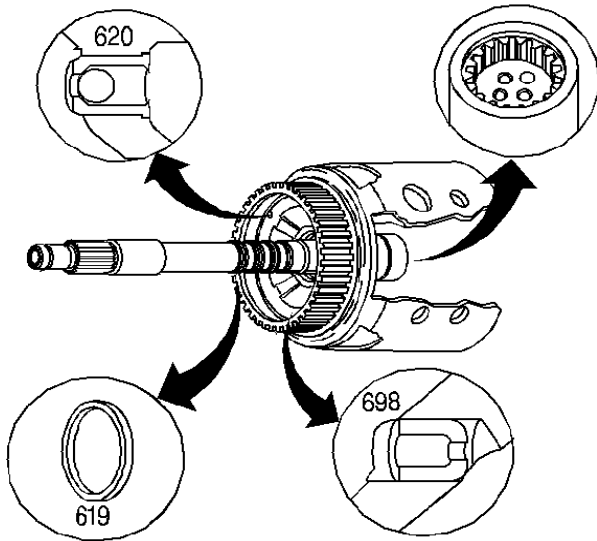
126. Install the [J 23327-1](#) and the [J 25018-A](#).
 127. Compress the clutch spring.
 128. Remove the overrun clutch spring retainer snap ring.

129.

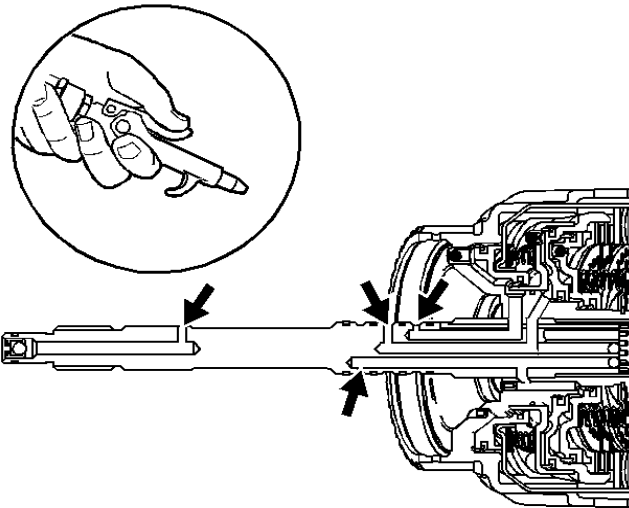
Remove the [J 23327](#) .

130. Remove the overrun clutch spring assembly.
 131. Remove the overrun clutch piston.
 132. Remove the forward clutch piston.
 133. Remove the forward clutch housing.
 134. Remove the 3rd and 4th clutch spring assembly.
 135. Remove the 3rd and 4th clutch apply ring.
 136. Remove the 3rd and 4th clutch piston.

Input Housing and Shaft Assembly Inspection



137. Inspect the input housing and shaft assembly for the following items:
- Porosity
 - Splines wear
 - Three turbine shaft checkballs
 - Retainer and checkball assembly (620)
 - Orificed cup plug (698)
 - Lube hole cracks
138. Inspect the turbine shaft oil seal ring grooves for damage or burrs. The oil seal rings (619) must fit loose into the ring grooves.



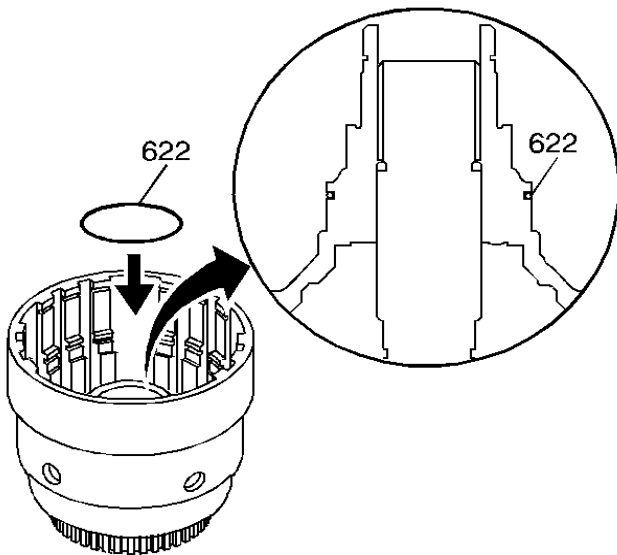
139. Inspect the oil feed passages for obstructions.

140. Apply compressed air into the passages indicated.
-

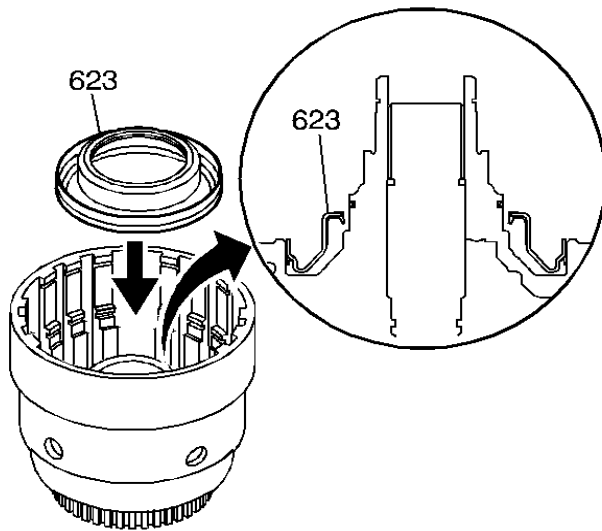
Input Housing and Shaft Assembly Assemble

Tools Required

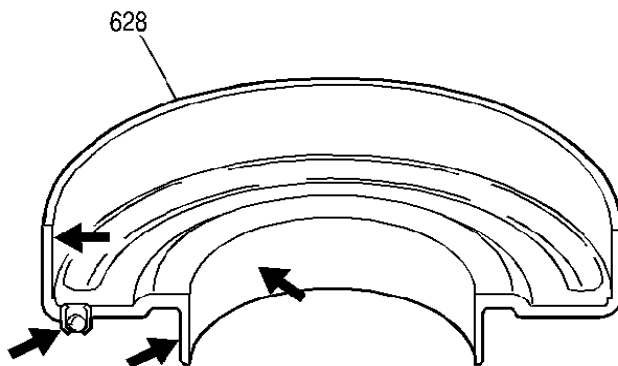
- [J 23327-1](#) Forward Clutch Spring Compressor (Bridge)
- [J 23456](#) Booster and Clutch Pack Compressor
- [J 25018-A](#) Clutch Spring Compressor Adapter
- [J 26744-A](#) Seal Installer
- [J 29882](#) Overrun Clutch Seal Protector
- [J 29883](#) Forward Clutch Seal Protector



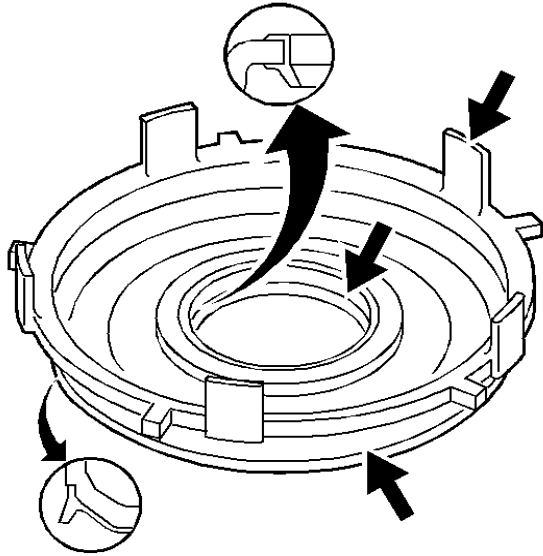
147. Install a new input to forward clutch housing O-ring seal (622).



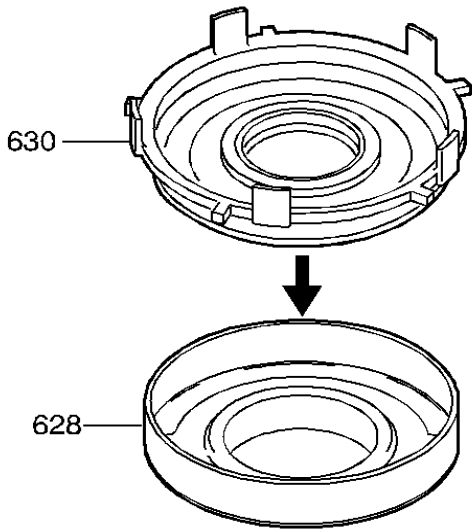
148. Inspect the 3rd and 4th clutch piston (623) for the following conditions:
- Porosity or damage
 - Seal damage
149. Install the 3rd and 4th clutch piston (623) into the input housing.



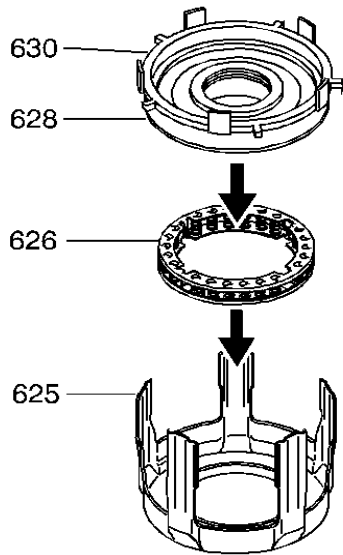
150. Inspect the forward clutch housing (628) for the following conditions:
- Proper check ball operation
 - Damage or distortion
 - Burrs in the seal areas
 - Cracks



151. Inspect the forward clutch piston for the following conditions:
- Porosity or damage
 - Seal damage
 - Apply leg damage



152. Install the forward clutch piston (630) into the forward clutch housing (628).

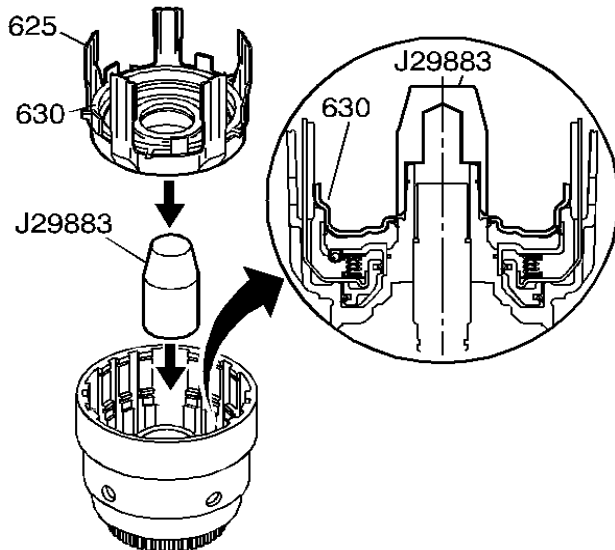


153. Install the 3rd and 4th spring assembly (626) into the 3rd and 4th clutch apply ring (625).

Important

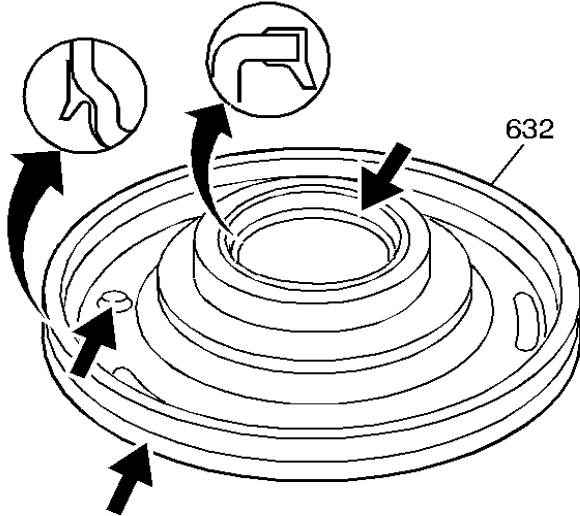
The forward clutch piston (630) apply legs must be indexed with the 3rd and 4th clutch apply ring (625) legs.

154. Install the forward clutch housing (628) and forward clutch piston (630) into the 3rd and 4th apply ring (625).

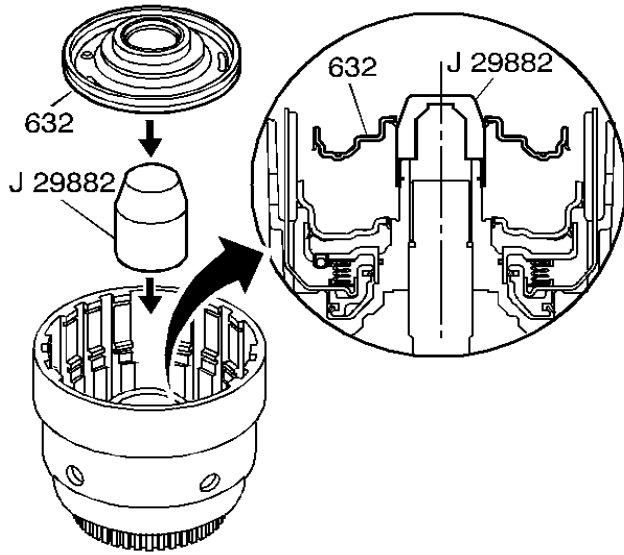


155. Install the [J 29883](#) on the input housing.

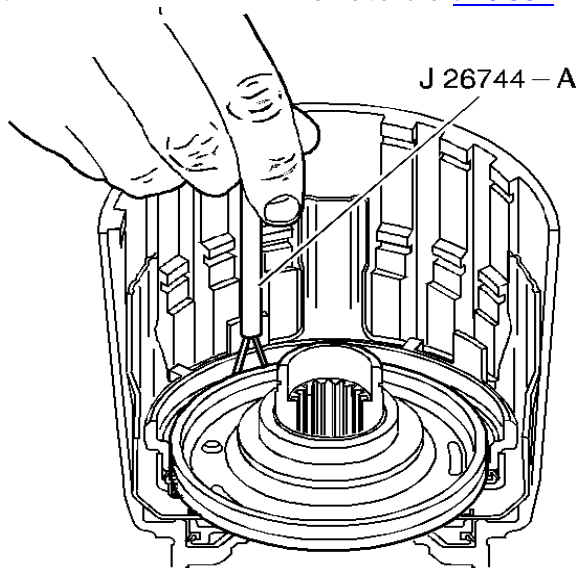
156. Install the 3rd and 4th clutch apply ring and the forward housing and piston assembly using the following procedure:
- Hold the assembly by the 3rd and 4th clutch apply ring (625) legs during installation.
 - Do not let the forward clutch piston (630) separate from the forward clutch housing.
 - Firmly seat the assembly.
157. Remove the [J 29883](#) from the input housing.



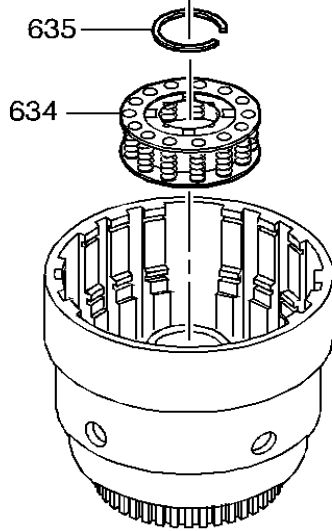
158. Inspect the overrun clutch piston (632) for the following conditions:
- Porosity or damage
 - Seal damage
 - Overrun clutch ball proper operation



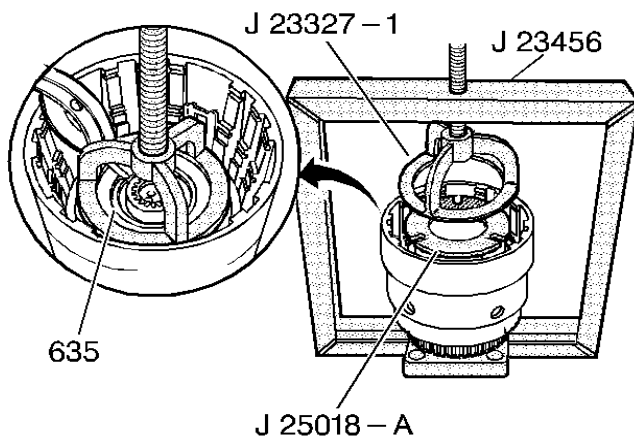
- 159. Install the [J 29882](#) on the input housing.
- 160. Install the overrun clutch piston (632) into the input housing.
- 161. Remove the [J 29882](#) from the input housing.



162. Using the [J 26744-A](#), carefully install the overrun clutch piston outer seal.

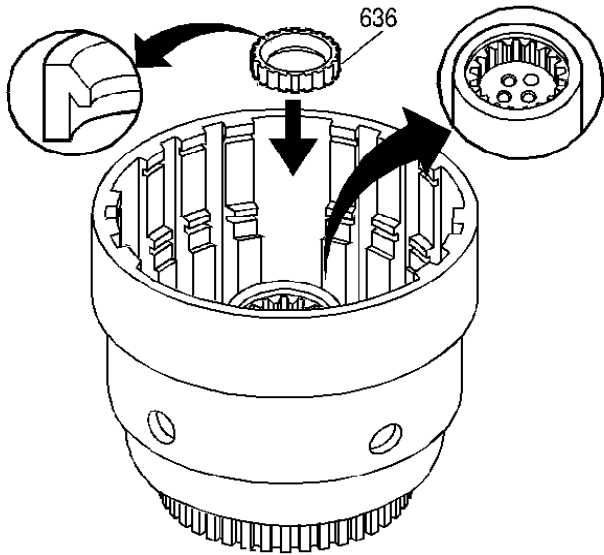


163. Install the overrun clutch spring (634) assembly.



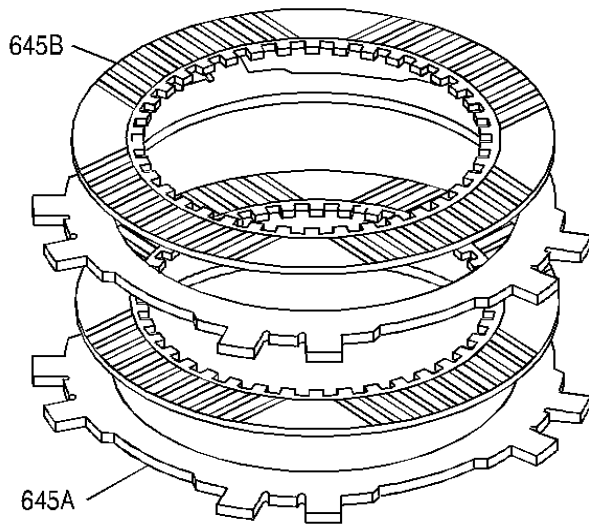
164. Install the [J 23327-1](#) and the [J 25018-A](#), and compress the overrun clutch spring assembly using [J 23456](#).
165. Install the overrun clutch spring retainer snap ring (635).
166. Remove the [J 23327-1](#) and the [J 25018-A](#).

Input Housing to Output Shaft Seal Installation



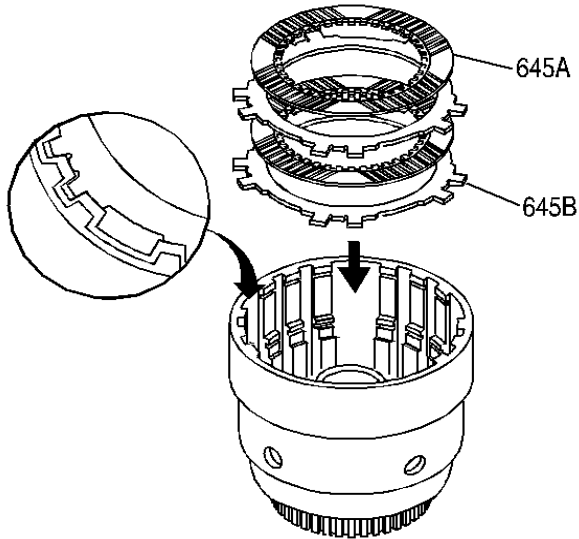
Install a new input housing to output shaft seal (636).

Overrun Clutch Installation



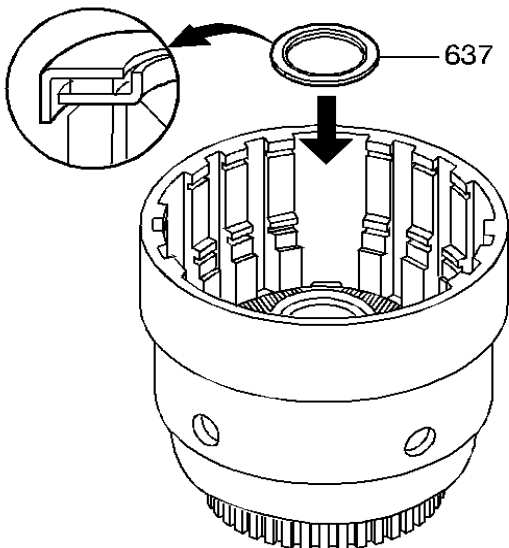
167. Inspect the fiber plate assemblies (645B) and the steel plates (645A) for the following defects:

- Damaged tangs
- Delamination
- Excessive wear
- Wear or heat damage



168. Install the overrun clutch plates into the input housing starting with a steel plate (645B) and alternating with fiber plate assemblies (645A).

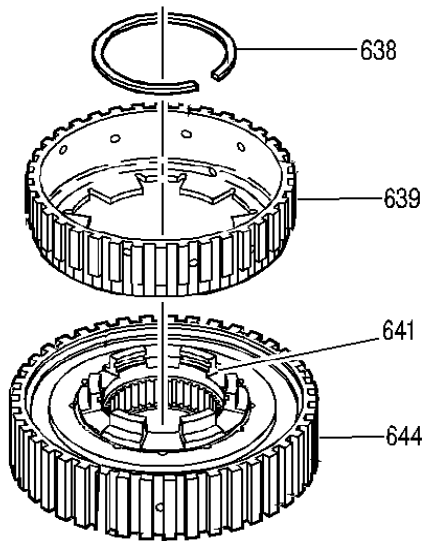
169. Index the plates in the input housing with the wide notches remaining open.



170. Install the input sun gear bearing assembly (637) into the input housing.
-

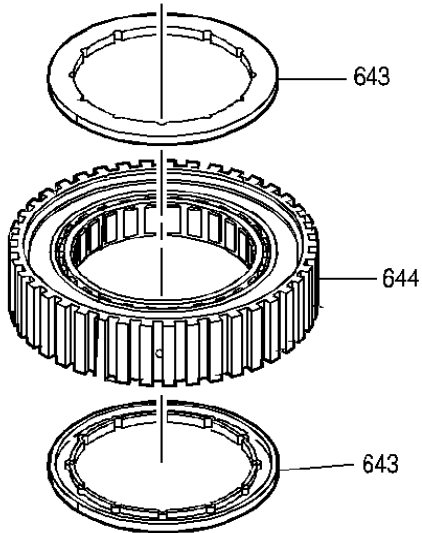
Forward Clutch Sprag Disassemble

Removal Procedure



171. Remove the overrun clutch hub retaining snap ring.
172. Remove the overrun clutch hub.

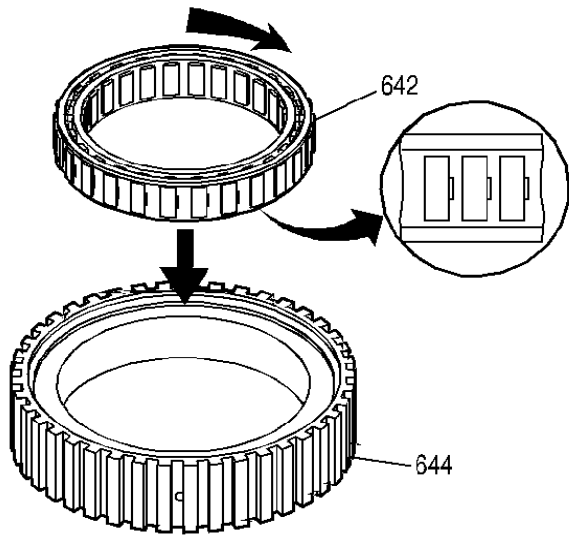
173. Remove the sprag retainer and race assembly.



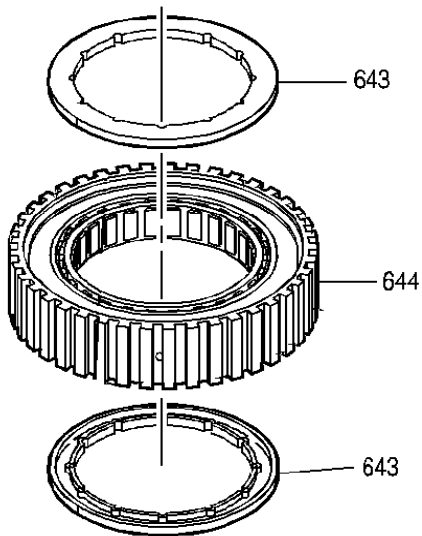
174. Remove the sprag assembly retainer rings.
175. Remove the forward sprag assembly from the forward clutch outer race.
-

Forward Clutch Sprag Assemble

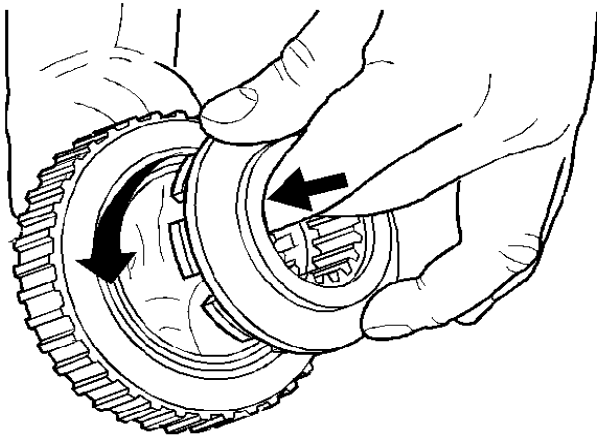
[Installation Procedure](#)



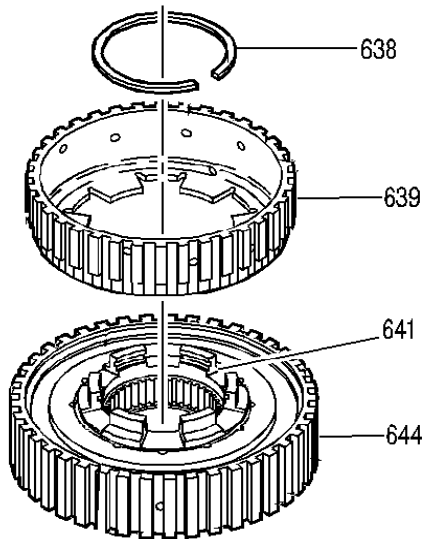
176. Inspect the forward sprag assembly for the following conditions:
- Wear or damage
 - Weak or broken springs
177. Inspect the forward clutch outer race for the following conditions:
- Race wear or damage
 - Spline wear
 - Surface finish damage



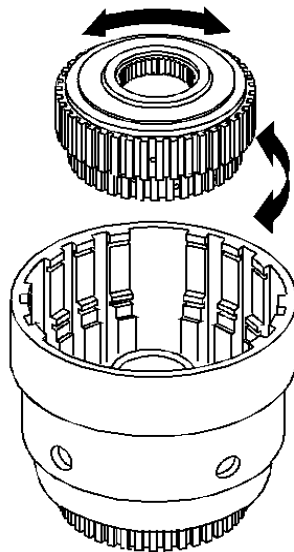
178. Inspect the sprag assembly retainer rings for wear or damage.
179. Install the sprag assembly retainer rings into the forward clutch sprag assembly.
180. Inspect the sprag retainer and race assembly for the following conditions:
- Spline damage
 - Ring groove damage
 - Surface finish damage
 - Loose retainer



181. Install the sprag retainer and race assembly into the forward sprag and outer race assembly.
182. Inspect the overrun clutch hub for the following conditions:
- Spline damage
 - Plugged lubrication holes
 - Damaged tangs
 - Cracks

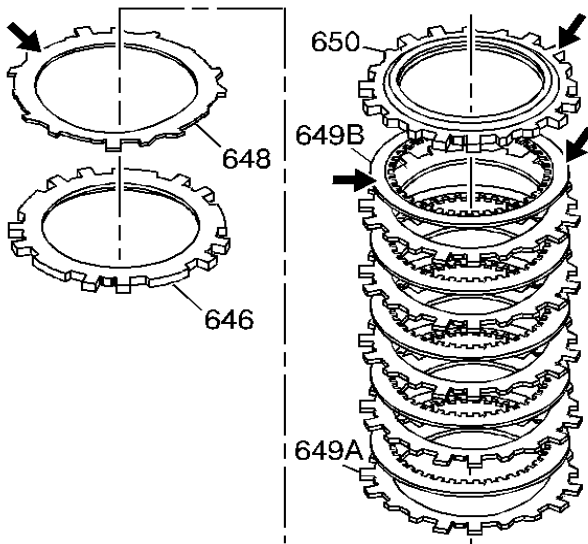


183. Install the overrun clutch hub into the retainer and race assembly.
 184. Install the overrun hub retaining snap ring.
 185. Test the assembly for proper operation. If the assembly operates backwards, you have installed the sprag backwards. Reassemble the sprag correctly.



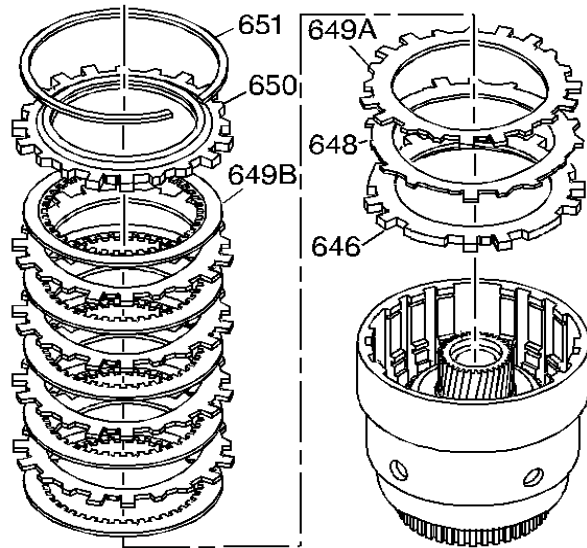
186. Install the forward clutch sprag into the input clutch housing.
 187. Index the overrun clutch hub into the overrun clutch plates.

Forward Clutch Assembly Assemble



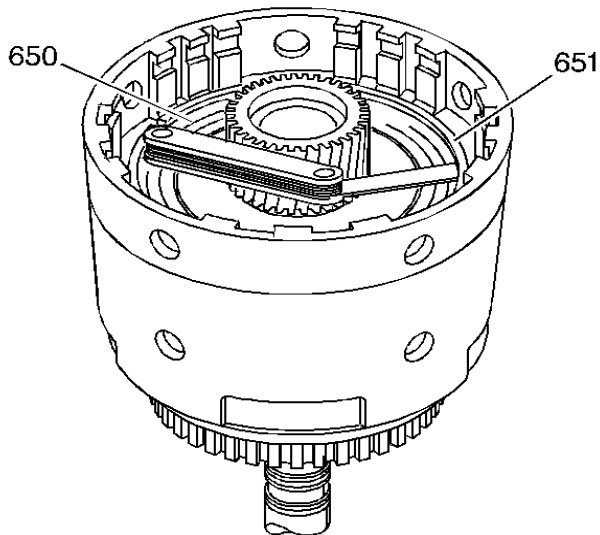
188. Inspect the forward clutch waved plate (648), the apply plate (646), the fiber plate assemblies (649B), the steel plates (649A) and the selective backing plate (650) for the following conditions:

- Damaged tangs
- Delamination
- Excessive wear
- Heat damage
- Flatness
- Surface finish damage
- Burrs and nicks



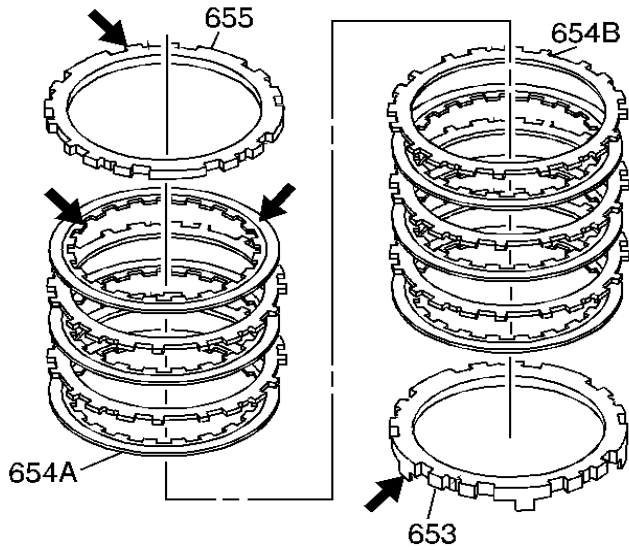
189. Install the forward clutch apply plate (646).
190. Install the forward clutch waved plate (648).
191. Install the forward clutch steel plates (649A) and alternate with the fiber plate assemblies (649B).
192. Install the forward clutch selective backing plate (650).
193. Install the forward clutch backing plate retainer ring (651).

Forward Clutch Piston Travel Check



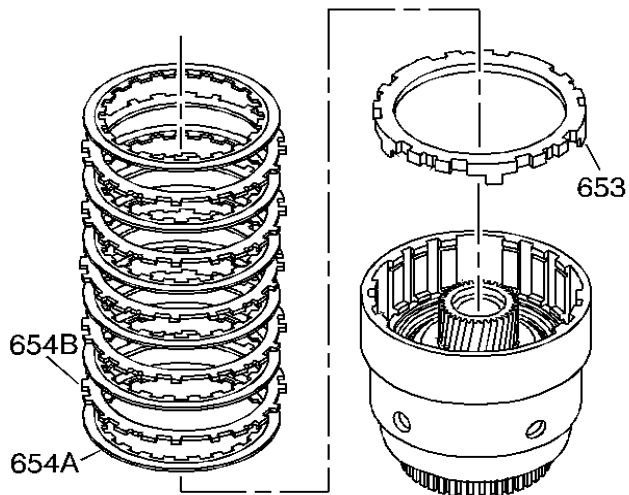
194. Use feeler gauges to check the forward clutch plate travel. Check travel between the forward clutch backing plate retainer ring (651) and the forward clutch selective backing plate (650). The forward clutch plate travel should be: **Specification**
- 245 mm -- 0.766-1.756 mm (0.030-0.069 in)
 - 298 mm/300 mm -- 0.866-1.876 mm (0.034-0.074 in)
195. Select the proper forward clutch selective backing plate (650) to obtain the correct travel. Refer to *Forward Clutch Backing Plate Selection* .

3-4 Clutch Assemble



196. Inspect the 3rd and 4th clutch apply plate (653), the fiber plate assemblies (654A), the steel plates (654B) and the selective backing plate (655) for the following conditions:

- Damaged tangs
- Delamination
- Excessive wear
- Heat damage or wear
- Surface finish
- Flatness

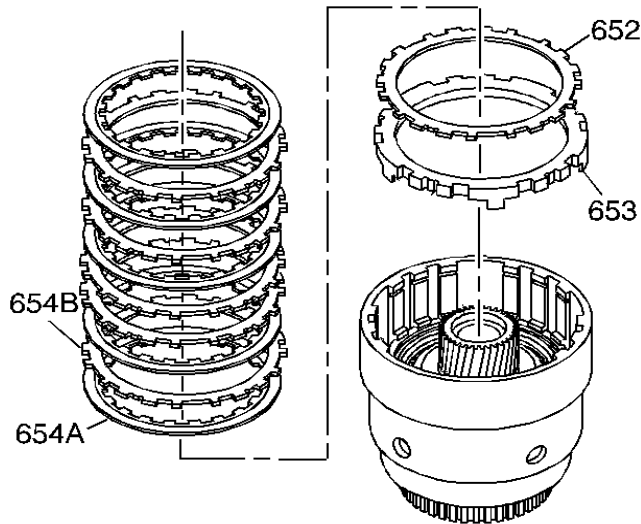


197. Install the 3rd and 4th clutch apply plate (653) into the input housing. Index each leg of the apply plate into the apply ring legs.

Important

- Vehicle models with a 2.2L engine have a different clutch plate stack.
- The first steel plate (654B) has the same spline configuration as the 3rd and 4th clutch apply plate (653).

198. Install the 3rd and 4th clutch plates starting with a fiber plate assembly (654A) and alternate with a steel plate (654B).



Important

Use the following 3rd and 4th clutch plate installation order only for vehicle models with a 2.2L engine.

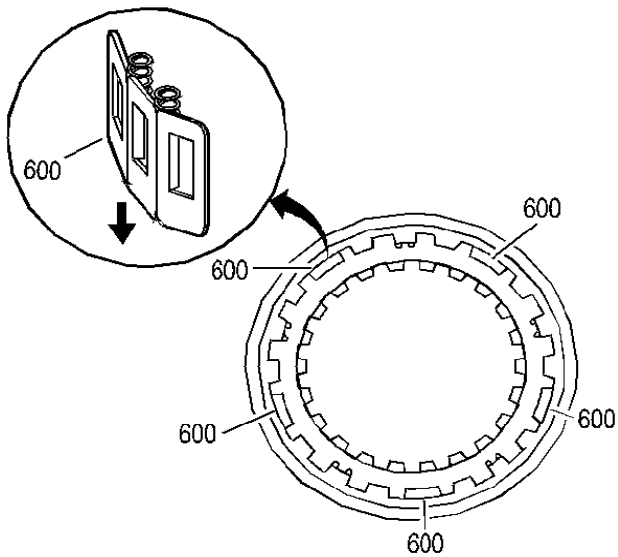
199. Install the 3rd and 4th clutch plates in the following order:

Important

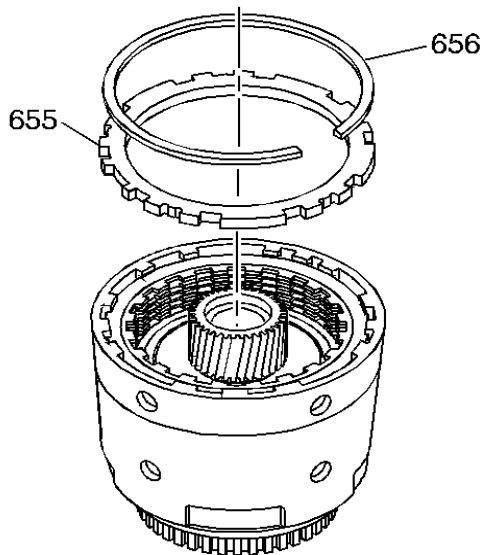
3rd and 4th clutch steel plate (652) is thinner than the other steel plates (654B)

- . steel plate (652)
- A. fiber plate assembly (654A)
- B. steel plate (654B)
- C. fiber plate assembly (654A)
- D. steel plate (654B)
- E. steel plate (654B)
- F. fiber plate assembly (654A)
- G. steel plate (654B)
- H. fiber plate assembly (654A)

- I. steel plate (654B)
 J. fiber plate assembly (654A)

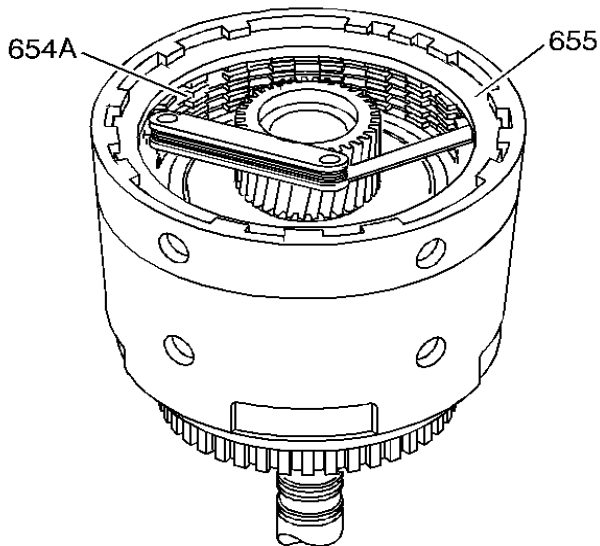


200. Install the 3-4 clutch boost spring assemblies (600) into the input housing.



201. Install the 3rd and 4th clutch selective backing plate (655). Some models may have a chamfer on one side of the selective backing plate. Install the chamfer side up.
 202. Install the 3rd and 4th clutch backing plate retainer ring (656).

3-4 Clutch Plate Travel Check



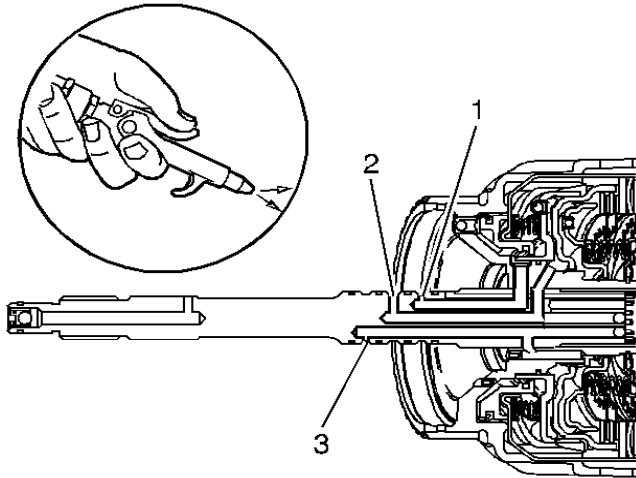
203. Use feeler gauges to check the 3rd and 4th clutch plate travel.
204. Check the travel between the selective backing plate (655) and the first fiber plate assembly (654A). The 3rd and 4th clutch plate travel should be 0.90-2.10 mm (0.035-0.083 in).
205. Select the proper 3rd and 4th clutch selective backing plate to obtain the correct travel. Refer to [Third and Fourth Clutch Backing Plate Selection](#) .

Clutch Air Check

[Inspection Procedure](#)

Important

When the overrun clutch is checked, the air will blow by the forward clutch piston lip seals and exit out of the forward clutch feed hole in the turbine shaft.



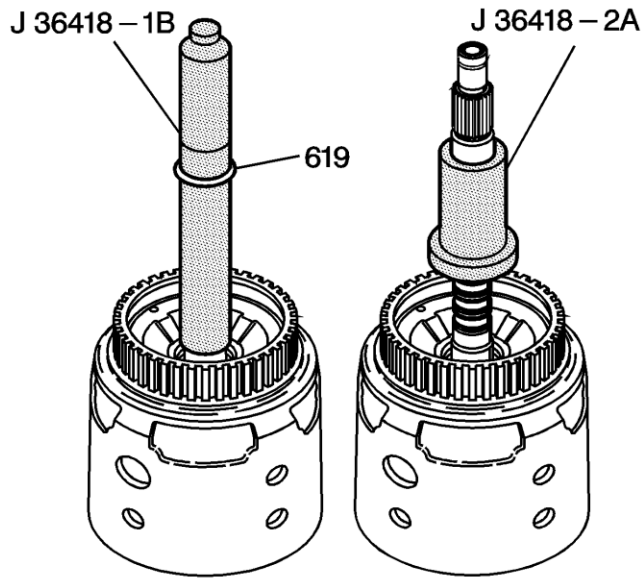
Apply air into the feed holes in the turbine shaft in order to check the following items:

- The 3rd and 4th clutch (1)
- The forward clutch (2)
- The overrun clutch (3)

Turbine Shaft Seals Installation

Tools Required

- [J 36418-1B](#) Turbine Shaft Seal Installer
- [J 36418-2A](#) Turbine Shaft Seal Sizer

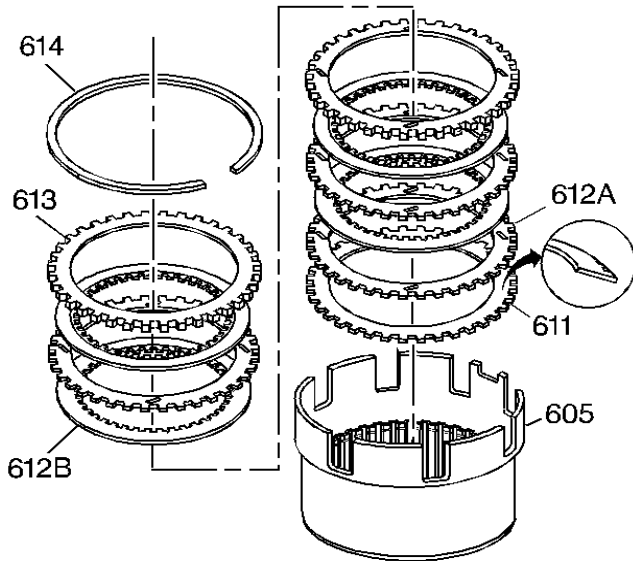


211. Use the [J 36418-1B](#) in order to install the four turbine shaft oil seal rings (619).
212. Place the [J 36418-2A](#) over the turbine shaft oil seal rings (619). Leave the [J 36418-2A](#) on the shaft until the reverse input clutch must be installed on the input clutch.
-

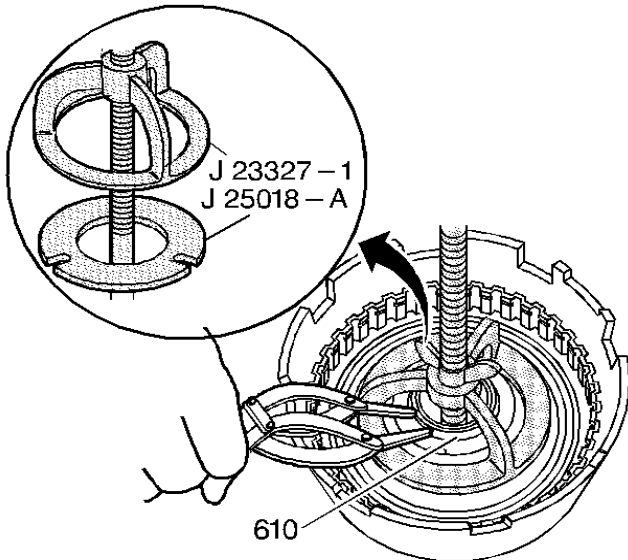
Reverse Input Clutch Disassemble

Tools Required

- [J 23327-1](#) Forward Clutch Spring Compressor (Bridge)
- [J 25018-A](#) Clutch Spring Compressor Adapter

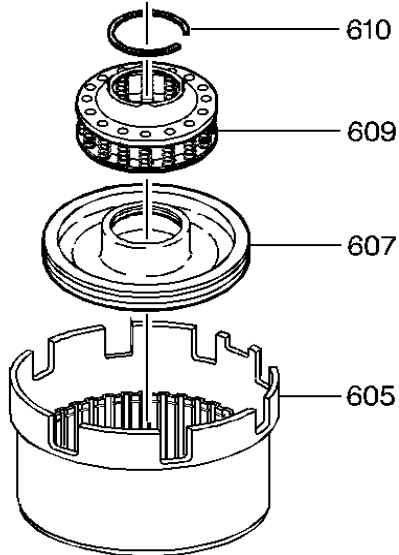


- 215. Remove the reverse input clutch retaining ring (614).
- 216. Remove all reverse input clutch plates (611-613).



- 217. Install the [J 23327-1](#) and the [J 25018-A](#).
- 218. Compress the reverse input clutch spring assembly.

219. Remove the reverse input clutch spring retainer ring (610).



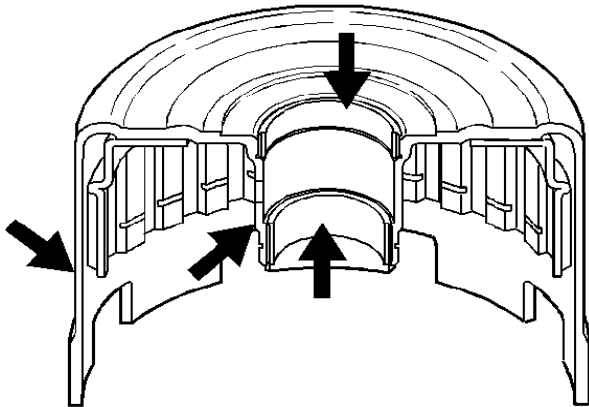
220. Remove the reverse input clutch spring assembly (609).
221. Remove the reverse input clutch piston assembly (607).

Reverse Input Clutch Bushing Replacement

Removal Procedure

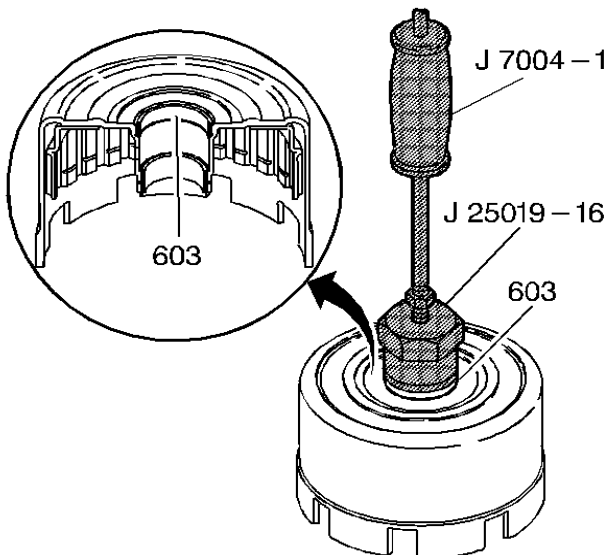
Tools Required

- [J 25019](#) Bushing Service Set
- [J 34196-B](#) Transmission Bushing Service Set
- [J 7004-A](#) Universal Remover
- [J 8092](#) Universal Driver Handle - 3/4 in - 10

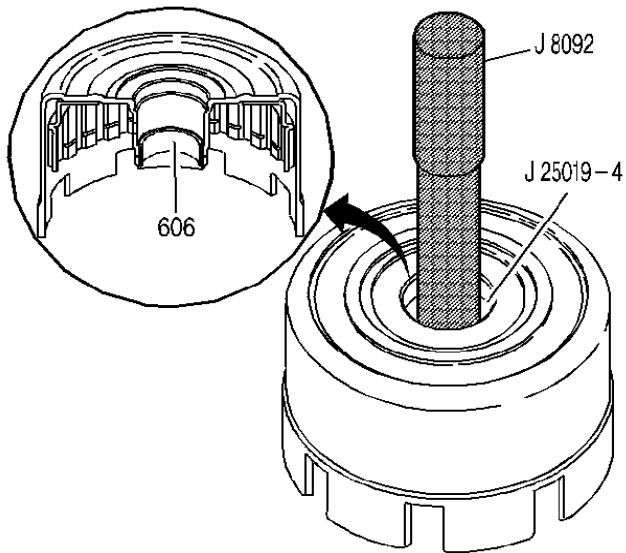


226. Inspect the reverse input clutch housing and drum assembly for the following conditions:

- Damaged or worn bushings
- Surface on the hub and outer housing
- Leak at the weld

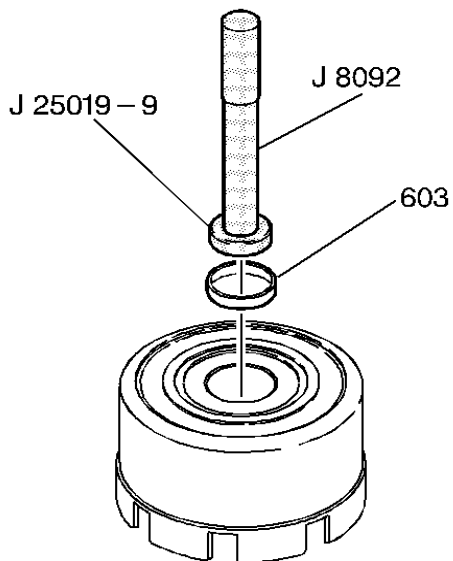


227. Using the [J 25019-16](#) with the [J 7004-A](#), remove the reverse input clutch front bushing (603).

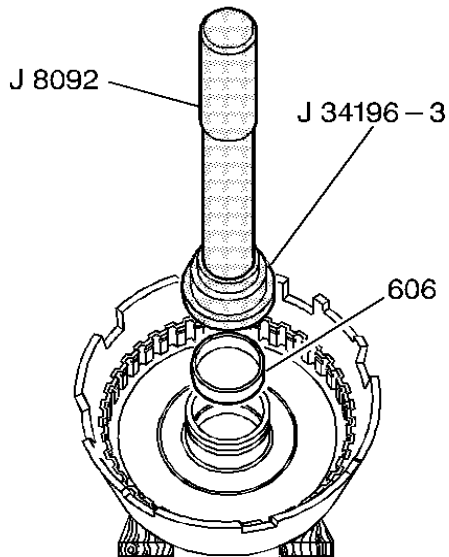


228. Using the [J 25019-4](#) with the [J 8092](#) , remove the reverse input clutch rear bushing (606).

Installation Procedure



229. Using the [J 25019-9](#) with the [J 8092](#) , install a reverse input clutch front bushing (603).

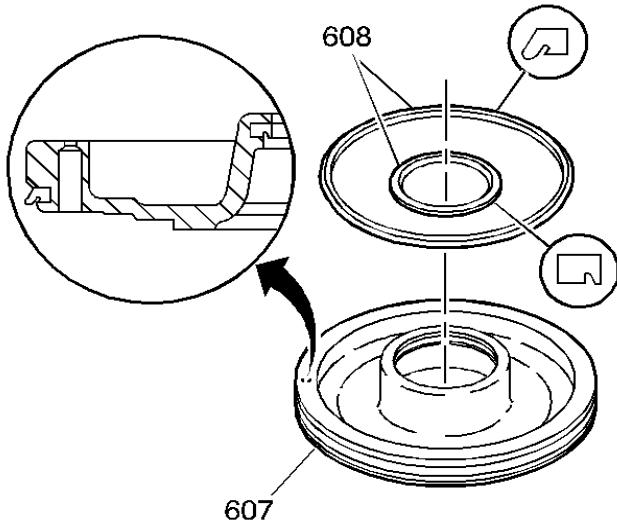


230. Using the J 34196-3 which is part of kit [J 34196-B](#) with the [J 8092](#) , install a reverse input clutch rear bushing (606).
-

Reverse Input Clutch Assemble

Tools Required

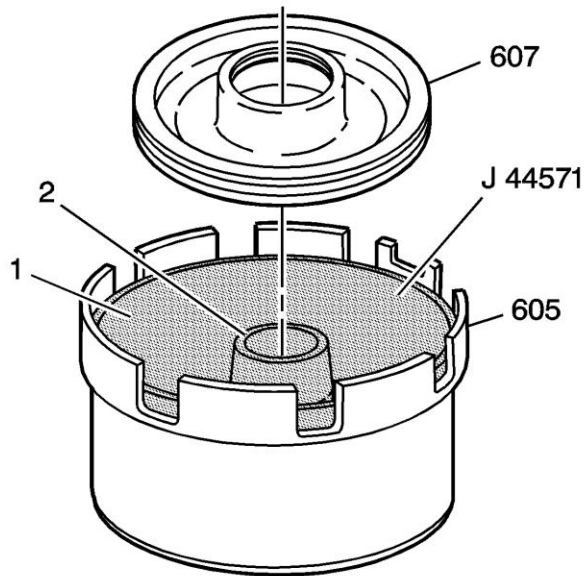
- [J 23327-1](#) Forward Clutch Spring Compressor (Bridge)
- [J 25018-A](#) Clutch Spring Compressor Adapter
- [J 44571-1](#) Reverse Input Clutch Piston Installer



234. Inspect the reverse input clutch piston (607) for the following defects:

- Damaged or porosity
- Ring groove damage

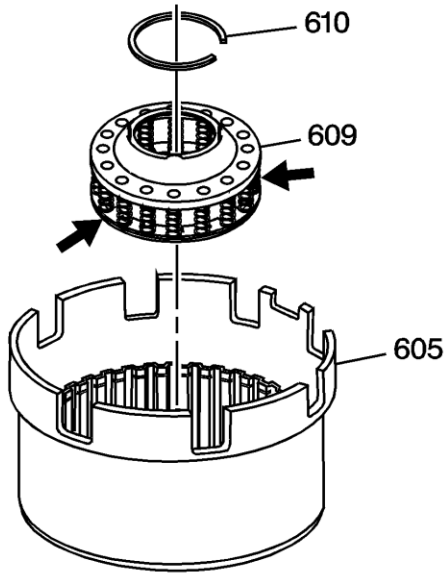
235. Install the reverse input clutch inner and outer seals (608) on the piston.



236. Install the [J 44571-1](#) inner (2) and outer (1) reverse input clutch piston installer.

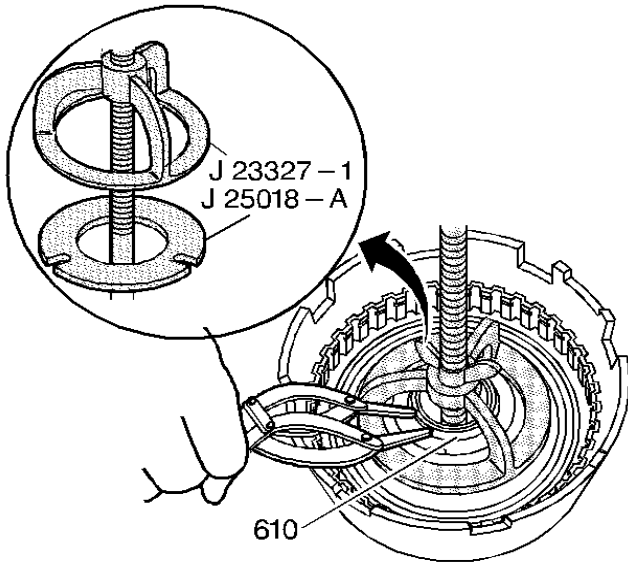
237. Install the piston (607) into the housing (605).

238. Remove the [J 44571-1](#).



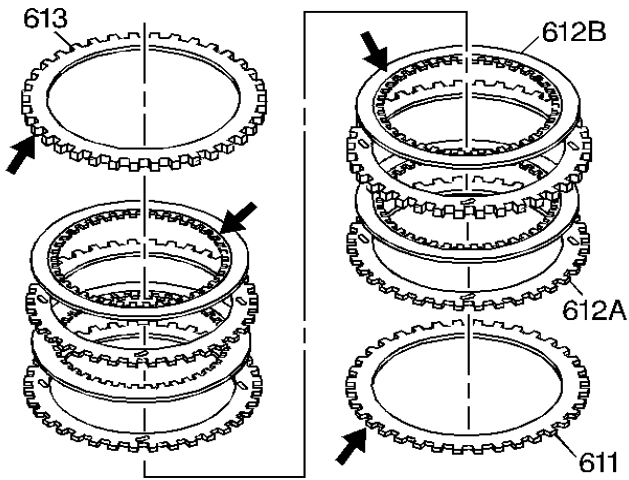
239. Inspect the reverse input clutch spring assembly (609) for distortion or damage.

240. Install the reverse input clutch spring assembly (609).



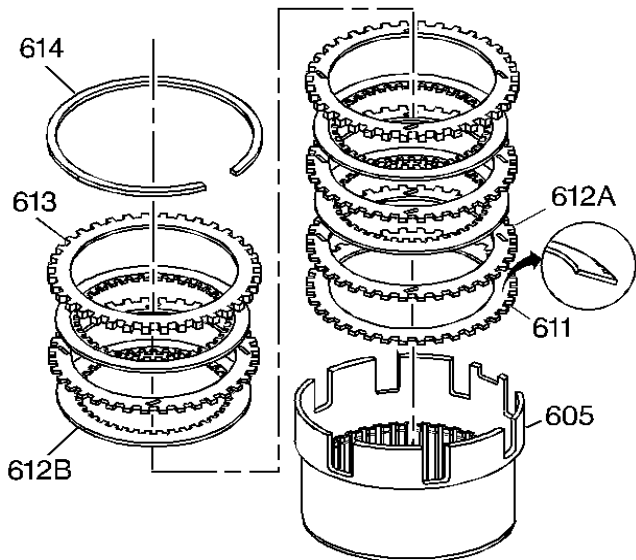
241. Install the [J 23327-1](#) and the [J 25018-A](#).

242. Install the reverse input clutch spring retainer ring (610).



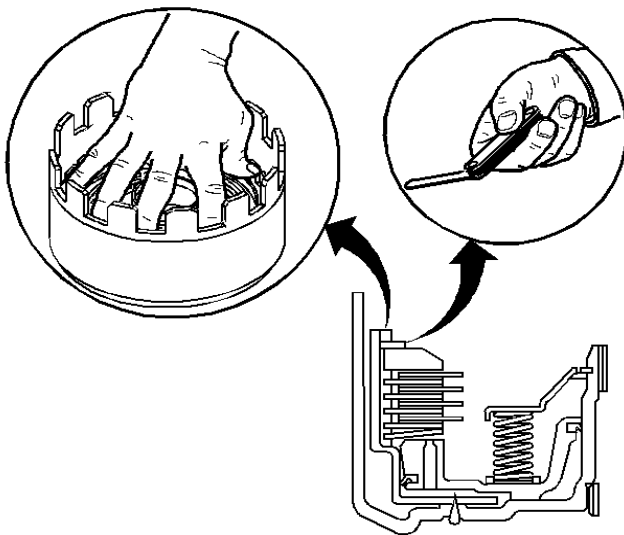
243. Inspect the belleville plate (611), the fiber plate assemblies (612B), the steel turbulator plates (612A) and the selective backing plate (613) for the following items:

- Damaged tangs
- Delamination
- Excessive wear
- Heat damage or wear
- Surface finish
- Flatness



244. Install the reverse input clutch Belleville plate (611), with the inner diameter up, into the reverse input clutch housing and drum assembly (605).
245. Install the reverse input clutch plates starting with a steel turbulator plate (612A) and alternate with a fiber plate assembly (612B).
246. Install the reverse input clutch selective backing plate (613).
247. Install the reverse input clutch retaining ring (614).

Reverse Input Clutch Plate Travel Check

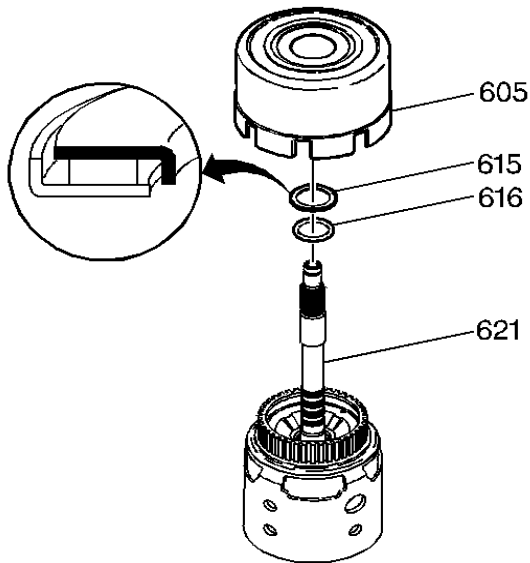


248. Apply an evenly distributed load to the clutch pack.
249. Apply medium pressure. **Tighten**

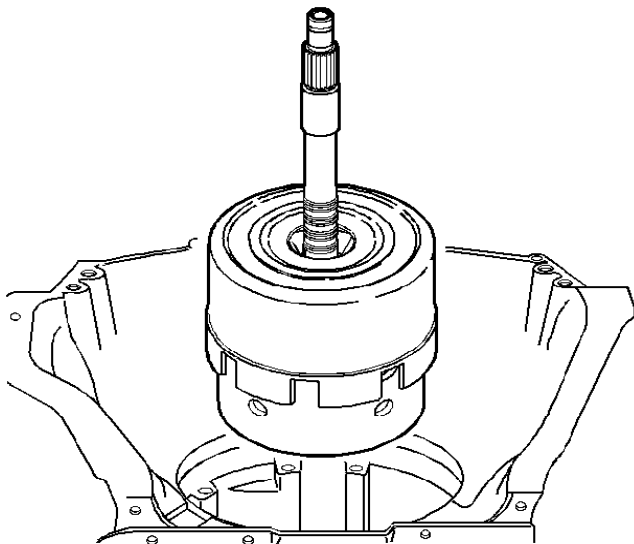
Tighten approximately 89 N·m (20 lb ft), on the selective backing plate.

250. Use feeler gages to check the reverse input clutch plate travel.
251. Check the travel between the selective backing plate and the reverse input clutch retainer ring. The reverse input clutch plate travel should be 1.02-1.94 mm (0.040-0.076 in).
252. Select the proper selective backing plate to obtain the correct travel. Refer to *Reverse Input Clutch Backing Plate Selection* .

Reverse Input and Input Clutches Installation

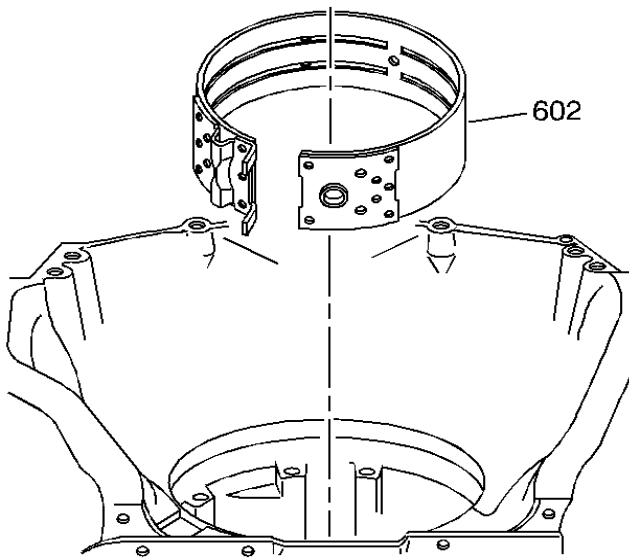
Installation Procedure

- 253. Install the thrust selective washer on the input housing.
- 254. Install the stator shaft/selective washer o-ring assembly on the input housing. The black race on the bearing goes toward the oil pump.
- 255. Install the reverse input clutch on the input clutch assembly.
- 256. Index the reverse input clutch plates with the input clutch hub. Make certain all clutch plates are fully engaged.



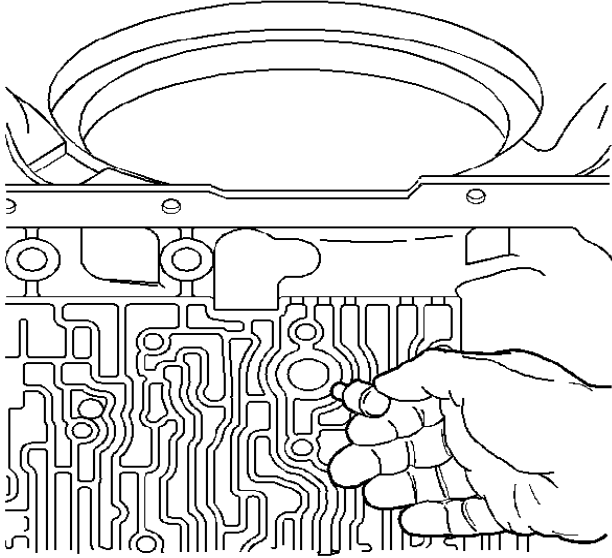
257. Install the reverse input and the input clutch assembly into the transmission case.
258. Index the 3rd and 4th clutch plates with the input internal gear.
- Ensure that all clutch plates are fully engaged.
 - When properly assembled, the reverse input clutch housing will be located just below the case oil pump face.
-

2-4 Band Assembly Installation



259. Inspect the 2-4 band assembly for damage or wear.

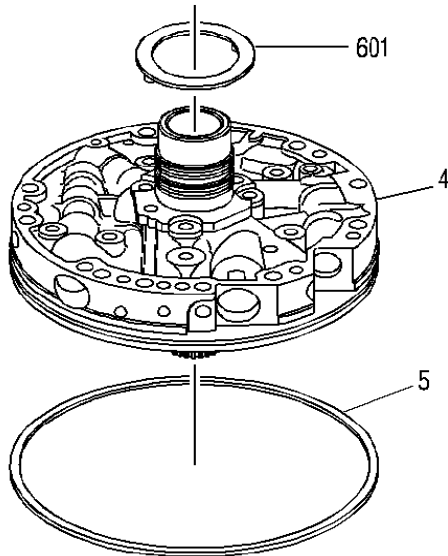
260. Install the 2-4 band into the case.



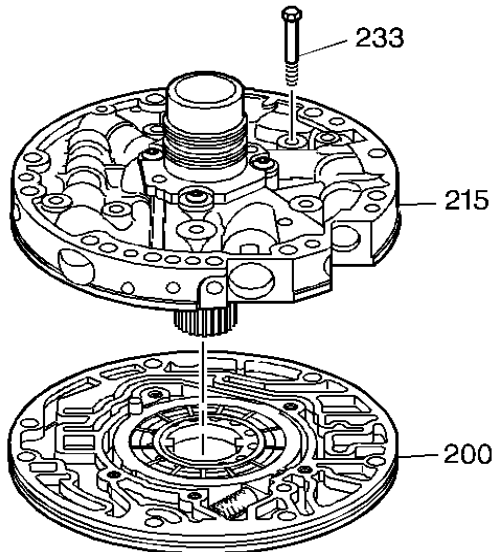
261. Install the band anchor pin into the case.
262. Index the band to fit the band anchor pin onto the band.

Oil Pump Disassemble

[Removal Procedure](#)

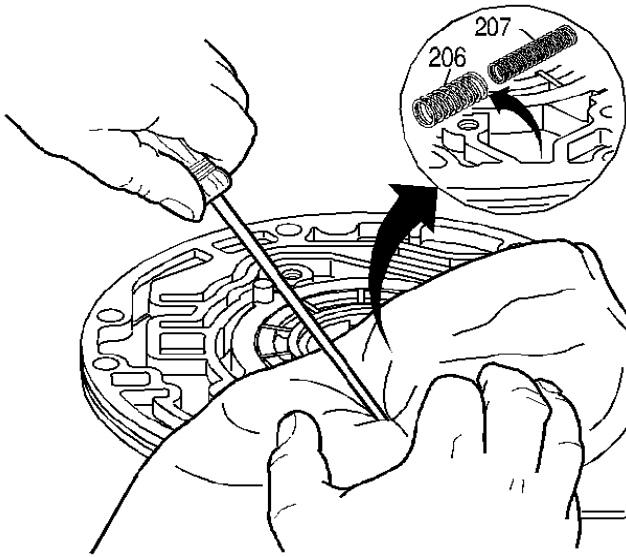


263. Remove the thrust (pump to drum) washer (601).
 264. Remove the oil (pump to case) seal (605).

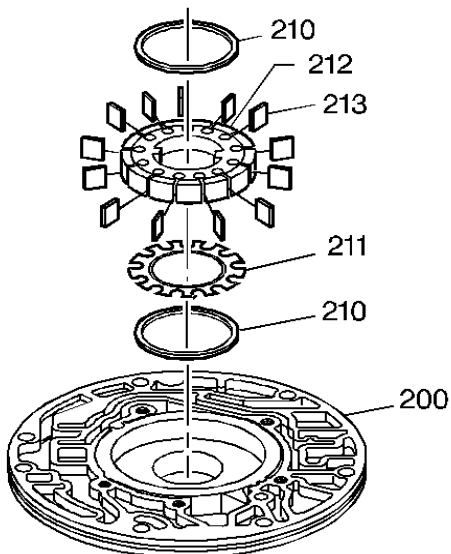


265. Remove the pump cover bolts (233).
 266. Remove the pump cover (215) from the pump body (200).

Oil Pump Body Disassemble

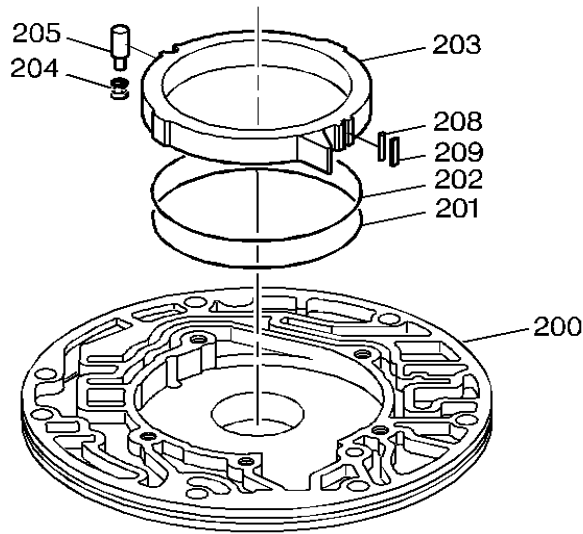
Removal Procedure

267. Remove the pump slide inner (207) and outer (206) springs.
 268. Place a rag over the springs while removing them to prevent the springs from flying out.



269. Remove the oil pump rotor (212) and pump vane rings (210).
 270. Remove the pump vanes (213).

271. Remove the rotor guide (211).



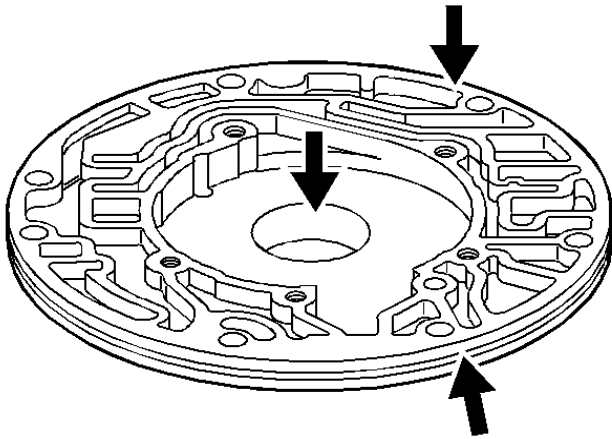
272. Remove the pump slide (203), pump slide support seal (208) and the pump slide seal (209).
273. Remove the slide seal back-up O-ring seal (202) and the oil seal (slide to wear plate) ring (201).
274. Remove the pivot slide pin (205) and the pivot pin spring (204).

Oil Pump Body Bushing Replacement

Removal Procedure

Tools Required

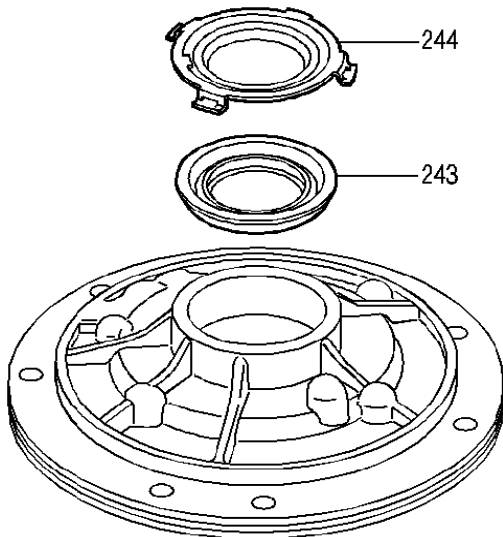
- [J 41778-1](#) Pump Body Bushing Installer/Remover
- [J 41778-2](#) Pump Body Bushing Position Stop



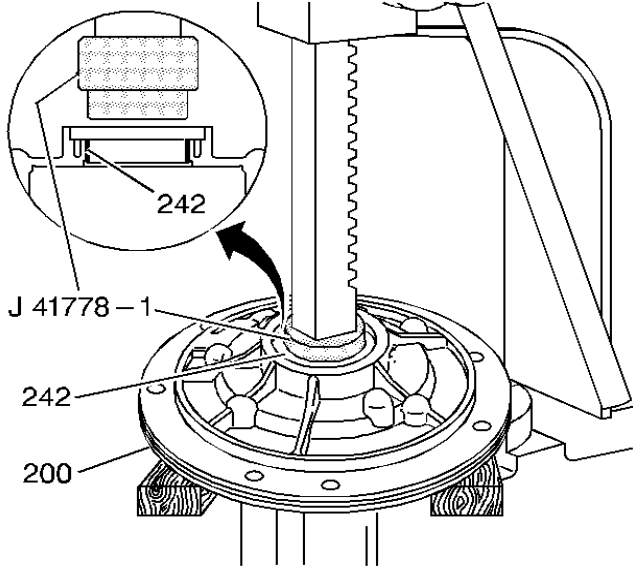
277.

Inspect the oil body for the following defects:

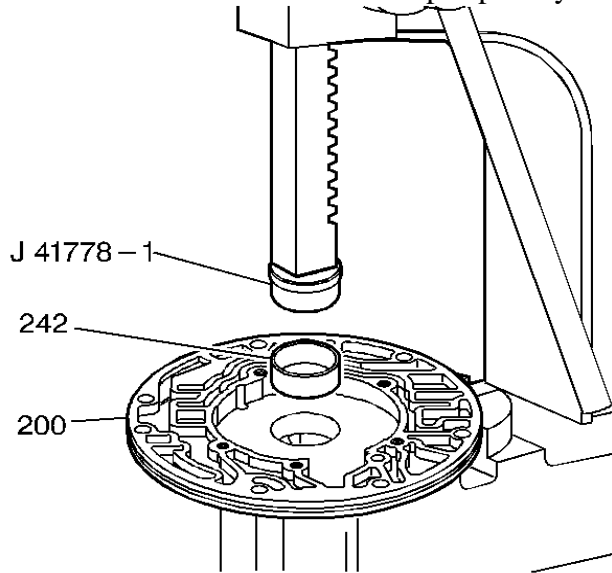
- Worn or damaged bushings
- Foreign material or debris
- Porosity
- Scored or irregular mating faces
- Cross channel leaks
- Ring groove damage



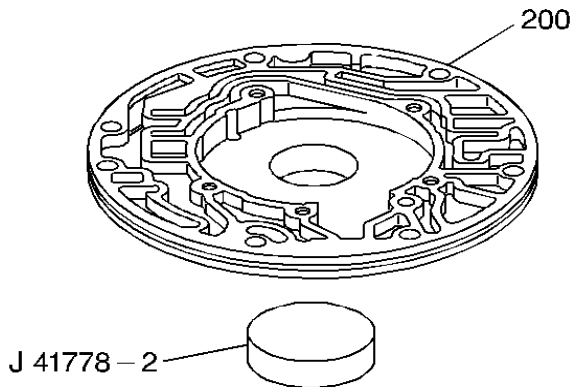
- 278. Remove the front helix retainer.
- 279. Remove the oil seal assembly.



- 280. Remove the pump body bushing.



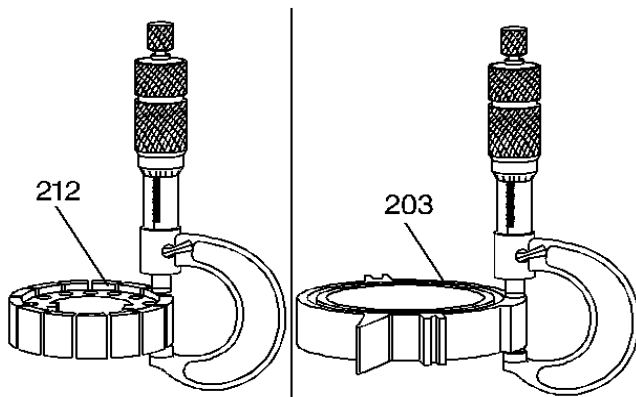
281. Using [J 41778-1](#) , install the pump body bushing.



282. Use [J 41778-2](#) for a proper bushing depth.

Oil Pump Rotor and Slide Measurement

o



Important

Measure the rotor and slide thickness for surface wear. The rotor and slide measurements must both fall into the same thickness range. If the rotor and slide measurements do not fall into the same thickness range, or are outside of all the ranges, the oil pump must be replaced as an assembly.

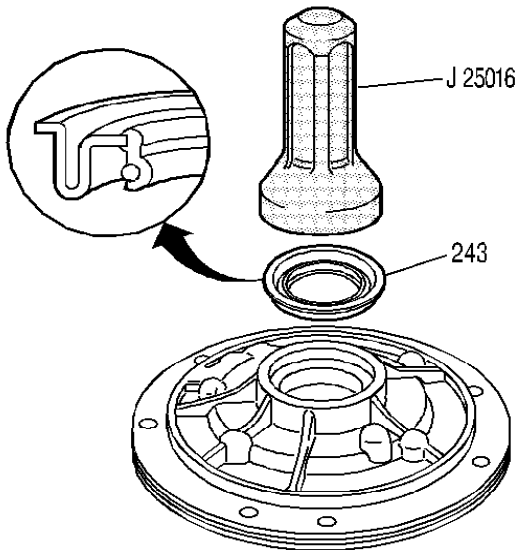
- Refer to [Oil Pump Rotor and Slide Measurement](#) .
-
- Measure the oil pump rotor (212) thickness.
-
- Measure the oil pump slide (203) thickness.

Oil Pump Body Assemble

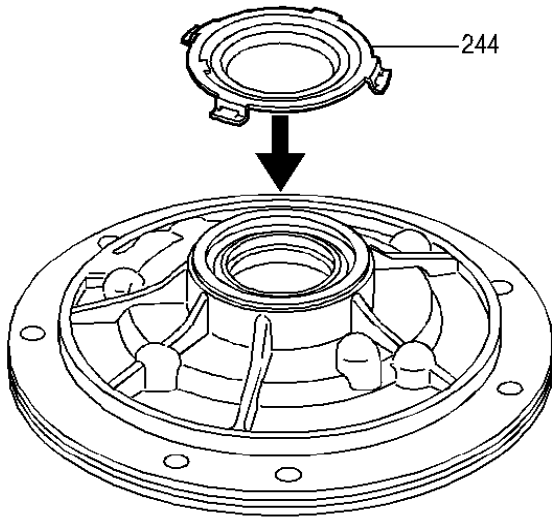
[Installation Procedure](#)

Tools Required

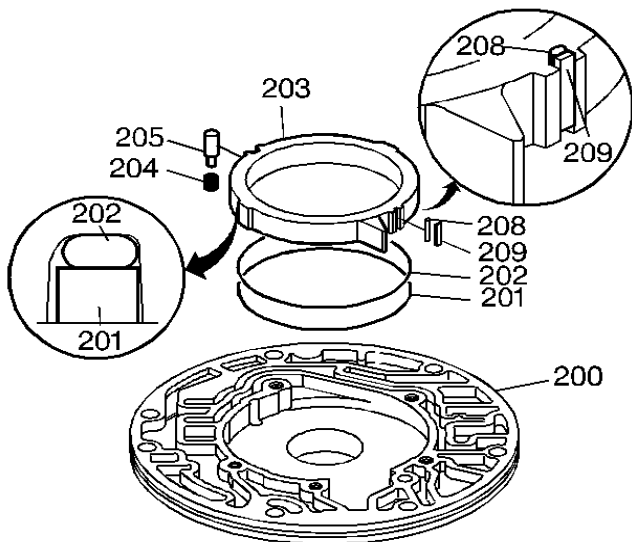
[J 25016](#) Pump Oil Seal Installer



289. Install the oil seal assembly.

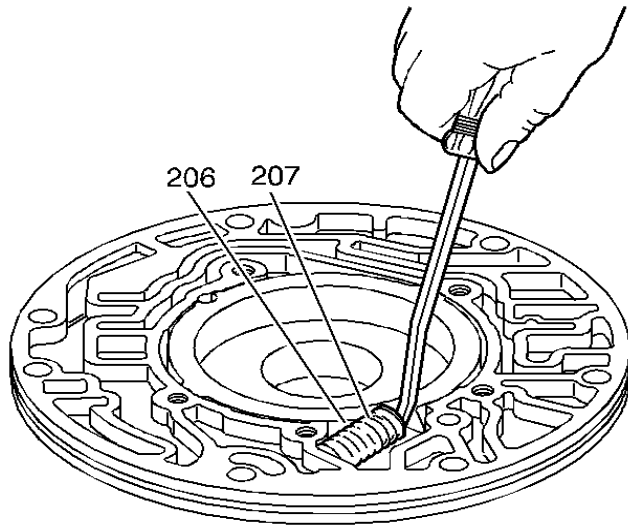


290. Install the front helix retainer.

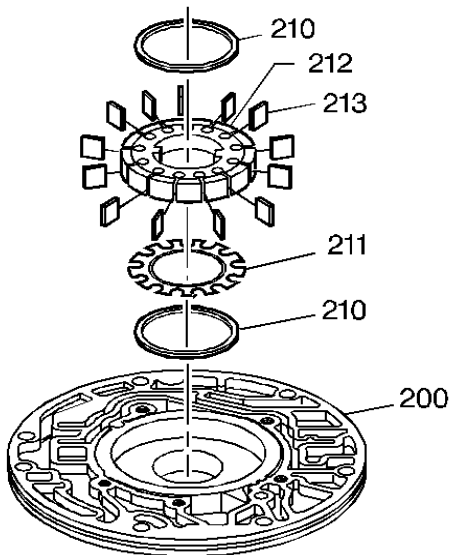


291. Install an o-ring seal and oil seal ring into the groove on the back side of the slide.
 292. Use Transjel® J 36850 or an equivalent to retain the seal and the ring on the slide.
 293. Install the pivot pin spring and the pivot pin.
 294. Install the pump slide.
 295. Index the slide notch with the pivot pin. The oil seal ring must face downward into the pump pocket.

296. Install the pump slide seal support and the pump slide seal.

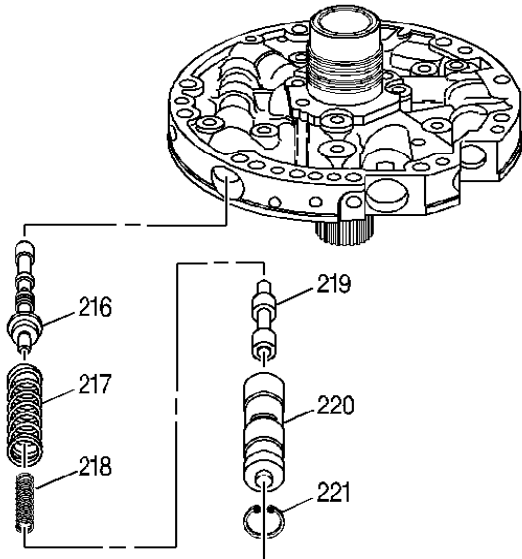


297. Install the pump slide inner and outer springs.

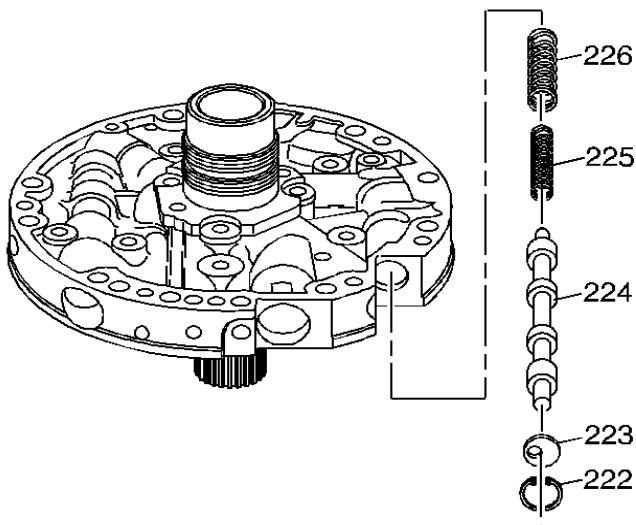


298. Install the bottom pump vane ring and the rotor guide into the rotor and retain with Transjel® J 36850 or an equivalent.
299. Install the rotor with the rotor guide toward the pump pocket.
300. Install the pump vanes.
301. Install the top pump vane ring.

Oil Pump Cover Disassemble

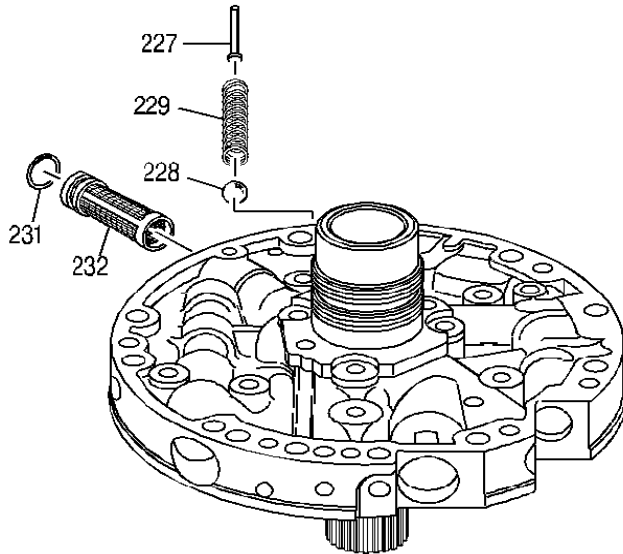


302. Remove the oil pump reverse boost valve retaining ring (221).
 303. Remove the reverse boost valve sleeve (220) and the reverse boost valve (219).
 304. Remove the pressure regulator isolator spring (218) and the pressure regulator valve spring (217).
 305. Remove the pressure regulator valve (216).

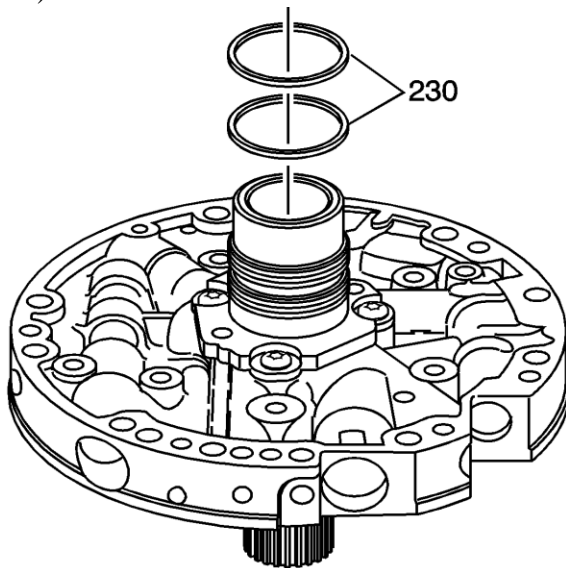


306. Remove the oil pump converter clutch valve retaining ring (222).
 307. Remove the stop valve (223) and the converter clutch valve (224).

308. Remove the converter clutch valve inner (225) and outer (226) springs.



309. Remove the pressure relief bolt rivet (227).
 310. Remove the pressure relief spring (229) and the pressure relief ball (228).
 311. Remove the oil pump cover screen (232) and the oil pump cover screen seal (231).



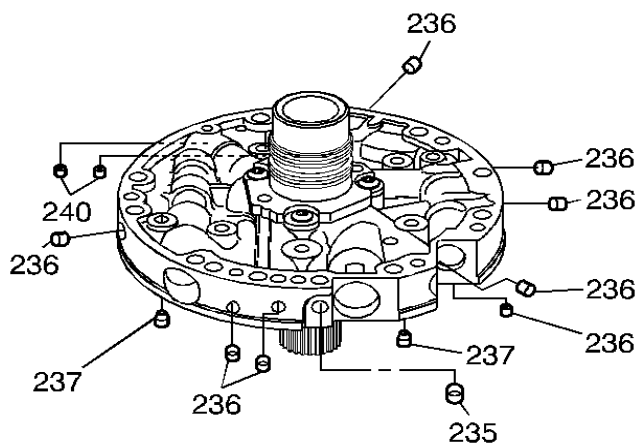
312. Remove the stator shaft oil seal rings (230).

Oil Pump Stator Shaft Bushing Replacement

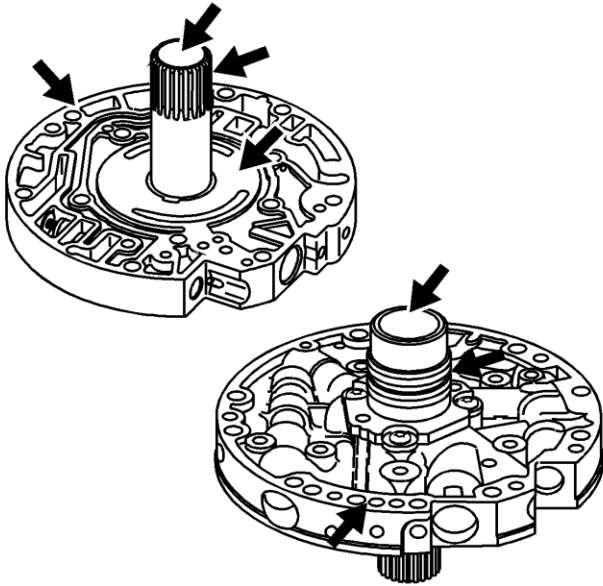
Removal Procedure

Tools Required

- [J 7004-A](#) Universal Remover
- [J 8092](#) Universal Driver Handle - 3/4 in - 10
- [J 21465-01](#) Bushing Service Set
- [J 34196-B](#) Transmission Bushing Service Set



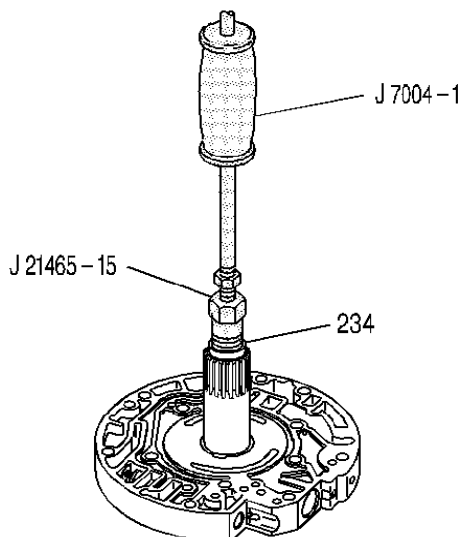
317. Inspect the pump cover, all check valve retainer and ball assemblies (237), cup plugs (235, 236) and orificed cup plugs (238, 240).



318.

Inspect the pump cover for the following:

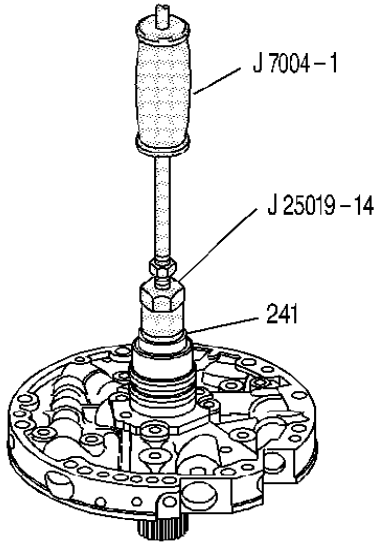
- Worn or damaged bushings
- Foreign material or debris
- Porosity
- Scored or irregular mating faces
- Cross channel leaks
- Ring groove damage



319.

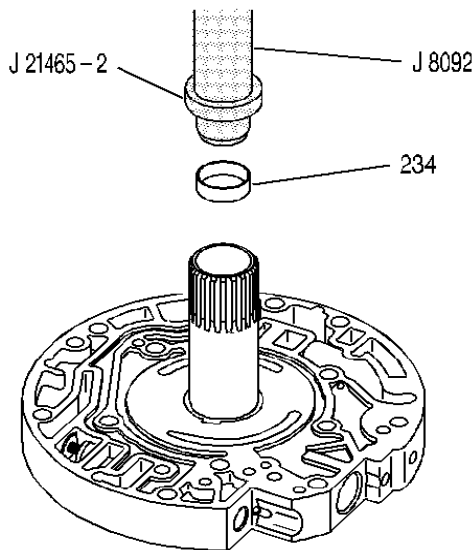
(234).

Using the [J 21465-15](#) with the [J 7004-A](#) , remove the stator shaft front bushing

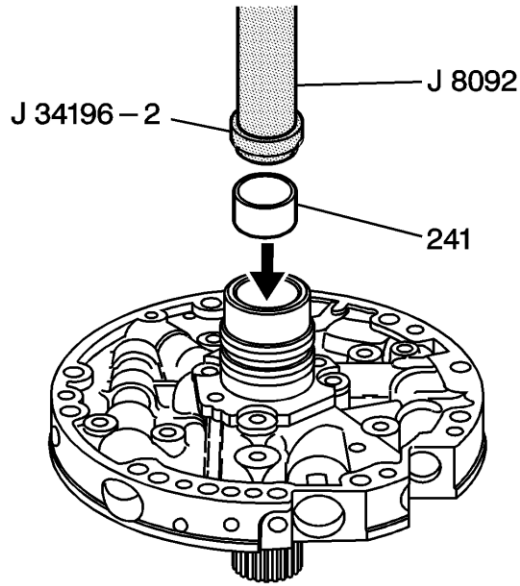


320. Using the [J 25019-14](#) with the [J 7004-A](#) , remove the stator shaft rear bushing (241).

Installation Procedure



321. Using the [J 21465-2](#) and the [J 8092](#) , install a new stator shaft front bushing (234).

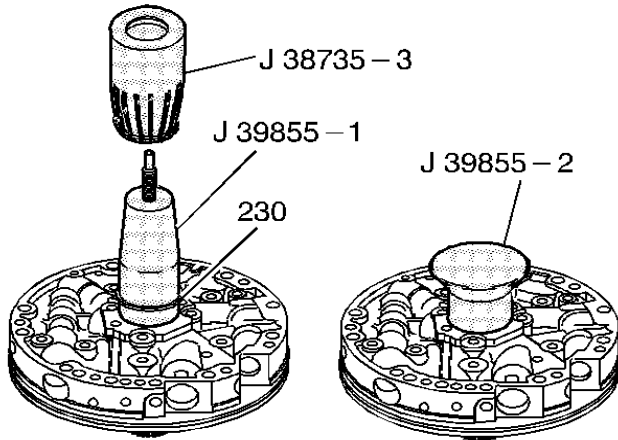


322. Using the J 34196-2 which is part of kit [J 34196-B](#) and the [J 8092](#) , install the stator shaft rear bushing (241).

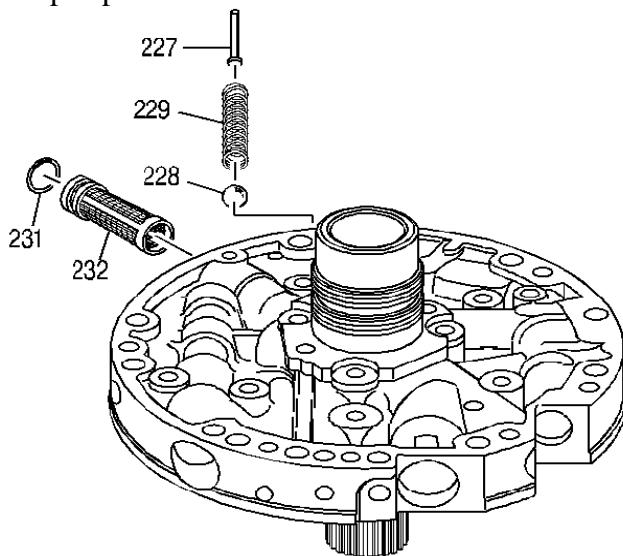
Oil Pump Cover Assemble

Tools Required

- [J 38735-3](#) Pusher
- [J 39855](#) Stator Shaft Seal Installer

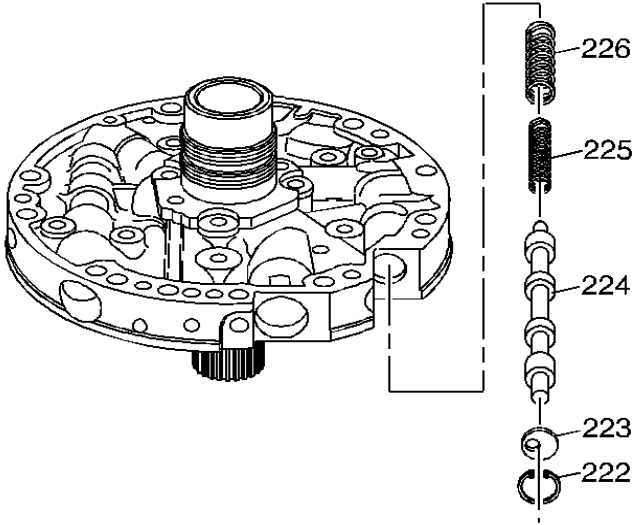


325. Using the J 39855-1 which is part of kit [J 39855](#) and the [J 38735-3](#) , install the stator shaft oil seal rings (230).
326. Place J 39855-2 which is part of kit [J 39855](#) over the seals.
327. Leave J 39855-2 which is part of kit [J 39855](#) on the stator shaft until just before the pump is to be installed into the transmission.

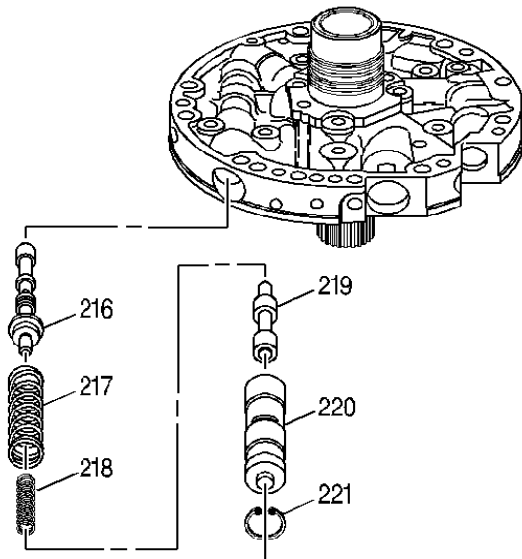


328. Install the pressure relief ball (228) and pressure relief spring (229).
329. Install the pressure relief bolt rivet (227).
330. Install the oil pump cover screen seal (231) on the oil pump cover screen (232).

331. Install the oil pump cover screen (232) into the pump cover.



332. Install the converter clutch valve inner (225) and outer (226) springs.
 333. Install the converter clutch valve (224).
 334. Install the stop valve (223) and the oil pump converter clutch valve retaining ring (222).

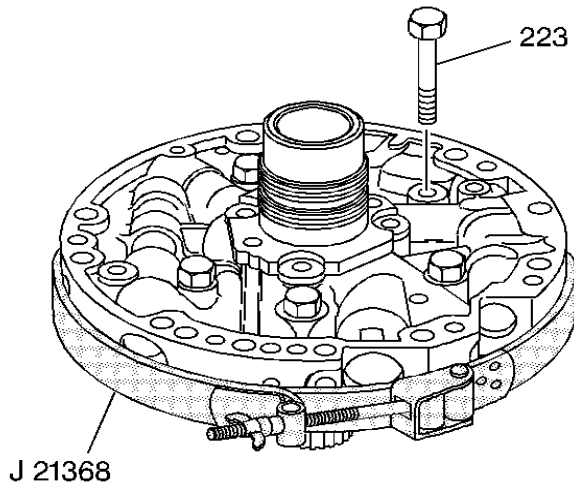


335. Install the pressure regulator valve (216).
 336. Install the pressure regulator isolator spring (218) and the pressure regulator valve spring (217).
 337. Install the reverse boost valve (219) in the reverse boost valve sleeve (220).
 338. Install the reverse boost valve and sleeve in the pump cover.
 339. Install the oil pump reverse boost valve retaining ring (221).

Oil Pump Cover and Body Assemble

Tools Required

[J 21368](#) Pump Body and Cover Alignment Band



340. Place the oil pump cover onto the oil pump body and put stator shaft through a hole in the bench.
341. Install the pump cover bolts (223) finger tight only.
342. Install the [J 21368](#) .

Notice

Use the correct fastener in the correct location. Replacement fasteners must be the correct part number for that application. Fasteners requiring replacement or fasteners requiring the use of thread locking compound or sealant are identified in the service procedure. Do not use paints, lubricants, or corrosion inhibitors on fasteners or fastener joint surfaces unless specified. These coatings affect fastener torque and joint clamping force and may damage the fastener. Use the correct tightening sequence and specifications when installing fasteners in order to avoid damage to parts and systems.

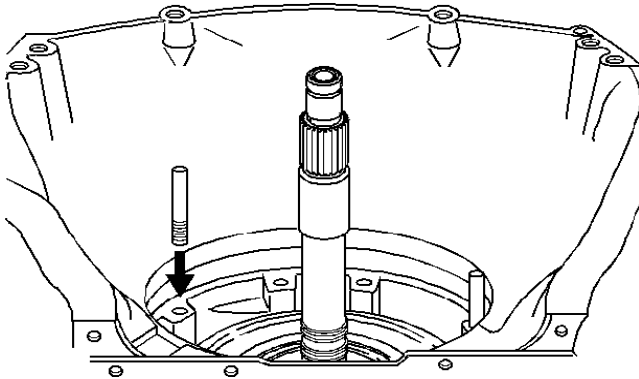
343. Tighten the pump cover bolts (223). **Tighten**
Tighten the bolts to 24 N·m (18 lb ft).
344. Remove the [J 21368](#) .

Oil Pump Assembly Installation

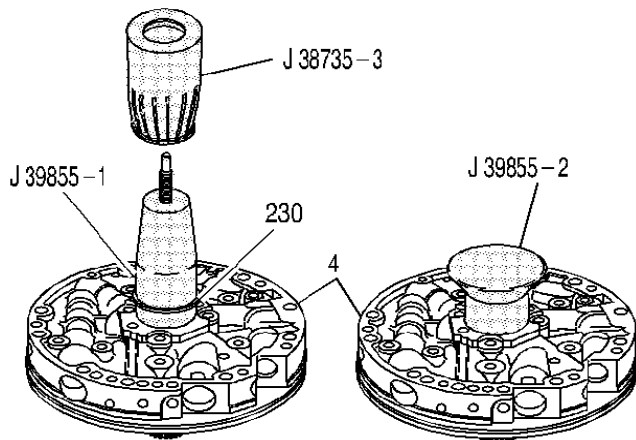
Installation Procedure

Tools Required

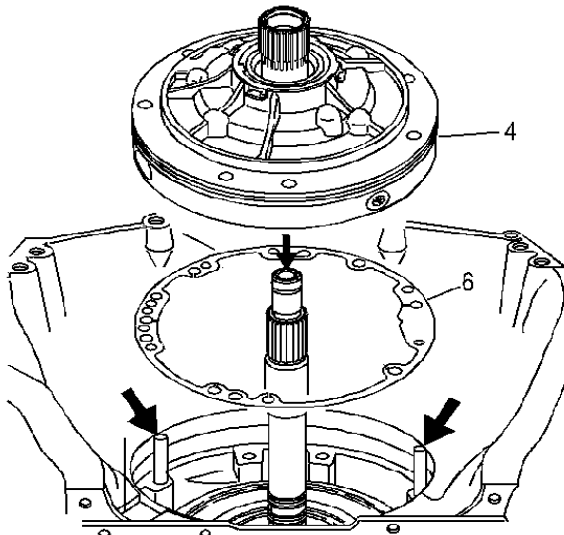
- [J 25025-1](#) Alignment Pins
- [J 38735-3](#) Pusher
- [J 39855-1](#) Protector
- [J 39855-2](#) Sizer



349. Install the pump assembly alignment pins.

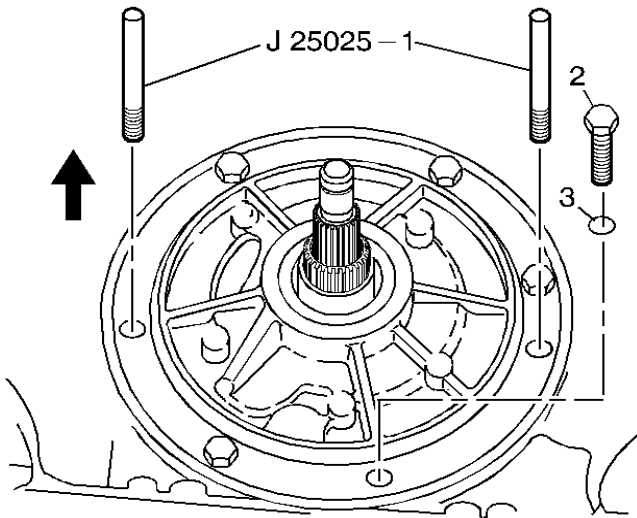


350. Remove the stator shaft seal sizer.
 351. Install the thrust pump to drum washer.
 352. Use Transjel J-36850 or equivalent to retain the washer to the pump.



353. Install the pump cover to case gasket.
 354. Install the oil pump to case seal on the pump.

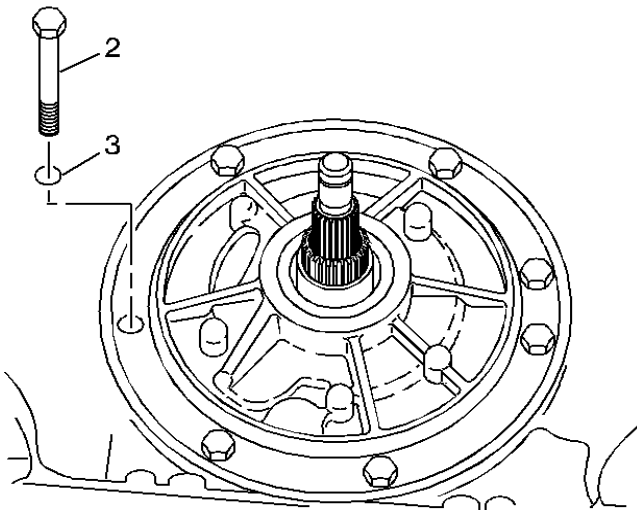
355. Install the oil pump assembly into the case and align all holes properly.



356. Install the pump to case bolts. **Tighten**

Tighten the bolts to 24 N·m (18 lb ft).

357. Refer to *Fastener Notice* .
 358. Remove the pump alignment pins.

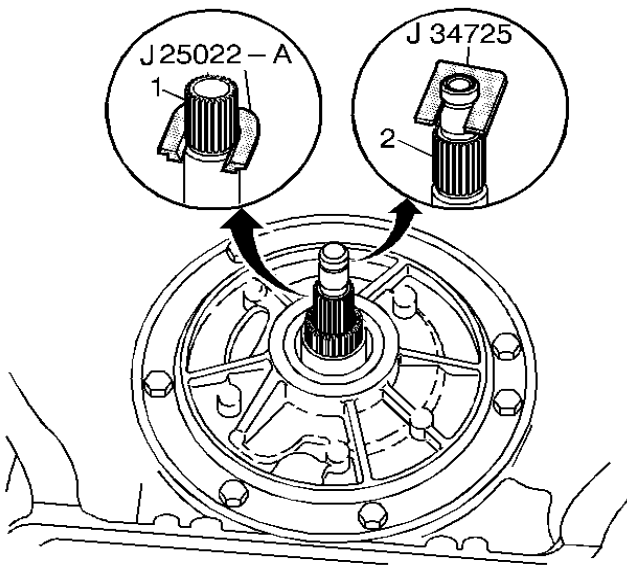


359. Install the pump to case bolts.

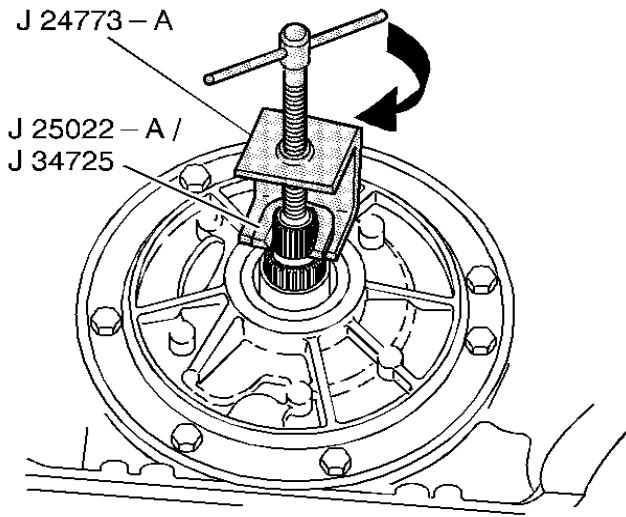
Transmission End Play Check

Tools Required

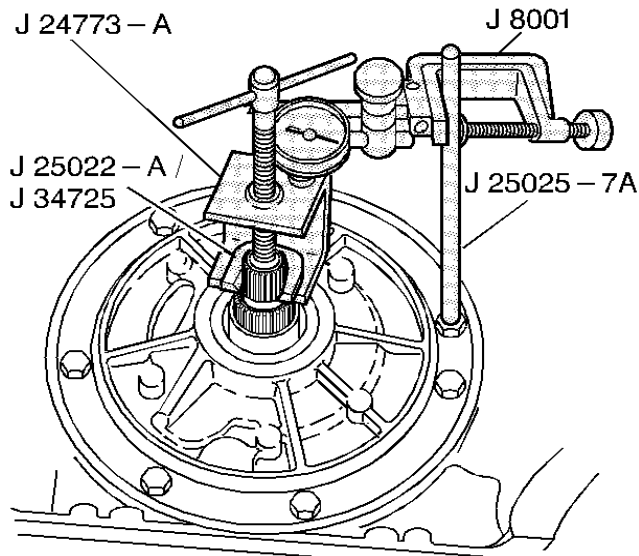
- [J 25022-A](#) End Play Fixture Adapter (245 mm)
- [J 34725](#) End Play Fixture Adapter (298 mm)
- [J 24773-A](#) Oil Pump Remover and End Play Checking Fixture
- [J 8001](#) Dial Indicator Set
- [J 25025-7A](#) Dial Indicator Mounting Post



365. Install an end play fixture adapter.
- Use [J 25022-A](#) for a 245 mm turbine shaft (1).
 - Use [J 34725](#) for a 298 mm turbine shaft (2).



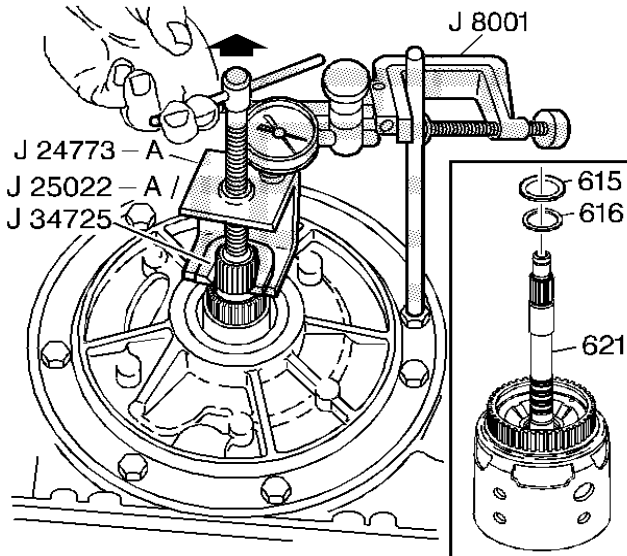
366. Install the [J 24773-A](#).



367. Remove an oil pump bolt.

368. Install [J 25025-7A](#) (or a 278 mm or 11 in bolt) and lock nut.

369.

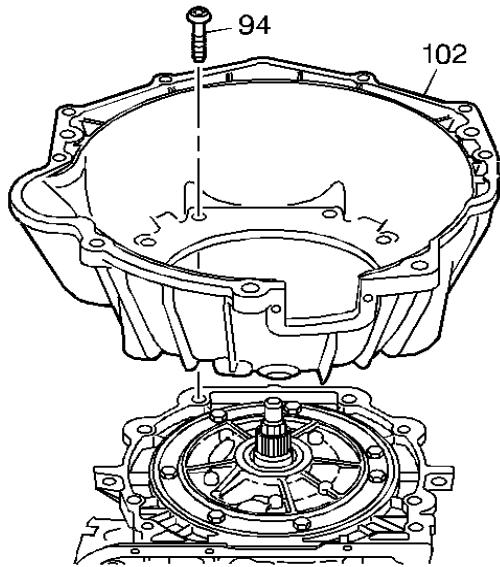
Install [J 8001](#) .

370. Set the [J 8001](#) to zero.
371. Pull up on [J 24773-A](#) .
372. The end play should be 0.13-0.92 mm (0.005-0.036 in).
373. The selective washer (616) which controls the end play, is located between the input housing (621) and the thrust bearing (615) on the oil pump hub. If the dial indicator shows no end play, the selective washer (616) and thrust bearing (615) may have been misassembled.

Converter Housing Installation

Tools Required

[J 41510](#) 50 mm Torx® Plus Bit



374. Install the converter housing (102).

Notice

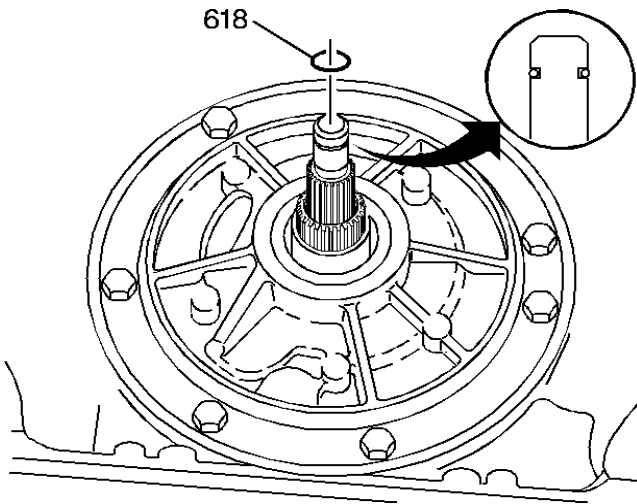
Use the correct fastener in the correct location. Replacement fasteners must be the correct part number for that application. Fasteners requiring replacement or fasteners requiring the use of thread locking compound or sealant are identified in the service procedure. Do not use paints, lubricants, or corrosion inhibitors on fasteners or fastener joint surfaces unless specified. These coatings affect fastener torque and joint clamping force and may damage the fastener. Use the correct tightening sequence and specifications when installing fasteners in order to avoid damage to parts and systems.

375. Install the converter housing bolts (94) to the transmission case. Use the [J 41510](#).

Tighten

Tighten the converter housing bolts (94) to 65-75 N·m (48-55 lb ft).

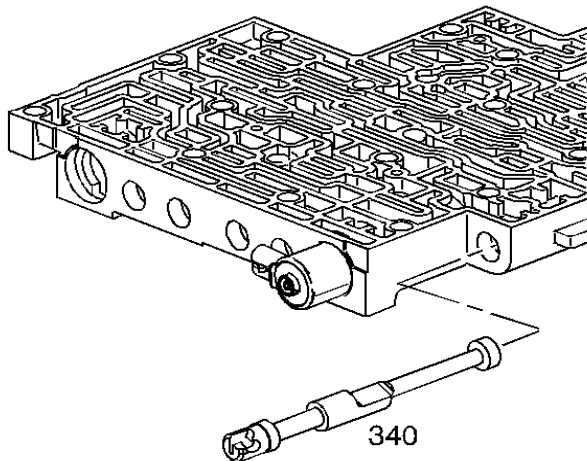
Turbine Shaft O-Ring Installation



Install the O-ring (618) on the turbine shaft. O-Ring location is location dependent.

Control Valve Body Disassemble

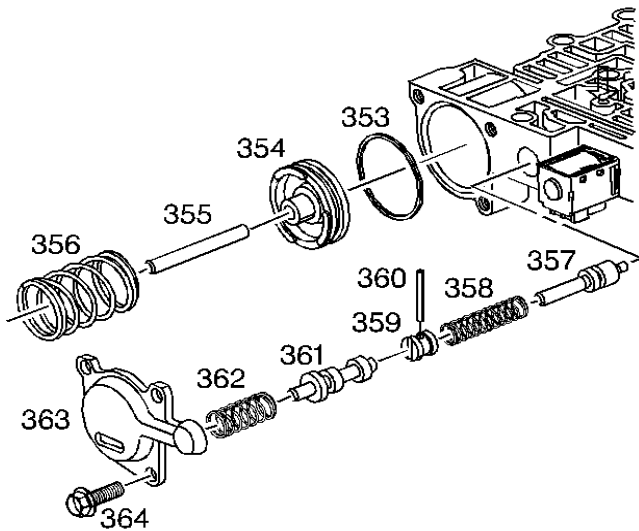
[Removal Procedure](#)



Caution

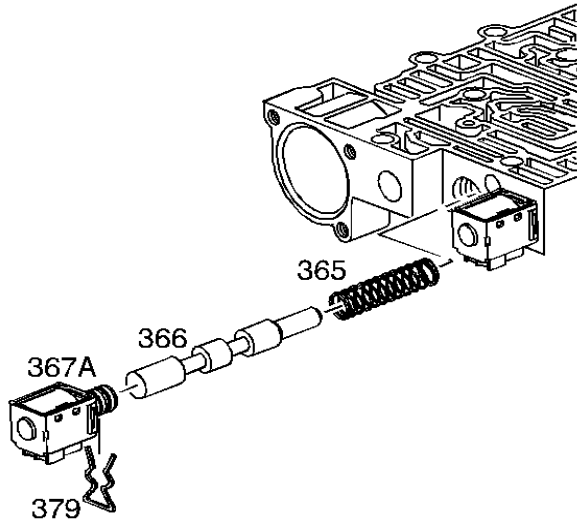
Valve springs can be tightly compressed. Use care when removing retainers and plugs. Personal injury could result.

376. Remove the manual valve (340).

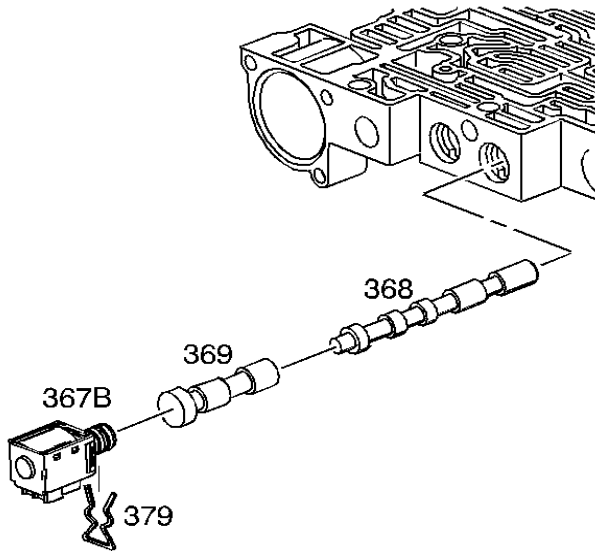


377. Remove the forward accumulator cover bolts (364) and the forward accumulator cover (363).
378. Remove the forward accumulator spring (356), forward accumulator piston (354), and the forward accumulator pin (355).

379. Remove the low overrun valve spring (362) and the low overrun valve (361).
 380. Remove the coiled spring pin (360) and the bore plug (359).
 381. Remove the forward abuse valve spring (358) and the forward abuse valve (357).

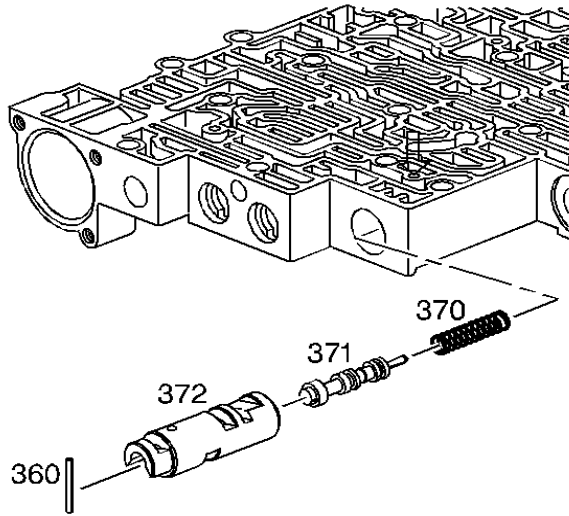


382. Remove the solenoid retainer (379) and the 1-2 shift solenoid (367A).
 383. Remove the 1-2 shift valve ((366) and the 1-2 shift valve spring (365).

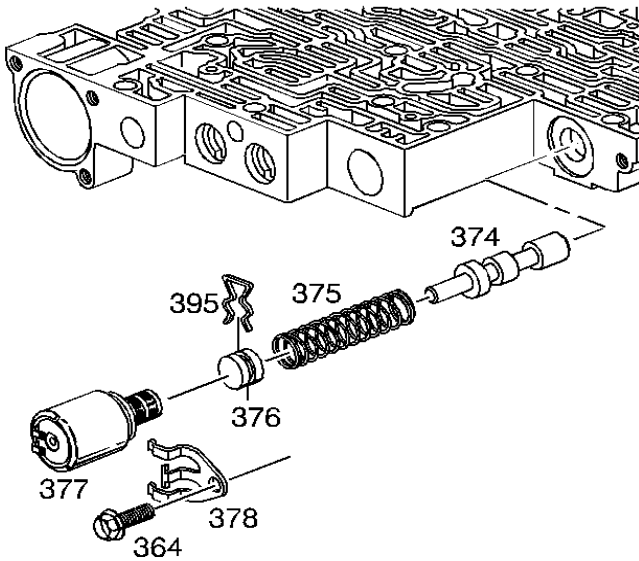


384. Remove the solenoid retainer (379) and the 2-3 shift solenoid (367B).

385. Remove the 2-3 shuttle valve (369) and the 2-3 shift valve (368).



386. Remove the coiled spring pin (360).
 387. Remove the 1-2 accumulator valve sleeve (372).
 388. Remove the 1-2 accumulator valve (371) and the 1-2 accumulator valve spring (370).

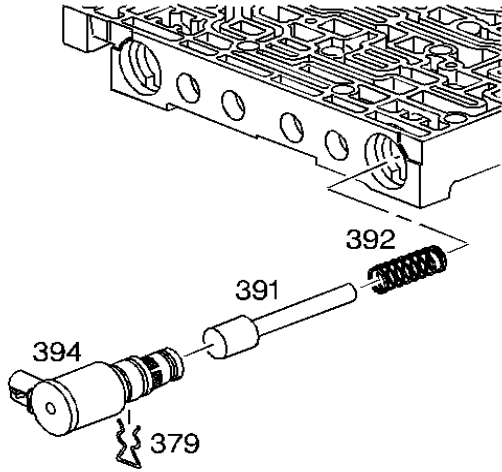


389. Remove the solenoid retainer bolt (364) and the solenoid retainer (378). Remove the pressure control solenoid (377).

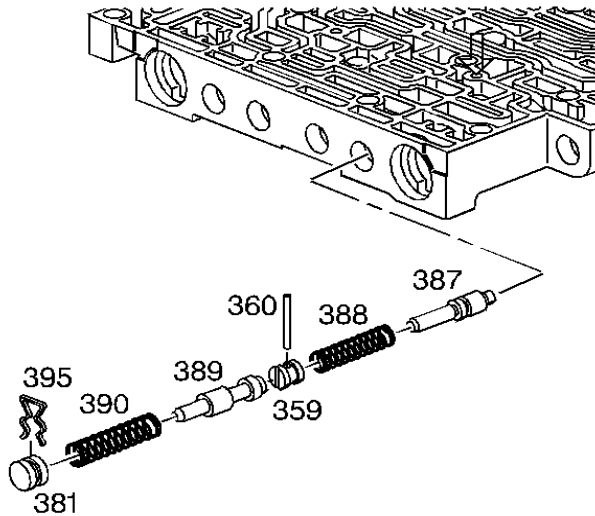
Caution

Valve springs can be tightly compressed. Use care when removing retainers and plugs. Personal injury could result.

390. Compress the actuator feed limit valve spring (375).
 391. Remove the bore plug retainer (395) and release the spring slowly.
 392. Remove the bore plug (376).
 393. Remove the actuator feed limit valve spring (375) and the actuator feed limit valve (374).



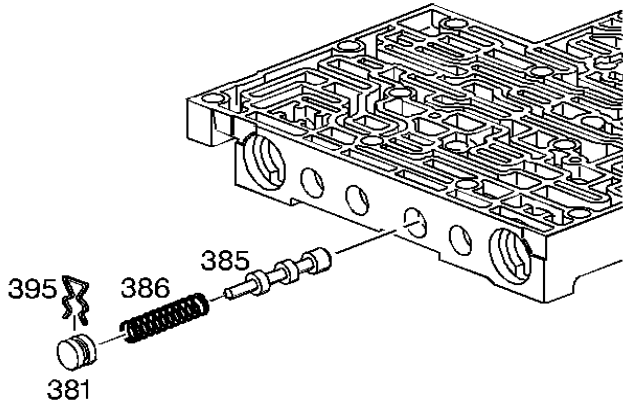
394. Remove the solenoid retainer (379) and the 3-2 control solenoid (394).
 395. Remove the 3-2 control valve (391) and the 3-2 control valve spring (392).



Caution

Valve springs can be tightly compressed. Use care when removing retainers and plugs. Personal injury could result.

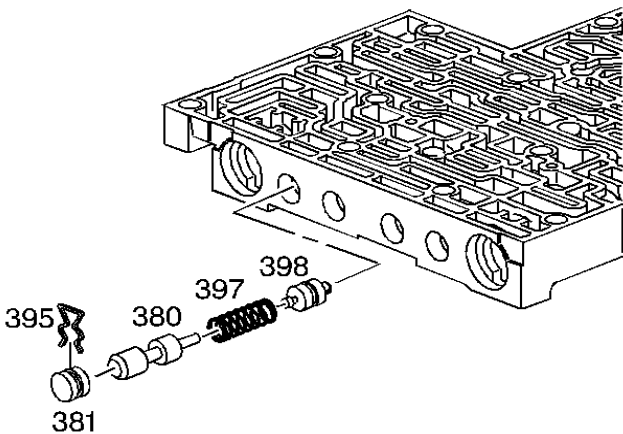
396. Remove the bore plug retainer (395) and the bore plug (390).
 397. Remove the 3-2 downshift valve spring (390) and the 3-2 downshift valve (389).
 398. Remove the coiled spring pin (360) and the bore plug (359).
 399. Remove the reverse abuse valve spring (388) and the reverse abuse valve (387).



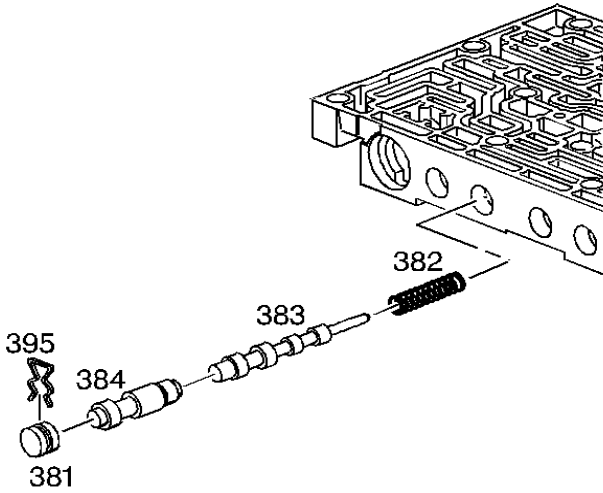
Caution

Valve springs can be tightly compressed. Use care when removing retainers and plugs. Personal injury could result.

400. Remove the bore plug retainer (395) and the bore plug (381).
 401. Remove the 3-4 shift valve spring (386) and the 3-4 shift valve (385).



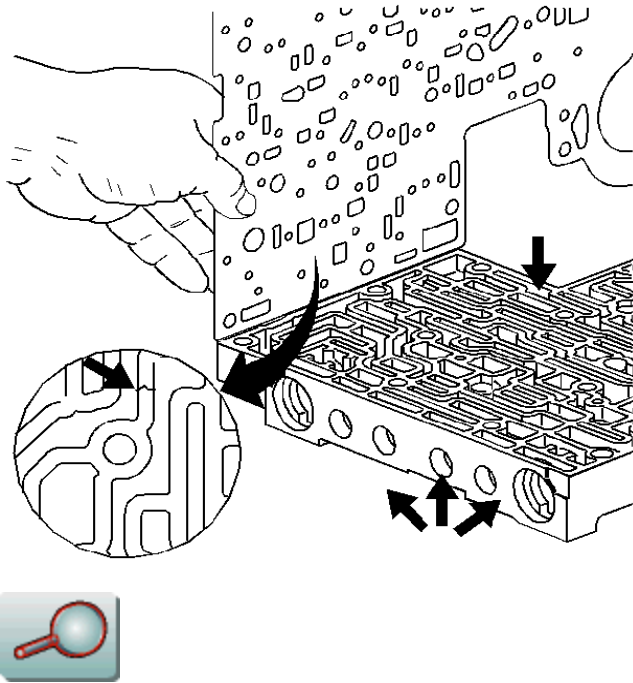
402. Remove the bore plug retainer (395) and the bore plug (381).
403. Remove the regulator apply valve (380) and the regulator apply spring (390) and the isolator valve (398).



404. Remove the bore plug retainer (395) and the bore plug (381).
405. Remove the 3-4 relay valve (384) and the 4-3 sequence valve (383) and the 4-3 sequence valve spring (382).

Control Valve Body Assemble

[Inspection Procedure](#)

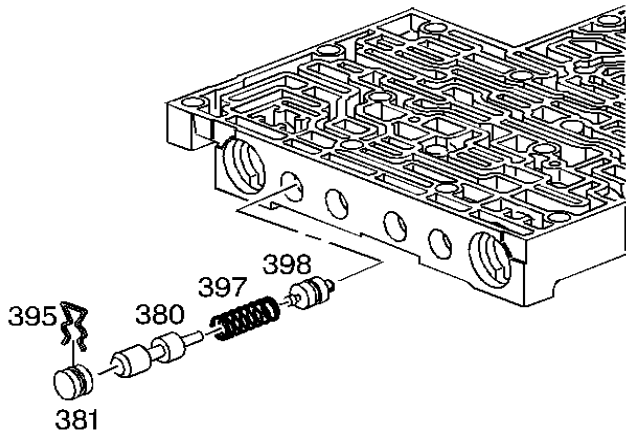


406. Inspect the valve body to spacer plate gasket for valve body channel witness marks. The witness marks should be complete. Incomplete witness marks may be caused by an uneven case surface. Incomplete witness marks may also be caused by cross-channel leaks.
407. Inspect the valve body casting for the following conditions:
- Porosity
 - Cracks
 - Damaged machined surfaces
 - Chips or debris

Cleaning Procedure

408. Clean all the valves, springs, bushings, and the control valve body in clean solvent.
409. Dry all the parts using compressed air.

Control Valve Body Assembly

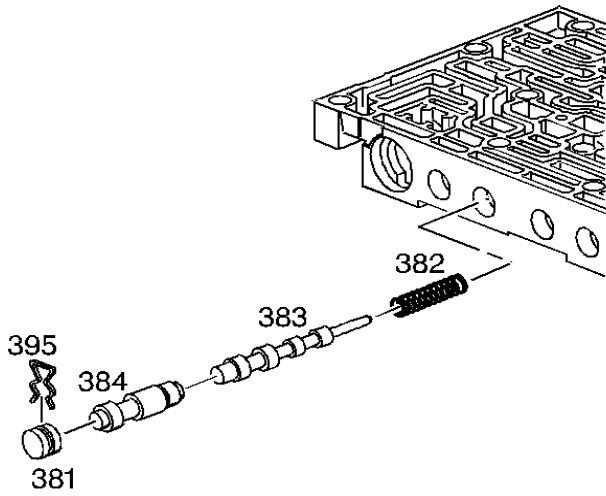
**Caution**

Valve springs can be tightly compressed. Use care when removing retainers and plugs. Personal injury could result.

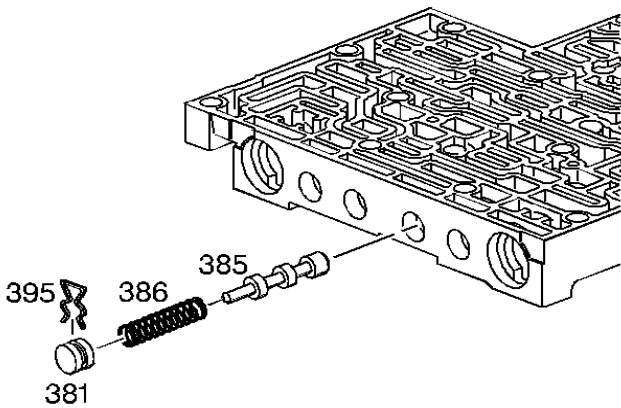
Important

Lubricate all parts with Dexron®-III automatic transmission fluid before installation.

410. Install the following items:
- A. The isolator valve (398)
 - B. The regulator apply spring (397)
 - C. The regulator apply valve (380)
 - D. The bore plug (381)
 - E. The bore plug retainer (395)

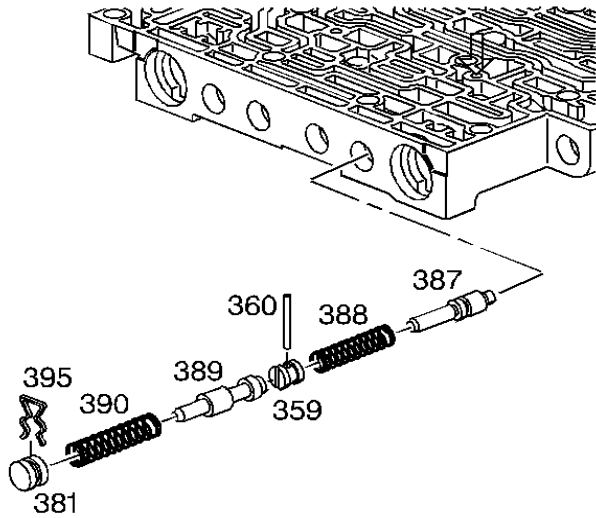


411. Install the following items:
- A. The 4-3 sequence valve spring (382)
 - B. The 4-3 sequence valve (383)
 - C. The 3-4 relay valve (384)
 - D. The bore plug (381)
 - The bore plug retainer (395)

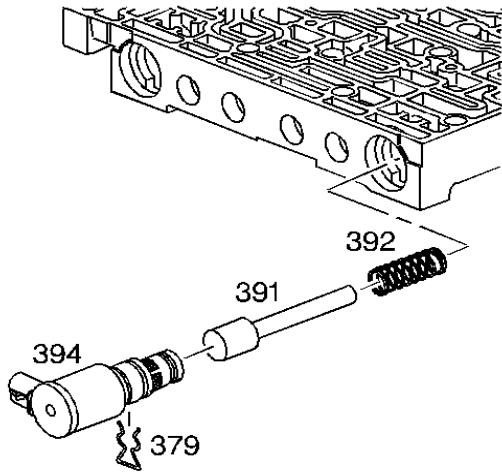


412. Install the following items:

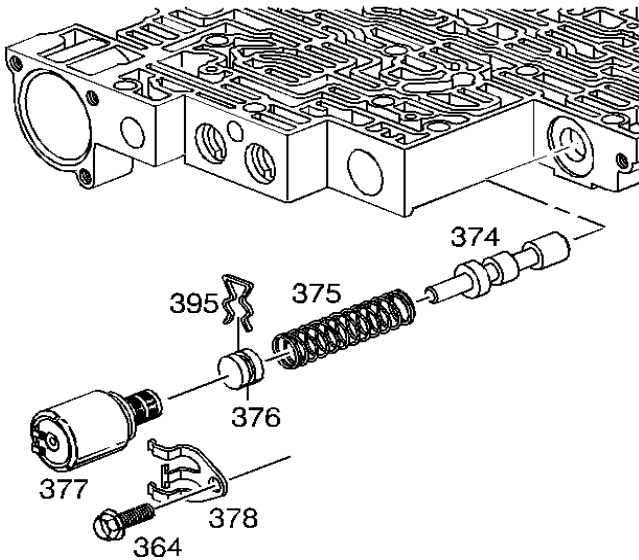
- .
- A. The 3-4 shift valve (385)
The 3-4 shift valve spring (386)
- B. The bore plug (381)
- C. The bore plug retainer (395)



413. Install the following items:
- .
- A. The reverse abuse valve (387)
The reverse abuse valve spring (388)
- B. The bore plug (359)
- C. The coiled spring pin (360)
- D. The 3-2 downshift valve (389)
- E. The 3-2 downshift valve spring (390)
- F. The bore plug (381)
- G. The bore plug retainer (395)

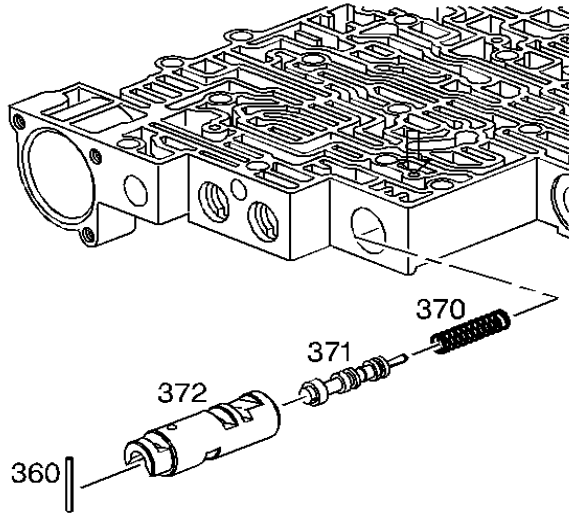


414. Install the following items:
- A. The 3-2 control valve spring (392)
 - B. The 3-2 control valve (391)
 - C. The 3-2 control solenoid (394)
 - The solenoid retainer (379)

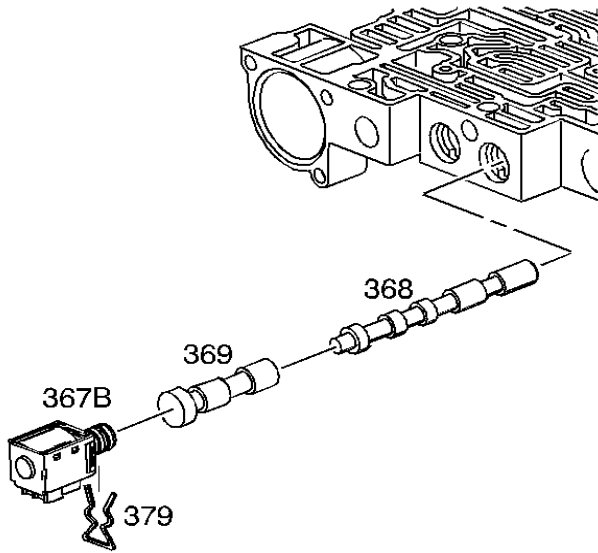


415. Install the following items:
- The actuator feed limit valve (374)

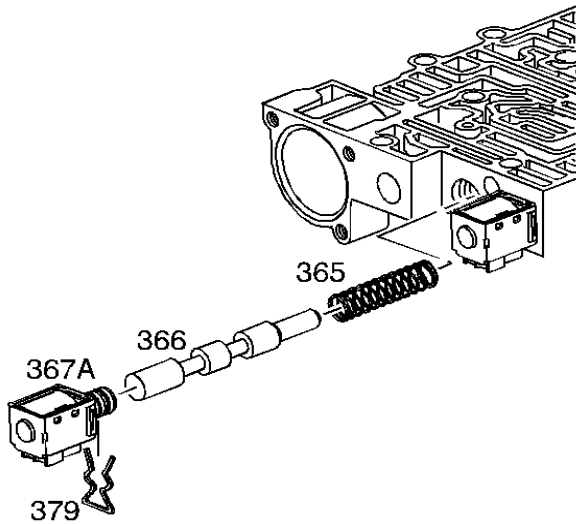
- A. The actuator feed limit valve spring (375)
- B. The bore plug (376)
- C. The bore plug retainer (395)
- D. The pressure control solenoid (377)
- E. The solenoid retainer (378)
- F. The solenoid retainer bolt (364)



416. Install the following items:
- . The 1-2 accumulator valve spring (370)
 - A. The 1-2 accumulator valve (371) in the 1-2 accumulator valve sleeve (372)
 - B. The 1-2 accumulator valve and sleeve assembly
 - C. The coiled spring pin (360)

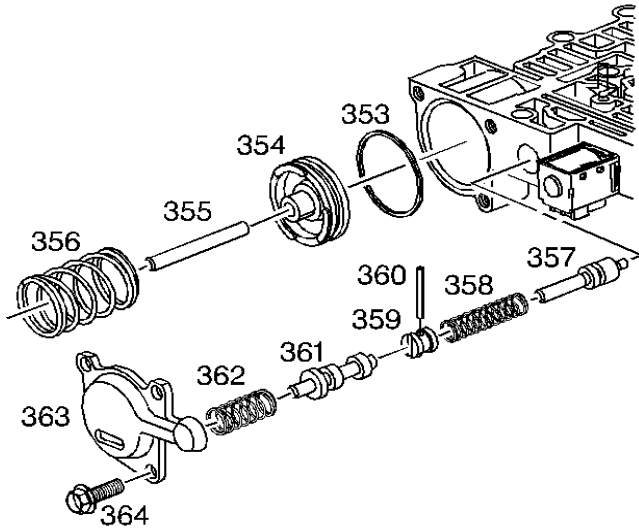


- 417.
- .
 - A.
 - B.
 - C.
- Install the following items:
- The 2-3 shift valve (368)
 - The 2-3 shuttle valve (369)
 - The 2-3 shift solenoid valve (367B)
 - The solenoid retainer (379)

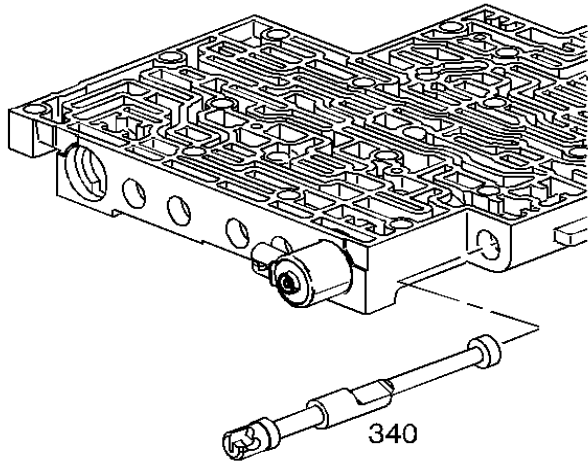


- 418.
- .
- Install the following items:
- Install the 1-2 shift valve spring (365)

- A. The 1-2 shift valve (366)
 B. The 1-2 shift solenoid valve (367A)
 C. The solenoid valve retainer

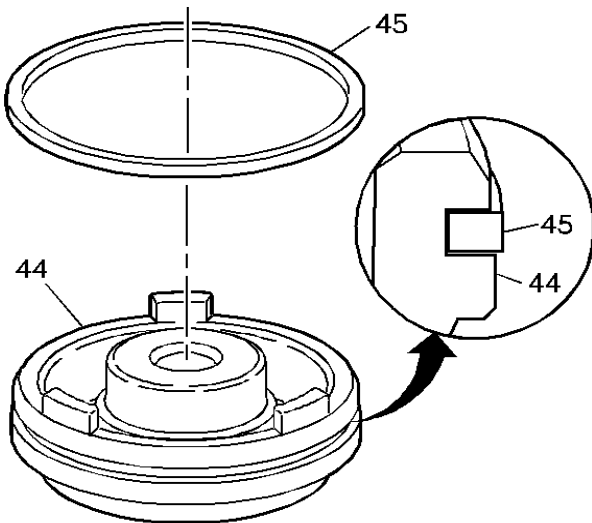


419. Install the following items:
 . The forward abuse valve (357)
 A. The forward abuse valve spring (358)
 B. The bore plug (359)
 C. The coiled spring pin (360)
 D. The low overrun valve (361)
 E. The low overrun valve spring (362)
420. Install the following items:
 . The forward accumulator oil seal (353) on the forward accumulator piston
 (354)
 A. The forward accumulator pin (355)
 B. The forward accumulator piston (354)
 C. The forward accumulator spring (356)
 D. The forward accumulator cover (363)
 E. The forward accumulator cover bolts (364)



421. Install the manual valve (340).

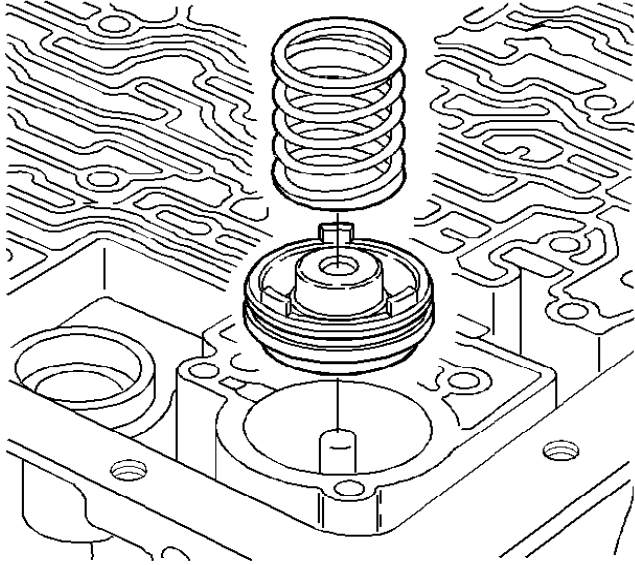
3-4 Accumulator Installation



422. Inspect the 3-4 accumulator piston (44) for the following conditions:

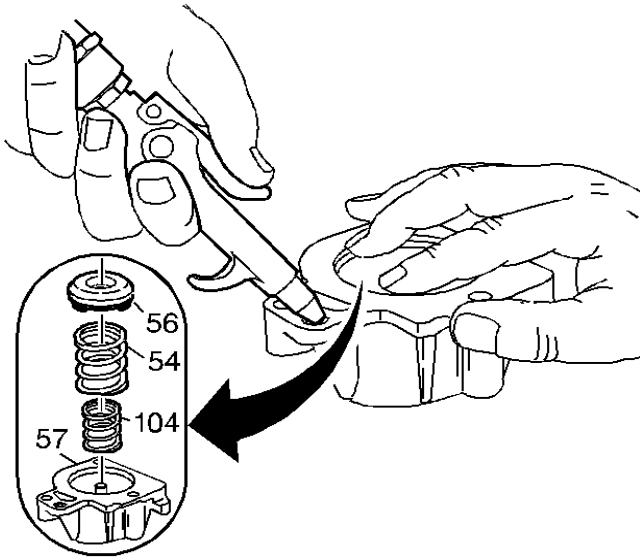
- Porosity
- Cracks
- Scoring
- Nicks and scratches

423. Install the 3-4 accumulator piston oil seal ring (45) on the 3-4 accumulator piston (44).



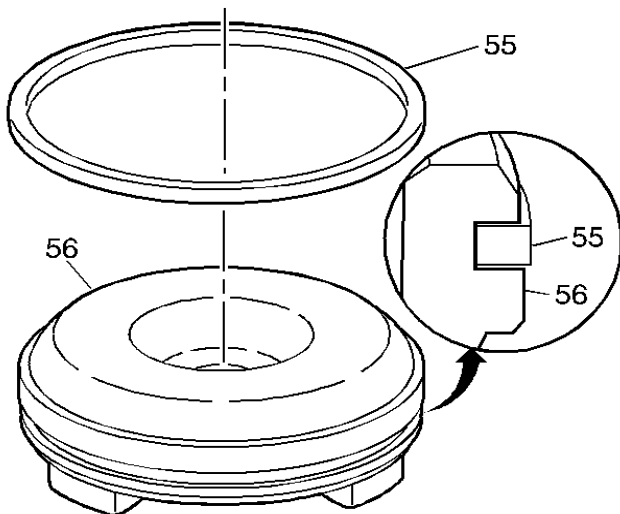
424. Install the 3-4 accumulator piston and seal assembly into the bore.
425. Inspect the 3-4 accumulator spring for cracks.
426. Install the 3-4 accumulator spring (model dependent).

1-2 Accumulator Disassemble

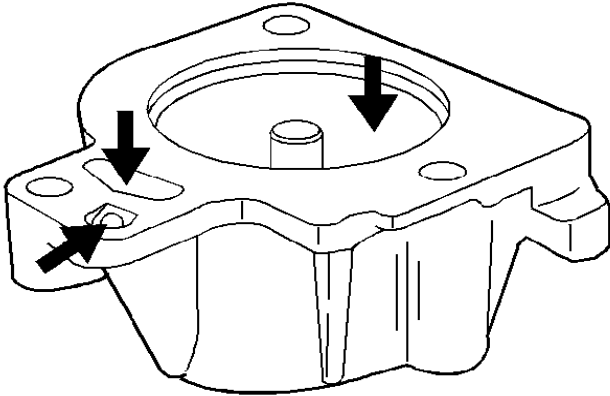


- 427. Blow air into the 1-2 accumulator housing (57) to remove the 1-2 accumulator piston (56).
- 428. Remove the 1-2 inner (104) and outer (54) accumulator springs.

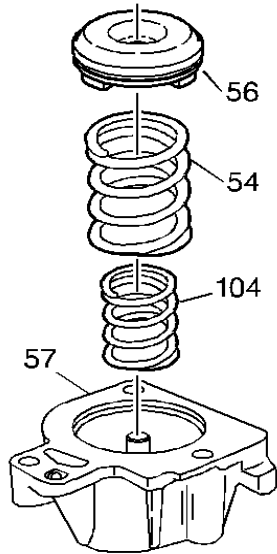
1-2 Accumulator Assemble



429. Inspect the 1-2 accumulator piston (56) for the following conditions:
- Porosity
 - Cracks
 - Scoring
 - Nicks and Scratches
430. Install a 1-2 accumulator piston oil seal ring (55) on the 1-2 accumulator piston (56).



431. Inspect the 1-2 accumulator housing for the following conditions:
- Porosity
 - Cracks
 - Scoring
 - Nicks and Scratches
 - Debris or blocked passages

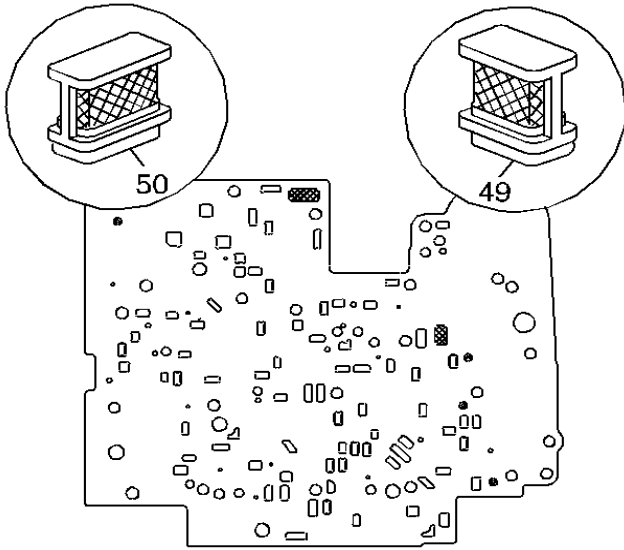


432. Install the 1-2 inner (104) and outer (54) accumulator springs.
433. Install the 1-2 accumulator piston (56).
-

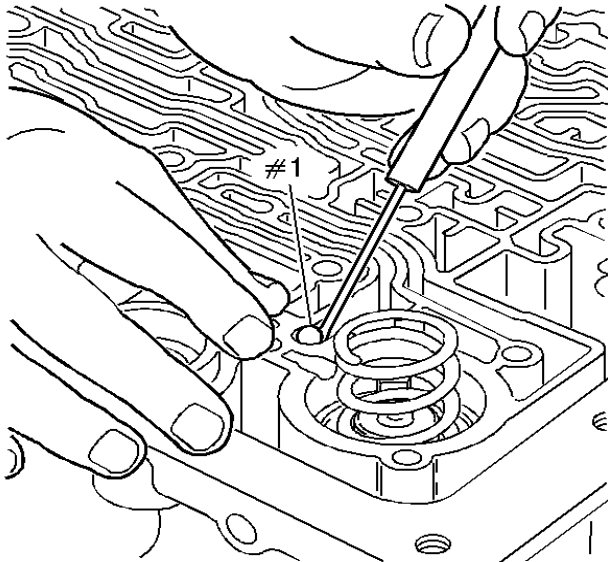
1-2 Accumulator Installation

Tools Required

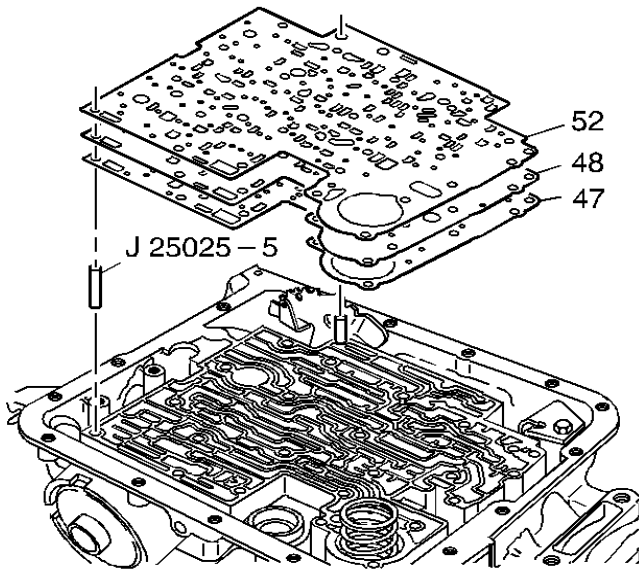
- [J 25025-5](#) Guide Pins
- [J 36850](#) Assembly Lubricant



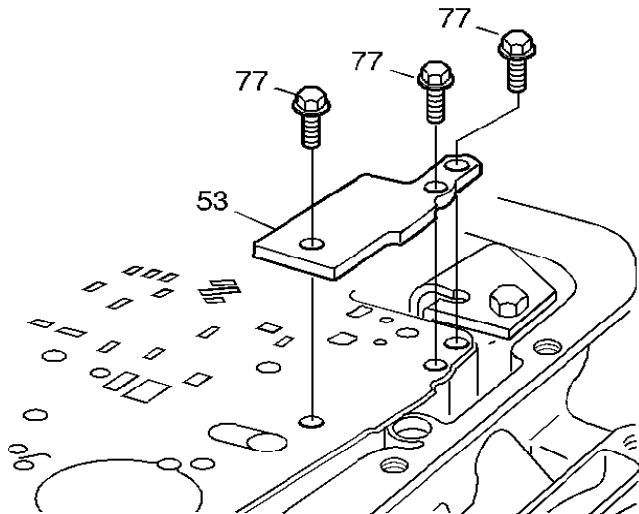
436. Inspect the valve body spacer plate and the solenoid screens (49, 50) for damage or debris. Replace the solenoid screens (49, 50) if necessary.



437. Install the #1 checkball into the case.

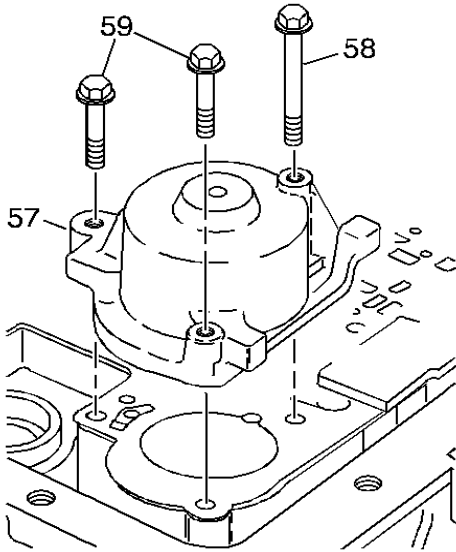


438. Install the [J 25025-5](#) into the case.
439. Place the spacer plate to case gasket (47) (identified by a "C") and the spacer plate to valve body gasket (52) (identified by a "V") on the spacer plate (48). Retain gaskets on the spacer plate with [J 36850](#) or equivalent.
440. Place the spacer and the spacer plate gaskets on the case.



441. Install the spacer plate support plate (53).

442. Install the spacer plate support bolts (77).



443. Install the 1-2 accumulator housing assembly (57).

Notice

Use the correct fastener in the correct location. Replacement fasteners must be the correct part number for that application. Fasteners requiring replacement or fasteners requiring the use of thread locking compound or sealant are identified in the service procedure. Do not use paints, lubricants, or corrosion inhibitors on fasteners or fastener joint surfaces unless specified. These coatings affect fastener torque and joint clamping force and may damage the fastener. Use the correct tightening sequence and specifications when installing fasteners in order to avoid damage to parts and systems.

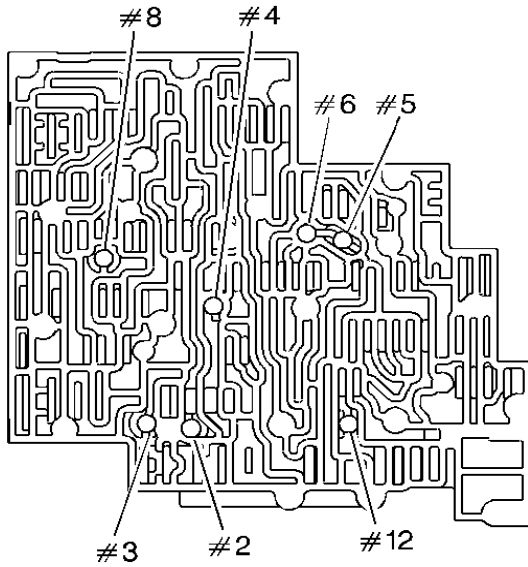
444. Install the 1-2 accumulator housing bolts (58, 59). **Tighten**

Tighten the bolts to 11 N·m (8 lb ft).

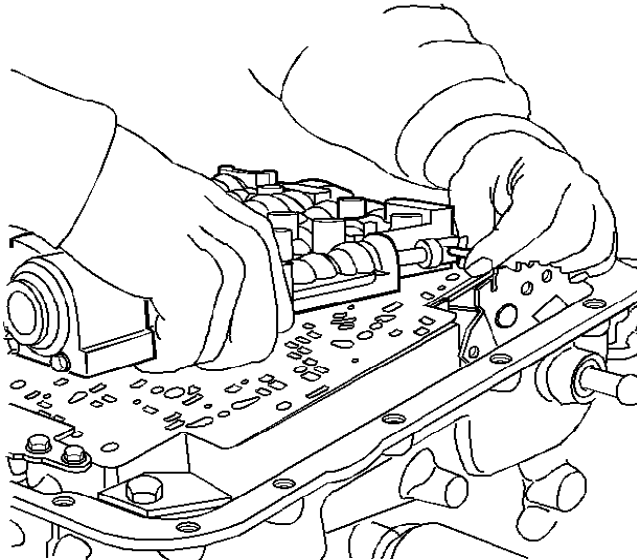
Control Valve Body Installation

Tools Required

J-25025-5 Guide Pins

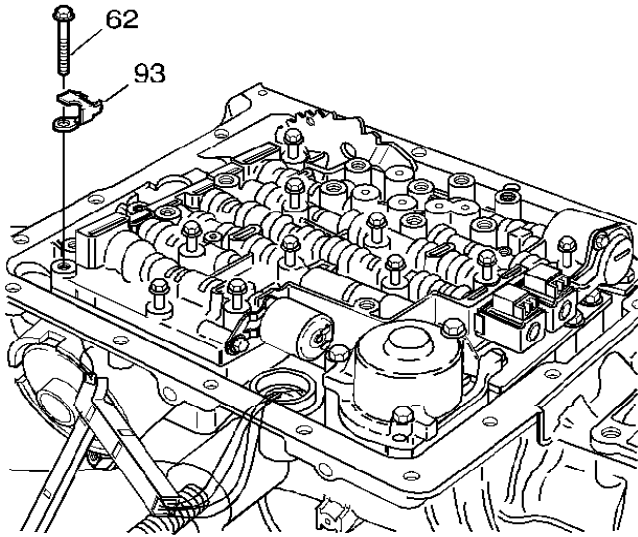


445. Install the checkballs (2-6, 8, 12) in the valve body and retain checkballs with Transjel® [J 36850](#) or an equivalent.



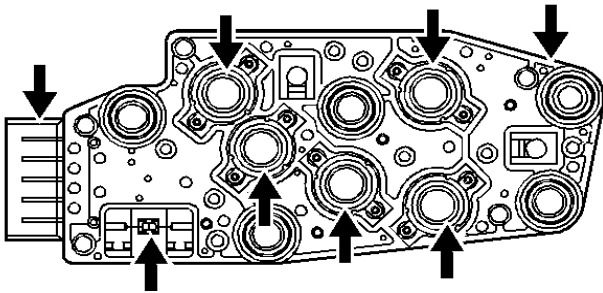
446. Install the valve body over the J-25025-5, and connect the manual valve link to the manual valve.
447. Install two bolts to hold the valve body in place.

448. Remove the J-25025-5.



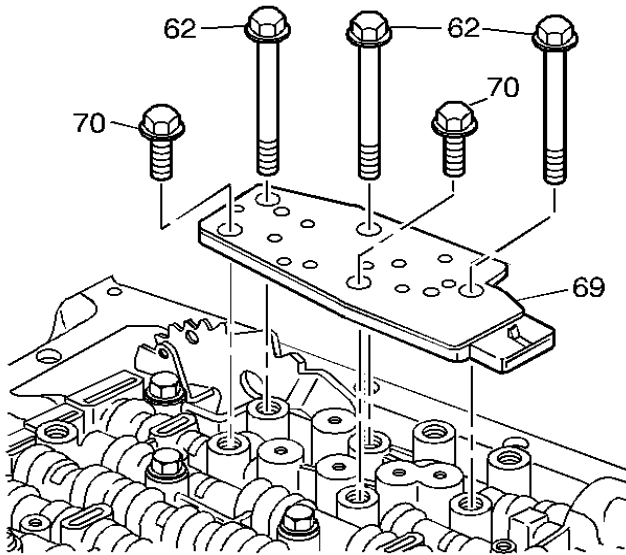
449. Install the fluid level indicator stop bracket (93) and the valve body bolts (62) that are shown only.

450. Finger tighten the bolts.

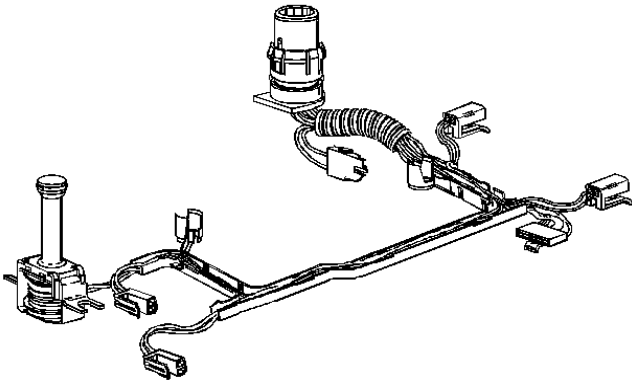


451. Inspect the Transmission Fluid Pressure Manual Valve Position Switch (TFP Val. Position Sw.) Assembly for the following conditions:

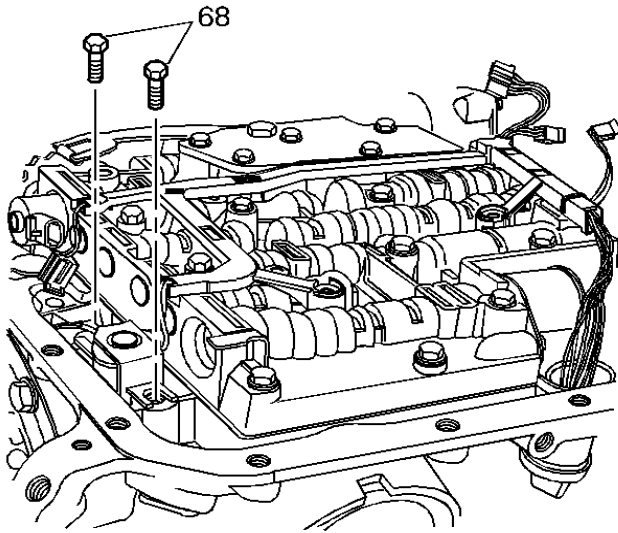
- Damage
- Debris
- Damaged or missing O-rings
- Cracked connector
- Loose pins



452. Install the TFP Val. Position Sw. (69) and bolts (62, 70).



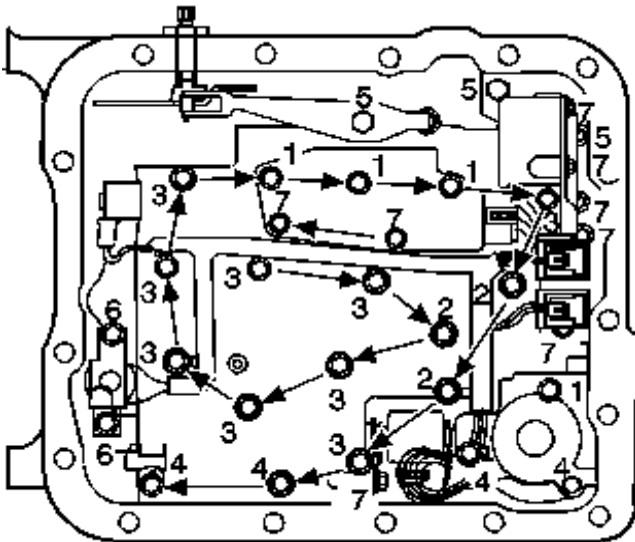
453. Inspect the wiring harness solenoid assembly for the following conditions:
- Damage
 - Cracked connectors
 - Exposed wires
 - Loose pins



454. Install the transmission wiring harness on the valve body.
 455. Install the TCC solenoid and bolts (68).

Important

You must tighten certain bolts in a spiral pattern as indicated by the arrows. If you tighten these bolts at random you may distort valve bores. This will inhibit valve operation.

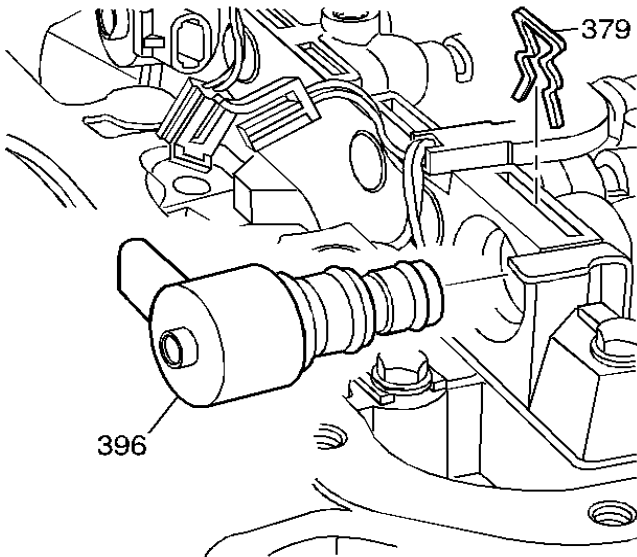


456. Tighten the bolts in the order shown. **Tighten**

Tighten the bolts to 11 N·m (8 lb ft).

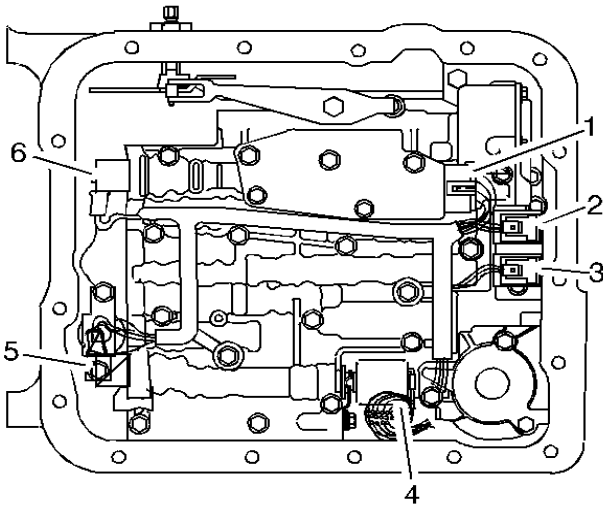
457. Refer to *Fastener Notice* . Each bolt number refers to a specific bolt size, as indicated by the following list:

- 1 -- M6 x 1.0 x 65.0
- 2 -- M6 x 1.0 x 54.4
- 3 -- M6 x 1.0 x 47.5
- 4 -- M6 x 1.0 x 35.0
- 5 -- M8 x 1.25 x 20.0
- 6 -- M6 x 1.0 x 12.0
- 7 -- M6 x 1.0 x 18.0



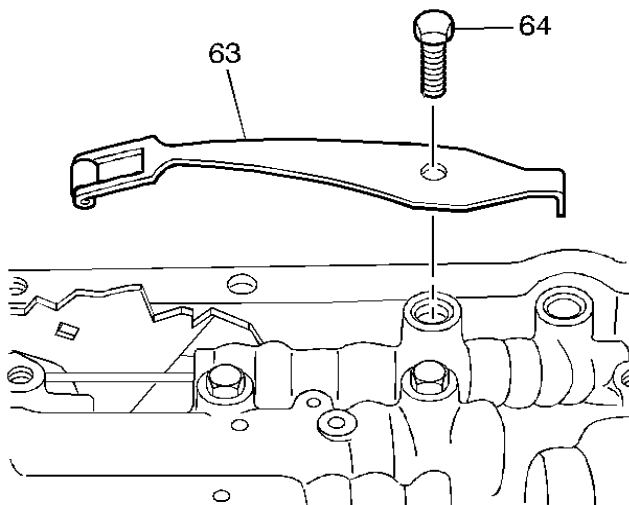
458. Install the TCC PWM solenoid (396) and the solenoid retainer (379).

Wiring Harness Connection



Connect all electrical connectors (1-6) to the electrical components.

Manual Detent Spring Installation



459. Inspect the manual detent spring assembly (63) for cracks or damage.

460. Install the manual detent spring assembly (63).

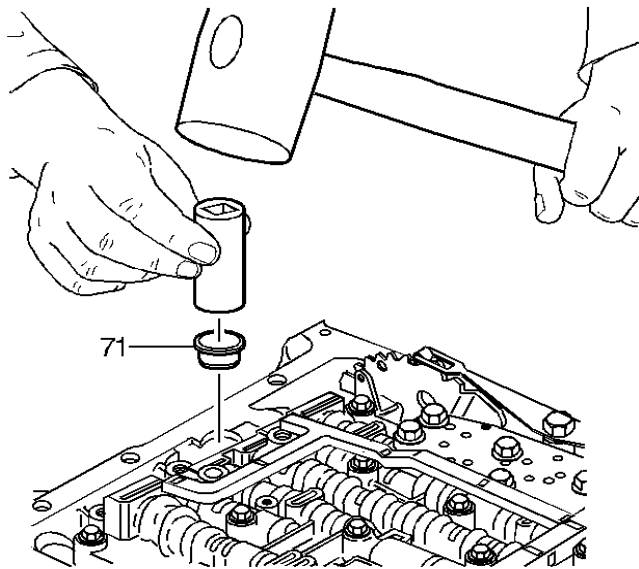
Notice

Use the correct fastener in the correct location. Replacement fasteners must be the correct part number for that application. Fasteners requiring replacement or fasteners requiring the use of thread locking compound or sealant are identified in the service procedure. Do not use paints, lubricants, or corrosion inhibitors on fasteners or fastener joint surfaces unless specified. These coatings affect fastener torque and joint clamping force and may damage the fastener. Use the correct tightening sequence and specifications when installing fasteners in order to avoid damage to parts and systems.

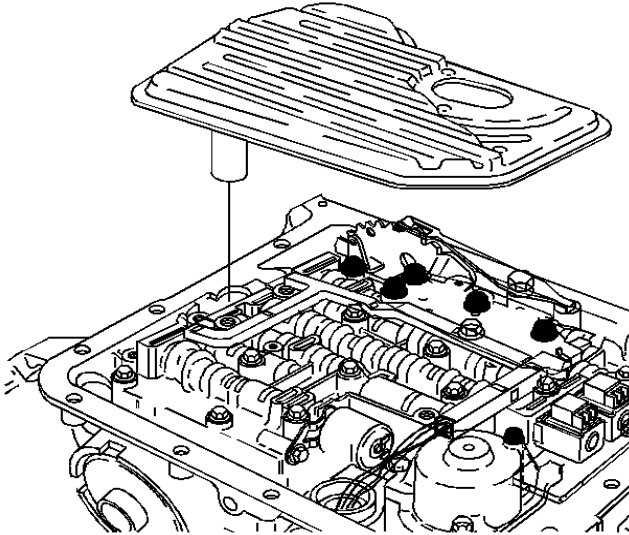
461. Install the manual detent spring bolt (64). **Tighten**

Tighten the bolt to 20-27 N·m (15-20 lb ft).

Oil Filter Assembly Installation



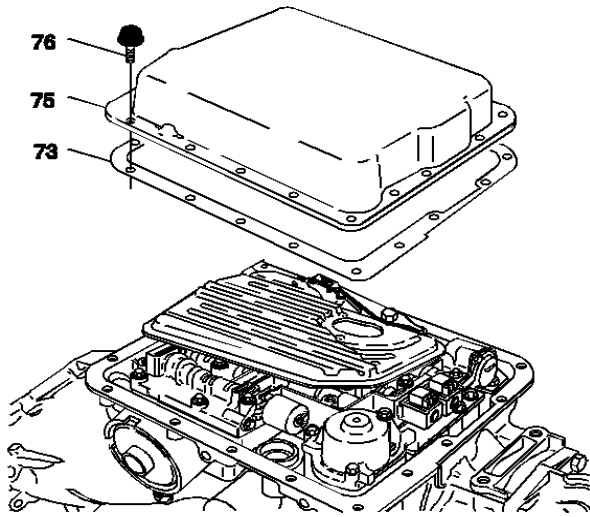
462. Use a socket the same size diameter as the seal and install the filter.



463. Install the transmission oil filter assembly.

Transmission Oil Pan Installation

[Installation Procedure](#)



- 464. Place the transmission oil pan gasket on the case.
- 465. Place the transmission oil pan on the case.
- 466. Install all of the transmission oil pan screws. **Tighten**

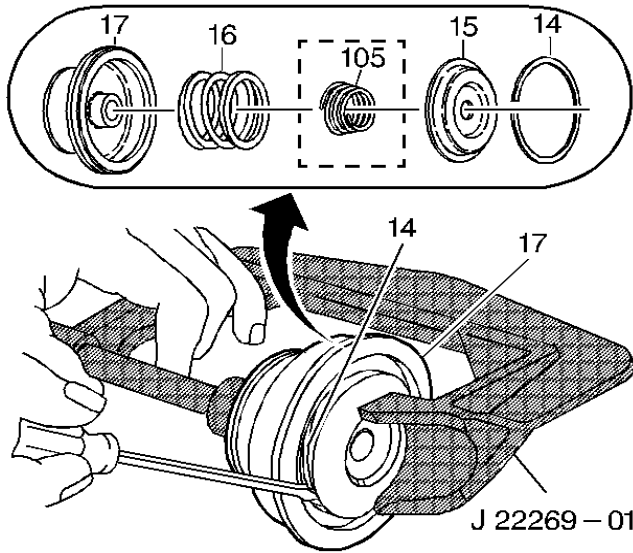
Tighten the screws to 12 N·m (9 lb ft).

- 467. Refer to *Fastener Notice* .

2-4 Servo Disassemble

Tools Required

[J 22269-01](#) Accumulator and Servo Piston Remover

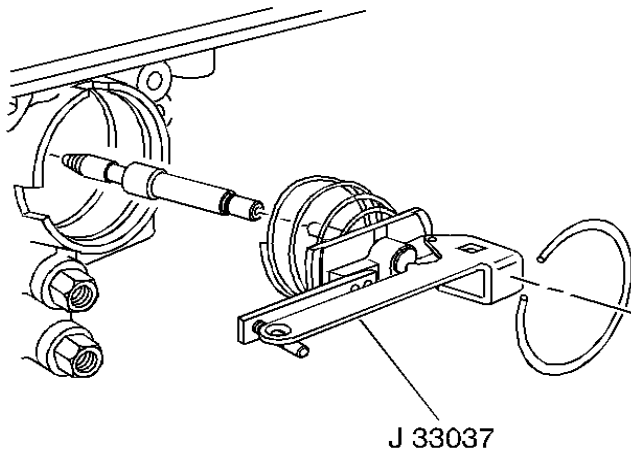


468. Use a [J 22269-01](#) to compress the second apply piston assembly (17).
 469. Remove the second apply piston retaining ring (14).
 470. Remove the servo cushion spring retainer (15), the servo cushion outer spring (16) and the servo cushion inner spring (105) (model dependent).

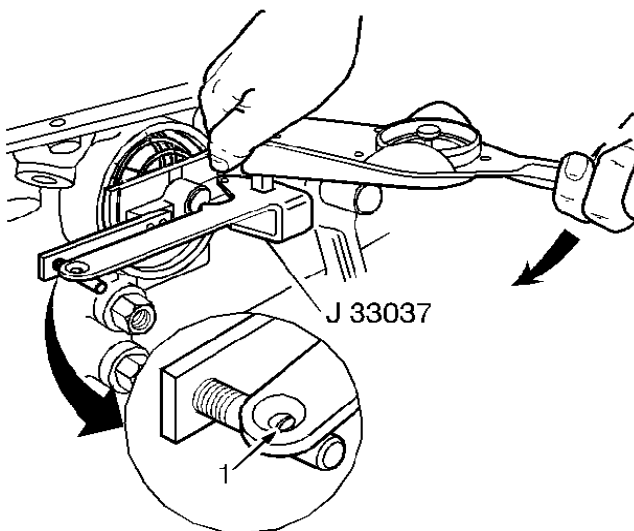
2-4 Servo Pin Length Check

Tools Required

[J 33037](#) 2-4 Band Apply Pin Tool



471. Install the band apply pin and the [J 33037](#) .
 472. Install the servo cover retaining ring to secure the tool.

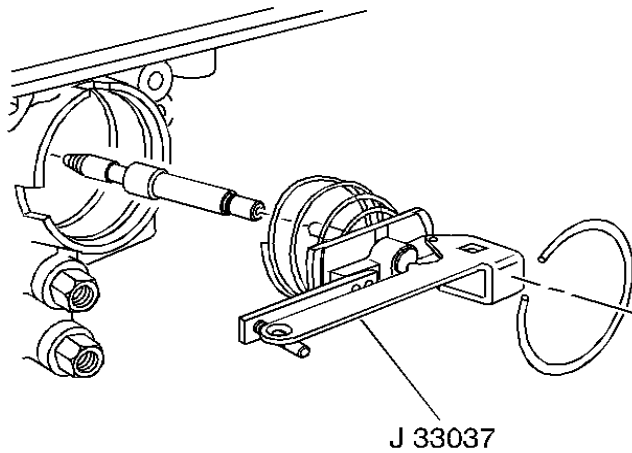


473. Apply 11 N·m (98 lb in) torque. If the white line appears in the gage slot (1), the pin length is correct.
 474. If a new pin is needed, refer to *2-4 Servo Pin Selection* in order to determine the correct pin length.

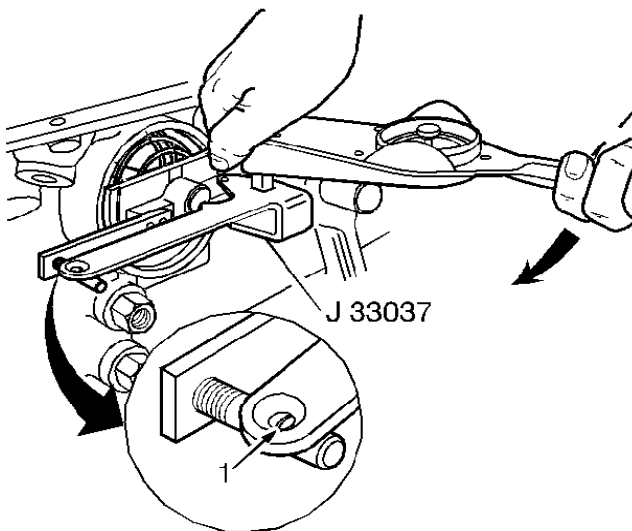
2-4 Servo Pin Length Check

Tools Required

[J 33037](#) 2-4 Band Apply Pin Tool

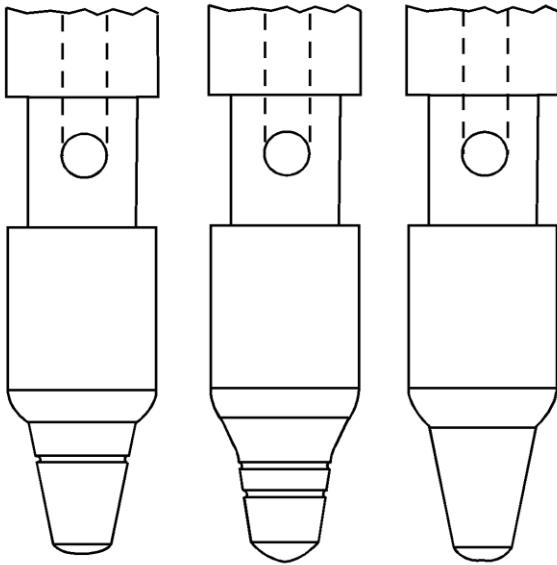


475. Install the band apply pin and the [J 33037](#) .
476. Install the servo cover retaining ring to secure the tool.



477. Apply 11 N·m (98 lb in) torque. If the white line appears in the gage slot (1), the pin length is correct.
478. If a new pin is needed, refer to *2-4 Servo Pin Selection* in order to determine the correct pin length.

2-4 Servo Pin Selection



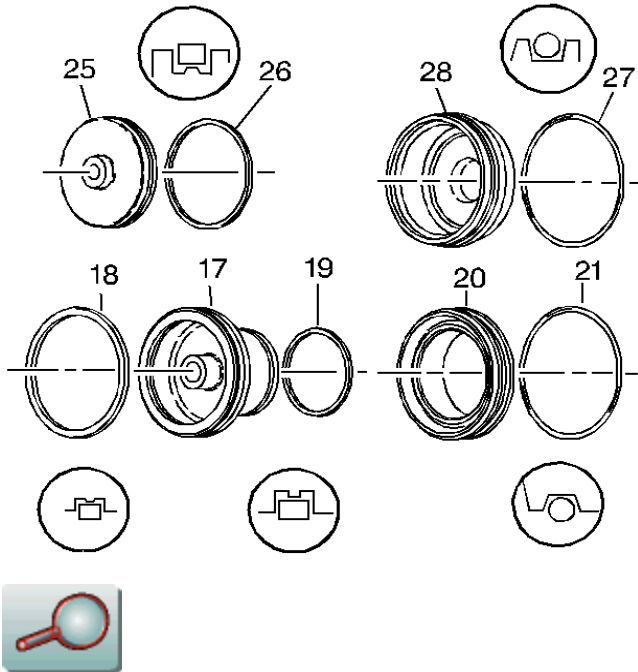
<u>2-4 Servo Pin Selection</u>		Pin Identification
Pin Length		
mm	inch	
65.82-66.12	2.59-2.60	1 Groove
67.23-67.53	2.65-2.66	2 Grooves
68.64-68.94	2.70-2.71	No Groove

2-4 Servo Assembly Installation

Installation Procedure

Tools Required

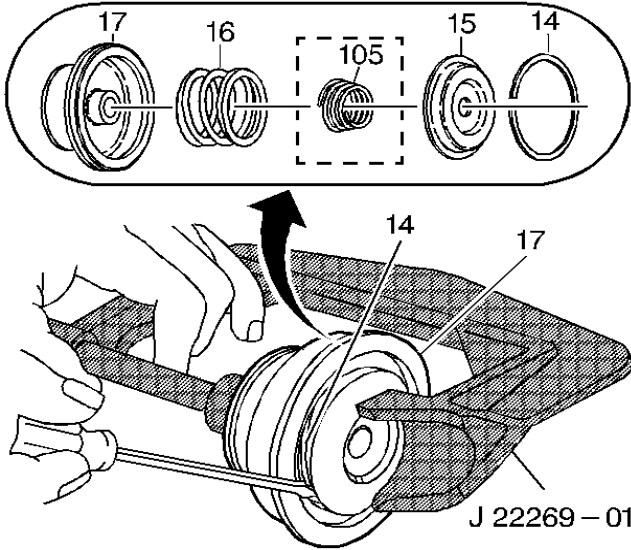
- [J 22269-01](#) Piston Remover
- [J 29714-A](#) Servo Cover Compressor



481. Inspect the 4th apply piston, 2-4 servo converter, 2nd apply piston, and servo piston inner housing for the following defects:

- Cracks
- Scoring
- Burrs and nicks

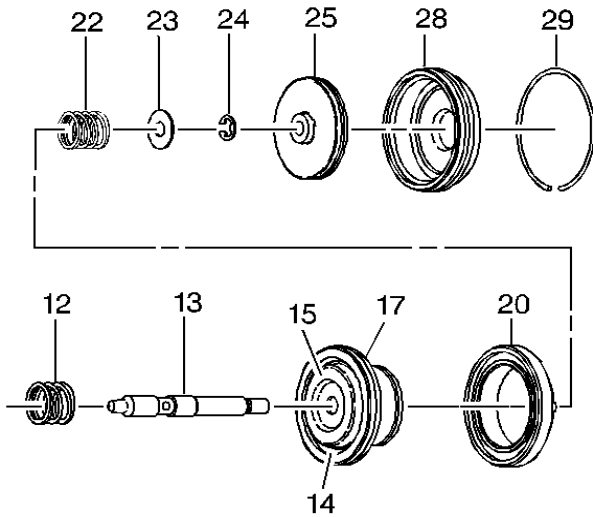
482. Install seals on all the servo piston and the servo cover.



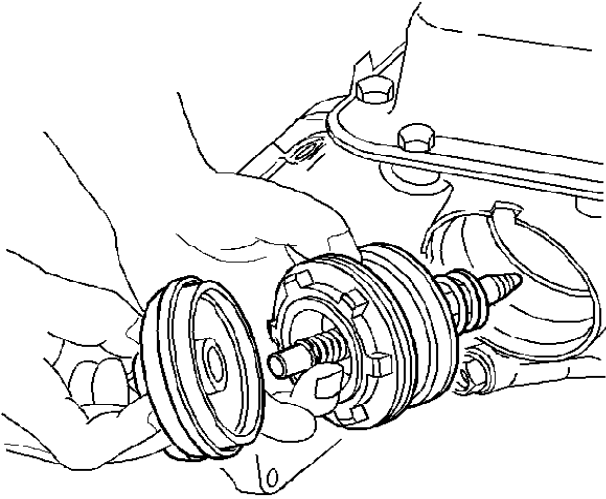
483. Install the servo cushion spring and the cushion spring retainer in the 2nd apply piston.

484. Use a piston compressor and compress the second apply piston.

485. Install the second apply piston retaining ring.

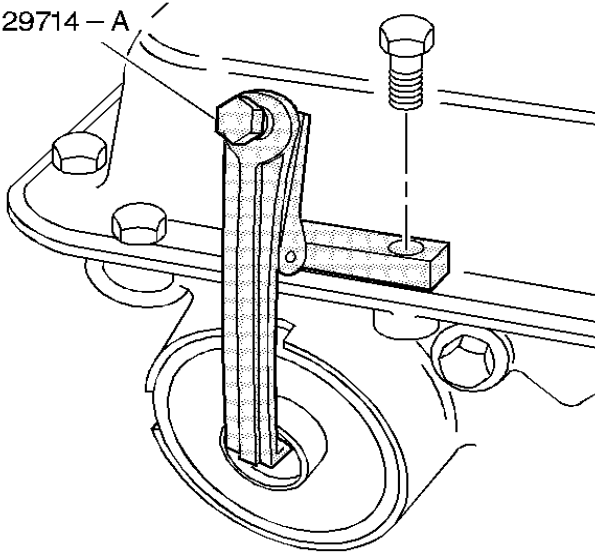


486. Assemble the 2-4 servo components.

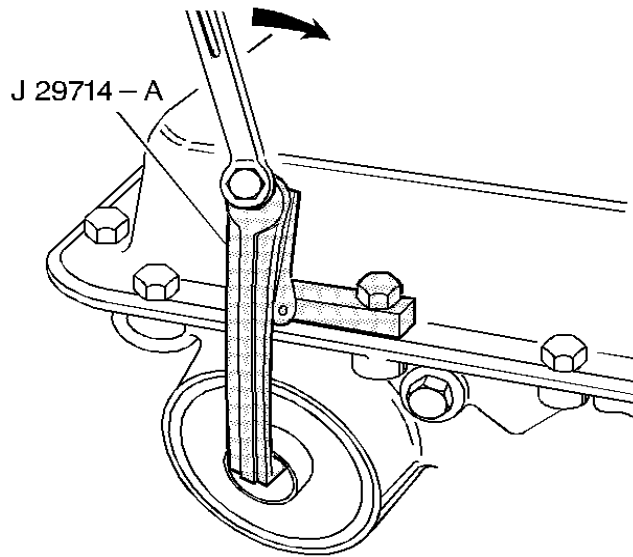


487. Install the 2-4 servo assembly into the 2-4 servo bore.

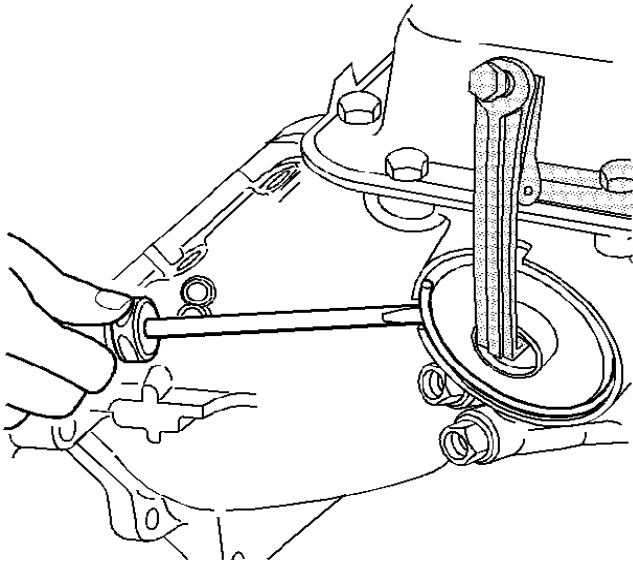
J 29714 - A



488. Install the servo cover compressor.



489. Tighten the bolt in order to compress the servo cover.



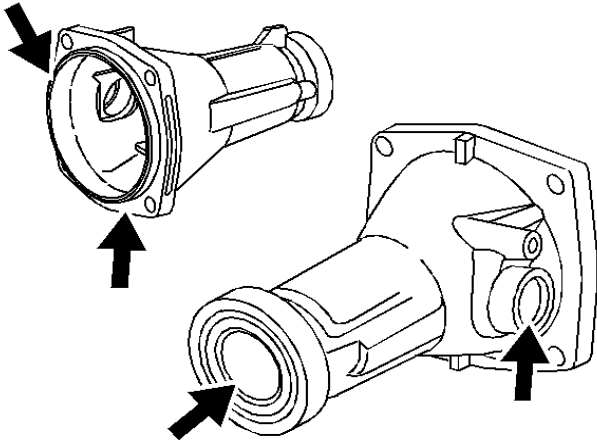
490. Install the servo cover retaining ring.

Case Extension Bushing Replacement

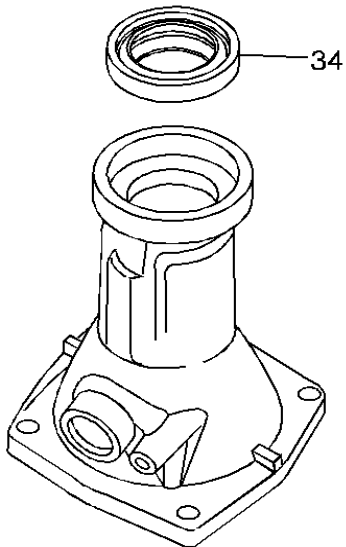
Tools Required

- [J 8092](#) Driver Handle

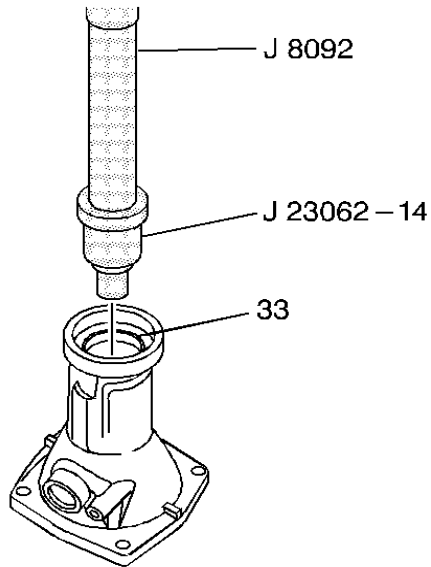
- [J 23062-14](#) Bushing Remover
- [J 34196-B](#) Bushing Set



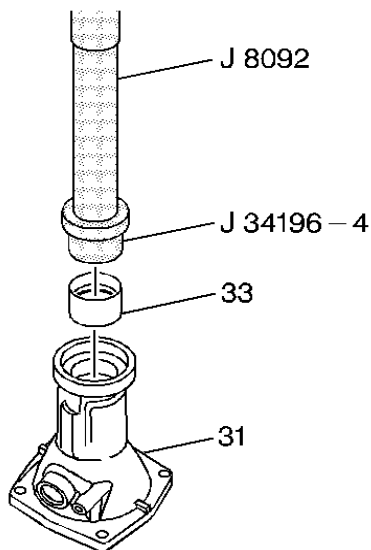
494. Inspect the case extension for the following defects:
- Nicks
 - Burrs
 - Worn bushings



495. Remove the case extension oil assembly.



496. Remove the case extension bushing.

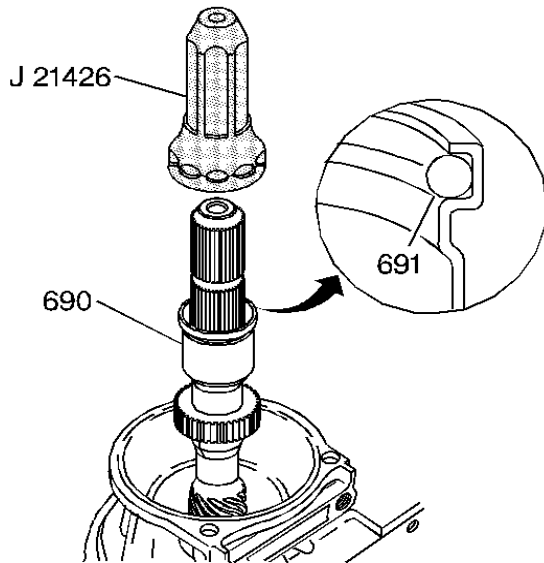


497. Install a case extension bushing.

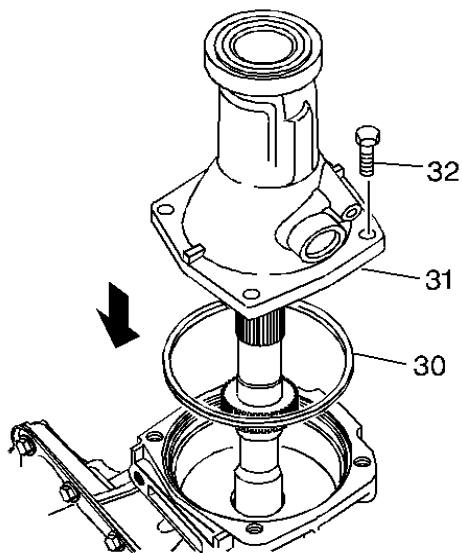
Speed Sensor and Case Extension Installation

Tools Required

[J 21426](#) Rear Seal Installer



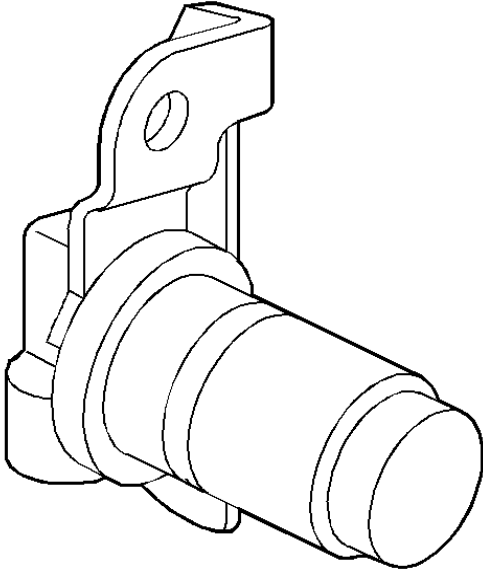
498. Install an output shaft sleeve and an output shaft seal. Do not push the sleeve past the machined surface on the output shaft.



499. Install the case extension to case seal and the case extension.
500. Install the case extension to case bolts. **Tighten**

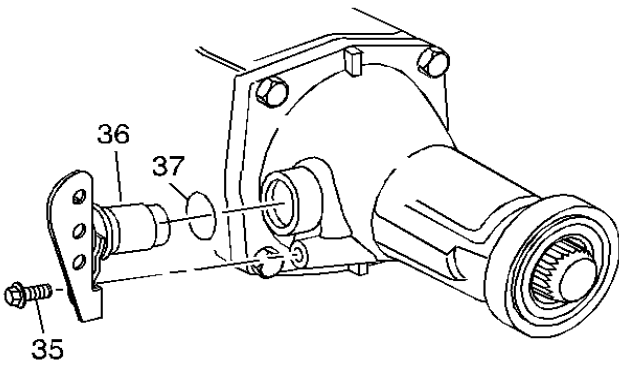
Tighten the bolts to 35 N·m (26 lb ft).

501. Refer to *Fastener Notice* .



502. Inspect the internal transmission speed sensor for the following defects:

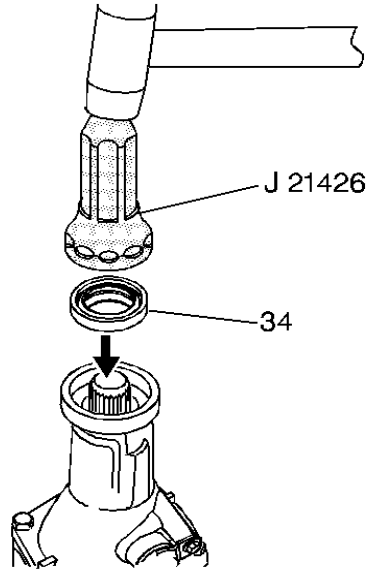
- Cracks
- Nicks
- Damage



503. Install the internal transmission speed sensor. **Tighten**

Tighten the bolt to 11 N·m (8 lb ft).

504. Refer to *Fastener Notice* .

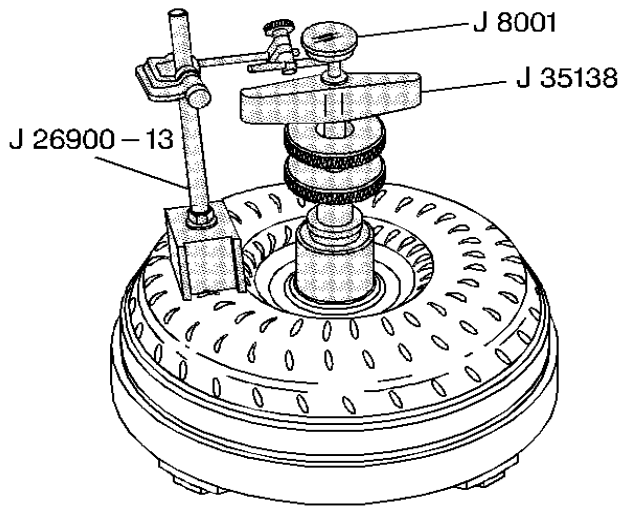


505. Install the case extension oil seal assembly.

Torque Converter End Play Inspection

Tools Required

- [J 8001](#) Dial Indicator Set
- [J 26900-13](#) Magnetic Indicator Base
- [J 35138](#) Converter End Play Checker
- [J 39195](#) Converter End Play Check Tool



510. Inspect the torque converter and replace if any of the following conditions exist:
- Evidence of damage to the pump assembly.
 - Metal particles are found after flushing the cooler and cooler lines.
 - External leaks in the hub area.
 - Converter pilot is broken, damaged or poor fit into the crankshaft.
 - Converter hub is scored or damaged.
 - Internal damage to the stator.
 - Contamination from engine coolant.
 - Excessive end play.

Important

The torque converter should not be replaced if the fluid has an odor, discoloration or no evidence of metal or clutch plate material.

Flushing the torque converter is not recommended.

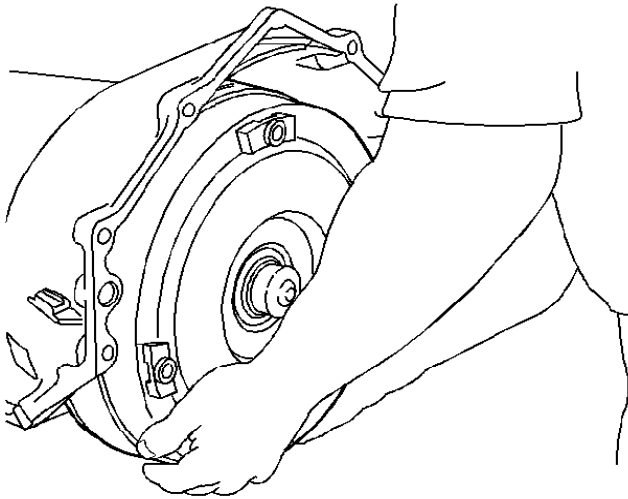
511. Install the [J 35138](#), the [J 26900-13](#) and the [J 8001](#) or [J 39195](#) to be used with the 300 mm torque converter. **Specification**
- The end play for a 245 mm torque converter should be 0-0.38 mm (0-0.015 in).
 - The end play for a 298 mm torque converter should be 0.1-0.48 mm (0.004-0.019 in).
 - The end play for a 258 mm and 300 mm torque converter should be 0.1-0.5 mm (0.004-0.020 in).
512. Remove the tools.

Torque Converter Installation

Installation Procedure

Tools Required

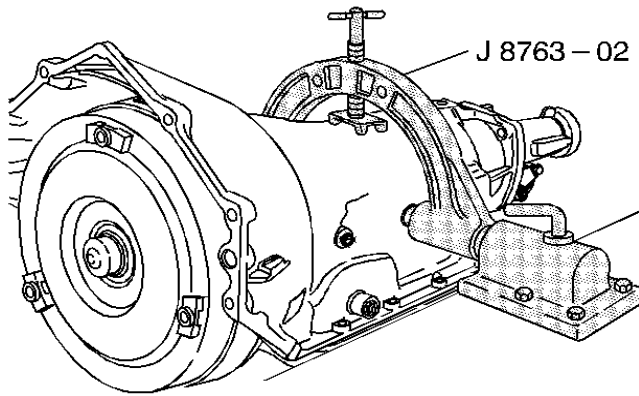
- [J 8763-02](#) Holding Fixture and Base
- [J 21366](#) Converter Holding Strap



515. Install the torque converter.
516. Install the [J 21366](#).

Holding Fixture Removal

Removal Procedure



Remove the transmission from the transmission holding fixture.