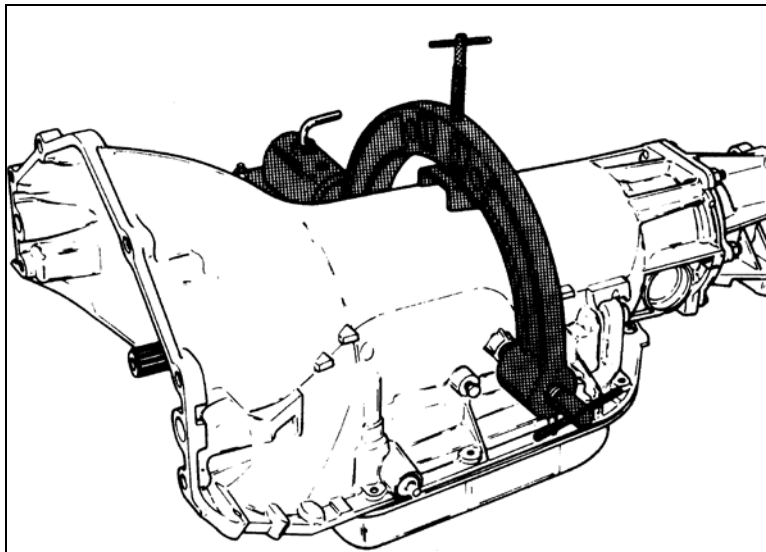


## **THIS IS AN EARLY EDITION OF TH400 DISASSEMBLY PROCEDURES**

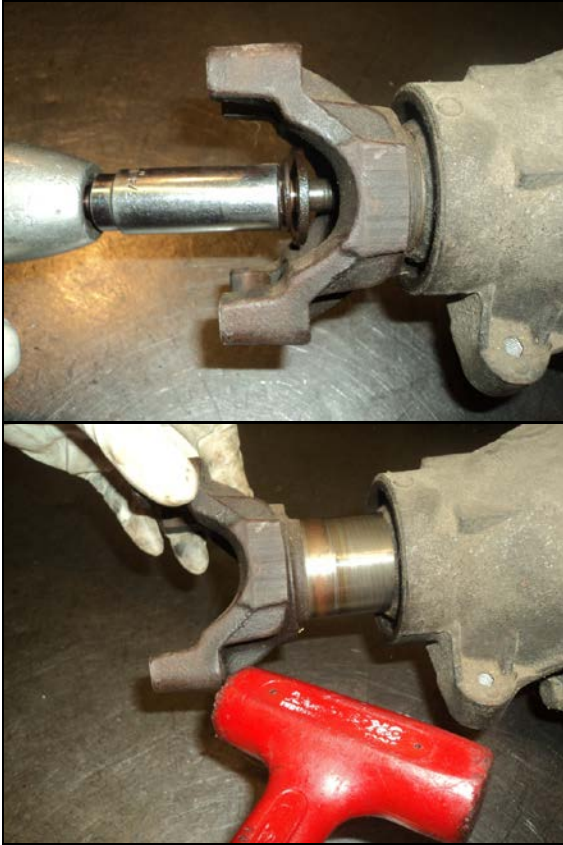
The transmission may be mounted in a specialized holding fixture during the disassembly process. See Figure 2-1. In most cases, it is easier to disassemble the transmission on the bench top. The use of the holding fixture is best reserved for final assembly or when performing services that do not require a complete teardown of the transmission. When using the holding fixture, do not over-tighten the holding screws.



**FIGURE 2-1**

**GM**

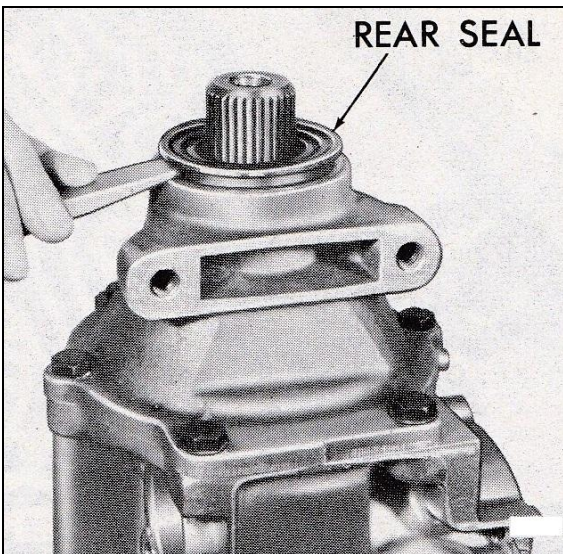
Vehicles equipt with a two piece drive shaft assembly utilize a bolt on yoke. If present, remove the bolt that fastens the yoke to the output shaft and remove the yoke. If the yoke is stubborn, use a rubber mallet or ball peen hammer to aid in its removal. See Figures 2-2 and 2-3. Note that some heavy duty truck models are fitted with a parking brake assembly. If present, remove it at this time.



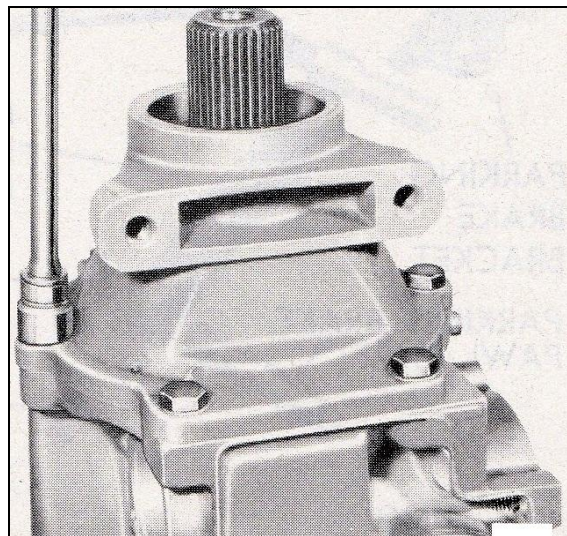
**FIGURE 2-2**

**FIGURE 2-3**

Remove the rear seal (26) from the extension housing (27). See Figure 2-4. Avoid damaging or gouging the seal bore in the housing. Seal removal is easier while the extension housing is still bolted to the transmission case. If the transmission mount is still attached to the extension housing, remove it at this time. Remove the six extension housing to case bolts (23). See Figure 2-5.

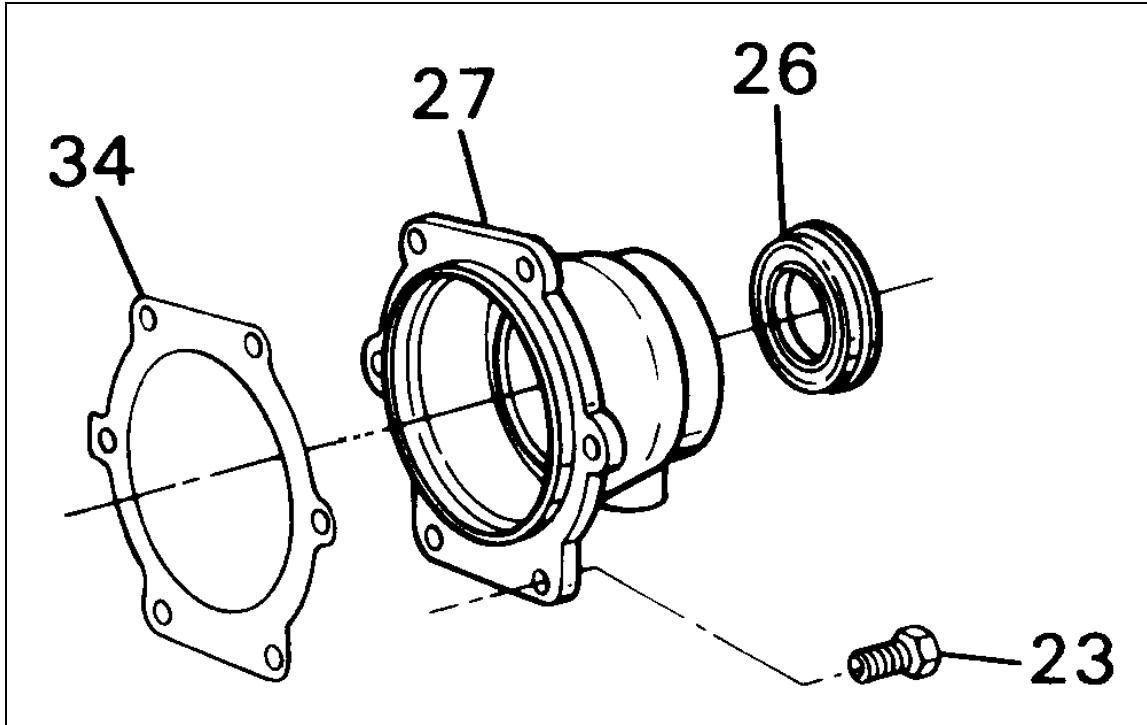


**FIGURE 2-4**



**GM FIGURE 2-5**

**GM**



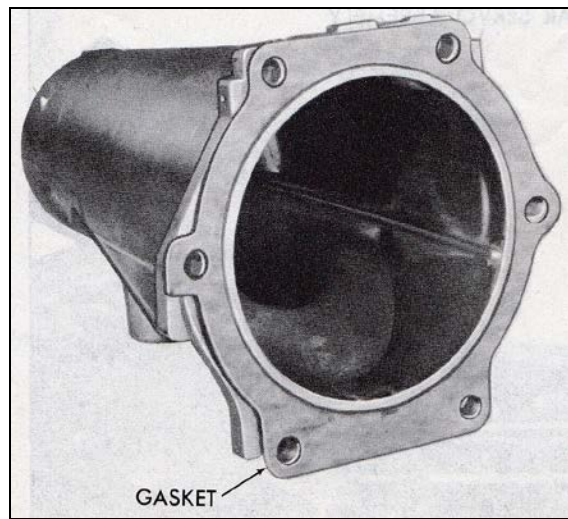
**EXTENSION HOUSING AND RELATED COMPONENTS**

**GM**

Remove the extension housing from the transmission case. See Figure 2-6. There are several different types of extension housings in use. Four wheel drive models use a specialized extension housing to attach the transfer case to the rear of the transmission. Remove and discard the extension housing to case gasket (34). See Figure 2-7. 1964 thru 1966 models use an o-ring seal instead of a gasket at this location. If present, remove and discard.



**FIGURE 2-6**



**FIGURE 2-7**

**GM**

Remove the speedometer housing retainer bolt (83) and the speedometer housing retainer from the transmission case. See Figure 2-8. Remove the speedometer driven gear assembly from the transmission case. See Figure 2-9. Note that some models may be fitted with a speed sensor assembly (81) instead of the speedometer driven gear assembly. If present, remove the sensor by pulling it straight out of the case. DO NOT twist the sensor when removing it as it may become damaged from contact with the speed sensor rotor. Four wheel drive vehicles are not equipped with a speedometer or speed sensor assembly at this location.

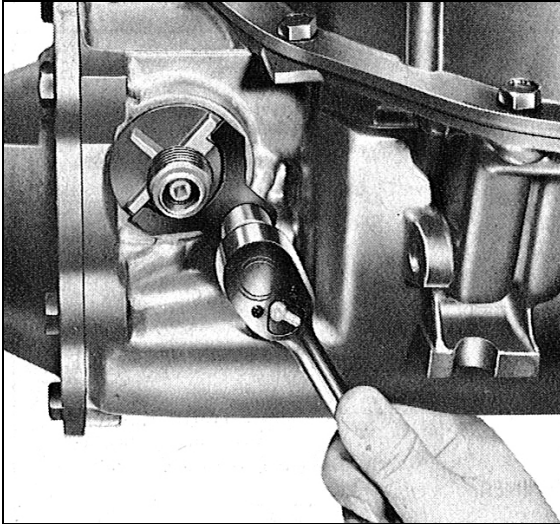
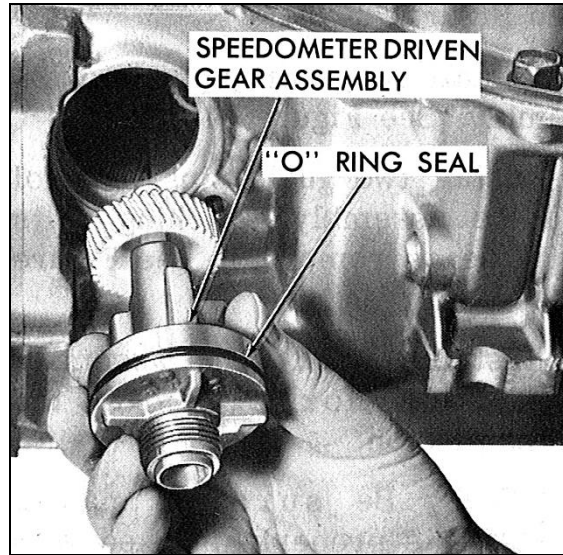


FIGURE 2-8



GM FIGURE 2-9

GM

Remove the four governor cover to case bolts (19). See Figure 2-10. Remove the governor cover (20) and discard the governor cover to case gasket (21). Remove the governor assembly (22) from the case. See Figure 2-11. Note that modified transmissions may not use a governor assembly.

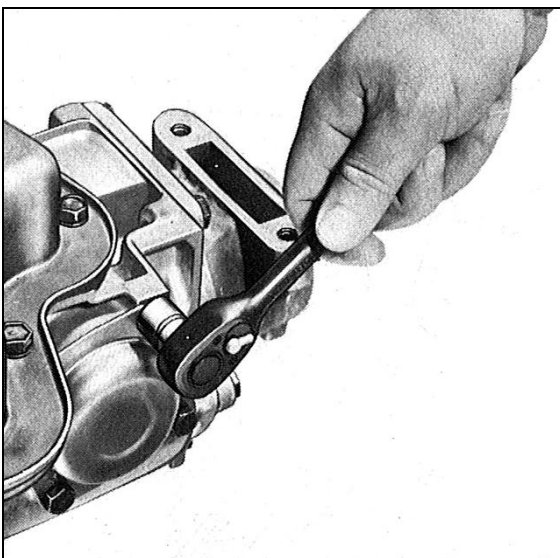
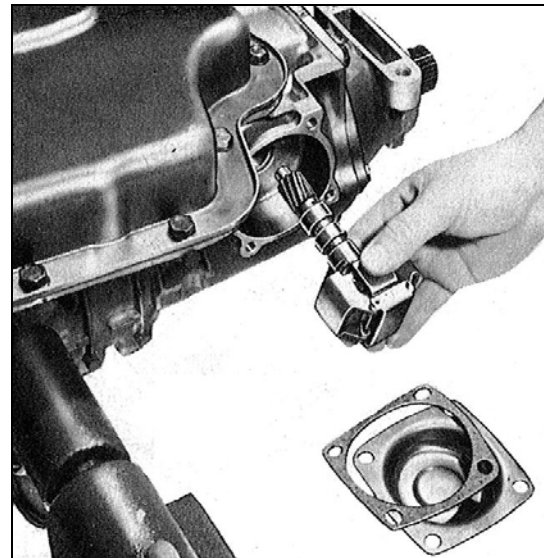
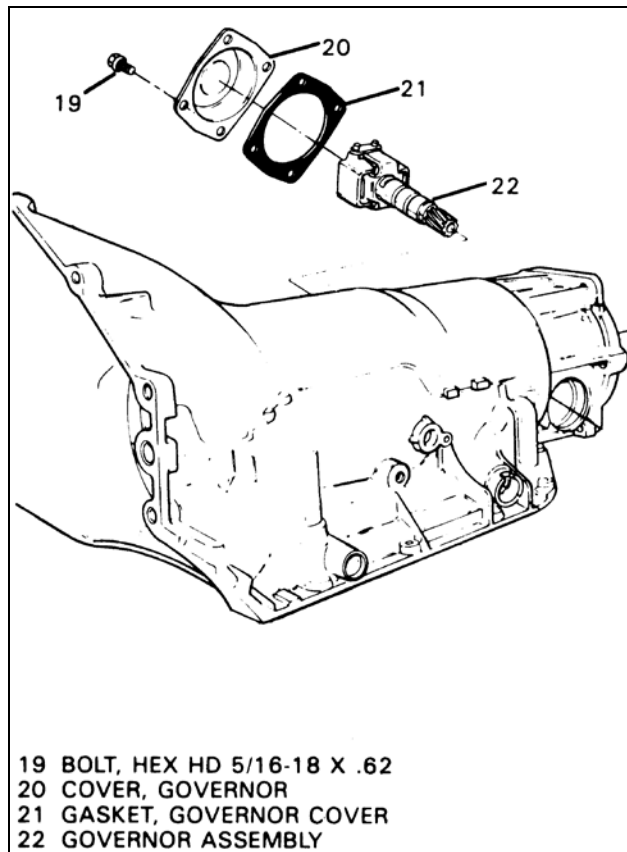


FIGURE 2-10

GM FIGURE 2-11



GM



#### GOVERNOR COMPONENTS

GM

Remove the modulator retainer bolt (11) and modulator retainer (12) from the transmission case. See Figure 2-12. Remove the vacuum modulator assembly (13) from the transmission case. See Figure 2-13. Note that modified transmissions may not use a modulator assembly. Use a magnet to remove the vacuum modulator valve (15) from the case bore. Remove and discard the o-ring. (14). See Figure 2-14. Note that Jeep models use different modulator components. Refer to Figure 2-15 for disassembly.

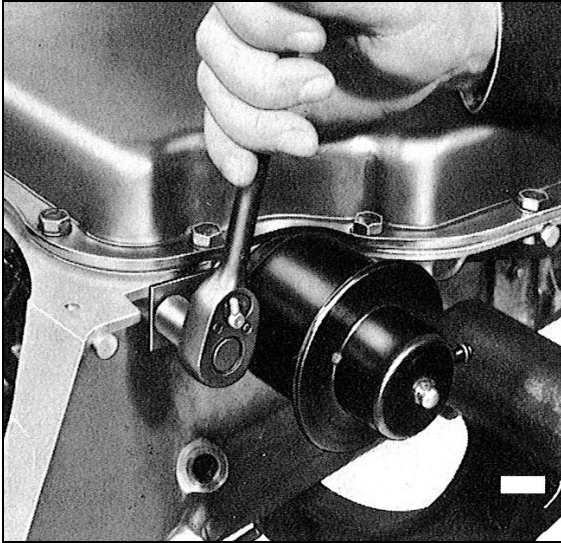
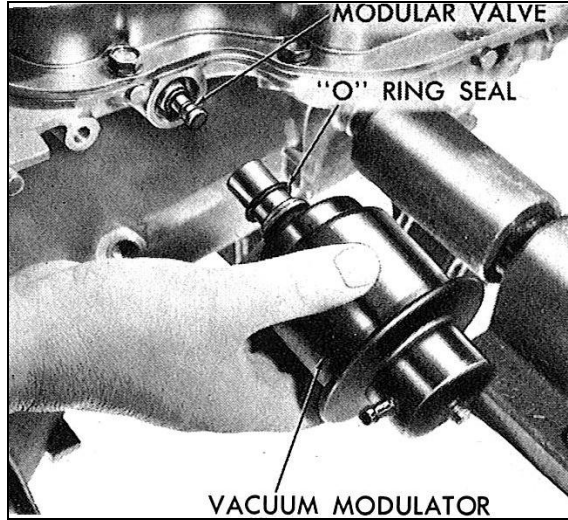


FIGURE 2-12



GM FIGURE 2-13

GM

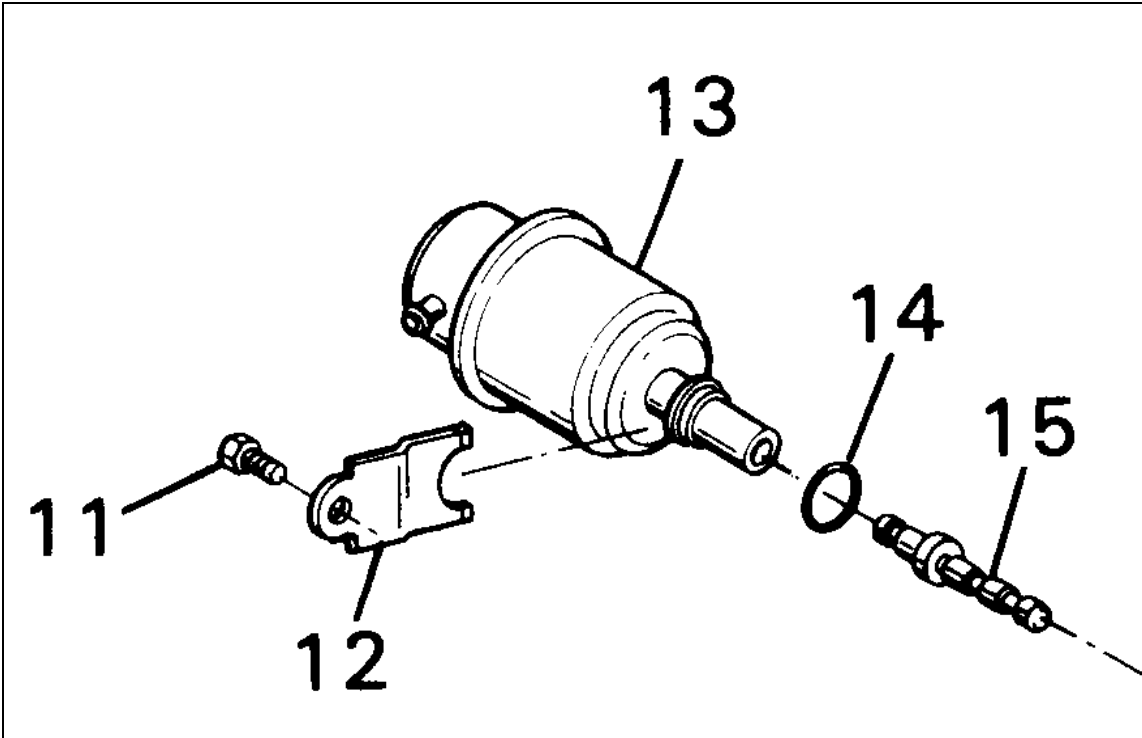
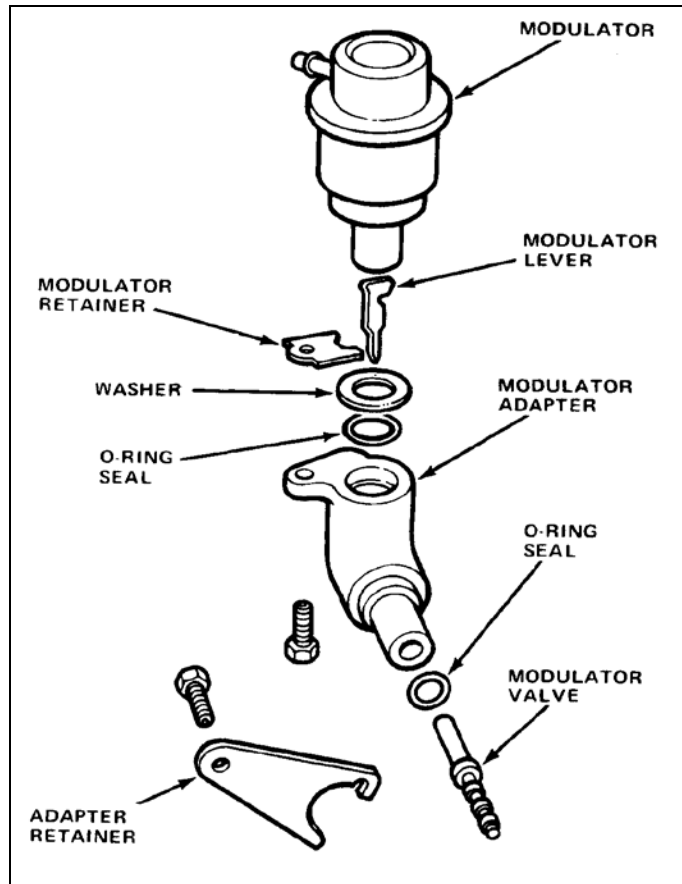


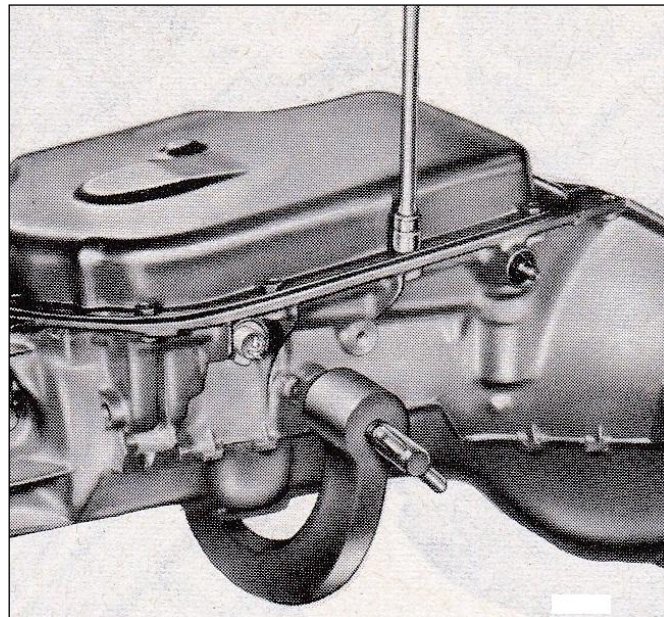
FIGURE 2-14 VACUUM MODULATOR AND RELATED COMPONENTS GM



**FIGURE 2-15**

**AMC/JEEP**

**Remove 13 bolts (37) that retain the oil pan (38) to the case. Note the heel print at the rear of the pan, designating a 1964 to 1967 model TH400. See Figure 2-16.**



**FIGURE 2-16**

**GM**

Remove the oil pan and remove and discard the oil pan gasket (39). On 1968 and later models remove the filter to valve body shoulder bolt (41). If the transmission is equipped with a deep pan, be sure to collect the valve body to filter spacer (43). See Figure 2-17.

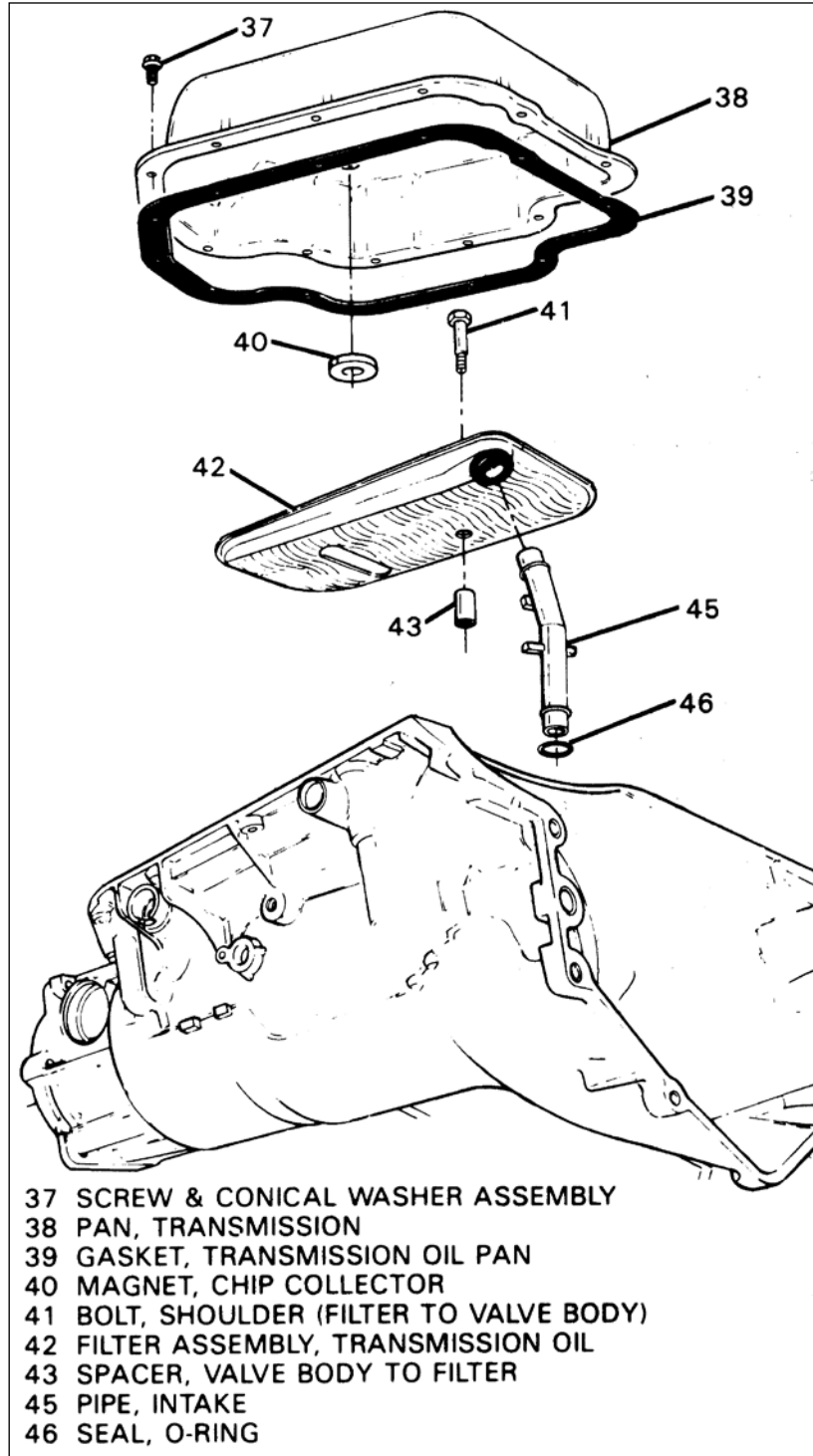


FIGURE 2-17

GM



Remove and discard the filter (42), and remove the intake pipe (45). Remove and discard the o-ring seal (46) from the case end of the intake pipe. See Figure 2-18. If the o-ring is not present on the pipe, you will find it in the pipe bore in the case. 1964 to 1967 models use a one piece filter assembly as shown in Figure 2-19.

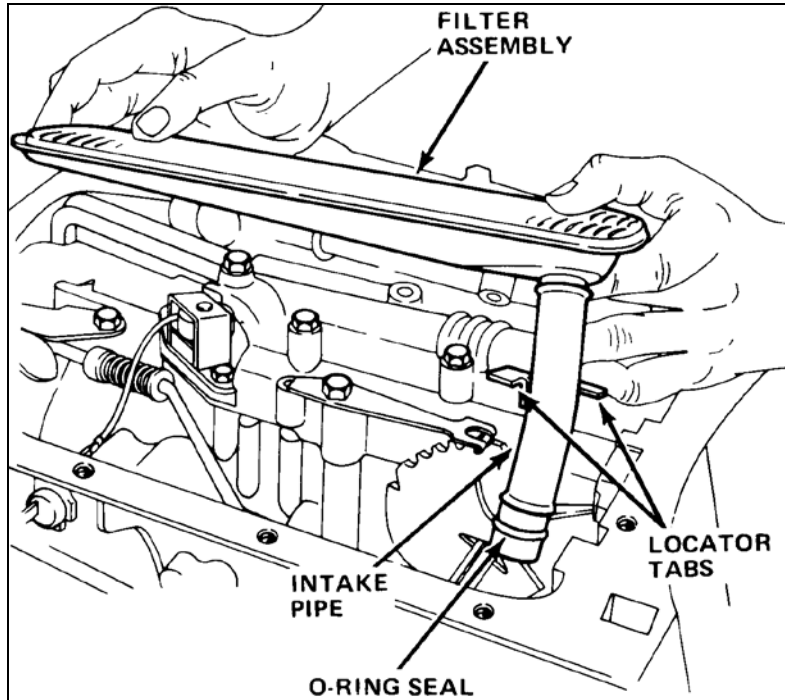


FIGURE 2-18

AMC/JEEP

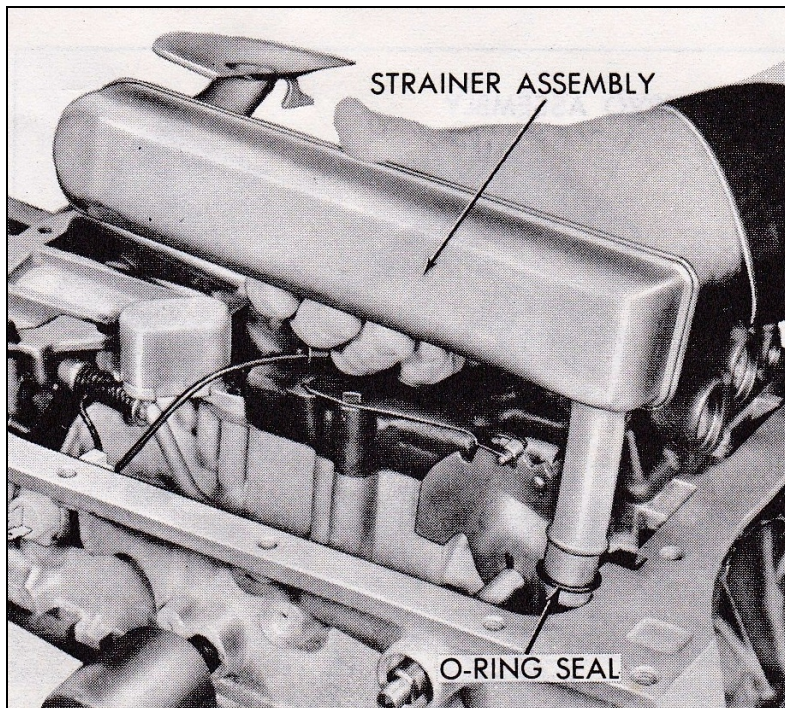
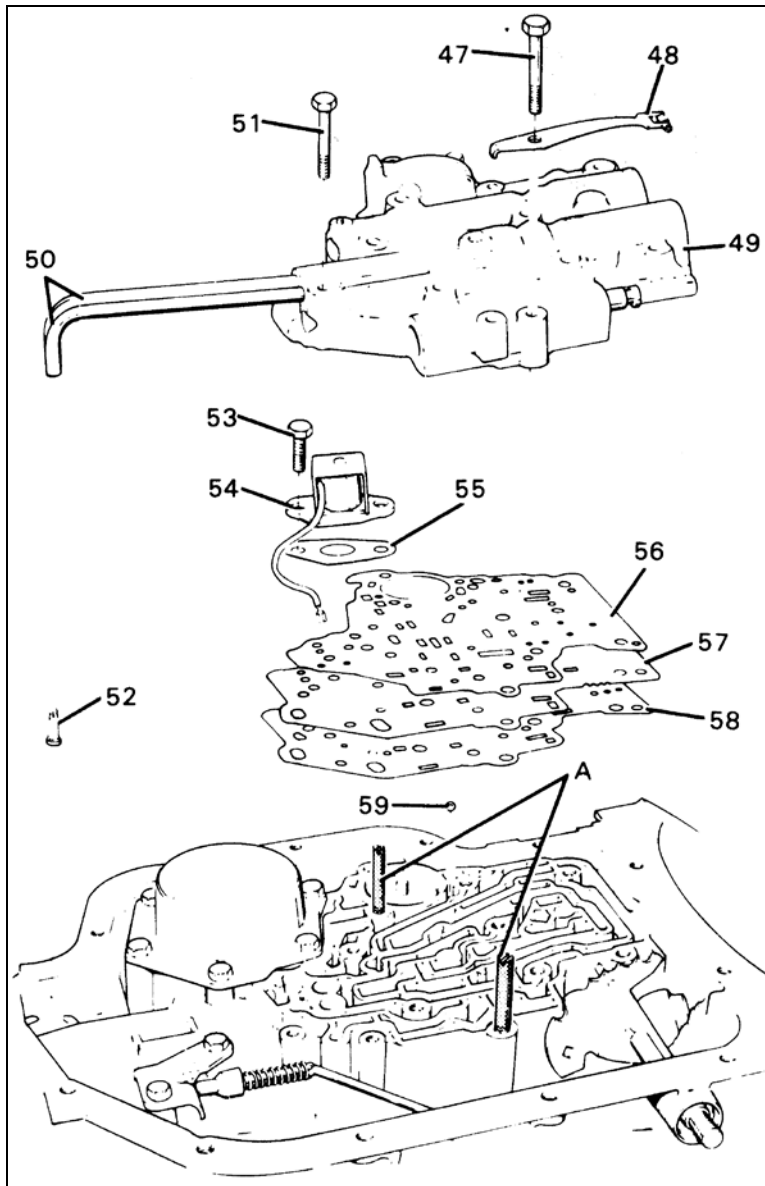


FIGURE 2-19

GM

Use Figure 2-20 as a guide to remove the valve body assembly (49) and related components.



- 47 BOLT, HEX HD 5/16-18 X 1.875 (V.B. TO CASE)
- 48 MANUAL DETENT ROLLER & SPRING ASSEMBLY
- 49 CONTROL VALVE ASSEMBLY
- 50 PIPE, GOVERNOR
- 51 BOLT
- 52 SCREEN ASSEMBLY, GOVERNOR
- 53 SCREW, HEX HD & WASHER
- 54 SOLENOID ASSEMBLY
- 55 GASKET, SOLENOID
- 56 GASKET, VALVE BODY TO SPACER PLATE
- 57 PLATE, VALVE BODY SPACER
- 58 GASKET, SPACER PLATE TO CASE
- 59 BALL, (.25" DIA.) (6)

FIGURE 2-20

GM

With variable pitch models, note the presence of the stator solenoid connecting wire attached to the valve body. Use caution to avoid damaging the wire. See Figure 2-21.

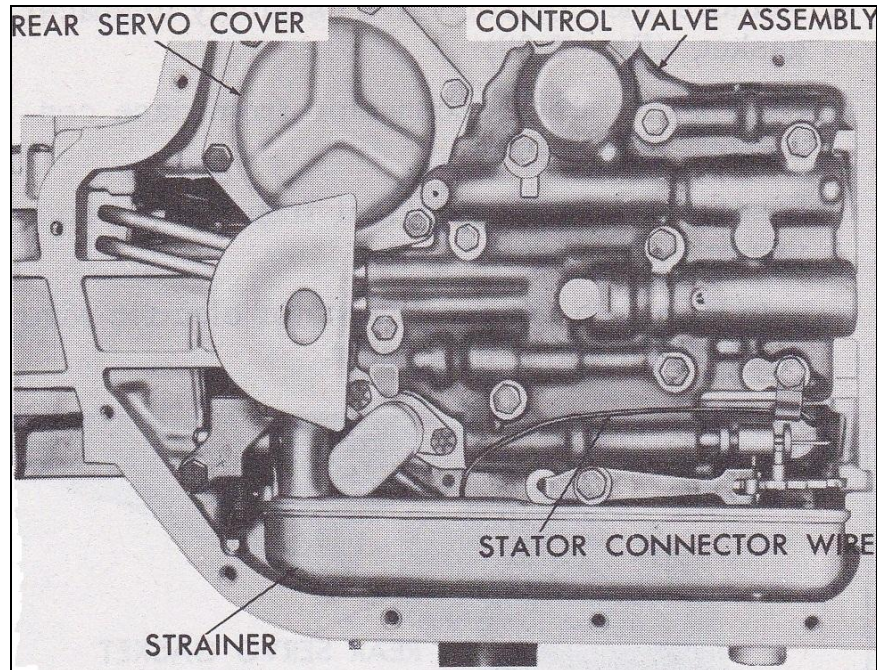


FIGURE 2-21

GM

Remove the manual detent roller and spring assembly (48). See Figure 2-22. Using a 1/2" socket, remove eight or ten (model dependant) large valve body retaining bolts (47). Using a 7/16" socket, remove three small valve body retaining bolts (51). Lift the valve body assembly (49) and governor pipes (50) off of the valve body mounting flange of the transmission case. See Figure 2-23. Note that modified transmissions may not include governor pipes (50).

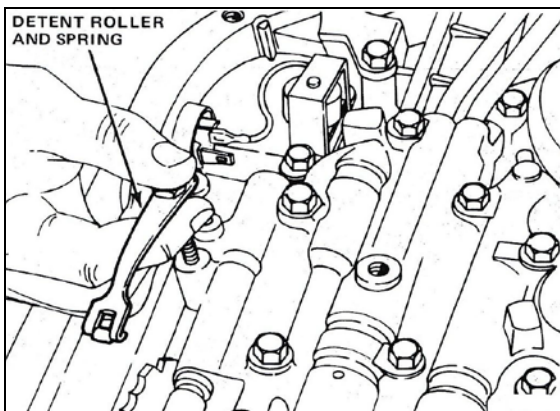


FIGURE 2-22

AMC/JEEP

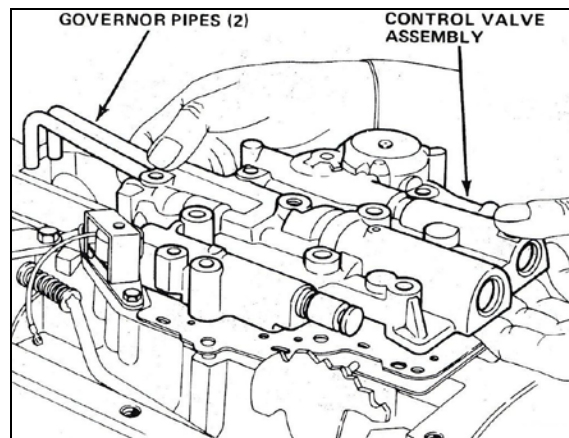


FIGURE 2-23

AMC/JEEP

If present, remove the governor screen (52) from the case. See Figure 2-24. If not stuck to the plate, remove the valve body to spacer plate gasket (56) from the valve body spacer plate (57). See Figure 2-25. Most competition TH400 transmissions utilize custom valve body to spacer plate and spacer plate to case gaskets available only from the manufacturer. When servicing such transmissions, exercise caution not to damage gaskets if intentions are to on reinstall them.

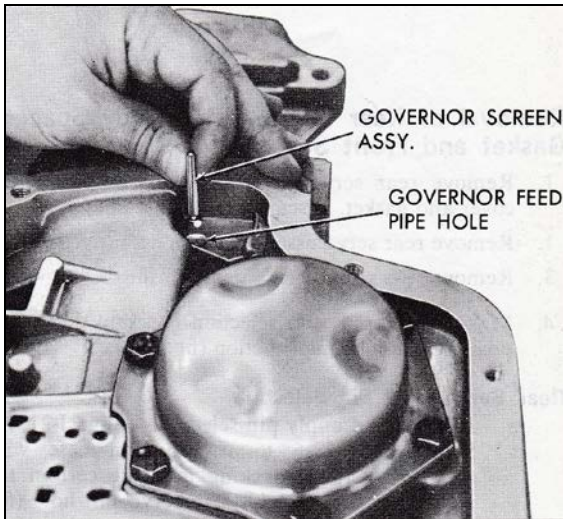
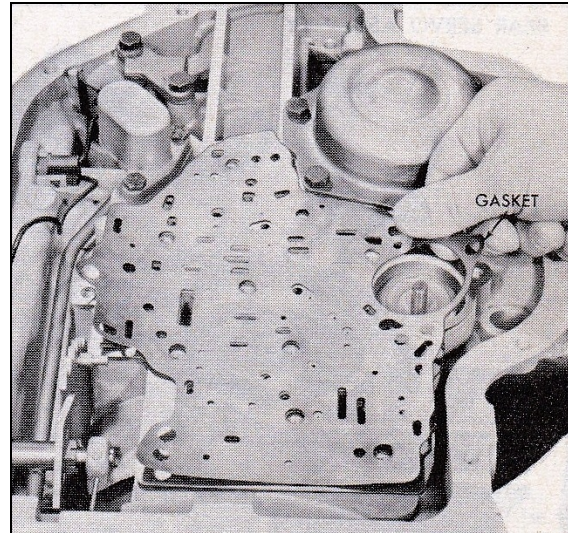


FIGURE 2-24



GM FIGURE 2-25

GM

Remove the six rear servo retaining bolts (65) that retain the rear servo cover (66) to the transmission case. See Figure 2-26. Remove the rear servo cover and rear servo cover gasket (67) from the case as shown in Figure 2-27. Note that the cover will be under spring pressure from the rear accumulator spring (78). Discard the gasket.

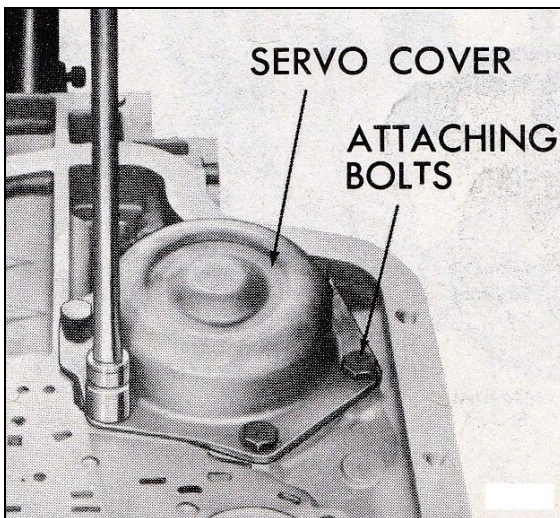
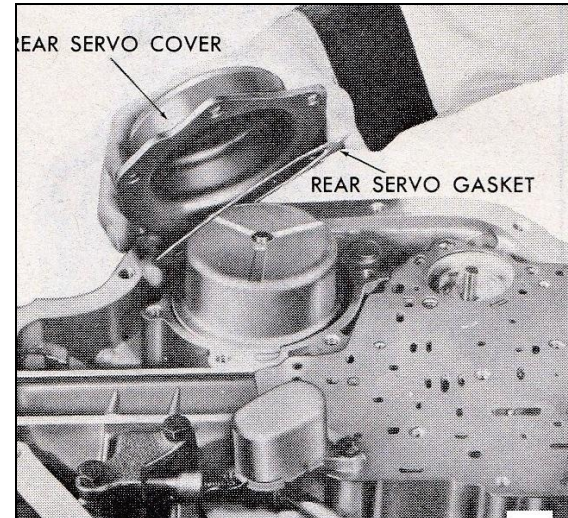


FIGURE 2-26

GM FIGURE 2-27



GM

Remove the rear servo assembly from its bore in the transmission case. See Figure 2-28. If the servo is stuck in the bore, gently tap the piston with a rubber mallet to release it. Note that the rear servo assembly installed in 1964 model year transmissions differs from the one pictured here. Remove the rear accumulator spring from the case as shown in Figure 2-29.

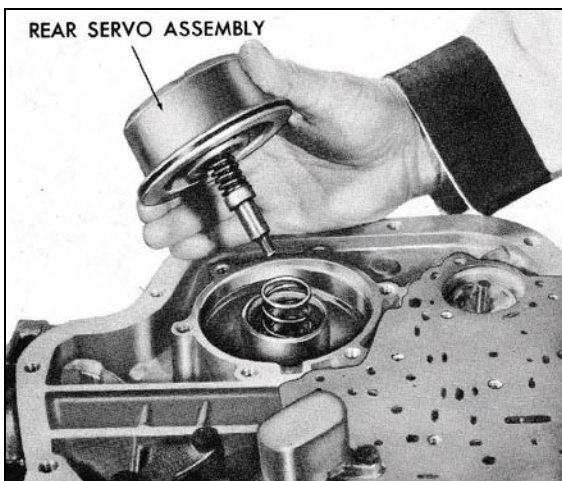
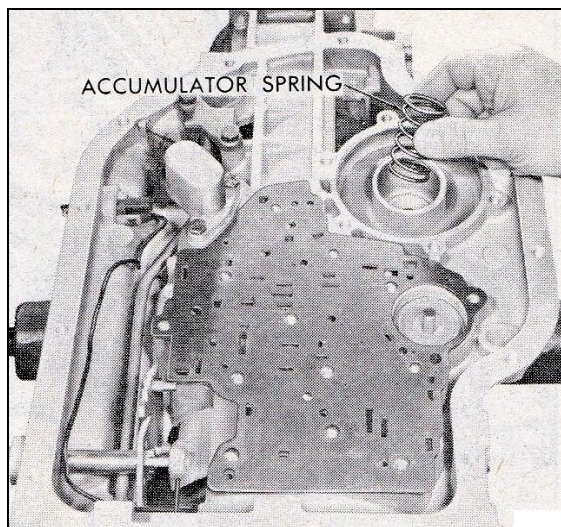


FIGURE 2-28



GM FIGURE 2-29

GM

Unplug the detent solenoid (54) terminal end from the electrical connector (35). See Figure 2-30. With variable pitch models, disconnect the stator connector from the case connector sleeve. See Figure 2-31.

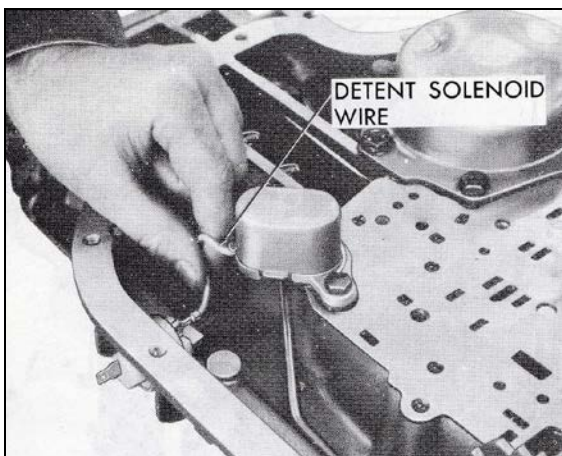
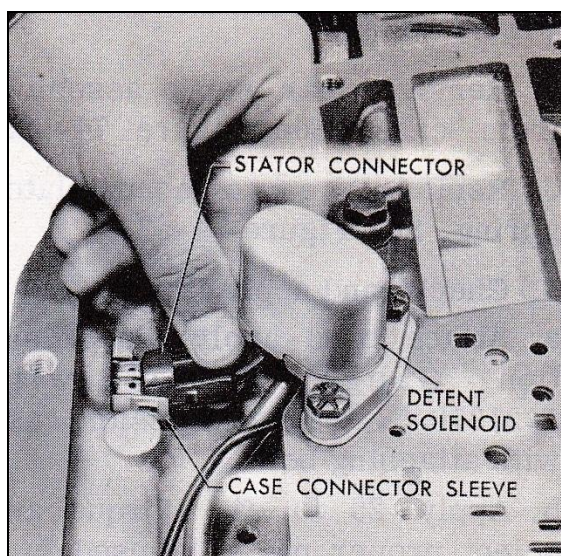


FIGURE 2-30

GM FIGURE 2-31



GM

With variable pitch models, disconnect the detent solenoid wire from the stator connector. See Figure 2-32. Remove the two bolts (53) that retain the solenoid to the case, and remove the solenoid. See Figure 2-33.

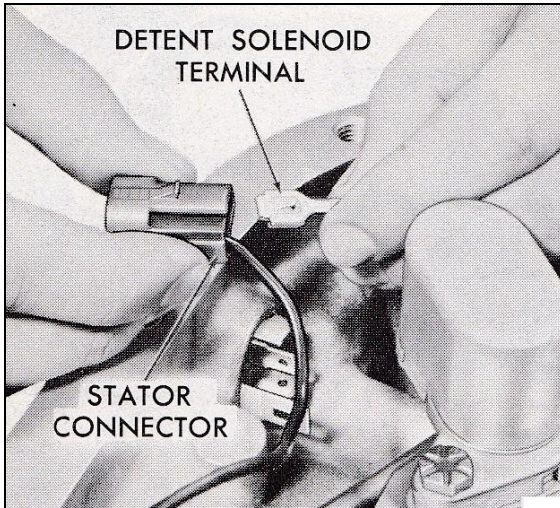
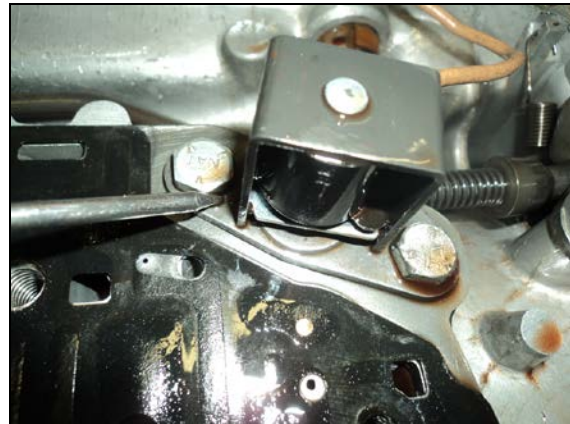


FIGURE 2-32



GM FIGURE 2-33

Note that there are two different detent solenoids used in the TH400. The late model is shown in Figure 2-33. The early model is shown in Figure 2-34. Note the use of the solenoid gasket with the early model. With early models, remove and discard the gasket. Note that modified transmissions may not include a detent solenoid. Remove the valve body spacer plate (57) and spacer plate to case gasket (58) from the case as shown in Figure 2-35.

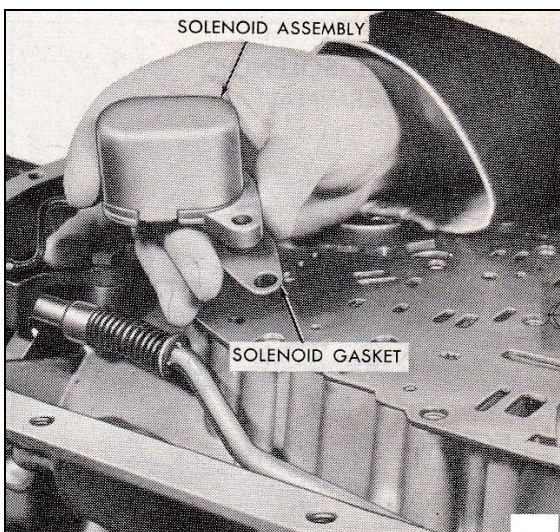
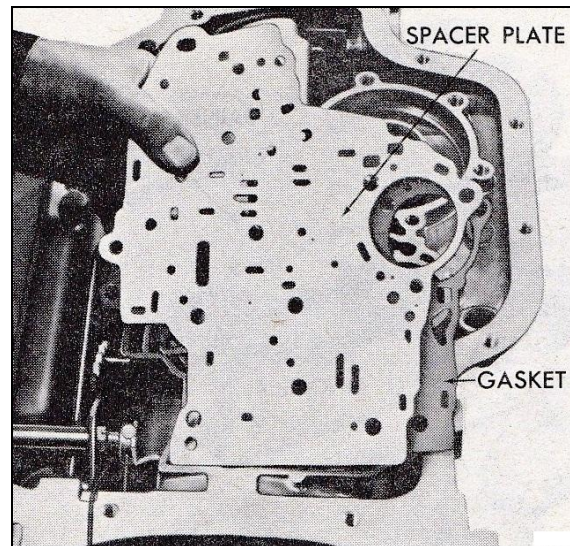


FIGURE 2-34



GM FIGURE 2-35

GM

Use a magnet to remove the .250" checkballs from their positions in the transmission case. 1965 to 1987 models will have six checkballs. See Figure 2-36. 1988 and up models will have seven checkballs. See Figure 2-37. If the transmission has been previously serviced, some or all of the checkballs may have been omitted.

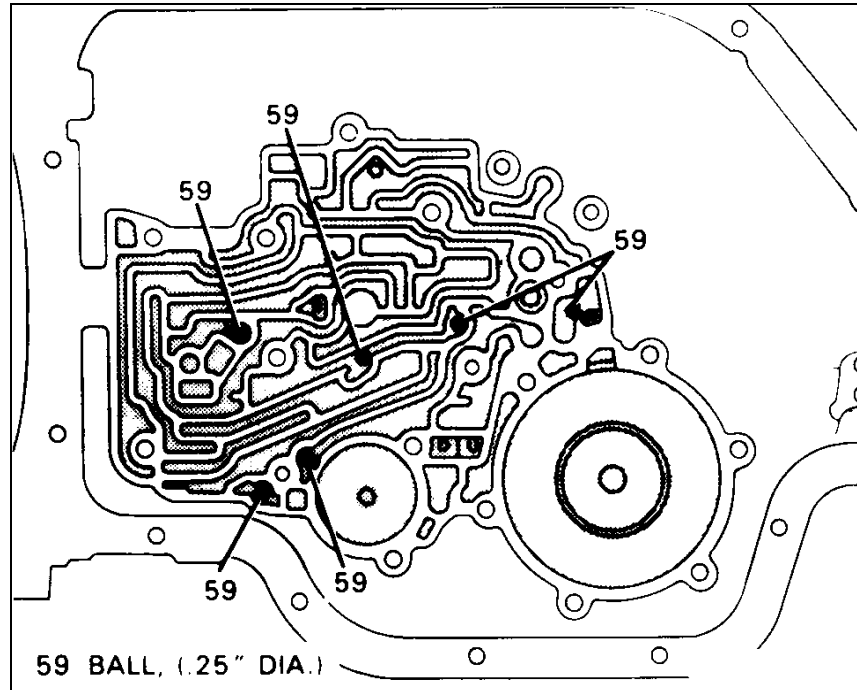


FIGURE 2-36

GM

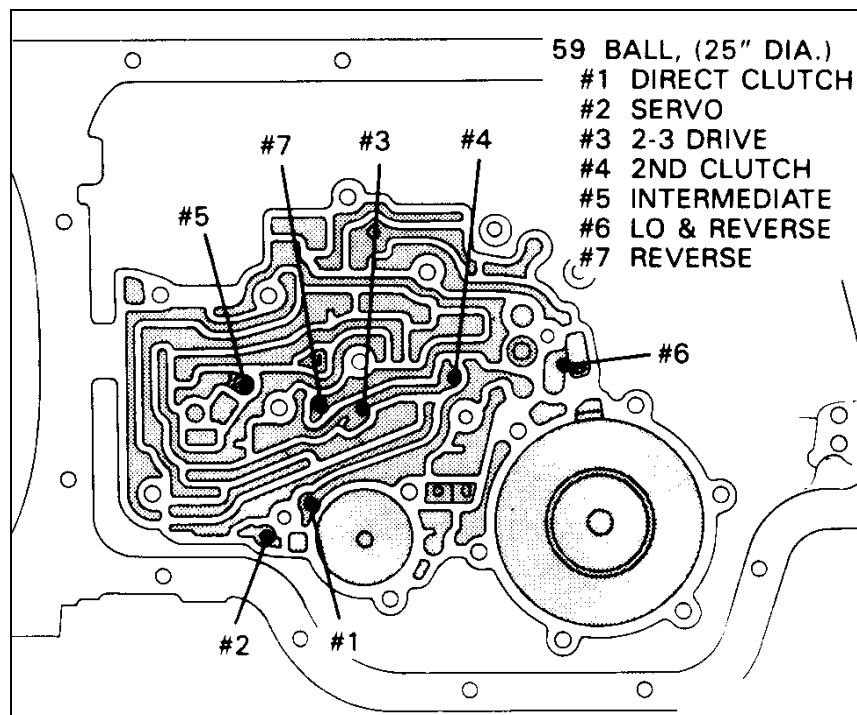


FIGURE 2-37

GM

Remove the front servo piston, washer, and servo pin from the front servo bore, followed by the spring retainer and spring. See Figures 2-38 and 2-39. Two different front servo assemblies are used in the TH400. This is covered in detail in the appropriate section of this manual. Note that modified transmissions may not include a front servo assembly.

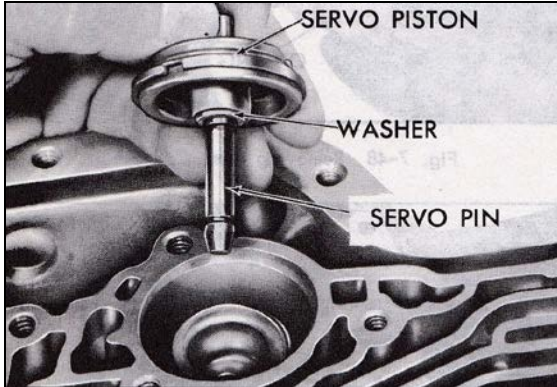


FIGURE 2-38



GM FIGURE 2-39

GM

The center support is retained to the transmission case with the case to center support bolt (79). See Figure 2-40.

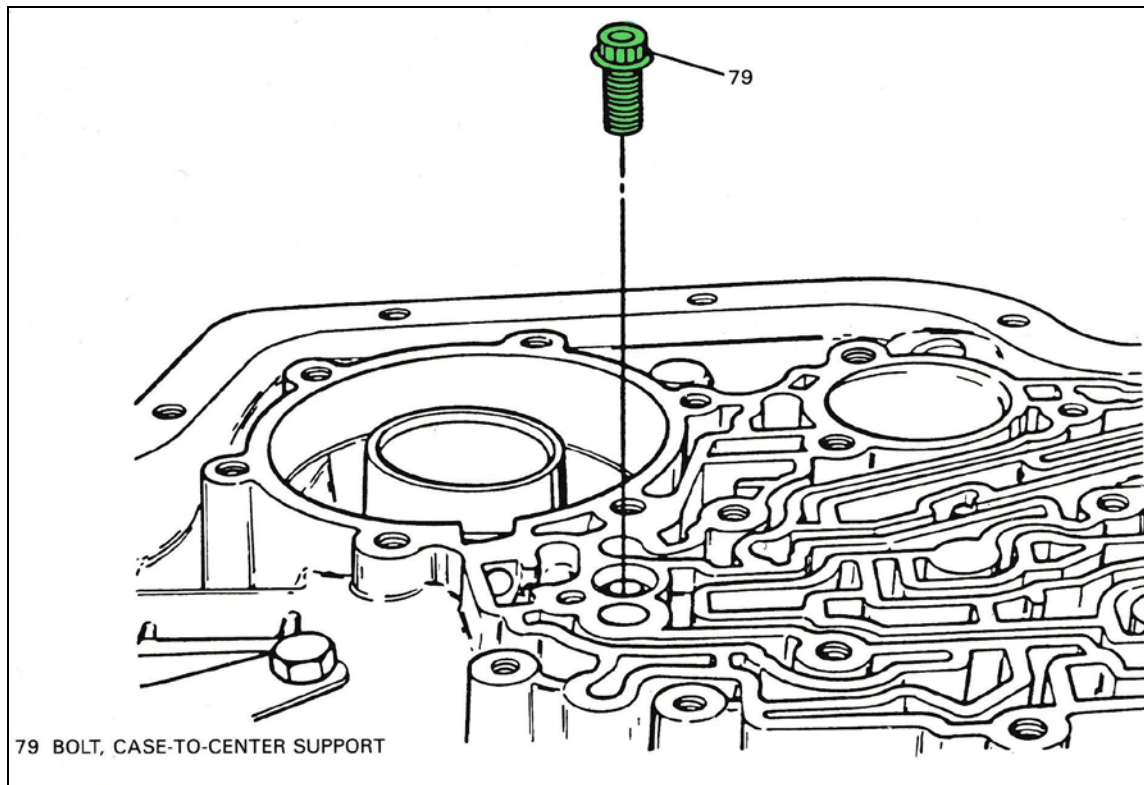


FIGURE 2-40

GM



A close up of the bolt location is shown in Figure 2-41. 1964 and 1965 models use an Allen bolt at this location. See Figure 2-42.



FIGURE 2-41

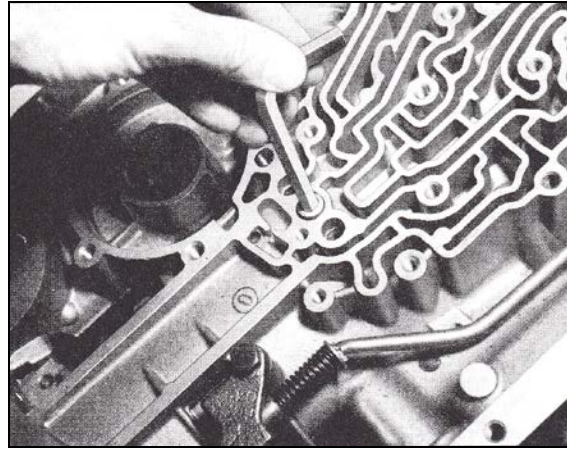


FIGURE 2-42

GM

1966 and later models use a thin wall 3/8" 12 point socket. Remove the case to center support bolt with a hand tool as shown in Figure 2-43. Do not use an air gun as it may result in damage to the threads in the cast iron center support. Note that 1964 to 1968 models use a center support locating screw at the location shown in the figure. If the locating screw is present, it should not be contacting the center support. Back it off two turns to be certain.

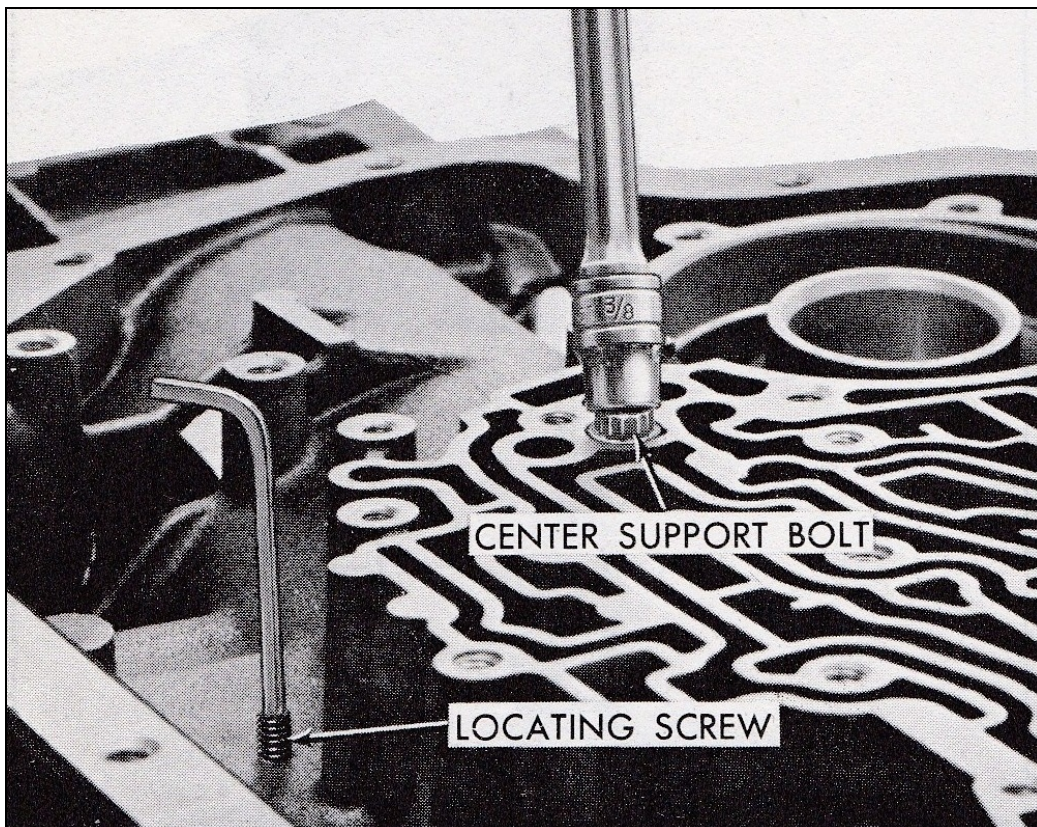


FIGURE 2-43

GM

Use Figure 2-44 as a guide to remove the oil pump (49) and related components.

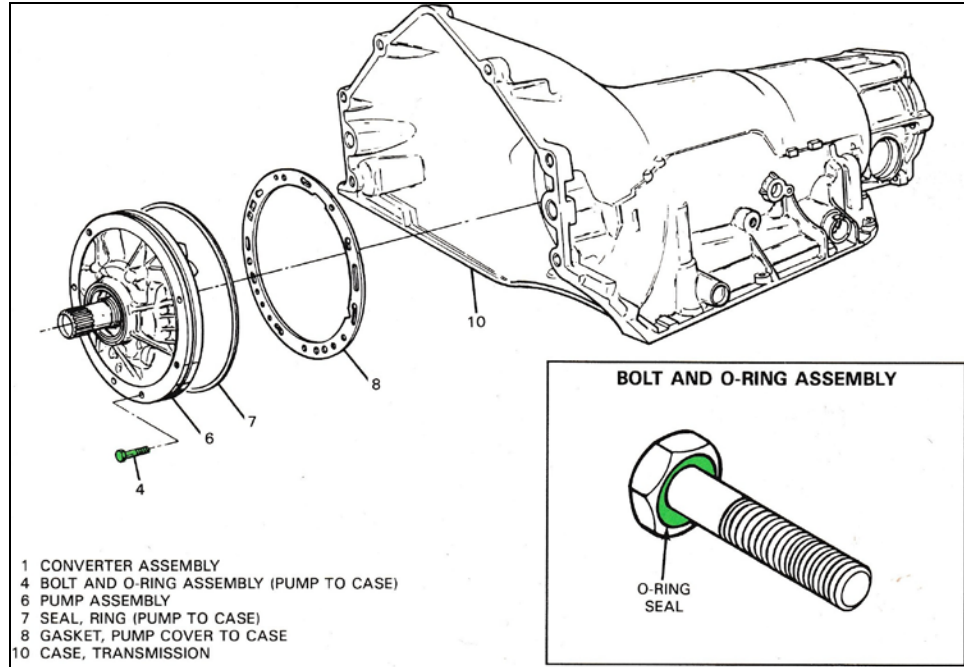


FIGURE 2-44

GM

Remove the front seal (2) from the pump body (201). See Figure 2-45. Avoid damaging or gouging the seal bore in the pump body. Seal removal is easier while the oil pump is still bolted to the transmission case. Remove the six or eight (model dependant) pump to case bolts (4). See Figure 2-46.

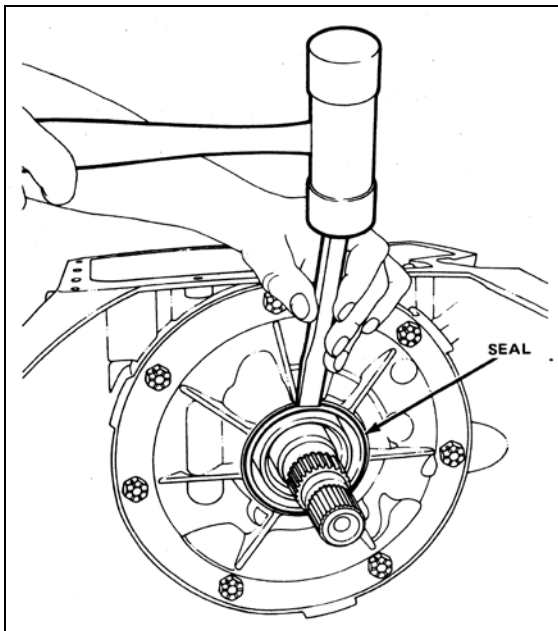


FIGURE 2-45

AMC/JEEP

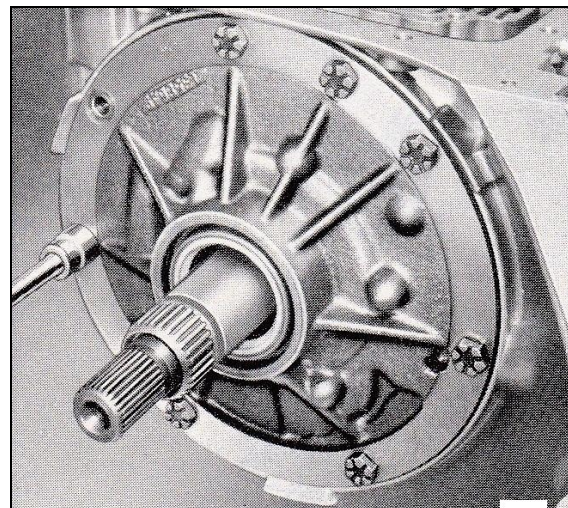


FIGURE 2-46

GM

Use a pair of slide hammers to remove the pump from the transmission case. Thread the two 3/8-16 slide hammer bolts into the holes in the pump body at the 5 and 10 o'clock positions. If the body is not threaded, use the slide hammers to "tap" threads. Bump outward evenly with the slide hammers to remove the pump. See Figure 2-47. When using one slide hammer, you can pull up on the stator shaft while bumping the slide hammer to remove the pump. If hammers are not available, install two 3/16-18 bolts at the locations shown. Grasp the bolt heads with locking pliers and remove the pump. The pump can also be removed by inserting a stout screwdriver into the case at the location shown in Figure 2-48 and gently prying it out. With variable pitch models, use caution as you guide the stator connector wire out of the case with the oil pump. See Figure 2-49. Remove and discard the pump to case o-ring (7) and pump to case gasket (8). See Figure 2-50.

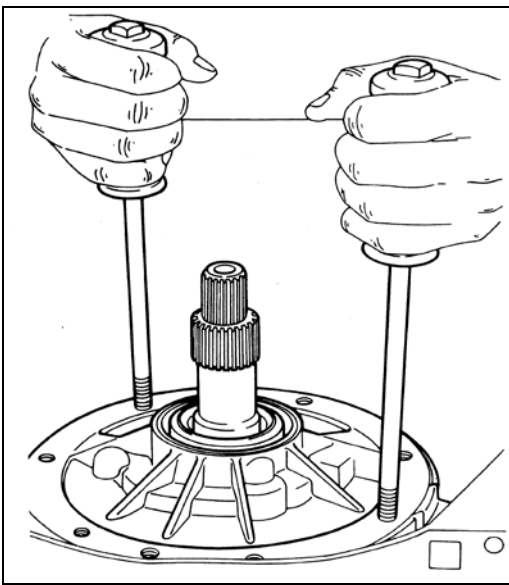


FIGURE 2-47 AMC/JEEP

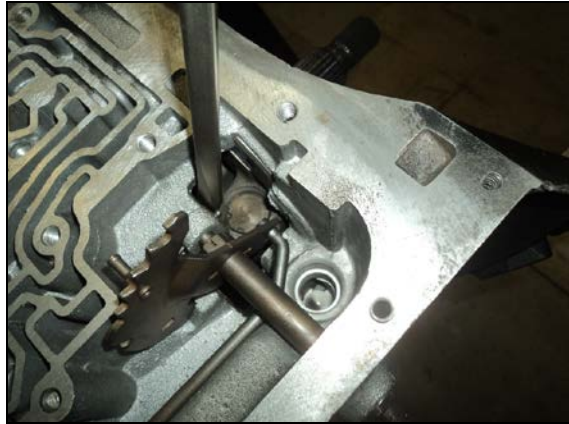


FIGURE 2-48

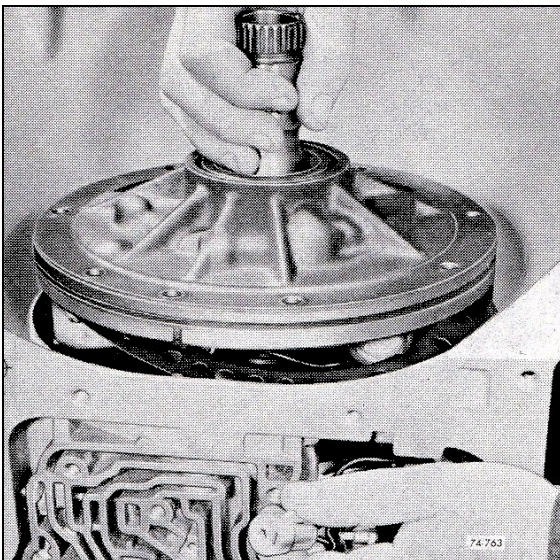
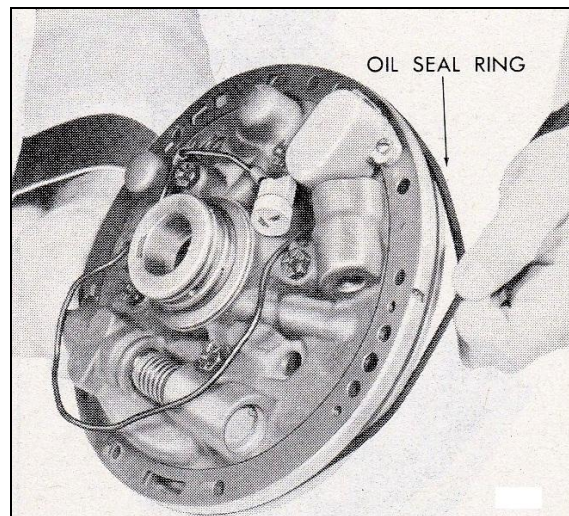


FIGURE 2-49



GM FIGURE 2-50

GM

Remove the forward clutch assembly from the case. See Figure 2-51. Remove the direct clutch assembly from the case. See Figure 2-52. If it did not come out with the forward clutch housing, you will find the thrust washer (617) at the front of the direct clutch housing. Note that modified transmissions may use a thrust bearing at this location.

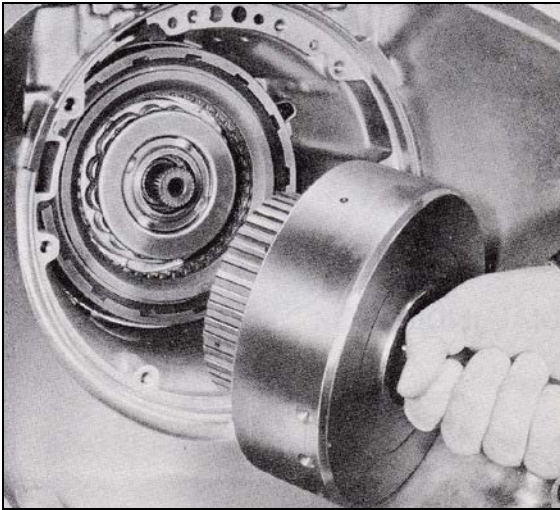


FIGURE 2-51

GM

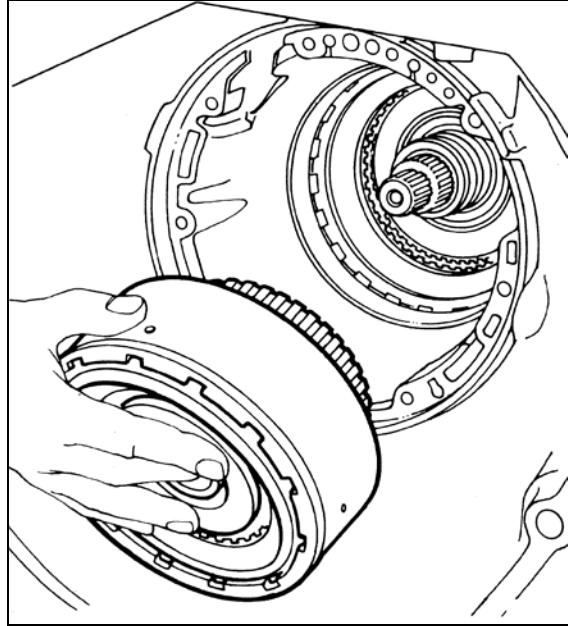


FIGURE 2-52

AMC/JEEP

Remove the front band (639) from the case. See Figures 2-53 and 2-54. Note that modified transmissions may not use an intermediate band at this location.

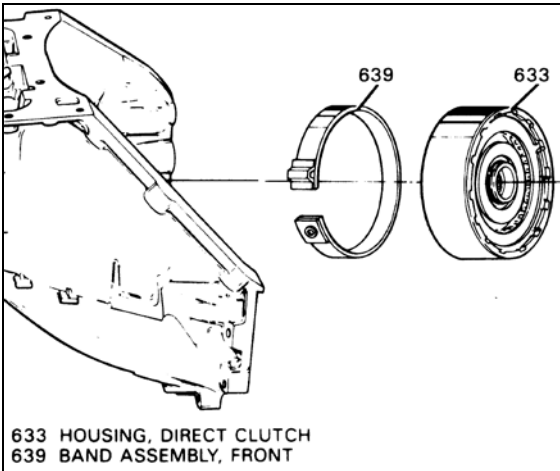


FIGURE 2-53

GM

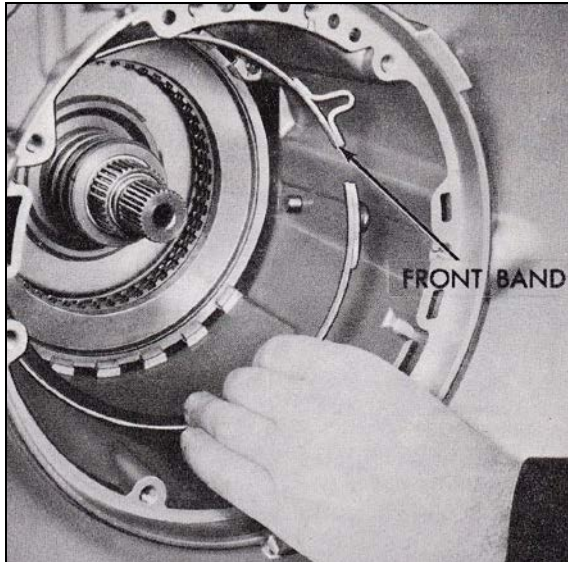


FIGURE 2-54

GM

@@

Snap rings are used to retain the intermediate clutch pack components and center support to the case. See Figure 2-55. Remove the sun gear shaft (664) from the center support. See Figure 2-56.

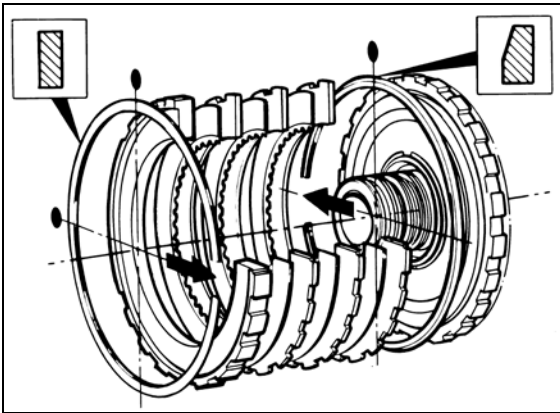


FIGURE 2-55

AMC/JEEP

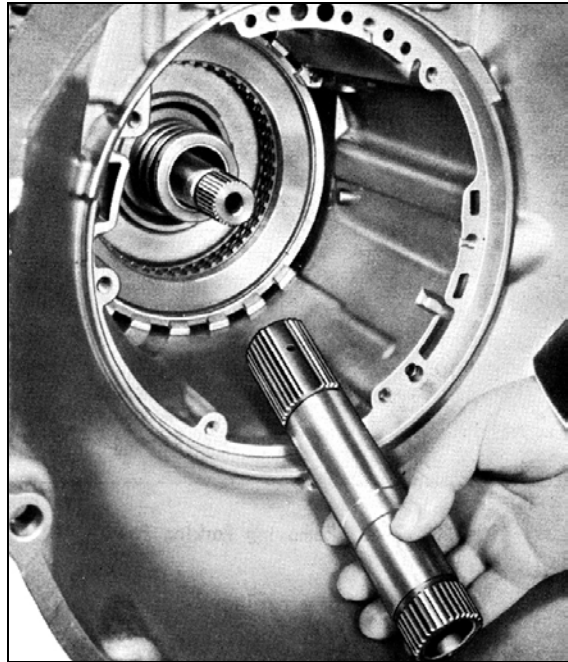


FIGURE 2-56

GM

Remove the intermediate clutch snap ring (640) that retains the intermediate clutch backing plate (641) to the case. See Figure 3-55. Remove the intermediate clutch backing plate (641) and the remaining components of the intermediate clutch pack (642,643,644) from the transmission case. See Figure 3-57 and 3-58.

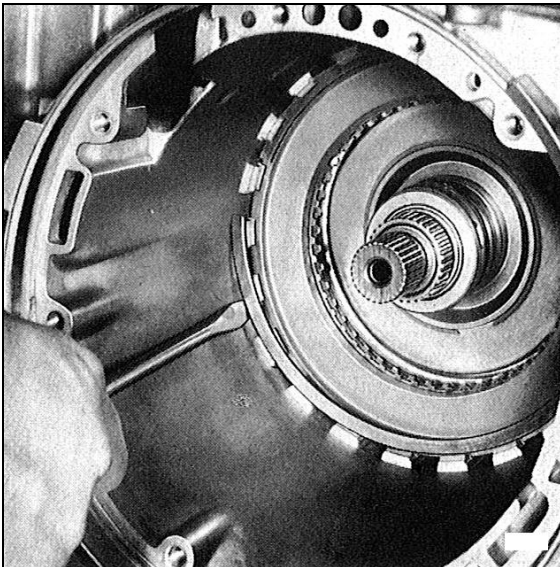


FIGURE 3-57

GM

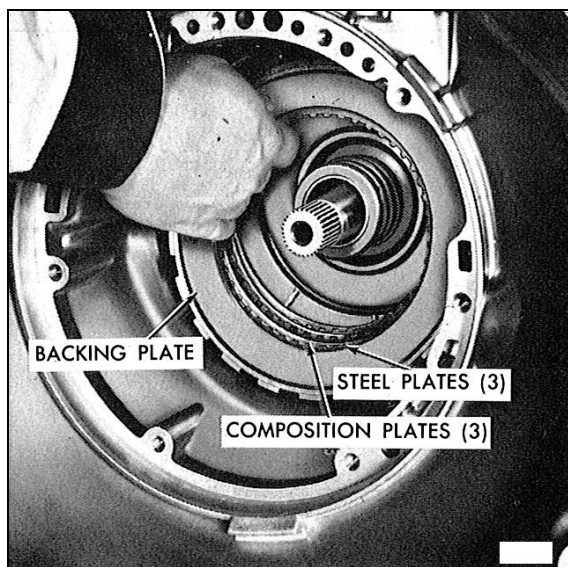


FIGURE 3-58

GM

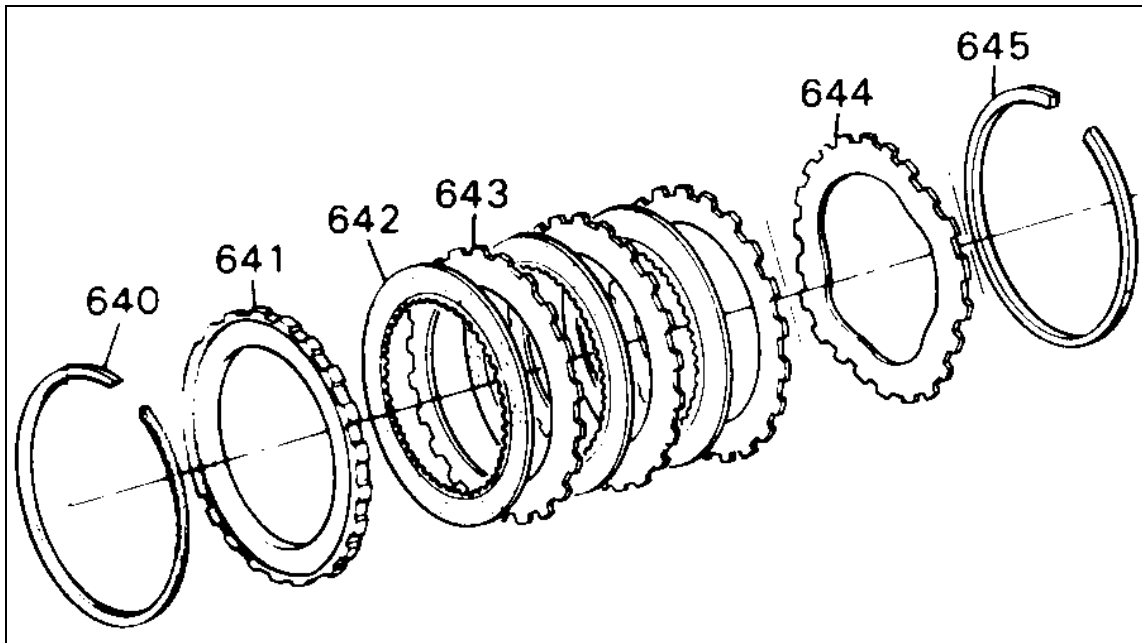


FIGURE 3-59

GM

Remove the beveled snap ring (645) that retains the center support to the case. See Figure 3-58. Grasp and lift up on the center support (654) to remove it from the transmission case. See cut away view in Figure 3-59.

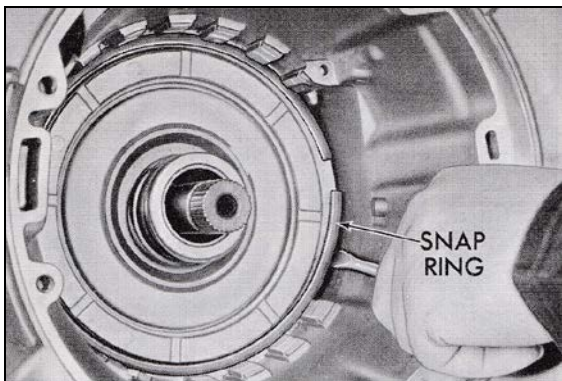


FIGURE 3-58



GM FIGURE 3-59

Turn the center support upside down and remove the thrust bearing to center support race (660), from its location at the rear of the center support. See Figure 3-60. Remove the thrust washer (656) from its recess at the rear of the center support. See Figure 3-61. If either item did not come out with the support, they will be found sitting on top of the geartrain.



**FIGURE 3-60**



**FIGURE 3-61**

Use Figure 3-62 as a guide to remove the remaining geartrain components from the transmission case.

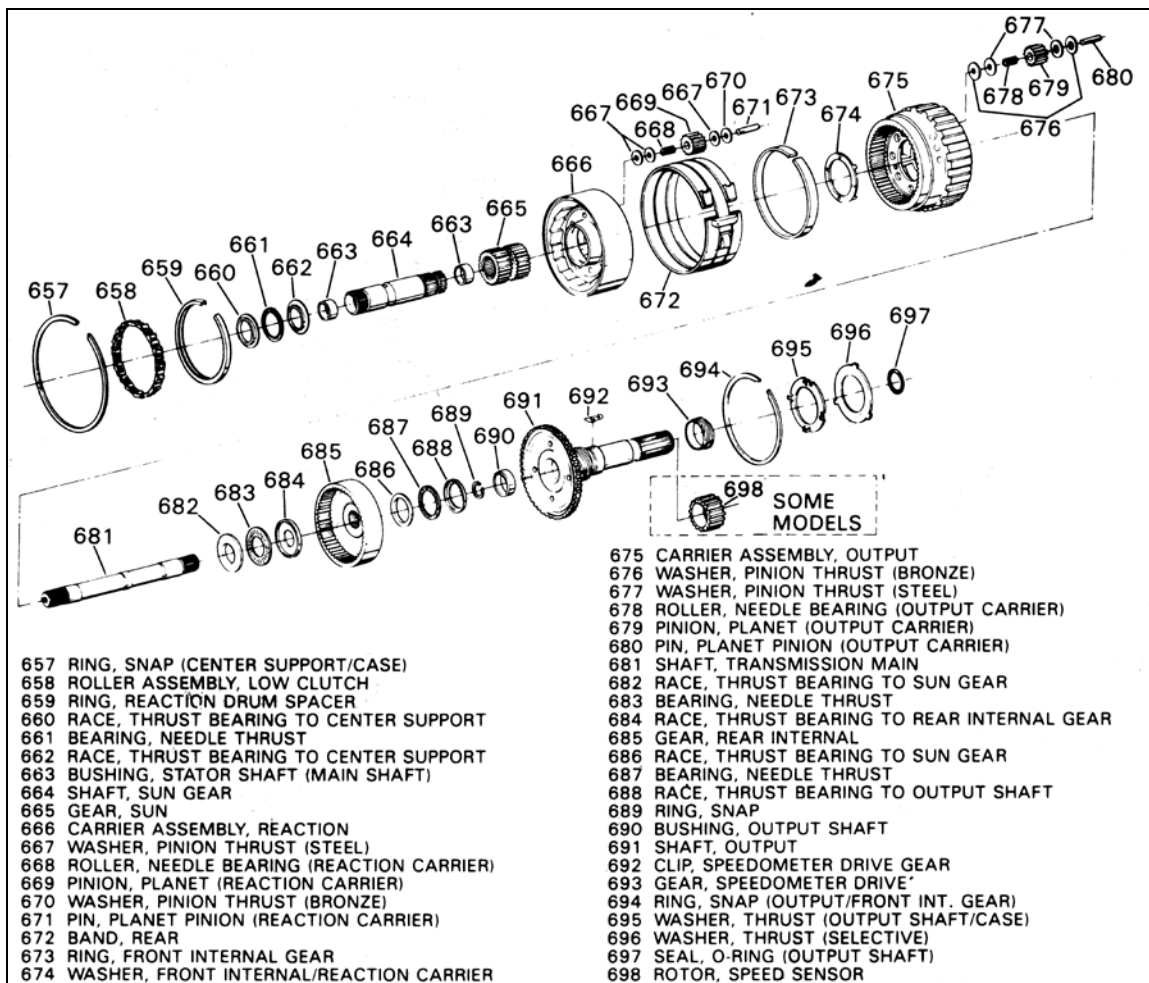


FIGURE 3-62

GM



Grasp and lift up on the main shaft to remove the remaining geartrain components from the transmission case. See cut away view in Figure 3-63. Stand the assembly upright on the workbench. Reach into the inside diameter of the reaction carrier with a hooked scribe or pencil magnet and remove the remaining components of the three piece thrust bearing assembly (660,661,662) from the front face of the sun gear (665) and set aside. See Figure 3-64.



FIGURE 3-63

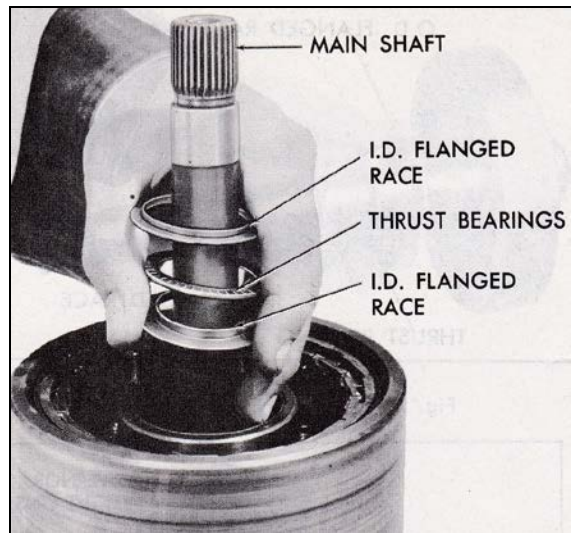


FIGURE 3-64

GM

Lift the reaction carrier assembly (666) off the output carrier (675). See Figure 3-65. Remove the front internal gear silencer ring (673) from the output carrier (675). See Figure 3-66.

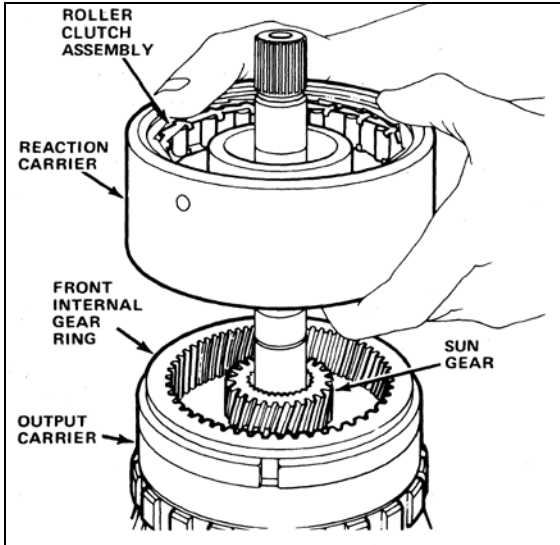


FIGURE 3-65

AMC/JEEP

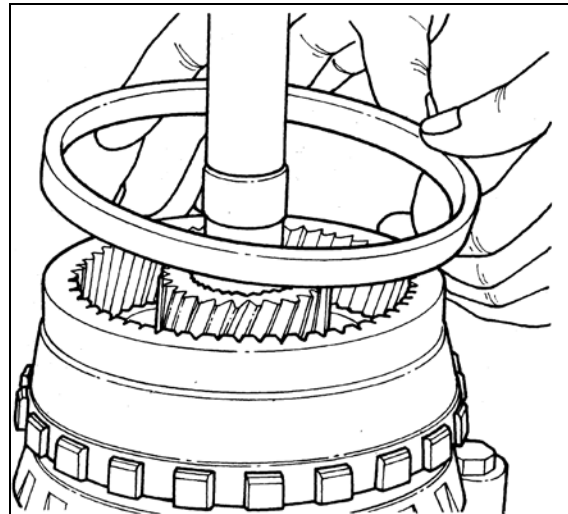


FIGURE 3-66

AMC/JEEP

Remove the sun gear (665) from the output carrier. See Figure 3-67. Remove the thrust washer (674) from the front face of the output carrier (675). See Figure 3-68. Note that it may be metal or plastic. Note that modified transmissions may use a thrust bearing at this location.

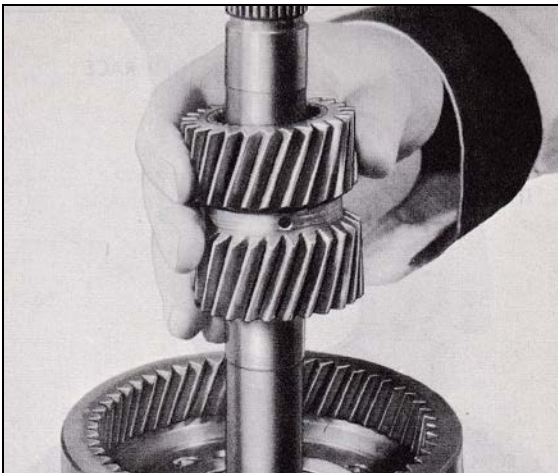
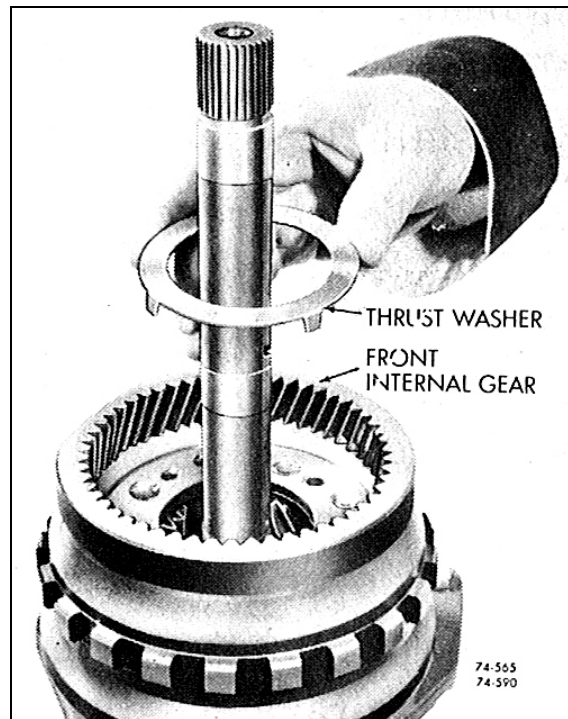


FIGURE 3-67



GM FIGURE 3-68

GM

Remove the thrust washer (695) from the rear face of the output shaft (693). See Figure 3-69. Note that modified transmissions may use a thrust bearing at this location. Place the assembly with the mainshaft pointing down thru a hole in the

workbench. Remove the snap ring (694) that retains the output shaft (691) to the output carrier (675). See Figure 3-70.

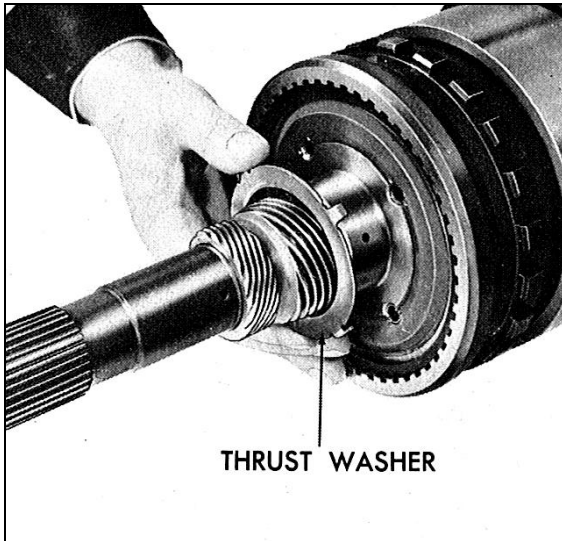
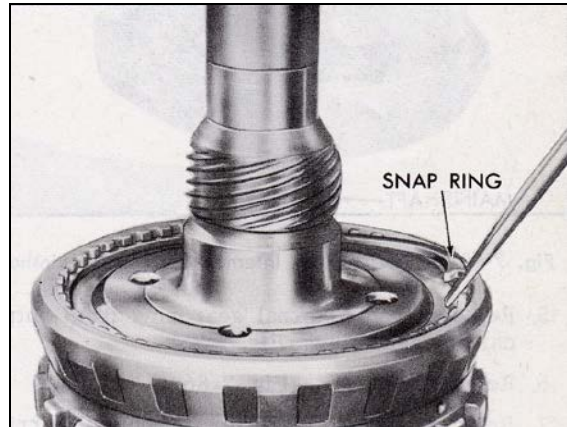


FIGURE 3-69



GM FIGURE 3-70

GM

Remove the output shaft from the carrier. See Figure 3-71. Remove the three piece thrust bearing assembly (686,687,688) from the rear face of the rear internal gear (685). See Figure 3-72. Some of the assembly may remain with the output shaft.

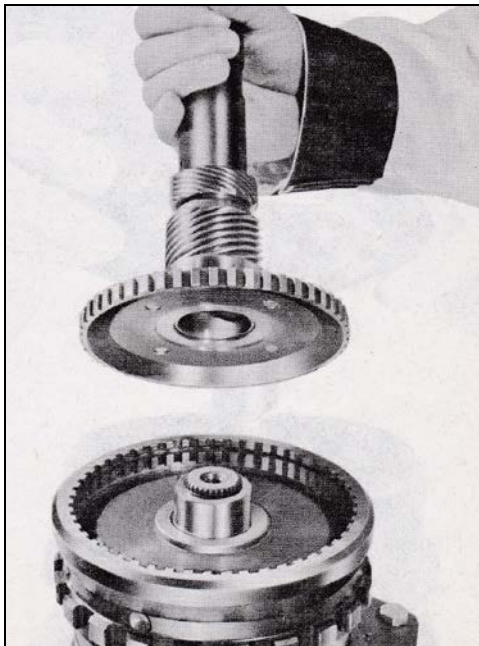
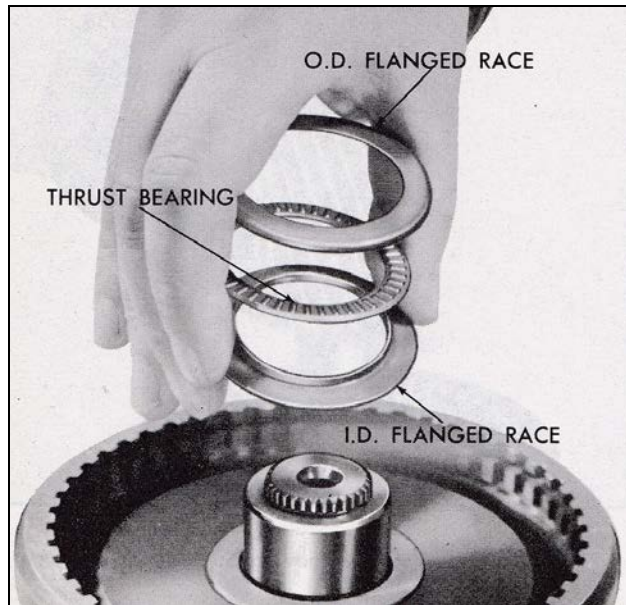


FIGURE 3-71



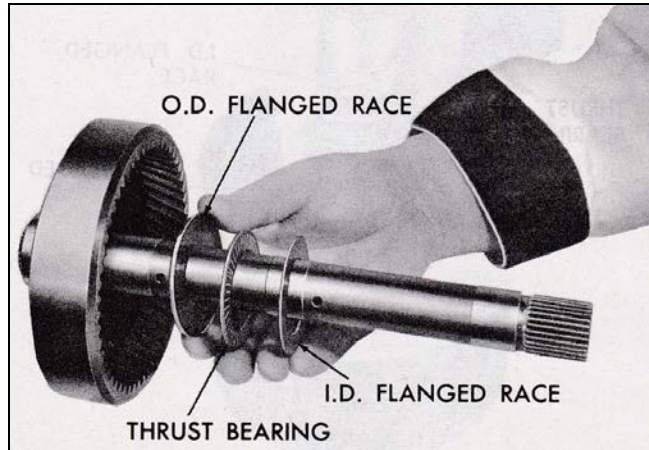
GM FIGURE 3-72

GM

Remove assembled rear internal gear (685) and main shaft (681) from the output carrier (675). See Figure 3-73. Remove the three piece thrust bearing assembly (682,683,684) from the front face of the rear internal gear. See Figure. 3-74



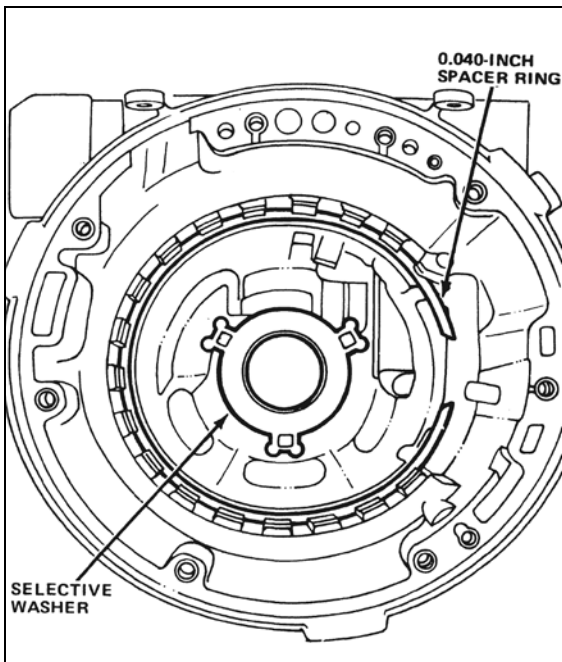
**FIGURE 3-73**



**GM FIGURE 3-74**

**GM**

If present, remove the center support to case .040" spacer ring (657) from the transmission case. Figure 3-75 and Figure 3-76.



**FIGURE 3-75**



**AMC/JEEP FIGURE 3-76**

Disengage the rear band (672) from the anchor pins and remove it from the transmission case. See Figure 3-77. Remove the selective thrust washer (696) from the transmission case. See Figures 3-78 and 3-79. Note that modified transmissions may use a thrust bearing and shims at this location.

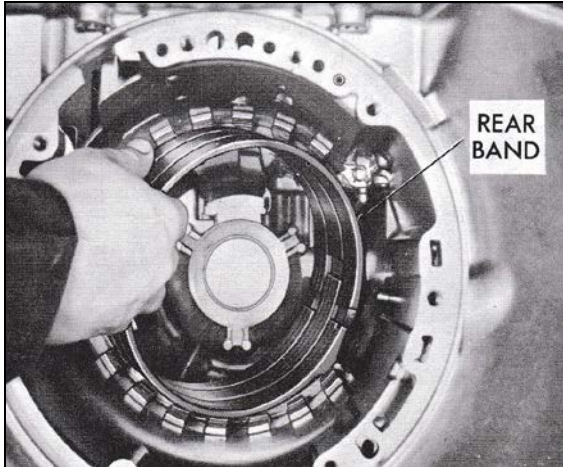
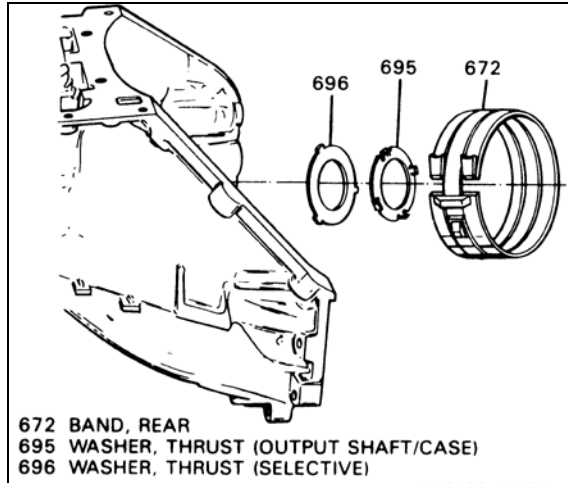


FIGURE 3-77

GM



672 BAND, REAR  
695 WASHER, THRUST (OUTPUT SHAFT/CASE)  
696 WASHER, THRUST (SELECTIVE)

GM