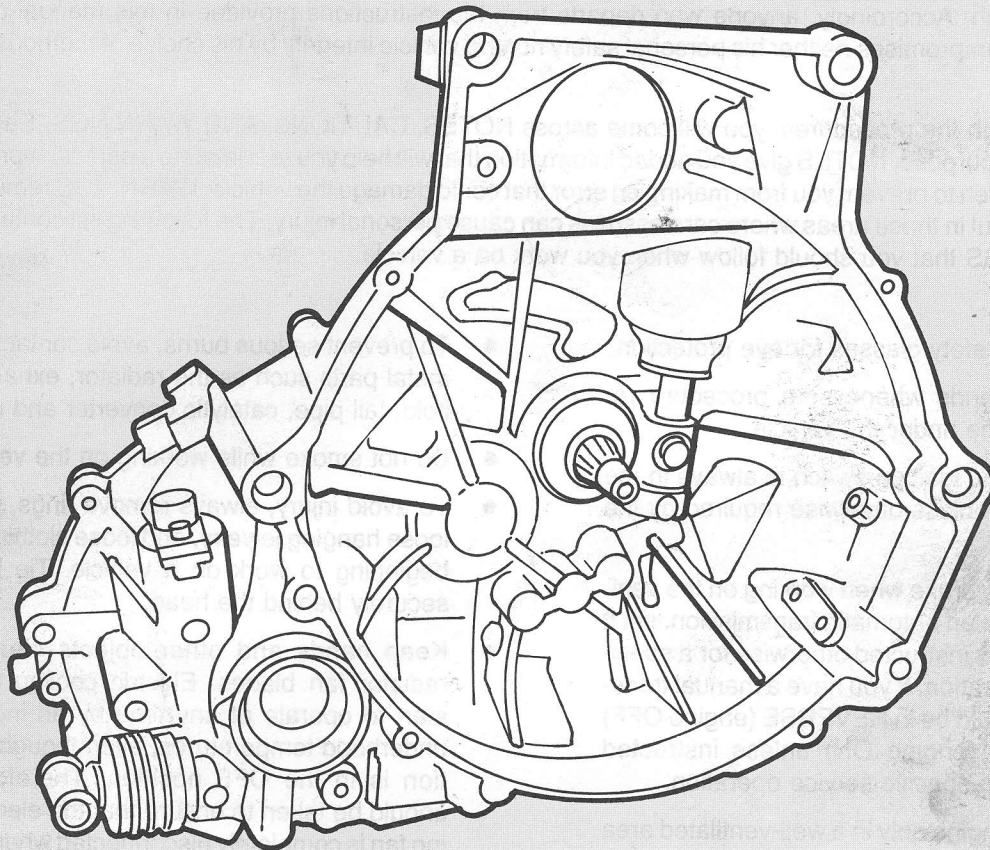


1988



**FESTIVA**  
**Four- and Five-Speed**  
**Manual Transaxle**



**Ford Parts and Service Division**  
**Training and Publications Department**

## IMPORTANT SAFETY NOTICE

Appropriate service methods and proper repair procedures are essential for the safe, reliable operation of all motor vehicles, as well as the personal safety of the individual doing the work. This manual provides general directions for accomplishing service and repair work with tested, effective techniques. Following them will help assure reliability.

There are numerous variations in procedures, techniques, tools, and parts for servicing vehicles, as well as in the skill of the individual doing the work. This manual cannot possibly anticipate all such variations and provide advice or cautions as to each. Accordingly, anyone who departs from the instructions provided in this manual must first establish that he compromises neither his personal safety nor the vehicle integrity by his choice of methods, tools or parts.

As you read through the procedures, you will come across NOTES, CAUTIONS, AND WARNINGS. Each one is there for a specific purpose. NOTES give you added information that will help you to complete a particular procedure. CAUTIONS are given to prevent you from making an error that could damage the vehicle. WARNINGS remind you to be especially careful in those areas where carelessness can cause personal injury. The following list contains some general WARNINGS that you should follow when you work on a vehicle.

- Always wear safety glasses for eye protection.
- Use safety stands whenever a procedure requires you to be under the vehicle.
- Be sure that the ignition switch is always in the OFF position, unless otherwise required by the procedure.
- Set the parking brake when working on the vehicle. If you have an automatic transmission, set it in PARK unless instructed otherwise for a specific service operation. If you have a manual transmission, it should be in REVERSE (engine OFF) or NEUTRAL (engine ON) unless instructed otherwise for a specific service operation.
- Operate the engine only in a well-ventilated area to avoid the danger of carbon monoxide.
- Keep yourself and your clothing away from moving parts when the engine is running, especially the fan and belts.
- To prevent serious burns, avoid contact with hot metal parts such as the radiator, exhaust manifold, tail pipe, catalytic converter and muffler.
- Do not smoke while working on the vehicle.
- To avoid injury, always remove rings, watches, loose hanging jewelry, and loose clothing before beginning to work on a vehicle. Tie long hair securely behind the head.
- Keep hands and other objects clear of the radiator fan blades. Electric cooling fans can start to operate at any time by an increase in underhood temperatures, even though the ignition is in the OFF position. Therefore, care should be taken to ensure that the electric cooling fan is completely disconnected when working under the hood.

The recommendations and suggestions contained in this manual are made to assist the dealer in improving his dealership parts and/or service department operations. These recommendations and suggestions do not supersede or override the provisions of the Warranty and Policy Manual, and in any cases where there may be a conflict, the provisions of the Warranty and Policy Manual shall govern.

The descriptions, testing procedures, and specifications in this handbook were in effect at the time the handbook was approved for printing. Ford Motor Company reserves the right to discontinue models at any time, or change specifications, design or testing procedures without notice and without incurring obligation. Any reference to brand names in this manual is intended merely as an example of the types of tools, lubricants, materials, etc. recommended for use. Equivalents if available may be used. The right is reserved to make changes at any time without notice.

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# OBJECTIVES

## AFTER STUDYING THIS REFERENCE MANUAL YOU WILL BE ABLE TO:

- Identify and describe the operation of each component
- Explain the differences between the four- and five-speed transaxles
- Trace and explain powerflow
- Disassemble and assemble the transaxle
- Disassemble and assemble the transaxle sub-assemblies
- Perform maintenance procedures such as fluid level check and clutch pedal free play adjustment

# DESCRIPTION

## GENERAL INFORMATION

A fully synchronized four-speed manual transaxle is standard equipment on the L Model Festiva. A similar fully synchronized five-speed transaxle is standard equipment on the LX Model.

Because of the similarities in construction and service, the four- and five-speed manual transaxles have been combined into this single service training reference booklet. Although this booklet contains service information for both transaxles, little difficulty will be experienced distinguishing one transaxle from the other. Whenever necessary, the few differences be-

tween the two transaxles are carefully explained in the text or illustrations. The similarity between the two transaxles begins with their external appearance. Both are a split case design with one case forming the clutch housing while the other forms the transmission housing. In addition to the clutch release components, the speedometer driven gear, shift input rail and first/second detent plug can be identified on the exterior of the clutch housing. On the transmission housing the backup lamp switch, fifth gear switch and fifth/reverse detent plug can be identified. (Figure 1).

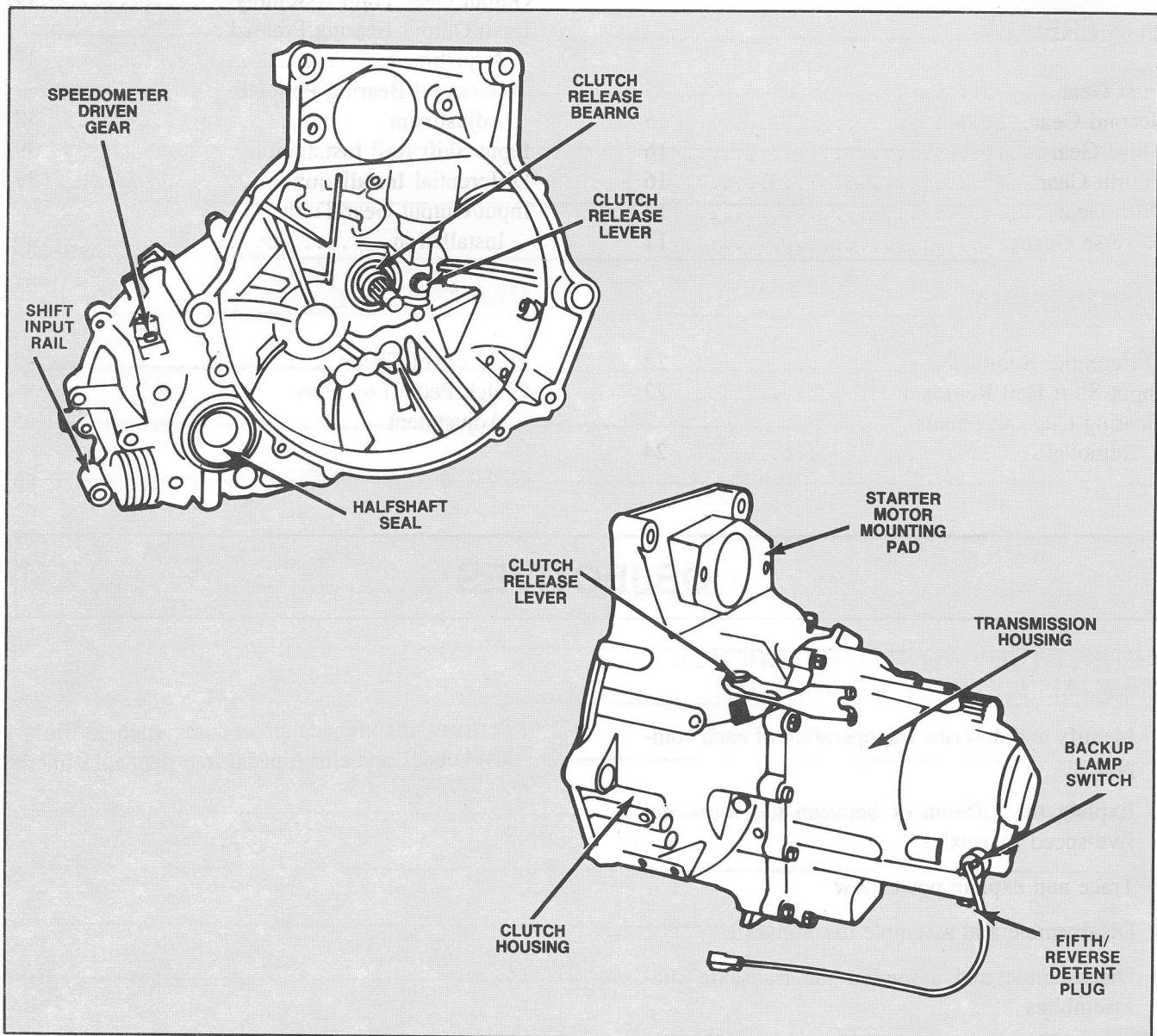


Figure 1 Transaxle External View

# DESCRIPTION

## GENERAL INFORMATION

Also common between the two transaxles is the large opening and machined area at the top of the clutch housing. The smooth area and threaded holes provide a mounting location for the starter motor. An additional machined area on the transmission housing provides a mounting pad for the starter motor support bracket.

In the engine compartment, the transaxle is installed transversely with the clutch housing facing the right

side of the vehicle. To hold it in position, the transaxle is attached to a crossmember through two rubber insulated mounts. These mounts also serve as the engine rear mounts. (Figure 2).

The side-to-side installation of the transaxle requires halfshafts to transfer torque from the differential to the front wheels. The halfshafts engage the differential side gears at the transaxle end, and bearing hubs at the wheel end.

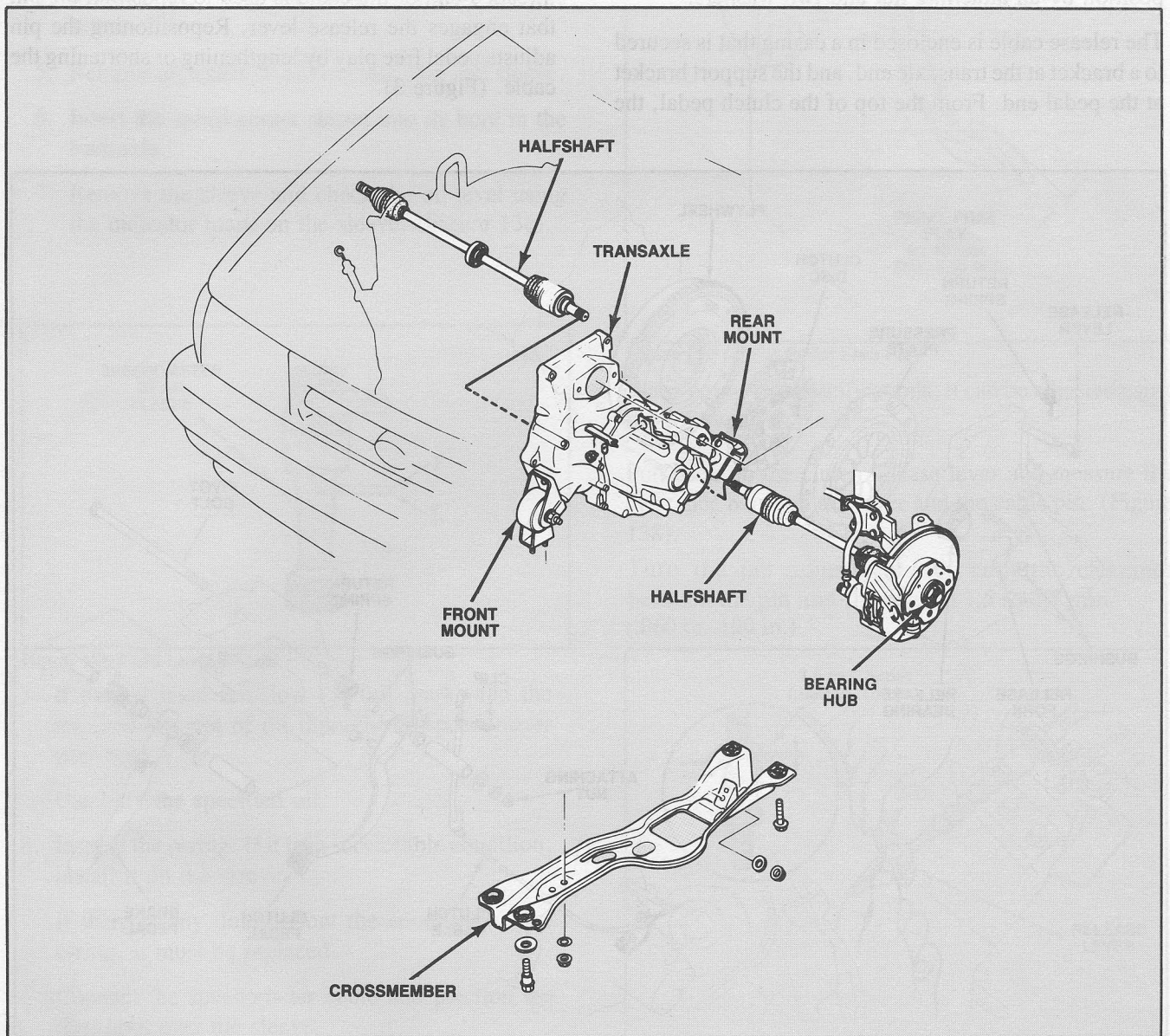


Figure 2 Transaxle Installation View

# DESCRIPTION

## CLUTCH

The transaxle input shaft is linked to the engine through a mechanical clutch consisting of a Belleville spring-type pressure plate and a 180mm (7 inch) friction disc. After it has passed through the clutch disc splines, the input shaft is supported in the flywheel on a small, fully sealed ball bearing.

The holding force exerted by the pressure plate against the clutch disc is released by a pedal-operated cable linked to a release lever, fork and bearing. The clutch pedal is suspended, with the brake pedal, from a support bracket welded to the body. Both pedals hang from the support bracket on a common pivot bolt secured in position by an attaching nut and two washers.

The release cable is enclosed in a casing that is secured to a bracket at the transaxle end, and the support bracket at the pedal end. From the top of the clutch pedal, the

cable extends to an external release lever at the transaxle. When the clutch pedal is pressed, the cable and external release lever rotate a shaft that enters the transaxle clutch housing and passes through the clutch release fork. As the shaft rotates, the attached fork slides the release bearing along the transaxle extension until it contacts and releases the pressure plate. When the pedal is released, springs attached to the support bracket and external release lever return the clutch release components to the normal applied position.

Clutch pedal free play is adjusted where the cable passes through the external release lever. A nut on the threaded end of the cable is used to reposition the pin that engages the release lever. Repositioning the pin adjusts pedal free play by lengthening or shortening the cable. (Figure 3).

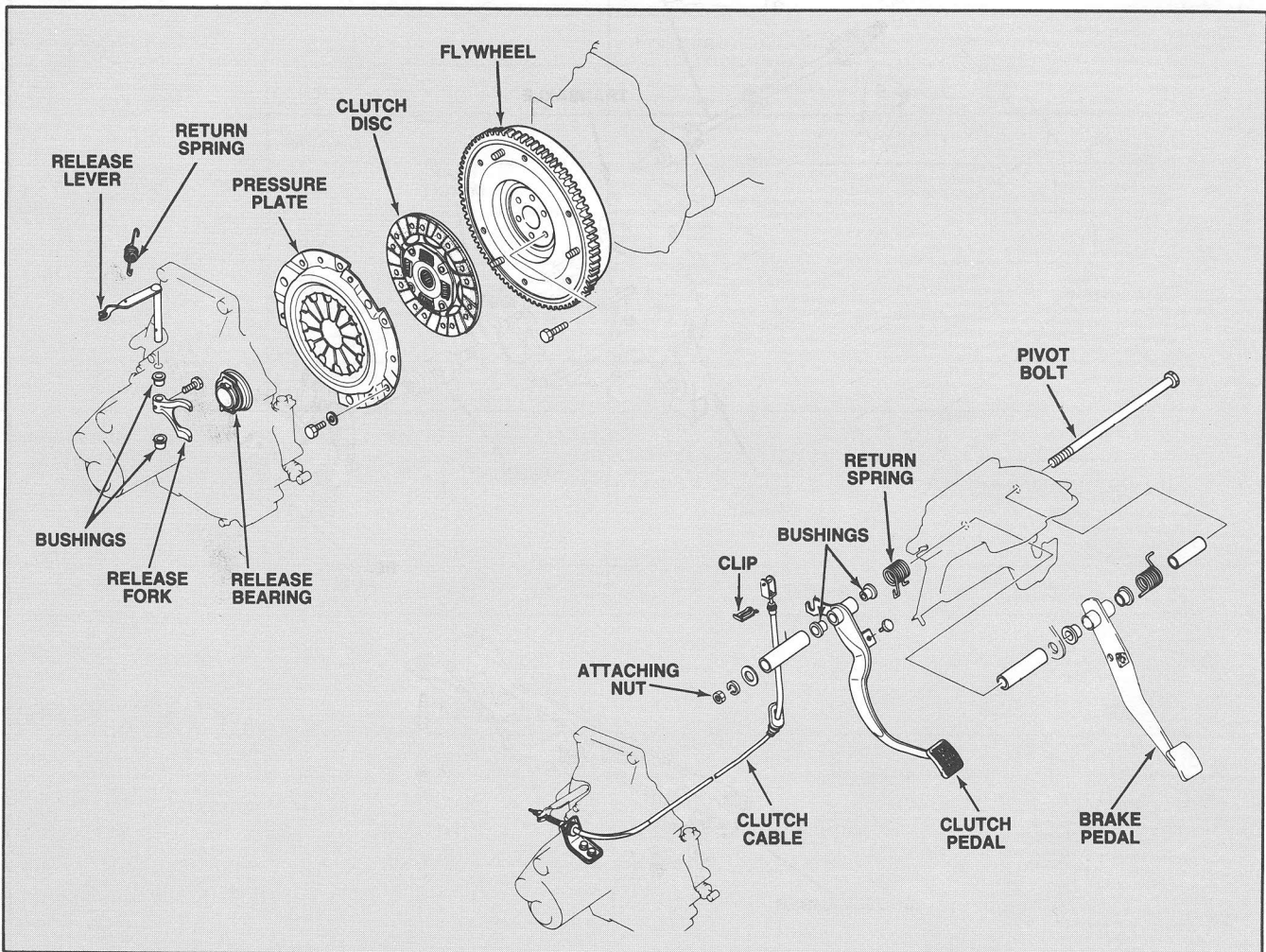


Figure 3 Clutch and Clutch Release Components

# DESCRIPTION

## SHIFT LINKAGE

The external shift linkage used with the four- and five-speed transaxles is identical. A tubular shift rod connects the input shift rail at the transaxle with the floor-mounted shift lever in the passenger compartment. At both ends, the shift rod attachment consists of a bolt and nut with bushings to prevent direct contact between the metal parts. (Figure 4).

The shift rod and lever assembly is stabilized against the forward and rearward action of shifting by a tubular rod attached to the shift lever housing and the transaxle housing. At the lever end, the stabilizer rod is crimped and welded to the shift lever housing. At the transaxle

end it contains a rubber bushing that is installed over a stud threaded into the clutch housing.

From the shift knob, the shift lever extends downward through a rubber boot attached to the floor console. Beyond the boot, the lever enters a housing held against the floor pan by four attaching nuts. The housing contains the shift lever ball socket bushings, bushing seats and preload spring. The components are held in position by a retainer installed at the top of the housing. Leakage into or past the shift lever housing is prevented by a seal installed on the top of the housing and a gasket installed between the housing and the floor pan.

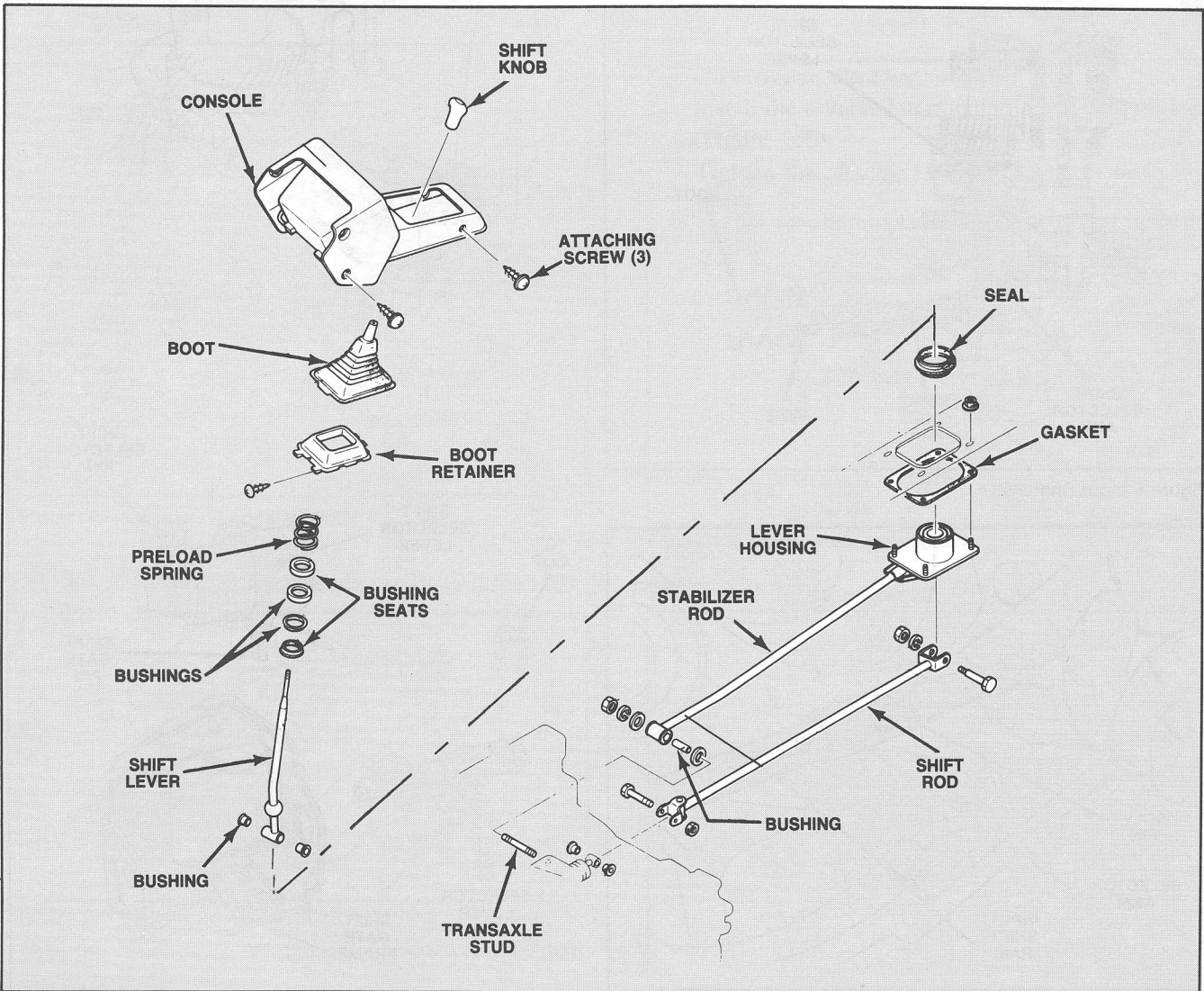


Figure 4 Shift Linkage

# DESCRIPTION

## SHIFT GATE

The input shift rail enters the clutch housing through a protective boot and lip-type oil seal. In the clutch housing, the rail passes through and is pinned to the shift selector arm. The arm extends away from the rail to engage the selector lever located in the shift gate. Because it has to move back and forth and rotate slightly, the selector lever is mounted on a pin supported in the shift gate frame. (Figures 5 and 6).

Two pins extend from the selector lever — a shift selector pin and a shift gate pin. The selector pin engages and moves the shift forks while the other meshes

with the shift gate. The forward and backward motion of the selector lever aligns the selector pin with one of the forward speed shift forks or the reverse intermediate lever. Rotation of the selector lever allows the same pin to move a shift fork. When a fork is moved, a synchronizer is shifted and the transaxle is in gear.

The pin extending from the opposite side of the selector lever aligns with slots in the shift gate. The shift gate and pin ensure proper alignment of the shift selector pin before it engages and moves a shift fork. (Figure 7).

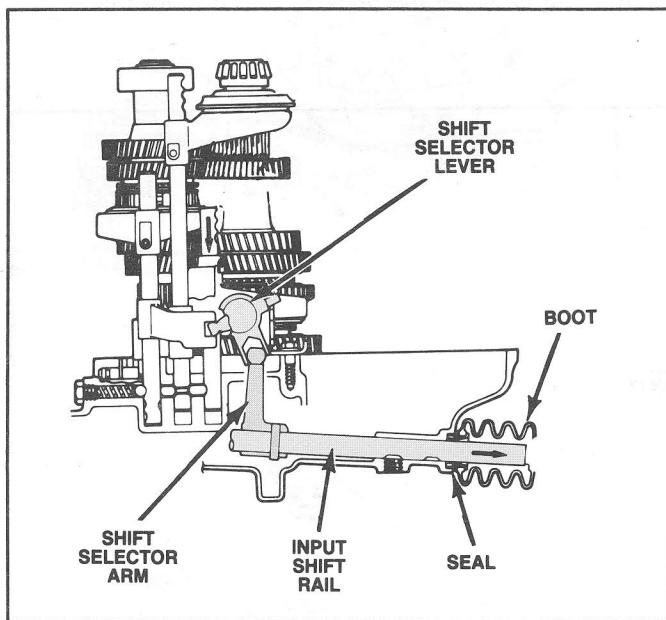


Figure 5 Input Shift Rail

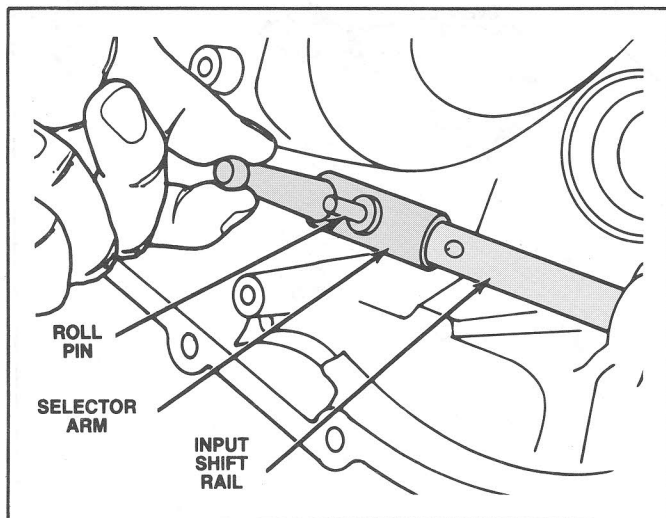


Figure 6 Selector Arm/Roll Pin

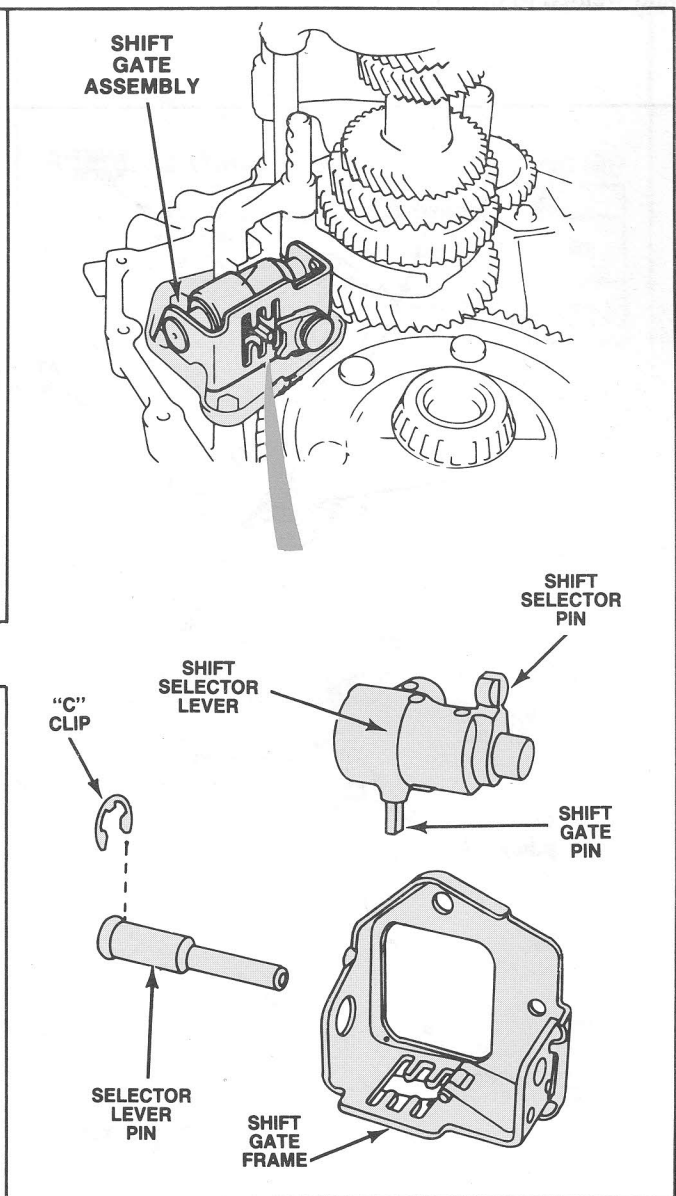


Figure 7 Shift Selector Lever



# DESCRIPTION

## SHIFT RAILS

When the selector lever rotates, its motion is transferred to the synchronizer through shift rails and forks. Both the four- and five-speed transaxles contain three shift rails. Two of the rails have the same function — shifting the one/two and three/four synchronizers. The remaining rail shifts both transaxles into reverse. In a five speed, the reverse rail also provides the fifth gear shift. (Figure 8).

Only the first/second shift fork and rail are moved directly by the selector lever pin. The remaining two rails require relay arms to transfer the motion of the selector lever. The reverse idler gear requires an addi-

tional lever extending from the fifth/reverse relay arm to the gear.

When the driver moves the shift lever right or left, the selector lever moves on its mounting pin to align with one of the relay arms or the first/second shift fork. When the driver moves the shift lever forward or rearward to engage a gear, the selector lever rotates slightly on the mounting pin. As it rotates, the selector lever pin will transfer this motion to the relay arms or shift fork. Because the relay arms and forks are pinned to the rails the motion is transferred to the synchronizers or reverse lever and the transaxle is shifted into a gear.

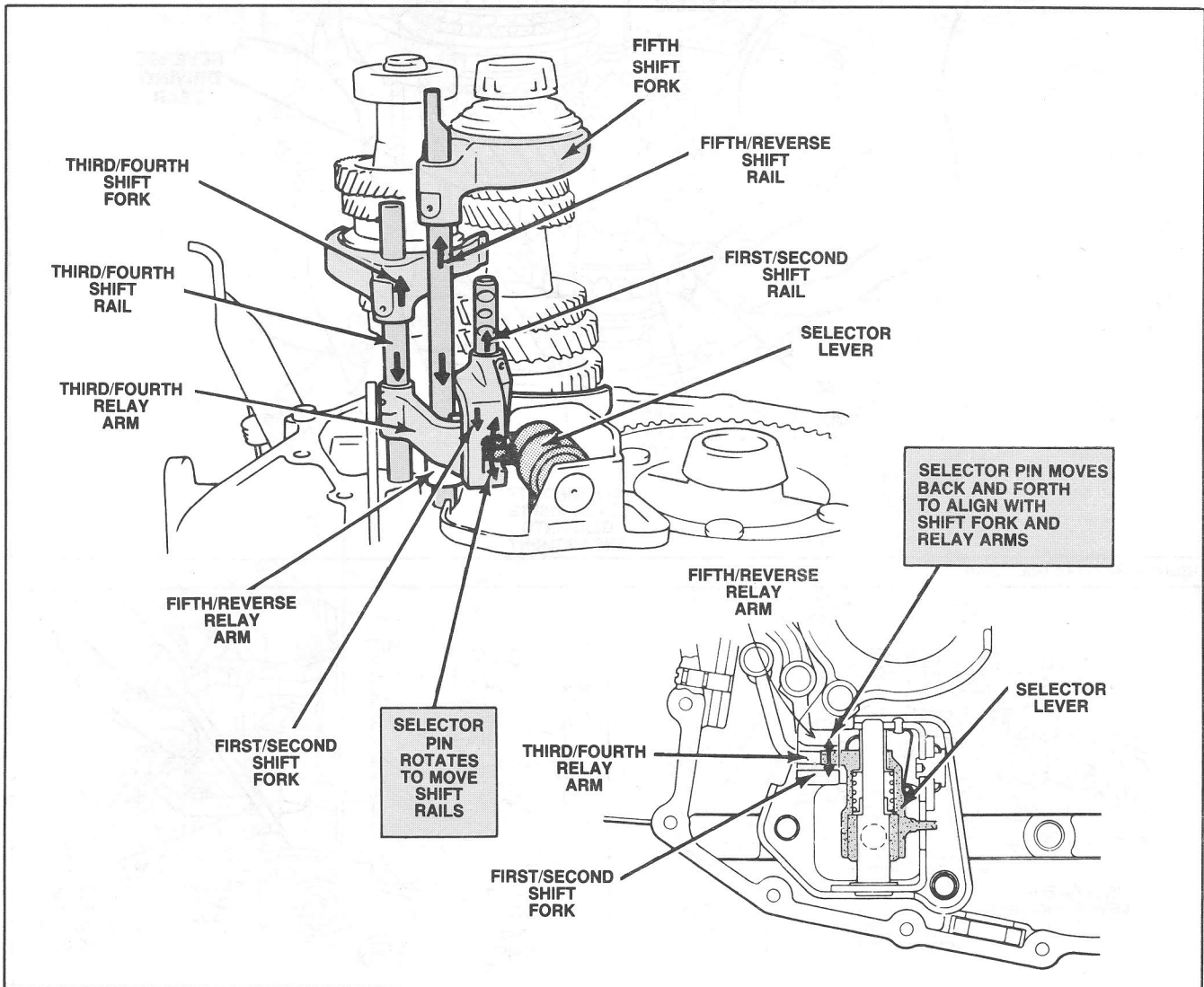


Figure 8 Shift Rails

# DESCRIPTION

## REVERSE IDLER GEAR/SHIFT LEVER

The reverse idler gear is mounted on a shaft supported at one end in the clutch housing and at the other in the transmission case. Because it slides and rotates on the shaft, a bushing is installed in the gear to prevent metal to metal contact with the shaft.

When the gear slides on the shaft it engages the reverse driving gear on the input shaft and the reverse driven gear on the output shaft. While the driving gear is part of the input shaft, the driven gear is machined on the outside diameter of the first/second synchronizer sleeve. (Figure 9).

When the idler gear rotates on the shaft, it reverse the power flow to the output shaft.

When a reverse shift is made, the motion of the selector lever is transferred to an intermediate lever through the reverse (fifth/reverse) relay arm. The lever is mounted on a pivot pin that allows it act as a fulcrum. When relay arm moves its end of the lever, the opposite end slides the reverse idler gear along the shaft into engagement with the input and output shaft gears. (Figures 10 and 11).

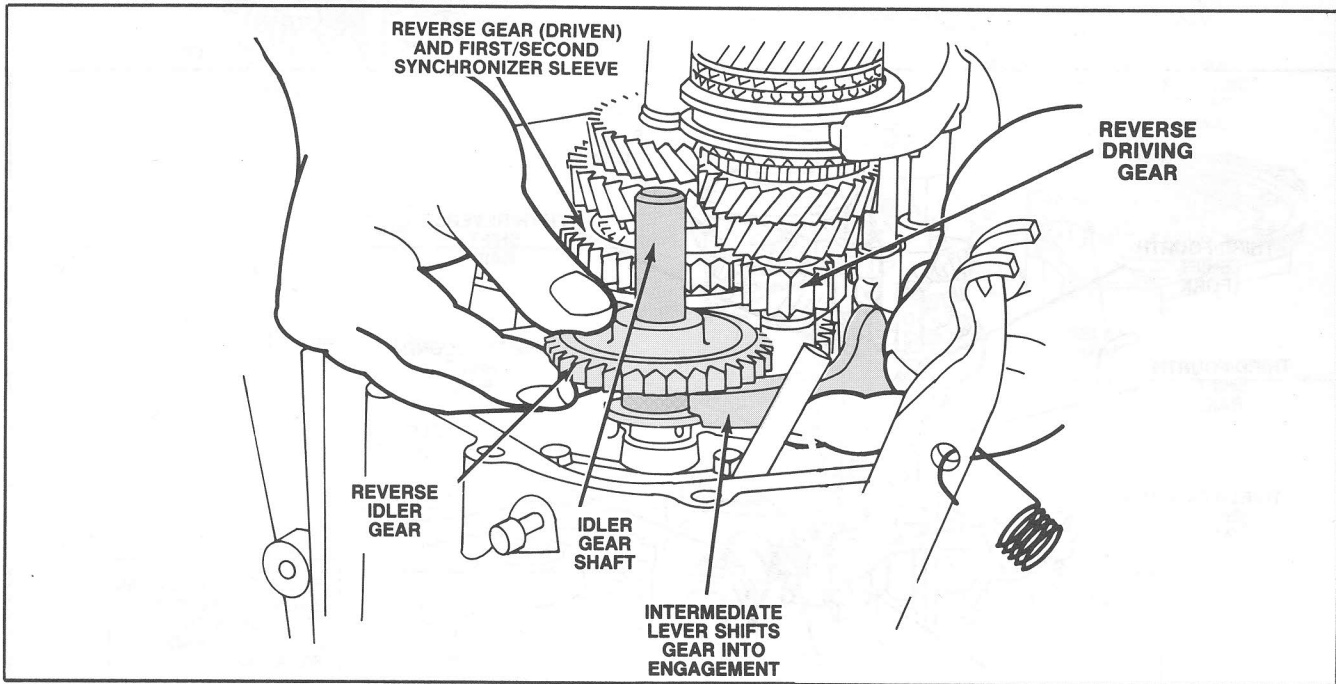


Figure 9 Reverse Idler Gear

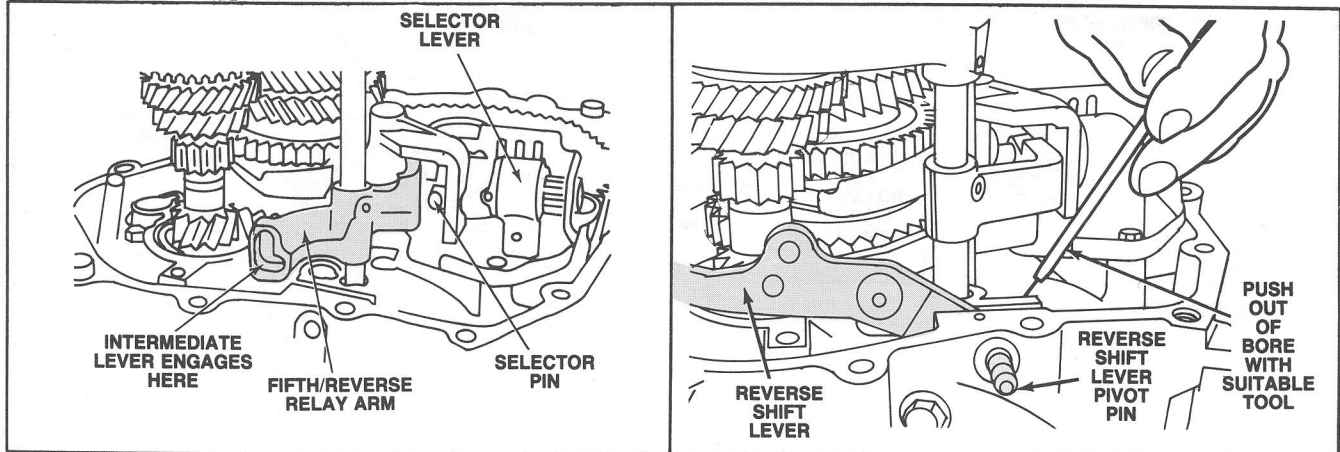


Figure 10 Reverse Relay Arm

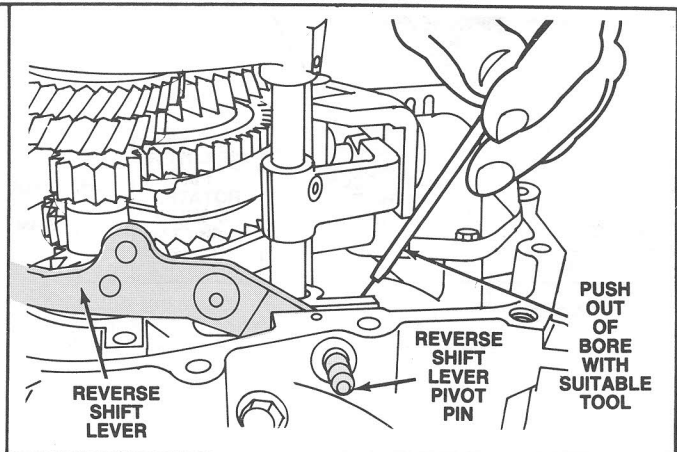


Figure 11 Shift Lever Pivot Pin

# DESCRIPTION

## REVERSE LOCKOUT (FIVE-SPEED ONLY)

Because fifth and reverse are on a straight line in the shift pattern, a shift interlock is installed to prevent a direct shift from fifth gear into reverse. (Figure 12).

The reverse lockout is mounted on the shift gate frame where the selector lever pin engages the shift pattern. When the selector pin moves from the fifth gear position it contacts the lockout cam. The contour of the cam

directs the selector pin away from reverse into the neutral position.

The cam is spring loaded to block the path to reverse and can be moved only from the neutral position. When the lockout cam is approached from neutral it will pivot on its mounting pin, allowing the selector lever pin to enter the reverse position. (Figure 13).

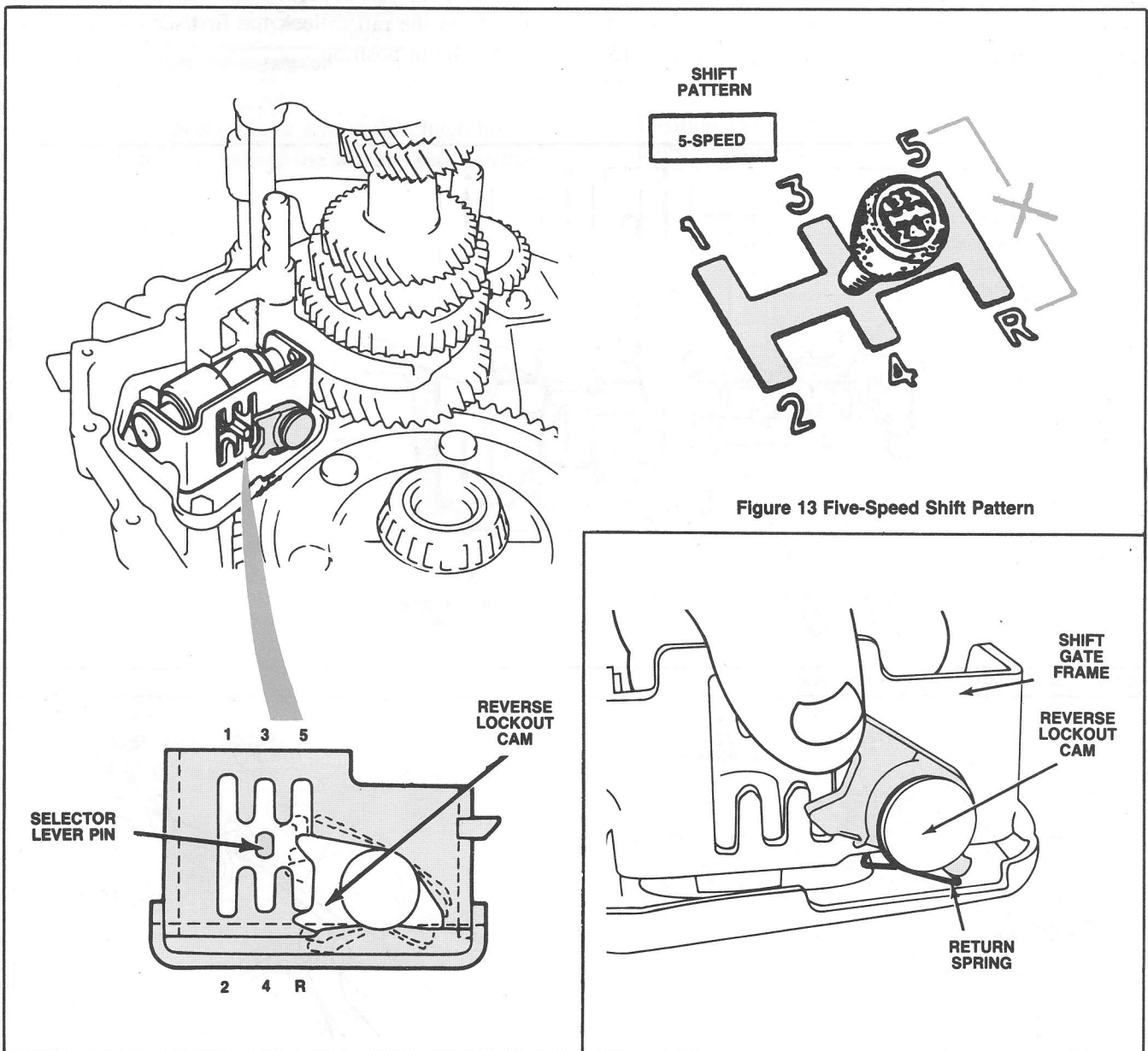


Figure 13 Five-Speed Shift Pattern

Figure 12 Reverse Lockout

Figure 13 Reverse Lockout Cam

# DESCRIPTION

## SHIFT INTERLOCKS

Once the transaxle is shifted into a gear, movement of the remaining shift rails is prevented by the shift interlocks. The shift rails are locked in position to eliminate the simultaneous engagement of the transaxle in two gears.

The interlock consists of two plugs and a pin. The plugs are located in a bore that intersects the shift rails at a right angle. When the plugs are installed, they are located on each side of the fifth/reverse shift rail. Of course, in a four-speed transaxle, this is the reverse shift rail. The interlock pin is installed in the fifth/reverse, or reverse, shift rail and is positioned so that it contacts the ends of the interlock plugs. (Figures 14, 15 and 16).

In neutral, the shift rail detents are aligned with the interlock plugs and pin, allowing movement of any of the three shift rails. Depending upon the gear selected, the interlock plugs and pin will shift their position to lock the remaining two shift rails in position.

In first/second gear or third/fourth gear shifts, the affected interlock plug moves to lock the fifth/reverse rail in position. Its motion is also transferred through the interlock pin to the remaining plug which locks the other shift rail in position. In a fifth or reverse shift, the interlock pin is not needed. Both interlock plugs move away from the rail to lock the first/second and third/fourth rails in position.

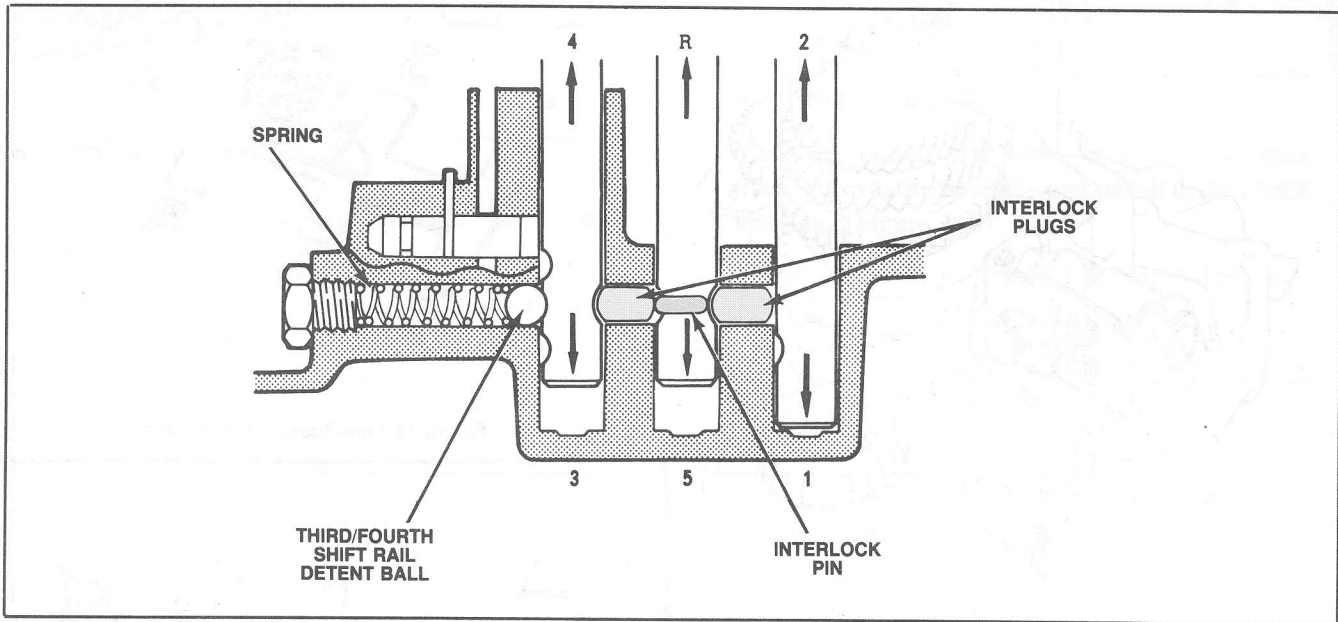


Figure 14 Shift Interlock - Sectional View

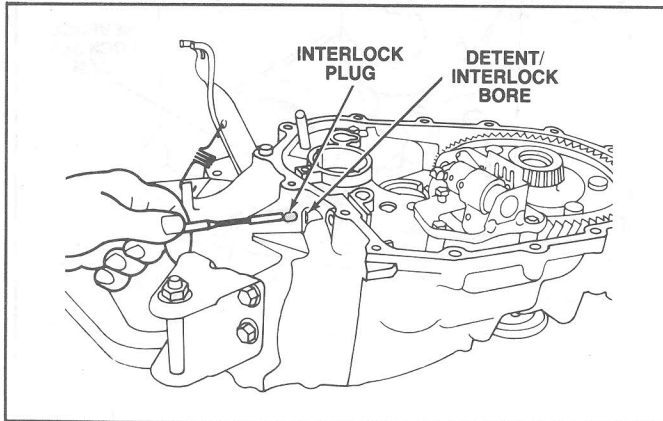


Figure 15 Shift Interlock - Location View

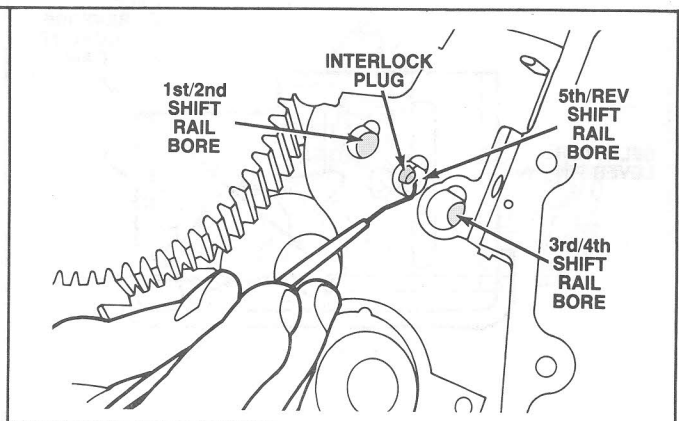


Figure 16 Shift Interlock - Functional View

# DESCRIPTION

## SHIFT DETENTS

When the transaxle is shifted into a gear, the positive feeling of engagement is provided by the shift detents. The detents are spring-loaded balls that ride against notches cut in the shift rails. Each rail has three notches. The center notch in all cases is the neutral detent. The notches on either side of the center notch represent a gear position. (Figure 17).

Two detents, the first/second and fifth/reverse, are located in the transmission case. The remaining third/fourth detent is located in the clutch housing. The detent balls and springs are installed from the outside of the case and threaded plugs are then used to seal the bores. (Figure 18 and 19).

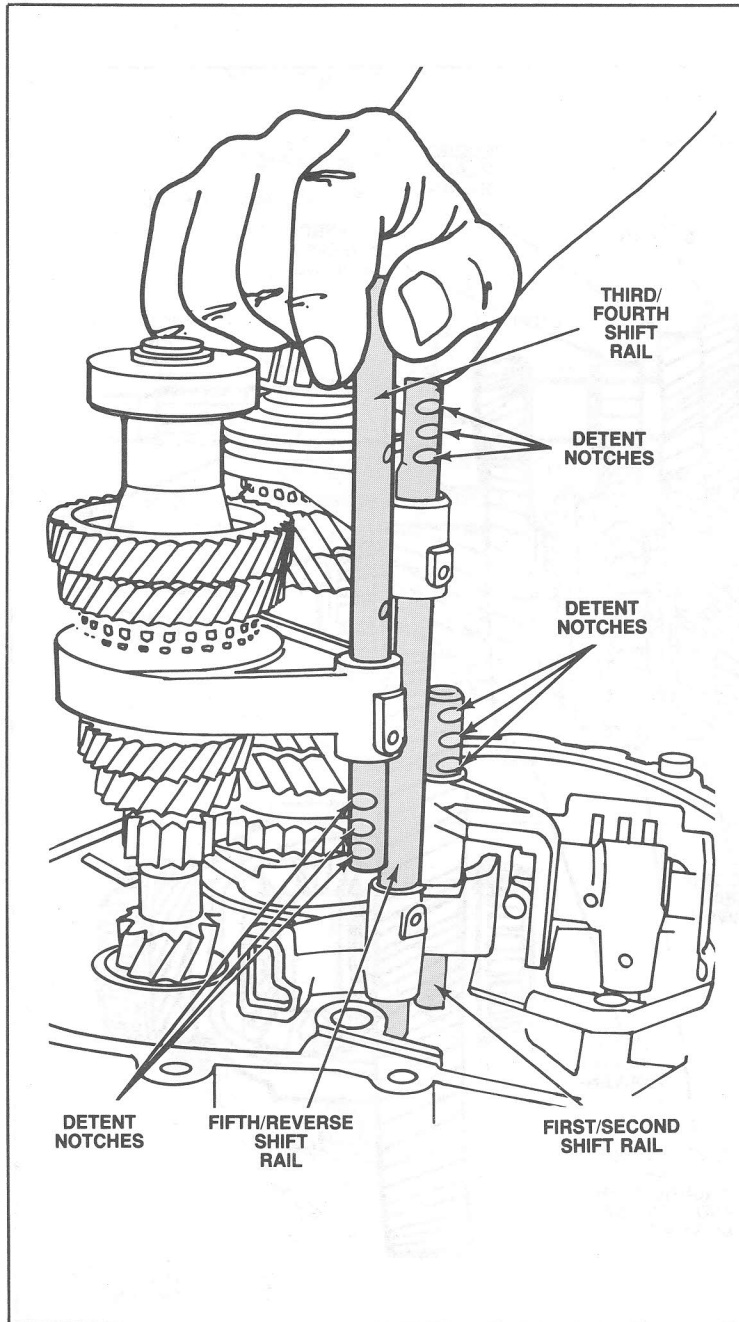


Figure 17 Shift Rail Detents

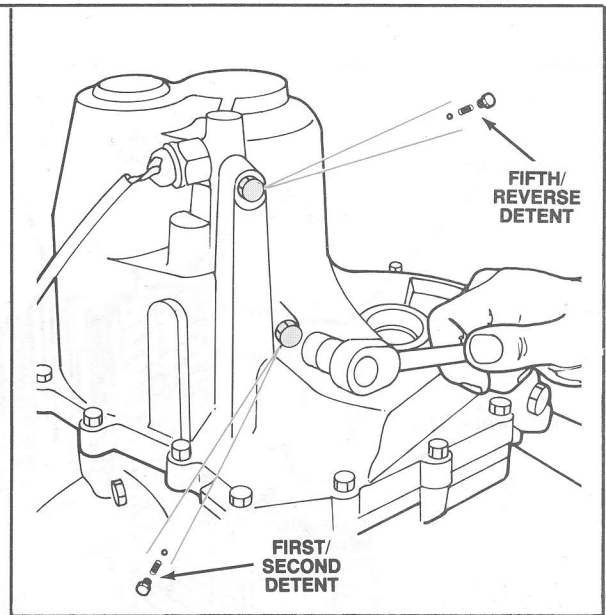


Figure 18 Detent Location

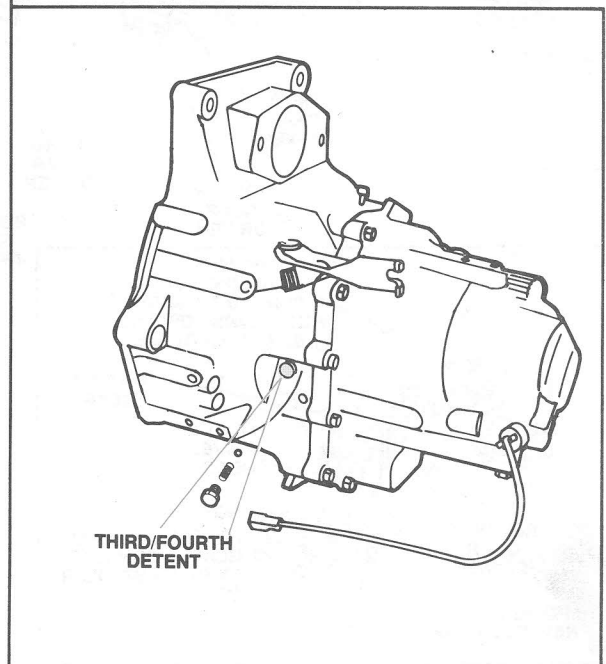


Figure 19 Detent Location

# DESCRIPTION

## GEAR TRAIN

The gear train in both the four- and five-speed manual transaxle consists of an input shaft, an output shaft, a reverse idler and the differential ring gear. The only difference between the two gear trains is the fifth gear. In the four-speed transaxle, spacers replace the fifth driving gear on the input shaft and the fifth gear synchronizer on the output shaft. The fifth driven gear is not installed, making its position a vacant area on the output shaft. (Figure 20).

The input shaft, which is splined to the clutch disc, is supported in the case on ball bearings. The output shaft is supported in the case on tapered roller bearings. Preload on the output shaft bearings is set using selective shims. Input shaft endplay is controlled with selective shims. The shims for the input shaft ball bearings are installed directly in the transmission case bore. The preload shims for the output shaft tapered roller bearings are installed under the bearing cup in the transmission case.

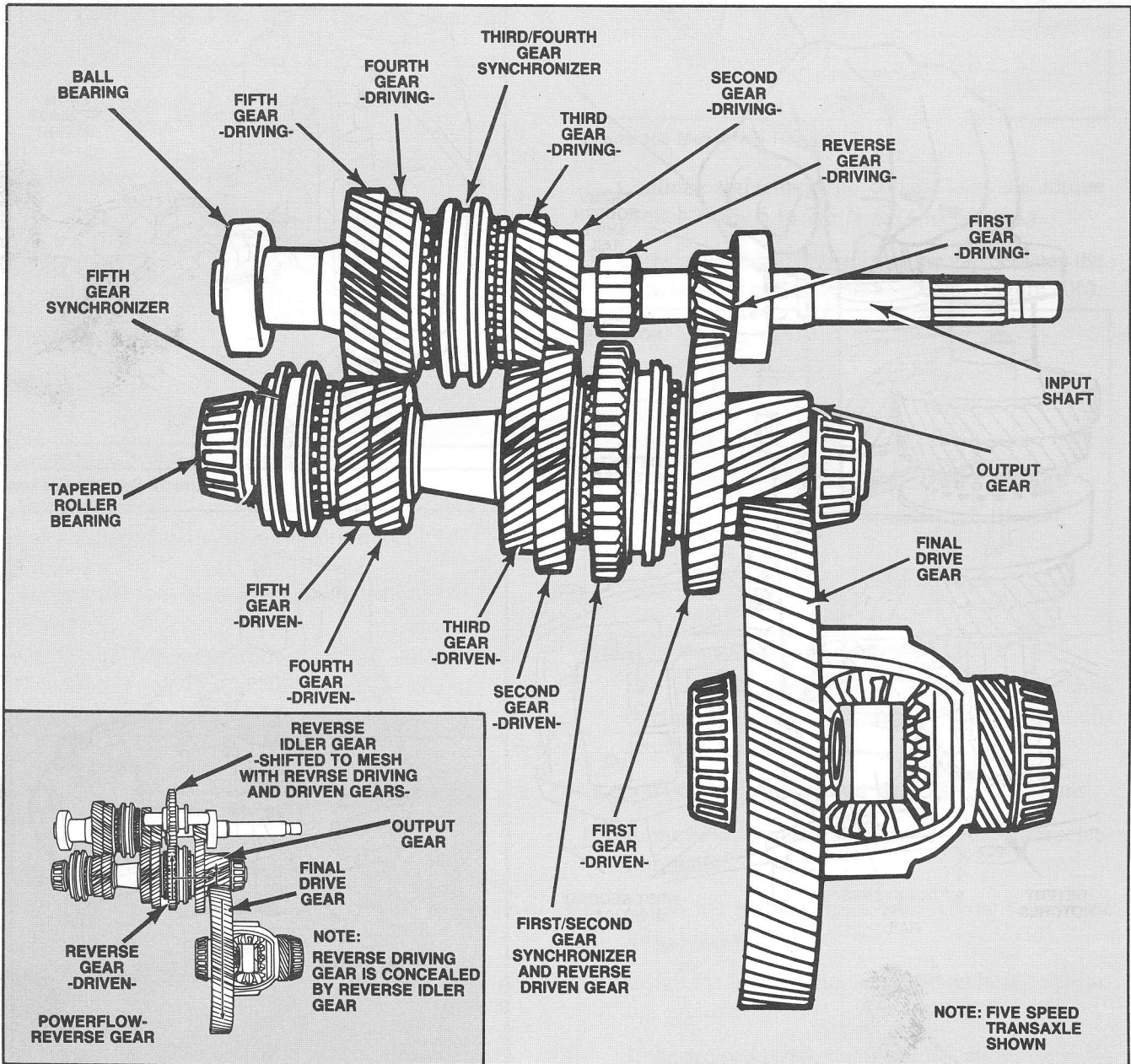


Figure 20 Gear Train Component Identification

# DESCRIPTION

## GEAR TRAIN

In both transaxles, the synchronizers are installed in the same position. The third/fourth synchronizer is installed on the input shaft and the first/second synchronizer is installed on the output shaft. When the transaxle is equipped with a fifth gear, the synchronizer is installed on the end of the output shaft.

The reverse idler gear is mounted on a stationary shaft supported in the clutch and transmission housings. When shifted, the reverse idler gear slides on the shaft to engage the reverse driving gear on the input shaft and

the reverse driven gear on the output shaft. The output shaft reverse driven gear is machined on the outer diameter of the first/second synchronizer sleeve.

The input and output shafts are drilled horizontally and vertically to provide lubrication to the rotating gears. Funnels are used to route oil into the horizontal lubrication passages. The funnel supplying oil to the input shaft is located in the transmission housing bearing bore. The remaining funnel, supplying the output shaft, is installed in the clutch housing bearing bore. (Figure 21).

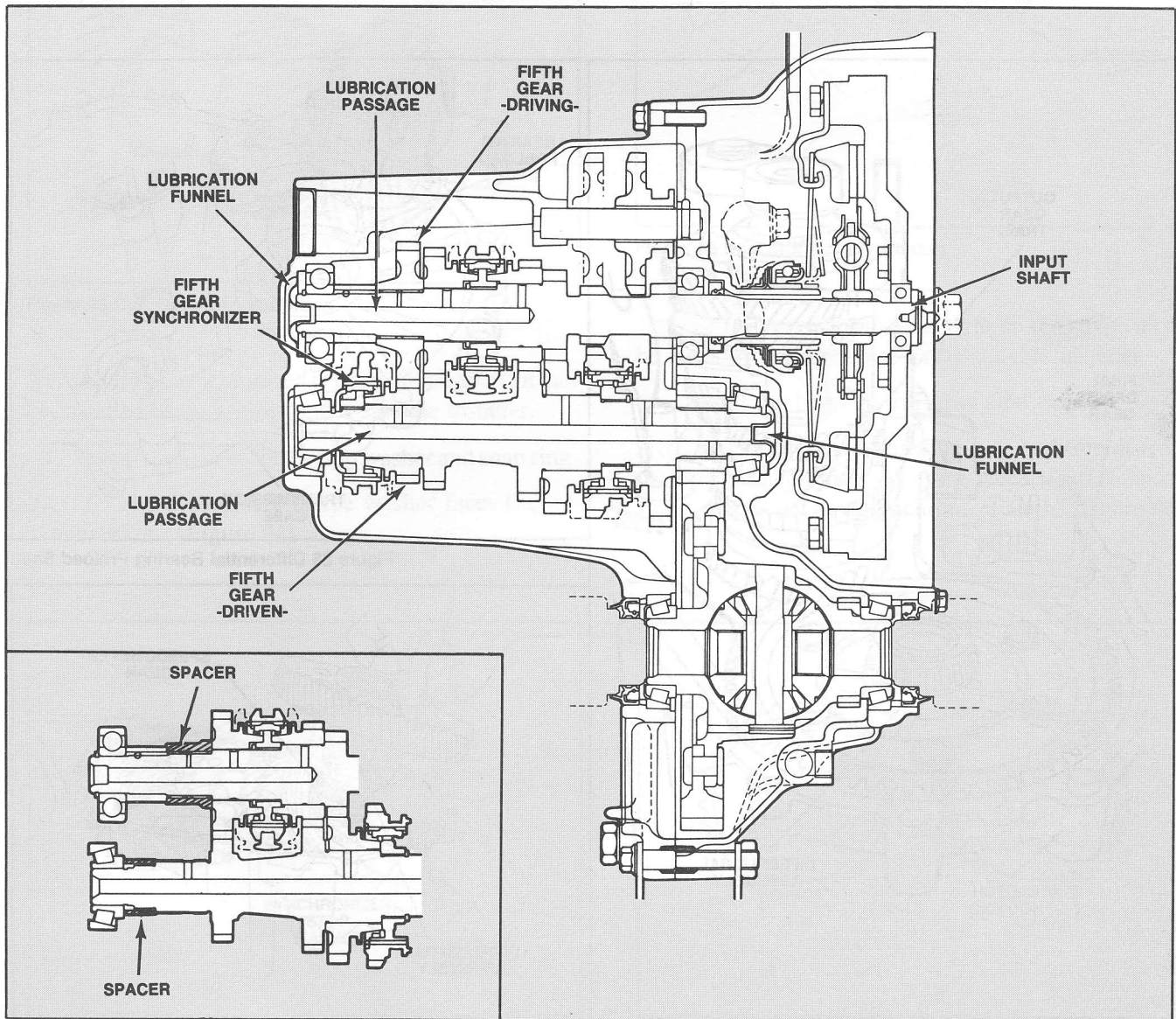


Figure 21 Gear Train Sectional View

# DESCRIPTION

## DIFFERENTIAL

The final gearset in the transaxle is the output gear and the final drive gear. The output gear is splined to the end of the output shaft where it meshes with the final drive gear which is riveted to the differential housing.

The ends of the differential case are supported on tapered roller bearings. The cups for these bearings are seated in the transmission case and the clutch housing. Preload on the differential bearings is set using a selective shim that is installed under the bearing cup in the transmission housing. (Figures 22 and 23).

The differential contains the typical side gears and shaft-mounted pinion gears. Direct contact between the four gears and the housing is prevented by thrust washers installed under the gears. The pinion gear shaft is held in position by a roll pin that extends through the end of the shaft and the differential case.

The speedometer driven gear is also mounted on the differential case. A tab on the gear and a matching slot in the differential case prevent the gear from spinning on the case. (Figure 24).

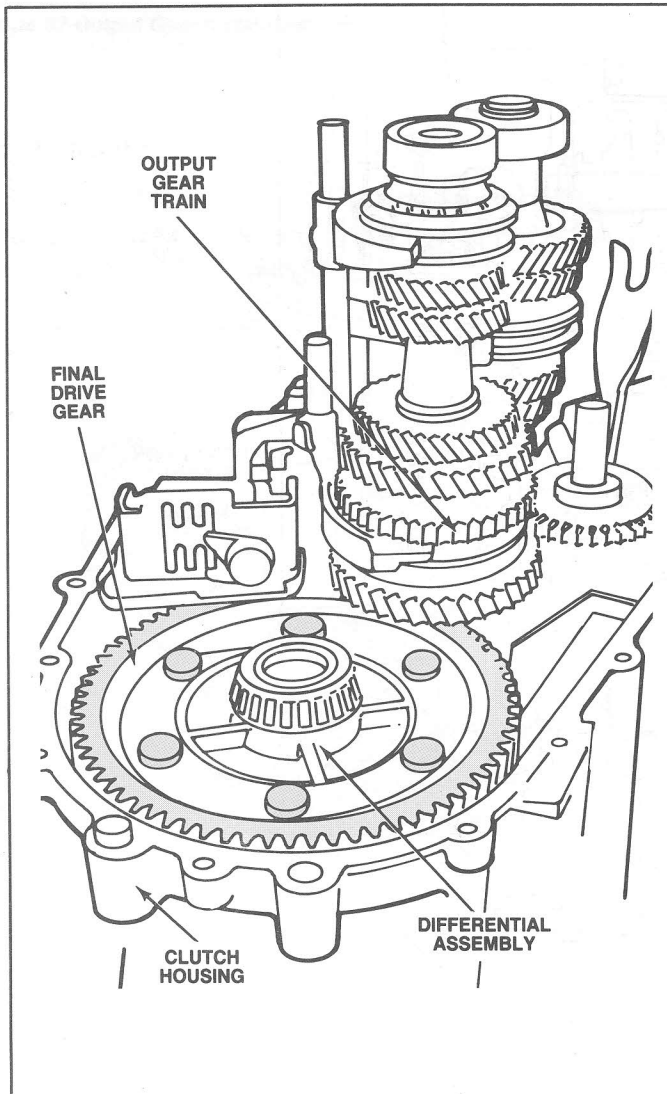


Figure 22 Differential Installed View

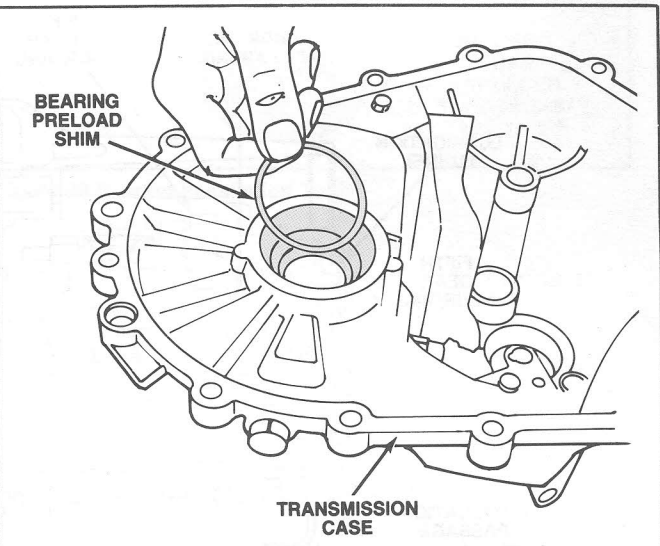


Figure 23 Differential Bearing Preload Shim

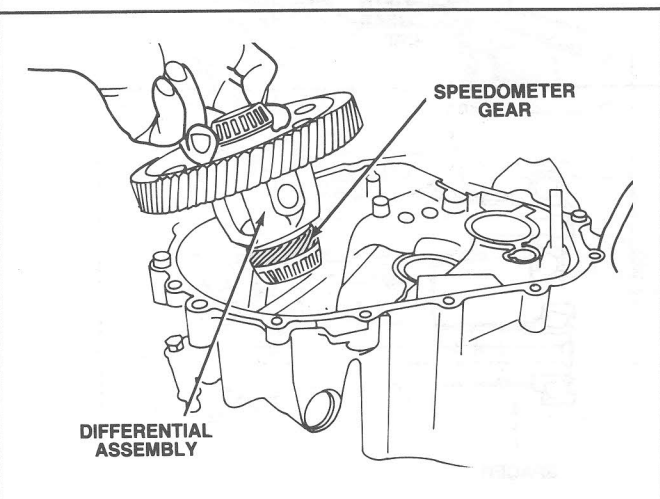


Figure 24 Speedometer Gear Location



# POWERFLOW

## FIRST GEAR

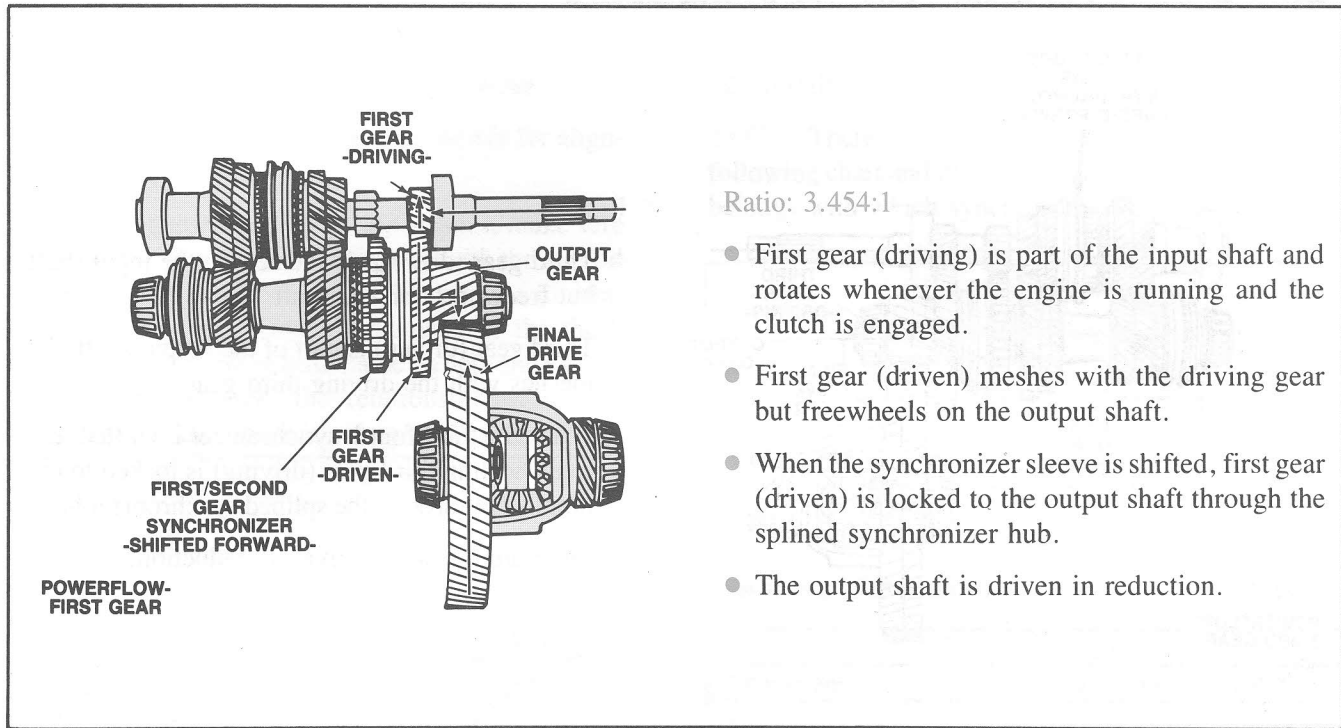


Figure 25 Powerflow - First Gear

## SECOND GEAR

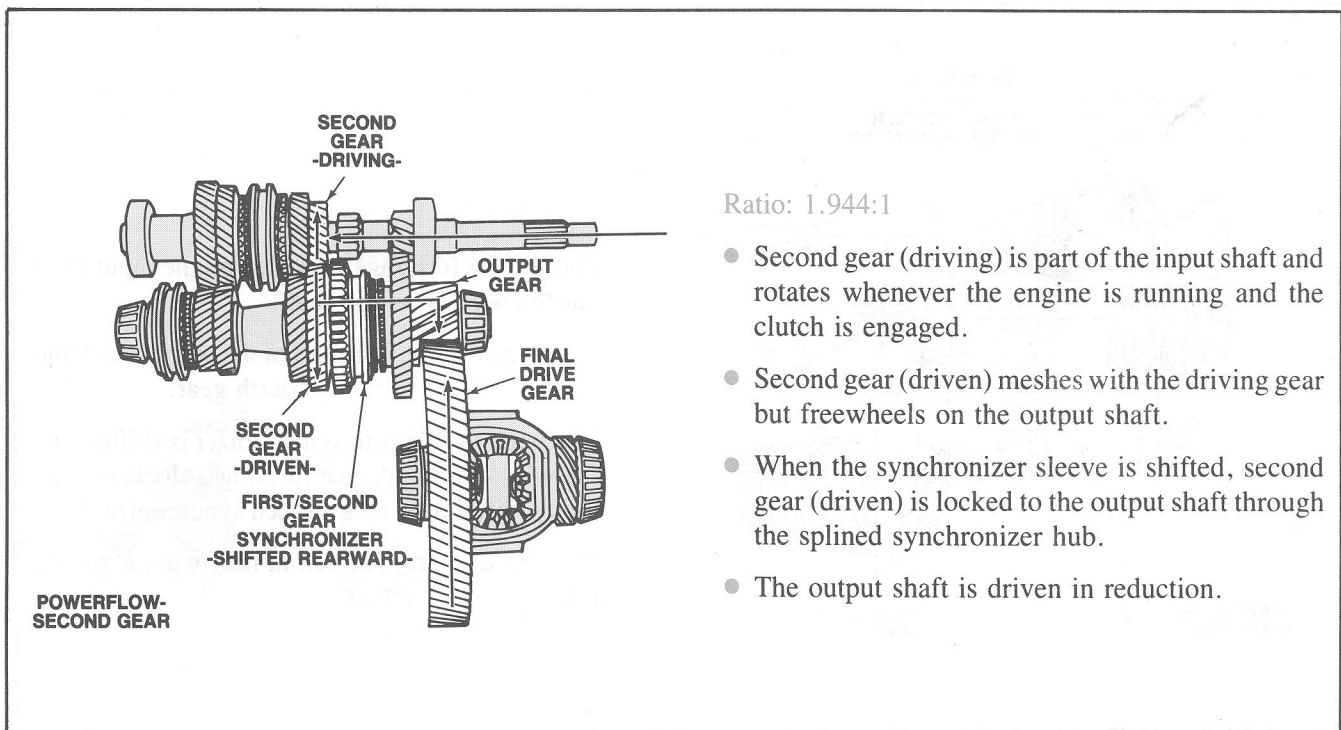


Figure 26 Powerflow - Second Gear

# POWERFLOW

## THIRD GEAR

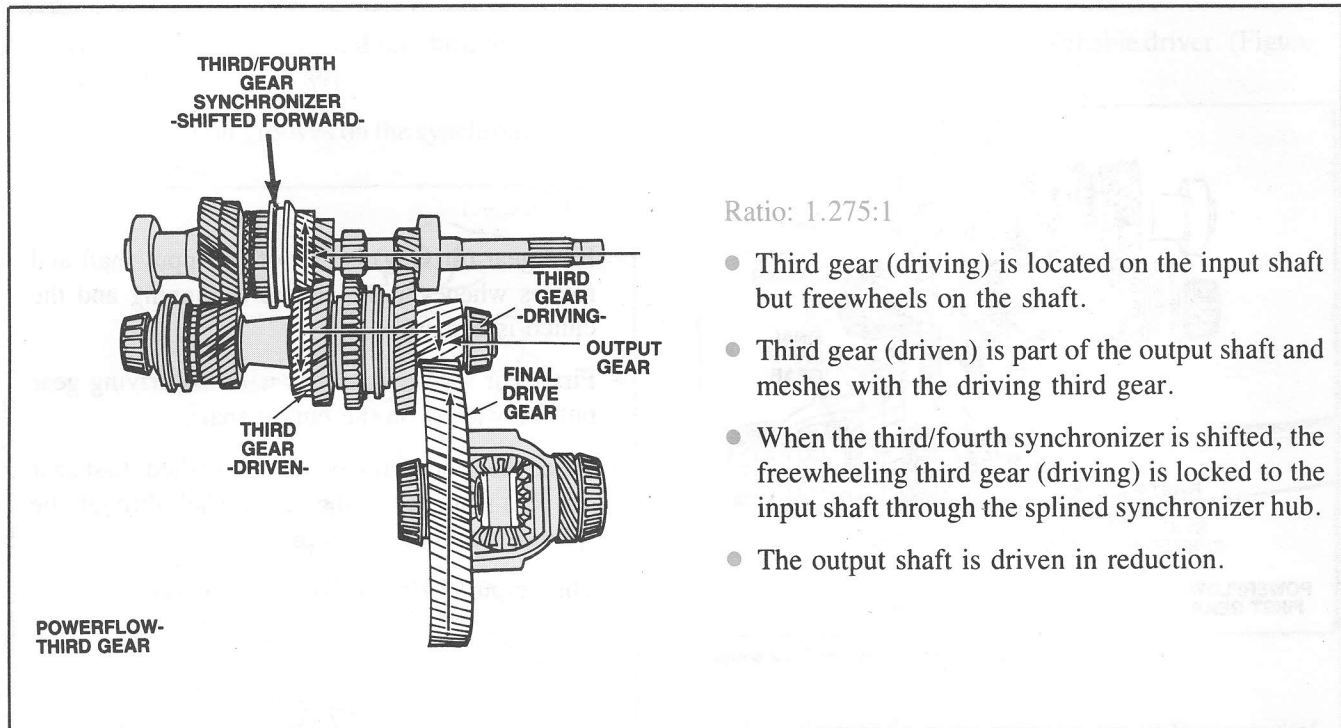


Figure 27 Powerflow - Third Gear

## FOURTH GEAR

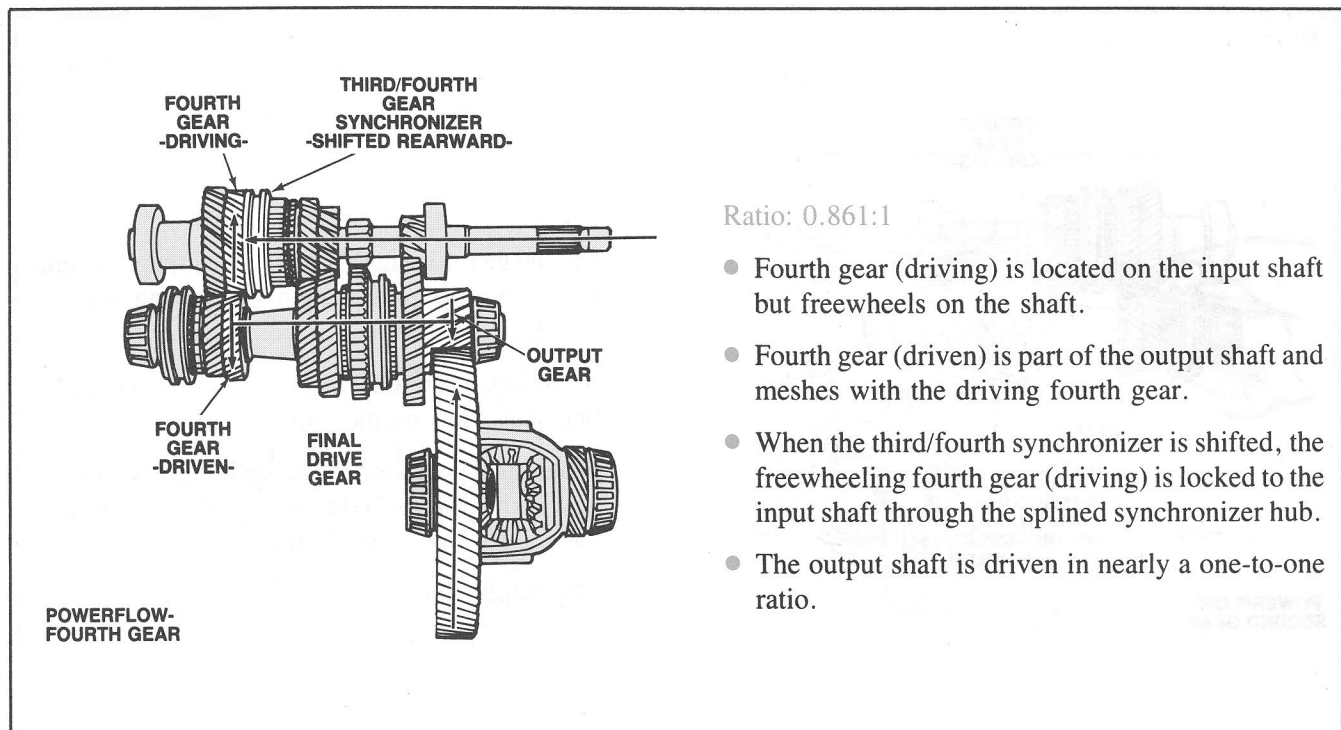


Figure 28 Powerflow - Fourth Gear

# POWERFLOW

## FIFTH GEAR

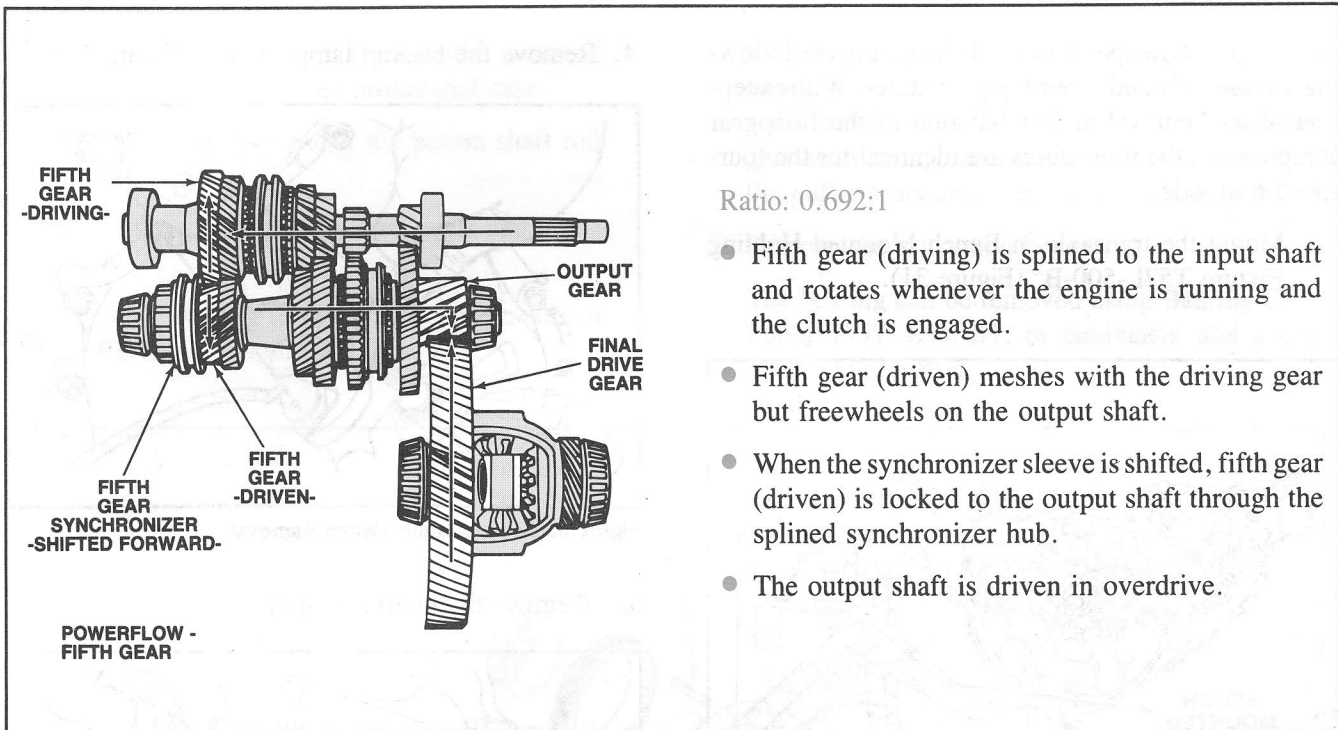


Figure 29 Powerflow - Fifth Gear

## REVERSE GEAR

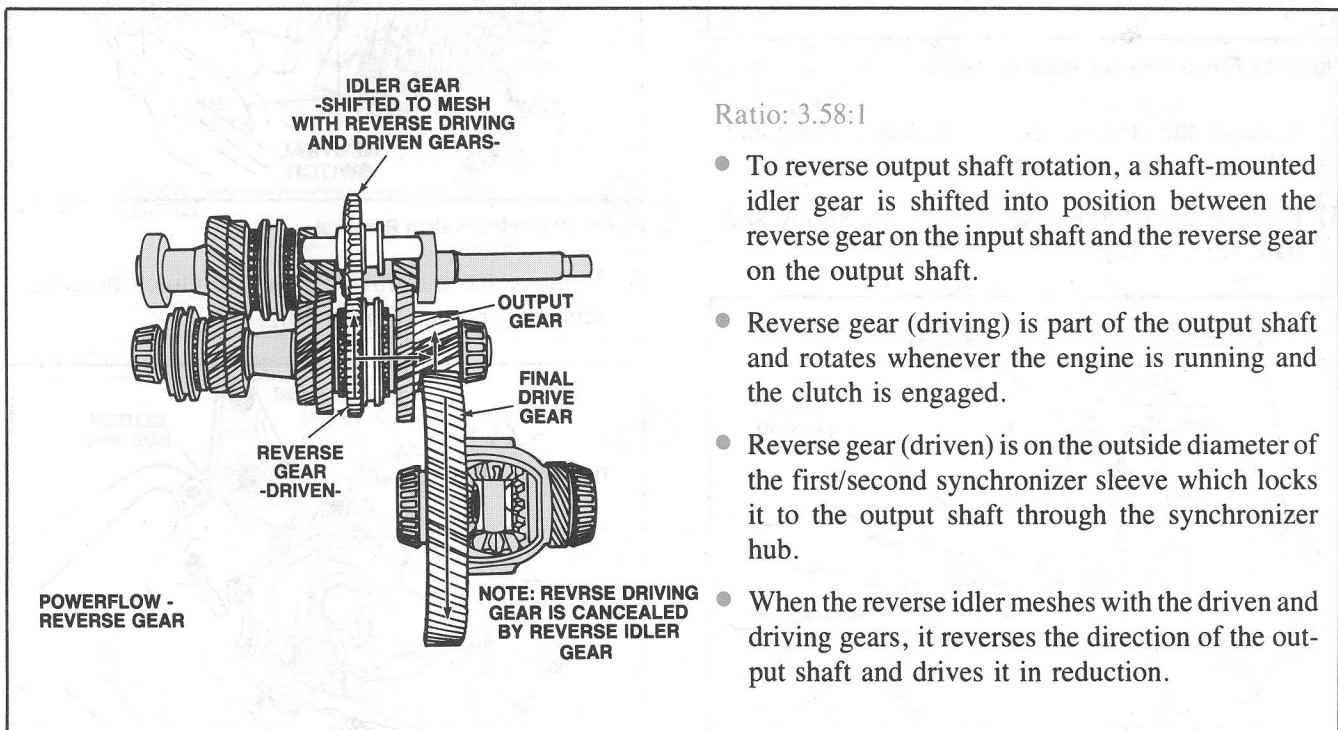


Figure 30 Powerflow - Reverse Gear

# DISASSEMBLY

## INPUT AND OUTPUT GEAR TRAIN REMOVAL

**NOTE:** The five-speed transaxle is used in the following disassembly and assembly procedures. With exception of the removal and installation of the fifth gear components, the procedures are identical for the four-speed transaxle.

1. Mount the transaxle in Bench Mounted Holding Fixture T57L-500-B. (Figure 31).

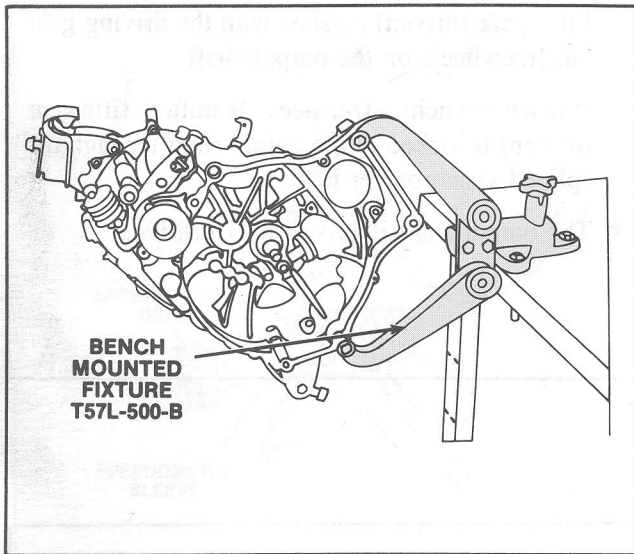


Figure 31 Bench Mounted Holding Fixture

2. Remove the first/second detent plug, spring and ball.
3. Remove the fifth/reverse detent plug, spring and ball. (Figure 32).

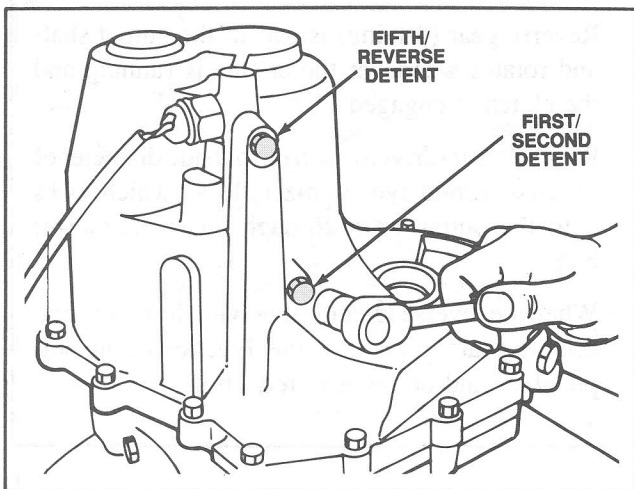


Figure 32 Detent Removal

4. Remove the backup lamp switch. (Figure 33).

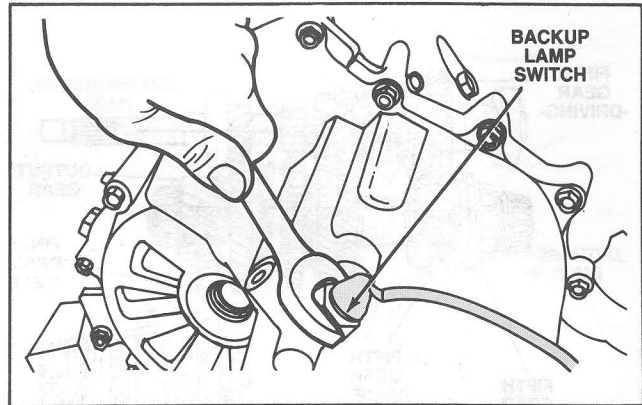


Figure 33 Backup Lamp Switch Removal

5. Remove the neutral switch.

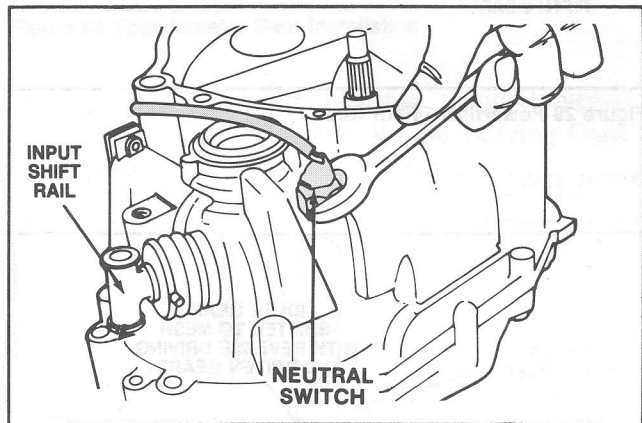


Figure 34 Neutral Switch Removal

6. Remove the transmission case to clutch housing attaching bolts. (Figure 34).

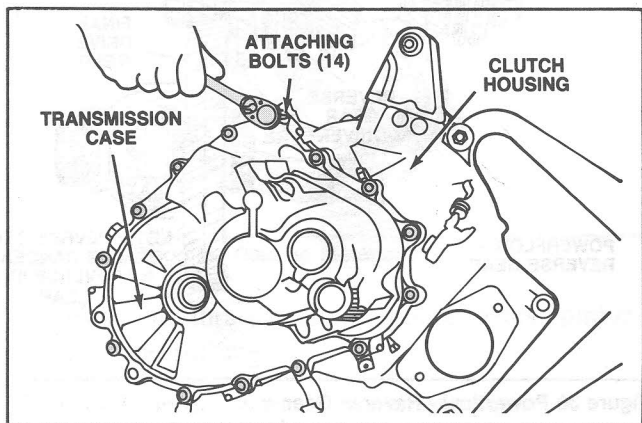


Figure 35 Transmission Case Attaching Bolt Removal

# DISASSEMBLY

## INPUT/OUTPUT GEAR TRAIN DISASSEMBLED VIEW

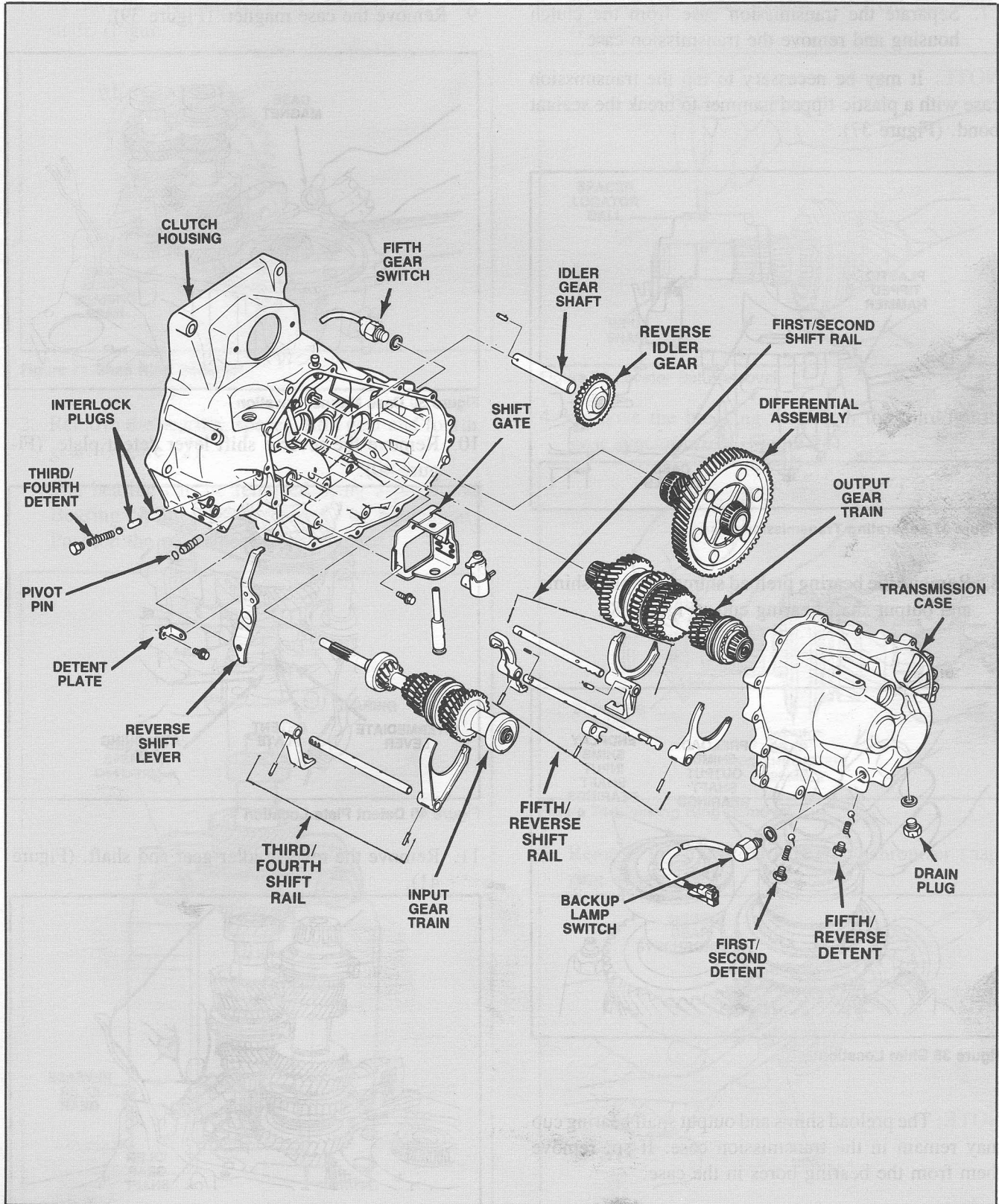


Figure 36 Input/Output Gear Disassembled View

# DISASSEMBLY

## INPUT/OUTPUT GEAR TRAIN REMOVAL

7. Separate the transmission case from the clutch housing and remove the transmission case.

**NOTE:** It may be necessary to tap the transmission case with a plastic-tipped hammer to break the sealant bond. (Figure 37).

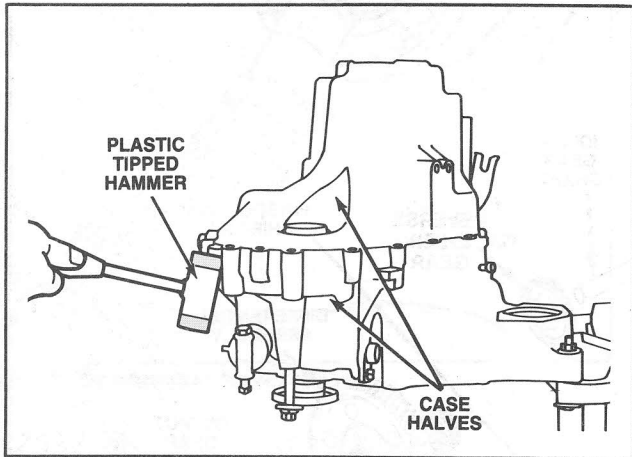


Figure 37 Separating Transmission Case

8. Remove the bearing preload shims, endplay shims and output shaft bearing cup. (Figure 38).

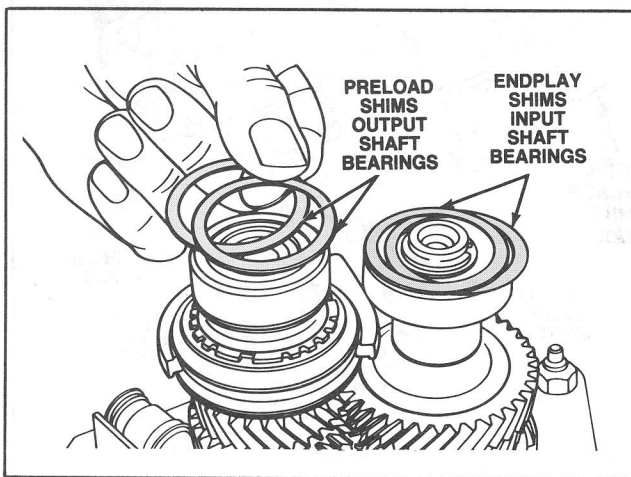


Figure 38 Shim Location

**NOTE:** The preload shims and output shaft bearing cup may remain in the transmission case. If so, remove them from the bearing bores in the case.

9. Remove the case magnet. (Figure 39).

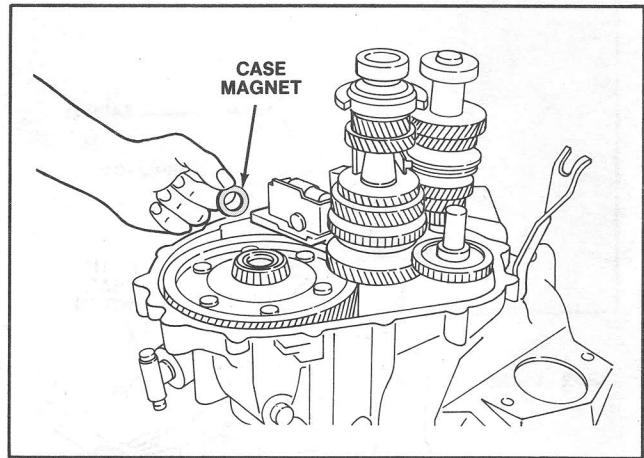


Figure 39 Case Magnet Location

10. Remove the reverse shift lever detent plate. (Figure 40).

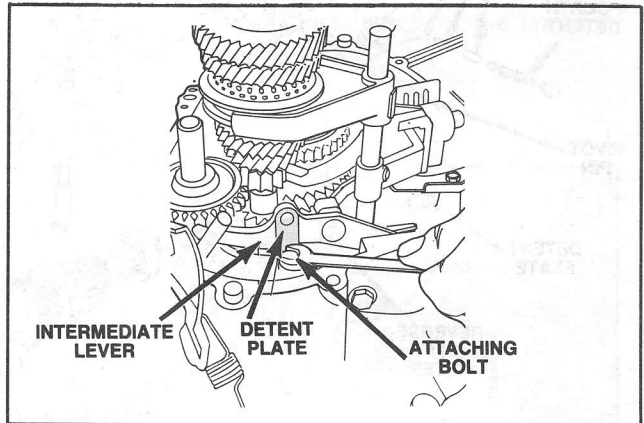


Figure 40 Detent Plate Location

11. Remove the reverse idler gear and shaft. (Figure 41).

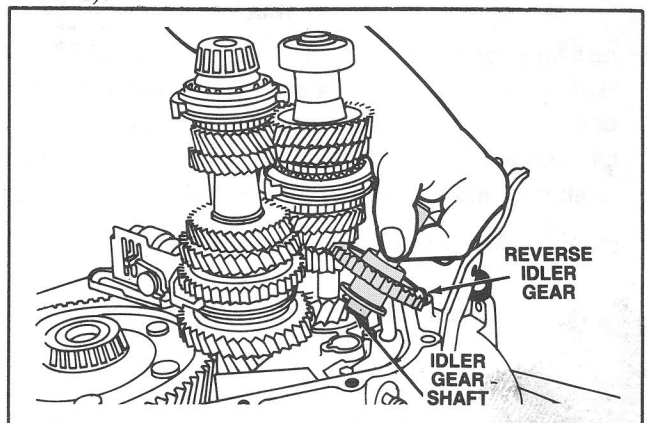


Figure 41 Reverse Idler Gear Removal

# DISASSEMBLY

## INPUT/OUTPUT GEAR TRAIN REMOVAL

12. Remove the reverse shift lever pivot pin retainer. (Figure 42).

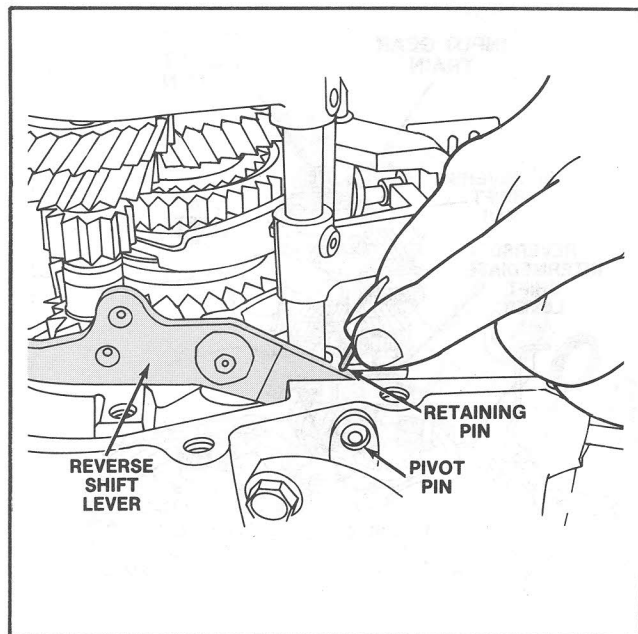


Figure 42 Retaining Pin Removal

13. Remove the pivot pin and the reverse shift lever. (Figure 43).

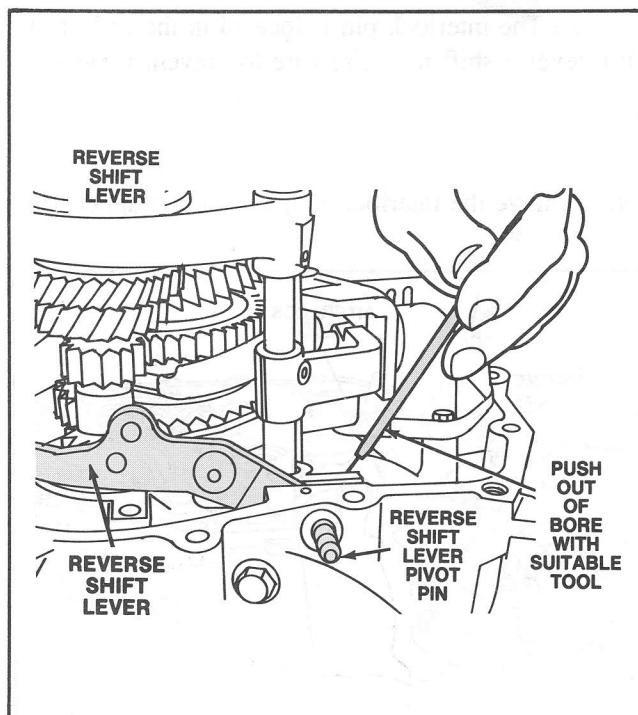


Figure 43 Pivot Pin Removal

14. Remove the third/fourth detent plug, spring and ball (longer spring) (Figure 44).

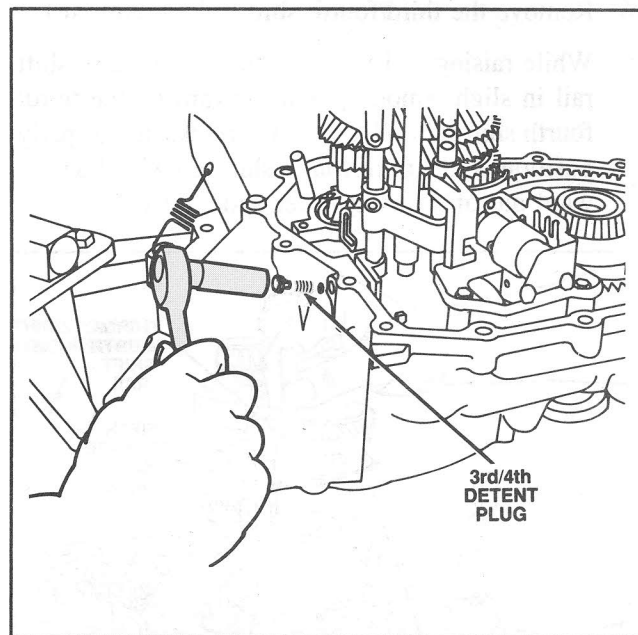


Figure 44 3rd/4th Detent Removal

15. Make sure all shift rails are in the neutral detent and remove the following roll pins:

- third/fourth shift fork
- fifth shift fork
- third/fourth relay lever
- first/second shift fork. (Figure 45).

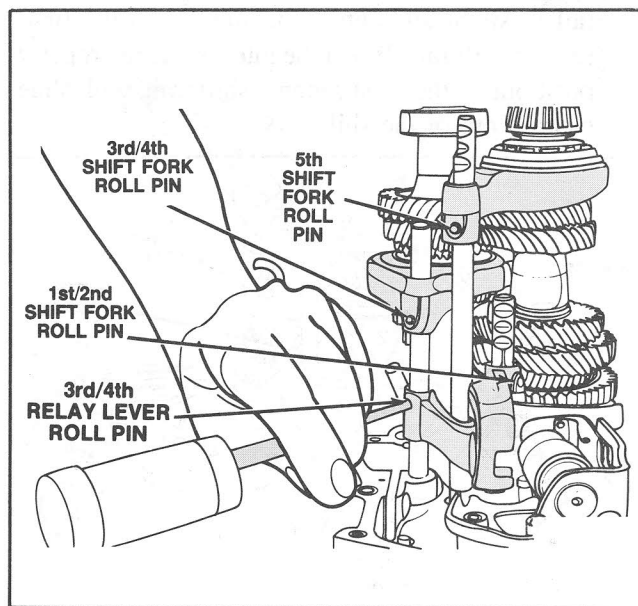


Figure 45 Roll Pin Removal

# DISASSEMBLY

## INPUT AND OUTPUT GEAR TRAIN REMOVAL

16. Remove the third/fourth shift rail. (Figure 46).

While raising and lowering the fifth/reverse shift rail in slight amounts, pull upward on the third/fourth shift rail. When the interlocks are properly positioned, the third/fourth shift rail will slide upward out of the relay lever and shift fork.

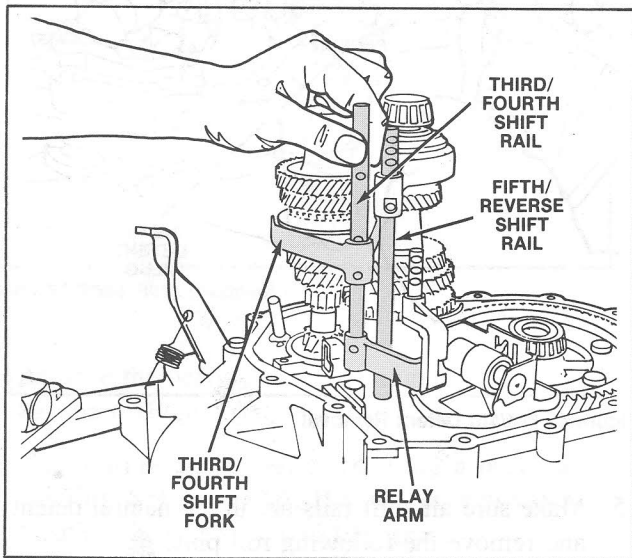


Figure 46 3rd/4th Shift Rail Removal

17. Remove the first/second shift rail. (Figure 47).

While raising and lowering the fifth/reverse shift rail in slight amounts, pull upward on the first/second shift rail. When the interlocks are properly positioned, the first/second shift rail will slide upward out of the shift fork.

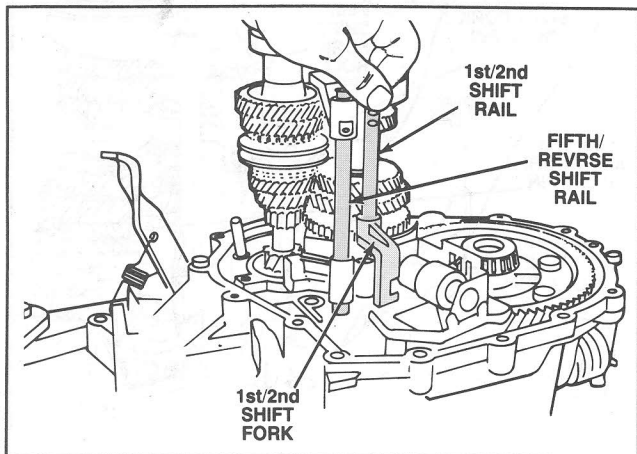


Figure 47 1st/2nd Shift Rail Removal

18. Remove the input gear train, output gear train and fifth/reverse shift rail, as an assembly. (Figure 48).

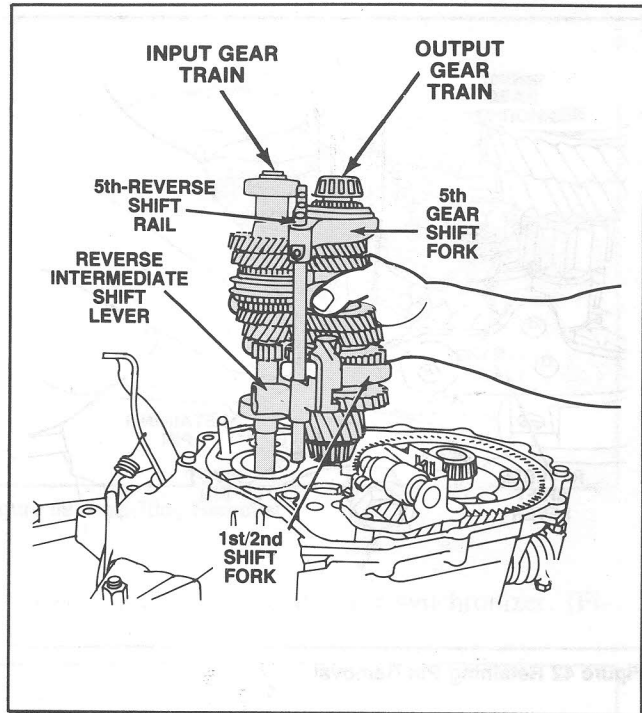


Figure 48 Gear Train Removal

**NOTE:** The interlock pin is located in the end of the fifth/reverse shift rail. Use care to prevent its loss.

19. Remove the interlock plugs using a magnet. (Figure 49).

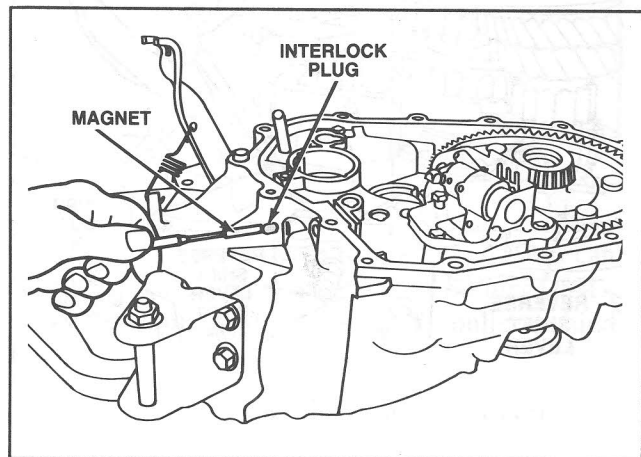


Figure 49 Interlock Plug Removal



# DISASSEMBLY

## DIFFERENTIAL REMOVAL

1. Remove the attaching bolts and the shift gate assembly. (Figure 50).

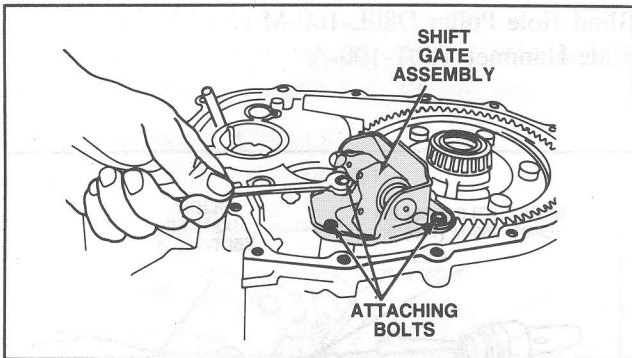


Figure 50 Shift Gate Removal

2. Remove the attaching bolt and the speedometer driven gear. (Figure 51).

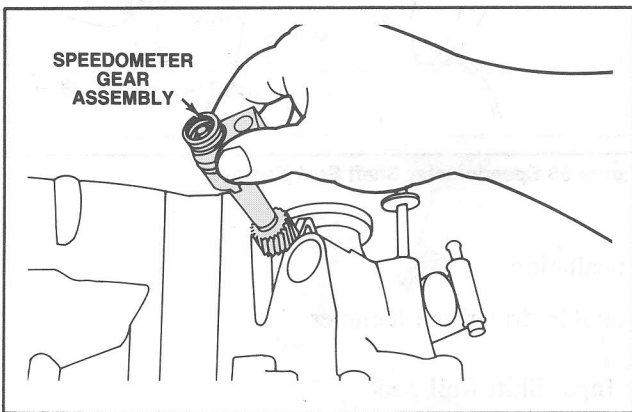


Figure 51 Speedometer Gear Removal

3. Remove the differential assembly. (Figure 52).

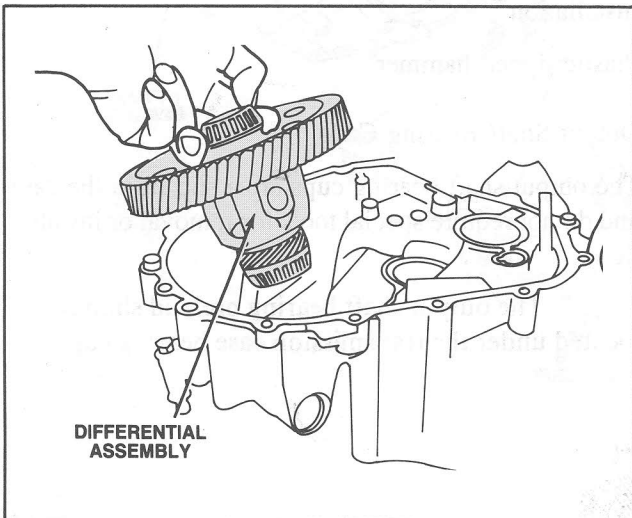


Figure 52 Differential Removal

## INPUT SHIFT RAIL REMOVAL

**CAUTION:** Before removing the selector arm roll pin, move the input shift rail until the pin is located over the removal pocket molded into the case. (Figure 53).

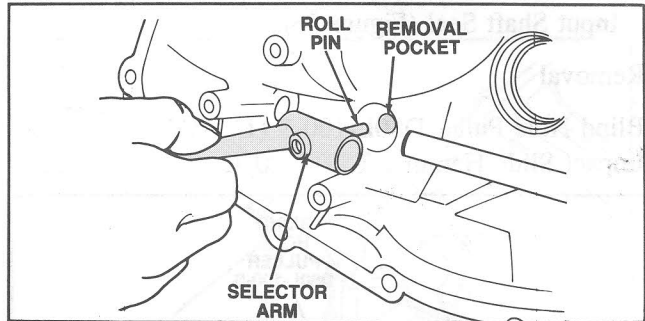


Figure 53 Roll Pin Removal Pocket

1. Remove the selector arm roll pin using a pin punch (Figure 54).

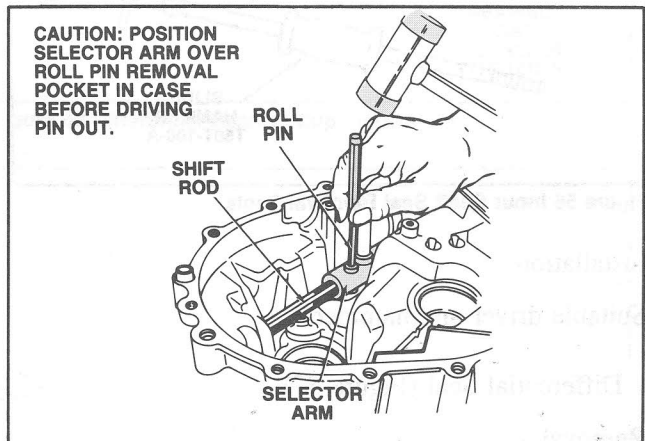


Figure 54 Roll Pin Removal

2. Remove the selector arm from the input shift rail. (Figure 55).
3. Remove the input shift rail from the case. (Figure 55).

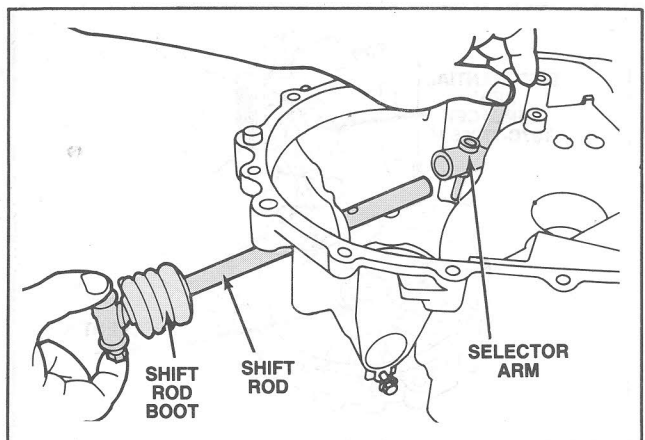


Figure 55 Shift Rod/Selector Arm Removal

# DISASSEMBLY

## BEARING CUPS AND SEALS REMOVAL

The following illustrations indicate the tools required for the removal and installation of the various bearing cups and seals.

- Input Shaft Seal (Figure 56).

Removal

Blind Hole Puller D80L-100-S (1''-1¼'')

Impact Slide Hammer T50T-100-A

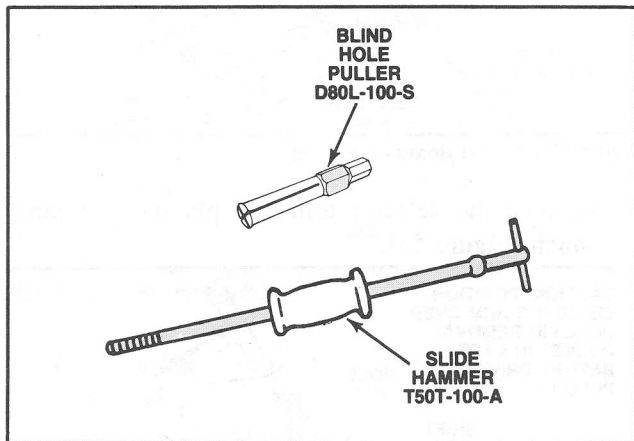


Figure 56 Input Shaft Seal Removal Tools

Installation

Suitable driver and hammer

- Differential Seal (Figure 57).

Removal

Brass drift and hammer

Installation

Differential Seal Replacer T87C-77000-H

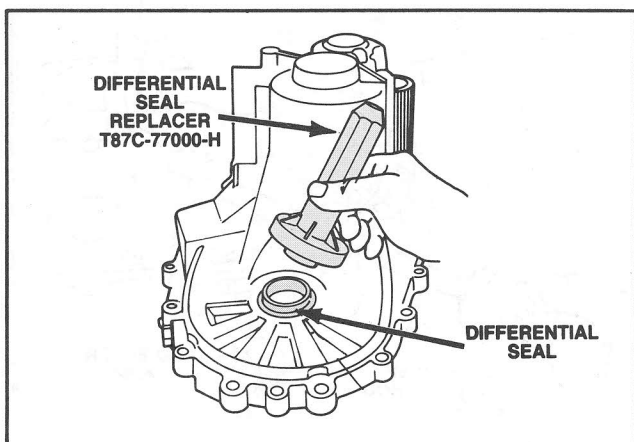


Figure 57 Differential Seal Installation

- Speedometer Shaft Seal (Figure 58).

Removal

Blind Hole Puller D80L-100-M (7/16''-1/2'')

Slide Hammer T50T-100-A

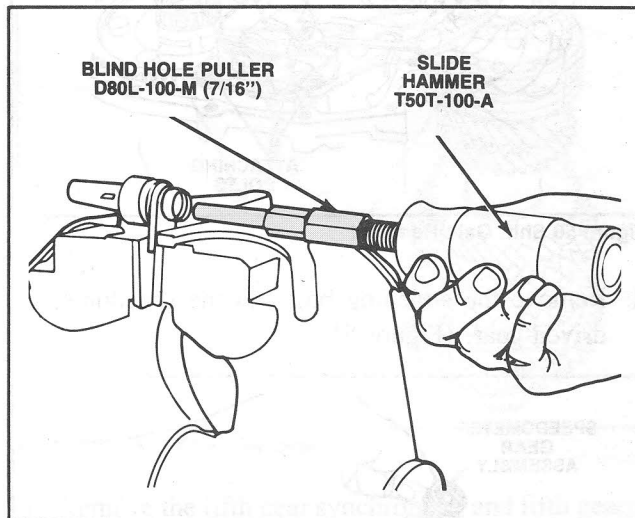


Figure 58 Speedometer Shaft Seal Removal

Installation

Suitable driver and hammer

- Input Shift Rail Seal

Removal

Hammer and chisel

Installation

Plastic tipped hammer

### Output Shaft Bearing Cups

The output shaft bearing cups are a slip fit in the case and do not require special tools for removal or installation.

**NOTE.** The output shaft bearing preload shim is located under the transmission case bearing cup.

# DISASSEMBLY

## BEARING CUPS AND SEALS REMOVAL

- Differential Bearing Cups (Figure 59).

### Removal

**NOTE:** The differential bearing preload shim is located under the transmission case bearing cup.

Bearing Cup Puller T77F-1102-A  
Impact Slide Hammer T50T-100-A

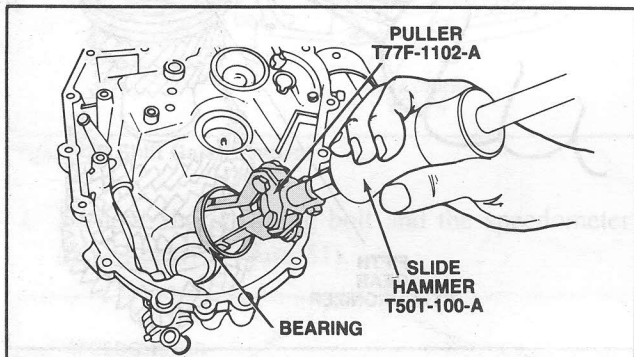


Figure 59 Differential Bearing Cup Removal

### Installation

Bearing Cup Installer T77F-1217-B  
Universal Driver Handle T80T-4000-W

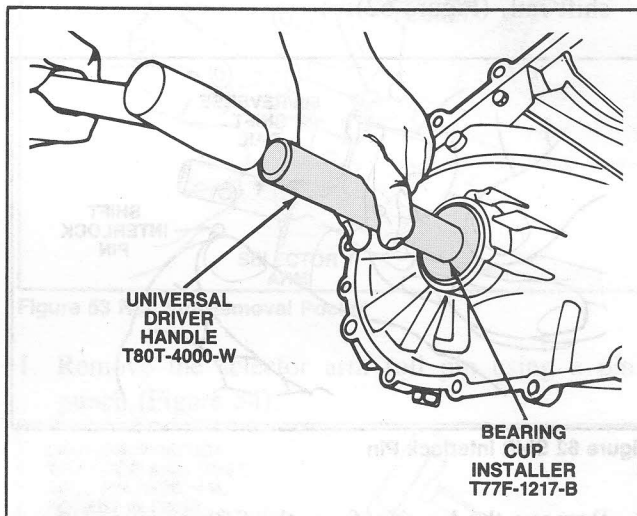


Figure 60 Differential Bearing Cup Installation

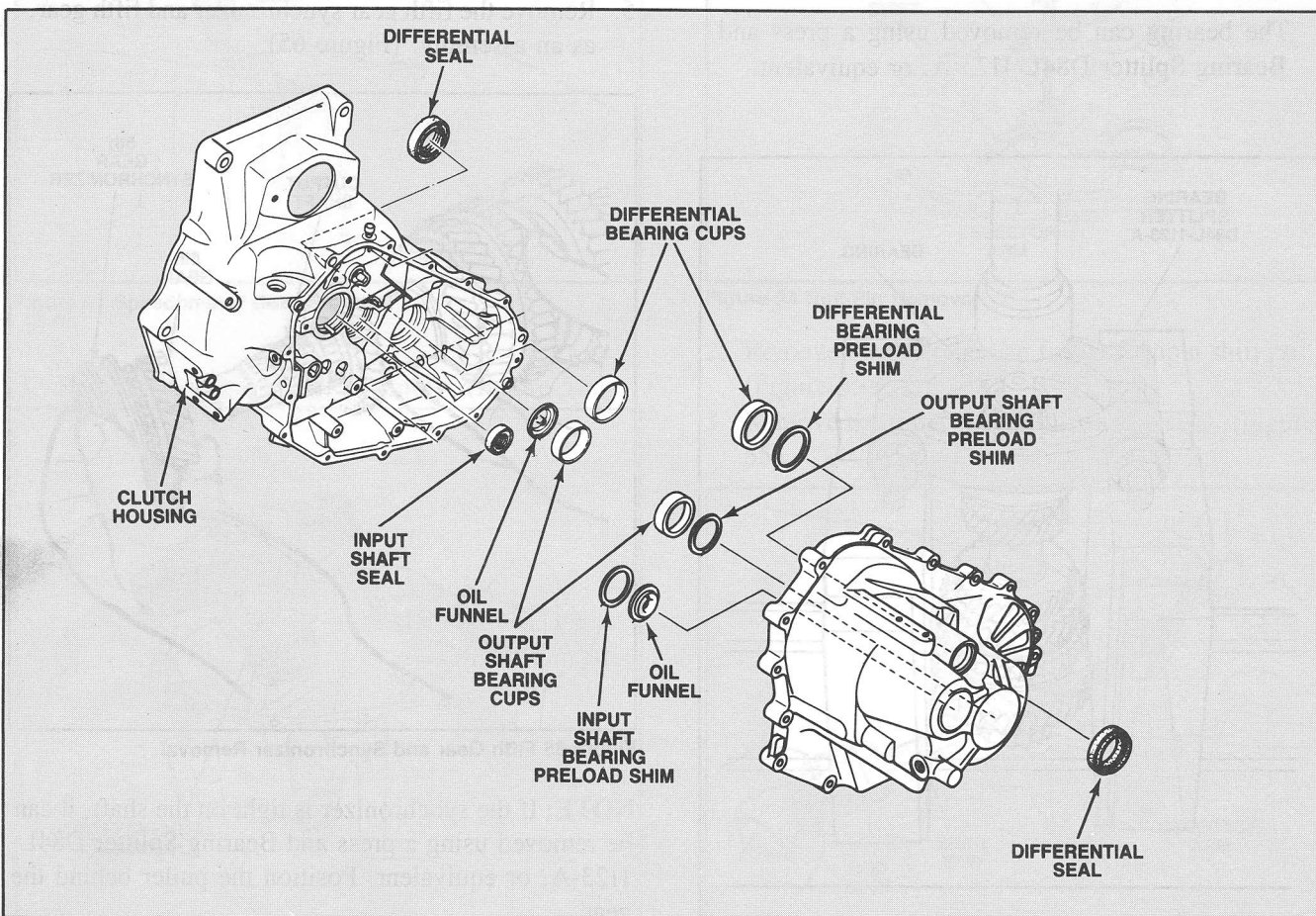


Figure 61 Bearing Cup/Seal Disassembled View

# DISASSEMBLY

## OUTPUT GEAR TRAIN DISASSEMBLY

1. Remove the fifth/reverse shift rail and first/second shift fork from the gear train.
2. Remove the interlock pin from the fifth/reverse shift rail. (Figure 62).

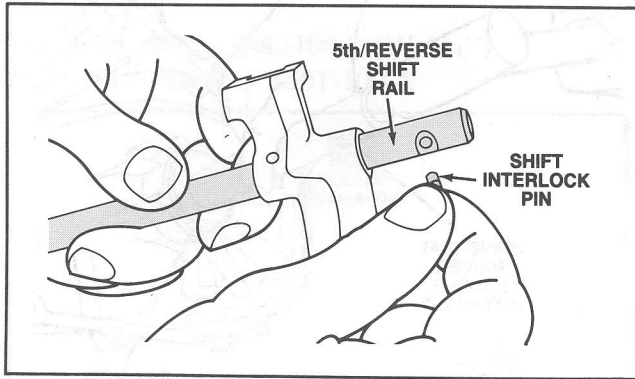


Figure 62 Shift Interlock Pin

3. Remove the bearing from the fifth gear synchronizer end of the output shaft. (Figure 63).

The bearing can be removed using a press and Bearing Splitter D84L-1123-A, or equivalent.

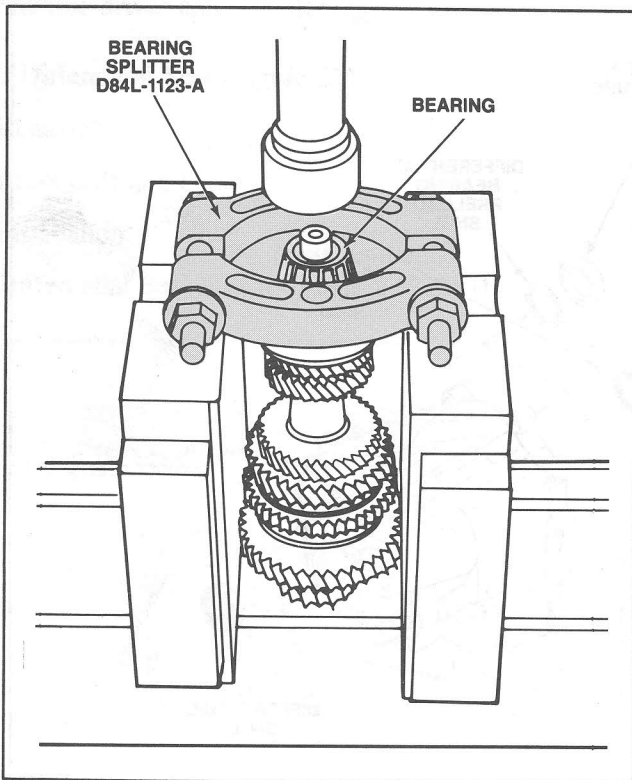


Figure 63 Bearing Removal

4. Remove the fifth gear synchronizer snap ring and stop washer. (Figure 64).

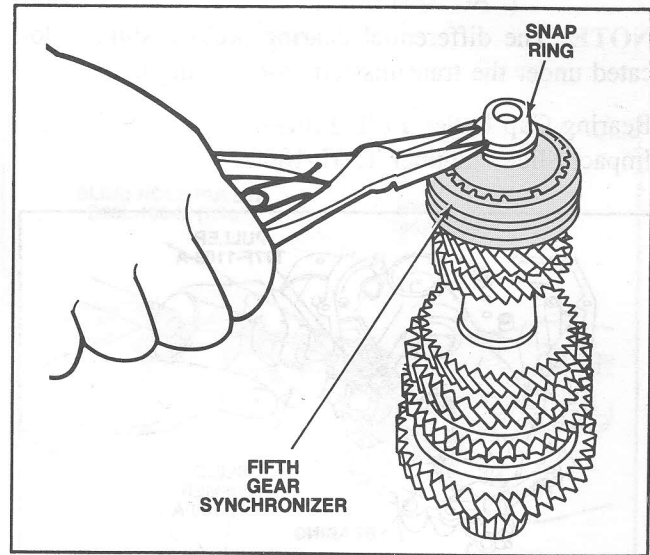


Figure 64 Snap Ring Removal

5. Remove the fifth gear synchronizer and fifth gear, as an assembly. (Figure 65).

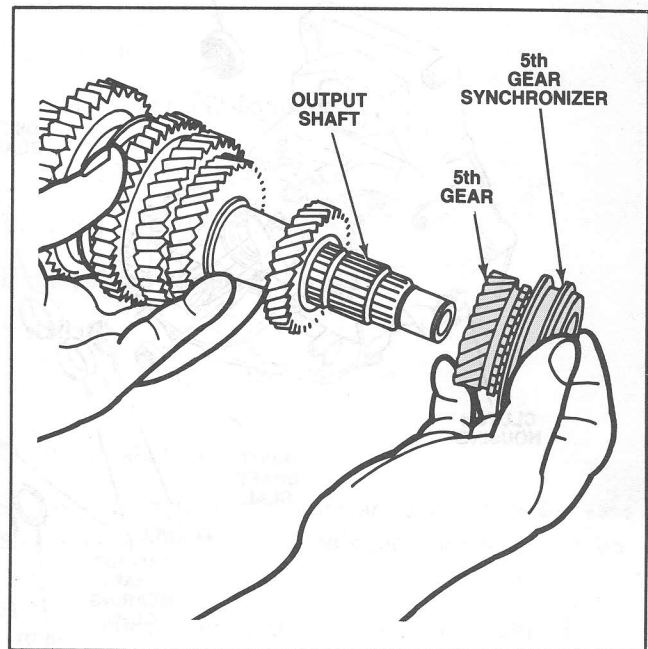


Figure 65 Fifth Gear and Synchronizer Removal

**NOTE:** If the synchronizer is tight on the shaft, it can be removed using a press and Bearing Splitter D84L-1123-A, or equivalent. Position the puller behind the gear.

# DISASSEMBLY

## DISASSEMBLED VIEW - INPUT AND OUTPUT GEAR TRAINS

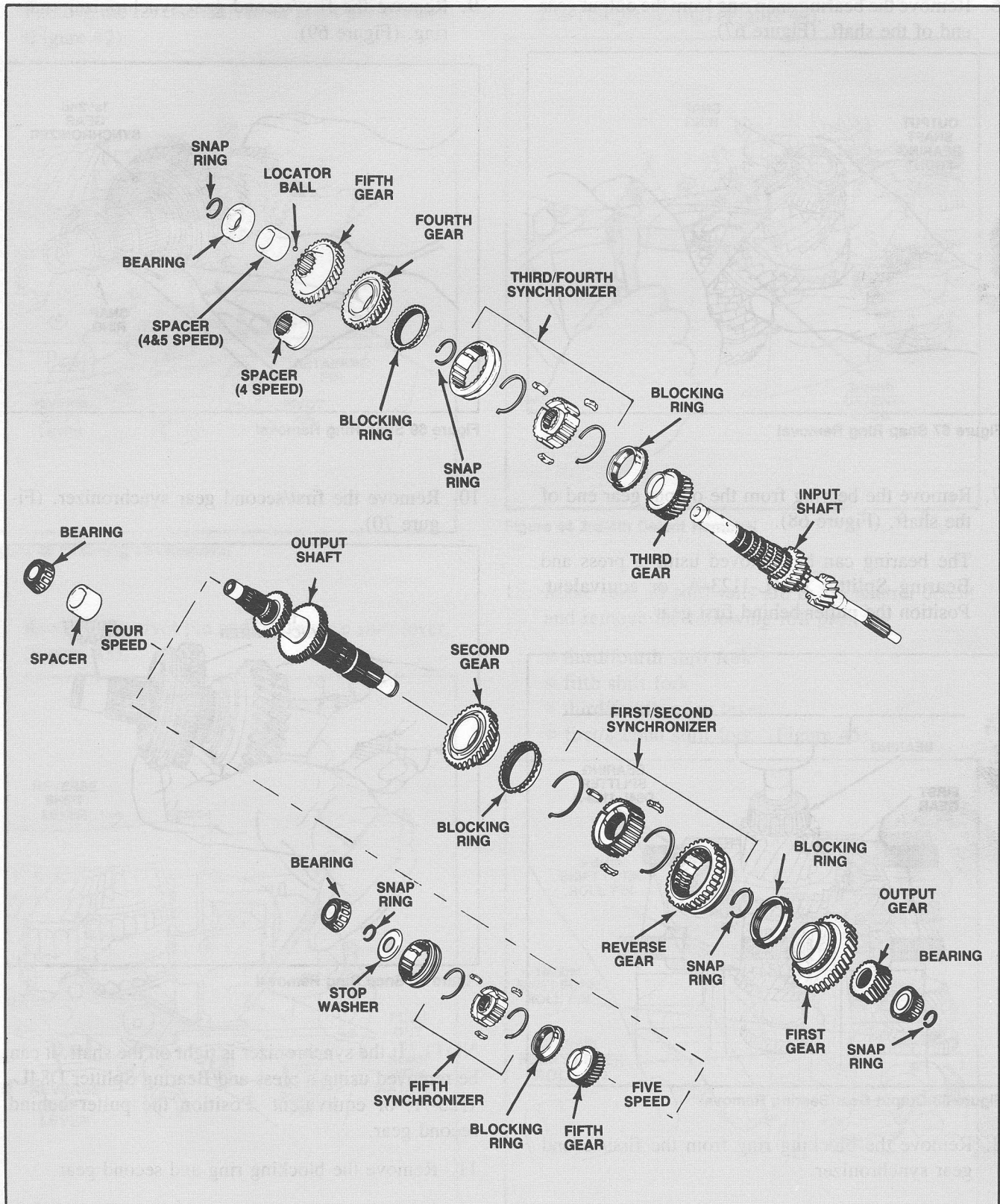


Figure 66 Input/Output Gear Train Disassembled View

# DISASSEMBLY

## OUTPUT GEAR TRAIN DISASSEMBLY

6. Remove the bearing snap ring from the output gear end of the shaft. (Figure 67).

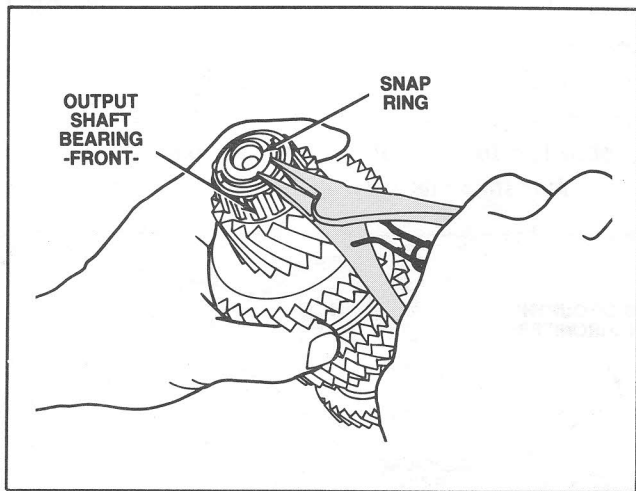


Figure 67 Snap Ring Removal

7. Remove the bearing from the output gear end of the shaft. (Figure 68).

The bearing can be removed using a press and Bearing Splitter D84L-1123-A, or equivalent. Position the puller behind first gear.

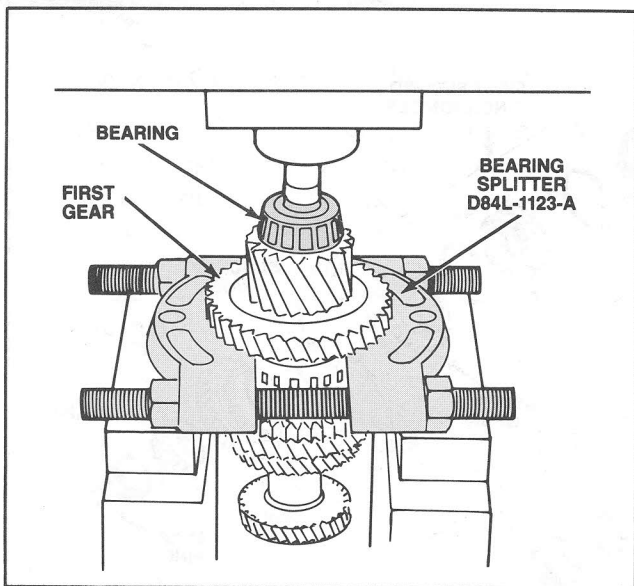


Figure 68 Output Gear/Bearing Removal

8. Remove the blocking ring from the first/second gear synchronizer.

9. Remove the first/second gear synchronizer snap ring. (Figure 69).

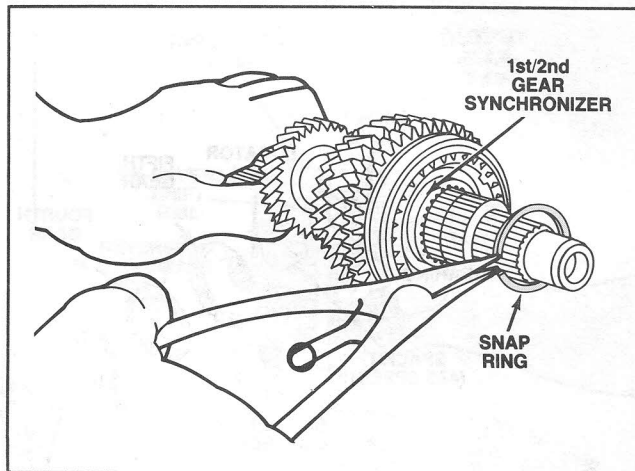


Figure 69 Snap Ring Removal

10. Remove the first/second gear synchronizer. (Figure 70).

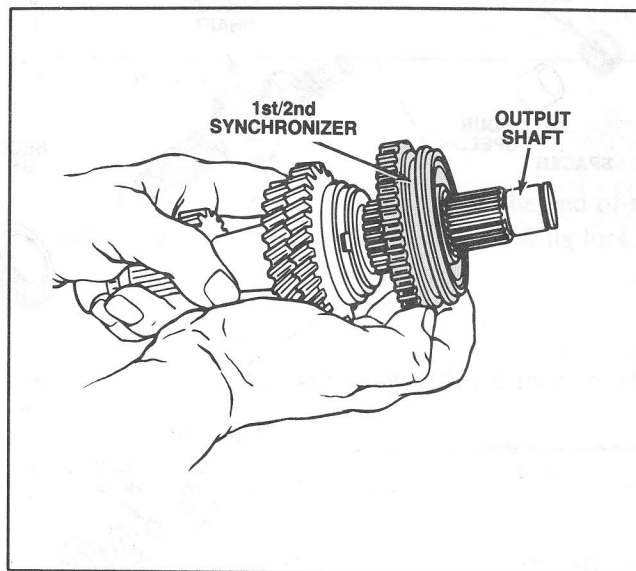


Figure 70 Snap Ring Removal

**NOTE:** If the synchronizer is tight on the shaft, it can be removed using a press and Bearing Splitter D84L-1123-A, or equivalent. Position the puller behind second gear.

11. Remove the blocking ring and second gear.

# DISASSEMBLY

## INPUT GEAR TRAIN DISASSEMBLY

1. Remove the snap ring from the fifth gear end of the shaft. (Figure 71).

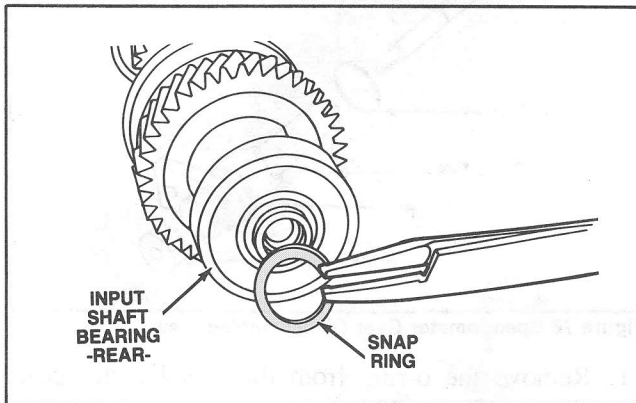


Figure 71 Snap Ring Removal

2. Remove the bearing, spacer, fifth gear and fourth gear. (Figure 72).

The bearing can be removed using a press and Bearing Splitter D84L-1123-A, or equivalent. Position the puller behind fourth gear.

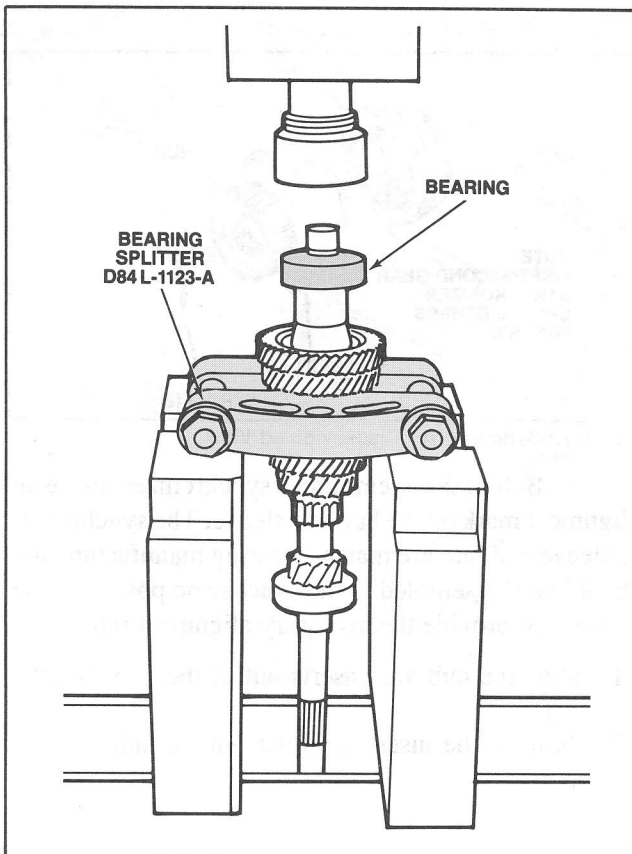


Figure 72 Bearing/Gear Removal.

3. Remove the spacer locator ball from the shaft. (Figure 73).

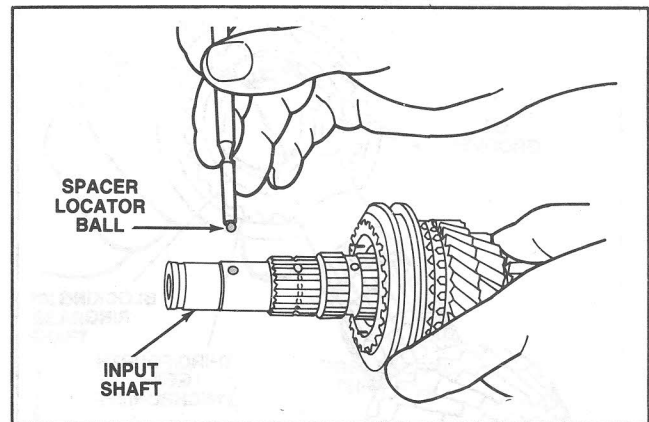


Figure 73 Locator Ball Removal

4. Remove the blocking ring from the third/fourth gear synchronizer. (Figure 74).

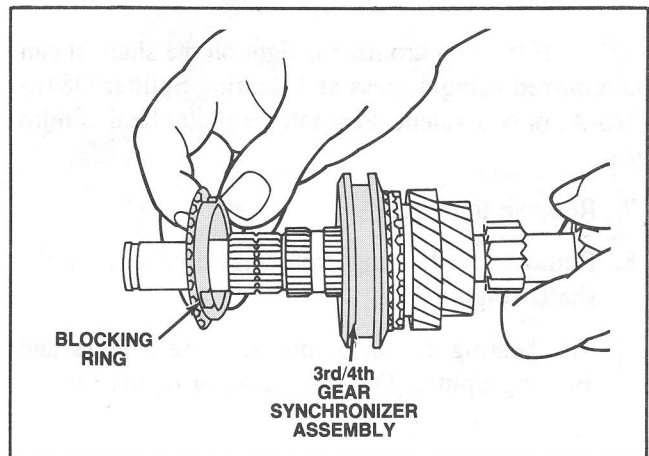


Figure 74 Blocking Ring Removal

5. Remove the third/fourth gear synchronizer snap ring. (Figure 75).

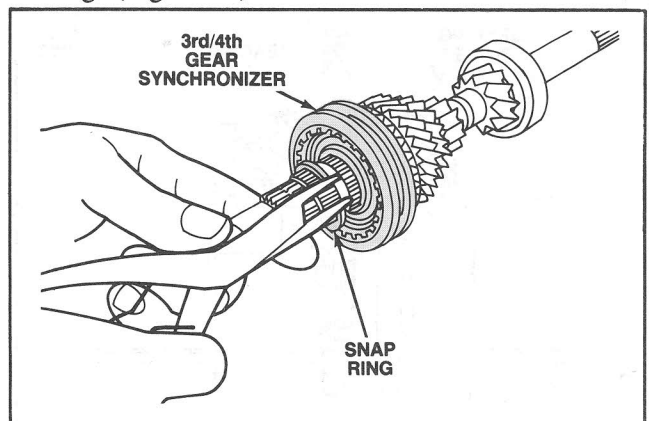


Figure 75 Snap Ring Removal

# DISASSEMBLY

## INPUT GEAR TRAIN DISASSEMBLY

6. Remove the third/fourth gear synchronizer and blocking ring. (Figure 76).

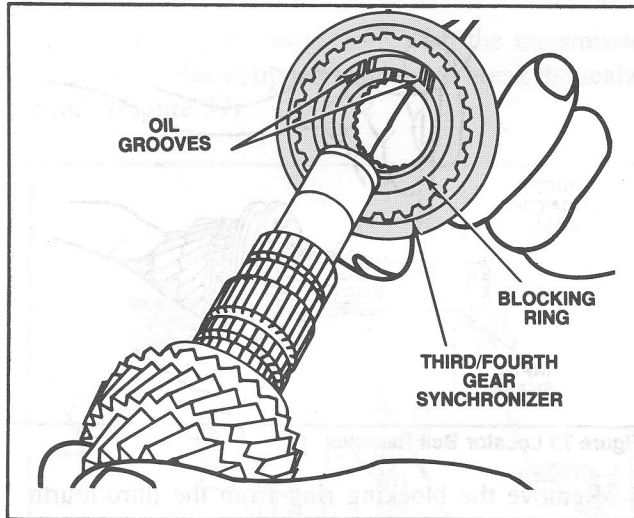


Figure 76 Synchronizer Removal

**NOTE:** If the synchronizer is tight on the shaft, it can be removed using a press and Bearing Splitter D84L-1123-A, or equivalent. Position the puller behind third gear.

7. Remove third gear.
8. Remove the bearing from the input end of the shaft. (Figure 77).

The bearing can be removed using a press and Bearing Splitter D84L-1123-A, or equivalent.

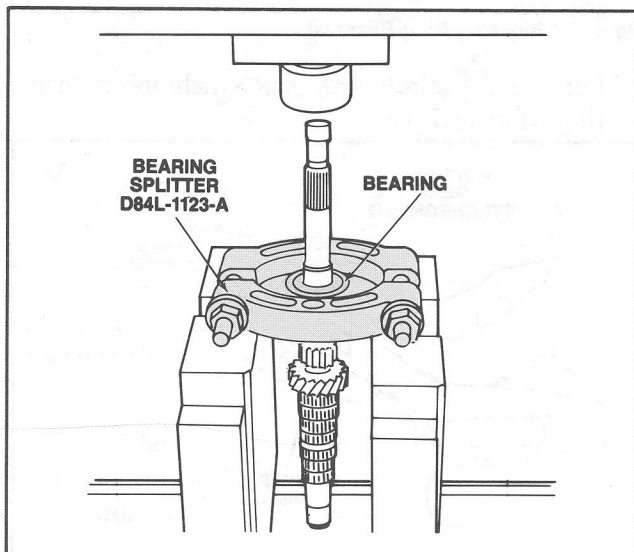


Figure 77 Bearing Removal

## SPEEDOMETER DRIVEN GEAR REMOVAL

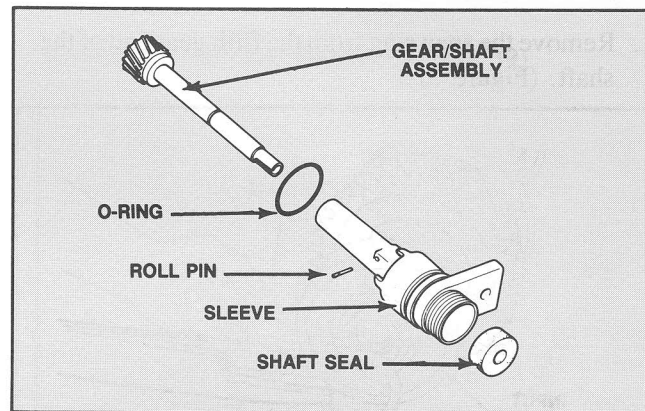


Figure 78 Speedometer Gear Disassembled View

1. Remove the o-ring from the speedometer gear sleeve. (Figure 78).
2. Remove the roll pin using a pin punch.
3. Remove the speedometer shaft and gear assembly from the sleeve.

**NOTE:** For removal and installation of the speedometer gear shaft seal refer to Page 24.

## SYNCHRONIZER DISASSEMBLY

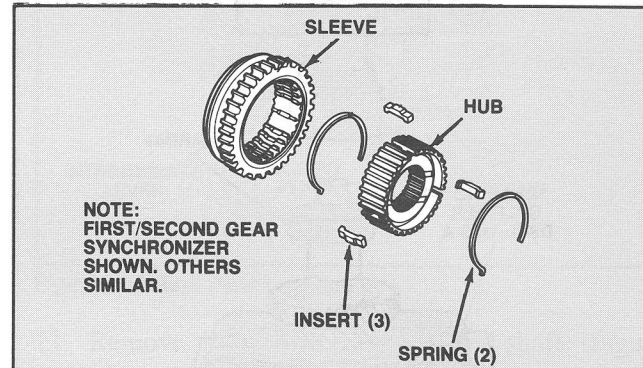


Figure 79 Synchronizer Disassembled View

**NOTE:** Before disassembling a synchronizer, make an alignment mark on the hub and sleeve. The synchronizer sleeve and hub are matched during manufacture and should be reassembled in the exact same position. The marks will provide the necessary alignment reference.

1. Slide the hub and inserts out of the hub. (Figure 79).
2. Remove the insert springs from the hub.



# DISASSEMBLY

## DIFFERENTIAL DISASSEMBLY

1. Rotate the side gears until they can be removed through the opening in the differential case.
2. Using a pin punch, remove the pinion shaft roll pin.
3. Remove the pinion shaft, pinion gears and thrust washers.
4. Remove the bearing from the speedometer side of the differential. (Figure 80).

The bearing can be removed using a press and Bearing Pulling Attachment D84L-1123-A, or equivalent. To avoid damage to the speedometer gear and bearing, alternately tighten the nuts until the puller seats under the bearing inner race.

5. Remove the remaining bearing.

The bearing can be removed using Bearing Cone Puller T77F-4220-B1, or equivalent and a step plate. (Figure 81).

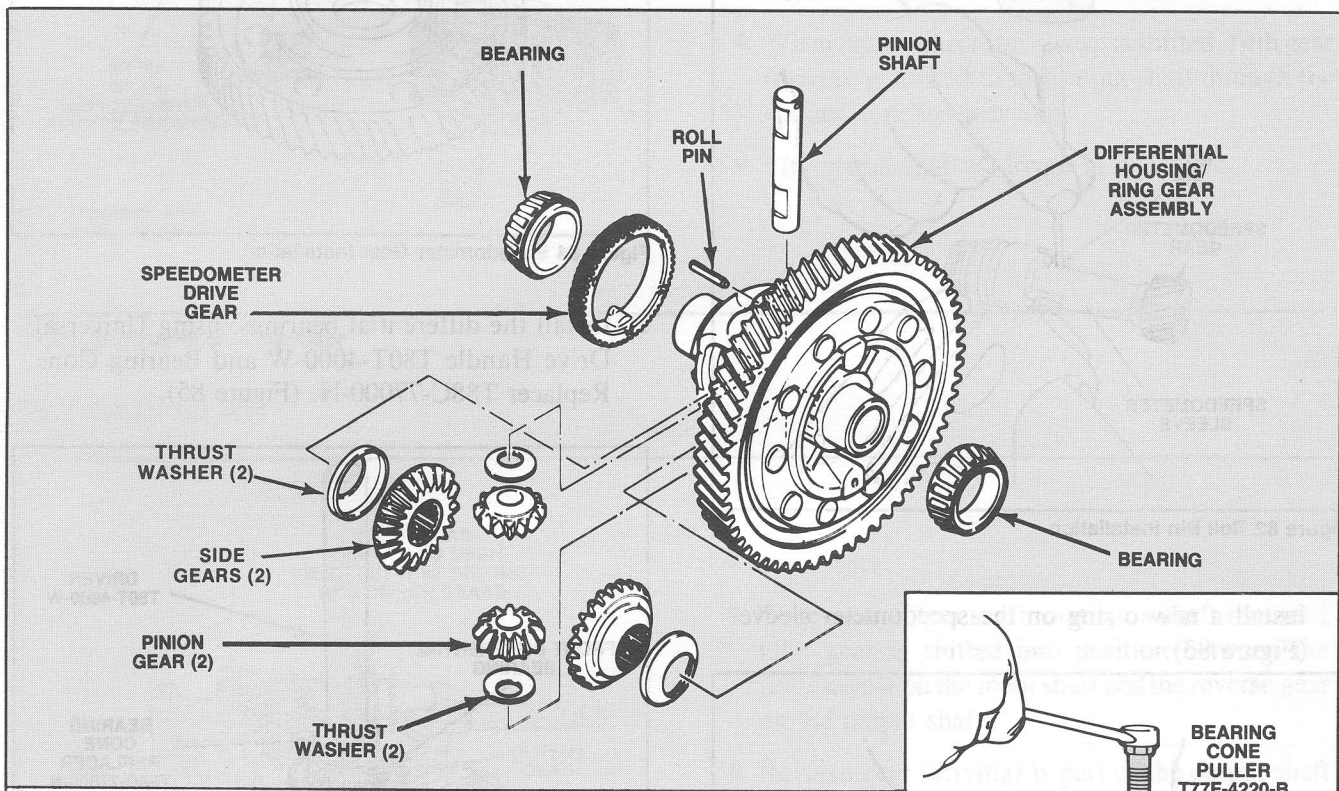


Figure 80 Differential Disassembled View

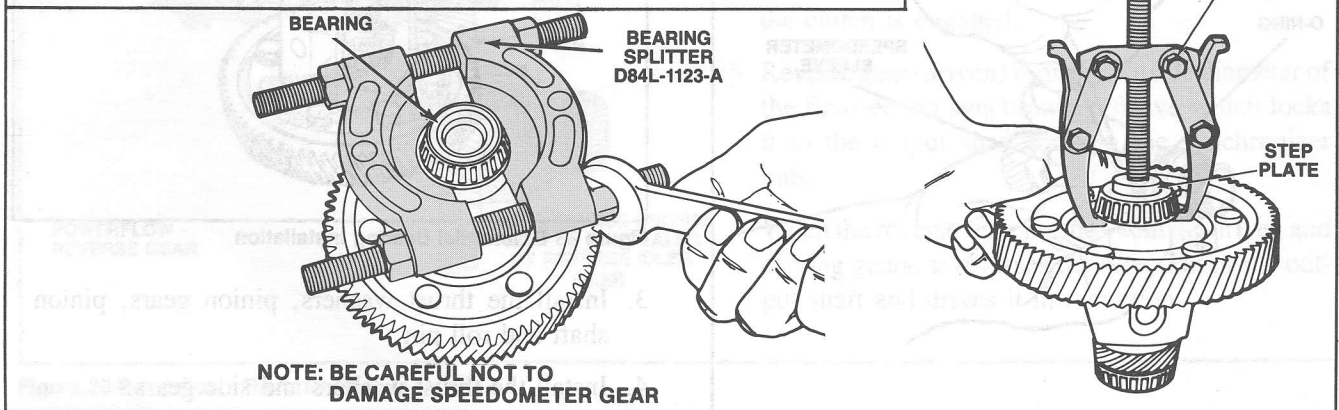


Figure 81 Bearing Removal

# ASSEMBLY

## SPEEDOMETER GEAR ASSEMBLY

1. Install the speedometer driven gear and shaft assembly in the sleeve.
2. Install the roll pin. (Figure 82).

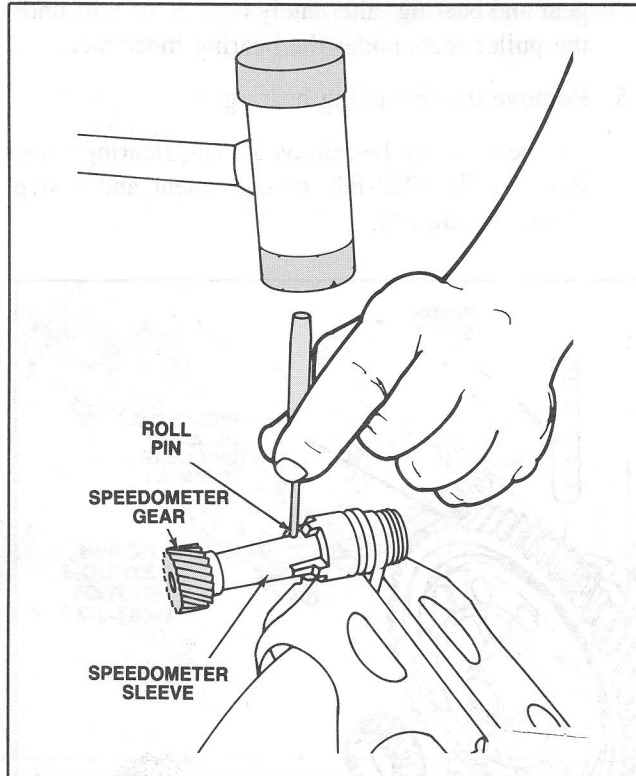


Figure 82 Roll Pin Installation

3. Install a new o-ring on the speedometer sleeve. (Figure 83).

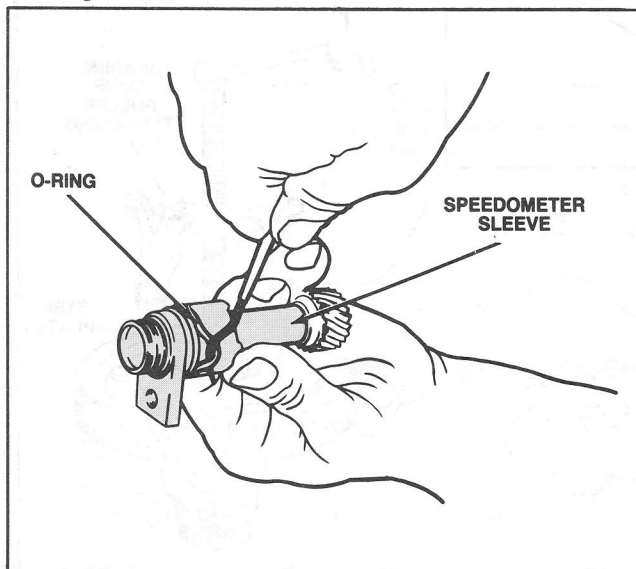


Figure 83 O-ring Installation

## DIFFERENTIAL ASSEMBLY

1. Install the speedometer drive gear. (Figure 84).

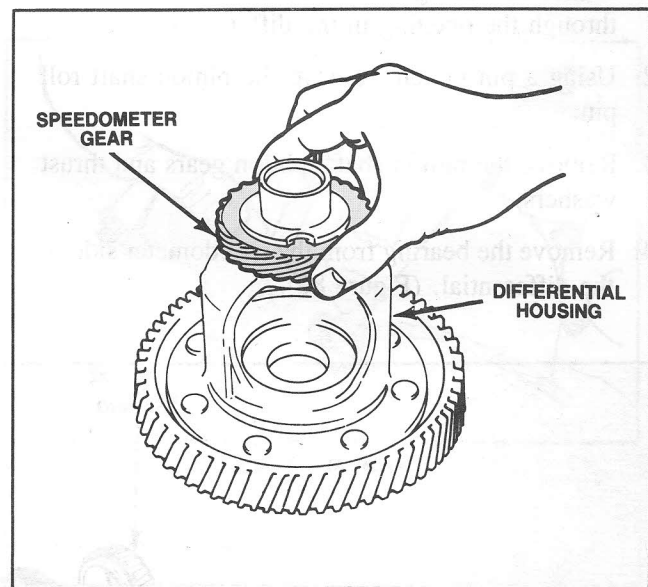


Figure 84 Speedometer Gear Installation

2. Install the differential bearings, using Universal Drive Handle T80T-4000-W and Bearing Cone Replacer T88C-77000-N. (Figure 85).

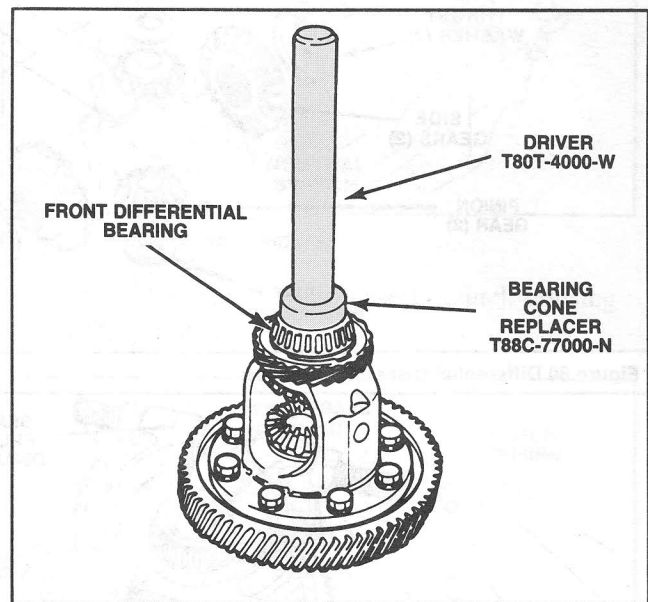


Figure 85 Differential Bearing Installation

3. Install the thrust washers, pinion gears, pinion shaft and roll pin.
4. Install the thrust washers and side gears.

# ASSEMBLY

## SYNCHRONIZER ASSEMBLY

1. Install the hub in the synchronizer sleeve.

Use the marks made during disassembly for alignment reference.

If the alignment marks are not present, make sure the hub and sleeve are assembled with the hub oil grooves facing the direction shown in the illustration. Because the outside diameter of the third/fourth synchronizer is the same on both sides of the shift fork groove, the relationship of the oil grooves to the sleeve is unimportant. (Figure 86).

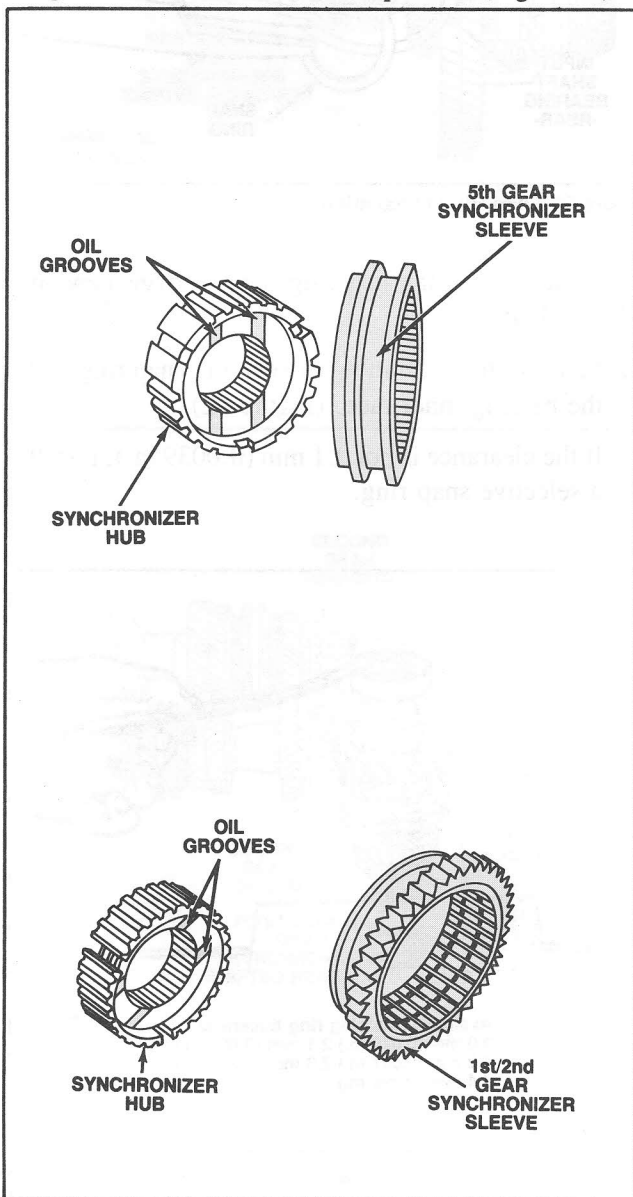


Figure 86 Synchronizer Assembly

2. Install the inserts.

**NOTE:** There are two synchronizer insert sizes. The following chart and illustration details which size insert belongs with which synchronizer. (Figure 87).

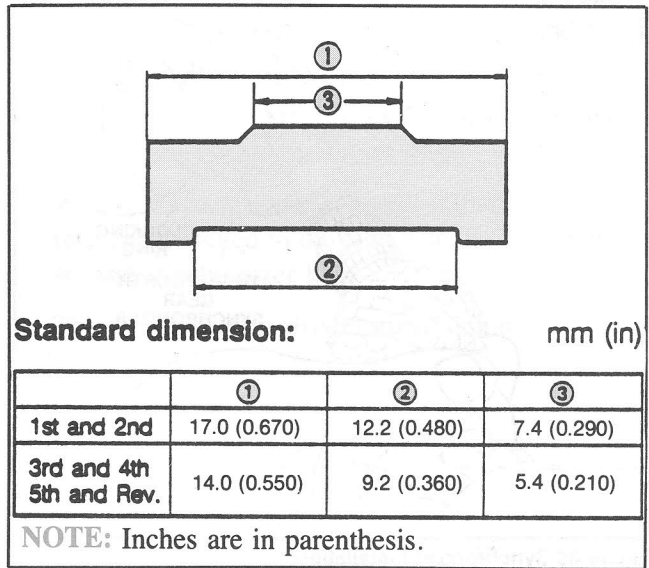


Figure 87 Synchronizer Insert Chart

3. Install the insert springs.

Make sure each spring engages the hole in the hub as shown and that they rotate away from the same holes in opposite directions. (Figure 88).

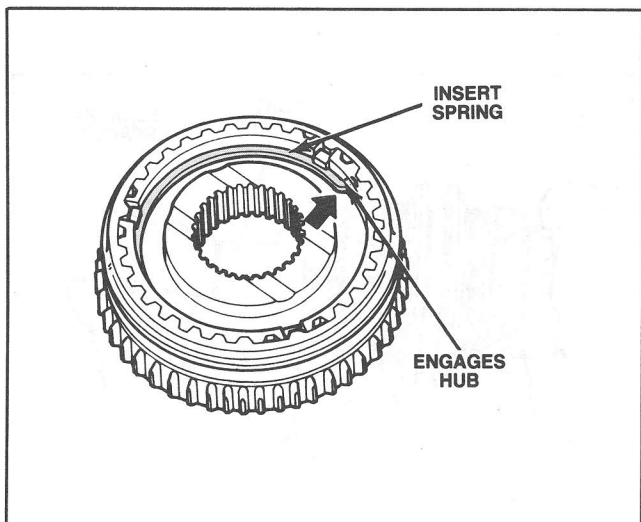


Figure 88 Insert Spring Installation

# ASSEMBLY

## INPUT GEAR TRAIN ASSEMBLY

1. Install third gear.
2. Install the blocking ring and the third/fourth gear synchronizer. (Figure 89).

Make sure the oil grooves on the synchronizer hub face third gear.

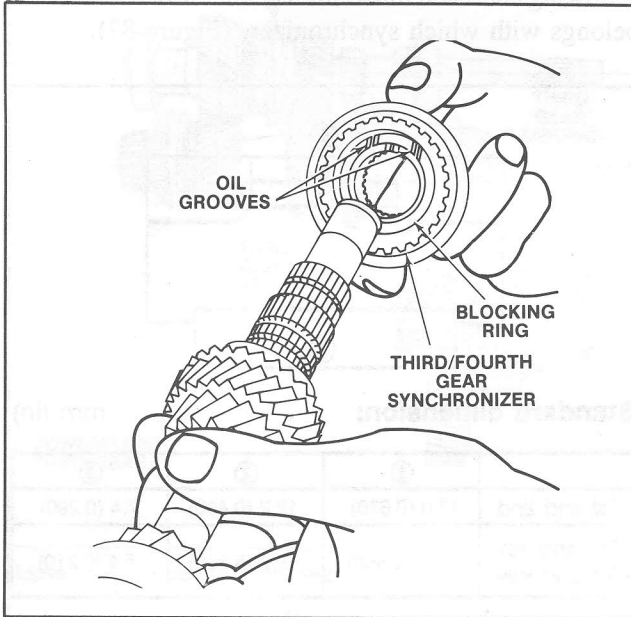


Figure 89 Synchronizer Installation

**NOTE:** If the synchronizer is tight on the shaft, it can be installed using a press and a suitable installer.

3. Install the blocking ring and fourth gear.
4. Install fifth gear.
5. Install the locator ball and spacer. (Figure 90).

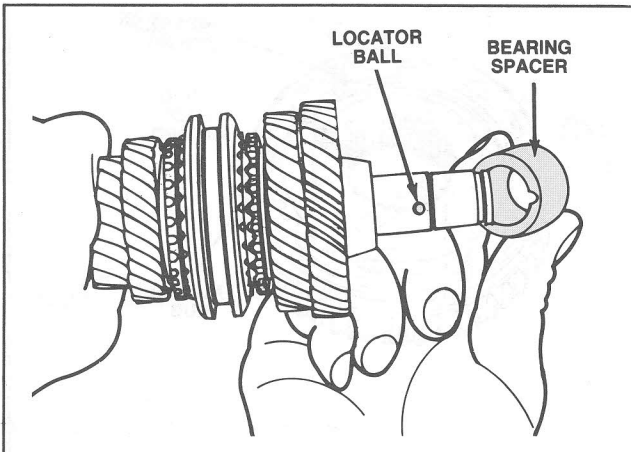


Figure 90 Locator Ball/Spacer Installation

6. Install the bearings using a suitable driver. (Figure 91).

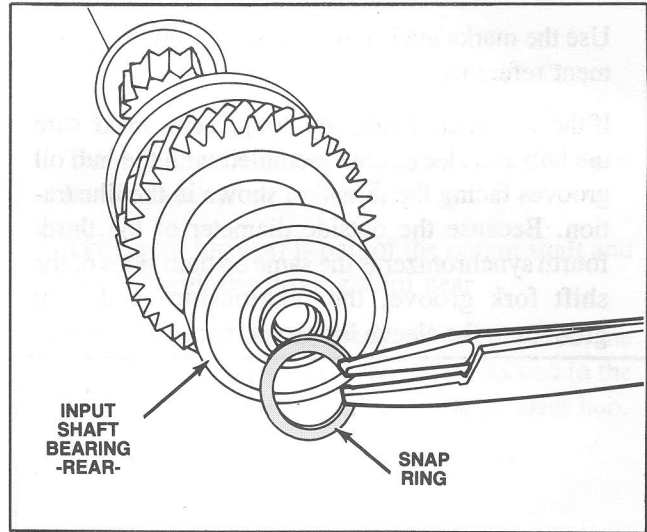


Figure 91 Snap Ring Installation

7. Install the bearing snap ring on the fifth gear end of the shaft.
8. Measure the clearance between the snap ring and the bearing inner race. (Figure 92).

If the clearance is not 0.1 mm (0.0039 in.), install a selective snap ring.

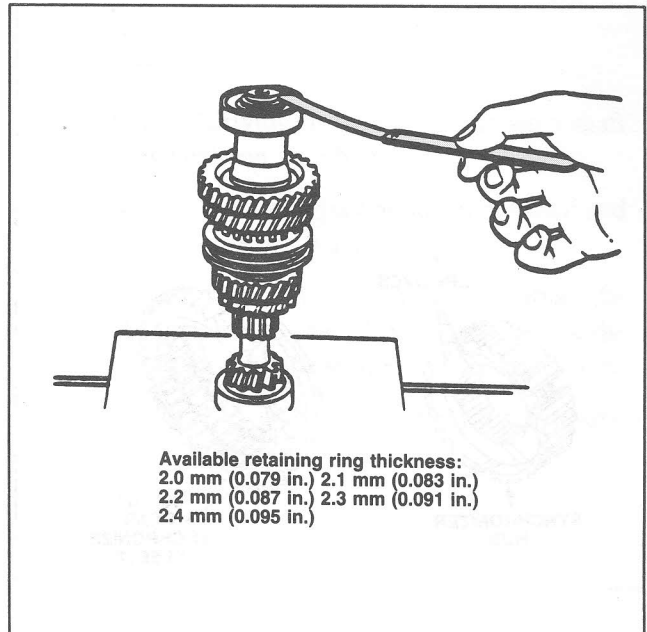


Figure 92 Snap Ring Clearance Measurement

# ASSEMBLY

## OUTPUT GEAR TRAIN ASSEMBLY

1. Install fifth gear.
2. Install the blocking ring and the fifth gear synchronizer. (Figure 93).

Make sure the oil grooves on the synchronizer face fifth gear and that the beveled end of the synchronizer sleeve faces the bearing.

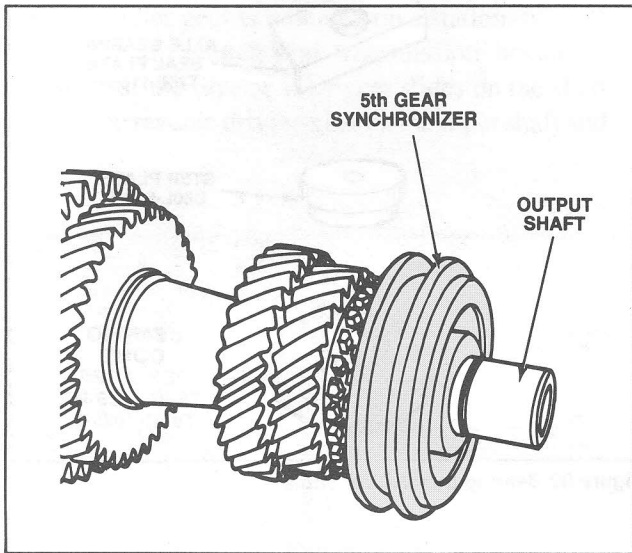


Figure 93 Synchronizer Installation

**NOTE:** If the synchronizer is tight on the shaft, it can be installed using a press and a suitable installer.

3. Install the synchronizer stop washer and snap ring.

**NOTE:** The dished side of the washer faces the synchronizer. (Figure 94).

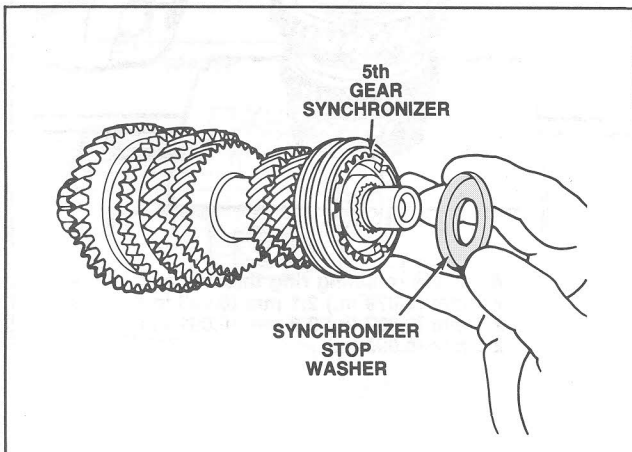


Figure 94 Stop Washer Installation

4. Install second gear.
5. Install the blocking ring and the first/second gear synchronizer.

**NOTE:** The reverse gear faces second gear. (Figure 95.)

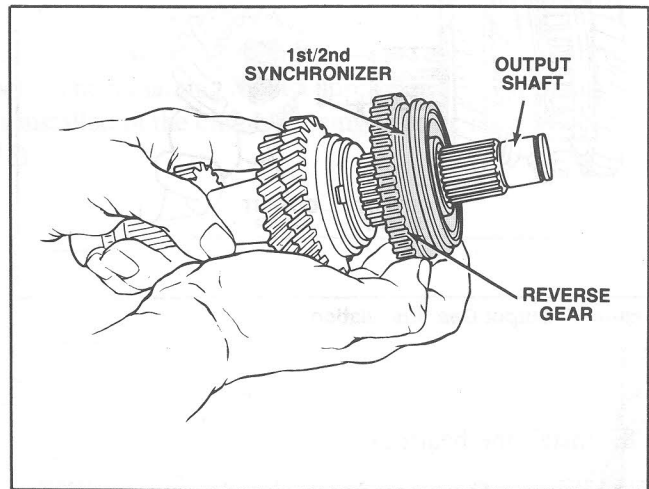


Figure 95 Synchronizer Installation

**NOTE:** If the synchronizer is tight on the shaft, it can be installed using a press and a suitable installer.

6. Install the blocking ring and first gear.

**NOTE:** The first gear blocking ring is different from the other synchronizer blocking rings. In three positions, it does not have synchronizer teeth. (Figure 96).

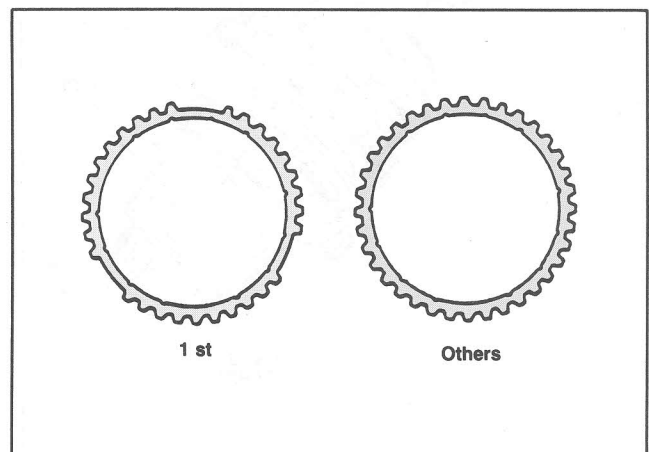


Figure 96 First Gear Synchronizer

# ASSEMBLY

## OUTPUT GEAR TRAIN ASSEMBLY

7. Install the output gear.

**NOTE.** The beveled edge on the gear faces first gear. (Figure 97).

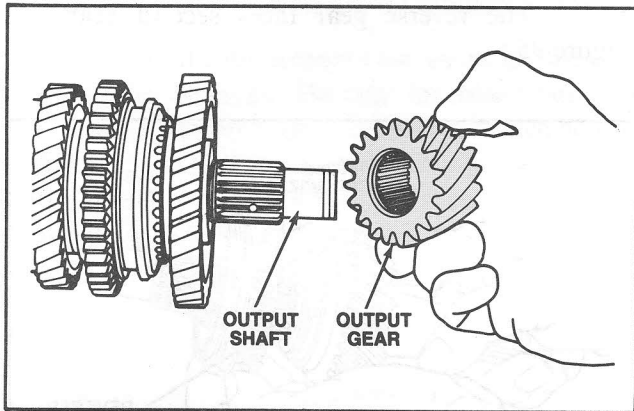


Figure 97 Output Gear Installation

8. Install the bearings.

**CAUTION:** The tapered roller bearings are two different sizes. The larger bearing is installed on the output gear end of the shaft. (Figure 98).

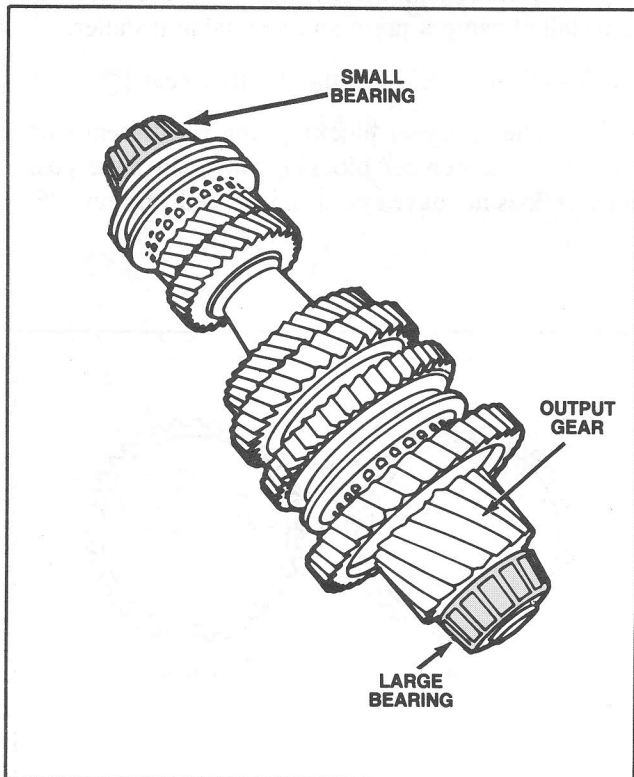


Figure 98 Bearing Location

The bearings can be installed using the following, or equivalent, tools:

Step Plate D80L-630-3

Bearing Cone Replacer T87C-7025-B (Large Bearing)

Bearing Cone Replacer T88C-7025-F (Small Bearing)

Bearing/Seal Press Plate T75L-1165-B. (Figure 99).

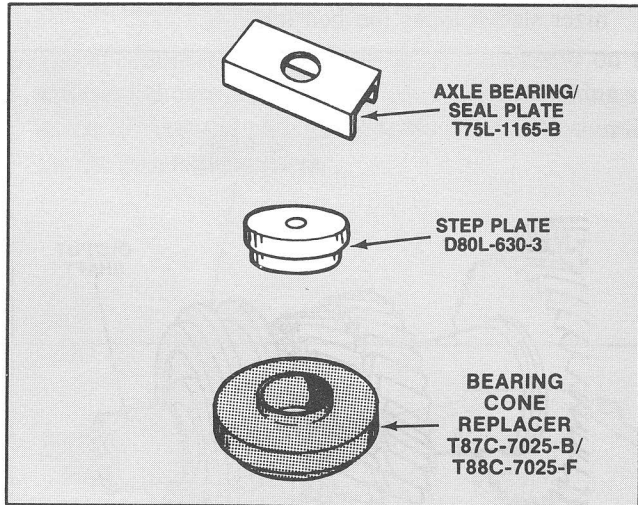


Figure 99 Bearing Installation Tools

9. Measure the clearance between the snap ring and the bearing inner race. (Figure 100).

If the clearance is not 0.1 mm (0.0039 in.), install a selective snap ring.

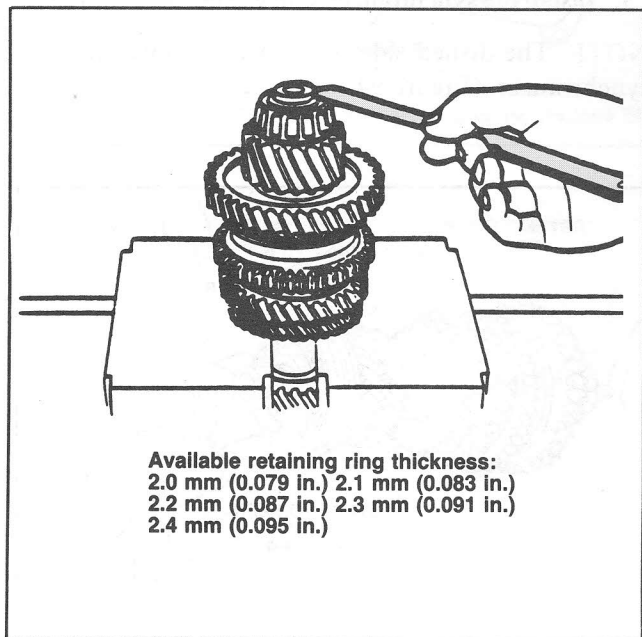


Figure 100 Snap Ring Clearance Measurement

# ASSEMBLY

## Input Shaft End Play

1. Make sure the oil funnel is in position in the transmission case bore.
2. Remove the original end play shim(s). Then install the bearing race.
3. Install the input shaft.
4. Install the transmission housing.
5. Install the transmission case to clutch housing attaching bolts.

Tighten the attaching bolts to 19 to 26N.m (14 to 19 lb-ft).

6. Tap the end of the input shaft with a plastic-tipped hammer to make sure the shaft, bearing race and funnel are properly seated.
7. Mount a dial indicator on the clutch housing with the stylus contacting the end of the input shaft.
8. Raise the input shaft and note the dial indicator reading. (Figure 101).

- 8a. Measure the original shims with a micrometer, then subtract this reading against the end play reading. This gives you total end play.

If the reading is 0.00 to 0.1 mm (.001 to .004 in.), input shaft end play is within specifications.

If end play is not within specifications, install a thicker or thinner shim.

The available shim thicknesses are 0.3 mm

(0.0012 in.), 0.4 mm (0.016 in.) and 0.5 mm (0.020 in.).

**NOTE:** Do not install more than two end play shims.

## Output Shaft Bearing Preload

1. Remove the attaching bolts and the transmission case.
2. If necessary, remove the input shaft and install the correct end play shim.
3. Make sure the funnel and bearing race are installed in the clutch housing.
4. Install the original preload shim(s) and bearing race in the transmission case.
5. Install the output shaft.
6. Shift the third/fourth gear synchronizer into the fourth gear position.
7. Install the transmission case to clutch housing attaching bolts.

Tighten the attaching bolts to 19 to 26N.m (14 to 19 lb-ft).

8. Using Rotating Torque Adapter T88C-7025-E and an inch-pound torque wrench, measure the amount of torque required to turn the input shaft. (Figure 102).

If the torque wrench reads (2 to 4.5 lb. in.) preload is within specifications.

If preload is not within specifications, install a thicker or thinner preload shim.

**NOTE:** Do not install more than two preload shims.

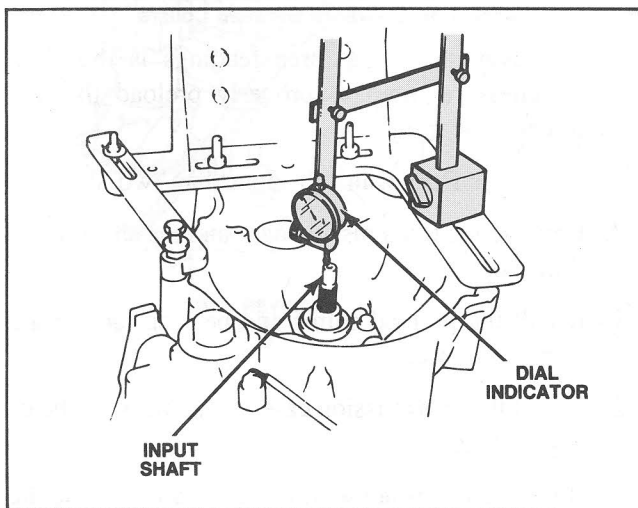


Figure 101 Input Shaft End Play Measurement

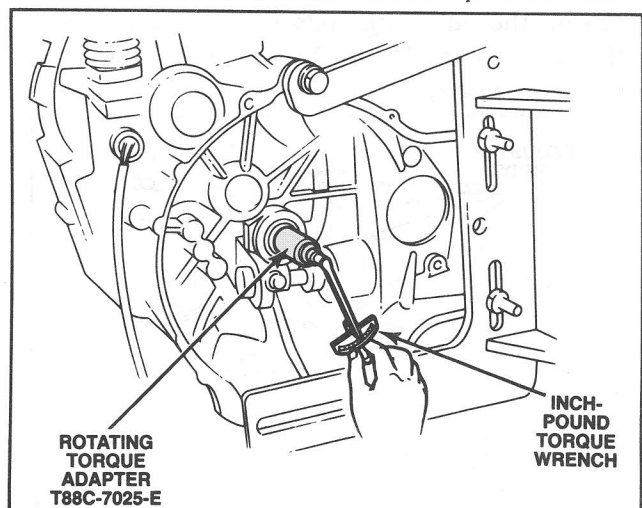


Figure 102 Output Shaft Bearing Preload Measurement

# ASSEMBLY

## Differential Bearing Preload Adjustment

1. Remove the transmission case, and differential seal.
2. Shift the third/fourth gear synhronizer to the neutral position.
3. Remove the input and output shaft.
4. Install the differential assembly in the clutch housing.
5. Install the bearing race on the differential bearing.
6. Install the collars supplied with Shim Selection Tool T87C-77000-J on the differential bearing race. (Figure 103).

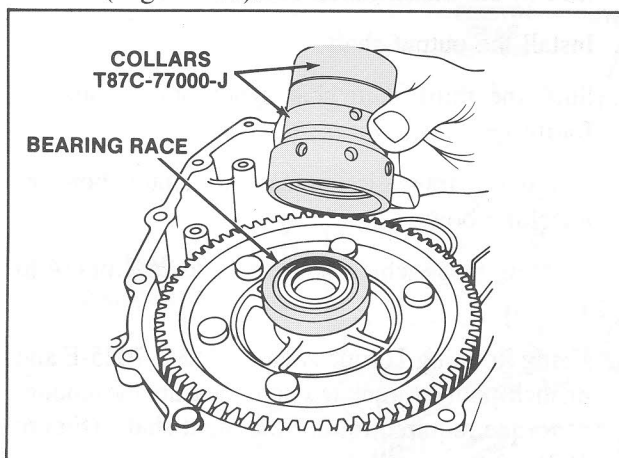


Figure 103 Shim Selector Collar Installation

7. Install the transmission case using the spacers and bolts supplied with Shim Selection Tool T87C-77000-J  
Tighten the tool bolts to 19 to 26 N.m (14 to 19 lb-ft).
8. Using the adjusting rods supplied with Shim Selection Tool T87C-77000-J spread the shim selection tool collars. (Figure 104).

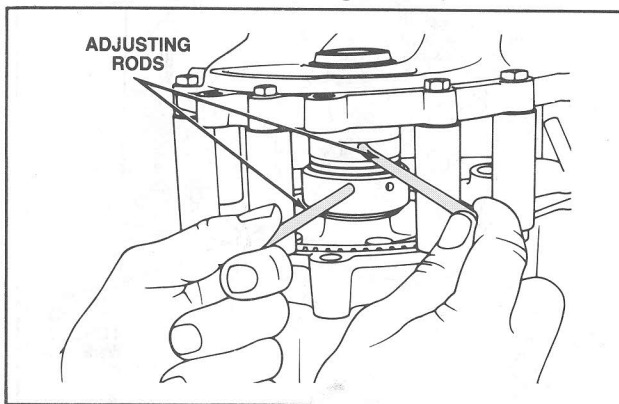


Figure 104 Spreading Shim Selector Collars

When the collars begin to tighten, measure the amount of torque required to turn the differential using Differential Rotator T88C-77000-L and an inch-pound torque wrench. (Figure 105).

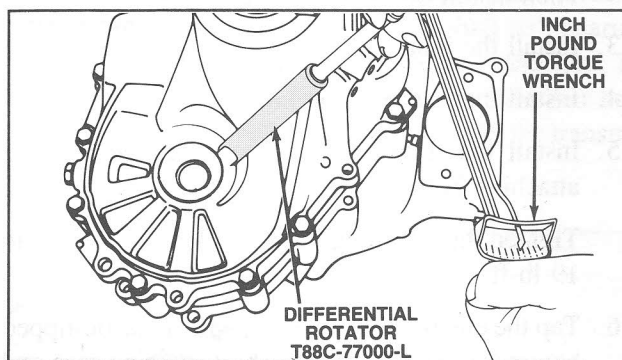


Figure 105 Measuring Rotating Torque

Continue tightening the collars until the torque wrench reads 5 to 7.5 N.m (4 to 7 lb. in.)

9. Using a feeler gauge, measure the gap between the shim selector collars in three places. (Figure 106).

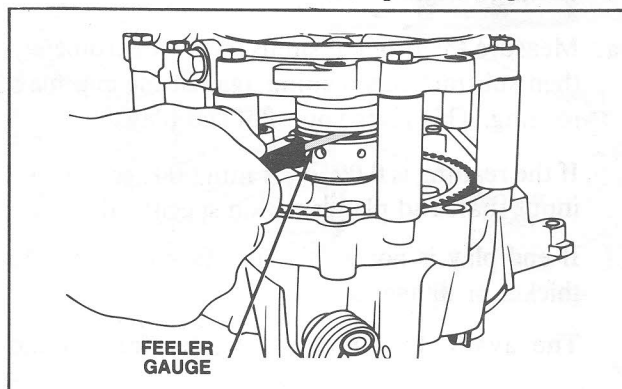


Figure 106 Measuring Clearance Between Collars

The average of the three readings is the shim thickness required to properly preload the differential bearings.

**NOTE:** Do not install more than two shims.

10. Remove the transmission case and the shim selection tools.
11. Install the preload shims and bearing race in the transmission case.
12. Install the transmission case and recheck the bearing preload.

If the preload is not within specifications, redo the shim selection procedure.



# ASSEMBLY

## INPUT SHIFT RAIL INSTALLATION

1. If necessary, install the protective boot on the shift rail.
2. Install the input shift rail. (Figure 107).

Note the location of the detents on the shaft.

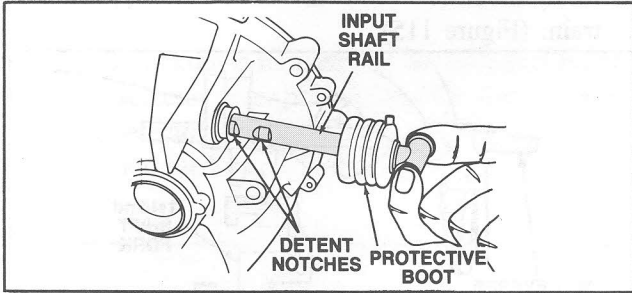


Figure 107 Input Shift Rail Installation

3. Position the shift selector arm in the clutch housing, slide the rail through the arm and seat it in the case. (Figure 108).

Note the direction of the selector arm.

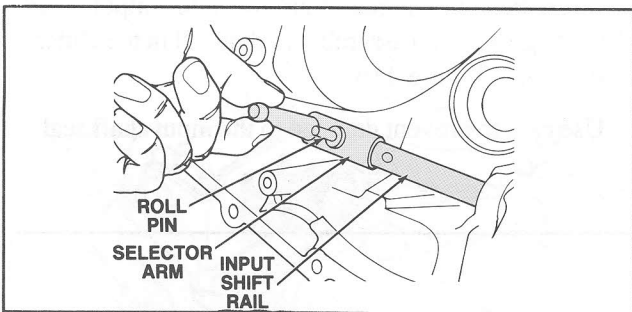


Figure 108 Selector Arm Installation

4. Install the selector arm roll pin.
5. Install the end of the protective boot over the input shift rail seal. (Figure 109).

Make sure the drain tube on the boot is facing the bottom of the transaxle.

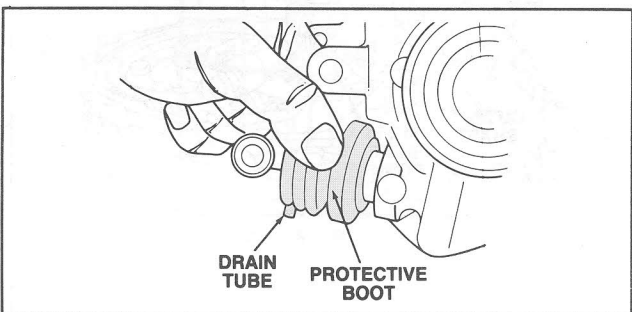


Figure 109 Protective Boot Installation

## DIFFERENTIAL INSTALLATION

1. Install the differential assembly in the clutch housing with the speedometer gear facing the clutch housing. (Figure 110).

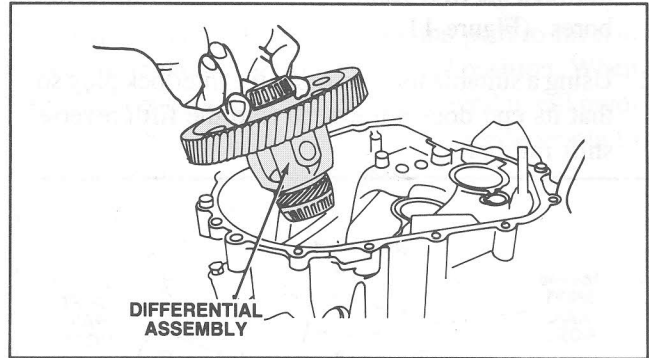


Figure 110 Differential Installation

2. Position the shift gate and install the attaching bolts. (Figure 111).

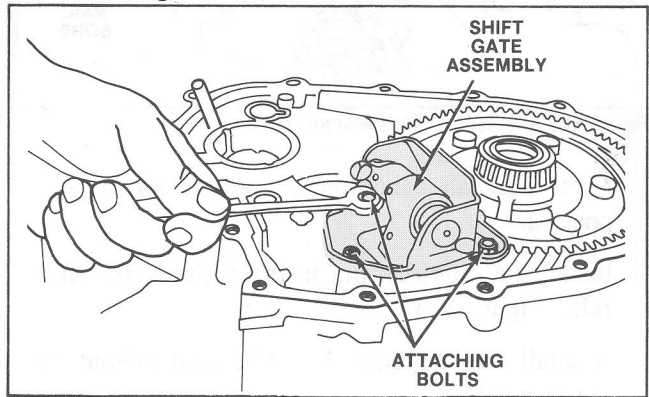


Figure 111 Shift Gate Installation

The longer bolt is installed in the position shown. (Figure 112).

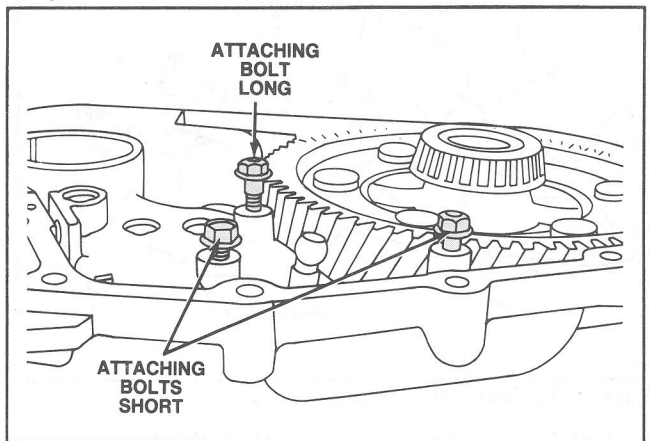


Figure 112 Attaching Bolt Location

3. Install the speedometer gear and the attaching bolt.

# ASSEMBLY

## INPUT AND OUTPUT GEAR TRAIN INSTALLATION

1. Install an interlock plug.

Position the plug in the bore so that it is located between the first/second and fifth/reverse shift rail bores. (Figure 113).

2. Using a suitable tool, position the interlock plug so that its end does not extend into the fifth/reverse shift rail bore.

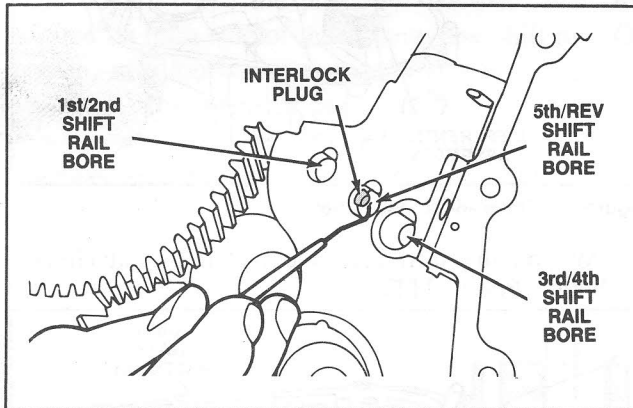


Figure 113 Interlock Plug Installation

3. Make sure all synchronizers are in the neutral position.
4. Install the interlock pin in the fifth/reverse shift rail. (Figure 114).

A small dab of grease should be used to hold the pin in position.

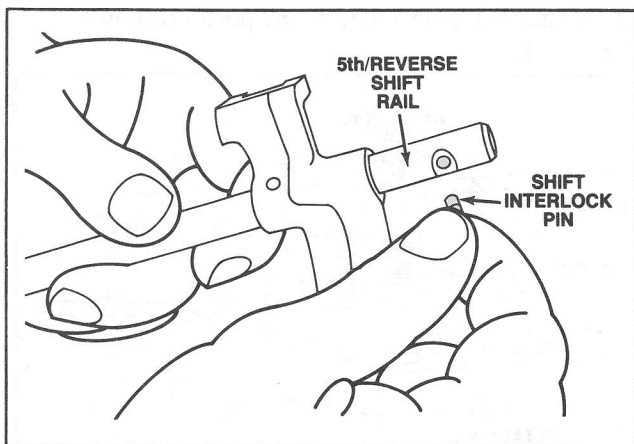


Figure 114 Interlock Pin Installation

5. Install the first/second shift fork on the output gear train.

Note the installation direction.

6. If necessary, install the fifth gear shift fork on the shift rail.

Note the installation direction.

7. Install the fifth/reverse shift rail on the output gear train. (Figure 115).

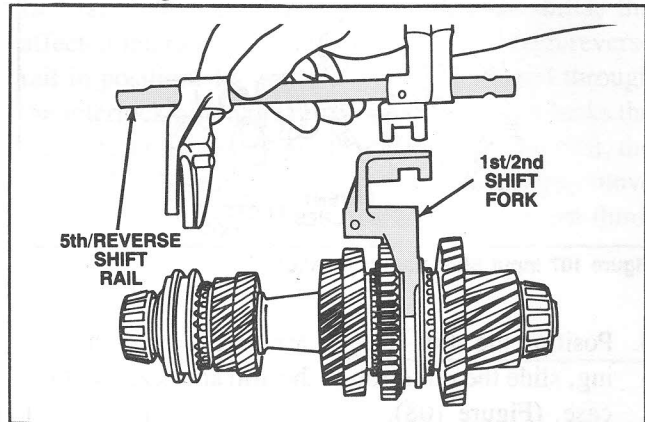


Figure 115 Shift Rail Installation

8. Mesh the output gear train with the input gear train, grasp as an assembly and install in the clutch housing. (Figure 116).

Use care to prevent damage to the input shaft seal.

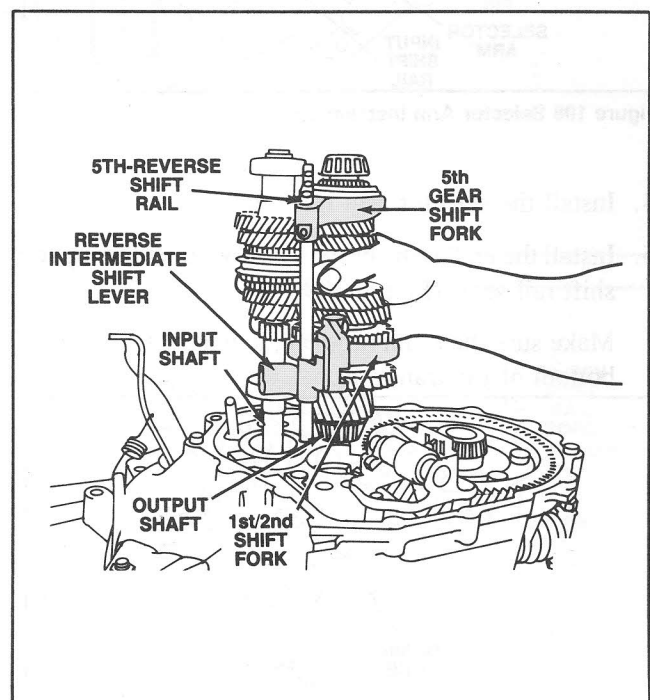


Figure 116 Gear Train Installation

# ASSEMBLY

## INPUT AND OUTPUT GEAR TRAIN INSTALLATION

9. Carefully raise and lower the fifth/reverse shift rail in slight amounts while pushing the interlock plug back into its bore. (Figure 117).

When the rail is properly positioned, the plug will no longer extend into the first/second shift rail bore.

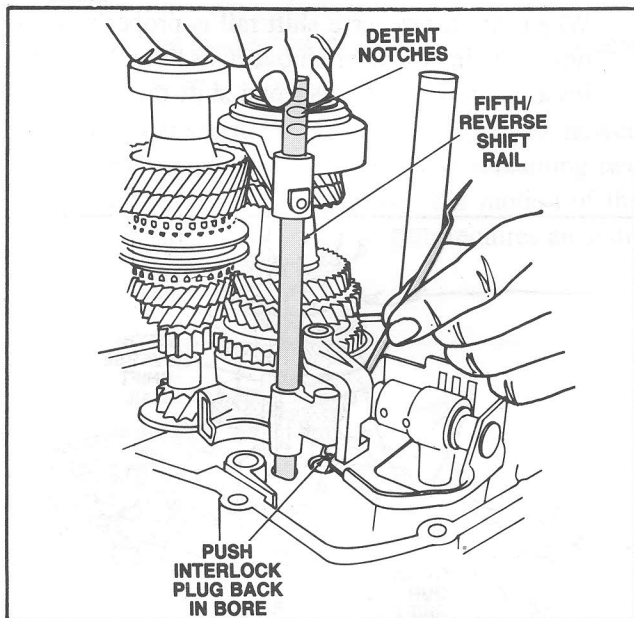


Figure 117 Shift Rail Installation

10. Install the first/second shift rail through the fork and into its bore. (Figure 118).

Note the installation direction of the detent notches.

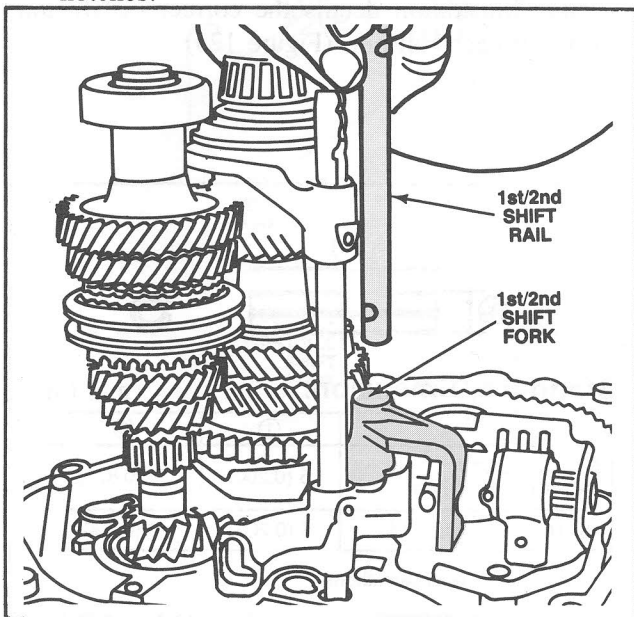


Figure 118 Shift Rail Installation

If the rail will not enter the bore, raise and lower the fifth/reverse shift rail in slight amounts, while pushing downward on the rail.

When the fifth/reverse shift rail is properly positioned, the interlock will move in its bore, allowing installation of the first/second shift rail.

11. Install the remaining detent plug. (Figure 119).

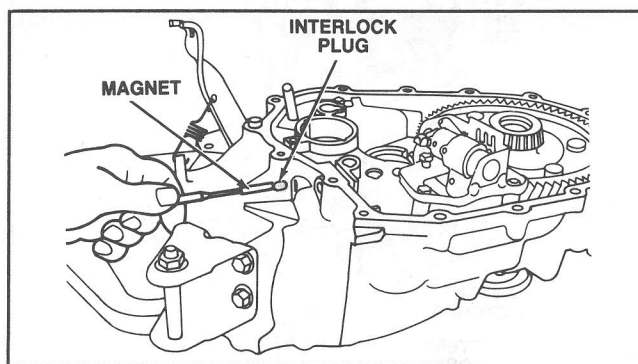


Figure 119 Interlock Plug Installation

12. Install the third/fourth shift fork and rail on the synchronizer. (Figure 120).

Note the installation direction of the fork and the detents on the rail.

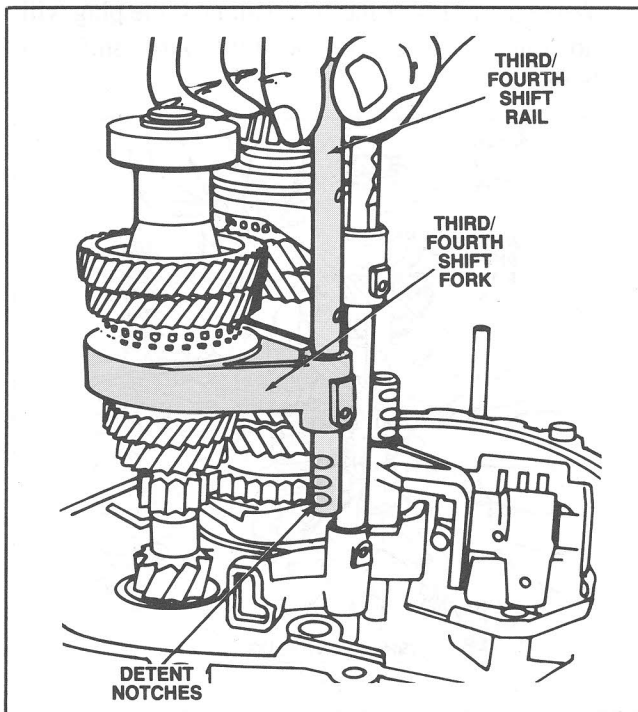


Figure 120 Shift Rail Installation

# ASSEMBLY

## INPUT AND OUTPUT GEAR TRAIN INSTALLATION

13. While holding the third/fourth relay arm in position, install the shift rail through the relay arm. (Figure 121).

Rest the end of the shift rail on the edge of the clutch housing.

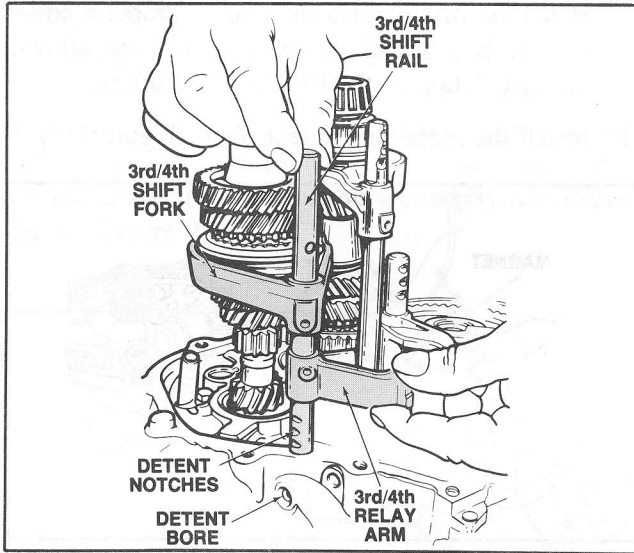


Figure 121 Relay Arm Installation

14. Carefully raise and lower the fifth/reverse shift rail in slight amounts while pushing the interlock plug back into its bore. (Figure 122).

When the rail is properly positioned, the plug will no longer extend into the third/fourth shift rail bore.

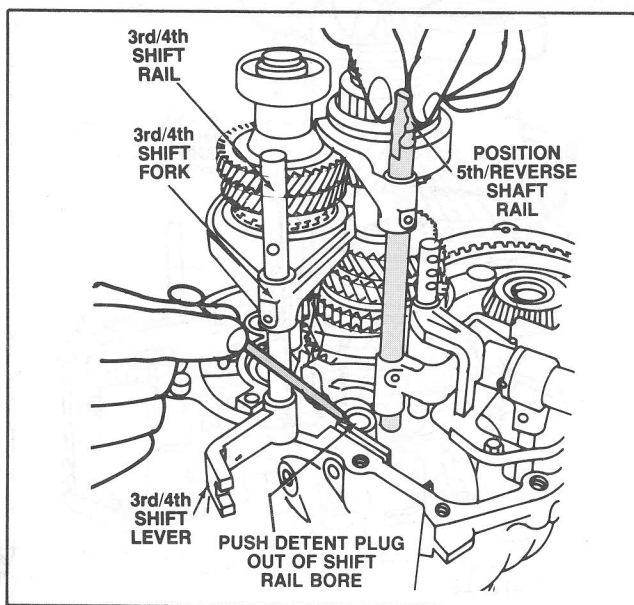


Figure 122 Positioning Interlock Plug

15. Pivot the third/fourth shift rail into position and push it into the bore. (Figure 124).

If the rail will not enter the bore, raise and lower the fifth/reverse shift rail in slight amounts, while pushing downward on the rail.

When the fifth/reverse shift rail is properly positioned the interlock will move in its bore, allowing installation of the first/second shift rail.

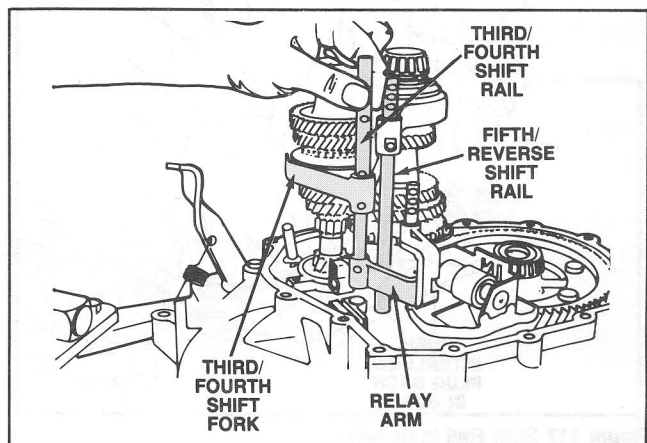


Figure 124 Install Shift Rail

16. Install the relay arm and shift fork roll pins.

**NOTE:** There are three roll pin sizes. The following chart and illustration details the correct installation location for each roll pin. (Figure 125).

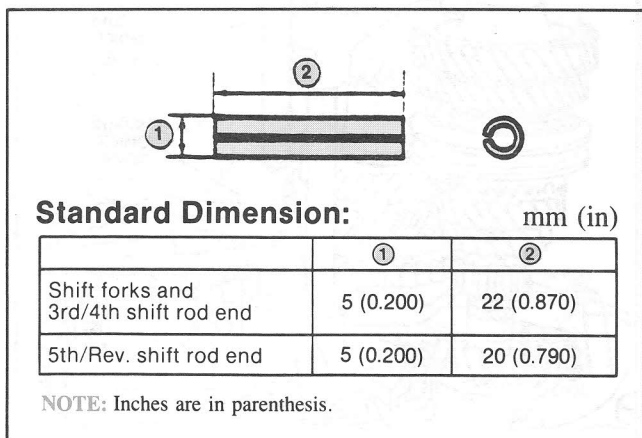


Figure 125 Roll Pin Size Chart

# ASSEMBLY

## INPUT AND OUTPUT GEAR TRAIN INSTALLATION

17. Install a new o-ring on the reverse intermediate lever pivot pin. (Figure 126).

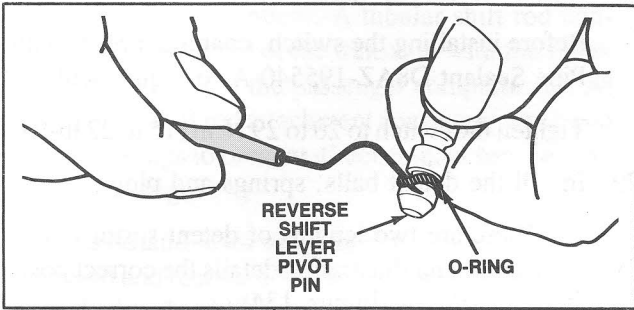


Figure 126 O-ring Installation

18. Position the reverse intermediate lever and install the pivot pin.  
19. Install the intermediate lever pivot pin retainer. (Figure 127).

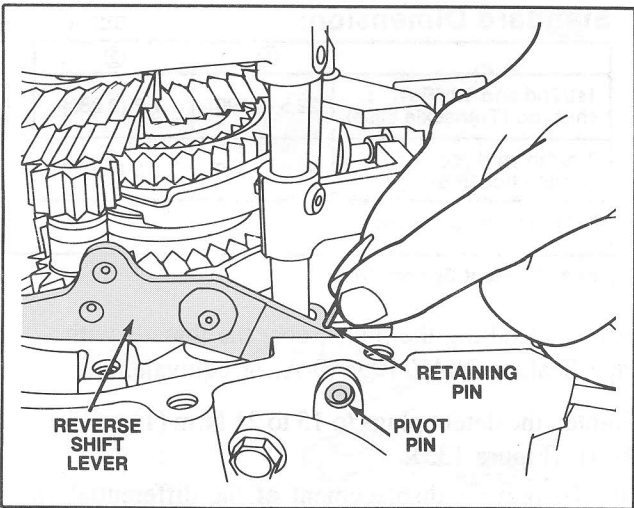


Figure 127 Retaining Pin Installation

20. Install reverse gear on the idler shaft. (Figure 128).

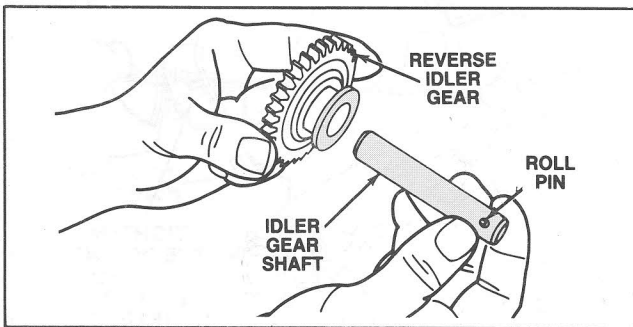


Figure 128 Reverse Idler Gear/Shaft Assembly

Note the direction of installation. The collar on the gear has to face the roll pin.

21. Install the reverse idler gear and shaft.

To gain the required clearance, raise the intermediate lever. (Figure 129).

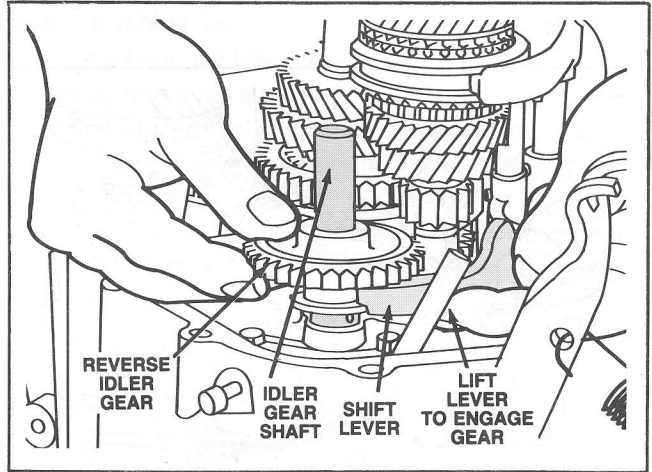


Figure 129 Reverse Idler Gear Installation

22. Install the reverse intermediate lever detent plate. (Figure 130).

Tighten the attaching bolt to 8 to 9 N.m (6 to 7 lb-ft).

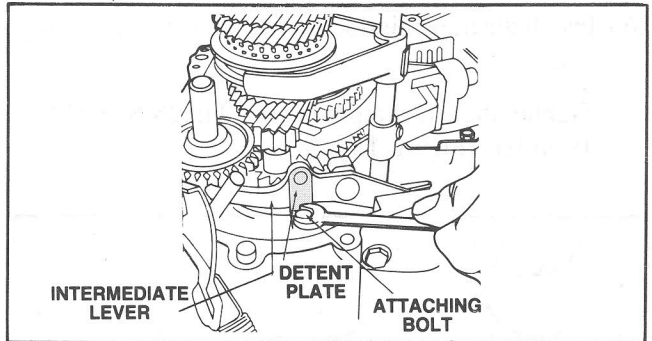


Figure 130 Detent Plate Installation

23. Install the case magnet. (Figure 131).

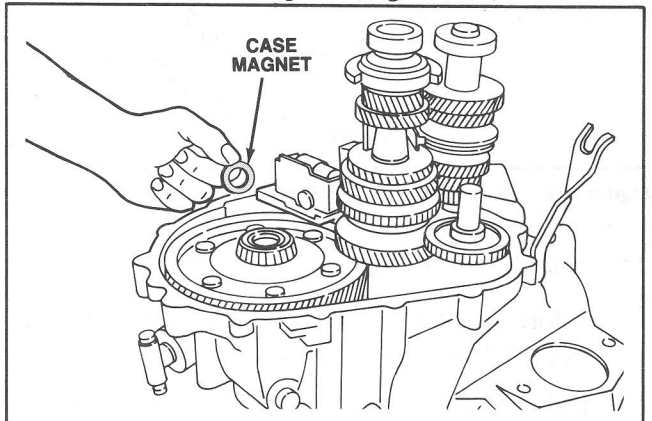


Figure 131 Case Magnet Installation

# ASSEMBLY

## INPUT AND OUTPUT GEAR TRAIN INSTALLATION

24. Apply a one/sixteenth inch bead of Gasket Eliminator E2AZ-19562-A, or equivalent. (Figure 132).  
Make sure the sealant encircles the attaching bolt holes.

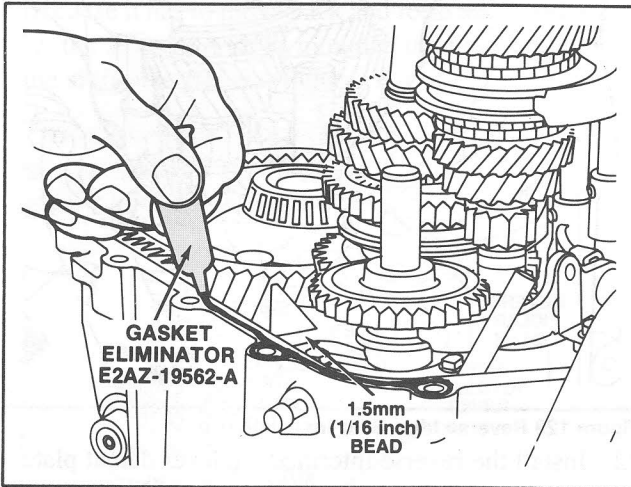


Figure 132 Sealant Application

25. Install the transmission case on the clutch housing.  
26. Install the transmission to clutch housing attaching bolts.

Tighten the attaching bolts to 19 to 26 N.m (14 to 19 lb-ft). (Figure 133).

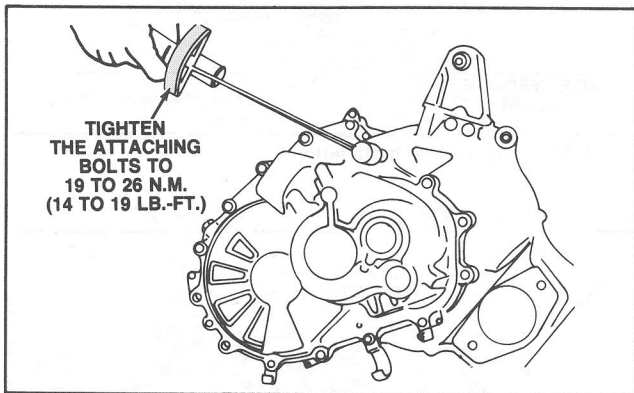


Figure 133 Tighten Bolts to Specification

27. Install the fifth gear switch.  
Before installing the switch, coat the threads with Pipe Sealant D8AZ-195540-A, or equivalent.  
Tighten the switch to 20 to 29 N.m (15 to 22 lb-ft).

28. Install the backup lamp switch.  
Before installing the switch, coat the threads with Pipe Sealant D8AZ-195540-A, or equivalent.  
Tighten the switch to 20 to 29 N.m (15 to 22 lb-ft).
29. Install the detent balls, springs and plugs.

**NOTE:** There are two lengths of detent springs. The following chart and illustration details the correct position for each spring. (Figure 134).

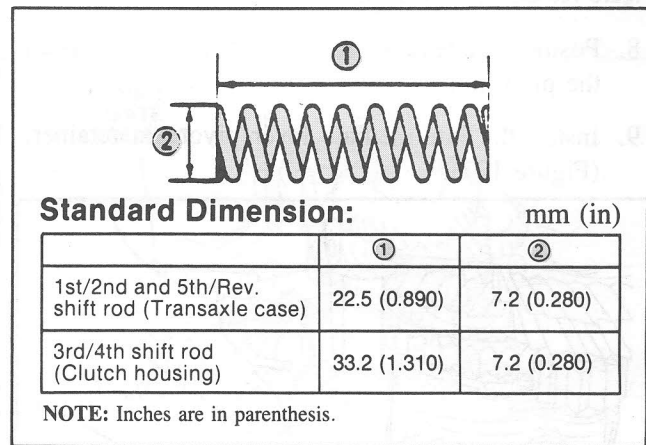


Figure 134 Detent Spring Chart

Before installing the plugs, coat the threads with Pipe Sealant D8AZ-195540-A, or equivalent.

Tighten the detent plugs to 15 to 21 N.m (11 to 15 lb-ft). (Figure 135).

30. To prevent displacement of the differential side gears, install Differential Plugs T87C-7025-C.

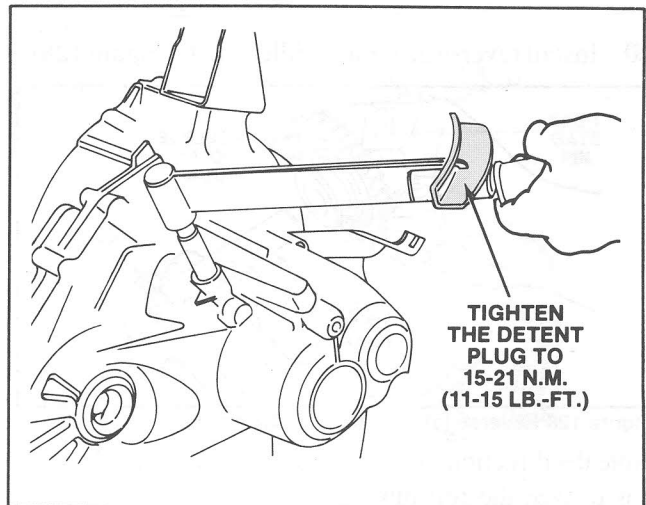


Figure 135 Tighten Plugs To Specification

# MAINTENANCE

## FLUID LEVEL CHECK

The speedometer driven gear sleeve is used as a dipstick to check the transaxle fluid level. To check and adjust fluid level, use the following procedure:

1. Remove the protective boot from the gear sleeve and slide it up the speedometer cable.
2. Disconnect the speedometer cable from the sleeve.  
**NOTE:** Pliers may be necessary to loosen the speedometer cable attaching nut.
3. Remove the speedometer sleeve and gear assembly.
4. Remove the o-ring from the speedometer gear sleeve.
5. Remove all traces of oil from the gear and sleeve.
6. Insert the speedometer sleeve into its bore in the transaxle.
7. Remove the sleeve and check the oil level using the indicator mark on the sleeve. (Figure 136).

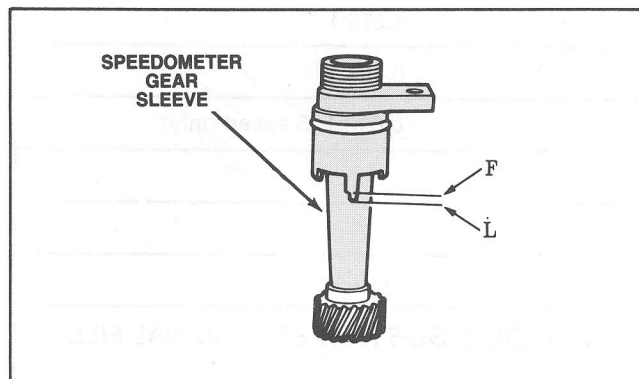


Figure 136 Fluid Level Check

If the oil level is below the full mark, add the required amount of oil through the speedometer gear bore.

Use only the specified oil.

8. Inspect the o-ring. If it is in serviceable condition, install it on the sleeve.

If there is any doubt about the condition of the o-ring, it must be replaced.

Connect the speedometer cable and position the dust boot over the sleeve.

## CLUTCH PEDAL FREE PLAY ADJUSTMENT

Clutch pedal free play should be 9 mm to 15 mm (approximately 3/8 to 9/16 in.). (Figure 137).

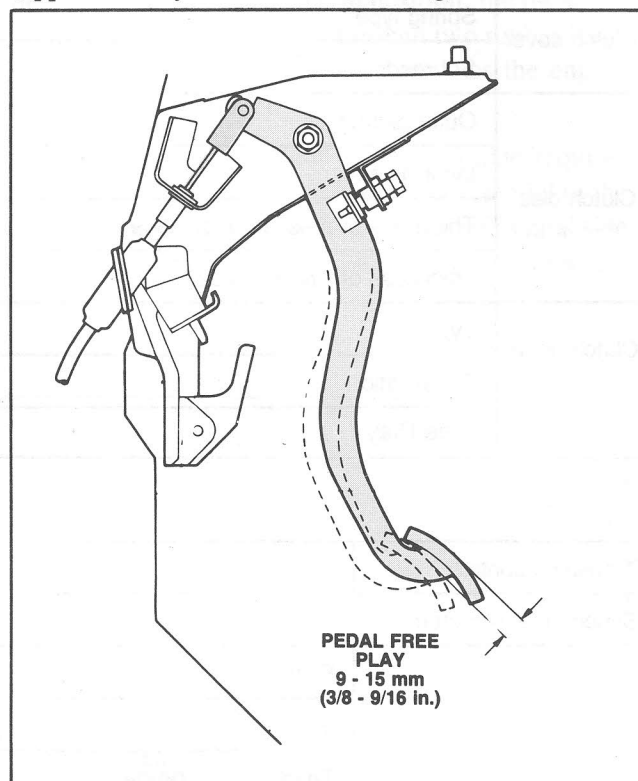


Figure 137 Clutch Pedal Free Play

If it is not within specifications, it can be adjusted using the following procedure:

Pull back on the clutch release lever and measure the clearance between the lever and the cable pin. (Figure 138).

Turn the pin adjustment nut until the clearance between the pin and the lever is 1.5 to 2.5 mm (.060 to .100 in.)

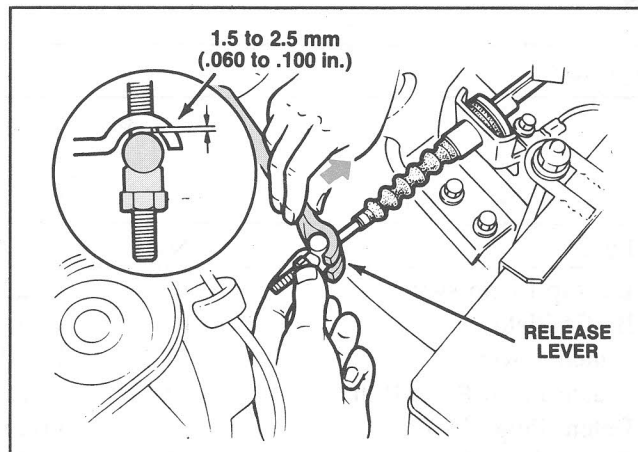


Figure 138 Free Play Adjustment

# SPECIFICATIONS

## CLUTCH

Clutch control type		Cable
Clutch cover	Spring type	Diaphragm
	Set road	2943 (300.660) N(kg. lb)
Clutch disc	Outer diameter	180 (7.087) mm (in)
	Inner diameter	125 (4.921) mm (in)
	Thickness of pressure plate side	3.2 (0.126) mm (in)
	Thickness of flywheel side	3.0 (0.118) mm (in)
Clutch pedal	Type	Suspended
	Pedal ratio	5.83 : 1
	Free Play	1.5 to 2.5 mm (.060 to .100 in)

## TRANSAXLE

Transaxle control		Floor shift
Synchronesh system		Forward . . . synchronesh, Reverse . . . Selective sliding
Gear ratio	First	3.454:1
	Second	1.944:1
	Third	1.275:1
	Fourth	0.861:1
	Fifth	0.692:1 (5 speed only)
	Reverse	3.583:1
Final gear ratio		3.777:1
Speedometer gear ratio		0.91:1
Oil	Type	A.P.I.: GL-4, GL-5 (75W-80) ORIGINAL FILL A.T.F.: DEXRON-II
Capacity		2.5 liters (2.6 US qt. 2.2 imp)

## TORQUE CHART

Item	N.m	lb-ft	Item	N.m	lb-ft
Backup Lamp switch	20-29	15-22	Oil Guide	8-11	6-8
Baffle Plate	10-13	6-8	Release Bearing Fork	35-41	26-30
Clutch Cover	18-26	13-20	Reverse Detent Plate	8-11	6-8
Clutch Pedal Pivot Bolt	20-34	14-25	Shift Gate	8-11	6-8
Detent Plug (1-2)	15-21	11-15	Shift Lever Housing	7-10	5-7
Detent Plug (3-4)	20-29	15-22	Shift Rod	16-22	12-17
Detent Plug (4-5)	15-21	11-15	Stabilizer Rod	31-46	23-34
Fifth Gear Switch	20-29	15-22	Transmission Case	19-26	14-19