

# 1988

## UNIT REPAIR MANUAL

### COVERING LIGHT DUTY TRUCKS

The Table of Contents on this page indicates the sections covered in this manual. At the beginning of each individual section is a Table of Contents which gives the page number on which each major subject begins.

When reference is made in this manual to a brand name, number, or specific tool, an equivalent product may be used in place of the recommended item.

All information, illustrations, and specifications contained in this Manual are based on the latest product information available at the time of publication approval. The right is reserved to make changes at any time without notice.

Throttle Body Injection is not included in this manual. Unit repair information on TBI is included in the Service Manual.

#### TABLE OF CONTENTS

SEC.	SECTION NAME
0A	<b>GENERAL INFORMATION</b>
1	<b>AIR CONDITIONING</b> 1B1 A6 Air Conditioning Compressor 1B2 DA-6 Air Conditioning Compressor 1B3 R-4 Air Conditioning Compressor 1B4 DA-V5 Air Conditioning Compressor 1B5 HR-6 Air Conditioning Compressor
3	<b>STEERING</b> 3B2 Manual Steering Gear 3B3 Power Steering
4	<b>AXLES</b> 4B Rear Axle 4B1 7 <sup>1</sup> / <sub>2</sub> and 7 <sup>3</sup> / <sub>8</sub> -Inch Ring Gear 4B2 8 <sup>1</sup> / <sub>2</sub> -Inch Ring Gear 4B3 9 <sup>1</sup> / <sub>2</sub> -Inch Ring Gear 4B4 10 <sup>1</sup> / <sub>2</sub> -Inch Ring Gear 4B5 Dana Rear Axles 4B6 12-Inch Ring Gear (Rockwell) 4B7 Locking Differentials 4C Front Axle 4C1 8 <sup>1</sup> / <sub>2</sub> -Inch Ring Gear 4C2 9 <sup>3</sup> / <sub>4</sub> -Inch Ring Gear (Dana) 4C3 T Truck Front Axle 4C4 K Truck Front Axle
5	<b>BRAKES</b>
6	<b>ENGINE</b> 6A General Engine Mechanical 6A1 2.5 Liter L4 6A2 2.8 Liter V6 6A3 4.3 Liter V6 6A4 4.8 Liter L6 6A5 V8 Engine 6A7 6.2 Liter Diesel 6C1 Model 1MEF Carburetor 6C2 Model M4MEF Carburetor 6D Engine Electrical
7	<b>TRANSMISSION</b> 7A Automatic Transmission 7A1 700-R4 Automatic Transmission 7A2 400/475 Automatic Transmission 7A3 180C Automatic Transmission 7B Manual Transmission 7B1 Hydra-Matic Muncie Transmission 7B2 New Process Transmission 7B3 Borg Warner Transmissions 7D Transfer Case 7D1 New Process 205 Transfer Case 7D2 New Process 207 Transfer Case 7D3 New Process 208 Transfer Case 7D4 New Process 241 Transfer Case 7D5 New Process 231 H.D. Transfer Case

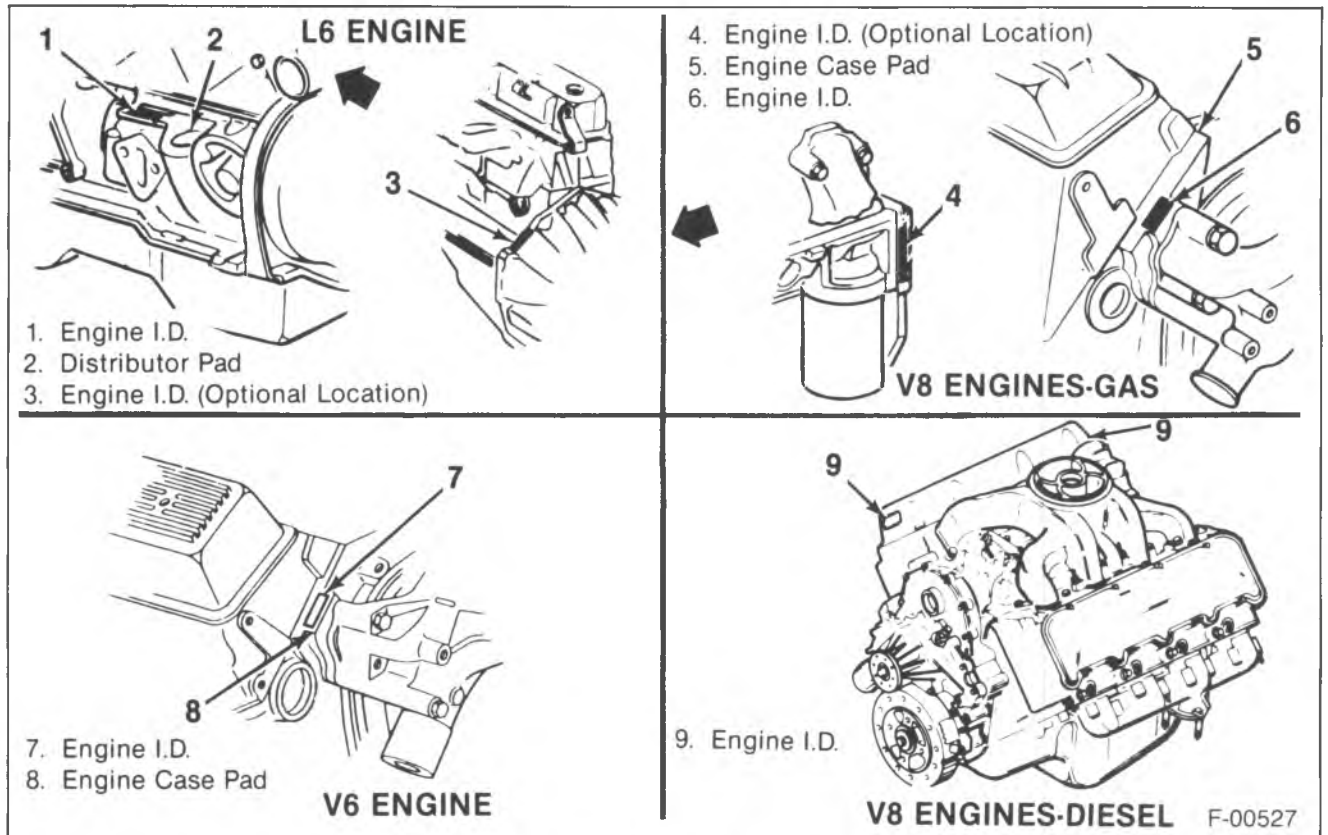


Figure 5—4.3L V6 and all V8 Engine I.D. Locations

**NOTICE:** Most metric fasteners have a blue color coating. However, this should not be used as positive identification as some fasteners are not color coated.

General Motors Engineering Standards, along with other North American Industries, have adopted a portion of the standard metric fastener sizes defined by ISO (International Standards Organization). This was done to reduce the number of fastener sizes used and yet retain the best strength qualities in each thread size. For

example, the customary 1/4-20 and 1/4-28 screws are replaced by the metric M6.0 x 1 screw which has nearly the same diameter and has 25.4 threads per inch. The thread pitch is in between the customary coarse and fine thread pitches.

Metric and customary thread notation differ slightly. The difference is shown in figure 14.

### FASTENER STRENGTH IDENTIFICATION

Most commonly used metric fastener strength properly classes are 9.8 and 10.9 with the class identification embossed on the head of each bolt. Customary (inch) strength classes range from grade 2 to 8 with radial line identification embossed on each bolt head. Markings correspond to two lines less than the actual grade (i.e. grade 7 bolt will exhibit 5 embossed radial lines on the bolt head). Some metric nuts will be marked with single digit strength identification numbers on the nut face. Figure 6 shows the different strength markings.

When replacing metric fasteners, be careful to use bolts and nuts of the same strength or greater than the original fasteners (the same number marking or higher). It is likewise important to select replacement fasteners of the correct size. Correct replacement bolts metric fasteners available in the aftermarket parts channels were designed to metric standards of countries other than the United States, and may be of a lower strength, may not have the numbered head marking system, and may be of a different thread pitch. The metric fasteners used on GM

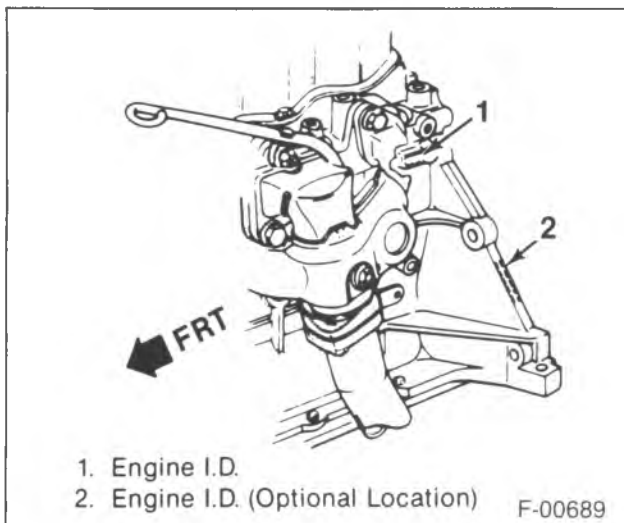


Figure 6—2.5L Engine I.D. Location

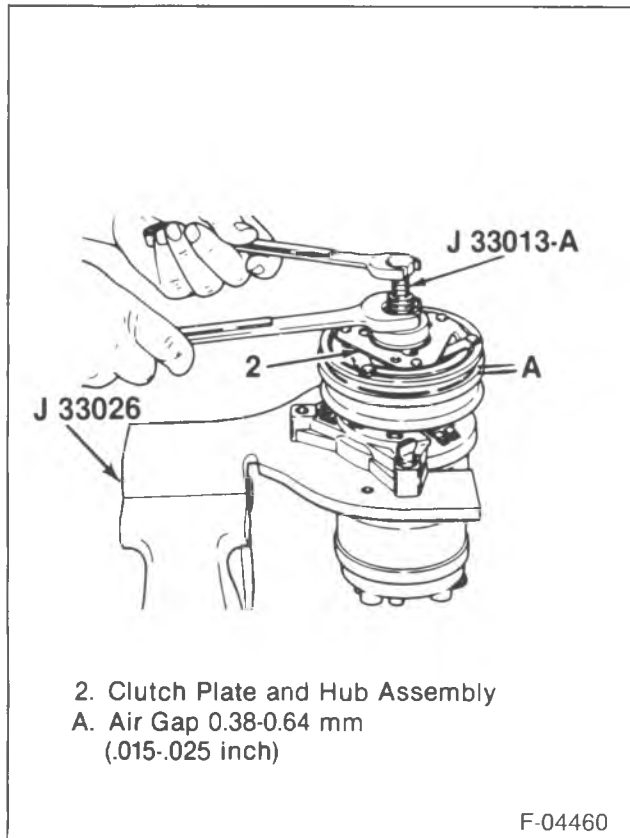


Figure 7—Installing the Clutch Plate and Hub Assembly

- Seat the pulley and bearing assembly on J 21352-A to support to the hub under the staking pin location.
- Strike the staking pin with a hammer until a metal stake, similar to the original, is formed down to, but not touching the bearing.
  - Position the stake pin after striking.

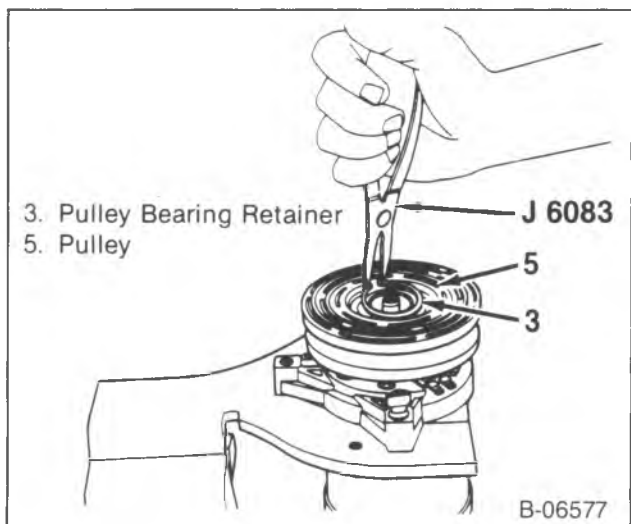


Figure 8—Removing the Pulley Rotor and Bearing Retaining Ring

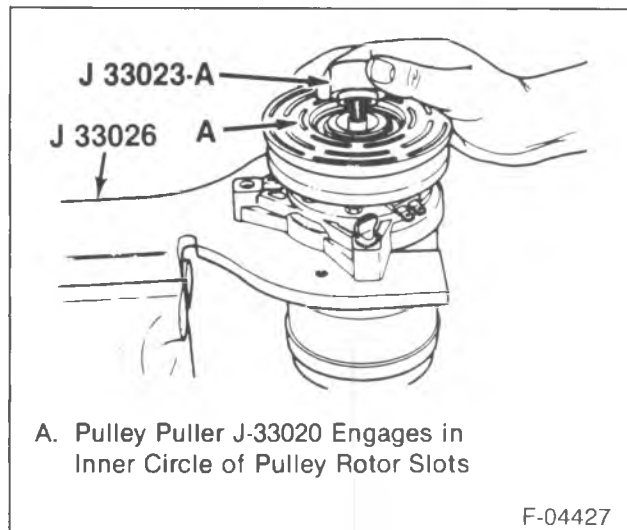


Figure 9—Installing the Puller Pilot and Pulley Rotor Slot Location

- The staked metal should not contact the outer race of the bearing to prevent the possibility of bending the outer race.
  - Stake 3 places 120 degrees apart (figure 14).
3. Pulley (5) on the front head.
- Position J 33017 and J 33023-A over the inner race of the bearing (figure 15).
  - Position J 8433-1 on J 33023-A and assemble the through bolts and washers through the pulley bar slots and thread them into J 33026 (figure 15).
    - The thread of the through bolts should engage the full thickness of J 33026.
  - Tighten the center screw in J 8433-1 to force the pulley and bearing assembly onto the compressor front head (11) (figure 15).
    - Should J 33017 become misaligned with the inner race of the bearing, back off J 8433-1 and relocate center, then continue installation.

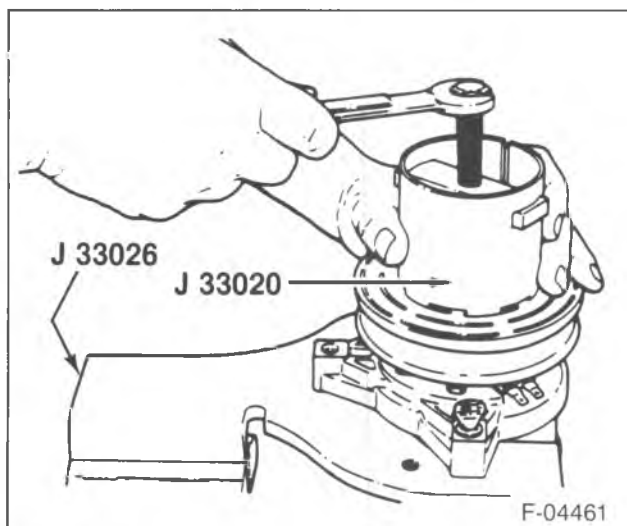
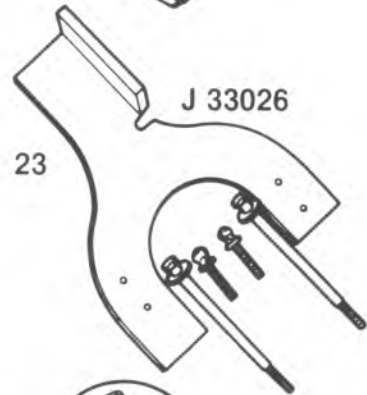
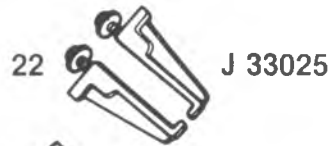
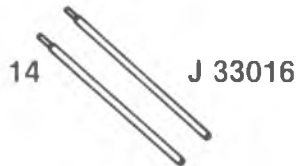
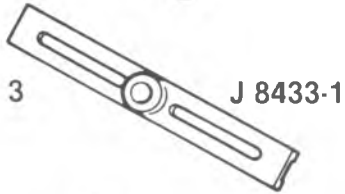


Figure 10—Installing J-33020 in the Pulley Rotor Slots

# 1B5-16 HR-6 AIR CONDITIONING COMPRESSOR

## SPECIAL TOOLS



1. Snap Ring Pliers
2. Snap Ring Pliers
3. Puller Bar
4. Forcing Screw
5. Pulley Bearing Remover
6. Pulley Bearing Installer
7. O-ring Seal Remover
8. Pressure Test Plate
9. Seal Remover and Installer
10. Support Block
11. Driver Handle
12. O-ring Seal Installer
13. Hub and Drive Plate Remover and Installer

14. Cylinder Alignment Rods
15. Pulley and Bearing Assembly Installer
16. Bearing Staking Tool
17. Pulley Puller
18. Shaft Seal Protector
19. 6 Point 13 mm Socket
20. Puller Pilot
21. Clutch Coil Installer Adapter
22. Clutch Coil Puller Legs
23. Compressor Holding Fixture
24. Clutch Hub Holding Tool

25. Clutch Hub Holding Tool

## 4B5-16 DANA REAR AXLES

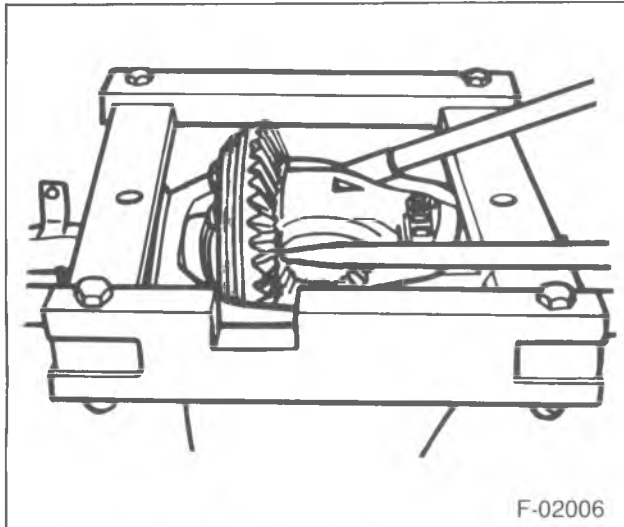


Figure 46—Removing the Differential

7. Bearing cups (20).
  - Mark the cups as left and right, and place them with the proper bearing caps.
8. Differential side bearings (20) using J 29721, J 29721-70, and J 8107-3 (figure 47).
  - Mark the bearings as left and right, and place them with the proper bearing caps and cups.
9. Differential shims (21).
  - Mark the shims as left or right.
10. Ring gear bolts (23).
  - Place shop towels over the vise jaws. Put the differential case in the vise (figure 48).

**NOTICE:** Do not pry the ring gear from the case, this will damage the ring gear and the differential case.

11. Ring gear (2) from the differential case using a rawhide hammer.
  - Ring gear (2) from the vise.
  - Put the differential case on D-166 (Miller tool) and put the holding fixture into the vise.

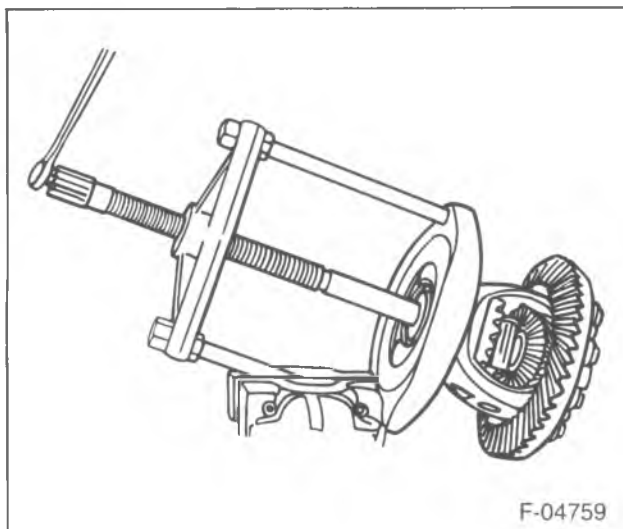


Figure 47—Removing the Differential Side Bearings

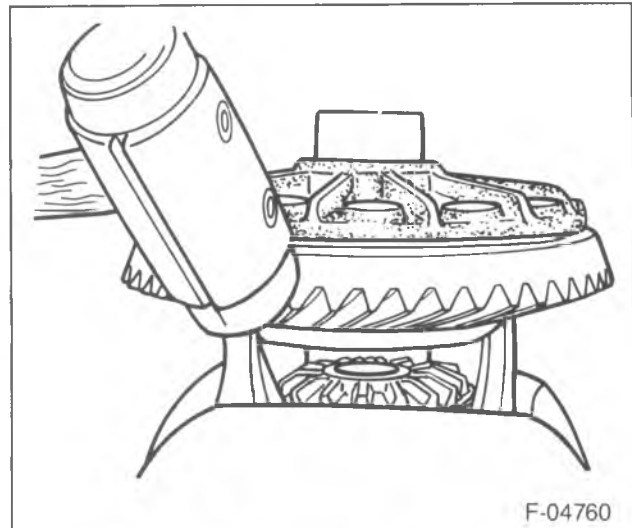


Figure 48—Removing the Ring Gear

12. Lock pin (29) from the differential using a hammer and a punch (figure 49).
  - Turn the differential over on D-166.
13. Pinion shaft (28) using a hammer and a brass drift (figure 50).
14. Differential pinion gears (24) and thrust washers (26).
  - Rotate the side gears until the pinion gears are in the opening of the differential (figure 51).
15. Differential side gears (25) and thrust washers (27).
  - Mark the gears and washers as left and right.
  - Replace the carrier cover (14) using two bolts (17) to keep the pinion from falling to the floor.

### Inspect

- Drive pinion bearing preload (figure 52).
  - Pinion assembly for looseness by moving it back and forth. (Looseness indicates excessive bearing wear).
16. Pinion nut (12) and washer (11) using J 8614-01 to hold the pinion (figure 53).

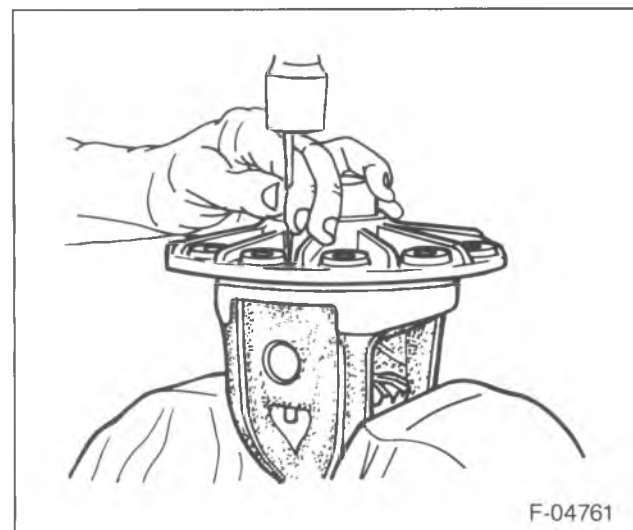


Figure 49—Removing the Lock Pin

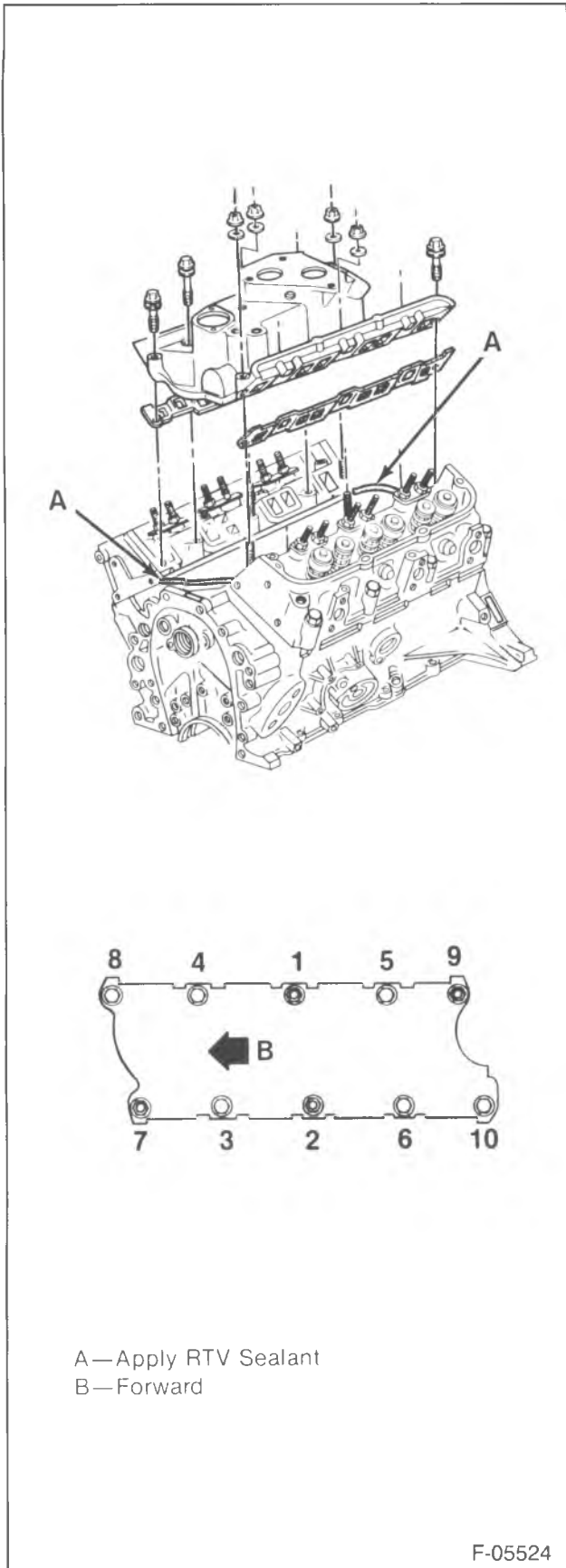


Figure 42—Intake Manifold Installation

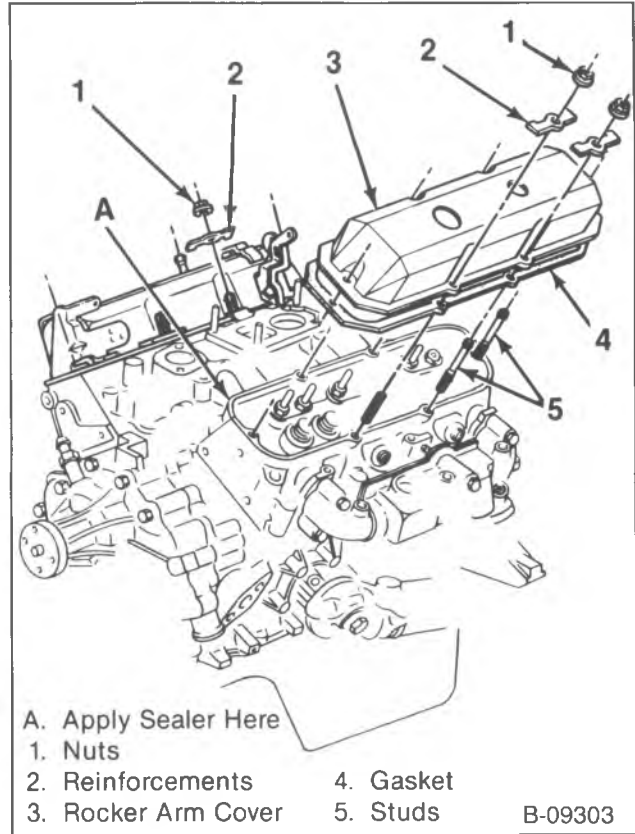


Figure 43—Rocker Arm Cover Installation

## EXHAUST MANIFOLD INSTALLATION



### Clean

- Mating surfaces of the manifold and cylinder head.



### Install or Connect (Figure 44)

1. Manifold.
2. Bolts and studs.



### Tighten

- Bolts to 34 N m (25 ft. lbs.).

## EGR VALVE INSTALLATION



### Install or Connect (Figure 6)

1. Gasket (82).
2. EGR valve (81).
3. Bolts (80).



### Tighten

- Bolts to 25 N·m (18 ft. lbs.).

## 6A5-24 V8 ENGINE

- Insert the valve into the proper port.
- Rotators (254).
  - Seals (257).
    - Lubricate the seals with engine oil.
    - Push the seals into place.
  - Valve springs with dampers (256).
  - Caps (253).
  - Valve keepers (251).
    - Compress the valve spring using J 8062 (figure 39). Compress the spring until the valve stem groove can be seen.
    - Apply a small amount of grease to the area of the valve stem groove.
    - Assemble the valve keepers, using the grease to hold the keys in place. Make sure the keepers seat properly in the groove.
    - Release the compressor tools. Make sure the valve keepers stay in place.
    - Repeat this procedure on the remaining valves.



### Measure (Figures 44 and 45)

- Valve spring installed height of each valve spring.
  - Use a narrow, thin scale. A cutaway scale (figure 44) may be helpful.
  - Measure from the spring seat to the top of the valve spring (figure 45).
  - If this measurement exceeds the figure given in "Specifications," install valve spring seat shims of sufficient thickness (between the spring and cylinder head) to give the desired measurement. NEVER shim the spring so as to give an installed height under the specified figure.

## THERMOSTAT AND WATER OUTLET



### Disassemble (Figure 46)

- Bolts or studs (300).
- Water outlet (301).
- Gasket (302).
- Thermostat (303).



### Inspect

- Water outlet for cracks.

### Thermostat Check

- Suspend the thermostat and a thermometer in water with the thermometer located close to the thermostat. The thermostat must be completely submerged and the water thoroughly agitated while heating. Apply heat to the water and record both the temperature at which the thermostat begins to open and the temperature at which the thermostat is fully open.
- Compare the temperature readings taken in the test with those given in the proper Truck Service Manual.
- Do not attempt to repair the thermostat. If the thermostat does not function properly, replace it with a new unit which has been checked as directed previously.

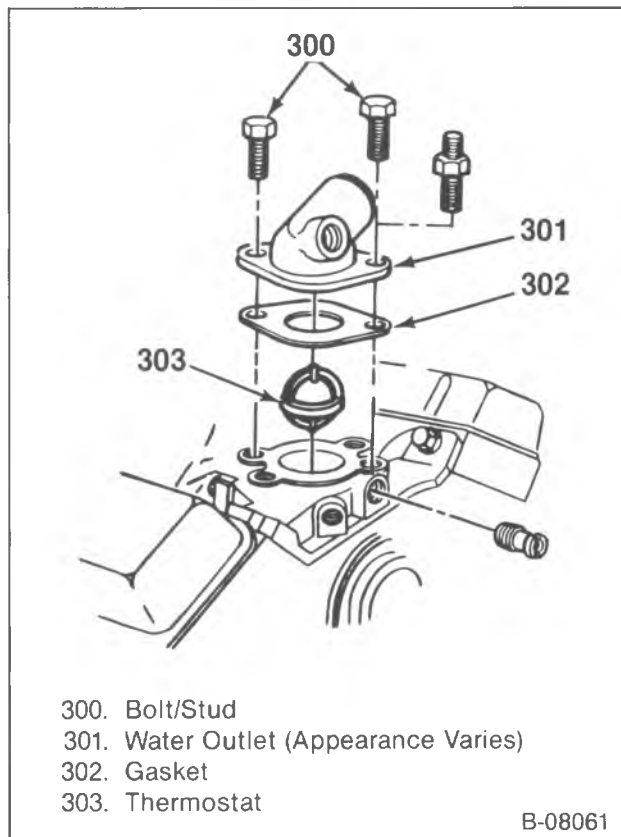


Figure 46—Thermostat and Components



### Install or Connect (Figure 46)

- Thermostat (303).
- Gasket (302).
- Water outlet (301).
- Bolts or studs (300).



### Tighten

- Bolts or studs to specifications.
  - 5.0 L and 5.7 L engines: 28 N·m (21 ft. lbs.).
  - 7.4 L engines: 40 N·m (30 ft. lbs.).

## TORSIONAL DAMPER



### Inspect

- Torsional damper weight for lack of fit or signs of shifting on the hub. Replace as needed.
- Area of the torsional damper hub shaft which contacts the front crankshaft seal for roughness or nicks. Replace the damper if this condition exists.

## CRANKSHAFT AND BEARINGS



### Clean

- Crankshaft with solvent.
- Blow all sludge from the oil passages with compressed air.
- Main bearing inserts. Wipe free of oil with a soft cloth.

## 6C2-8 MODEL M4MEF CARBURETOR

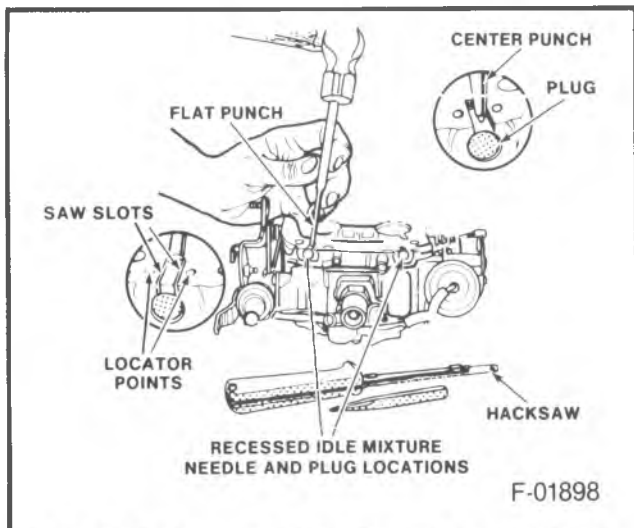


Figure 10 -- Removing Idle Mixture Needle Plugs

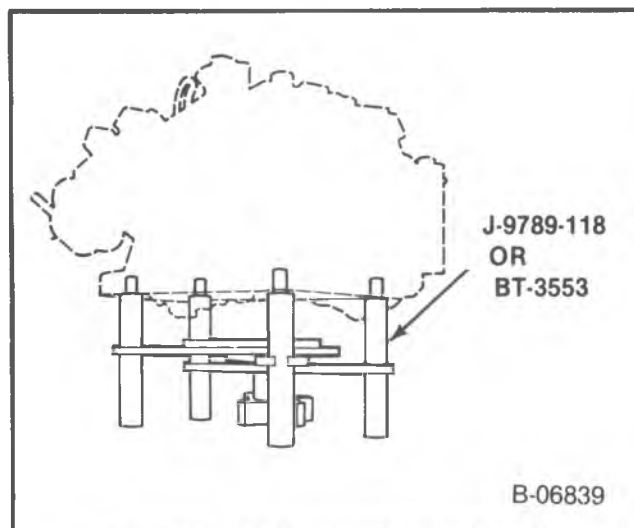


Figure 11 -- Carburetor Holding Stand

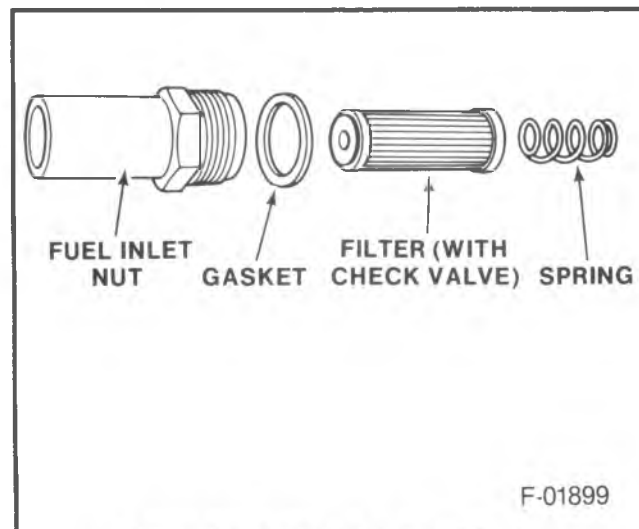


Figure 12-- Fuel Inlet Nut and Filter

### SOLENOID AND BRACKET ASSEMBLY

- ↔ Remove or Disconnect (Figures 8, 9)
- Bracket attaching screws (501), and solenoid and bracket assembly (500).

### VACUUM BREAK ASSEMBLY

- ↔ Remove or Disconnect (Figures 8, 9)
1. Primary side vacuum break hose (57).
  2. Primary side vacuum break attaching screws (56).
  3. Primary side vacuum break assembly (55) and primary side vacuum break-air valve lever link (58).

### AIR HORN COMPONENTS

#### Secondary Metering Rods

- ↔ Remove or Disconnect (Figure 13)
1. Secondary metering rod holder attaching screw (30).
  2. Metering rod holder (31), and metering rods (32).

#### Choke Lever and Link

- ↔ Remove or Disconnect (Figure 14)
1. Choke lever attaching screw (36).
  2. Choke lever (35).
  3. Choke link (356).

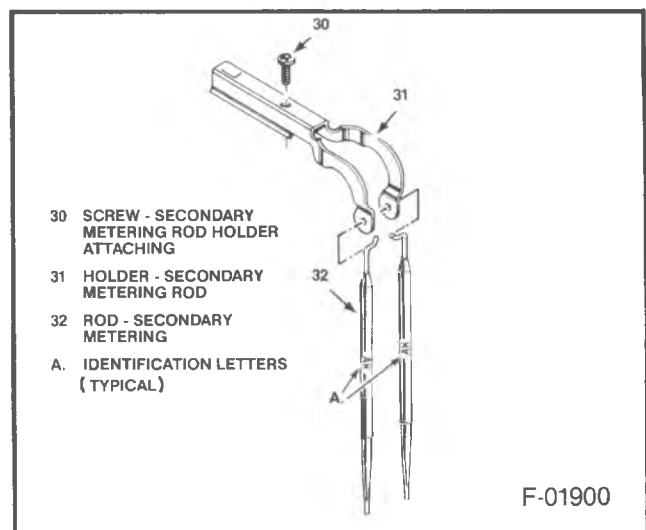


Figure 13 -- Secondary Metering Rods and Holder



3-4 CLUTCH INFORMATION CHART			
PLATE TYPE	THICKNESS	QUANTITY REQUIRED	
		*A-MODELS	*B-MODELS
FLAT STEEL CLUTCH PLATE	1.97mm (.077")	6	5
COMPOSITION FACED CLUTCH PLATES	2.03mm (.079")	5	6
STEPPED APPLY PLATE	3.30mm (.130")	1	1
BACKING PLATE	SELEC-TIVE	1	1
FLAT STEEL CLUTCH PLATES †	1.97mm (.070")	1	1
*A-MODELS	FAM, FMM, MAM, MFM, MRM, MXM, MCM, MTM, PRM, TAM, TBM, YXM		
*B-MODELS	ALL OTHERS		
†SAME SPLINE CONFIGURATION AS APPLY PLATE			

JH0125-700R4

Figure 143 3-4 Clutch Plate Chart

points will obtain the Backing Plate Travel for measurement.

**CAUTION: (Excessive pressure will distort the Belleville plate resulting in an inaccurate measurement.)**

2. Using a Feeler Gage, measure between the Snap Ring and the Backing Plate. Backing Plate Travel should be 1.02mm - 1.94mm (.040" - .076").
3. Select the proper Backing Plate to obtain the specified travel.

### Reverse Input and Input Clutches

#### Assemble (Figures 154 and 155)

1. Selective thrust washer (616) onto the input housing
2. Bearing assembly (615)
  - inside (black race) goes toward the oil pump.
3. Reverse input clutch assembly (605) onto the input clutch assembly
  - index the reverse input clutch plates with the input clutch hub.
  - make certain all clutches are fully engaged.

#### Assemble (Figure 156)

- Reverse input and input clutch assembly into the transmission case
  - index the 3-4 clutch plates with the input internal gear.

3-4 BACKING PLATE SELECTION			
MODEL	BACKING PLATE TRAVEL	*BACKING PLATE	
		Use Backing Plate Which Gives Correct Travel	
		DIM.	I.D.
FAM, FMM, MAM, MFM, MRM, MXM, MCM, MTM, PRM, TAM, TBM, YXM	2.42mm - 1.61mm (.095" - .063")	6.58mm 6.38mm (.259" .251")	5
		5.75mm 5.55mm (.226" .218")	6
ALL OTHERS	2.40mm - 1.52mm (.094" - .060")	4.92mm 4.72mm (.194" .186")	7
		4.09mm 3.89mm (.161" .153")	8

621 HOUSING & SHAFT ASSEMBLY, INPUT  
654 PLATE ASSEMBLY, 3RD & 4TH CLUTCH  
655 PLATE, 3RD & 4TH CLUTCH BACKING

JH0126-700R4

Figure 144 Backing Plate Selection Chart

- make sure all clutch plates are fully engaged.
- when properly assembled, the reverse input clutch housing will be located just below the case oil pump face.

### 2-4 Band Assembly

#### Inspect

- 2-4 band assembly (602) for damage or wear

#### Assemble (Figure 156, 157)

1. The 2-4 band assembly (602) into the case
  - index the band anchor pin end with the case pin hole.
2. Band anchor pin (48) into the case
  - index the pin into the 2-4 band.

## 7A2-30 400/475 AUTOMATIC TRANSMISSION

2. Measure clearance between gears and body.
  - .0008"-.0035" (.02 mm-.09 mm) maximum clearance
3. Pump body with straight edge to assure it is flat.

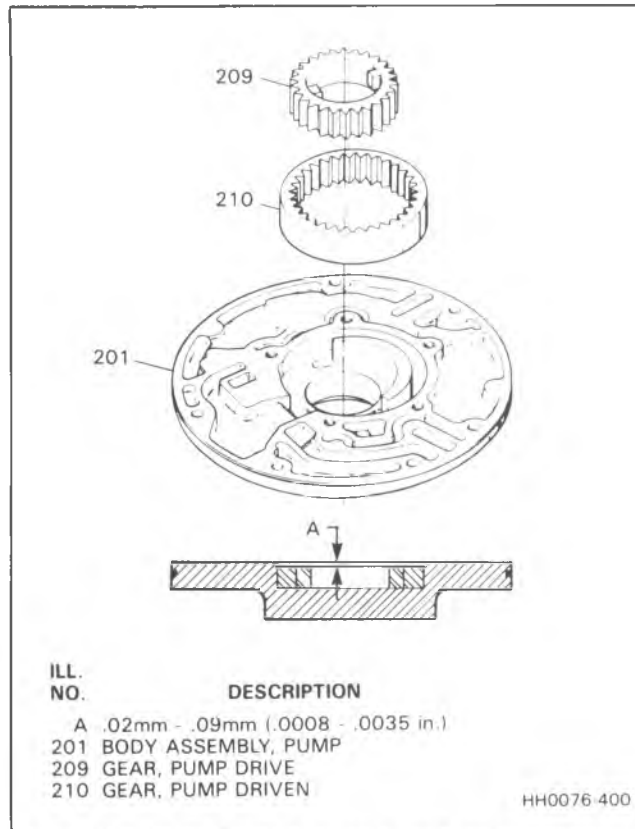


Figure 72 - Pump Body Face to Gear Face Clearance

### Pump Cover

#### Inspect (Figure 71)

- Pump gear face for:
  - wear
  - scoring
- Stripped or damaged stator shaft splines
- Bushings (220) and (206) for:
  - wear, galling
- Oil ring grooves for nicks, burrs or debris
- Pressure regulator (217) and boost regulator valves (213) for:
  - free movement in regulator bore.
  - chips, burrs, distortion or plugged oil passages
- Breather hole in pump cover blocked.

### Oil Pump Assembly

#### Assemble (Figures 71 and 73)

1. Drive gear (209) and driven gear (210) with alignment marks in correct position.
  - lugs on drive gear should be flush with pump body (201).

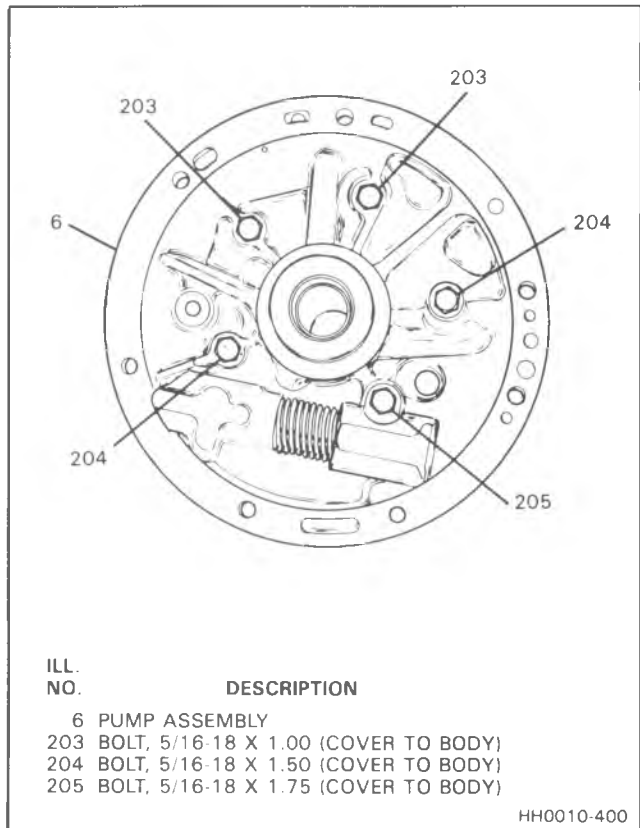


Figure 73 - Pump Cover Attaching Screws

- lubricate drive gear (209) and driven gear (210) with automatic transmission fluid.
2. Pressure regulator valve (217) into bore.
  3. Pressure regulator spring spacer(s) (216), if used.
  4. Spring retainer washer (215) and spring (214) in pressure regulator bore.
  5. Regulator boost valve (213) into boost valve bushing (212), stem out against spring (214).
  6. Snap ring (211).
  7. Bore plug (218) and valve straight pin (219).
  8. Cover (202) on body (201).
  9. Bolts (203, 204 and 205).
    - do not fully torque

#### Assemble (Figures 74 and 76)

Tools Required:

J 21368 Alignment Band  
J 21359 Oil Seal Installer

1. J 21368 on pump assembly.
  - torque bolts 18 lbs. ft. (24 N·m)
2. New square cut o-ring (7) and oil seal (2)
  - use J 21359
3. Correct thrust washer (207) as determined by Front End Play Check during disassembly.
4. Two oil seals (208).

#### Install or Connect (Figure 75)

1. Gasket (8) on transmission case (10).
2. Oil pump assembly (6) in transmission case (10).
3. Bolts (4) except bolt in 10 o'clock position.

## 7A3-16 180C AUTOMATIC TRANSMISSION

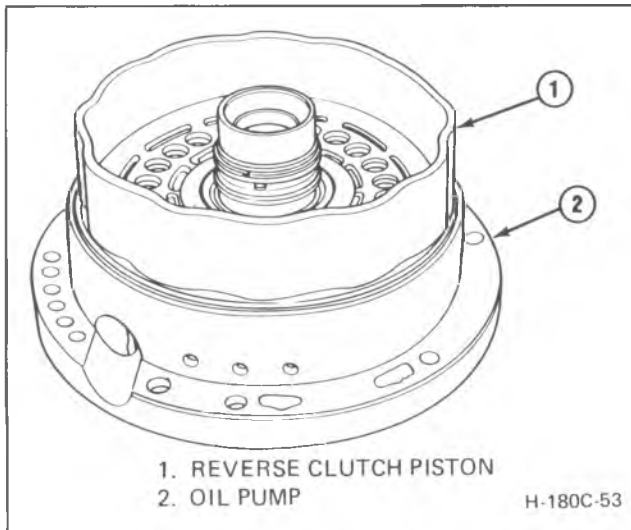


Figure 46 Installing Reverse Clutch Piston Into Oil Pump

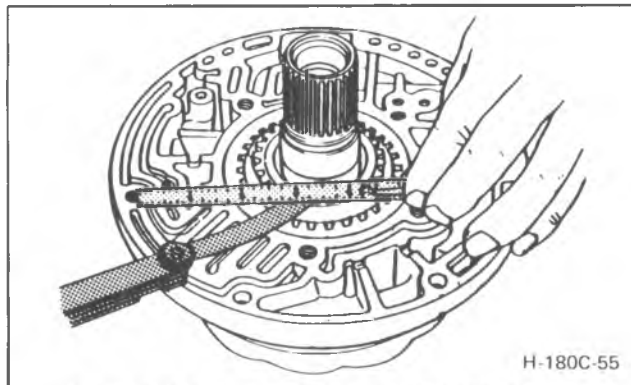


Figure 47 Checking Oil Pump Gear Clearance

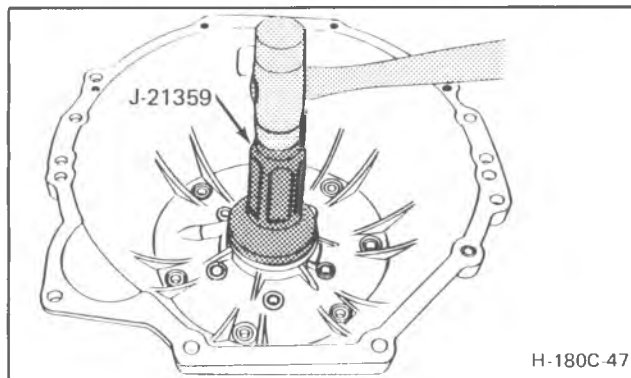


Figure 48 Installing Front Oil Seal



### Inspect

- Primary and secondary valves for:
  - nicks
  - burrs
- Oil passages and valve bores for:
  - nicks
  - burrs
  - varnish



### Inspect (Figure 54)

1. Primary valve, small end first.

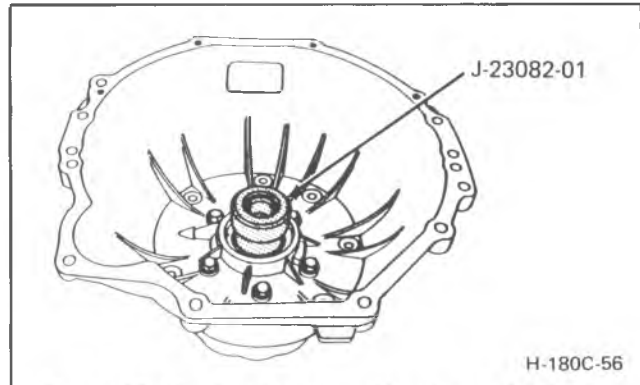


Figure 49 Aligning Converter Housing to Oil Pump

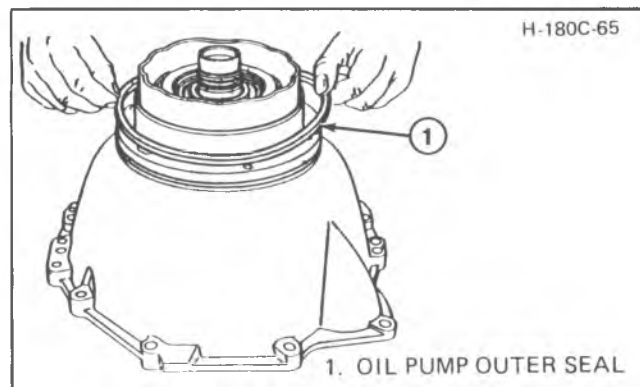


Figure 50 Installing Oil Pump Outer Seal

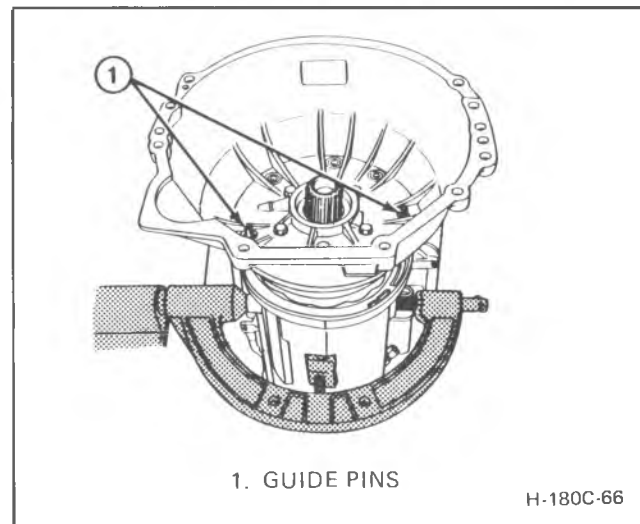


Figure 51 Installing Converter Housing Using Guide Pins

2. Secondary valve, small end first.
3. Secondary spring and retainer.
4. Governor body, gasket, bolts.



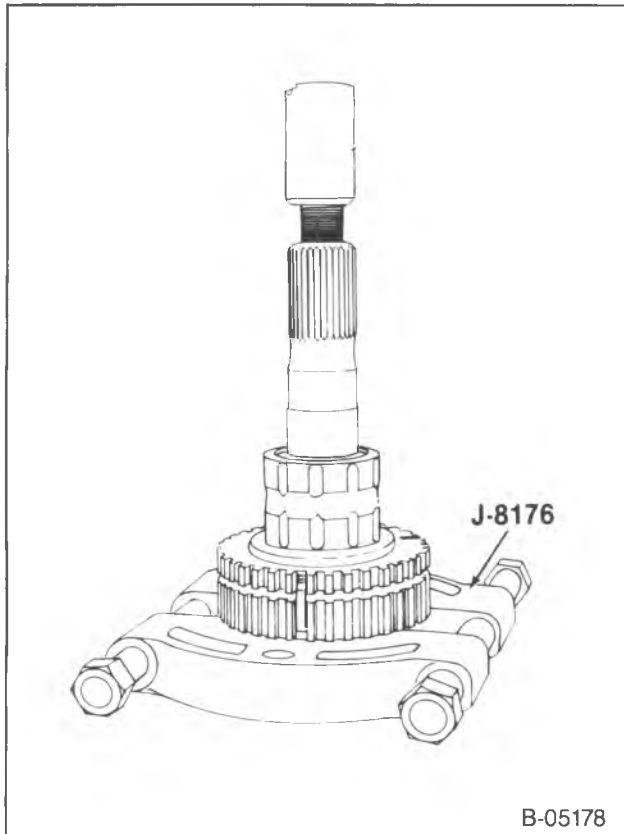
### Tighten

- Torque bolts to 8 N·m (6 lbs.-ft.).
- Valve should move freely.



### Assemble

- Speedometer drive gear and retaining clip.



**Figure 33—Removing the Mainshaft from the 1st and 2nd Speed Synchronizer Hub**

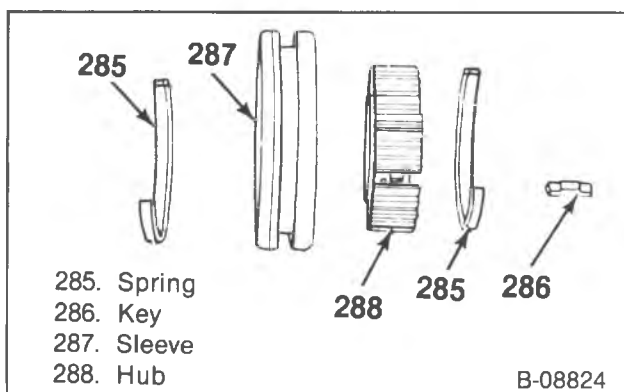
- Support the hub on J-8176 and press the mainshaft out, (figure 33).

**! Important**

- Do not let the mainshaft fall to the floor.
- 2nd speed gear bushing (244).
    - Use a cold chisel to split the bushing if it is worn or damaged.

**! Important**

- Do not scratch or gouge the mainshaft.
- 3-4 synchronizer (205), (figure 34).
    - The synchronizer hub and sleeve are a select fit. Do not mix the parts of the two synchronizers.



**Figure 34—Synchronizer Components**

- Mark the hub and sleeve alignment for reassembly.
- Push the hub out of the sleeve while holding the springs and keys to avoid losing them.

**🧼 Clean**

- All parts in a suitable solvent and air dry.

**! Important**

- Do not spin dry the bearings.

**👁 Inspect**

- Gears for cracks, chipped gear teeth, and other damage that could cause gear noise.
- Thrust washers and bushings for damage and wear.
- Related surfaces on the gears like thrust faces and bearing surface diameters.
- The reverse sliding gear for a sliding fit on the synchronizer hub without excess radial or circular play. If the sliding gear is not free on the hub, inspect it for burrs on the ends of the internal splines. Remove any burrs by honing as required.
- Synchronizer sleeves for a sliding fit on the synchronizer hubs and for the hubs a snug fit on the mainshaft splines.
- Synchronizer springs and keys for looseness and damage.
- Brass synchronizer rings for excess wear and damage.
- All gear teeth for excess wear.
- Bearings and bearing surfaces for nicks, burrs and wear.
- Lubricate all roller bearings with light engine oil and check for rough rotation.

**⚙ Assemble (Figure 31)**

Tools Required:

- J-22873 Mainshaft Bushing Installer
- J-22875 3rd Gear Assembly Tool

**NOTICE: The mainshaft 1st, 2nd and 3rd speed gear bushings are sintered iron. The bushings could be damaged if they are not properly installed. The bushings must be installed in the proper positions.**

- 3-4 synchronizer (205), (figure 35).
  - Place the keys in the hub.
  - Engage the springs in different slots in either side of the hub so they support all the keys.
  - Slide the sleeve onto the hub aligning the marks made during disassembly.
- 2nd speed bushing, using J-22873, (figure 36).
- 1-2 synchronizer hub (210), (figure 37).
  - A minimum press of 681 kg (1500 lbs.) is required to move the hub.
  - The annulus must be to the rear of the shaft.
- Synchronizer keys and the springs.
- 1st speed bushing (245), using J-22873, (figure 38).
- 2nd speed blocker ring, the 2nd speed gear (209) and the 3rd speed thrust washer (243) (figure 39).
  - The tab on the thrust washer must be in the slot in the mainshaft.
- 3rd speed bushing (242) using J-22875 (figure 39).

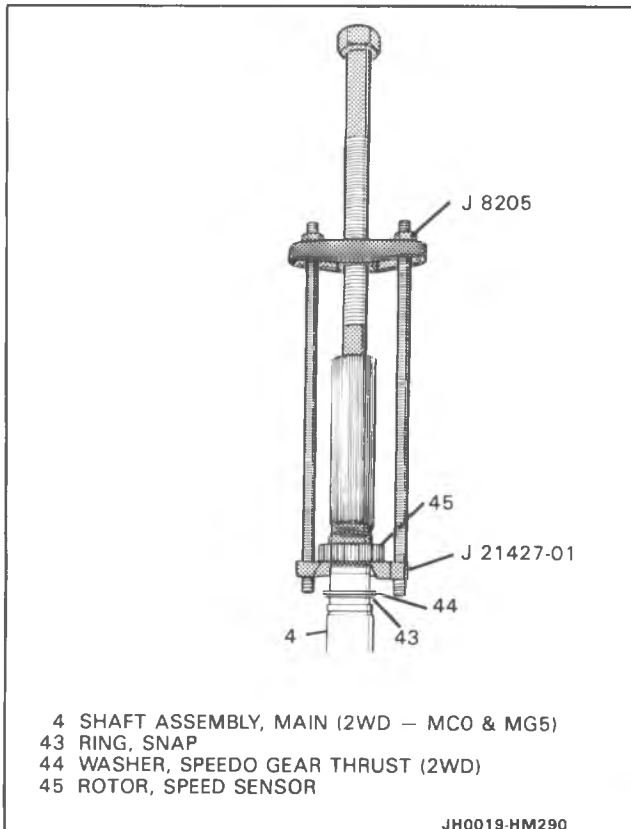


Figure 19 Removing Speed Sensor Rotor

11. 1-2 shift rail assembly (100), 5-Reverse shift rail assembly (111), 3-4 shift fork (108), and (4-speed) spacer block (115).

- By Snapping them off

12. Mainshaft assembly (4).

**!** Important

Leave the synchronizer ring (2) on the 3-4 synchronizer assembly (7) to prevent the synchronizer detent balls (9) from popping out.

13. Input shaft gear (1) and pilot bearing (3).

## 4WD REAR HOUSING REMOVAL

**!** Important

Steps 1 through 10 are for 4WD models only.

**↔** Remove or Disconnect

Tools Required:

J 36516 Output Shaft Spanner Nut Wrench

- Lock up the transmission in 2nd and 4th gear by sliding the 1st and 2nd Shift rail assembly (100) and the 3rd and 4th shift fork (108) downward towards J 36515 (Figure 22).

1. Spiral roll pin (42) using J 36516 (Figure 23).

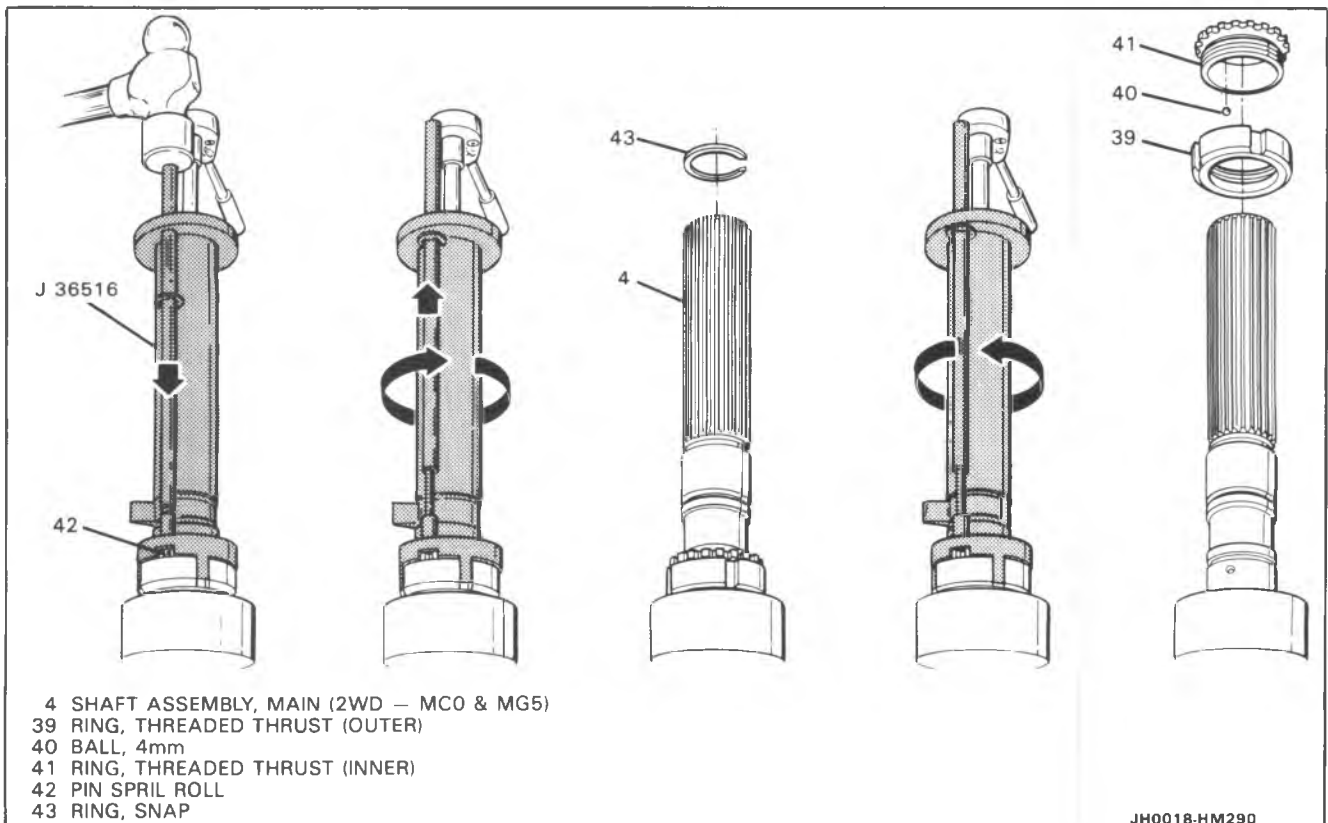


Figure 20 Removing Threaded 2WD Thrust Rings

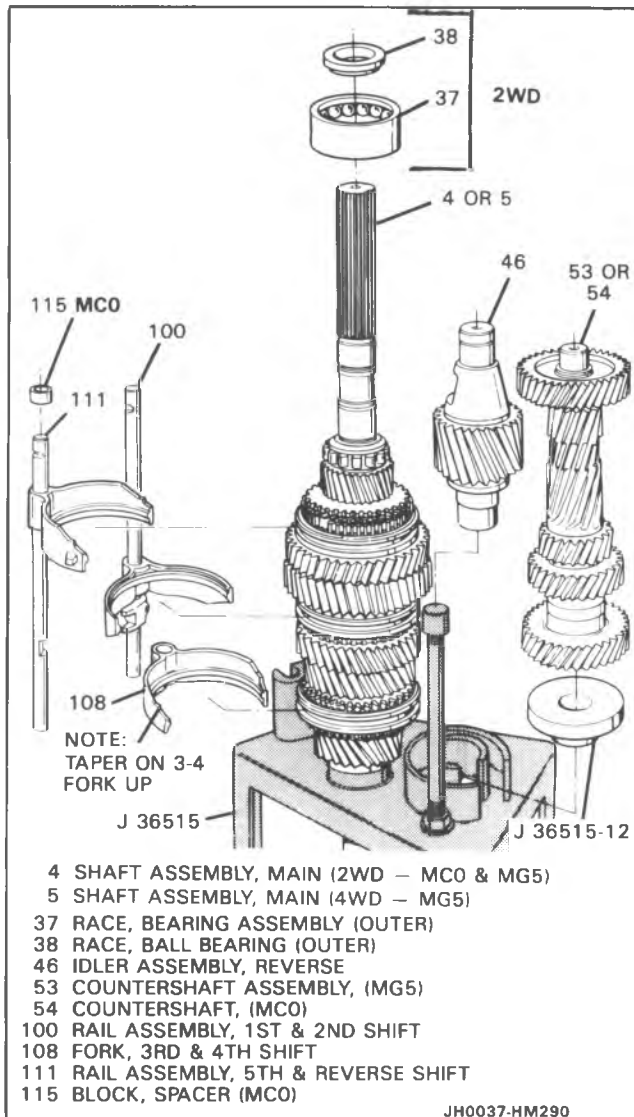


Figure 79 Countershaft and Reverse Idler Assembly Install

2. Threaded thrust (inner) ring (41) and threaded thrust (outer) ring (39).
  - MAKE SURE THE OLD SPIRAL ROLL PIN (42) IS REMOVED FROM THREADED THRUST RING (OUTER) (39)

**!** Important

- Screw the rings together completely, then back the rings off till BOTH ID SLOTS FOR THE BALL (40) LINE UP.
- Slide the assembled rings over the ball that is retained on the output shaft.

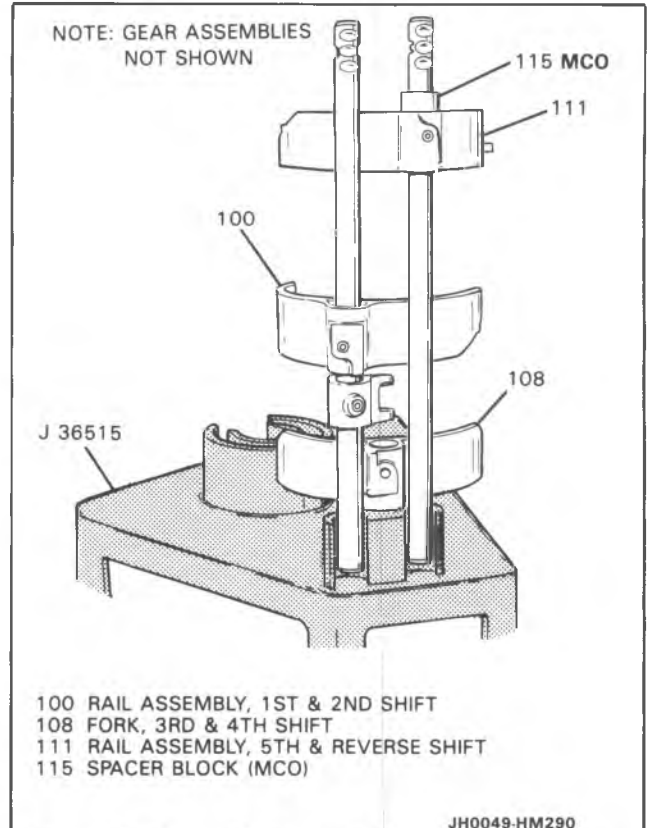
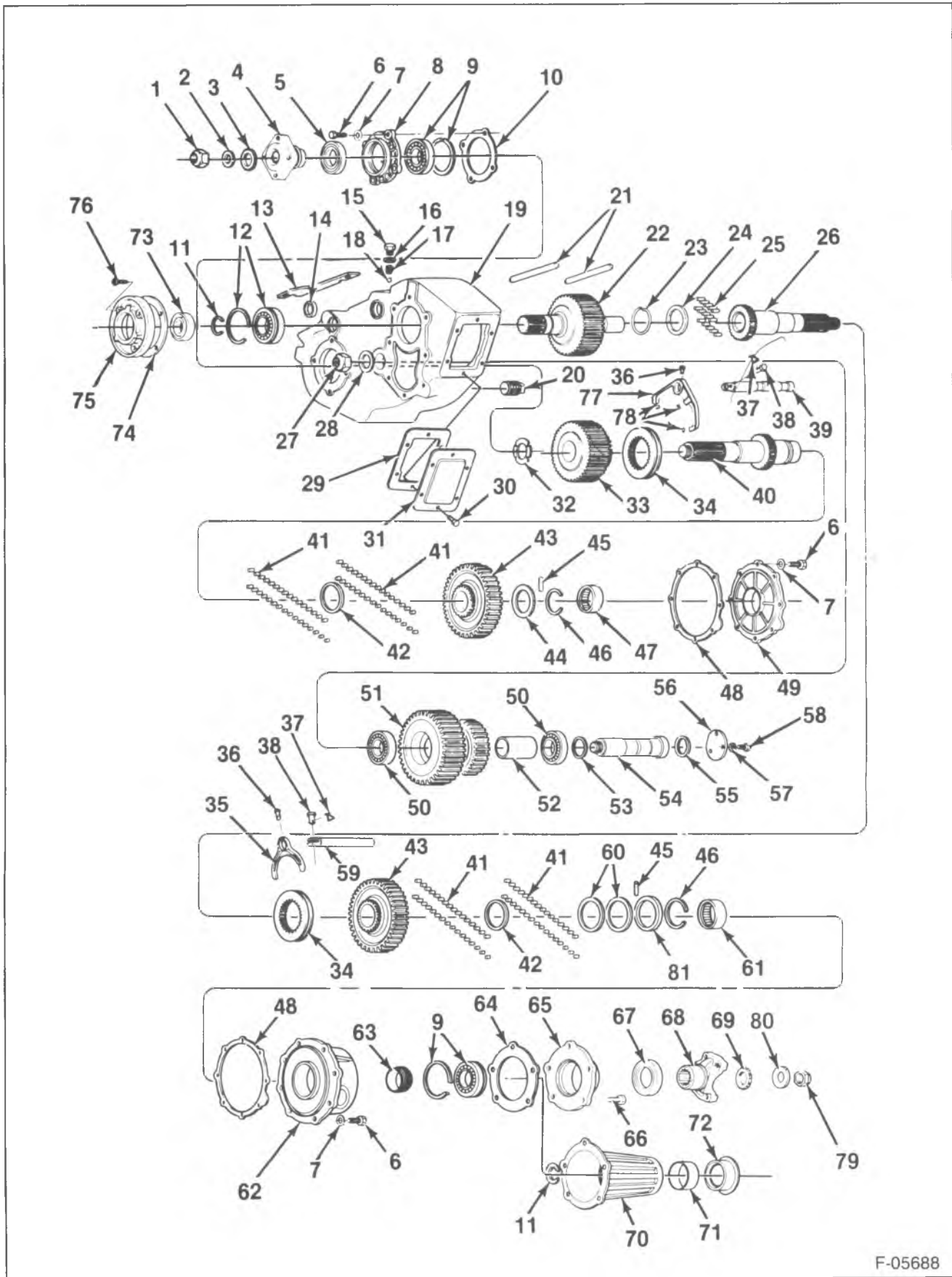


Figure 80 Proper Positions of Shift Forks and Rails

- Slide up the rod on J 36516, turn the black depth locating tang over, slide the rod through (so the roll pin will be installed to the correct depth).
  - MAKE CLEARANCE FOR THE SNAP RING BY FIRST screwing the rings together completely by turning J 36516 counterclockwise.
3. NEW snap ring (43) (2.00mm thickness).
  4. Turning J 36516 clockwise, torque to 15 N·m (12 Lb. Ft.) then ADVANCE to the next spiral roll pin notch.
    - Hold the countershaft against the mainshaft while setting torque.
  5. NEW spiral roll pin (42).
    - Install roll pin in the bottom of J 36516, retain with petroleum jelly.
    - Put J 36516 on with the roll pin hole and roll pin lined up.
    - Drive roll pin into thrust ring (outer).
    - Remove tool.

# 7D1-4 NEW PROCESS 205 TRANSFER CASE



F-05688

Figure 3—New Process 205 Transfer Case