

ADJUSTMENTS

The only adjustments on the transmission are the intermediate and low-reverse bands.

To prevent damage to the transmission and to assure proper band adjustment, it is essential that the tools and procedures described below are used whenever the bands are adjusted.

INTERMEDIATE BAND ADJUSTMENT

1. Clean all the dirt from the band adjusting screw area. Remove and discard the locknut.
2. Install a new locknut on the adjusting screw. With the tool shown in Fig. 5, tighten the adjusting screw until the tool handle clicks. The tool is a pre-set torque wrench which clicks and breaks when the torque on the adjusting screw reaches 10 ft-lb.
3. **Back off the adjusting screw exactly 1-3/4 turns.**

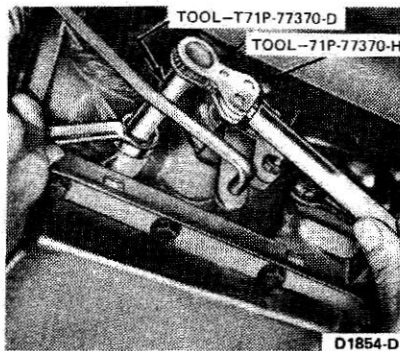


FIG. 5 Adjusting Intermediate Band

4. Hold the adjusting screw from turning and torque the locknut to specification as listed at the end of this Part.

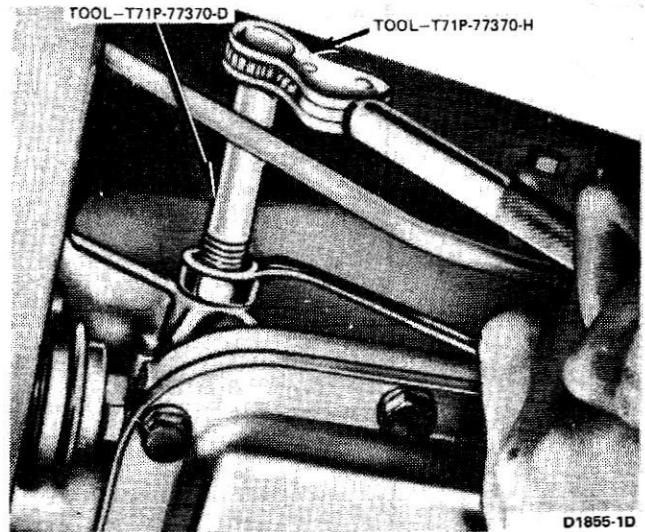


FIG. 6 Adjusting Low-Reverse Band

LOW-REVERSE BAND ADJUSTMENT

1. Clean all the dirt from the band adjusting screw area. Remove and discard the locknut. To remove the locknut on Pinto or Bobcat, use a 1-1/2-inch drive 3/4 x 1-1/2-inch long socket and socket handle.
2. Install a new locknut on the adjusting screw with the tools shown in Fig. 6. Tighten the adjusting screw until the tool handle clicks. The tool is a pre set torque wrench which clicks and breaks when the torque on the adjusting screw reaches 10 ft-lb.
3. **Back off the adjusting screw exactly 3 full turns.**
4. Hold the adjusting screw from turning and torque the locknut as indicated in Specifications at the end of this Part. On a Pinto or Bobcat, use Tool T70P-7B200-B to tighten the locknut, and to secure the adjustment, use a 3/4 x 1-1/2-inch socket with torque wrench. Torque the locknut as indicated in Specifications at the end of this Part.

REMOVAL AND INSTALLATION

TRANSMISSION

Ford, LTD II, Fairmont, Zephyr, Versailles, Monarch, Granada, Thunderbird, and Cougar

Removal

1. Raise the vehicle on a hoist.
2. Place the drain pan under the transmission fluid pan. Remove the fluid filler tube from the pan and drain the transmission fluid on PEF models. On PEB and PEE models, loosen the pan attaching bolts and allow the fluid to drain. Start loosening the bolts at the rear of the pan and work toward the front. Finally, remove all attaching bolts except two at the front to allow the fluid to further drain. Then, install two bolts on the rear side of the pan to temporarily hold it in place.
3. Remove the converter drain plug access cover from the lower end of the converter housing.
4. Remove the converter-to-flywheel attaching nuts. Place a wrench on the crankshaft pulley attaching bolt to turn the converter to gain access to the nuts.
5. With the wrench on the crankshaft pulley attaching bolt, turn the converter to gain access to the converter drain plug, and remove the plug (Fig. 7). Place a drain pan under the converter to catch the fluid. With fluid drained, reinstall the plug.

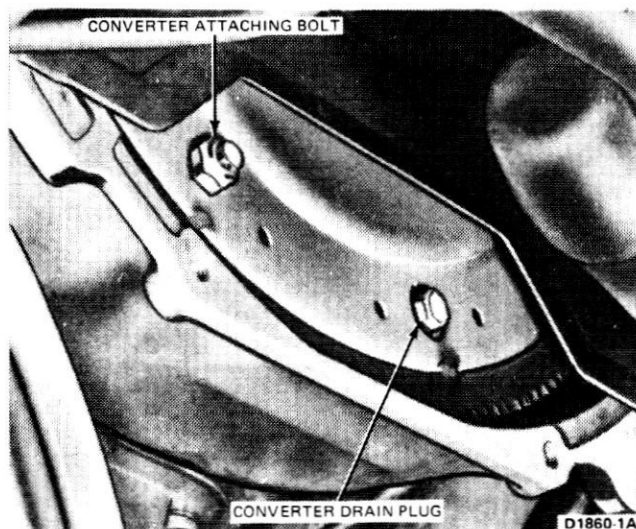


FIG. 7 Converter Drain Plug Location—Typical

6. Remove the drive shaft and install the extension housing seal replacer tool in the extension housing.
7. Remove the vacuum line hoses from the transmission vacuum unit. Disconnect the vacuum line from the retaining clip.
8. Remove the engine support-to- crossmember bolts or nuts.
9. Remove the speedometer cable from the extension housing.
10. Disconnect the oil cooler lines from the transmission case.
11. Disconnect the selector rod or cable at the transmission manual lever. Disconnect the downshift rod at the transmission downshift lever.

On console and floor shift vehicles, disconnect the column lock rod at the transmission, if so equipped.

12. On a Fairmont, Zephyr, Versailles, Granada or Monarch with console shift, disconnect the neutral start switch wires from the retaining clamps and connectors.
13. Disconnect the starter cable. Remove the starter attaching bolts and remove the starter from the converter housing.
14. On case fill models, remove the bolt securing the transmission fluid filler tube to the cylinder head and remove the tube from the case.
15. On an 8-cylinder Fairmont, Zephyr, Versailles, Granada or Monarch disconnect the muffler inlet pipe at the exhaust manifold.
16. Position the transmission jack to support the transmission, and secure the transmission to the jack with a safety chain.
17. Remove the crossmember attaching bolts and lower the crossmember.
18. Remove the five converter housing-to-engine attaching bolts. Lower the jack and remove converter and transmission assembly from under the vehicle.

Installation

1. Torque the converter drain plug to specification as listed at the end of this Part.
2. Position the converter on the transmission, making sure the converter drive flats are fully engaged in the pump gear.
3. With the converter properly installed, place the transmission on the jack. Secure the transmission to the jack with the safety chain.
4. Rotate the converter until the studs and drain plug are in alignment with their holes in the flywheel. To maintain initial engine/transmission balance on Versailles vehicles, align the converter to the flywheel so that the dyed converter drive stud is installed through the painted hole in the flywheel.
5. Move the converter and transmission assembly forward into position, using care not to damage the flywheel and the converter pilot. **The converter must rest squarely against the flywheel. This indicates that the converter pilot is not binding in the engine crankshaft.**
6. Install the five converter housing-to-engine attaching bolts. Torque the bolts as indicated in Specifications at the end of this Part. Remove the safety chain from the transmission.
7. Position the crossmember and install the attaching bolts. Torque the bolts as indicated in Specifications at the end of this Part.
8. Lower the transmission and install the engine support-to-crossmember bolts or nuts. Torque the bolts or nuts as indicated in Specifications at the end of this Part.
9. On an 8 cylinder Fairmont, Zephyr, Versailles, Granada or Monarch, connect the muffler inlet pipe to the exhaust manifold.

10. Install the flywheel-to-converter attaching nuts. Torque the nuts as indicated in Specifications at the end of this Part.
11. Remove the transmission jack. Install the fluid filler tube in the transmission case or pan. Secure the tube to the cylinder head with the attaching bolt. Install the vacuum hoses on the transmission vacuum unit. Install the vacuum line retaining clip.
12. Connect the fluid cooling lines to the transmission case.
13. On a Fairmont, Zephyr, Versailles, Granada or Monarch with console shift, connect the neutral start switch wires to their respective connectors and secure the harness in the retaining clamps.
14. Connect the downshift rod to the downshift lever. Connect the selector rod or cable to the transmission manual lever. Connect the column lock rod on console and floor shift vehicles, if so equipped. Connect the speedometer cable to the extension housing.
15. Install the converter housing cover and torque the attaching bolts as indicated in Specifications at the end of this Part.
16. Install the starter and torque the attaching bolts as indicated in Specifications at the end of this Part. Connect the starter cable.
17. Install the drive shaft. Torque the companion flange u-bolts and/or attaching nuts to specification.
18. Lower the vehicle. Fill the transmission to the proper level with the specified fluid. Refer to Part 17-01. Adjust the manual and downshift linkage as required. Refer to Part 17-02.

Pinto, Bobcat and Mustang II

Removal

1. Raise the vehicle on a hoist.
2. Place the drain pan under the transmission fluid pan. Starting at the rear of the pan and working toward the front, loosen the attaching bolts and allow the fluid to drain. Finally, remove all attaching bolts, except two at the front, to allow the fluid to further drain. With fluid drained, install two bolts on the rear side of the pan to temporarily hold it in place.
3. Remove the converter drain plug access cover and adapter plate bolts from the lower end of the converter housing.
4. Remove the converter-to-flywheel attaching nuts. Using a wrench on the crankshaft pulley attaching bolt, crank the engine to turn the converter to gain access to the nuts.
5. Crank the engine until the converter drain plug is accessible, and remove the plug. **On a belt-driven overhead camshaft engine, never turn the engine backwards. This will cause the cam belt to jump teeth.** Place a drain pan under the converter to catch the fluid. With fluid drained, reinstall the plug.
6. Remove the drive shaft and install the extension housing seal replacer tool in the extension housing.
7. Remove the speedometer cable from the extension housing.

8. Disconnect the shift rod at the transmission manual lever. Disconnect the downshift rod at the transmission downshift lever.
9. Remove the starter-to-converter housing attaching bolts and position the starter out of the way.
10. Disconnect the neutral start switch wires from the retaining clamps and connectors.
11. Remove the vacuum line from the transmission vacuum unit. Disconnect the vacuum line from the retaining clip.
12. Position a transmission jack under the transmission and raise it slightly.
13. Remove the engine rear support-to-crossmember nut.
14. Remove the crossmember-to-frame side support attaching bolts and remove the crossmember.
15. Disconnect the muffler inlet pipe at the exhaust manifold and secure it in a raised position to the right side of the vehicle.
16. Lower the jack under the transmission and allow the transmission to hang.
17. Position a second jack under the front of the engine and raise the engine to gain access to the two upper converter housing-to-engine attaching nuts.
18. Disconnect the oil cooler lines at the transmission. Remove the lines from the retaining clip at the cylinder block and position them out of the way.
19. Remove the four lower converter housing-to-engine attaching bolts.
20. Remove the bolt that secures the transmission filler tube to the cylinder block and lift the tube from the case.
21. Secure the transmission to the jack with a safety chain.
22. Remove the two upper converter housing-to-engine attaching nuts. Move the transmission jack to the rear and down, and remove converter and transmission assembly from under the vehicle.

Installation

1. Torque the converter drain plug as indicated in Specifications at the end of this Part.
2. Position the converter on the transmission, making sure the converter drive flats are fully engaged in the pump gear.
3. With the converter properly installed, place the transmission on the jack. Secure the transmission to the jack with safety chain.
4. Rotate the converter until the studs and drain plug are in alignment with their holes in the flywheel.
5. Move the converter and transmission assembly forward into position, using care not to damage the flywheel and the converter pilot. **The converter must rest squarely against the flywheel. This indicates that the converter pilot is not binding in the engine crankshaft.**
6. Install the two upper converter housing-to-engine attaching nuts and torque to specification.
7. Remove the safety chain from the transmission.
8. Insert the filler tube in the case and secure it to the cylinder block with the attaching bolt. Torque the bolt to specification.

9. Install the oil cooler lines in the retaining clip at the cylinder block. Connect the lines to the transmission case.
10. Remove the jack supporting the front of the engine.
11. Position the muffler inlet pipe support bracket to the converter housing and install the four lower converter housing-to-engine attaching bolts. Torque the bolts to specification.
12. Raise the transmission. Position the crossmember to the frame side supports and install the attaching bolts. Torque the bolts to specification.
13. Lower the transmission and install the rear engine support-to-crossmember nut. Torque the nut to specification.
14. Remove the transmission jack. Install the vacuum hose on the transmission vacuum unit. Install the vacuum line retaining clip.
15. Connect the neutral start switch wires to their respective connectors and secure the harness in the retaining clamps.
16. Install the starter and torque the attaching bolts to specification.
17. Install the four flywheel-to-converter attaching nuts. Torque the nuts to specification.
18. Install the converter drain plug access cover and adapter plate bolts. Torque the bolts to specification.
19. Connect the muffler inlet pipe to the exhaust manifold.
20. Connect the transmission shift rod to the manual lever, the downshift rod to the downshift lever, and the speedometer cable to the extension housing.

21. Install the drive shaft. Torque the companion flange U-bolt attaching nuts to specification.
22. Adjust the manual and downshift linkage as required. Refer to Part 17-02.
23. Lower the vehicle. Fill the transmission to the proper level with the specified fluid. Refer to Part 17-01.
24. Check the transmission, converter assembly and oil cooler lines for leaks. Refer to Part 17-01.

CONTROL VALVE BODY

1. Raise the vehicle until transmission oil pan is accessible.
2. Drain the transmission fluid. On PEF models, disconnect the fluid filler tube from the transmission oil pan to drain the fluid. On PEB and PEE models, loosen the pan attaching bolts to drain the fluid from the transmission. **If the same fluid is to be used again, filter the fluid through a 100 mesh screen. Reuse the fluid only if it is in good condition.**
3. Remove the transmission fluid pan attaching bolts, pan and gasket.
4. Shift the transmission manual lever to the P position and remove the two bolts that attach the detent spring to the valve body and case (Fig. 8).
5. Remove the remaining valve body-to-case attaching bolts. Hold the manual valve in the valve body and remove the valve body from the case. **Failure to hold the manual valve while removing the control assembly, could cause the manual valve to become bent or damaged.**

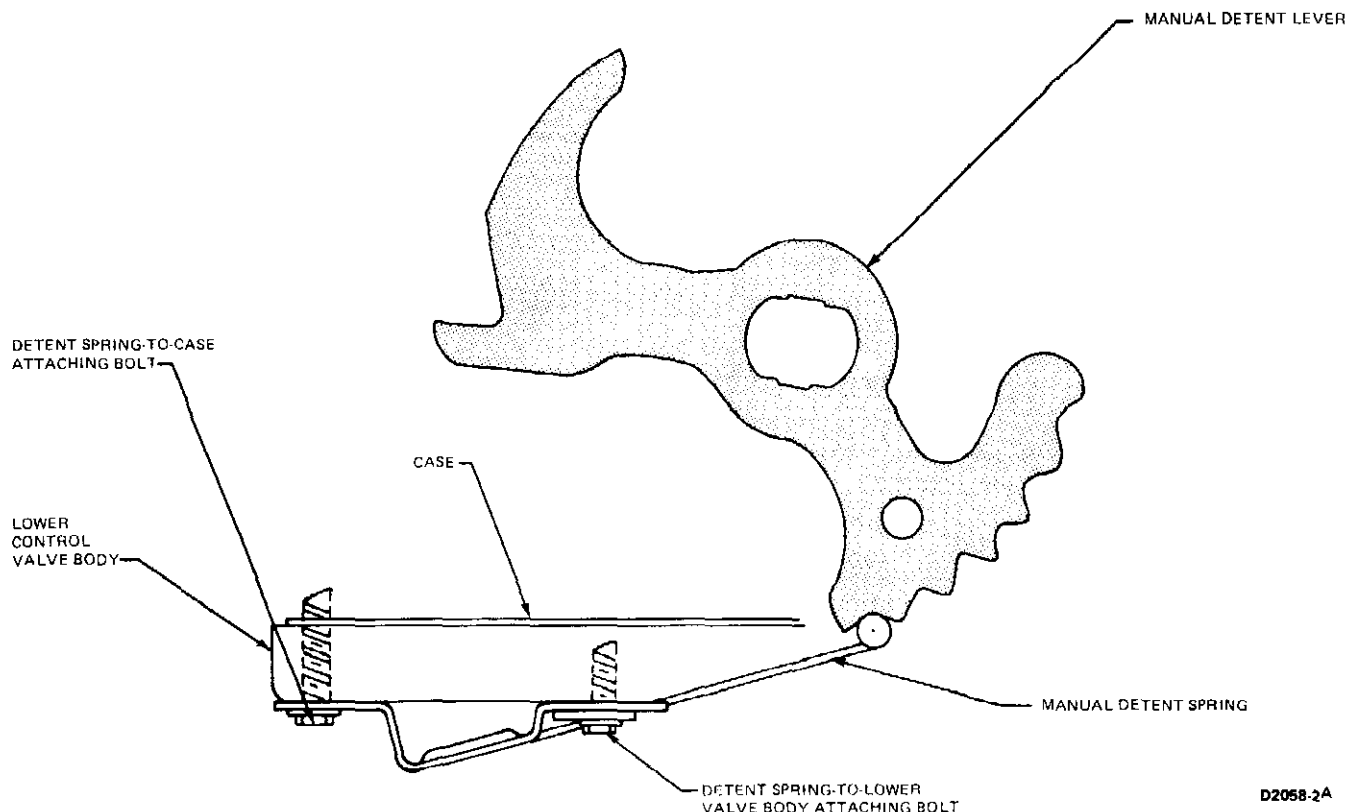


FIG. 8 Control Valve Body Detent Spring Installed

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6. Refer to the Disassembly and Assembly Section of this Part for the control valve body repair operations.
7. Thoroughly clean and remove all gasket material from the pan and pan mounting face of the case. Remove and discard the nylon shipping plug from the oil pan filler tube hole. This plug is used to retain transmission fluid within the transmission during shipment and should be discarded when the oil pan is removed.
8. Shift the manual lever at the transmission into the P detent position. Install the valve body to the case. Position the inner downshift lever between the downshift lever stop and the downshift valve. **Make sure the two lands on the end of the manual valve engage the actuating pin on the manual detent lever.** Install seven valve body-to-case bolts. Do not tighten the bolts at this time.
9. Position the detent spring to the lower valve body and install the spring-to-case bolt finger tight (Fig. 8).
10. Hold the detent spring roller in the center of the manual detent lever and install the detent spring-to-lower valve body bolt (Fig. 8). Tighten the bolt, 80 to 120 in-lb. torque.
11. Tighten all the control valve body-to-case attaching bolts, 80 to 120 in-lb. torque.
12. Place a new gasket on the pan. Install the pan and attaching bolts. Torque the bolts to Specification, as listed at the end of this Part.
13. On PEF models, connect the filler tube to the pan and tighten the fitting securely.
14. Lower the vehicle and fill the transmission with fluid. Check the transmission pan area for fluid leakage.

INTERMEDIATE SERVO

1. Raise the vehicle and remove the four servo cover-to-case attaching bolts. Remove the identification tag. To gain access to the servo on some vehicles, it will be necessary to remove the crossmember and/or cooler lines.
2. Remove the servo cover, gasket, piston, and piston return spring. Remove the piston from the cover (Fig. 53).
3. Remove the piston seals and cover gasket.
4. Install new piston seals on the piston. Lubricate the piston seals with clean transmission fluid. Install the servo piston in the cover.
5. Install the piston return spring in the case. Place a new gasket on the cover. Install the piston and cover into the transmission case.
6. Use two 5/16-18 x 1-1/4 bolts, 180 degrees apart to position the cover against the case.
7. Install the transmission identification tag. Install the two servo cover attaching bolts. Remove the two 1-1/4 inch bolts and install two attaching bolts. Torque the bolts to specification.

On an 8-cylinder Fairmont, Zephyr, Versailles, Granada or Monarch, use a pry bar between the servo cover and floor pan to position the cover against the case. While holding the cover in position, install the identification tag and the four attaching bolts. Torque the bolts to specification.

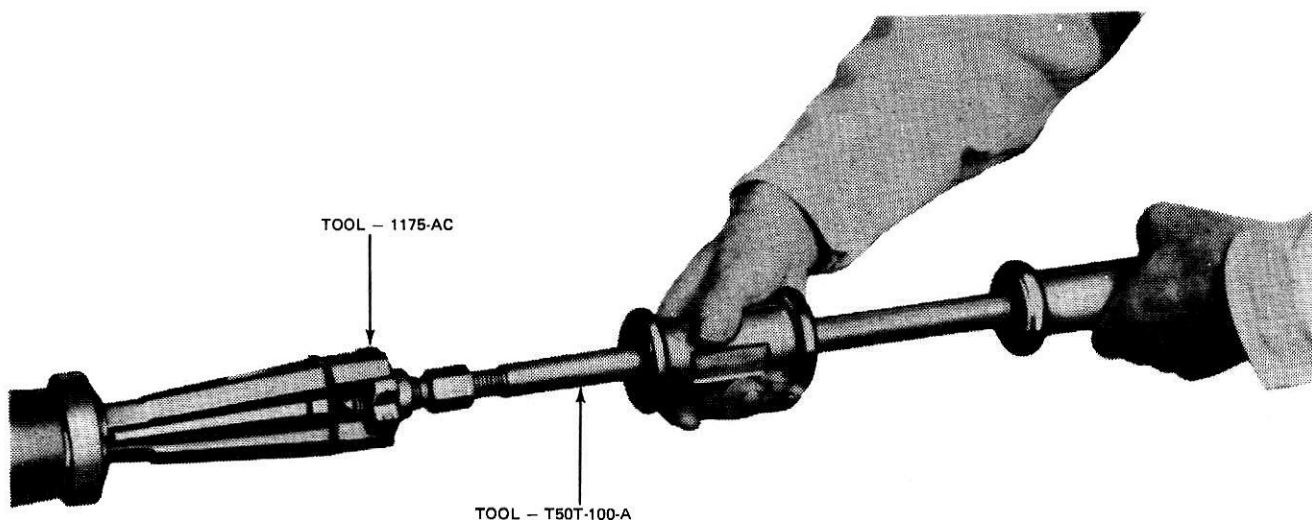
8. Install the crossmember if it was previously removed. Torque the bolts to specification.
9. Adjust the intermediate band. Refer to Adjustments, in this Part. Lower the vehicle and check the transmission fluid level.
10. If the band cannot be adjusted properly, the intermediate band struts are not in position. Remove the pan and valve body. Install the struts, valve body, pan, and adjust the band. Refill the transmission with fluid.

LOW-REVERSE SERVO

1. Raise the vehicle on a hoist.
2. Loosen the reverse band adjusting screw locknut. Tighten the reverse band adjusting screw to 10 ft-lb torque. (Tightening the screw will insure that the band strut will be held against the case by the band, preventing it from falling down when the reverse servo piston assembly is removed).
3. Remove the four servo cover-to-case attaching bolts. Remove the servo cover and seal from the case.
4. Remove the servo piston from the case (Fig. 55). **The piston seal cannot be replaced, without replacing the piston. The seal is bonded to the piston.**
5. To replace the piston on a Pinto, Bobcat or Mustang II, insert a small screwdriver in the hole of the piston stem (Fig. 56) and remove the piston attaching nut, piston, accumulator spring, and spacer.
6. To install the piston, position the accumulator spring and spacer (Fig. 57) on the piston stem. Make sure the crowned side of the spring is facing toward the rod. Install a new servo piston on the stem and install the attaching nut. Torque the nut to specification.
7. Install the piston into the case. Install a new seal on the cover. Install the cover by using two 5/16-18 bolts, 1-1/4 inch long, at 180 degrees apart to position the servo cover on the case. Install two cover attaching bolts. Remove the two installing bolts and install the last two attaching bolts. Torque the cover-to-case attaching bolts to specification.
8. Adjust the low-reverse band. Refer to Adjustments, in this Part. Lower the vehicle and check the transmission fluid level.
9. If the band cannot be adjusted properly, the low-reverse band struts are not in position. Remove the fluid pan and valve body. Install the struts, valve body, pan and adjust the band. Refill the transmission with fluid.

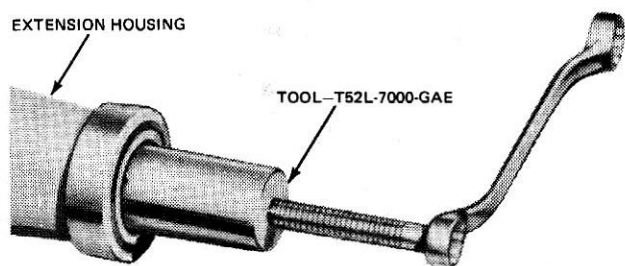
EXTENSION HOUSING BUSHING AND REAR SEAL

1. Raise the vehicle and disconnect the drive shaft from the transmission.
2. When only the rear seal needs replacing, carefully remove it with a tapered chisel or the tools shown in Fig. 9. Remove the bushing as shown in Fig. 10. **Use the bushing remover carefully so that the spline seal is not damaged.**
3. When installing a new bushing use the special tool shown in Fig. 11.



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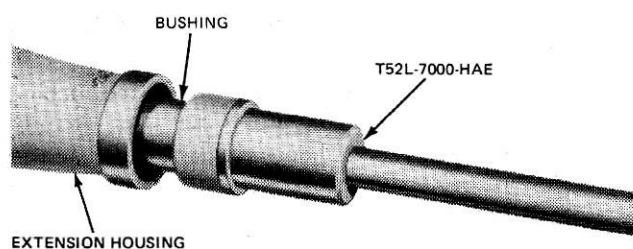
FIG. 9. Removing Extension Housing Seal



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FIG. 10 Removing Extension Housing Bushing

4. Before installing a new seal, inspect the sealing surface of the universal joint yoke for scores. If scores are found, replace the yoke.
5. Inspect the counterbore of the housing for burrs. Remove burrs with crocus cloth.
6. Install the seal into the housing with the tool shown in Fig. 12. The seal should be firmly seated in the bore. Coat the inside diameter at the end of the boot portion of the seal with C1AZ-19590-B lubricant.
7. Coat the front universal joint spline with C1AZ-19590-B lubricant and install the drive shaft.



D1026-1C

FIG. 11 Installing Extension Housing Bushing

EXTENSION HOUSING

1. Raise the vehicle on the hoist.
2. Remove the drive shaft. Position the transmission jack to support the transmission.
3. Remove the speedometer cable from the extension housing.
4. On an 8-cylinder Fairmont, Zephyr, Versailles, Granada or Monarch, disconnect the muffler inlet pipe at the exhaust manifolds.
5. Remove the engine rear support to crossmember attaching bolts or nuts. Raise the transmission and