

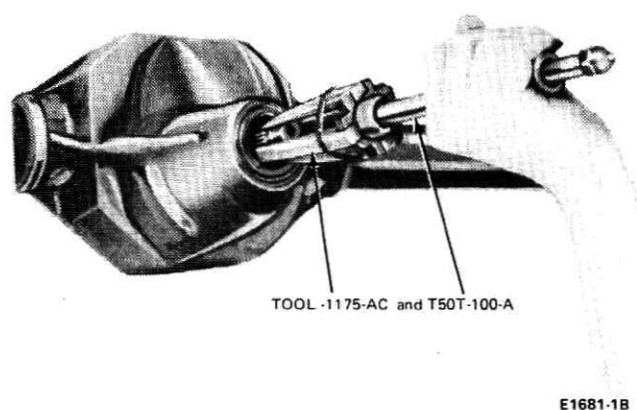


FIG. 9 Removing Pinion Seal

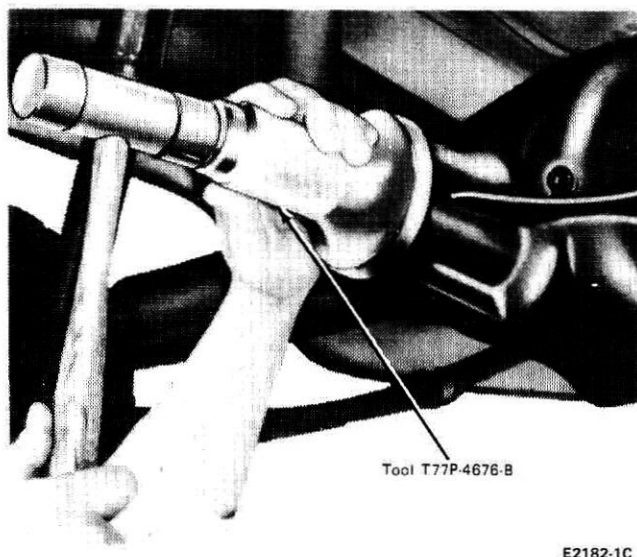


FIG. 10 Typical Drive Pinion Flange Seal Installation

5. Install a new integral nut and washer on the pinion shaft. (Apply a small amount of lubricant on the washer side of the nut.)
6. Hold the flange with the tool shown in Fig. 7, while tightening the nut.
7. Tighten the pinion shaft nut, rotating the pinion occasionally to insure proper bearing seating, and take frequent preload readings (Fig. 6) until the preload is at the original recorded reading established in Step 3 under Removal.
8. If the recorded preload is less than specification, tighten to specification as outlined at the end of this Part. If the preload is higher than specification, tighten to original reading as recorded in Step 3 of Removal. Under no circumstances should the pinion nut be backed-off to lessen preload. If this is done, a new pinion bearing spacer must be installed. In addition, the U-joint flange must never be hammered on, or power tools used.
9. Remove the oil seal replacer tool from the transmission extension housing. Install the front end of the drive shaft on the transmission output shaft.
10. Connect the rear end of the drive shaft to the axle U-joint flange, aligning the punch marks made on

the drive shaft end yoke and the axle U-joint flange.

11. Check the lubricant level. Make sure the axle is in running position. Add whatever amount of specified lubricant is required to reach the lower edge of the filler plug hole, located in the carrier casting.
12. Install the rear wheels and brake drums. Lower the vehicle and torque the wheel attaching nuts to specification. Install hub caps or wheel covers.

REMOVAL AND INSTALLATION OF THE ORIGINAL U-JOINT FLANGE

Use procedure as outlined under drive pinion oil seal replacement.

INSTALLATION OF A NEW UNIVERSAL JOINT FLANGE

1. Raise the vehicle and install safety stands. Remove the rear wheels and brake drums.
2. Disconnect the drive shaft U-joint flange. **Be careful to avoid dropping the loose universal joint bearing cups.** Hold the cups on the spider with tape. Mark the cups so that they will be in their original position in relation to the flange when they are assembled. Remove the drive shaft from the transmission extension housing. Install an oil seal replacer tool in the transmission extension housing to prevent transmission leakage. Refer to the Transmission Group for the appropriate tool.
3. Install an in-lb torque wrench on the pinion nut (Fig. 6). Record the torque required to maintain rotation of the pinion shaft through several revolutions.
4. While holding the flange with the tool shown in Fig. 7, remove the integral pinion nut and washer.
5. Clean the pinion bearing retainer around the oil seal. Place a drain pan under the seal, or raise the front of the vehicle higher than the rear.
6. Using the tool shown in Fig. 8, remove the pinion U-joint flange.
7. Check splines on the pinion shaft to be sure they are free of burrs. If burrs are evident, remove them by using a fine crocus cloth, working in circular motion. Wipe the pinion shaft clean.
8. Apply a small amount of lubricant to U-joint splines.
9. Install the U-joint flange.
10. Install a new integral nut and washer on the pinion shaft. (Apply a small amount of lubricant on the washer side of the nut.)
11. Hold the flange with the tool shown in Fig. 7, while tightening the nut.
12. Tighten the pinion shaft nut, rotating the pinion occasionally to insure proper bearing seating, and take frequent preload readings (Fig. 6) until the preload is at the original recorded reading established in Step 3 under Removal.
13. If the recorded preload is less than specification, tighten to specification as outlined at the end of this Part. If the preload is higher than specification, tighten to original reading as recorded in Step 3 of Removal. Under no circumstances should the

pinion nut be backed off to lessen preload. If this is done, a new pinion bearing spacer must be installed. In addition, the U-joint flange must never be hammered on, or power tools used.

14. Remove the oil seal replacer tool from the transmission extension housing. Install the front end of the drive shaft on the transmission output shaft.
15. Connect the rear end of the drive shaft to the axle U-joint flange, aligning the scribe marks made on the drive shaft end yoke and the axle U-joint flange.
16. Check the lubricant level. Make sure the axle is in running position. Add whatever amount of specified lubricant is required to reach the lower edge of the filler plug hole, located in the carrier casting or the housing cover.

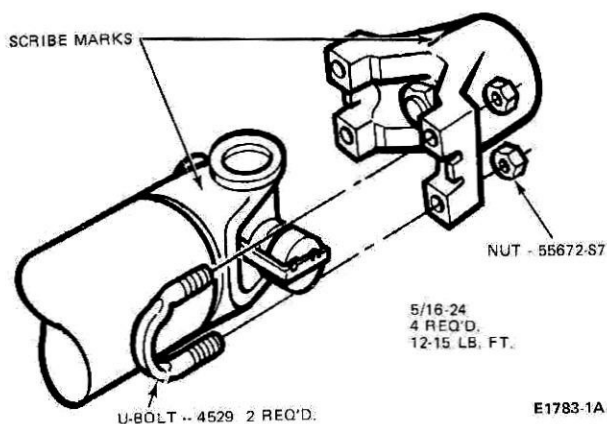


FIG. 11 Drive Shaft-to-Axle U-Joint Connection

17. Install the rear wheels and brake drums. Lower the vehicle and torque the wheel-attaching nuts to specification. Install hub caps or wheel covers.

AXLE HOUSING

Removal

1. Raise the vehicle and support it with safety stands under the rear frame member.
2. Drain the lubricant from the axle.
3. Make scribe marks on the drive shaft end yoke and the axle U-joint flange to insure proper position of the drive shaft at assembly (Fig. 11). Disconnect the drive shaft at the drive pinion flange.
4. Disconnect the lower end of the shock absorbers.
5. Remove the wheels, brake drums and both axle shafts as outlined under Rear Axle Shaft Wheel Bearing and Oil Seal Removal.
6. Remove vent hose front vent tube (Corbin clamp), then remove vent tube from brake tube junction and axle housing.
7. Remove the hydraulic brake T-fitting from the axle housing. **Do not open the hydraulic brake system lines. Remove the hydraulic brake line from its retaining clip on the axle housing.**
8. Remove both axle shaft oil seals with the tools shown in Fig. 5.
9. Remove both brake backing plates from the axle housing and suspend them above the housing with mechanic's wire. The hydraulic brake lines and the parking brake cables are still attached to the brake carrier plates.
10. Support the rear axle housing on a jack, and then remove the spring clip (U-bolt) nuts. Remove the U-bolts and plates (Fig. 12).
11. Lower the axle housing and remove it from under the vehicle.

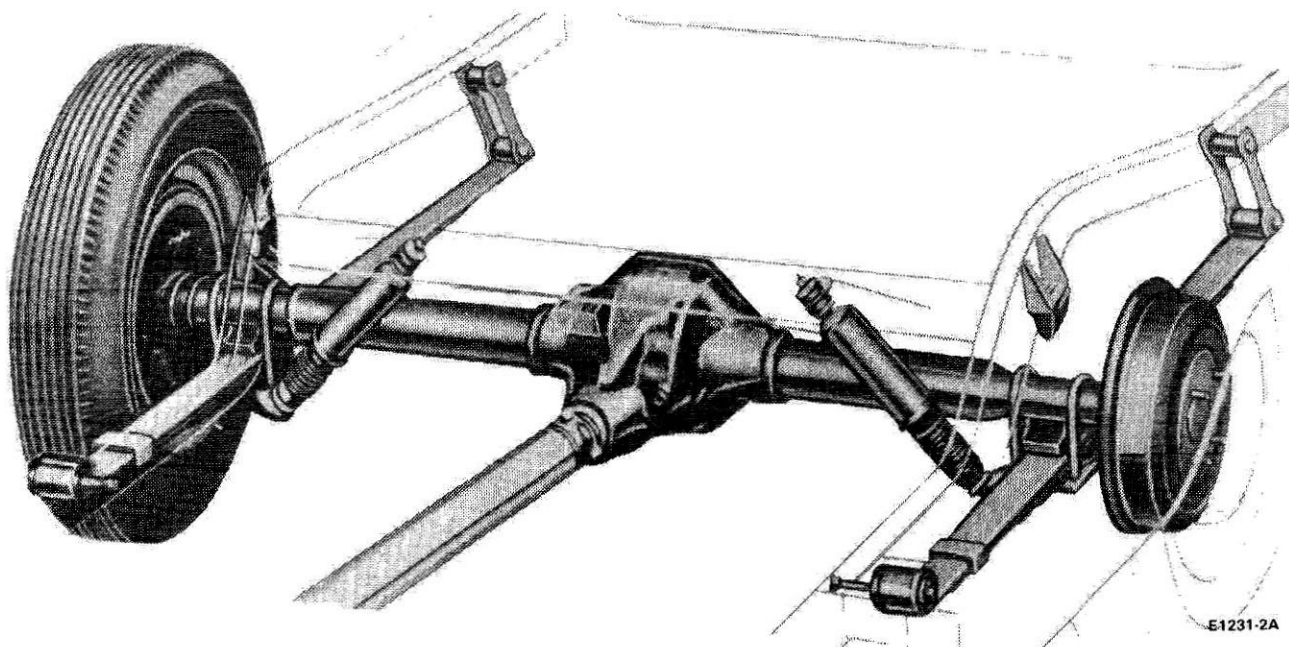


FIG. 12 Rear Axle Installation—Typical

12. If the axle housing is being replaced, transfer all the differential and pinion parts to the new housing.

Installation

1. Raise the axle housing into position so that the spring clip (U-bolt) plates can be installed. Torque the spring clip (U-bolt) nuts to specification.
2. Place the brake backing plates in their normal position on the axle housing. Use new gaskets on each side of the brake backing plates.
3. Install new axle shaft oil seals with the tool shown in Fig. 5. **Installation without use of the proper tool will distort the seal and cause leakage.** Coat the outside edges of the new oil seal with a nonhardening type of sealer such as Permatex No. 2 or its equivalent.
4. Install the axle shafts, brake drums and wheels as outlined in Part 11-11.
5. Attach the hydraulic brake line of T-fitting to the axle housing, and secure the hydraulic brake line in its retainer on the axle housing.
6. Install vent tube to brake tube junction and install vent hose to vent tube.
7. Raise the axle housing and connect the shock absorbers.
8. Connect the rear end of the drive shaft to the axle U-joint flange, aligning the scribe marks made on the drive shaft end yoke and the axle U-joint flange (Fig. 11).
9. Fill the axle with the proper grade and amount of lubricant. Install the filler plug.
10. Road test the vehicle.

DISASSEMBLY AND ASSEMBLY

DISASSEMBLY OF AXLE

All service operations on the differential case assembly and the drive pinion assembly can be performed with the housing in the vehicle.

DIFFERENTIAL CASE AND DRIVE PINION

Removal

1. Raise the vehicle and support it on the underbody, so that the rear axle drops down as far as the springs and shock absorbers permit.
2. Remove the cover from the carrier casting rear face, and drain the lubricant.
3. Perform the inspection before disassembly of carrier as directed in Part 15-01, Cleaning and Inspection.
4. Remove both rear wheels.
5. Remove the brake drums.
6. Working through the hole provided in the axle shaft flange, remove the nuts that attach the wheel bearing retainers to the axle housing.
7. Pull the axle shafts with the tool shown in Fig. 2. **Care must be exercised to prevent damage to the oil seals.** Remove the brake backing plate and wire it to the frame rail. Remove both seals with the tool shown in Fig. 5.
8. Make scribe marks on the drive shaft end yoke and the axle U-joint flange to insure proper position of the drive shaft at assembly (Fig. 11). Disconnect the drive shaft from the axle U-joint flange. **Be careful to avoid dropping the loose universal joint bearing cups.** Hold the cups on the spider with tape. Mark the cups so that they will be in their original position in relation to the flange when they are assembled. Remove the drive shaft from the transmission extension housing. Install an oil seal replacer tool in the transmission extension housing to prevent transmission leakage. Refer to the Transmission Group for the appropriate tool.
9. Remove the differential bearing adjusting nut locks (Fig. 13).
10. Mark one differential bearing cap and the case (Fig. 14) to help position the parts properly during assembly.
11. Remove the differential bearing cap bolts and bearing caps. **Hold the differential case assembly in the housing after the caps are removed.**
12. Remove the differential case and bearing cups (Fig. 15).
13. Hold the drive pinion flange and remove the pinion nut (Fig. 7).
14. Remove the pinion flange (Fig. 8).
15. With a soft-faced hammer, drive the pinion out of the front bearing cone and remove it through the rear of the carrier casting.
16. Remove the pinion seal and front bearing cone out of the front of the carrier casting.
17. To remove and install the pinion rear bearing cone use the tools in Figs. 16 and 17.
18. Measure the shim which is found under the bearing cone with a micrometer. Record the thickness of the shim.

DIFFERENTIAL CASE

Disassembly

1. If the differential bearings are to be removed, use the tools shown in Fig. 18. Mark the differential case, cover, and ring gear for assembly in the original position.
2. Remove the bolts that attach the ring gear to the differential case and discard them. Press the ring gear from the case or tap it off with a soft-faced hammer. Remove the left side of the differential case.
3. With a drift, drive out the differential pinion shaft lock pin (Fig. 19).
4. Drive out the pinion shaft with a brass drift. Remove the gears and thrust washers.