

The hypoid gear set consists of an 8.7-inch diameter ring gear and an overhung drive pinion, which is supported by two opposed tapered roller bearings. A drive pinion pilot bearing is not used in this axle.

The differential carrier is the nonremovable type, with a stamped bolt-on cover. The filler hole is tapped in the front portion of the carrier casting and uses a 1/2-14 tapered pipe plug with a 3/8-inch square female drive. A bumper pad is machined on the pinion nose portion of the carrier. The rubber bumper is mounted on the vehicle underbody.

The differential case is a one-piece design, with openings allowing assembly of the internal components and lubricant flow. The differential pinion shaft is retained with a threaded bolt (lock) assembled to the differential case.

The axle housing assembly consists of tube assemblies pressed and welded into the differential

casting. The brake backing plate retainer is welded inboard of the outer edges of the tubes, and allows assembly of the backing plate, independent of the axle shafts.

The roller-type wheel bearings have no inner race, and contact the bearing journals of the axle shafts.

The axle shafts do not use an inner or outer bearing retainer. They are held in the axle by means of C-locks, positioned in a slot on the splined end. These C-locks also fit into a machined recess in the differential side gears within the differential case. There is no retainer bolt access hole in the axle shaft flange.

An identification tag is attached to one of the rear cover-to-housing retainer bolts (Part 15-01). It is important to use the axle model designation if necessary to obtain correct replacement parts.

REMOVAL AND INSTALLATION

REAR AXLE SHAFT, WHEEL BEARINGS AND OIL SEAL

Removal

Synthetic wheel bearing seals are used for production and as service replacements. Removal and insertion of rear axle shafts must be performed with caution. The entire length of the shaft (including spline) up to the seal journal must pass through the seal without contact. Any roughing or cutting of the seal element during axle removal or installation will result in early seal failure.

1. Raise the vehicle on a hoist.
2. Remove the wheel(s) and tire(s) from the brake drum(s).
3. Position a drain pan and loosen the cover-to-differential housing retaining bolts. Drain the housing.
4. Remove the attaching nuts that secure the brake drum(s) to the axle shaft flange(s), and then remove the drum(s).
5. Remove the differential housing cover bolts, cover and gasket. Discard the gasket. Remove the drain pan.
6. Position safety stands under the rear frame member. Lower the hoist and allow the axle to lower as far as possible.
7. Working through the differential case opening, loosen the pinion shaft lock bolt and remove the pinion shaft (Fig. 2).
8. Push the axle shaft(s) inward toward the center of the axle housing. Remove the C-lock(s) (Fig. 3) from the inner end of the axle(s). Remove the axle shaft(s) from the housing. **Extreme care must be used to avoid contact of the axle shaft seal lip with any portion of the axle shaft except the seal journal.**
9. Remove the oil seal and bearing from the housing as shown in Fig. 4.

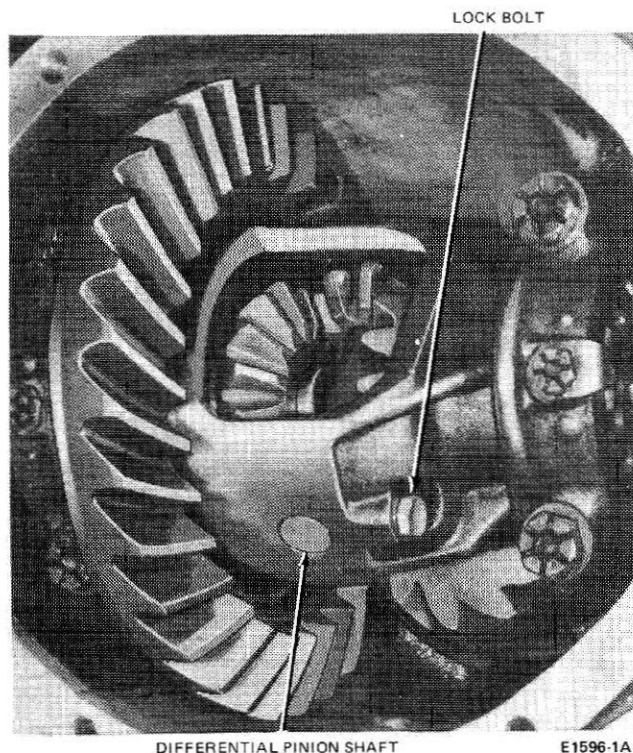


FIG. 2 Differential Pinion Shaft and Lock Bolt

10. Two types of bearings are used (Fig. 5). One requires a snug press fit in the housing flanges. The other has a ground race, and a loose fit is acceptable. Therefore when removing these bearings if a loose-fitting bearing is encountered it does not indicate excess wear or damage.
11. Inspect the machined surface of the axle shaft housing for rough spots or other irregularities that would affect the sealing action of the oil seal or the rolling action of the wheel bearing. Check the axle shaft splines for burrs, wear or damage. Carefully remove any burrs or rough spots. Replace worn or damaged parts. A brownish yellow color

on the bearing journal of the shaft is normal and the shaft need not be replaced. Slight pitting and wear is also normal.

Installation

1. Lightly coat the wheel bearing rollers with axle lubricant. Install the bearings in the axle housing with the tool shown in Fig. 6.
2. Wipe all lubricant from the oil seal bore before installing the seal. **The new seals are pre-packed with lubricant and do not require an oil soak before installation.**
3. Install the oil seal with the tool shown in Fig. 7. **Installation without the use of the proper tool will distort the seal and cause leakage.**
4. Replace the O-ring in the C-lock groove on the axle shaft.
5. Slide the axle shaft(s) into place in the axle housing. **Exercise care that splines or any portion of the axle shaft(s) do not damage the oil seal(s) and that they engage with the splines of the differential side gear(s).**
6. Install the axle shaft C-lock(s) on the inner end of the shaft(s) (Fig. 3) and push the shaft(s) outward so that the shaft locks seat in the counterbore(s) of the differential side gear(s).

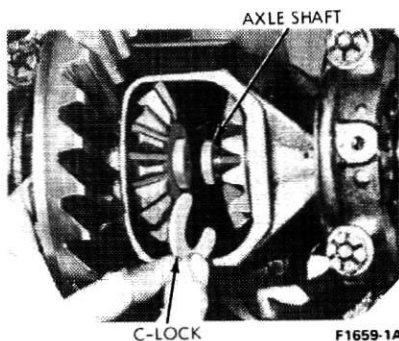


FIG. 3 Removal and Installation of C-Locks and Axle Shaft

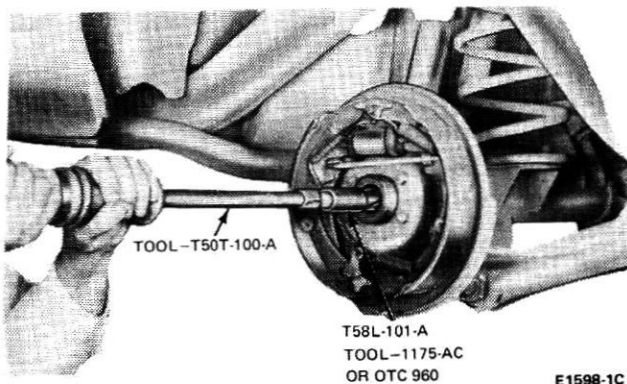


FIG. 4 Removal of Axle Seal or Bearing

7. Position the differential pinion gears and thrust washers 180 degrees apart to the differential side gears. Revolve the gear assembly until the holes in the differential case are aligned with the pinion gears.
8. Position the differential pinion shaft through the case and pinions, aligning the hole in the shaft with the lock bolt hole. Torque the lock bolt to specification.
9. Install the brake drum and tighten the attaching nuts.
10. Install the wheel and tire on the brake drum.
11. Clean the gasket mounting surfaces of the rear axle differential housing and the cover. Install a new cover gasket, cover, and the attaching bolts. Torque the bolts to specification.
12. Raise the rear axle. **Make sure the rear axle is in running position. Add the amount of specified lubricant required to reach the bottom of the filler plug hole. Install the filler plug and torque it to specification.**
13. Remove the safety support stands and lower the vehicle.

DRIVE PINION OIL SEAL

Synthetic seals must not be cleaned, soaked or washed in cleaning solvent.

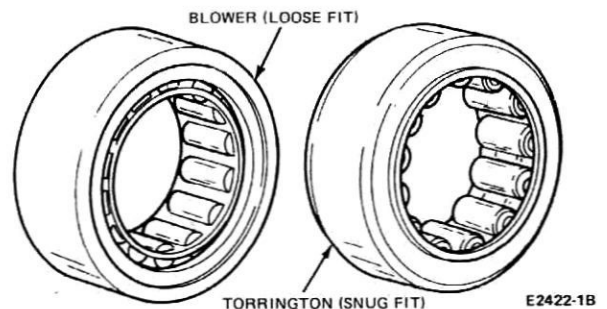


FIG. 5 Bearing Assemblies

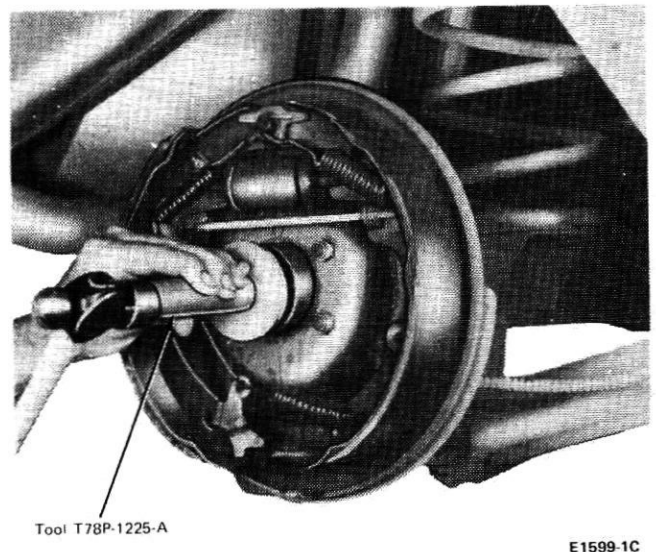


FIG. 6 Installation of Axle Shaft Bearing