

10. Hold the flange with the tool shown in Figs. 25, 26 or 27 and torque the pinion shaft nut to 175 ft-lb. **Do not exceed 175 ft-lb at this time.**
11. Check the pinion bearing preload as shown in Fig. 46. Correct preload will be obtained when the torque required to rotate the pinion in the retainer is to specification.

If the torque required to rotate the pinion is less than specified, tighten the pinion shaft nut a little at a time until the proper preload is established. **Do not overtighten the nut.** If excessive preload is obtained as a result of overtightening, replace the collapsible bearing spacer.

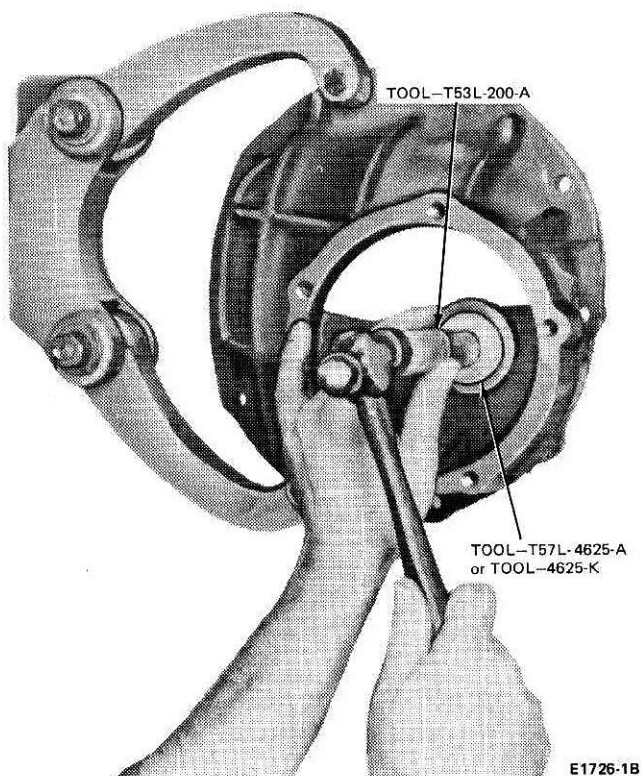


FIG. 41 Installing Pilot Bearing

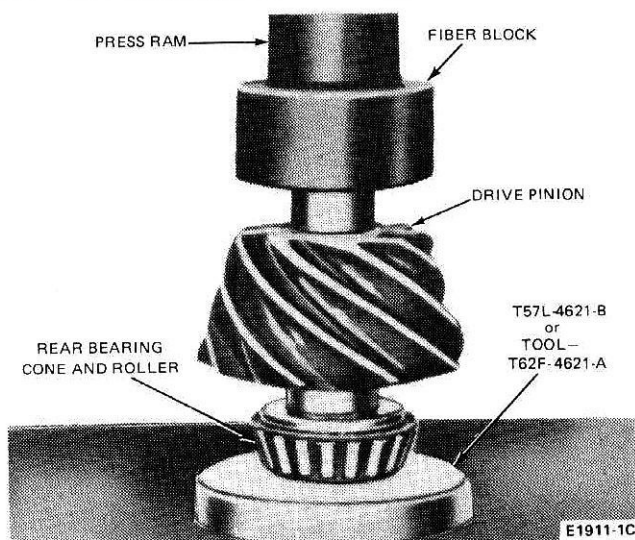


FIG. 42 Installing Pinion Rear Bearing Cone

Do not back off the pinion shaft nut to establish pinion bearing preload. If the torque on the pinion shaft nut is less than 175 ft-lb after bearing preload is established, a new collapsible spacer must be used.

Assembly and Installation of Differential Case

1. Place a side gear and thrust washer in the differential case bore (Fig. 49). **Lubricate all differential parts liberally with axle lubricant during assembly.**
2. With a soft-faced hammer, drive the differential pinion shaft into the case only far enough to retain a pinion thrust washer and pinion gear.
3. Place the second pinion and thrust washer in position, and drive the pinion shaft into place. **Carefully line up the pinion shaft lock pin holes.**
4. Place the second side gear and thrust washer in position (Fig. 49), and install the cover on the differential case. Install the pinion shaft lock pin. Insert pinion or axle shaft spline in the side gear spline to check for free rotation of the differential gears.
5. Clean the tapped holes in the ring gear with a suitable solvent. Insert two 7/16 (N.F.) bolts, two inches long, through the differential case flange, and thread them three or four turns into the ring gear as a guide in aligning the ring gear bolt holes. Press or tap the ring gear into position.
6. If the new bolts to be used show a green coating of approximately 1/2-inch or over of the threaded area, use as is; if not coated, apply a small amount of Loctite C3AZ-19554-A or equivalent. Torque to specification. **It is mandatory that bolts used once should not be used again.**
7. If the differential bearings have been removed, press them on as shown in Fig. 50.
8. Wipe a thin coating of lubricant on the bearing bores so that the differential bearing cups will move easily.
9. Place the cups on the bearings. If the gear set is of the **nonhunting or partial nonhunting** type, assemble the differential case and ring gear assembly in the carrier so that the marked tooth on the pinion indexes between the marked teeth on the ring gear as shown in Fig. 51.

Be sure to match marked gears as indicated. When assembled out of time, the result is noise and improper mating.

When installing the hunting type gear set (no timing marks), assemble the differential case and ring gear assembly in the carrier without regard to the matching of any particular gear teeth.

10. Slide the assembly along the bores until a slight amount of backlash is felt between the gear teeth.
11. Set the adjusting nuts in the bores so that they just contact the bearing cups. The nuts should be engaged about the same number of threads on each side.
12. Carefully position the bearing caps on the carrier. Match the marks made when the caps were removed.

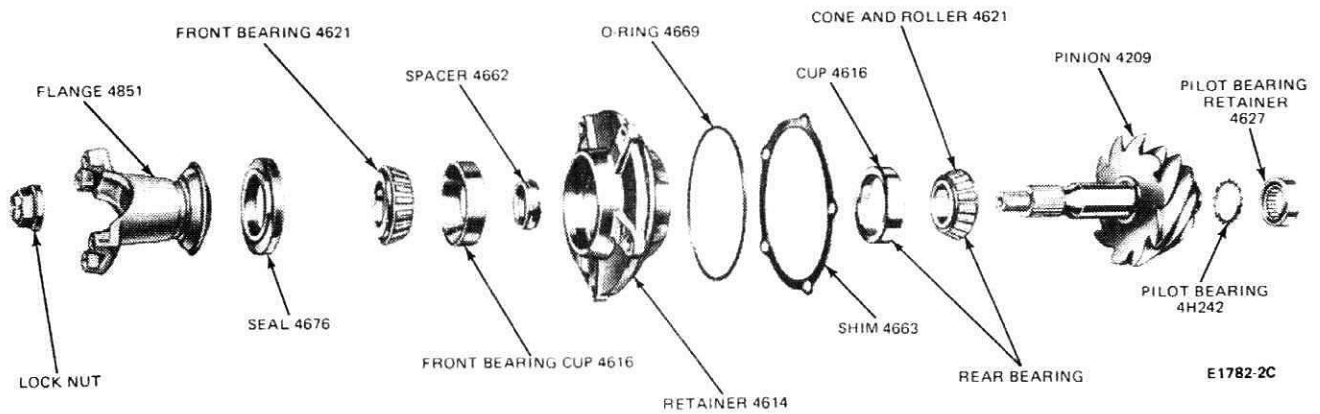


FIG. 43 Parts Arrangement—Pinion Assembly

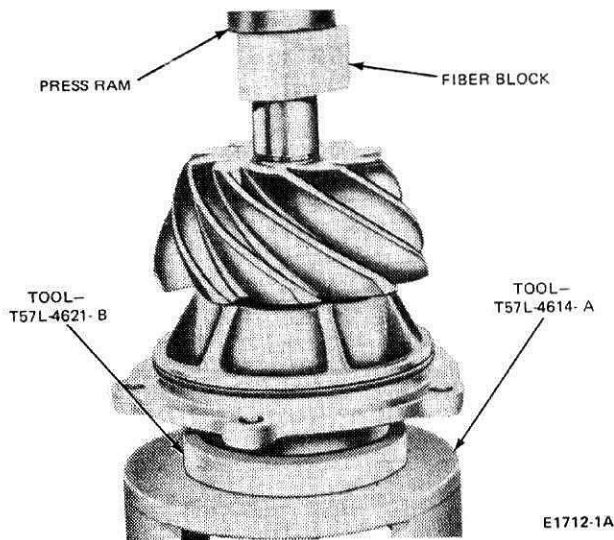


FIG. 44 Installing Pinion Front Bearing

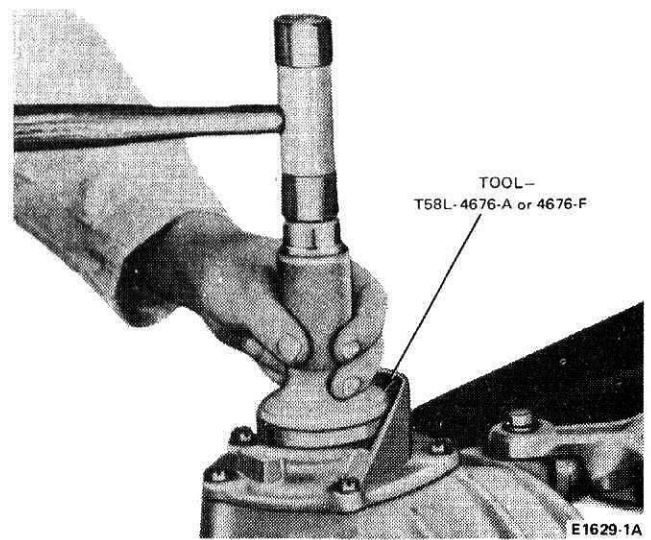


FIG. 46 Installing Oil Seal

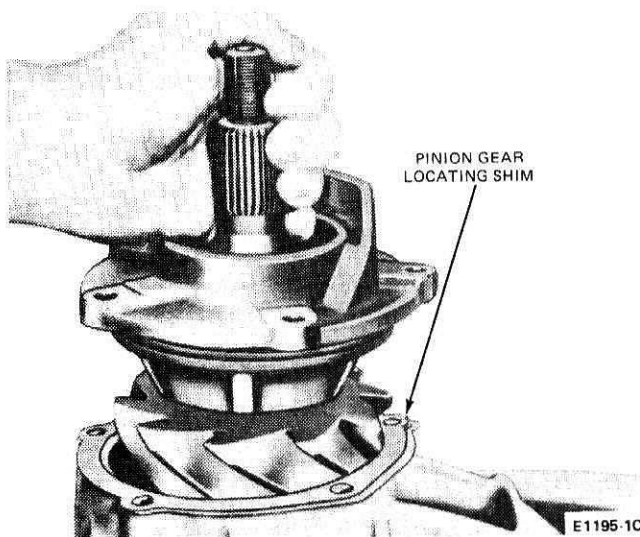


FIG. 45 Removing or Installing Pinion and Retainer Assembly

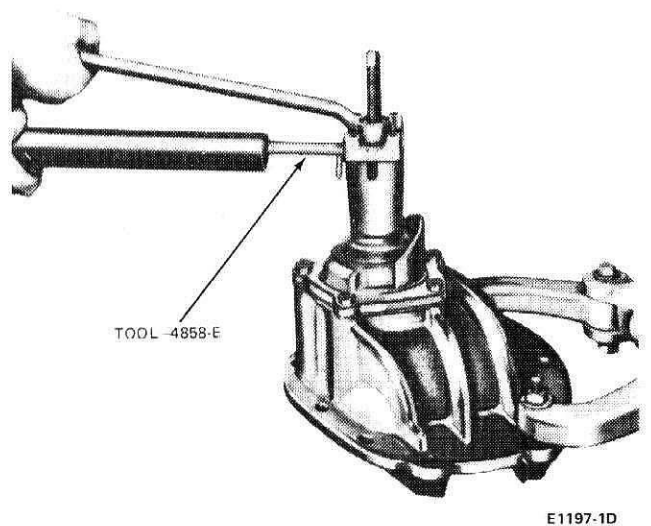


FIG. 47 Installing U-Joint Flange

13. Install the bearing cap bolts and alternately torque them to specification.
14. If the adjusting nuts do not turn freely as the cap bolts are tightened, remove the bearing caps and again inspect for damaged threads of incorrectly positioned caps. Tighten bolts to the specified torque to be sure that the cups and adjusting nuts are seated. Loosen the cap bolts, and torque them to only 25 ft-lb before making adjustments.
15. Adjust the backlash between the ring gear and pinion as outlined in Part 15-01.
16. Be sure to make a final tooth pattern check before installing the carrier assembly in the axle housing.

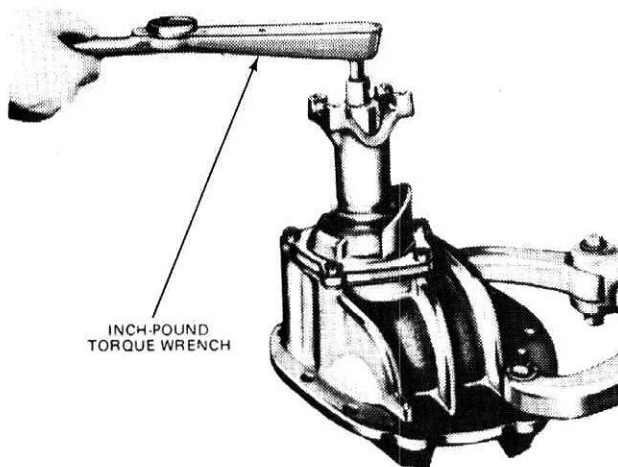


FIG. 48 Checking Pinion Bearing Preload