

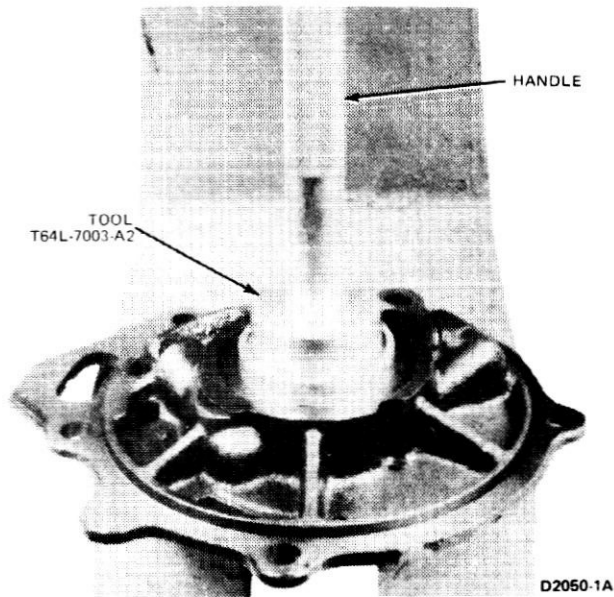


FIG. 38 Installing Rear Support Housing Bushing

4. Install the pressure tubes in the support housing.

REAR CLUTCH

Disassembly

1. Remove the clutch pressure plate snap ring, and remove the pressure plate from the drum. Remove the waved cushion spring. Remove the composition and steel plates.
2. Compress the spring with the tools shown in Fig. 39, and remove the snap ring.

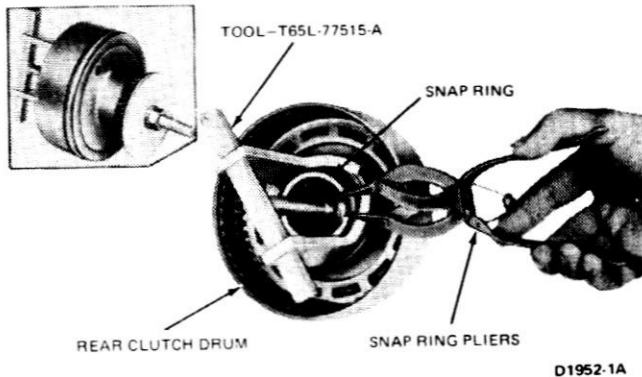


FIG. 39 Removing Rear Clutch Spring Snap Ring

3. Guide the spring retainer while releasing the pressure, to prevent the retainer from locking in the snap ring grooves.
4. Position the primary sun gear shaft in the rear clutch. Place an air hose nozzle in one of the holes in the shaft, and place one finger over the other hole. Then force the clutch piston out of the clutch drum with air pressure. **Hold one hand over the piston to prevent damage to the piston.**
5. Remove the inner and outer seal rings from the clutch piston.
6. Remove the rear clutch sun gear bushing if it is worn or damaged.

Use the cape chisel (Fig. 40) and cut along the bushing seam until the chisel breaks through the bushing wall. Pry the loose ends of the bushing up with an awl and remove the bushing.

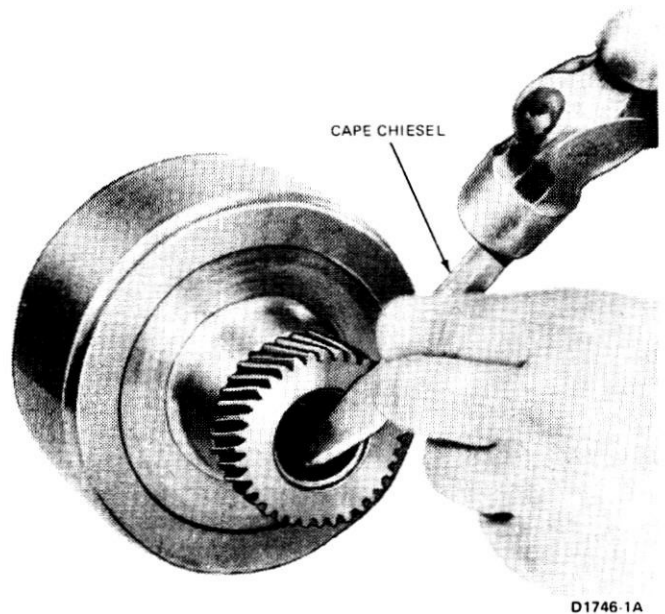


FIG. 40 Removing Rear Clutch Sun Gear Bushing

Assembly

1. If the rear clutch sun gear bushing was removed, press a new bushing into the rear clutch sun gear with the tool shown in Fig. 41.

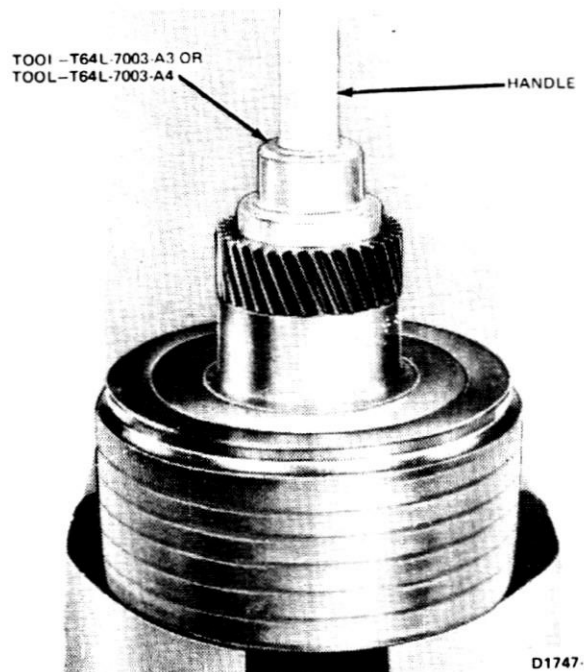


FIG. 41 Installing Rear Clutch Sun Gear Bushing

2. Install new inner and outer seal rings on the piston.
3. To install the piston in the clutch drum, lubricate the piston seals and tools (Fig. 42) with clean transmission fluid. Push the small fixture down over the cylinder hub. Insert the piston into the large

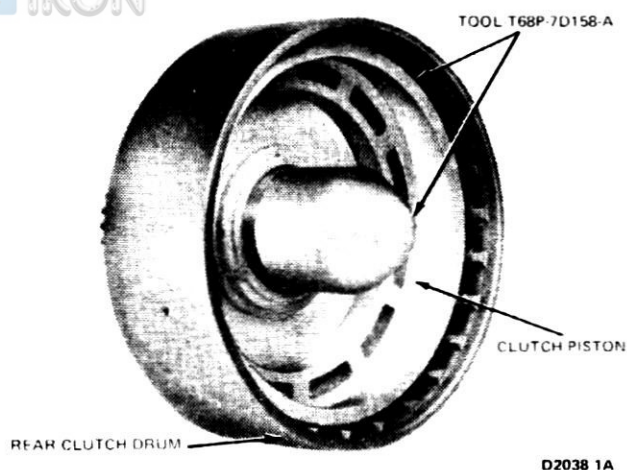


FIG. 42 Installing Rear Clutch Piston

fixture, with the seal toward the thin-walled end. Hold the piston and large fixture, and insert as a unit into the cylinder. Push down over the small fixture until the large tool stops against the shoulder in the cylinder; then push the piston down, out of the tool, until it bottoms in the cylinder. Remove the tools.

4. Install the clutch release spring, and position the retainer on the spring.
5. Install the tool on the spring retainer as shown in Fig. 39. Compress the clutch spring, and install the snap ring. **While compressing the spring, guide the retainer to avoid interference of the retainer with the snap ring groove. Make sure the snap ring is fully seated in the groove.**

When new composition clutch plates are used, soak the plates in automatic transmission fluid for 15 minutes before they are assembled.

6. Install the external tabbed waved cushion spring. Then, install steel and friction plates alternately, starting with a steel plate.
7. Install the clutch pressure plate with the bearing surface down. Then install the clutch pressure plate snap ring. Make sure the snap ring is fully seated in the groove.
8. Check the free pack clearance between the pressure plate and the first internal plate with a feeler gauge. The clearance should be 0.030 to 0.055 inch. If the clearance is not within specifications, selective snap rings are available in the following thicknesses: 0.060 to 0.064, 0.074 to 0.078, 0.088 to 0.092 and 0.102 to 0.106 inch. Insert the correct size snap ring and recheck the clearance.
9. Install the thrust washer on the primary sun gear shaft. **Be sure the thrust washer is installed with the tabs of the washer away from the sun gear thrust face.** Lubricate all parts with automatic transmission fluid or petroleum jelly. Install the two center seal rings.
10. Install the rear clutch on the primary sun gear shaft. **Be sure all of the needles are in the hub if the unit is equipped with loose needle bearings.** Assemble two seal rings in the front grooves.

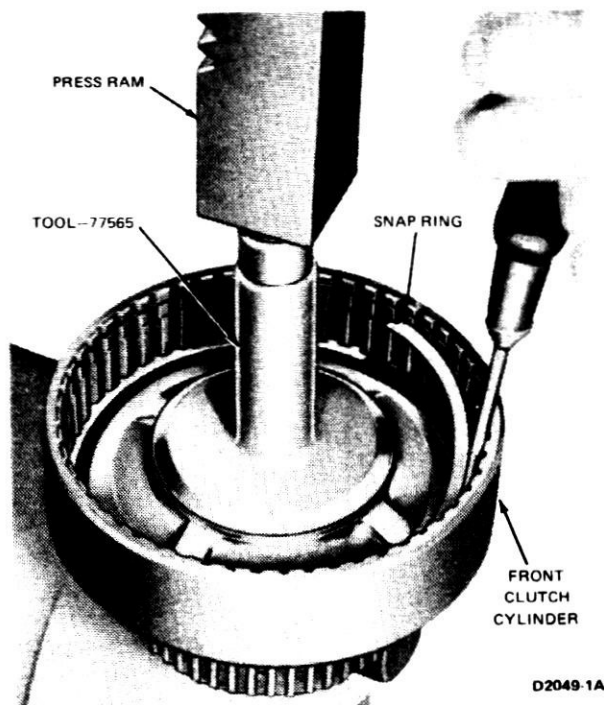


FIG. 43 Removing or Installing Front Clutch Snap Ring

11. Install the steel and the bronze thrust washers on the front of the secondary sun gear assembly. **If the steel washer is chamfered, place the chamfered side down.**

FRONT CLUTCH

Disassembly

1. Remove the clutch cover snap ring with a screwdriver, and remove the input shaft from the clutch drum.
2. Remove the thrust washer from the thrust surface of the clutch hub. Insert one finger in the clutch hub, and lift the hub straight up to remove the hub from the clutch drum.
3. Remove the composition and the steel clutch plates, and then remove the pressure plate from the clutch drum.
4. Place the front clutch spring compressor on the release spring, position the clutch drum on the bed of an arbor press, and compress the release spring with the arbor press until the release spring snap ring can be removed (Fig. 43).
5. Remove the clutch release spring from the clutch drum.
6. Install the special nozzle shown in Fig. 44 on an air hose. Place the nozzle against the clutch apply hole in the front clutch housing, and force the piston out of the housing.
7. Remove the piston inner seal from the clutch housing. Remove the piston outer seal from the groove in the piston.
8. Remove the input shaft bushing if it is worn or damaged. Use the cape chisel and cut along the bushing seam until the chisel breaks through the