

# Bearing Preload

## Adjustment

NOTE: If any of the items listed below are replaced, the bearing preload must be adjusted.

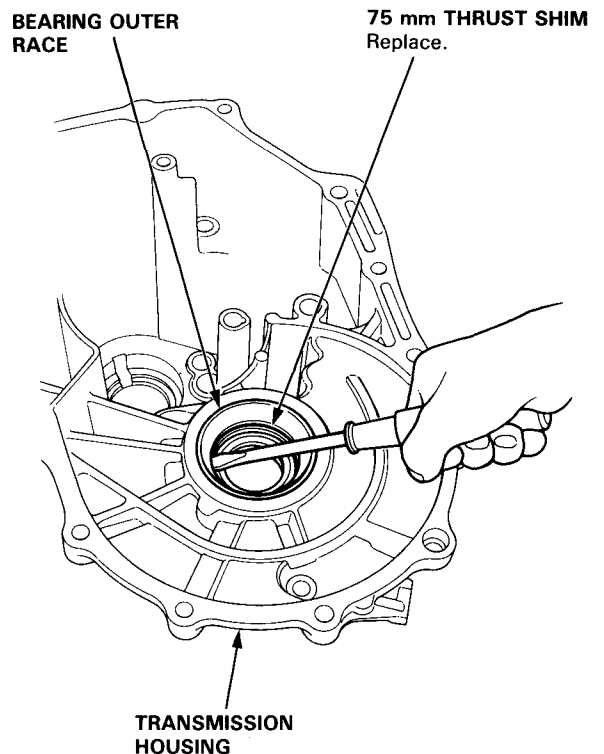
- TRANSMISSION HOUSING
- CLUTCH HOUSING
- DIFFERENTIAL
- TAPERED ROLLER BEARING and OUTER RACE
- 75 mm THRUST SHIM
- 90 mm WASHER
- OIL GUIDE RING

1. Remove the bearing outer race and 75 mm thrust shim from the transmission housing by prying up on the bearing outer race or by heating the housing to about 212°F (100°C).

**CAUTION: Do not reuse the thrust shim if the outer race was pried out.**

NOTE:

- If the outer race was removed by heating the case, let the transmission cool to room temperature before adjusting the bearing preload.
- Do not heat the transmission housing in excess of 212° F (100°C).
- Replace the bearing with a new one whenever the outer race is replaced.
- Repeat on the clutch side.



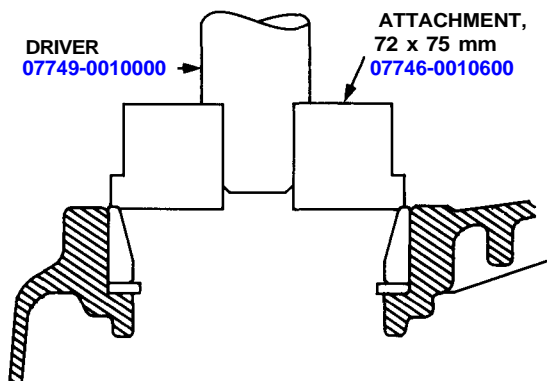


2. Install the standard shim and bearing outer race into the transmission housing using the special tools as shown.

**CAUTION: Do not use more than one shim to adjust the bearing preload.**

**NOTE:**

- Install the bearing outer race squarely.
- Check that there is no clearance between the bearing outer race, shim and transmission housing.



**75 mm THRUST SHIM:**

○ Standard shim

	Part Number	Thickness
A	41481-PR8-000	1.70 mm (0.0669 in)
B	41482-PR8-000	1.73 mm (0.0681 in)
C	41483-PR8-000	1.76 mm (0.0693 in)
D	41484-PR8-000	1.79 mm (0.0705 in)
E	41485-PR8-000	1.82 mm (0.0723 in)
F	41486-PR8-000	1.85 mm (0.0728 in)
G	41487-PR8-000	1.88 mm (0.0740 in)
H	41488-PR8-000	1.91 mm (0.0752 in)
I	41489-PR8-000	1.94 mm (0.0764 in)
ⓐ	41490-PR8-000	1.97 mm (0.0776 in)
K	41491-PR8-000	2.00 mm (0.0787 in)
L	41492-PR8-000	2.03 mm (0.0799 in)
M	41493-PR8-000	2.06 mm (0.0811 in)
N	41494-PR8-000	2.09 mm (0.0823 in)
O	41495-PR8-000	2.12 mm (0.0835 in)
P	41496-PR8-000	2.15 mm (0.0846 in)
Q	41497-PR8-000	2.18 mm (0.0858 in)
R	41498-PR8-000	2.21 mm (0.0870 in)
S	41499-PR8-000	2.24 mm (0.0882 in)
T	41500-PR8-000	2.27 mm (0.0894 in)

3. Lubricate the tapered roller bearing with transmission oil, then install the differential.

4. Install the transmission housing.

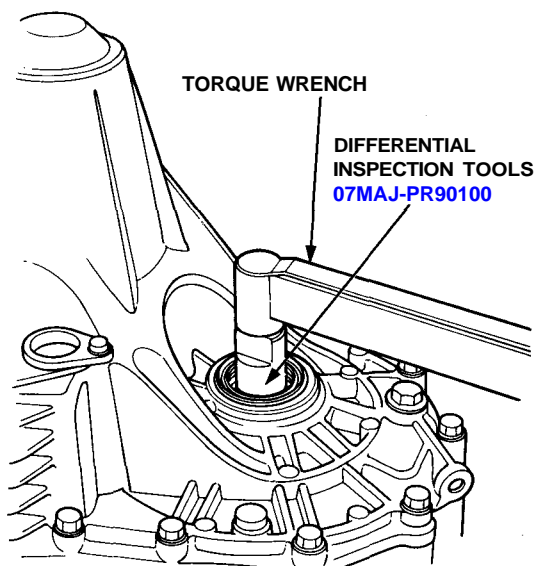
**NOTE:** Do not install the mainshaft, countershaft, and reverse idle gear shaft.

**Torque: 45 N-m (4.5 kg-m, 33 lb-ft)**

5. Rotate the differential assembly in both directions to seat the bearings.
6. Measure the starting torque of the differential assembly with a special tool and a torque wrench as shown.

**NOTE:** Measure the bearing preload at normal room temperature in both directions.

**Standard: 2.0-3.0 N-m (20-30 kg-cm, 17-26 lb-in)**



7. If the bearing preload is not within the standard, select the shim that will give you the correct preload, and recheck.

**NOTE:** Changing one of the shims to the next size will increase or decrease preload about 0.3-0.4 N-m (3-4 kg-cm, 2.60-3.47 lb-in).