



## Taper Roller Bearing Preload Adjustment

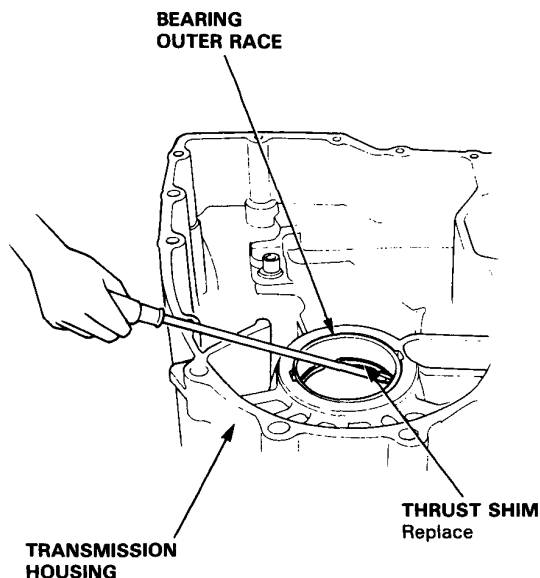
**NOTE:** If the transmission housing, torque converter housing, differential case, bearing, outer race or thrust shim were replaced, the bearing preload must be adjusted.

1. Remove the bearing outer race and thrust shim from the transmission housing by prying or remove the outer race from the transmission housing by heating the housing to about 100°C (212°F) with a heat gun.

**CAUTION:**

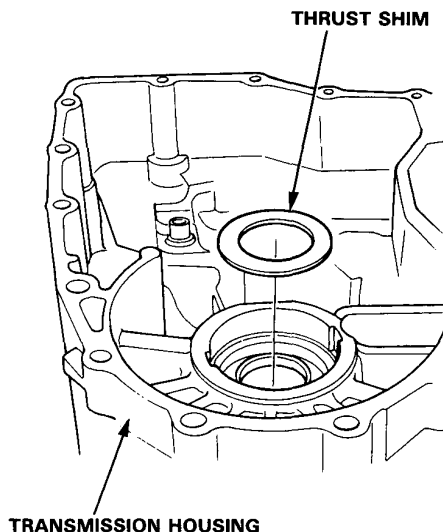
- Do not heat the case in excess of 100°C (212°F).
- Replace the thrust shim with a new one if it is pried out.
- Replace the bearing when the outer race is to be replaced.
- Do not use shim on the torque converter housing side.

**NOTE:** Let the transmission housing cool to the room temperature before adjusting the bearing preload.



2. Select the thrust shim from the table below so that their total thickness is 2.60 mm (0.102 in).

**CAUTION:** Do not use more than two shims to adjust the bearing preload.



3. Thrust Shim Table

	PART NUMBER	THICKNESS
A	41441-PK4-000	2.20 mm (0.087 in)
B	41442-PK4-000	2.25 mm (0.089 in)
C	41443-PK4-000	2.30 mm (0.091 in)
D	41444-PK4-000	2.35 mm (0.093 in)
E	41445-PK4-000	2.40 mm (0.094 in)
F	41446-PK4-000	2.45 mm (0.096 in)
G	41447-PK4-000	2.50 mm (0.098 in)
H	41448-PK4-000	2.55 mm (0.100 in)
*I	41449-PK4-000	2.60 mm (0.102 in)
J	41450-PK4-000	2.65 mm (0.104 in)
K	41451-PK4-000	2.70 mm (0.106 in)
L	41452-PK4-000	2.75 mm (0.108 in)
M	41453-PK4-000	2.80 mm (0.110 in)
N	41454-PK4-000	2.85 mm (0.112 in)
O	41455-PK4-000	2.90 mm (0.114 in)
P	41456-PK4-000	2.95 mm (0.116 in)
Q	41457-PK4-000	3.00 mm (0.118 in)
R	41458-PK4-000	3.05 mm (0.120 in)

\* Standard shim

(cont'd)

# Differential

## Taper Roller Bearing Preload Adjustment (cont'd)

4. After installing shims, install the outer race in the transmission housing.

### CAUTION:

- Install the outer race squarely in the transmission housing.
- Check that there is no clearance between the outer race, shim and transmission housing.
- Install gasket when checking preload.

- 5 With the mainshaft and countershaft removed, install the differential assembly and torque the transmission housing.

**TORQUE: 55 N·m (5.5 kg-m, 40 lb-ft)**

6. Rotate the differential assembly in both directions to seat the bearings.
- 7 Measure the starting torque of the differential assembly with the Preload Inspection Tool and a torque wrench.

### STANDARDS:

**New bearings: 2.8—4.0 N·m**  
(28—40 kg-cm, 24—35 lb-in)

**Reuse bearings: 2.5—3.7 N·m**  
(25—37 kg-cm, 22—32 lb-in)

### NOTE:

- Measure the preload at normal room temperature in both direction.
- If out of specs, select two shims which will give the correct preload, and repeat steps 1-7.

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

8. To increase the starting torque, increase the thickness of shims. To decrease the starting torque, decrease the thickness of shims.

