

Tapered Roller Bearing Preload

Adjustment

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

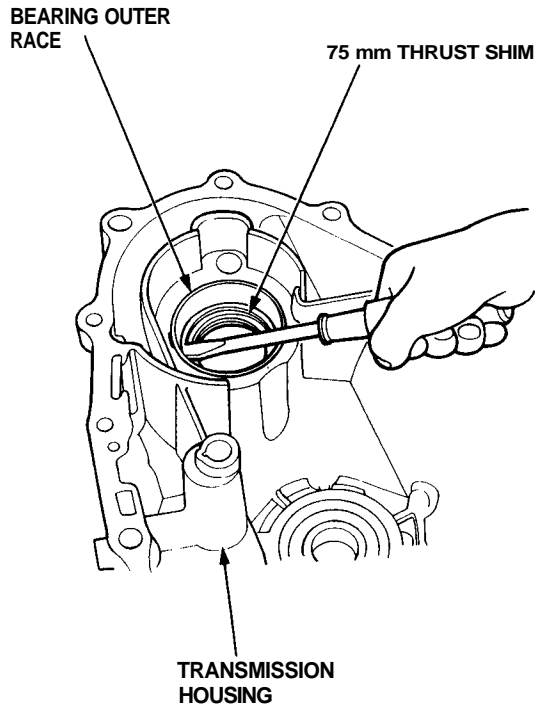
- TRANSMISSION HOUSING
- CLUTCH HOUSING
- SECONDARY GEAR
- TAPERED ROLLER BEARING and BEARING OUTER RACE
- 75 mm THRUST SHIM
- 90 mm WASHER

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 transmission housing to about 212°F (100°C).

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

NOTE:

- Let the transmission cool to room temperature if the bearing outer race was removed by heating the housing before adjusting the tapered roller bearing preload.
- Do not heat the transmission housing in excess of 212°F(100°C).
- Replace the tapered roller bearing with a new one whenever the bearing outer race is replaced.
- Repeat on the clutch housing side.
- There is no shim on the clutch housing side.



2. First try the same size thrust shim that was removed.

CAUTION: Use only one thrust shim.

3. After installing the thrust shim, install the bearing outer race in the transmission housing.

NOTE:

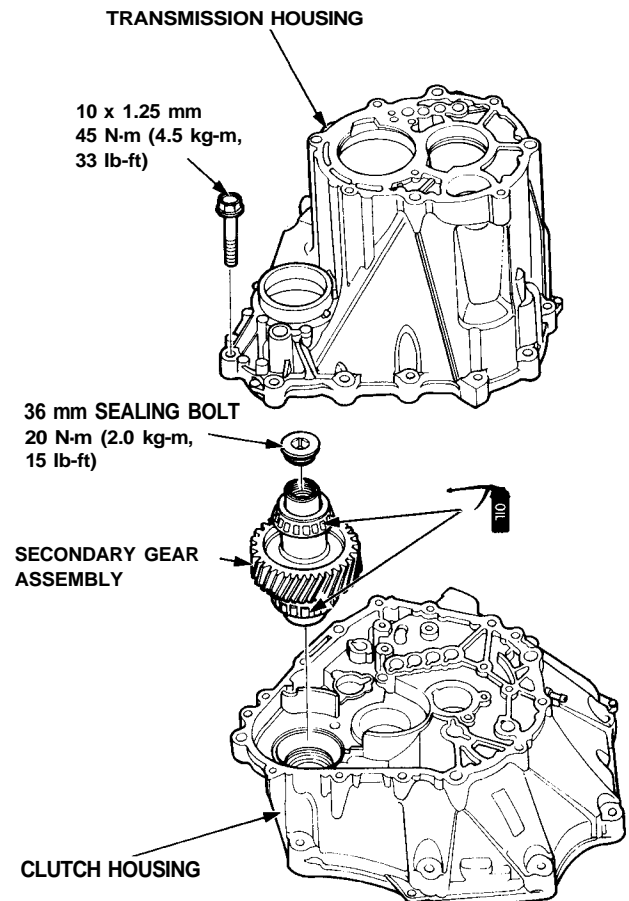
- Install the bearing outer race squarely.
- Check that there is no clearance between the bearing outer race, thrust shim and transmission housing.

4. Install the 36 mm sealing bolt on the secondary gear assembly.

5. Install the secondary gear assembly in the clutch housing, then install the transmission housing.

NOTE:

- Do not install the mainshaft, countershaft and reverse idle gear assembly.
- Apply gear oil to the tapered roller bearing.
- Tighten the bolts in a crisscross pattern in several steps.



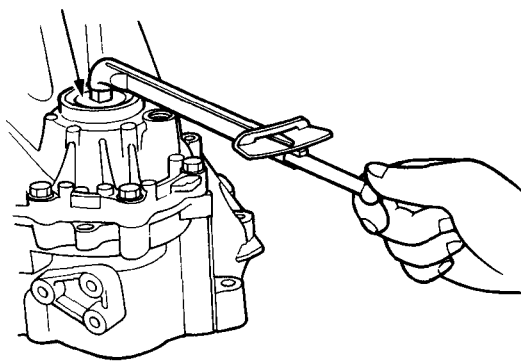


6. Rotate the secondary gear assembly in both directions to seat the tapered roller bearings.
7. Measure the starting torque of the secondary gear assembly with a torque wrench.

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

Standard: 1.4 — 2.6 N·m
(14 — 26 kg·cm, 12 — 23 lb-in)

36 mm SEALING BOLT



8. If the tapered roller bearing preload is out of the standard, select the thrust shim that will give you the correct tapered roller bearing preload and recheck.

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

9. Select thrust shim from the following table.

75 mm THRUST SHIM

	Part Number	Thickness
A	23941 — PY5 — 000	1.56 mm (0.0614 in)
B	23942 — PY5 — 000	1.59 mm (0.0626 in)
C	23943 — PY5 — 000	1.62 mm (0.0638 in)
D	23944 — PY5 — 000	1.65 mm (0.0650 in)
E	23945 — PY5 — 000	1.68 mm (0.0661 in)
F	23946 — PY5 — 000	1.71 mm (0.0673 in)
G	23947 — PY5 — 000	1.74 mm (0.0685 in)
H	23948 — PY5 — 000	1.77 mm (0.0697 in)
I	23949 — PY5 — 000	1.80 mm (0.0709 in)
J	23950 — PY5 — 000	1.83 mm (0.0720 in)
K	23951 — PY5 — 000	1.86 mm (0.0732 in)
L	23952 — PY5 — 000	1.89 mm (0.0744 in)
M	23953 — PY5 — 000	1.92 mm (0.0756 in)
N	23954 — PY5 — 000	1.95 mm (0.0768 in)
O	23955 — PY5 — 000	1.98 mm (0.0780 in)
P	23956 — PY5 — 000	2.01 mm (0.0791 in)
Q	23957 — PY5 — 000	2.04 mm (0.0803 in)
R	23958 — PY5 — 000	2.07 mm (0.0815 in)
S	23959 — PY5 — 000	2.10 mm (0.0827 in)
T	23960 — PY5 — 000	2.13 mm (0.0839 in)
U	23961 — PY5 — 000	2.16 mm (0.0850 in)
V	23962 — PY5 — 000	2.19 mm (0.0862 in)
W	23963 — PY5 — 000	2.22 mm (0.0874 in)
X	23964 — PY5 — 000	2.25 mm (0.0886 in)
Y	23965 — PY5 — 000	2.28 mm (0.0898 in)
Z	23966 — PY5 — 000	2.31 mm (0.0909 in)
AA	23967 — PY5 — 000	2.34 mm (0.0921 in)
AB	23968 — PY5 — 000	2.37 mm (0.0933 in)
AC	23969 — PY5 — 000	2.40 mm (0.0945 in)
AD	23970 — PY5 — 000	2.43 mm (0.0957 in)