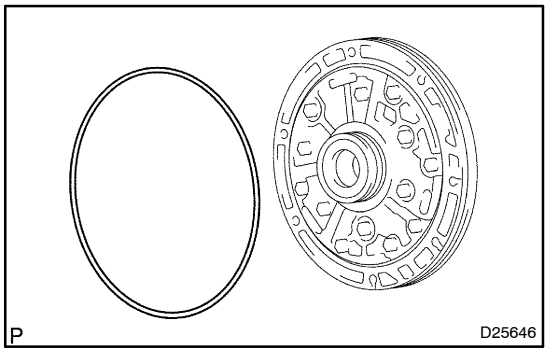
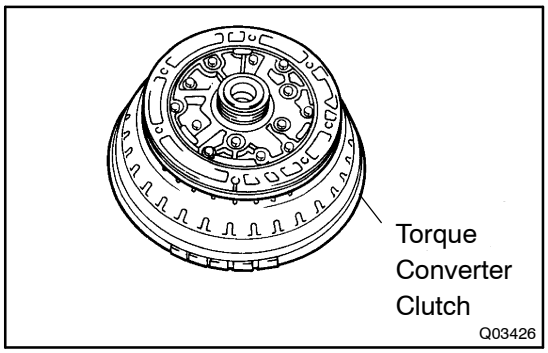
400VK–01

OVERHAUL



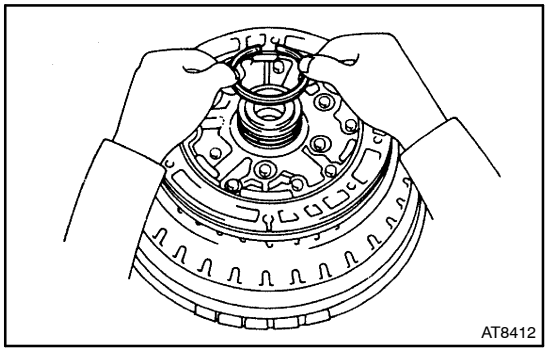
1. REMOVE FRONT OIL PUMP BODY O–RING

(a) Remove the O–ring from the oil pump assy.



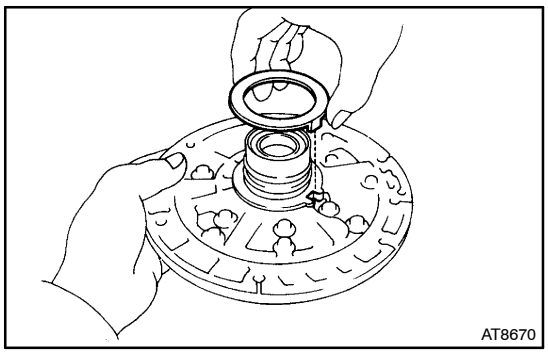
2. FIX OIL PUMP ASSY

(a) Place the oil pump body on the torque converter clutch.



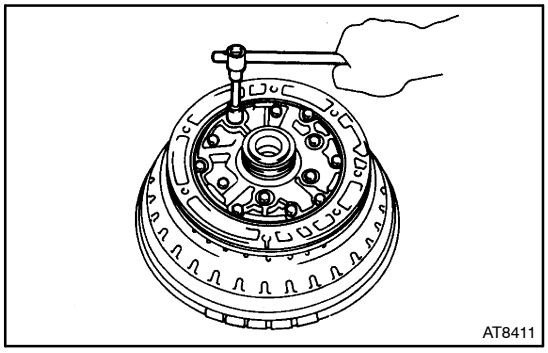
3. REMOVE CLUTCH DRUM OIL SEAL RING

(a) Remove the 2 oil rings.



4. REMOVE STATOR SHAFT THRUST BEARING RACE

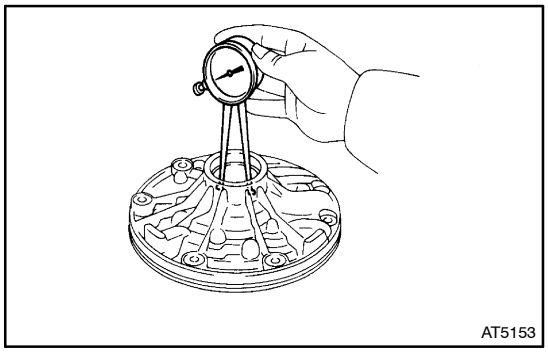
(a) Remove the stator shaft thrust bearing race.



5. REMOVE STATOR SHAFT ASSY

(a) Remove the 13 bolts, and then remove the stator shaft from the oil pump body.

(b) Remove the oil pump body from the torque converter clutch.

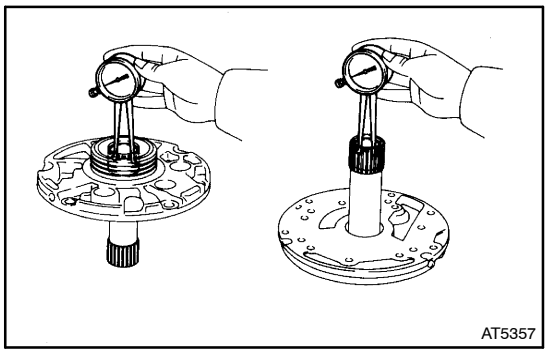


6. INSPECT FRONT OIL PUMP BODY SUB–ASSY

(a) Using a dial indicator, measure the inside diameter of the oil pump body bushing.

Maximum inside diameter: 38.19 mm (1.5035 in.)

If the inside diameter is greater than the maximum, replace the oil pump body.

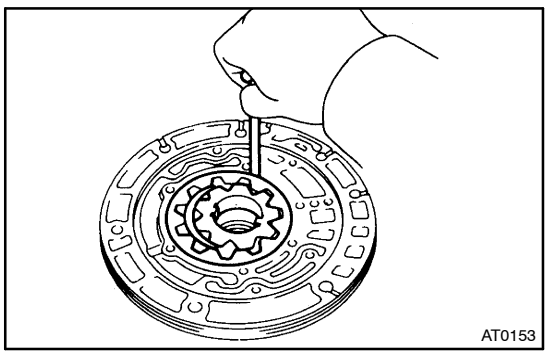


7. INSPECT STATOR SHAFT ASSY

(a) Using a dial indicator, measure the inside diameter of the stator shaft bushing.

Maximum inside diameter:
Front side: 21.58 mm (0.8496 in.)
Rear side: 27.08 mm (1.0661 in.)

If the inside diameter is grater than the maximum, replace the stator shaft.



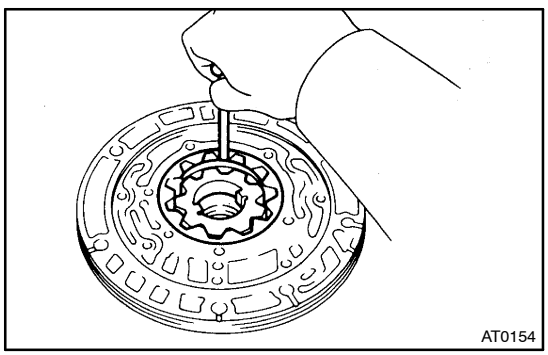
8. INSPECT CLEARANCE OF OIL PUMP ASSEMBLY

(a) Push the driven gear to one side of the body.

(b) Using a feeler gauge, measure the clearance.

Standard body clearance:
0.07 – 0.15 mm (0.0028 – 0.0059 in.)
Maximum body clearance: 0.2 mm (0.0079 in.)

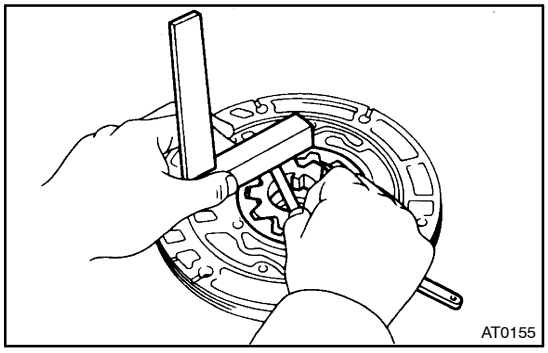
If the body clearance is greater than the maximum, replace the drive gear, the driven gear or the pump body.



(c) Using a feeler gauge, measure the clearance between the driven gear teeth and the crescent–shaped part of the pump body.

Standard tip clearance:
0.004 – 0.248 mm (0.0002 – 0.0098 in.)
Maximum tip clearance: 0.3 mm (0.012 in.)

If the tip clearance is greater than the maximum, replace the drive gear, the driven gear or the pump body.

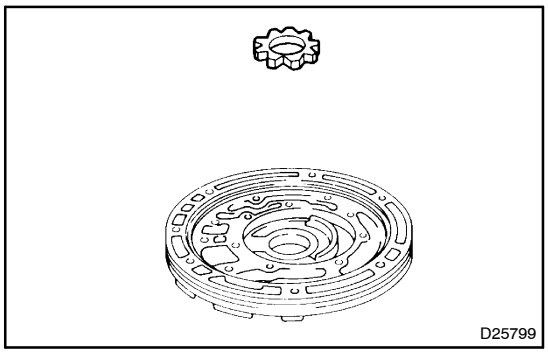


(d) Using a steel straight edge and a feeler gauge, measure the side clearance of both gears.
Standard side clearance:
0.02 – 0.05 mm (0.0008 – 0.0020 in.)
Maximum side clearance: 0.1 mm (0.004 in.)

(e) There are 5 different thickness for drive and driven gears.
Drive and driven gears thickness: mm (in.)

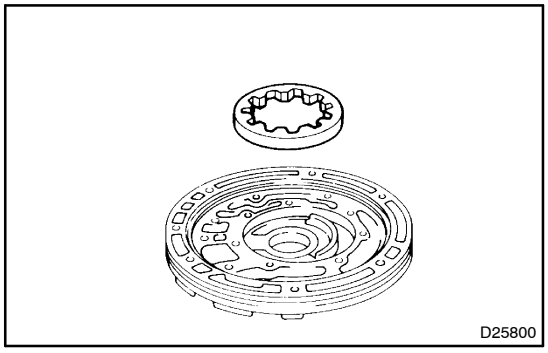
Mark	Thickness
M	11.690 – 11.699 (0.4602 – 0.4606)
N	11.700 – 11.709 (0.4606 – 0.4610)
P	11.710 – 11.720 (0.4610 – 0.4614)
R	11.721 – 11.730 (0.4615 – 0.4618)
S	11.731 – 11.740 (0.4618 – 0.4622)

If the side clearance is greater than the maximum, replace the drive gear, the driven gear or the pump body.



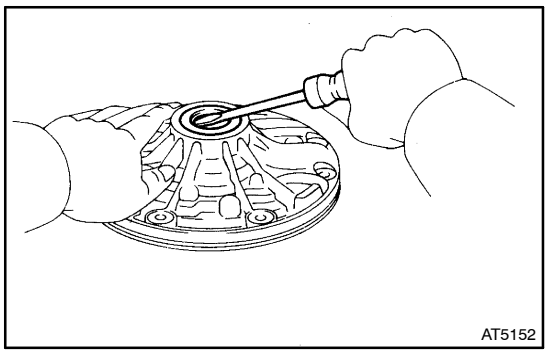
9. REMOVE FRONT OIL PUMP DRIVE GEAR

(a) Remove the oil pomp drive gear.



10. REMOVE FRONT OIL PUMP DRIVEN GEAR

(a) Remove the oil pomp driven gear.

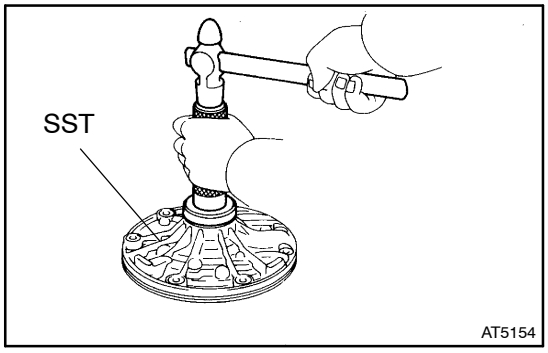


11. REMOVE FRONT OIL PUMP OIL SEAL

(a) Using a screwdriver, remove the oil seal.

NOTICE:

Be careful not to damage the bushing and the oil pump body.



12. INSTALL FRONT OIL PUMP OIL SEAL

(a) Using SST and a hammer, install a new oil seal.

HINT:

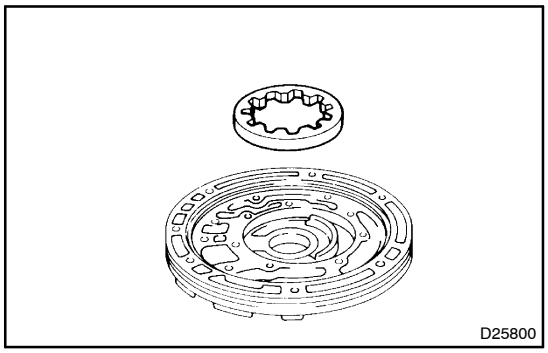
The oil seal end should be flush with the outer edge of the pump body.

SST 09350–30020 (09351–32140)

(b) Coat the oil seal lip with MP grease.

13. FIX FRONT OIL PUMP BODY SUB–ASSY

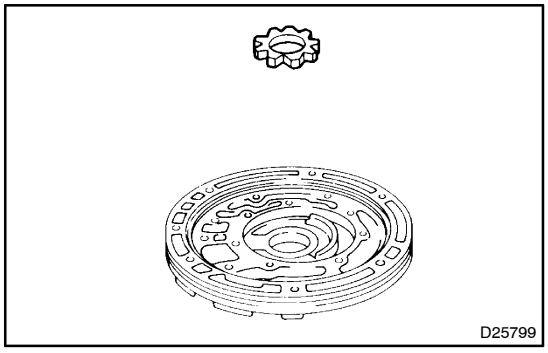
(a) Place the oil pump body on the torque converter clutch.



14. INSTALL FRONT OIL PUMP DRIVEN GEAR

(a) Coat the driven gear with ATF.

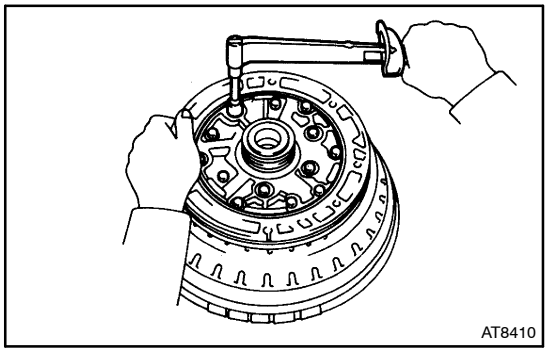
(b) Install the driven gear to the oil pump body.



15. INSTALL FRONT OIL PUMP DRIVE GEAR

(a) Coat the drive gear with ATF.

(b) Install the drive gear to the oil pump body.

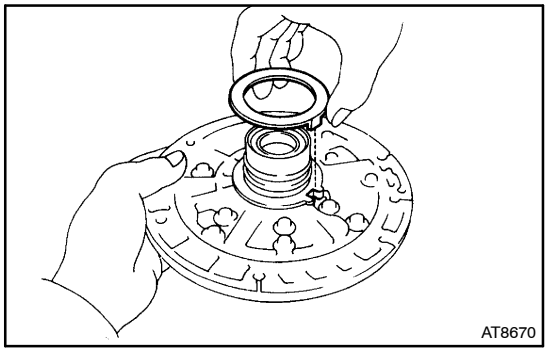


16. INSTALL STATOR SHAFT ASSY

(a) Align the stator shaft with each bolt hole.

(b) Install the 13 bolts.

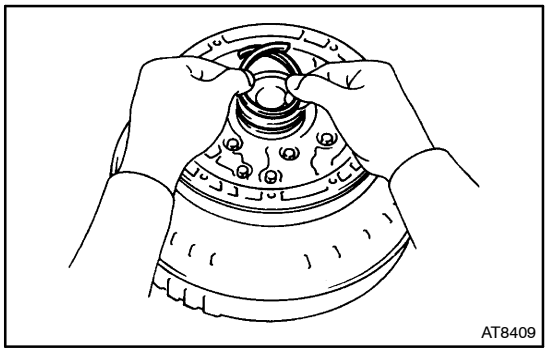
Torque: 10 N·m (100 kgf·cm, 7 ft·lbf)



17. INSTALL STATOR SHAFT THRUST BEARING RACE

(a) Coat the thrust washer with petroleum jelly.

(b) Align the tap of the washer with the hollow of the pump body.



18. INSTALL CLUTCH DRUM OIL SEAL RING

(a) Coat the 2 oil seal rings with ATF.

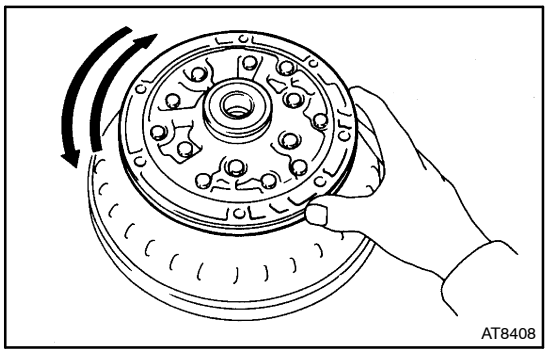
(b) Squeeze the ends of the 2 oil seal rings together with the wrap distance 8 mm or less, and then install them to the starter shaft groove.

NOTICE:

Do not over–spread the ring ends.

HINT:

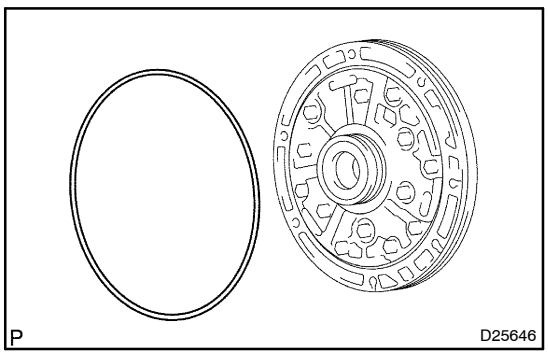
After installing the oil seal rings, check that they rotate smoothly.



19. INSPECT OIL PUMP DRIVE GEAR ROTATION

(a) Make sure the drive gear rotates smoothly.

(b) Remove the oil pump assy from the torque converter.



20. INSTALL FRONT OIL PUMP BODY O–RING

(a) Install the O–ring to the oil pump assy.