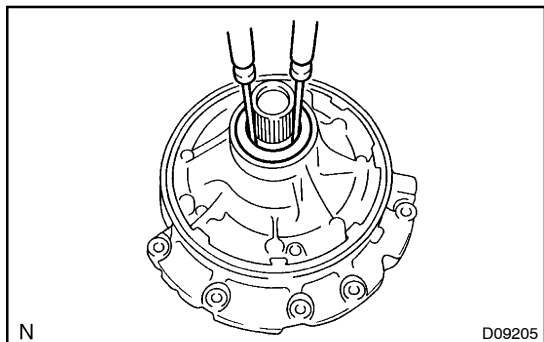


# OIL PUMP ASSY (U140E/U140F)

## OVERHAUL

4006F-01

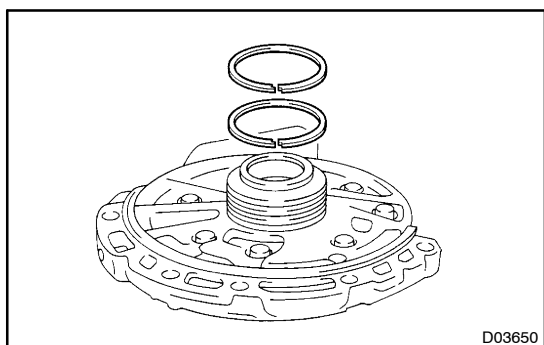


### 1. INSPECT OIL PUMP ASSY

- (a) Turn the drive gear with 2 screwdrivers and make sure it rotates smoothly.

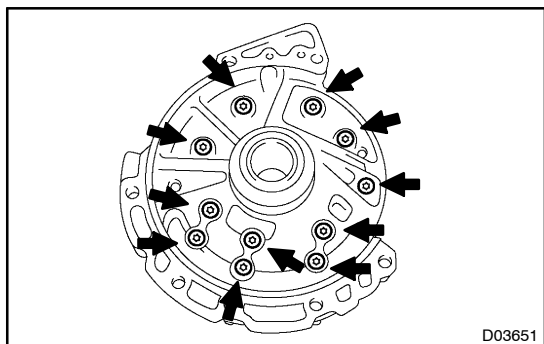
#### NOTICE:

Be careful not to damage the oil seal lip.



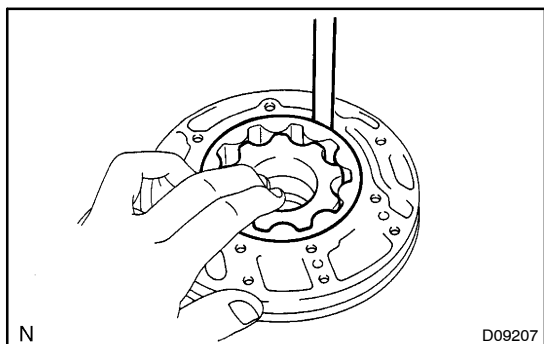
### 2. REMOVE CLUTCH DRUM OIL SEAL RING

- (a) Remove 2 clutch drum oil seal rings.



### 3. REMOVE STATOR SHAFT ASSY

- (a) Using a torx socket (T30), remove the 11 bolts and stator shaft. Keep the gears in assembling order.



### 4. INSPECT CLEARANCE OF OIL PUMP ASSEMBLY

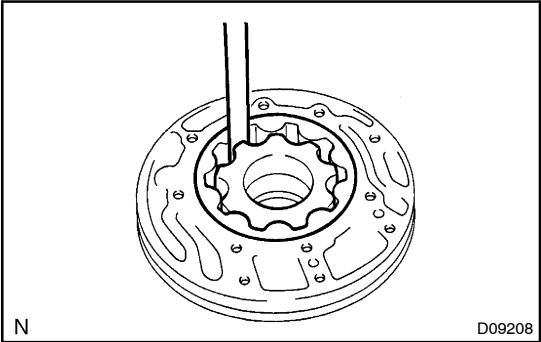
- (a) Push the driven gear to one side of the body. Using a feeler gauge, measure the clearance.

**Standard body clearance:**

**0.10 – 0.17 mm (0.0039 – 0.0067 in.)**

**Maximum body clearance: 0.17 mm (0.0067 in.)**

If the body clearance is greater than the maximum, replace the oil pump body sub-assy.



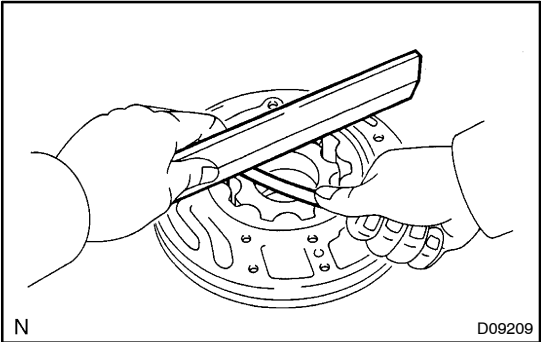
- (b) Measure the tip clearance between the driven gear teeth and drive gear teeth.

**Standard tip clearance:**

**0.07 – 0.15 mm (0.0028 – 0.0059 in.)**

**Maximum tip clearance: 0.15 mm (0.0059 in.)**

If the tip clearance is greater than the maximum, replace the oil pump body sub-assy.



- (c) Using a straight edge and feeler gauge, measure the side clearance of both gears.

**Standard side clearance:**

**0.02 – 0.05 mm (0.0008 – 0.0020 in.)**

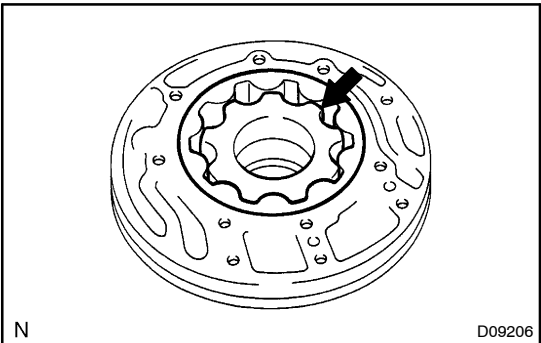
**Maximum side clearance: 0.05 mm (0.0020 in.)**

**Drive gear thickness: mm (in.)**

Mark	Thickness
1	10.690 – 10.699 (0.4209 – 0.4212)
2	10.700 – 10.709 (0.4213 – 0.4216)
3	10.710 – 10.720 (0.4217 – 0.4220)
4	10.721 – 10.730 (0.4221 – 0.4224)
5	10.731 – 10.740 (0.4225 – 0.4228)

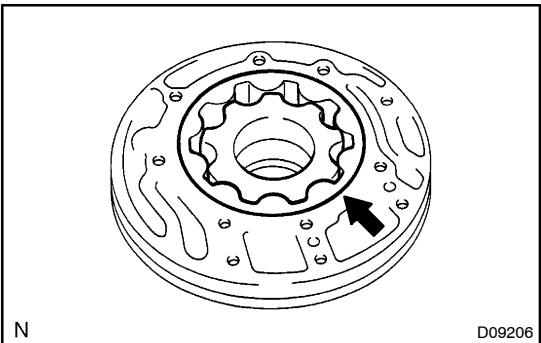
**Driven gear thickness: mm (in.)**

Mark	Thickness
1	10.690 – 10.699 (0.4209 – 0.4212)
2	10.700 – 10.709 (0.4213 – 0.4216)
3	10.710 – 10.720 (0.4217 – 0.4220)
4	10.721 – 10.730 (0.4221 – 0.4224)
5	10.731 – 10.740 (0.4225 – 0.4228)



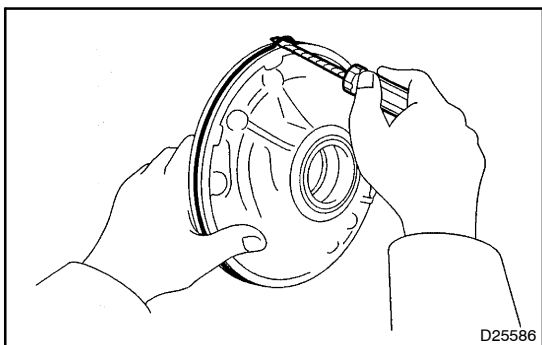
**5. REMOVE FRONT OIL PUMP DRIVE GEAR**

- (a) Remove front oil pump drive gear.



**6. REMOVE FRONT OIL PUMP DRIVEN GEAR**

- (a) Remove front oil pump driven gear.

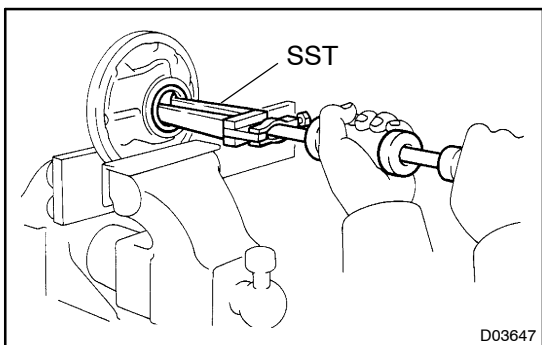


## 7. REMOVE FRONT OIL PUMP BODY O-RING

- (a) Using a screwdriver, remove the O-ring.

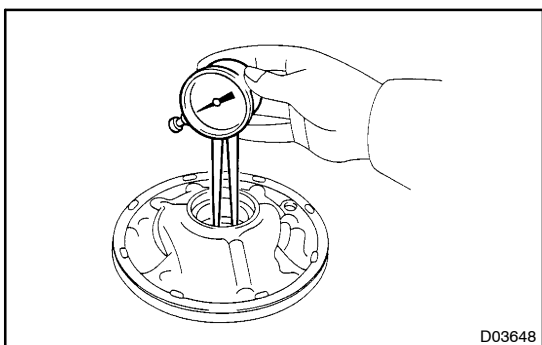
HINT:

Tape the screwdriver before use.



## 8. REMOVE FRONT OIL PUMP OIL SEAL

- (a) Mount oil pump in a soft jaw vise.  
 (b) Using SST, remove oil seal from the oil pump body.  
 SST 09308-00010



## 9. INSPECT FR OIL PUMP & GEAR BODY SUB-ASSY

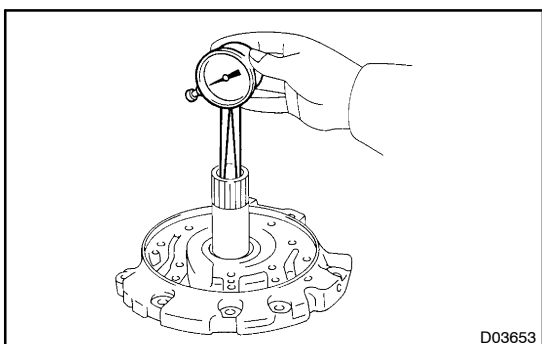
- (a) Using a dial indicator, measure the inside diameter of the oil pump body bushing.

**Standard inside diameter:**

**38.113 – 38.138 mm (1.50051 – 1.50149 in.)**

**Maximum inside diameter: 38.188 mm (1.50346 in.)**

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



## 10. INSPECT STATOR SHAFT ASSY

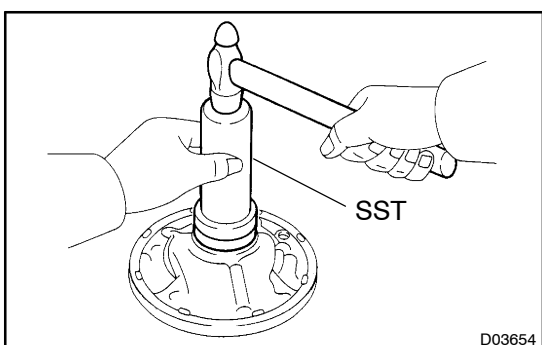
- (a) Using a dial Indicator, measure the inside diameter of the stator shaft bushings.

**Standard inside diameter:**

**21.500 – 21.526 mm (0.84646 – 0.84748 in.)**

**Maximum inside diameter: 21.57 mm (0.8492 in.)**

If the indicator diameter is greater than maximum, replace the stator shaft.



## 11. INSTALL FRONT OIL PUMP OIL SEAL

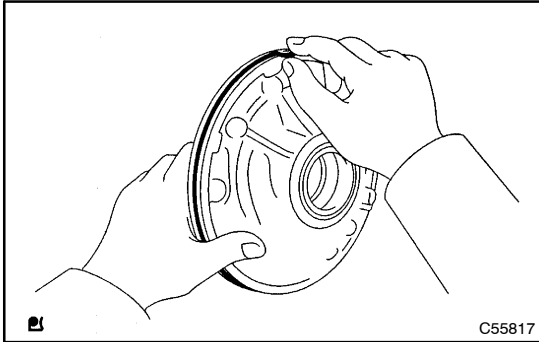
- (a) Using SST and a hammer, install a new oil seal to the pump.

SST 09350-32014 (09351-32140)

HINT:

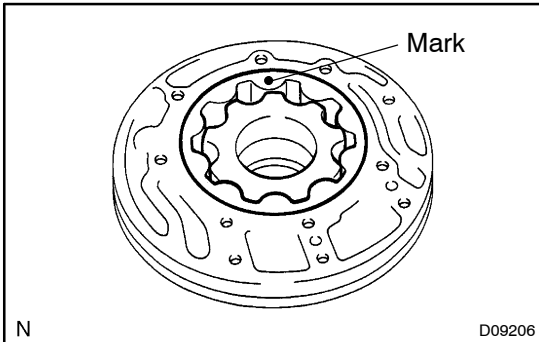
The seal end should be flat with the outer edge of the oil pump.

- (b) Coat the lip of the oil seal with petroleum jelly.



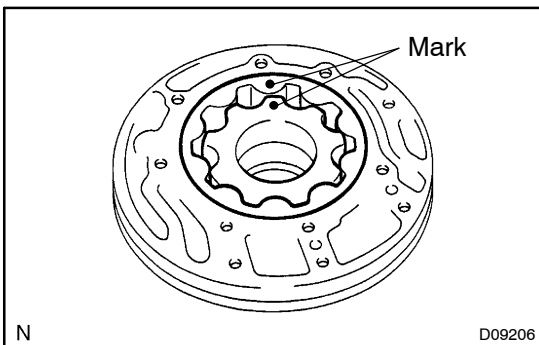
## 12. INSTALL FRONT OIL PUMP BODY O-RING

- (a) Coat the new O-ring with ATF, install it to the oil pump body.



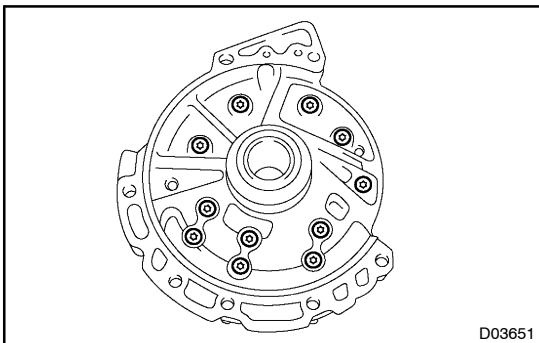
## 13. INSTALL FRONT OIL PUMP DRIVEN GEAR

- (a) Coat the front oil pump driven gear with ATF, install it to the oil pump body with the marked side up.



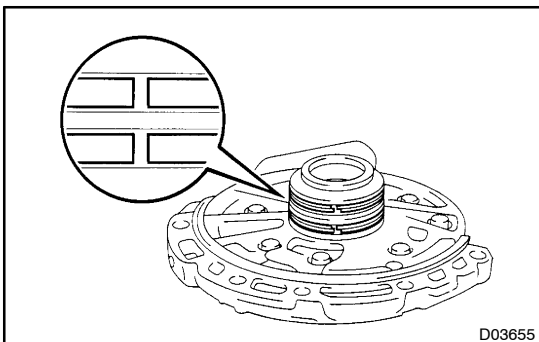
## 14. INSTALL FRONT OIL PUMP DRIVE GEAR

- (a) Coat the front oil pump drive gear with ATF, install it to the oil pump body with the marked side up.



## 15. INSTALL STATOR SHAFT ASSY

- (a) Set the stator shaft by aligning each bolt hole.
  - (b) Using a torx socket (T30), install the 11 bolts.
- Torque: 9.8 N·m (100 kgf·cm, 87 in·lbf)**

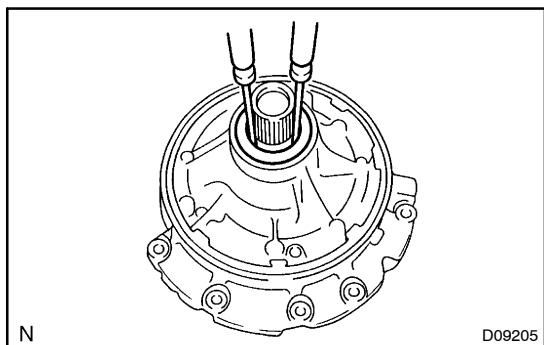


## 16. INSTALL CLUTCH DRUM OIL SEAL RING

- (a) Install 2 clutch drum oil seal rings.

### NOTICE:

**Do not expand the ring ends excessively.**

**17. INSPECT OIL PUMP ASSY**

- (a) Turn the drive gear with 2 screwdrivers and make sure it rotates smoothly.

**NOTICE:**

**Be careful not to damage the oil seal lip.**