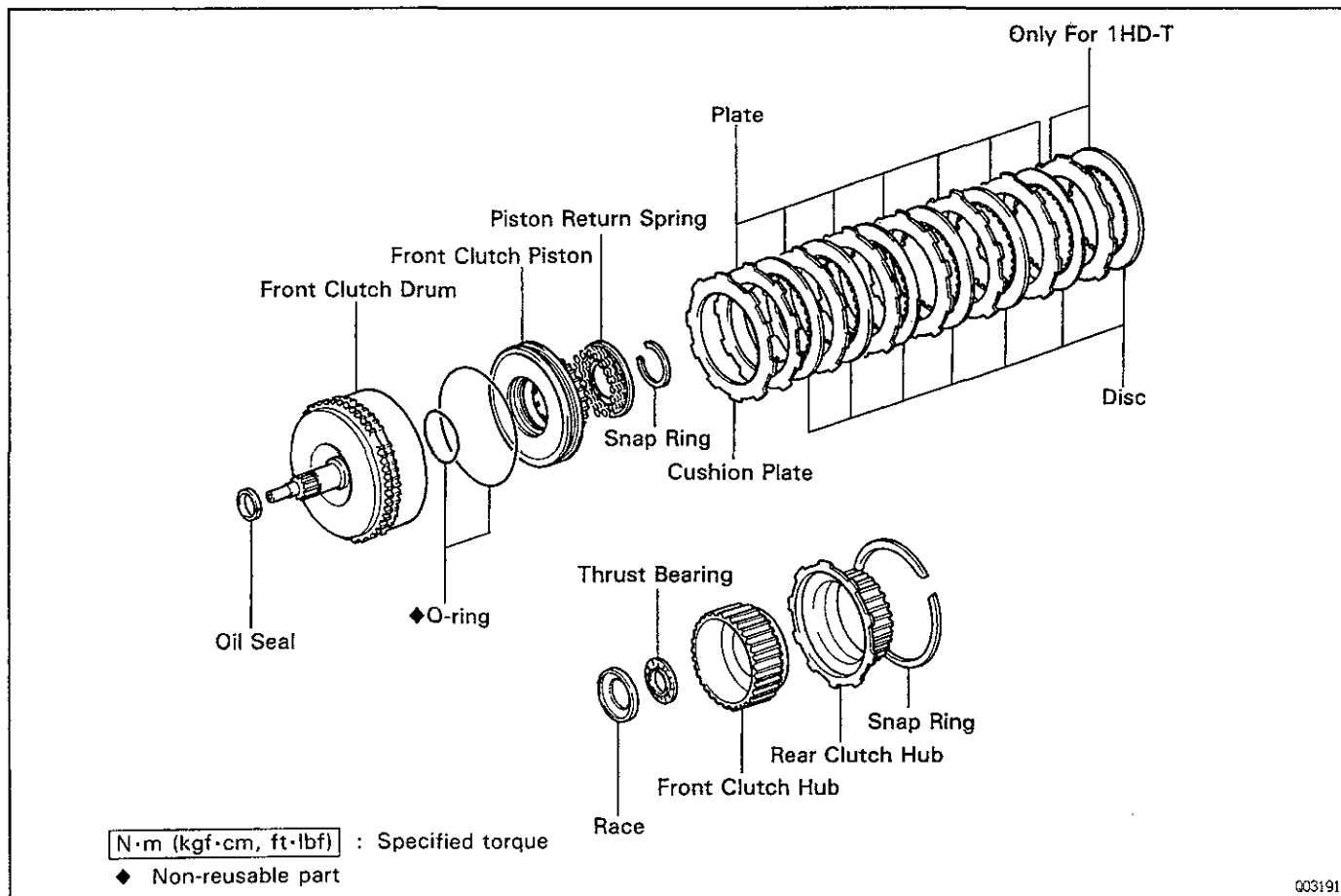


FRONT CLUTCH COMPONENTS

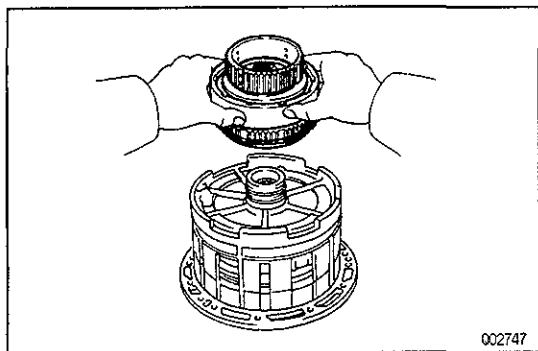
AT083-02



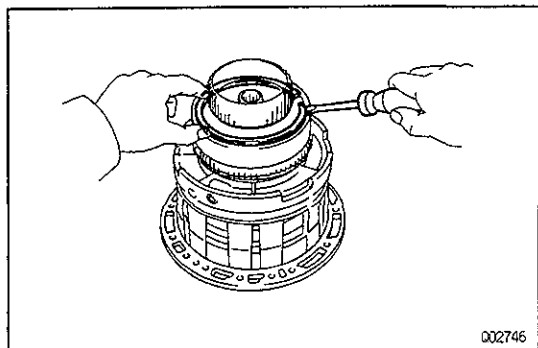
AT084-02

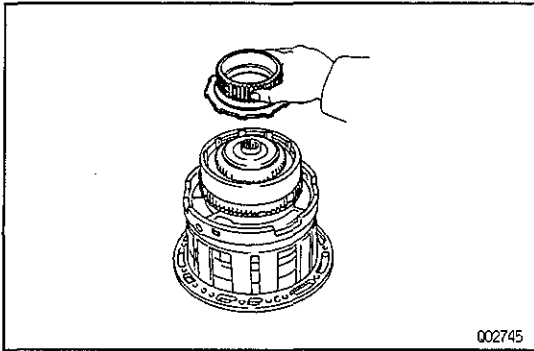
FRONT CLUTCH DISASSEMBLY

1. PLACE FRONT CLUTCH ASSEMBLY ONTO OVER-DRIVE CASE ASSEMBLY

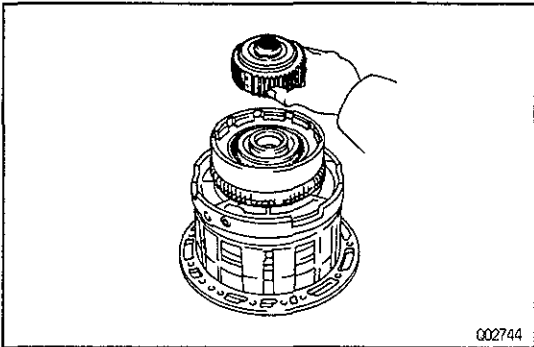


2. REMOVE REAR AND FRONT CLUTCH HUBS
 - (a) Using a screwdriver, remove the snap ring.

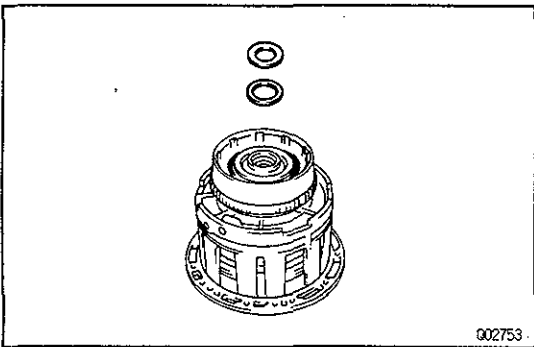




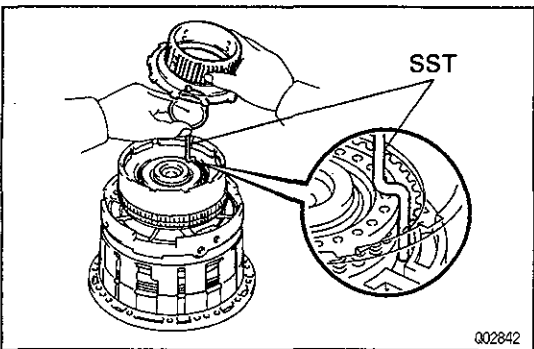
(b) Remove the rear clutch hub.



(c) Remove the front clutch hub.

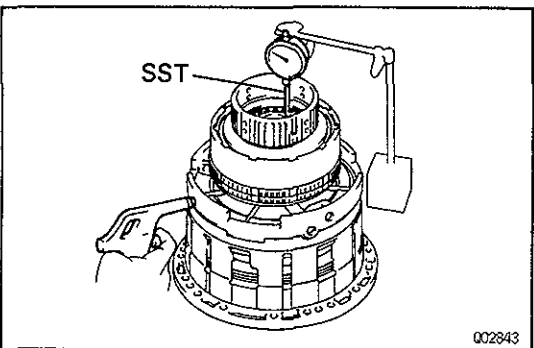


(d) Remove the race and thrust bearing.



3. CHECK PISTON STROKE OF FRONT CLUTCH

- (a) Install SST to a dial indicator.
SST 09350–36010(09350–06110)
- (b) Place the assembled SST and a dial indicator on the clutch piston.
- (c) Install the rear clutch hub with the snap ring.



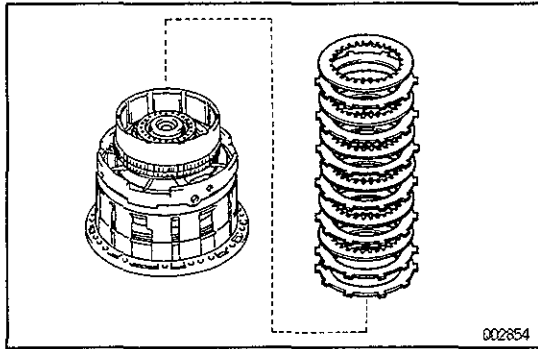
- (d) Using SST and a dial indicator, measure the piston stroke by applying and releasing the compressed air 392–785 kPa (4–8 kgf/cm², 57–114 psi) as shown. SST 09350–36010(09350–06110)

Piston stroke:

3.93–4.23 mm (0.1547–0.1665 in.)

If the piston stroke is greater than specified, inspect the discs.

- (e) Remove the snap ring and rear clutch hub.



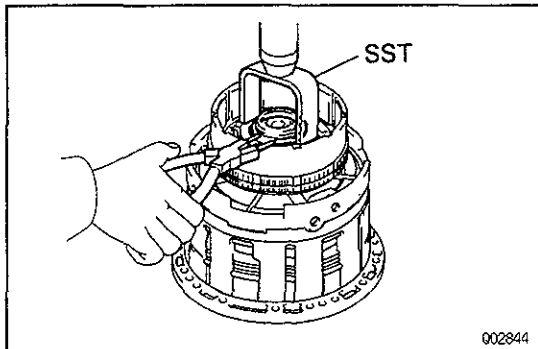
4. REMOVE DISCS, PLATES AND CUSHION PLATE

(1FZ—FE Engine)

Remove the six discs, six plates and cushion plate.

(1HD—T Engine)

Remove the seven discs, seven plates and cushion plate.

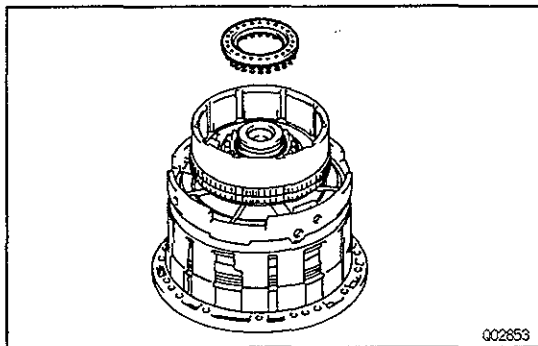


5. REMOVE PISTON RETURN SPRINGS

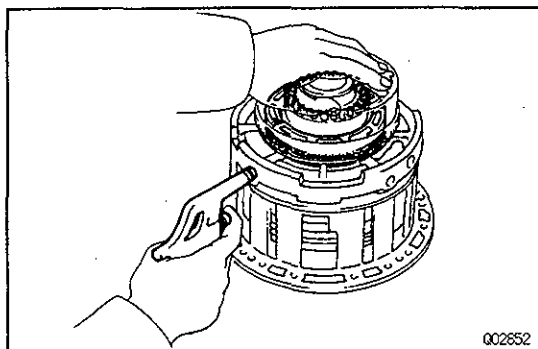
(a) Place SST on the spring seat, and compress the return springs with a shop press.

SST 09350—36010(09350—06010)

(b) Using snap ring pliers, remove the snap ring.



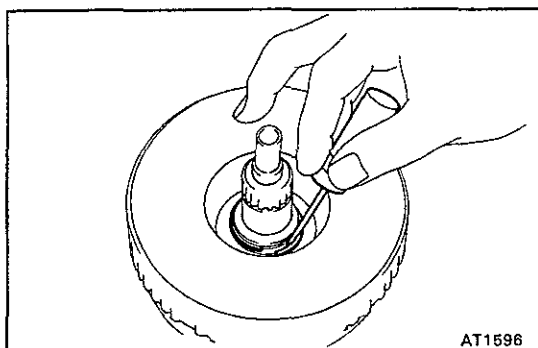
(c) Remove the piston return spring.



6. REMOVE FRONT CLUTCH PISTON

(a) Hold the clutch piston by hand, apply compressed air into the oil hole of the O/D case to remove the clutch piston.

(b) Remove the two O—rings from the clutch piston.



7. REMOVE OIL SEAL RING

Using a small screwdriver, remove the oil seal ring from the clutch drum.

FRONT CLUTCH INSPECTION

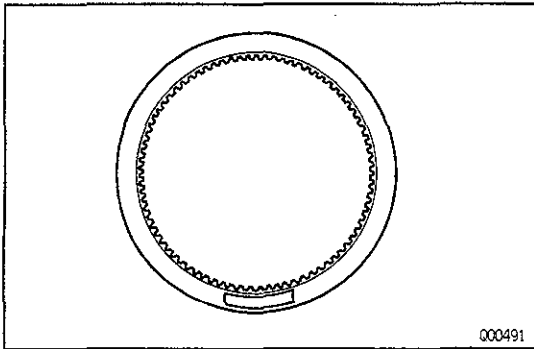
1. INSPECT DISCS, PLATES AND CUSHION PLATE

Check to see if the sliding surface of the disc, plate and cushion plate are worn or burnt. If necessary, replace all discs.

HINT:

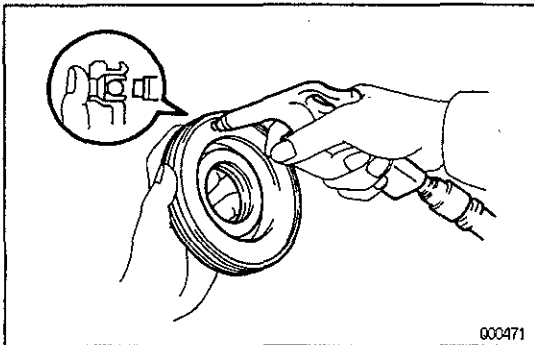
- If the lining of the disc is peeling off or discolored, or even if parts of the printed numbers are defaced, replace all discs.
- Before assembling new discs, soak them in ATF for at least fifteen minutes.

AT



2. INSPECT FRONT CLUTCH PISTON

- Check that check ball is free by shaking the piston.
- Check that the valve does not leak by applying low-pressure compressed air.



FRONT CLUTCH ASSEMBLY

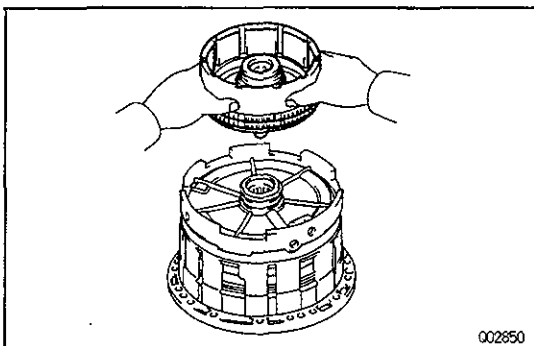
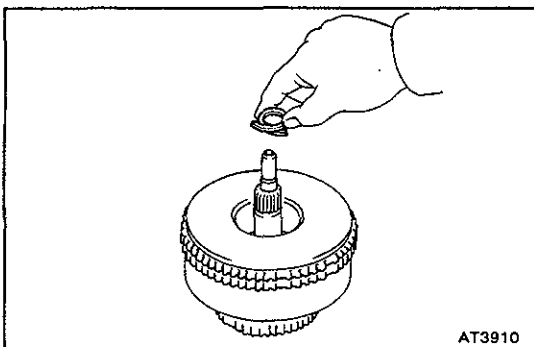
1. INSTALL OIL SEAL RING

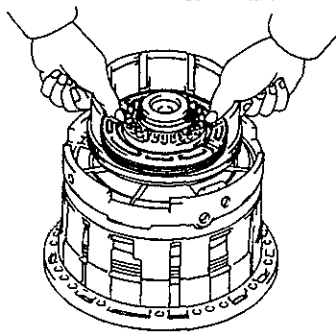
- Coat the oil seal ring with ATF.
- Contract the oil seal ring as shown, and install it onto the clutch drum.

NOTICE: Do not spread the ring seals more than necessary.

HINT: After installing the oil seal ring, check that they rotate smoothly.

2. PLACE FRONT CLUTCH DRUM ONTO OVERDRIVE CASE ASSEMBLY



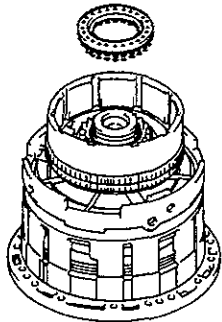


002851

3. INSTALL FRONT CLUTCH PISTON

- (a) Coat new two O—rings with ATF, and install them on the clutch piston.
- (b) Push in the clutch piston into the clutch drum by both hands.

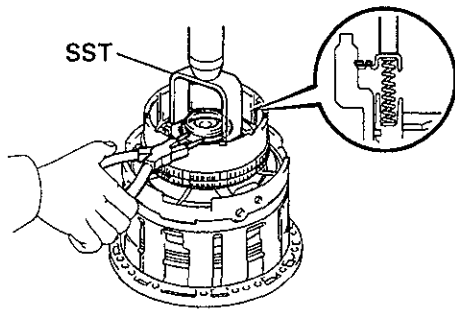
NOTICE: Be careful not to damage the O—rings.



002853

4. INSTALL PISTON RETURN SPRINGS

- (a) Install the piston return spring.



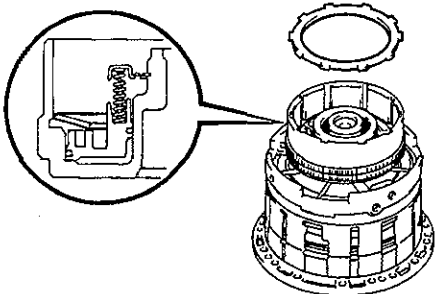
002845

- (b) Place SST on the spring seat, and compress the return springs with a shop press.

SST 09350—36010(09350—06010)

- (c) Using snap ring pliers, install the snap ring.

HINT: Be sure the end gap of the ring is not aligned with the spring seat claw.

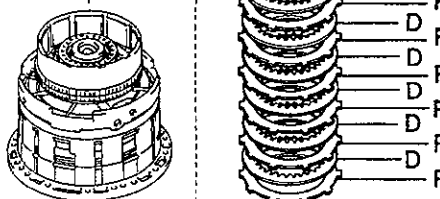


002855

5. INSTALL CUSHION PLATE, PLATES AND DISCS

- (a) Install the cushion plate, facing the rounded edge downward.

1FZ-FE



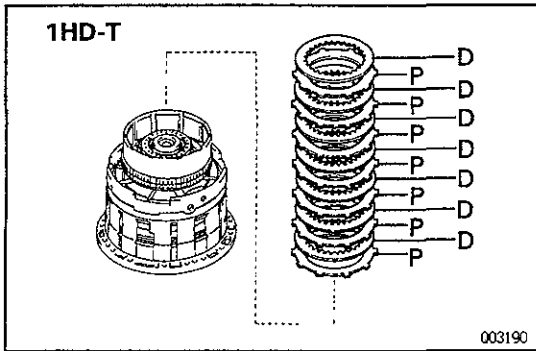
003181

- (b) (1FZ—FE Engine)

Install the six plates and six discs in order:

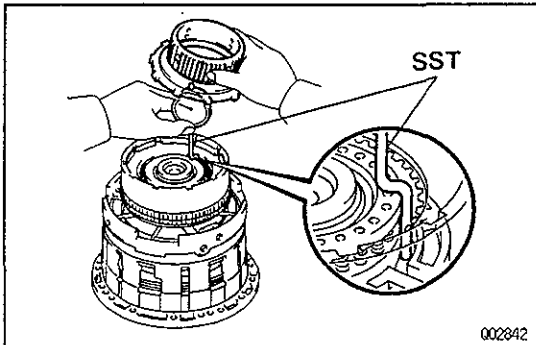
P = Plate D = Disk

P—D—P—D—P—D—P—D—P—D—P—D



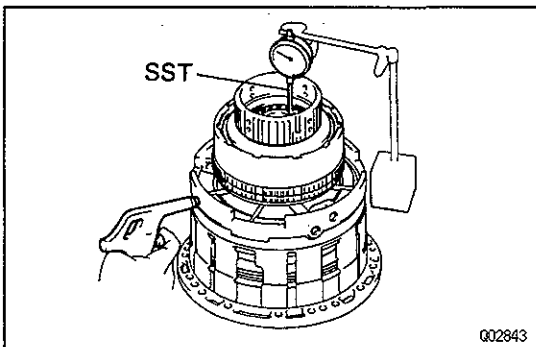
- (c) (1HD-T Engine)
 Install the seven plates and seven disks in order:
 P = Plate D = Disk
 P-D-P-D-P-D-P-D-P-D-P-D-P-D

AT



6. CHECK PISTON STROKE OF FRONT CLUTCH

- (a) Install SST to a dial indicator.
 SST 09350-36010(09350-06110)
 (b) Place the assembled SST and a dial indicator on the clutch piston.
 (c) Install the rear clutch hub with the snap ring.



- (d) Using SST and a dial indicator, measure the piston stroke by applying and releasing the compressed air 392-785 kPa (4-8 kgf/cm², 57-114 psi) as shown. SST 09350-36010(09350-06110)

Piston stroke:

3.93-4.23 mm (0.1547-0.1665 in.)

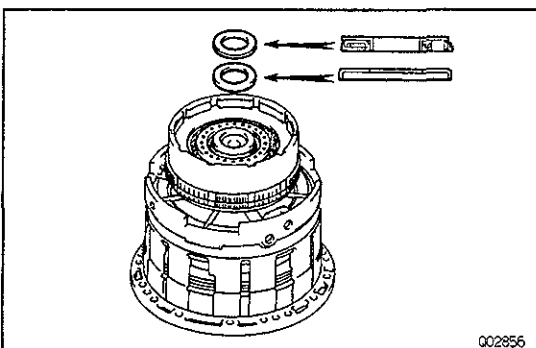
If the piston stroke is less than specified, parts may have been assembled incorrectly, check and reassemble again.

If the piston stroke is not as specified, select another plate.

HINT: There are four different thicknesses for plate.

Thickness	mm (in.)	Thickness	mm (in.)
1.8 (0.071)		2.2 (0.087)	
2.0 (0.079)		2.4 (0.094)	

- (e) Remove the snap ring and rear clutch hub.



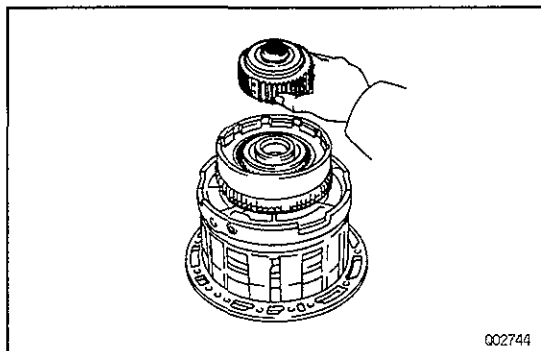
7. INSTALL FRONT AND REAR CLUTCH HUBS

- (a) Coat the race and thrust bearing with petroleum jelly, and install them onto the front clutch drum.

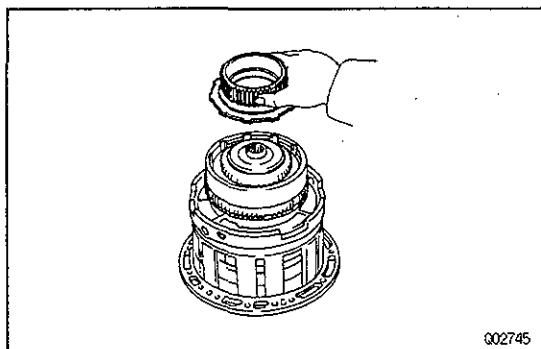
HINT: Race and bearing diameter

Diameter	mm (in.)	Inside	Outside
Bearing		32.8 (1.291)	52.0 (2.047)
Race		37.0 (1.457)	52.0 (2.047)

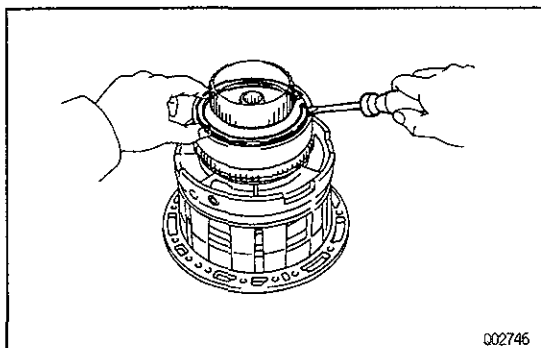
AT



- (b) Install the front clutch hub into the clutch drum.
HINT: Mesh the spline of the front clutch hub with the flukes of the discs by rotating the front clutch hub clockwise or counterclockwise.



- (c) Install the rear clutch hub onto the clutch drum.



- (d) Using a screwdriver, install the snap ring.
HINT: Be sure the end gap of the snap ring is not aligned with the cutout portion of the front clutch drum.