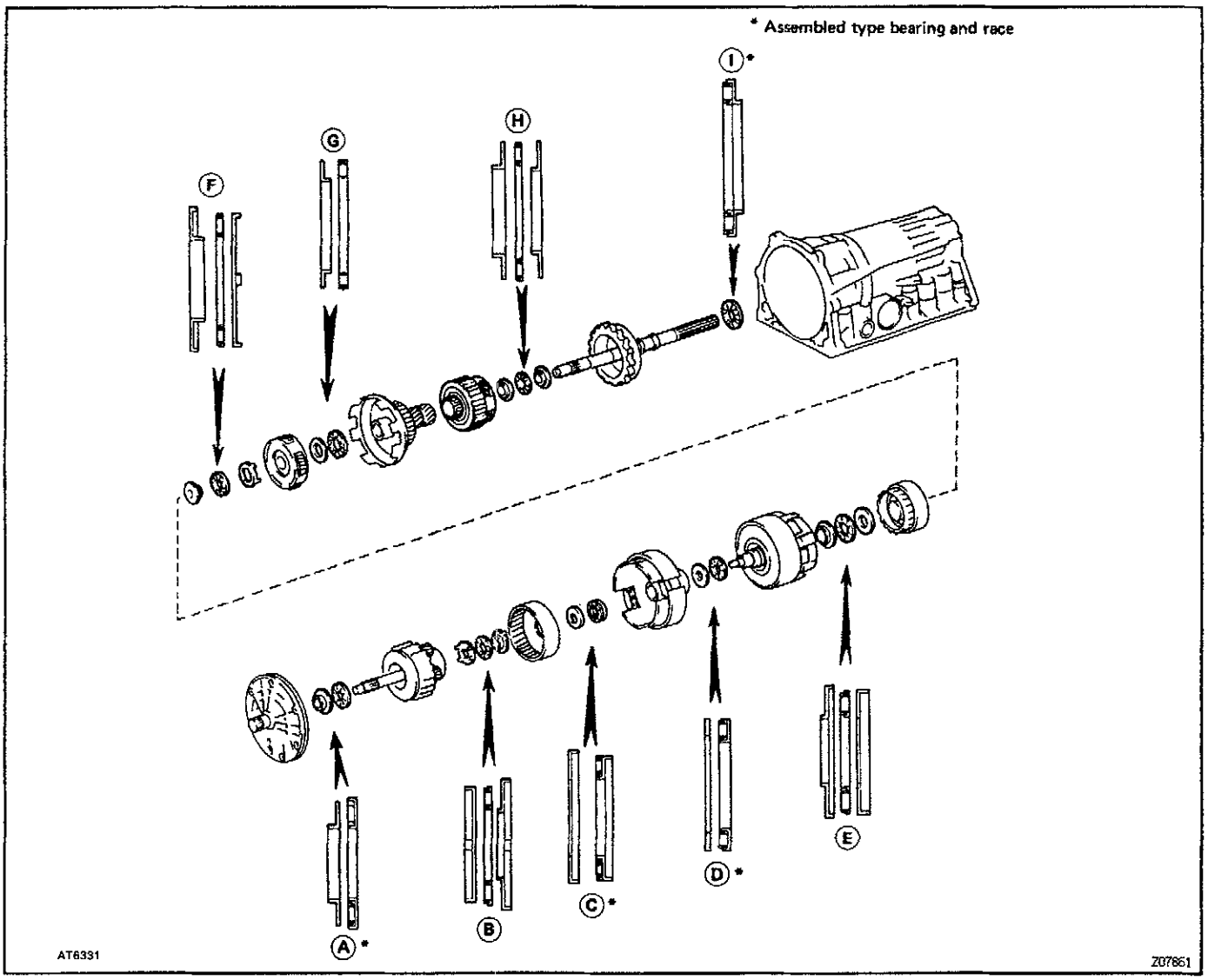
COMPONENT PARTS INSTALLATION

AT171-01

Disassembly, inspection and assembly of each component group have been indicated in the preceding chapter. Before assembly, make sure again that all component groups are assembled correctly.
If something wrong is found in a certain component group during assembly, inspect and repair this group immediately.m jelly to keep small parts in their place.

5. Do not use adhesive cements on gaskets and similar parts.
6. When assembling the transmission, be sure to use new gaskets and O—rings.
7. Dry all parts with compressed air — never use shop rags.
8. When working with FIPG material, you must observe the following.
   - Using a razor blade and gasket scraper, remove all the old FIPG material from the gasket surfaces.
   - Thoroughly clean all components to remove all the loose material.
   - Clean both sealing surfaces with a non—residue solvent.
   - Parts must be assembled within 10 minutes of application. Otherwise, the FIPG material must be removed and reapplied.

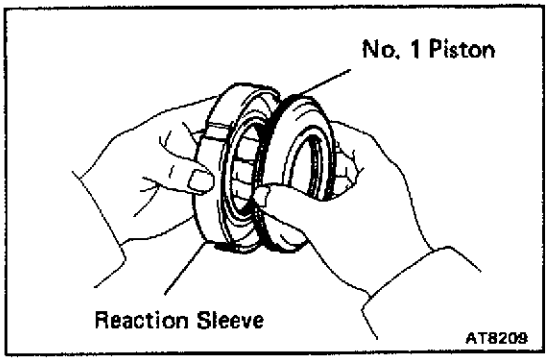
BEARINGS AND RACES INSTALLATION POSITION AND DIRECTION



Mark	Front Race Diameter Inside / Outside mm (in.)	Thrust Bearing Diameter Inside / Outside mm (in.)	Rear Race Diameter Inside / Outside mm (in.)
Ⓐ	28.080 (1.10551) / 47.500 (1.87006)	28.800 (1.13386) / 50.400 (1.98425)	–
Ⓑ	27.200 (1.07086) / 42.000 (1.65354)	25.900 (1.01968) / 47.000 (1.85039)	24.000 (0.94488) / 48.000 (1.88976)
Ⓒ	37.100 (1.46063) / 59.000 (2.32283)	33.600 (1.32283) / 50.300 (1.98031)	–
Ⓓ	37.000 (1.45669) / 51.000 (2.00787)	33.500 (1.31890) / 47.800 (1.88189)	–
Ⓔ	25.980 (1.02283) / 48.870 (1.92401)	25.900 (1.01968) / 47.000 (1.85039)	26.500 (1.04331) / 47.020 (1.85118)
Ⓕ	34.000 (1.33858) / 49.300 (1.94094)	32.500 (1.27953) / 48.000 (1.88976)	30.630 (1.20590) / 53.750 (2.11614)
Ⓖ	33.500 (1.31890) / 47.800 (1.88189)	35.400 (1.39370) / 48.000 (1.88976)	–
Ⓗ	27.600 (1.08661) / 45.000 (1.77165)	30.000 (1.18110) / 45.000 (1.77165)	28.780 (1.13307) / 45.000 (1.77165)
①	–	39.215 (1.54389) / 57.720 (2.27243)	–

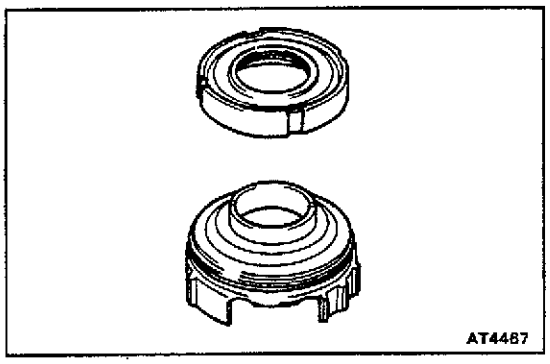
AT172-01

TRANSMISSION INSTALLATION

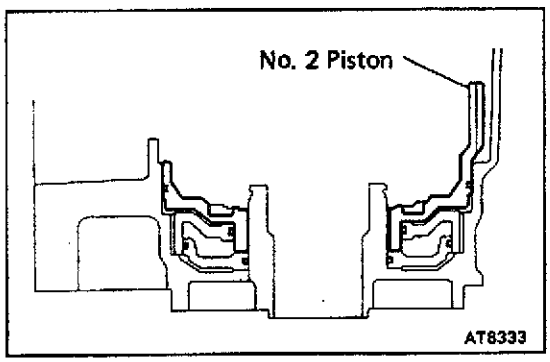


1. INSTALL COMPONENTS OF 1 ST AND REVERSE BRAKE PISTON

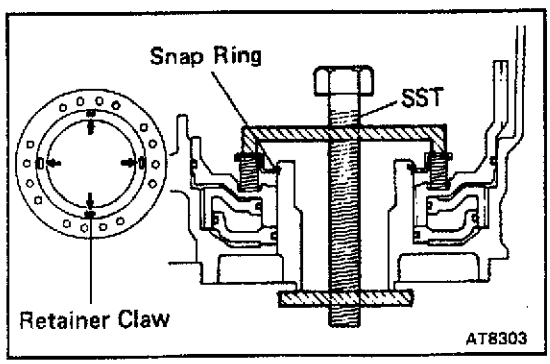
(a) Coat 3 new O—rings with ATF.
(b) Install the 2 O—rings on the No.1 piston.
(c) Install the O—ring on the reaction sleeve.
(d) Install the No.1 piston to the reaction sleeve.



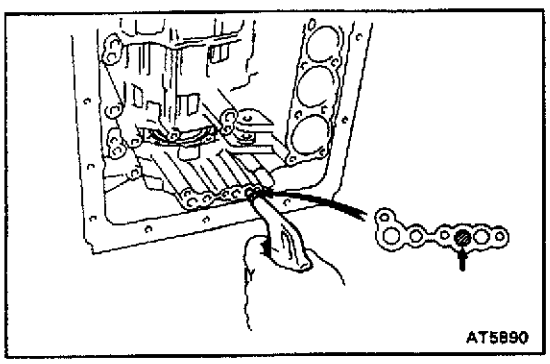
(e) Coat a new O—ring with ATF and install it on the No. 2 piston.
(f) Install the No.1 piston with the reaction sleeve onto the No.2 piston.



(g) Align the teeth of the No.2 piston into the proper grooves.
(h) Being careful not to damage the O—rings, press in the No.2 and No.1 1st and reverse brake pistons into the transmission case.
(i) Place the piston return spring onto the No.2 piston.

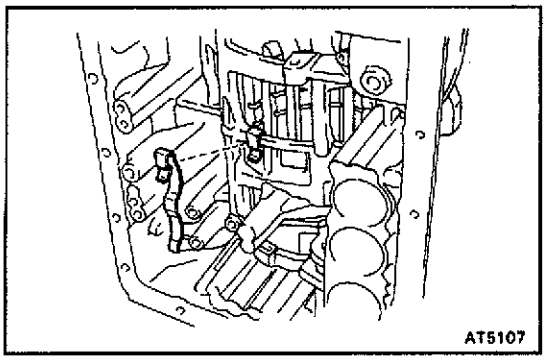


(j) Set SST as shown, and compress the return spring with SST.
SST 09350—30020 (09350—07050)
(k) Install the snap ring with a screwdriver. Be sure the end gap of the snap ring is not aligned with the spring retainer claw.

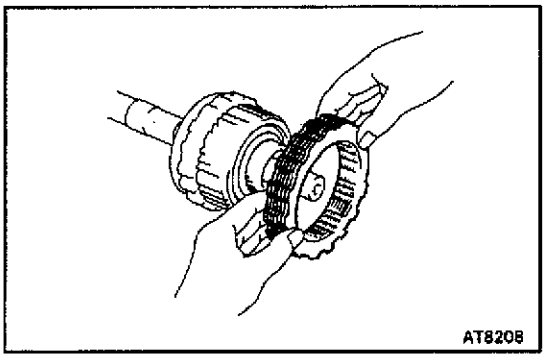


2. CHECK PISTON STROKE OF 1ST AND REVERSE BRAKE

Make sure the 1st and reverse brake pistons move smoothly when applying and releasing the compressed air into the transmission case.


AT5107

3. INSTALL LEAF SPRING

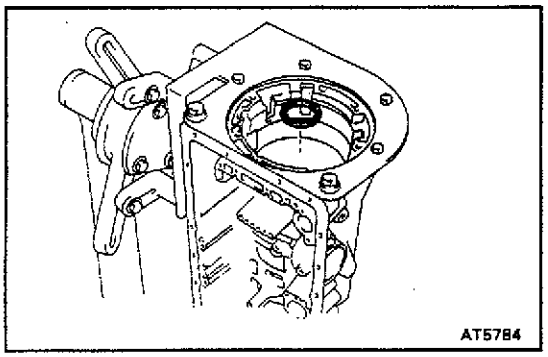

AT8208

4. INSTALL REAR PLANETARY GEAR UNIT WITH 2ND BRAKE DRUM, 1ST AND REVERSE BRAKE PACK AND OUTPUT SHAFT

(a) Install the flange, the rounded edge facing forward.

(b) Reinstall the plates and discs.
Install in order: P = Plate D = Disc
D–P–D–P–D–P–D–P–D–P–D–P

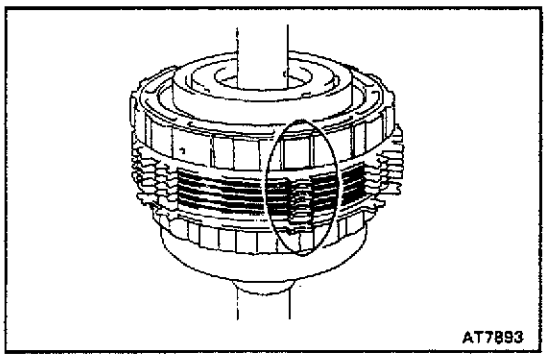
(c) Install the 2nd brake drum assembly.


AT5784

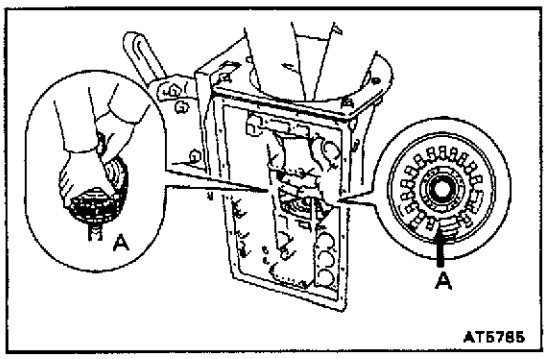
(d) Coat the assembled bearing and race with petroleum jelly and install it onto the case.
Assembled bearing and race diameter

mm (in.)

	Inside	Outside
Assembled bearing and race	39.215 (1.54389)	57.720 (2.27243)


AT7893

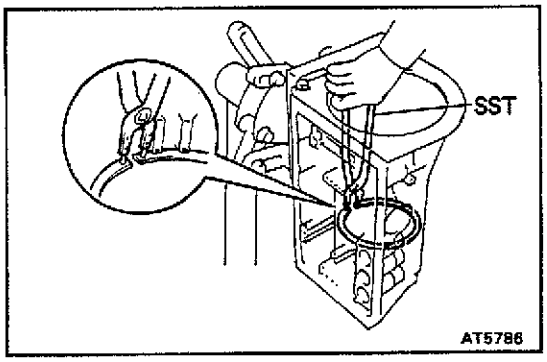
(e) Align the teeth of the 2nd brake drum, flange, discs and plates.



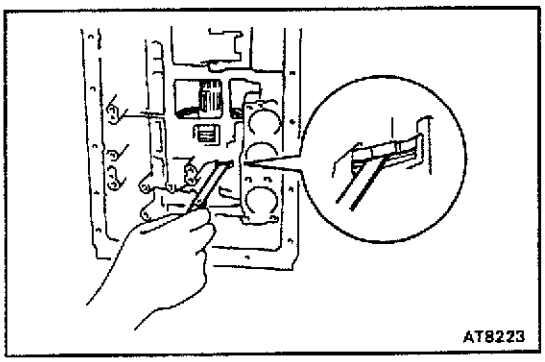
AT5785

(f) Align the splines of the transmission case and the assembled rear planetary gear, 2nd brake drum, 1st and reverse brake pack and output shaft, indicated by A.

(g) Hold the output shaft with wooden blocks or equivalents.



(h) Using SST, install the snap ring.
SST 09350—30020 (09350—07060)



5. CHECK PACK CLEARANCE OF 1ST AND REVERSE BRAKE

Using a feeler gauge, measure the clearance between the plate and 2nd brake drum.

Clearance: 0.60 — 1.12 mm (0.0236 — 0.0441 in.)

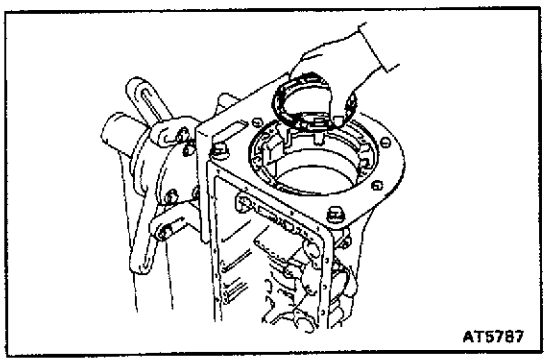
If the values are non—standard, select another flange.

HINT: There are 6 different thicknesses for the flange.

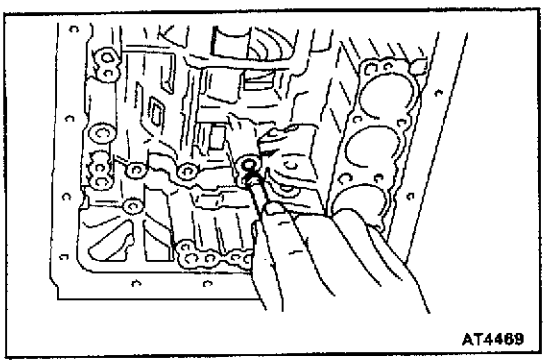
Flange thickness

mm (in.)

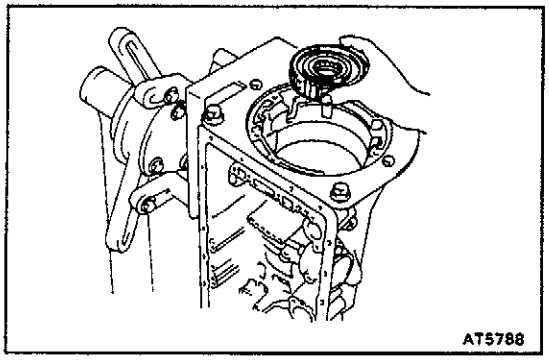
No.	Thickness	No.	Thickness
50	5.0 (0.197)	53	4.4 (0.173)
51	4.8 (0.189)	54	4.2 (0.165)
52	4.6 (0.181)	55	4.0 (0.157)



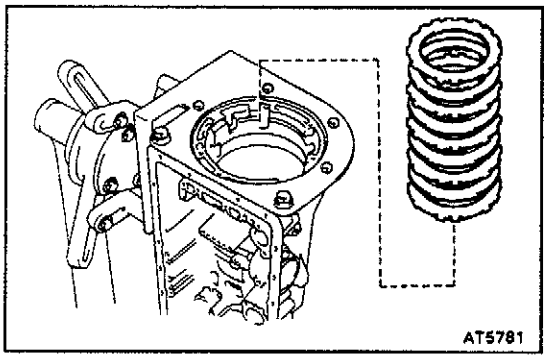
6. INSTALL 2ND BRAKE PISTON SLEEVE



7. INSTALL NEW BRAKE DRUM GASKET



8. INSTALL NO.1 ONE–WAY CLUTCH



9. INSTALL FLANGE, PLATES AND DISCS OF 2ND BRAKE

(a) Install the 1.8 mm (0.071 in.) thick plate with the rounded edge side of the plate facing the disc.

(b) Install the plates and discs.

Plate thickness: 2.5 mm (0.098 in.)

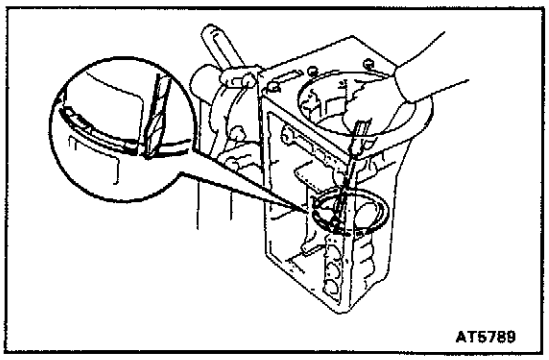
Install in order: P = Plate D = Disc

3RZ–FE

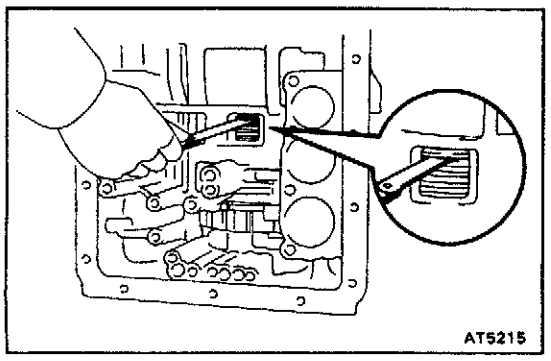
D–P–D–P–D–P

5VZ–FE, 1KZ–TE

D–P–D–P–D–P–D–P



(c) Using a screwdriver, install the snap ring.



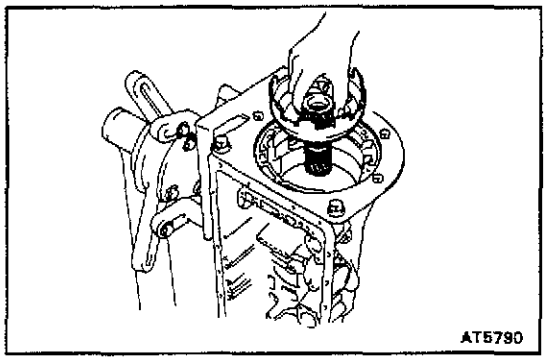
10. CHECK PACK CLEARANCE OF 2ND BRAKE

Using a feeler gauge, measure the clearance between the snap ring and flange.

Clearance: 0.62 – 1.98 mm (0.0244 – 0.0780 in.)

If the values are non–standard, check for an improper installation.

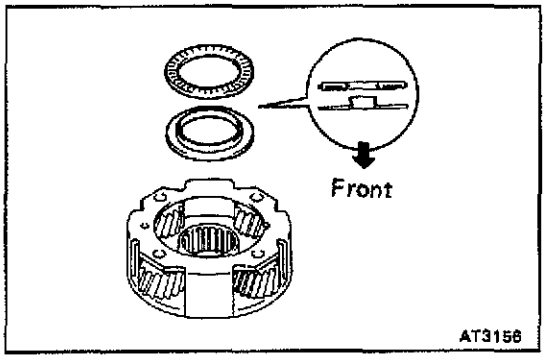
AT



11. INSTALL PLANETARY SUN GEAR

While turning the planetary sun gear clockwise, install it into the No.1 one—way clutch.

HINT: Confirm the thrust washer is installed correctly.



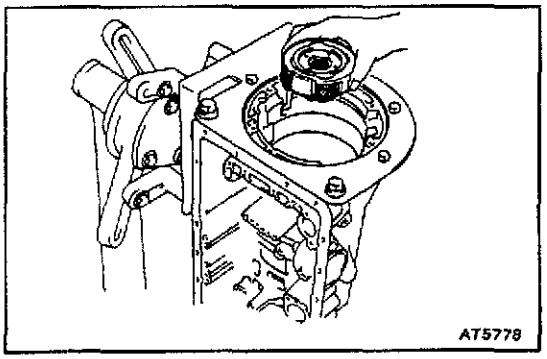
12. INSTALL FRONT PLANETARY GEAR

(a) Coat the bearing and race with petroleum jelly and install them onto the front planetary gear.

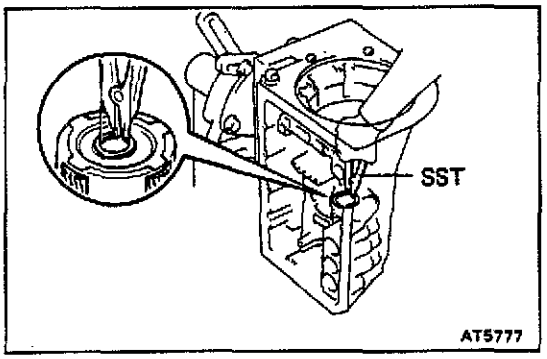
Bearing and race diameter

mm (in.)

	Inside	Outside
Bearing	35.400 (1.39370)	48.000 (1.88976)
Race	33.500 (1.31890)	47.800 (1.88189)

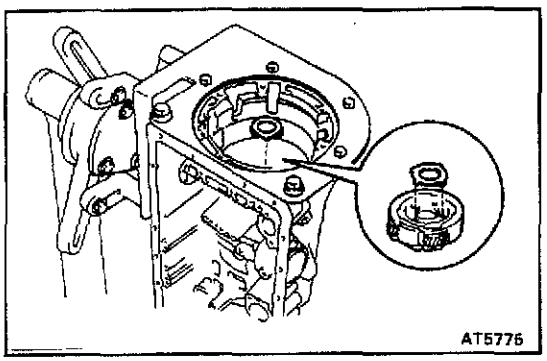


(b) Install the front planetary gear to the sun gear.



(c) Using SST, install the snap ring.
SST 09350—30020 (09350—07070)

(d) Remove the wooden blocks or equivalent under the output shaft.

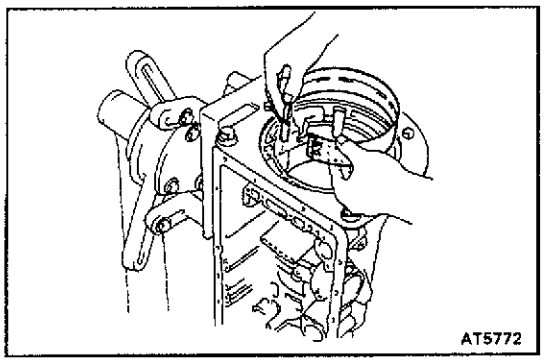


(e) Coat the bearing race with petroleum jelly and install it onto the front planetary gear.

Race diameter

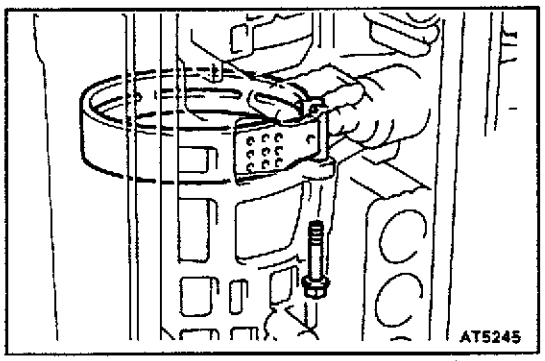
mm (in.)

	Inside	Outside
Race	30.630 (1.20590)	53.750 (2.11614)

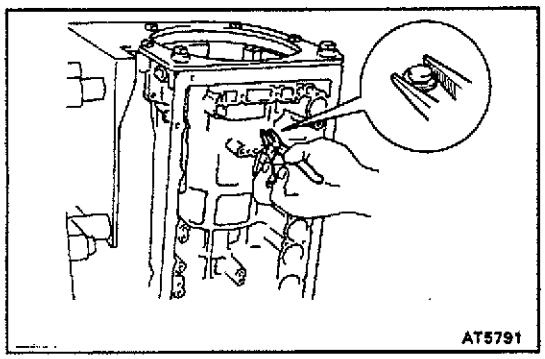

AT5772

13. INSTALL 2ND COAST BRAKE BAND

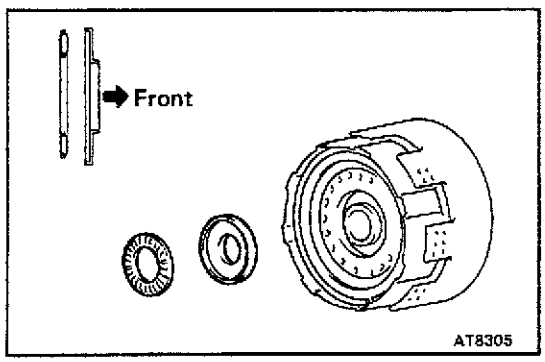
(a) Install the 2nd coast brake band to the case.


AT5245

(b) Install the pin through the brake band.


AT5791

(c) Using needle—nose pliers, install the E—ring to the pin.



AT8305

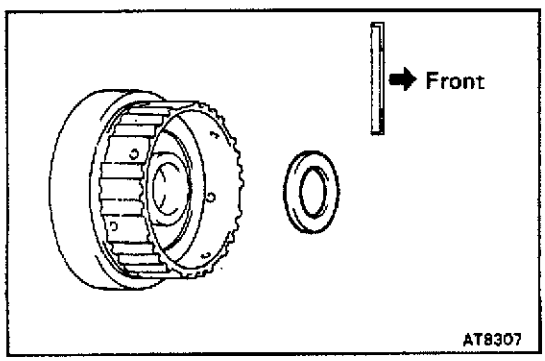
14. INSTALL FRONT PLANETARY RING GEAR TO FORWARD AND DIRECT CLUTCH

(a) Coat the bearing and race with petroleum jelly and install them onto the forward clutch.

Bearing and race diameter

mm (in.)

	Inside	Outside
Bearing	25.980 (1.02283)	48.870 (1.92401)



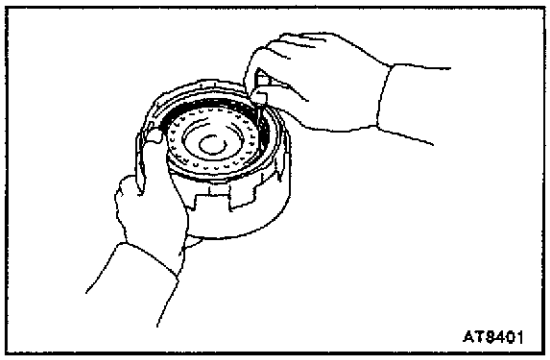
AT8307

(b) Coat the race with petroleum jelly and install it onto the front planetary ring gear.

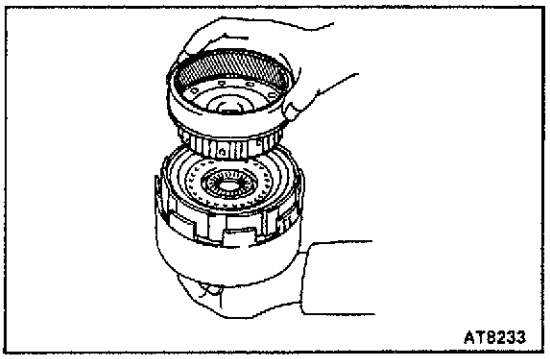
Race diameter

mm (in.)

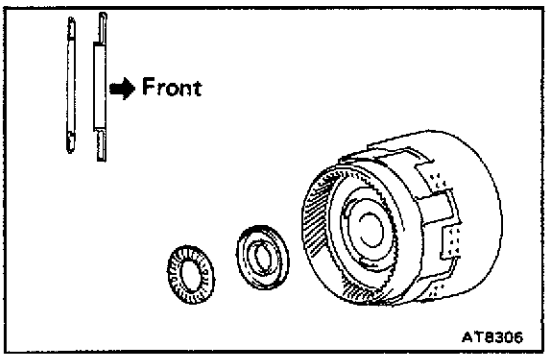
	Inside	Outside
Race	26.500 (1.04331)	47.020 (1.85118)



(c) Align the flukes of the discs in the forward clutch.



(d) Align the splines of the front planetary ring gear with the flukes of the discs and install the front planetary ring gear to the forward cluch.



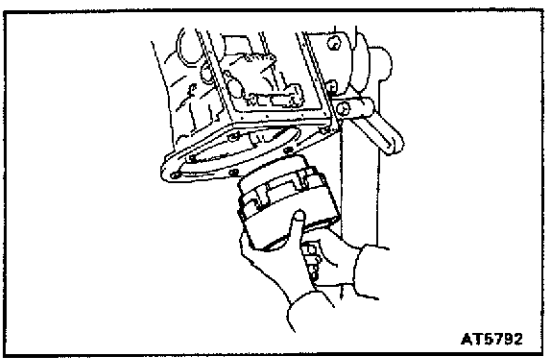
15. INSTALL ASSEMBLED DIRECT CLUTCH, FORWARD CLUTCH AND FRONT PLANETARY RING GEAR INTO CASE

(a) Coat the bearing and race with petroleum jelly and install them onto the ring gear.

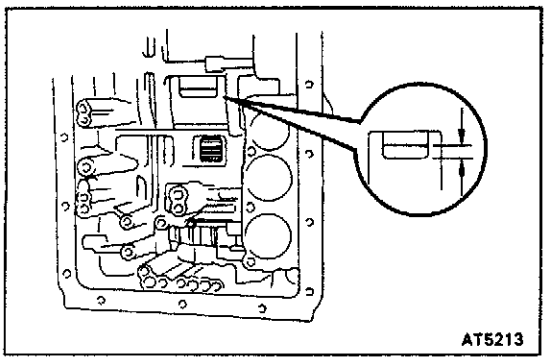
Bearing and race diameter

mm (in.)

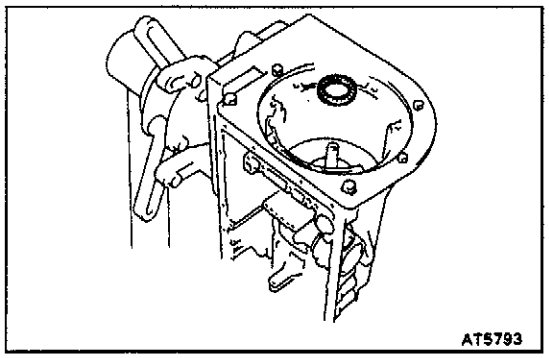
	Inside	Outside
Bearing	32.500 (1.27953)	48.000 (1.88976)
Race	34.000 (1.33858)	49.300 (1.94094)



(b) Install the assembled direct clutch, forward clutch and front planetary ring gear into the transmission case.



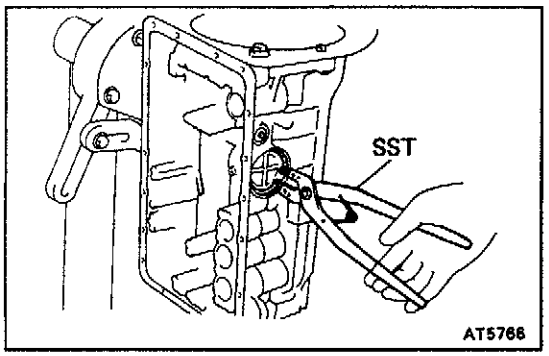
(c) Using vernier calipers, measure the distance between the sun gear input drum and direct clutch drum.
Height: 5.3 — 7.3 mm (0.209 — 0.287 in.)
If the values are non—standard, check for an improper installation.



(d) Coat the assembled bearing and race with petroleum jelly and install it onto the forward clutch.
Assembled bearing and race diameter

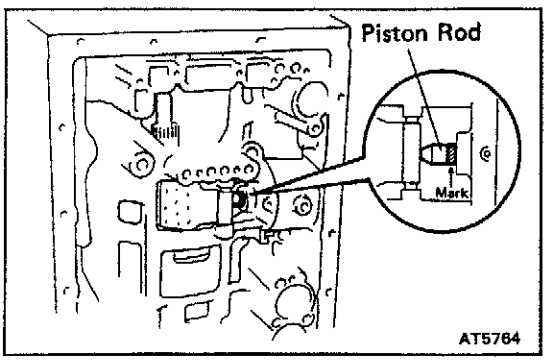
mm (in.)

	Inside	Outside
Assembled bearing	33.500 (1.31890)	47.800 (1.88189)



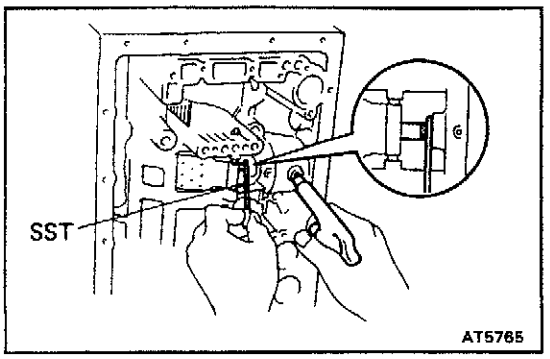
16. INSTALL 2ND COAST BRAKE COVER, PISTON ASSEMBLY AND SPRING

(a) Coat 2 new O—rings with ATF and install them to the cover.
(b) Install the spring, piston assembly and cover to the case.
(c) Using SST, install the snap ring.
SST 09350—30020 (09350—07060)

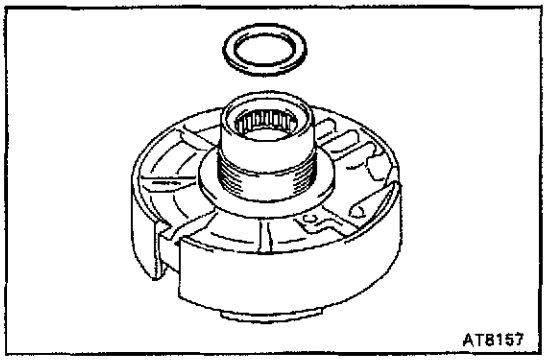


17. CHECK PISTON ROD STROKE OF 2 ND COAST BRAKE

(a) Place a mark on the 2nd coast brake piston rod.



(b) Using SST, measure the stroke while applying and releasing compressed air (392—785 kPa, 4—8 kgf/cm², 57—114 psi).
SST 09240—00020
Piston rod stroke: 1.5 — 3.0 mm (0.059 — 0.118 in.)
If it is still more than standard value, replace the brake band with a new one.



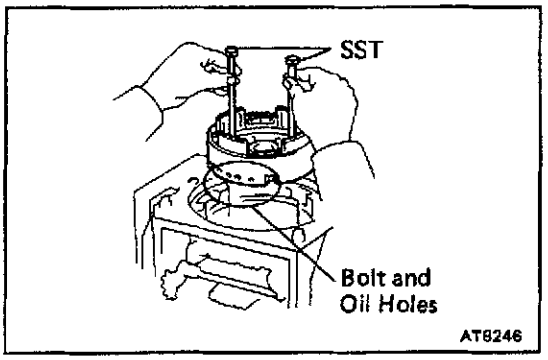
18. INSTALL O/D SUPPORT ASSEMBLY

(a) Coat the race with petroleum jelly and install it onto the O/D support assembly.

Race diameter

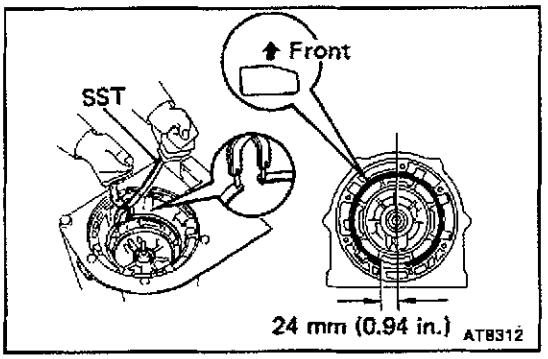
mm (in.)

	Inside	Outside
Race	37.000 (1.45669)	51.000 (2.00787)

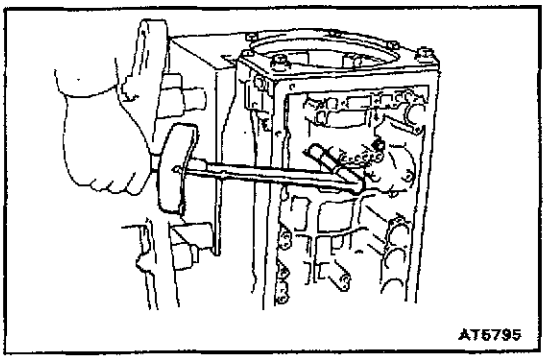


(b) Using 2 bolts of SST, aim the bolt and oil holes of the O/D support toward the valve body side, and align them with the bolt holes of the transmission case and insert.
SST 09350–30020 (09350–07020)

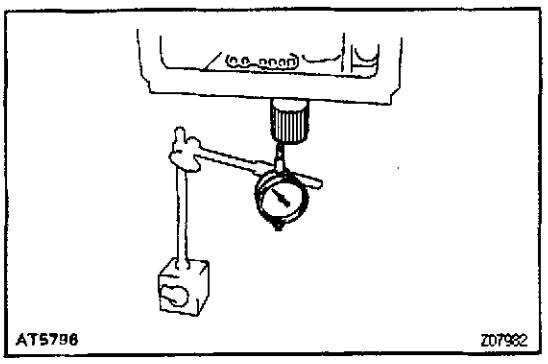
(c) Temporarily tighten the 2 bolts.



(d) Using SST, install the snap ring.
SST 09350–30020 (09350–07060)
HINT: Install the snap ring open end toward the valve body.



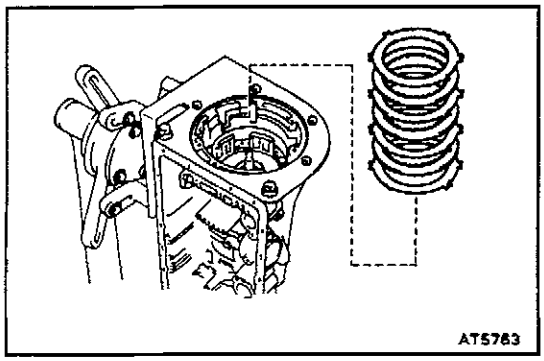
(e) Torque the 2 bolts.
Torque: 25 N·m (260 kgf·cm, 19 ft·lbf)



19. CHECK OUTPUT SHAFT

(a) Using a dial indicator, measure the end play of the output shaft with hand.
End play: 0.27 – 0.86 mm (0.0106 – 0.0339 in.)
If the values are non–standard, check for an improper installation.

(b) Check to see that output shaft rotates smoothly.


AT5763

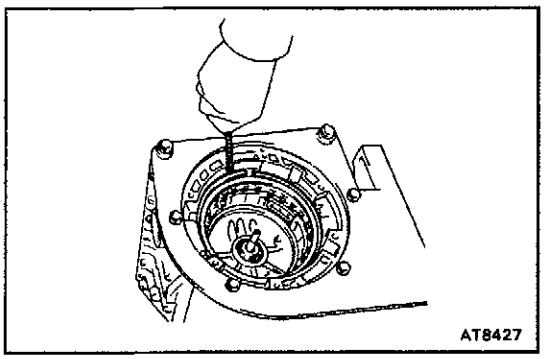
20. INSTALL FLANGES, PLATES AND DISCS OF O/D BRAKE

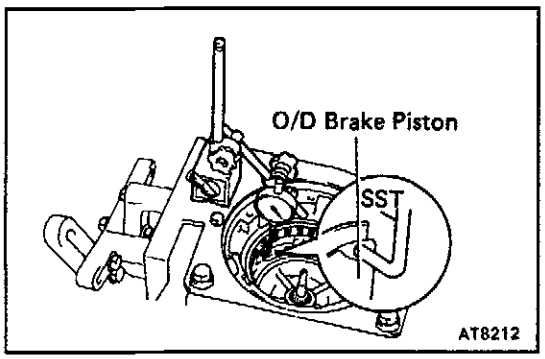
(a) Install the 4.0 mm (0.157 in.) thick flange (flat ring) with the rounded edge side of the flange facing the discs.

(b) Install the plates and discs.
Install in order: P = Plate D = Disc
1KZ–TE
D–P–D–P–D
3RZ–FE, 5VZ–FE
D–P–D–P–D–P–D

(c) Install the flange (stepped ring) with the flat side of the flange facing the disc.

(d) Using a screwdriver, install the snap ring.

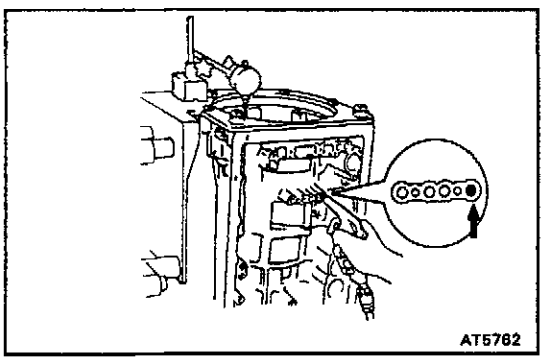

AT8427



AT8212

21. CHECK PISTON STROKE OF O/D BRAKE

(a) Place SST and a dial indicator onto the O/D brake piston.
SST 09350–30020 (09350–06120)


AT5762

(b) Measure the stroke while applying and releasing compressed air (392–785 kPa, 4–8 kgf/cm², 57–114 psi).

Piston stroke:

3RZ–FE, 5VZ–FE:
1.40 – 1.70 mm (0.0551 – 0.0670 in.)
1kZ–TE:
1.32 – 1.62 mm (0.0520 – 0.0638 in.)

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

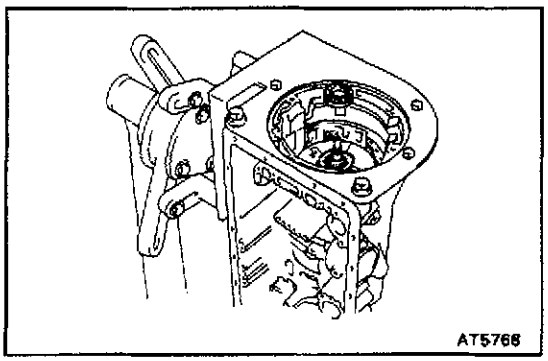
If the piston stroke is nonstandard, select another flange.

HINT: There are 7 different thicknesses for the flange.

Flange thickness

mm (in.)

No.	Thickness	No.	Thickness
77	3.3 (0.130)	81	3.8 (0.150)
78	3.5 (0.138)	82	3.9 (0.154)
79	3.6 (0.142)	None	4.0 (0.157)
80	3.7 (0.146)	–	–



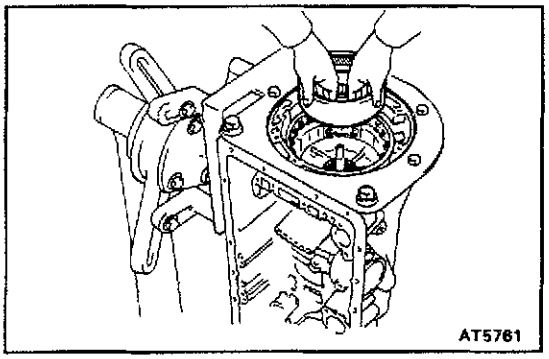
22. INSTALL O/D PLANETARY GEAR UNIT WITH O/D DIRECT CLUTCH AND ONE–WAY CLUTCH

(a) Coat the assembled bearing and race with petroleum jelly and install it onto the O/D support.

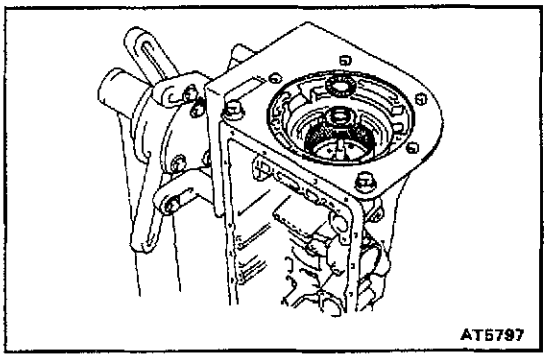
Assembled bearing and race diameter

mm (in.)

	Inside	Outside
Assembled bearing	37.100 (1.46063)	59.000 (2.32283)



(b) Install the O/D planetary ring gear.

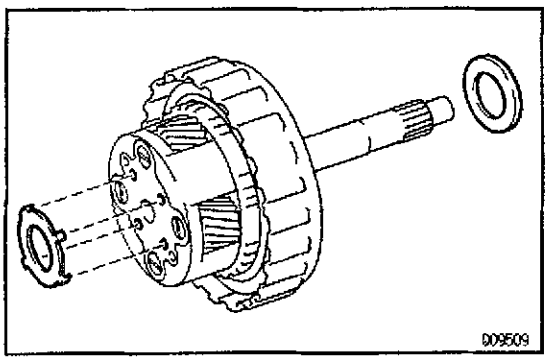


(c) Coat the bearing and race with petroleum jelly and install them onto the planetary ring gear.

Bearing and race diameter

mm (in.)

	Inside	Outside
Bearing	25.900 (1.01968)	47.000 (1.85039)
Race	24.000 (0.94488)	48.000 (1.88976)

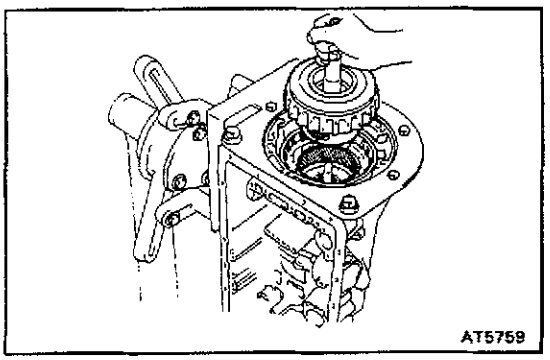


(d) Coat the race with petroleum jelly and install it onto the planetary gear.

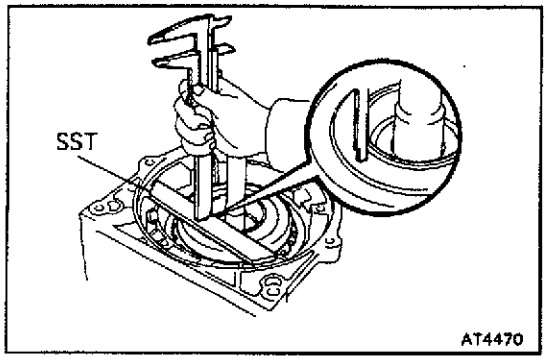
Race diameter

mm (in.)

	Inside	Outside
Race	27.200 (1.07086)	42.000 (1.65354)

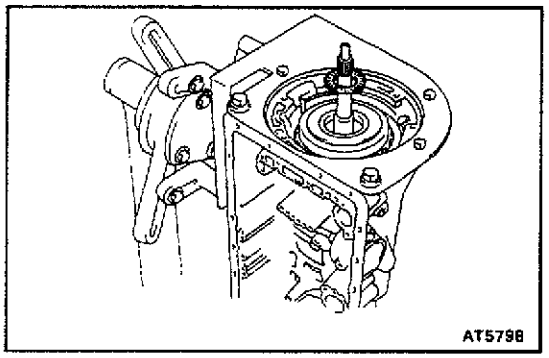


(e) Install the O/D planetary gear with the O/D direct clutch and one–way clutch.



(f) Place SST on the transmission case.
SST 09350–36010 (09350–06090)

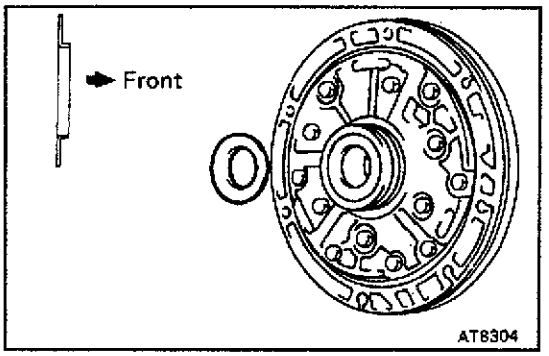
(g) Using calipers, measure distance between the tops of SST and the clutch drum.
Standard distance: 15.5 – 16.5 mm (0.610 – 0.650 in.)
If the values are non–standard, check for an improper installation.



(h) Coat the assembled bearing and race with petroleum jelly and install it onto the O/D direct clutch.
Assembled bearing and race diameter

mm (in.)

	Inside	Outside
Assembled bearing	28.800 (1.13386)	50.400 (1.98425)



23. INSTALL OIL PUMP INTO CASE

(a) Coat the race with petroleum jelly and install it onto the oil pump.
Bearing diameter

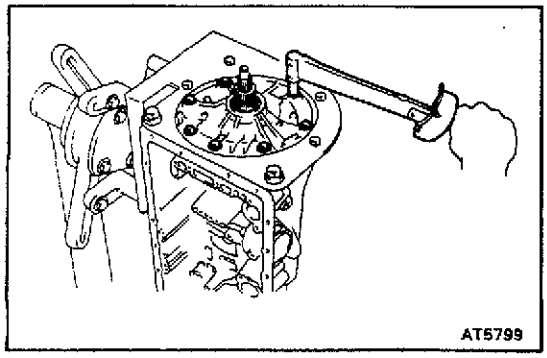
mm (in.)

	Inside	Outside
Race	28.080 (1.10551)	47.500 (1.87006)

(b) Coat a new O–ring with ATF and install it around the pump body.

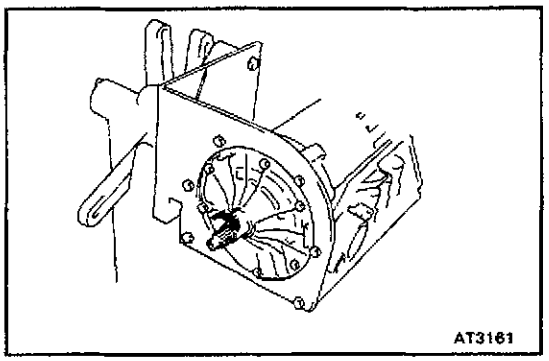
(c) Place the oil pump through the input shaft, and align the bolt holes of the pump body with the transmission case.

(d) Hold the input shaft, and lightly press the oil pump body to slide the oil seal rings into the O/D direct clutch drum.
NOTICE: Do not push on the oil pump strongly, or the oil seal ring will stick to the direct clutch drum.



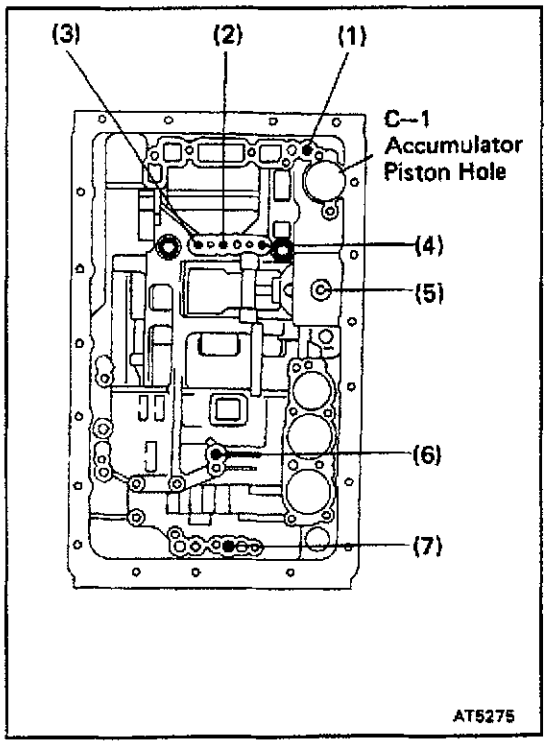
(e) Install the 7 bolts.
Torque: 22 N·m (220 kgf·cm, 16 ft·lbf)

AT



24. CHECK INPUT SHAFT ROTATION

Make sure the input shaft rotates smoothly.



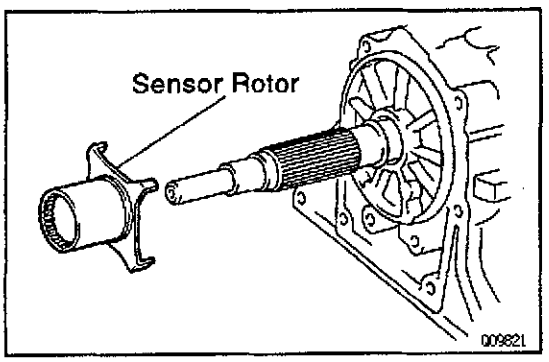
25. INDIVIDUAL PISTON OPERATION INSPECTION

Check for the sound of operation while applying compressed air into the oil hole indicated in the illustration.

HINT: When inspecting the O/D direct clutch, check with the C_0 accumulator piston hole closed.

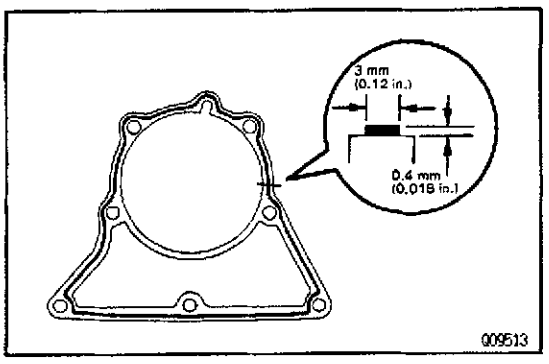
If there is no noise, disassemble and check the installation condition of the parts.

(1) O/D direct clutch
(2) Direct clutch
(3) Forward clutch
(4) O/D brake
(5) 2nd coast brake



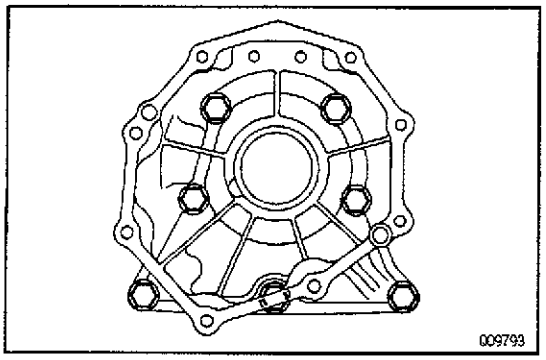
26. INSTALL SPEED SENSOR ROTOR AND KEY

(a) Install the key on the output shaft.
(b) Align the groove of the sensor rotor with the key, install the sensor rotor.
(c) Using snap ring pliers, install the snap ring.

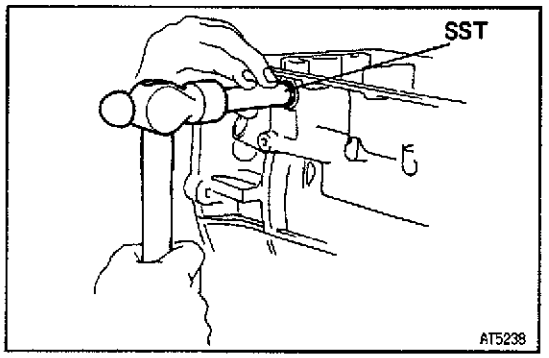


27. INSTALL TRANSFER CASE

(a) Clean contacting surface of any residual packing material using gasoline alcohol.
(b) Apply FIPG to the case.
FIPG: Part No. 08826–00090, THREE BOND 1281 or equivalent



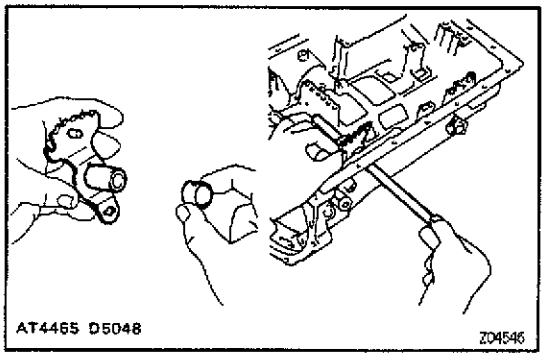
(c) Install the case and torque the 7 bolts.
Torque: 34 N·m (345 kgf·cm, 25 ft·lbf)



28. INSTALL MANUAL VALVE LEVER, SHAFT AND OIL SEALS

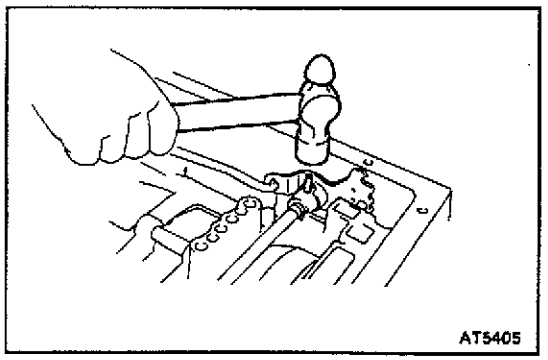
(a) Using SST and a hammer, drive in 2 new oil seals.
SST 09350−30020 (09350−07110)

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

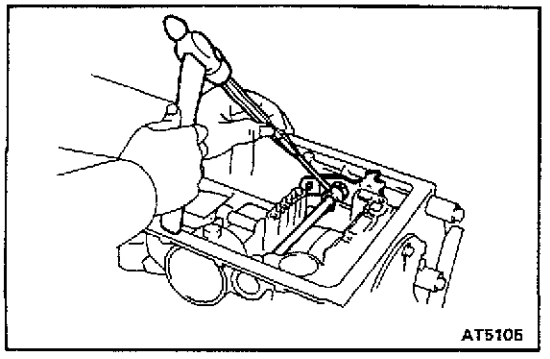


(c) Install a new spacer to the manual valve lever.

(d) Install the manual valve lever shaft to the transmission case through the manual valve lever.

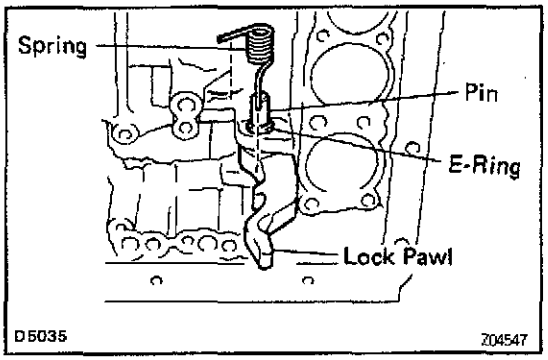


(e) Using a hammer, drive in a new spring pin.



(f) Match the manual valve lever indentation with the spacer hole and caulk them the punch.

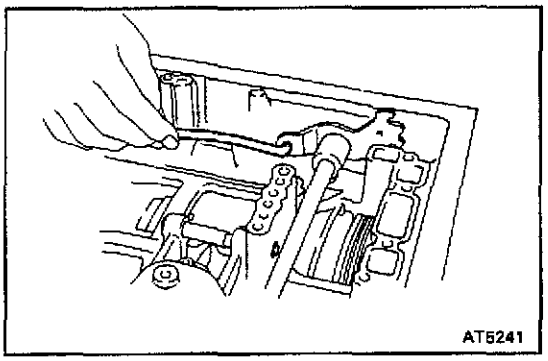
(g) Make sure the shaft rotates smoothly.



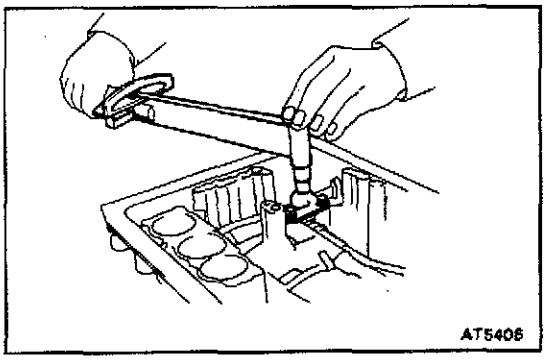
29. INSTALL PARKING LOCK PAWL AND ROD

(a) Install the E–ring to the shaft.

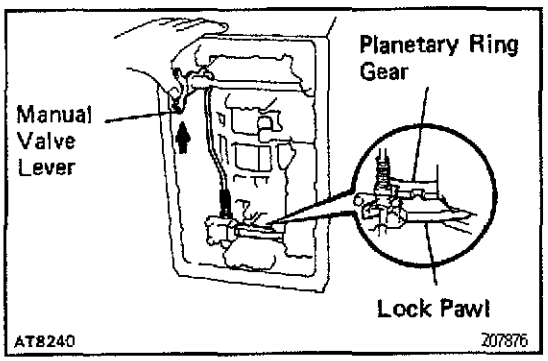
(b) Install the parking lock pawl, shaft and spring.



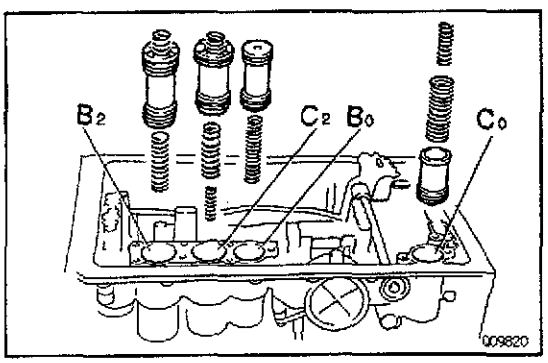
(c) Connect the parking lock rod to the manual valve lever.



(d) Place the parking lock pawl bracket onto the transmission case and torque the 3 bolts.
Torque: 7.4 N·m (75 kgf·cm, 65 in.·lbf)



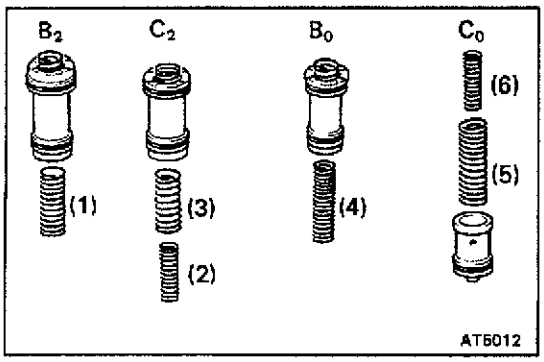
(e) Shift the manual valve lever to the P position, and confirm the planetary ring gear is correctly locked up by the lock pawl.



30. INSTALL ACCUMULATOR SPRINGS AND PISTONS

(a) Coat new O–rings with ATF and install them to the pistons.

(b) Install the 6 springs and pistons to the bore.



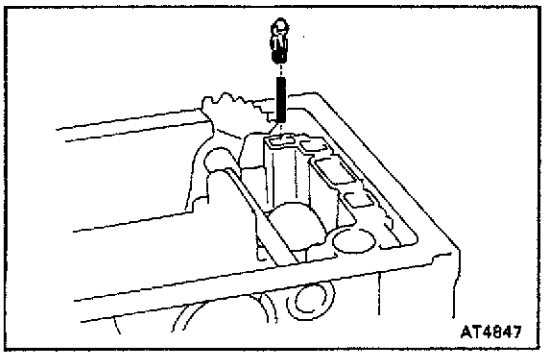
HINT: The pistons are marked in relief with either C_0, B_0, C_2 or B_2 to differentiate between them.

- **Accumulator Spring**

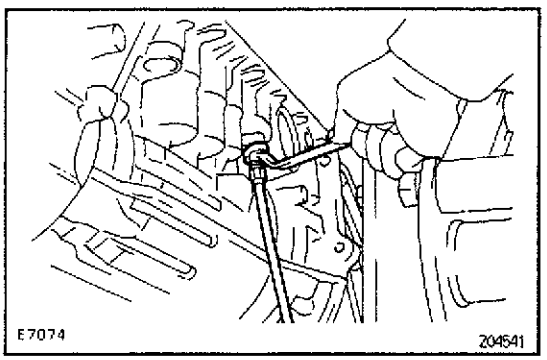
mm (in.)

Spring		Free length	Color
(1) B_2	3RZ–FE	70.50 (2.7756)	White
	5VZ–FE	70.50 (2.7756)	Yellow
	1KZ–TE	72.55 (2.8563)	Grey
(2) C_2	Inner	42.06 (1.6559)	Pink
(3) C_2			
	3RZ–FE, 5VZ–FE	64.00 (2.5197)	Green
	1KZ–TE	68.53 (2.6980)	Bule
(4) B_0			
	3RZ–FE, 1KZ–TE	62.00 (2.4409)	Green
	5VZ–FE	63.60 (2.5039)	Red
(5) C_0	Inner	46.00 (1.8110)	Yellow
(6) C_0	Outer	74.60 (2.9370)	Orange

AT



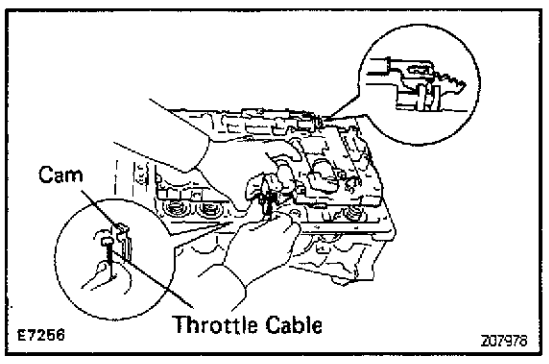
31. INSTALL CHECK BALL BODY AND SPRING



32. INSTALL THROTTLE CABLE

(a) Coat a new O–ring with ATF and install it to the cable.

(b) Install the cable to the case.



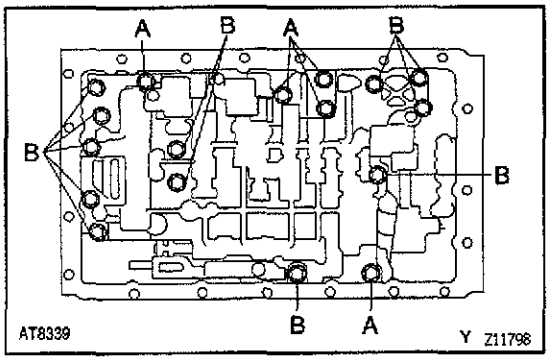
AT173–01

33. INSTALL VALVE BODY

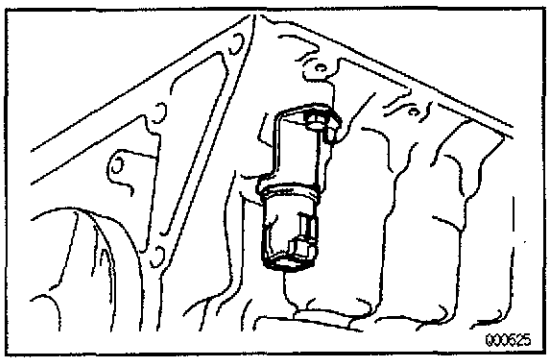
(a) Align the groove of the manual valve to pin of the lever.

(b) Connect the throttle cable to the cam.

(c) Confirm the springs into the accumulator pistons are installed correctly.

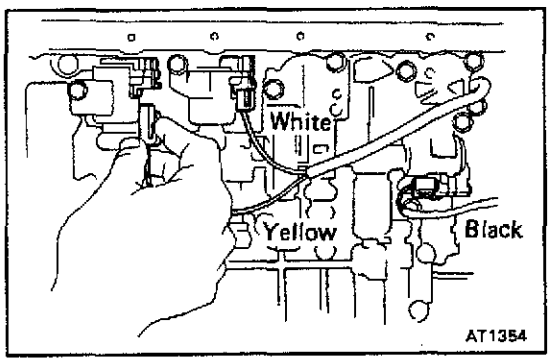


(d) Install the 17 bolts.
Torque: 10 N·m (100 kgf·cm, 7 ft·lbf)
HINT: Each bolt length is indicated in the illustration.
Bolt length:
Bolt A: 23 mm (0.91 in.)
Bolt B: 32 mm (1.26 in.)

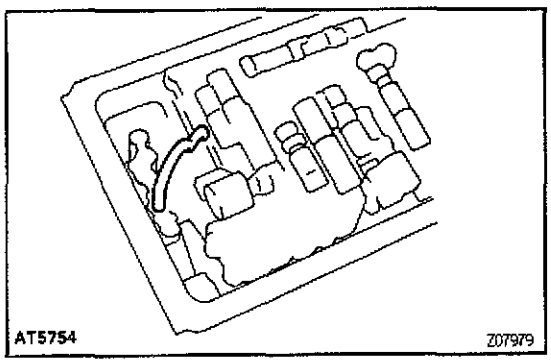


34. INSTALL TRANSMISSION SOLENOID WIRING

(a) Coat a new O–ring with ATF and install it to the grommet.
(b) Insert the solenoid wiring to the case and install the stopper plate.

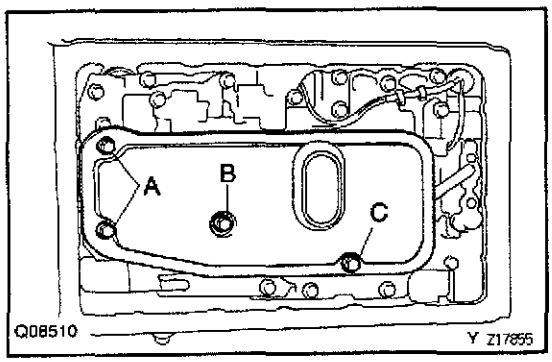


(c) Connect the connectors to the No.1, No.2 and SL solenoid valves.



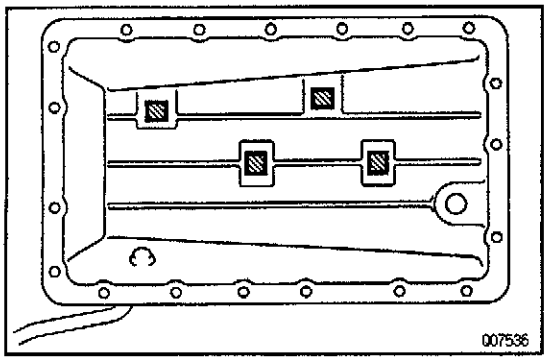
35. INSTALL OIL PIPE

Using a plastic hammer, install the pipe into position.
NOTICE: Be careful not to bend or damage the pipe.



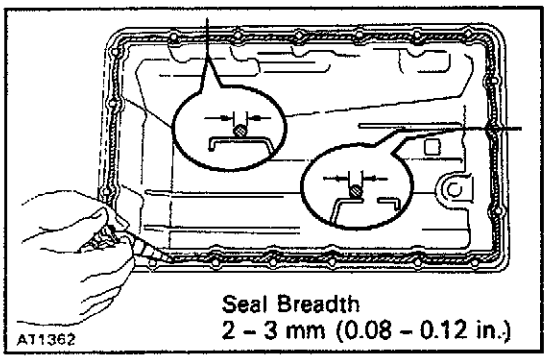
36. INSTALL OIL STRAINER AND GASKETS

(a) Install 2 new gaskets to the oil strainer.
(b) Install the oil strainer and torque the 4 bolts.
Torque: 10 N·m (100 kgf·cm, 7 ft·lbf)
Bolt length:
Bolt A: 16 mm (0.63 in.)
Bolt B: 20 mm (0.79 in.)
Bolt C: 28 mm (1.10 in.)



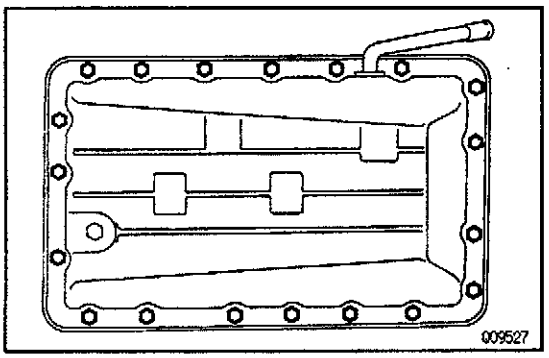
37. INSTALL OIL PAN

(a) Install the 4 magnets.

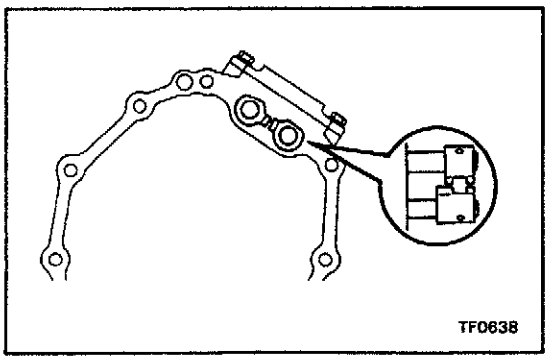


(b) Remove any packing material and be careful not to drop oil on the contacting surfaces of the transmission case and oil pan.

(c) Apply FIPG to the oil pan.
FIPG: Part No. 08826–00090, THREE BOND 1281 or equivalent

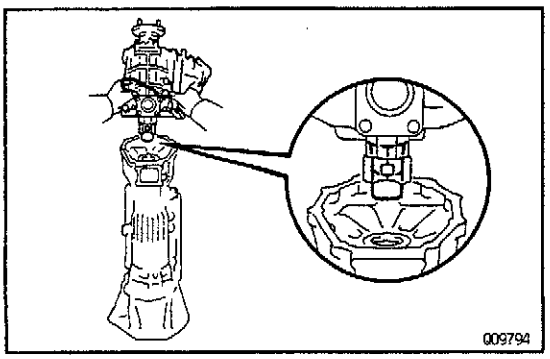


(d) Install and torque the 11 bolts.
Torque: 7.4 N·m (75 kgf·cm, 65 in.·lbf)



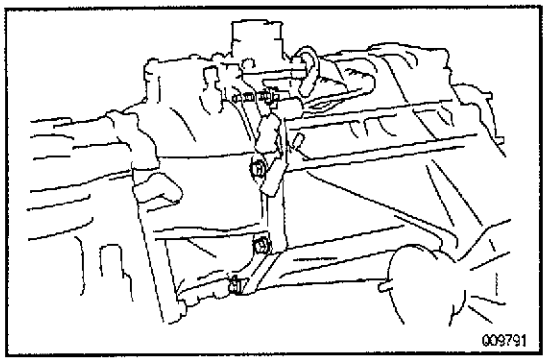
38. INSTALL TRANSFER COVER TO TRANSMISSION

(a) Shift the 2 shift fork shafts to the high–4 position.

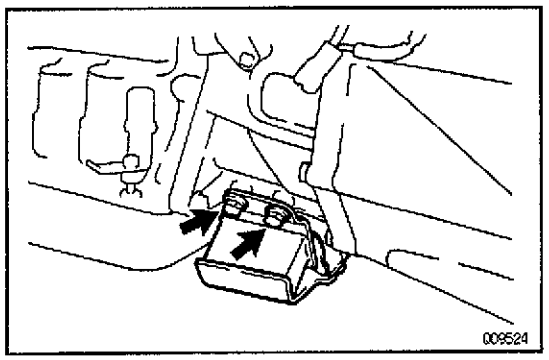


(b) Apply MP grease to the adaptor oil seal.

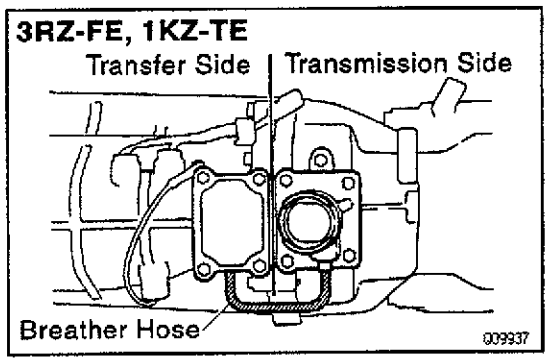
(c) Install the transfer to the transmission.
HINT: Take care not to damage the oil seal by the input gear spline when installing the transfer.



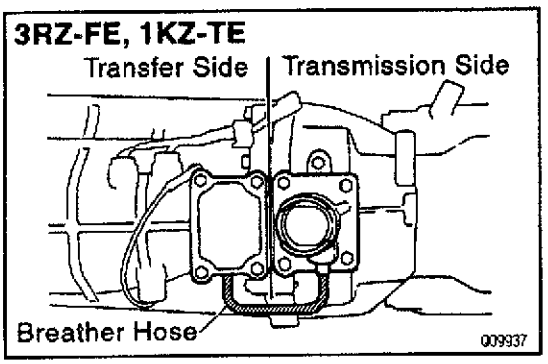
(d) Install and torque the bolts.
Torque: 24 N·m (240 kgf·cm, 17 ft·lbf)

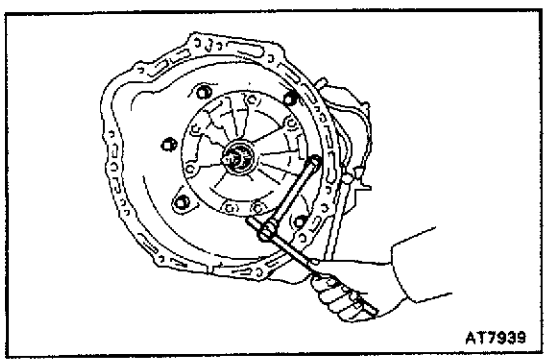


39. INSTALL ENGINE REAR MOUNTING
Torque: 25 N·m (260 kgf·cm, 19 ft·lbf)

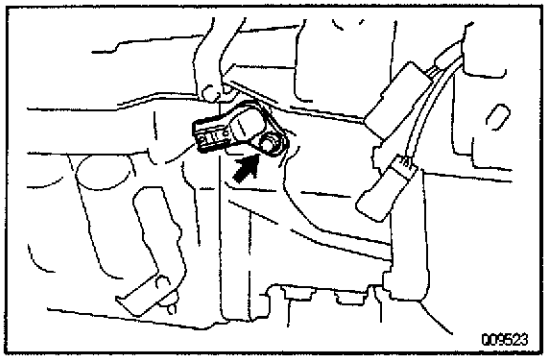


40. INSTALL BREATHER HOSE
Connect the breather hose for transfer upper cover and transmission control retainer.
Hose depth: 13 mm (0.51 in.)





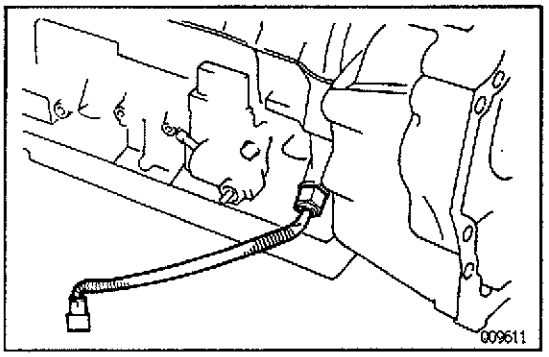
41. INSTALL TRANSMISSION HOUSING
Install and torque the 6 bolts.
Torque:
14 mm bolt 34 N·m (345 kgf·cm, 25 ft·lbf)
17 mm bolt 57 N·m (580 kgf·cm, 42 ft·lbf)



42. INSTALL SPEED SENSOR

(a) Coat a new O–ring with ATF and install it to the sensor.

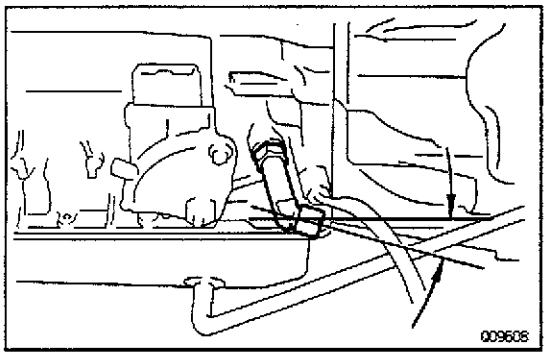
(b) Install the speed sensor with the bolt.
Torque: 16 N·m (160 kgf·cm, 12 ft·lbf)



43. 3RZ–FE, 5VZ–FE Engine: INSTALL ATF TEMPERATURE SENSOR

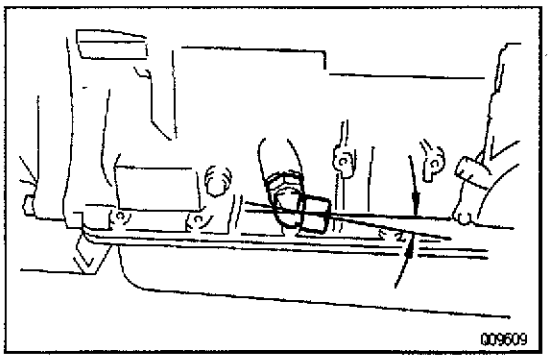
(a) Coat a new O–ring with ATF and install it to the sensor.

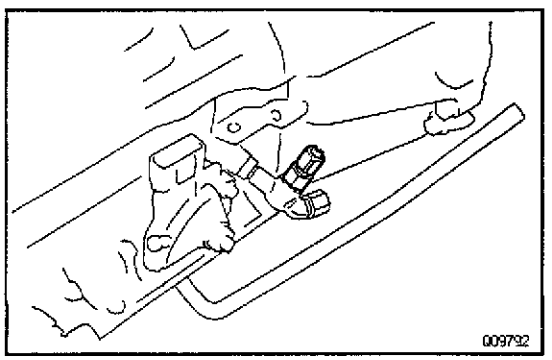
(b) Install the ATF temperature sensor.



44. INSTALL UNION AND ELBOW

(a) Coat new O–rings with ATF and install them to the union and elbow.
Torque: 29 N·m (300 kgf·cm, 22 ft·lbf)

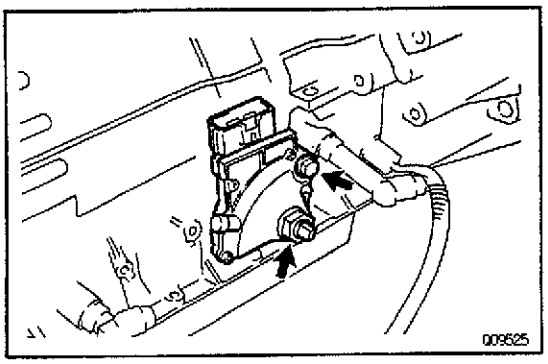




45. 1KZ–TE Engine: INSTALL ATF TEMPERATURE SENSOR

(a) Coat a new O–ring with ATF and install it to the sensor.

(b) Install the ATF temperature sensor.

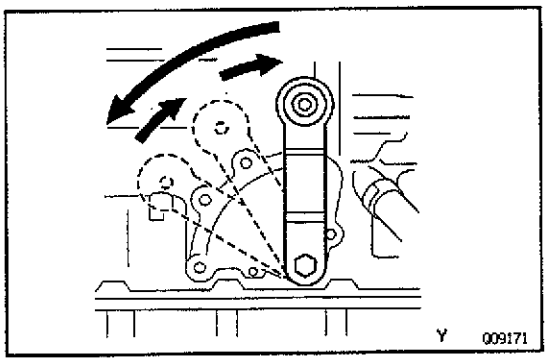


46. INSTALL NEUTRAL START SWITCH

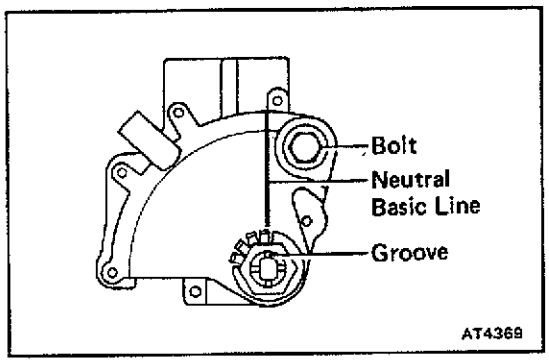
(a) Install the neutral start switch onto the manual valve lever shaft and temporarily tighten the adjusting bolt.

(b) Install the grommet and a new lock washer. Install and torque the nut.

Torque: 6.9 N·m (70 kgf·cm, 61 in.·lbf)



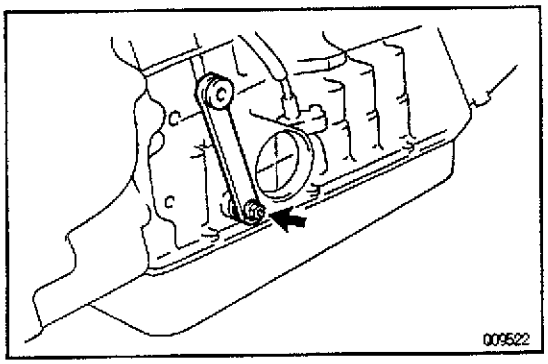
(c) Using the control shaft lever, fully turn the manual lever shaft back and return 2 notches. It is now in neutral.



(d) Align the neutral basic line and the switch groove, and tighten the adjusting bolt.

Torque: 13 N·m (130 kgf·cm, 9 ft·lbf)

HINT: Bend at least 2 of the lock washer tabs.



47. INSTALL TRANSMISSION CONTROL SHAFT LEVER

Torque: 16 N·m (160 kgf·cm, 12 ft·lbf)