COMPONENT PARTS INSTALLATION

INSTALLATION OF COMPONENT PARTS

AT0KT-02

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.

Recommended ATF:

DEXRON® II

GENERAL NOTES:

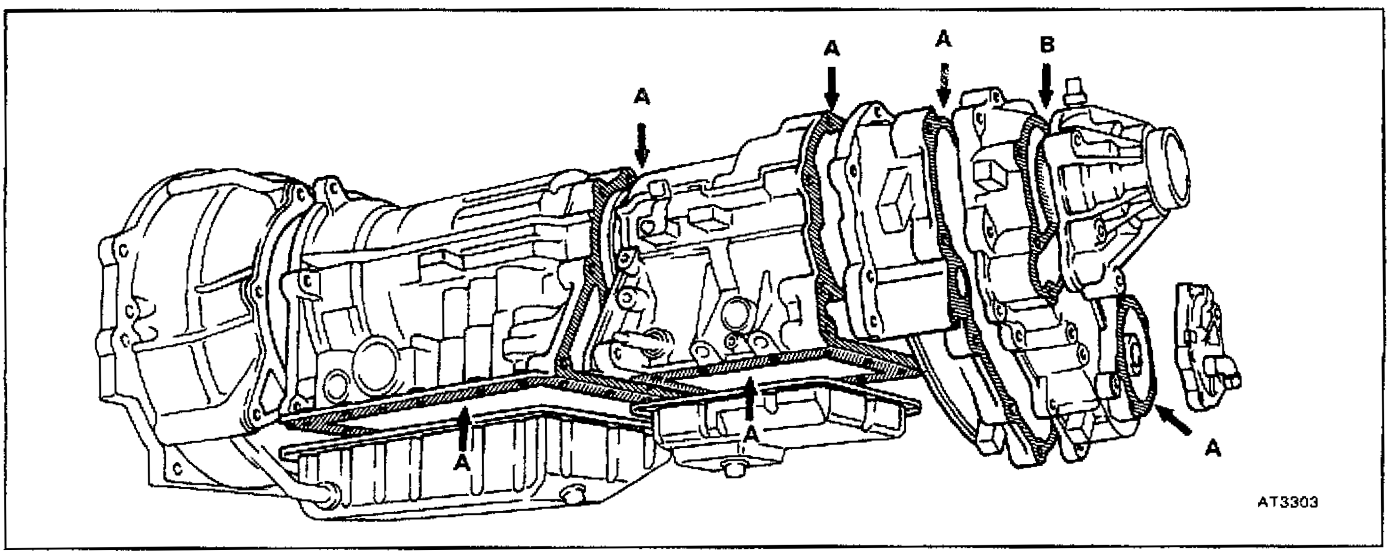
AT0KU-02

AT

1. The automatic transmission is composed of highly precision—finished parts, necessitating careful inspection before assembly because even a small nick could cause fluid leakage and affect performance.
2. Before assembling new clutch discs, soak them in automatic transmission fluid for at least 15 minutes.
3. Apply automatic transmission fluid on sliding or rotating surfaces of parts before assembly.
4. Use petroleum 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 packing (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 packing (FIPG) material must be removed and reapplied.
9. There are 2 types of seal packing on the A340H transmission. There are not interchangeable and care should be taken in selecting them.

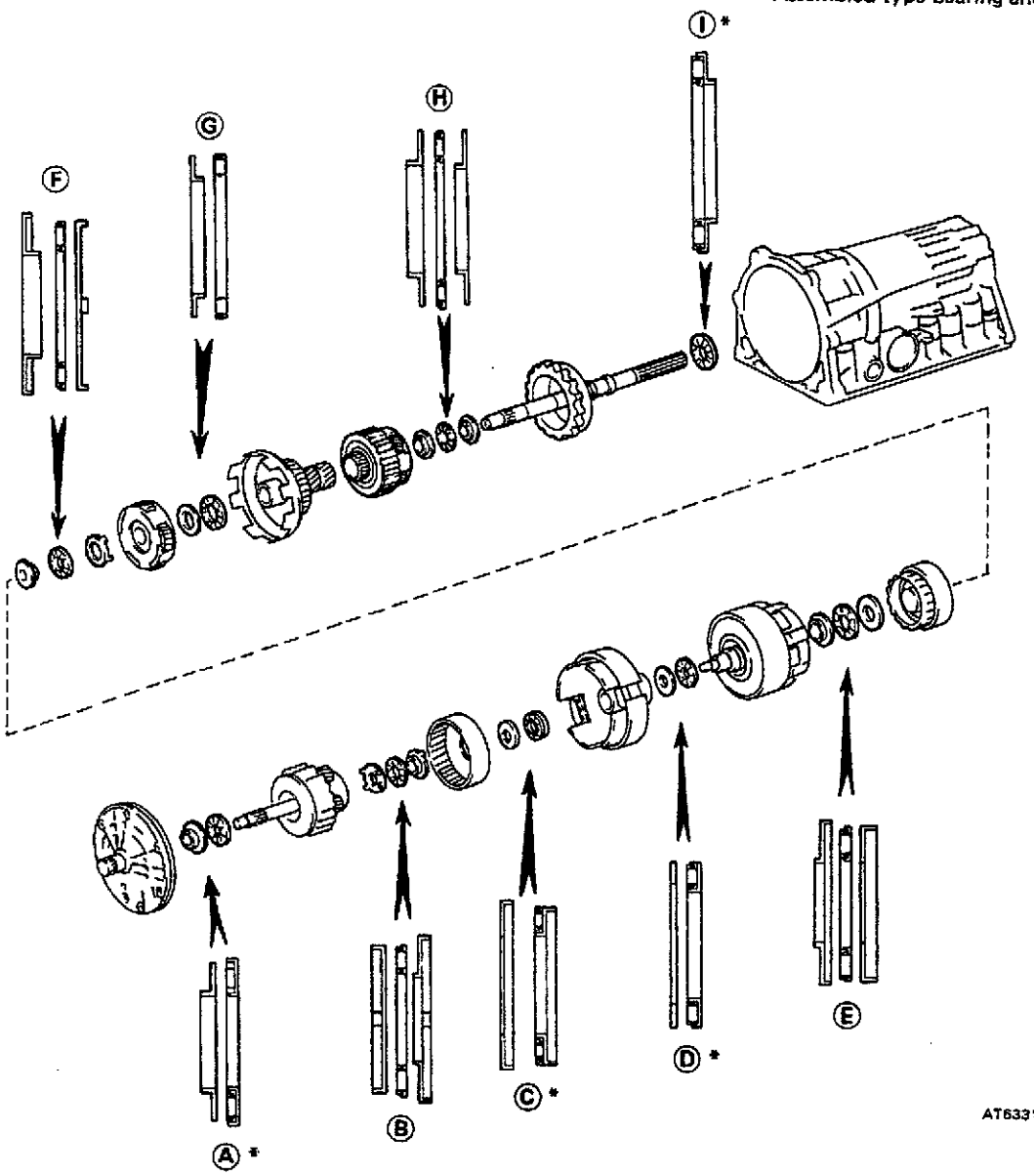
   A: Part No. 08826—00090, THREE BOND 1281 or equivalent

   B: Part No. 08833—00090, THREE BOND 1131, LOCTITE 518 or equivalent



(TRANSMISSION)

* Assembled type bearing and race

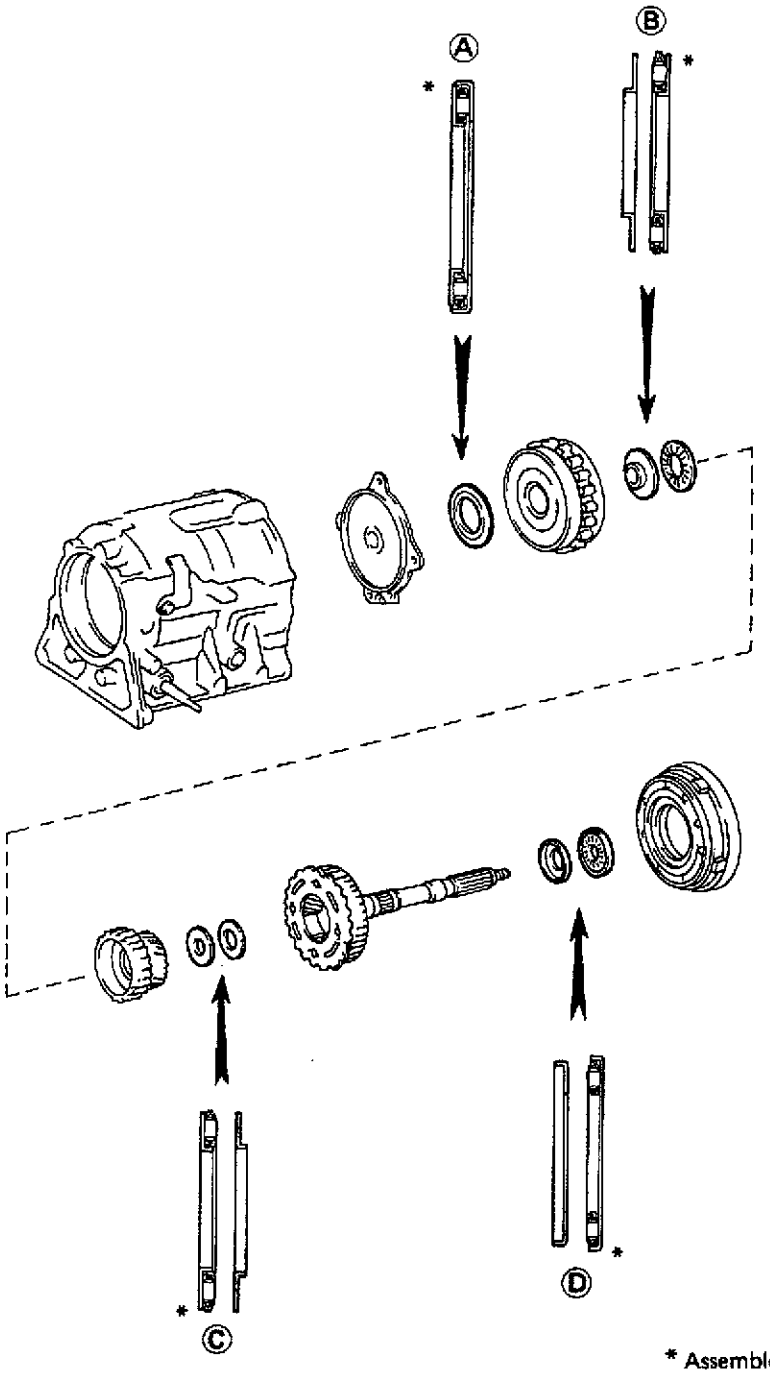


Z08288

Mark	Front Race Diameter Inside / Outside mm (in.)	Thrust Bearing Diameter Inside / Outside mm (in.)	Rear Race Diameter Inside / Outside mm (in.)
Ⓐ	28.1 (1.106) / 47.3 (1.862)	28.9 (1.138) / 50.2 (1.976)	–
Ⓑ	27.3 (1.075) / 41.8 (1.646)	26.0 (1.024) / 46.8 (1.843)	24.2 (0.953) / 47.8 (1.882)
Ⓒ	37.2 (1.465) / 58.8 (2.315)	33.7 (1.327) / 50.1 (1.972)	–
Ⓓ	36.8 (1.449) / 50.9 (2.004)	33.7 (1.327) / 47.6 (1.874)	–
Ⓔ	26.0 (1.024) / 48.9 (1.925)	26.0 (1.024) / 46.7 (1.839)	26.8 (1.055) / 47.0 (1.850)
Ⓕ	30.6 (1.205) / 53.6 (2.110)	32.6 (1.283) / 47.7 (1.878)	34.3 (1.350) / 47.8 (1.882)
Ⓖ	33.7 (1.327) / 47.6 (1.874)	35.5 (1.398) / 47.7 (1.878)	–
Ⓗ	28.8 (1.134) / 44.8 (1.764)	30.1 (1.185) / 44.7 (1.760)	27.8 (1.094) / 44.8 (1.764)
Ⓘ	–	39.2 (1.543) / 57.7 (2.272)	–

AT

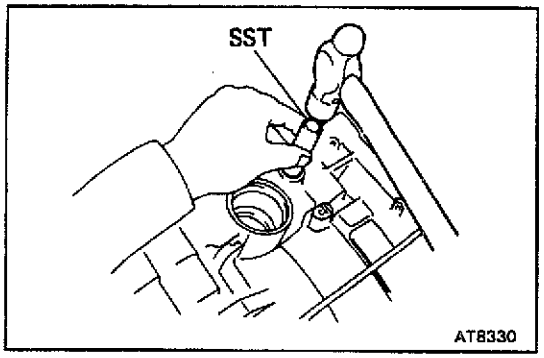
(TRANSFER)



* Assembled type bearing and race

AT4997

Mark	Front Race Diameter Inside / Outside mm (in.)	Thrust Bearing Diameter Inside / Outside mm (in.)	Rear Race Diameter Inside / Outside mm (in.)
Ⓐ	–	51.3 (2.020) / 78.6 (3.094)	–
Ⓑ	33.5 (1.319) / 47.8 (1.882)	30.5 (1.201) / 48.0 (1.890)	–
Ⓒ	–	19.0 (0.748) / 45.0 (1.772)	23.1 (0.909) / 45.0 (1.772)
Ⓓ	36.3 (1.429) / 53.9 (2.122)	38.0 (1.496) / 57.3 (2.256)	–



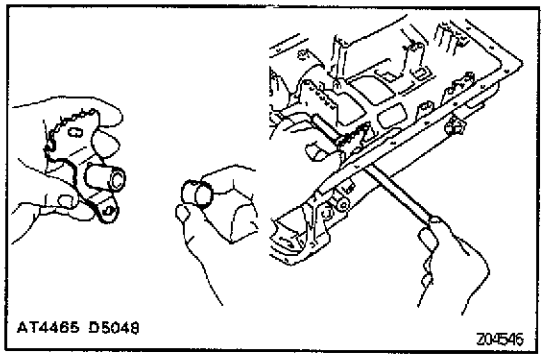
TRANSMISSION ASSEMBLY

AT0KV–02

1. INSTALL MANUAL VALVE LEVER, SHAFT AND OIL SEALS

(a) Using SST, drive in the 2 new oil seals.
SST 09350–30020 (09350–07110)

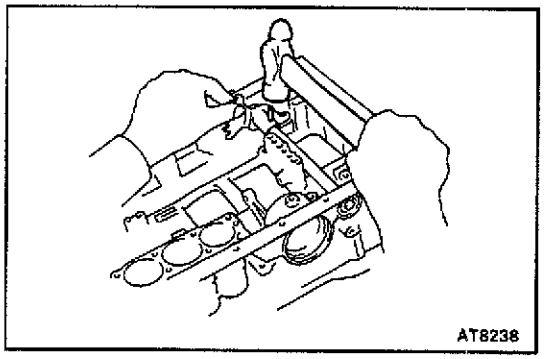
(b) Coat the oil seal lip with MP grease.



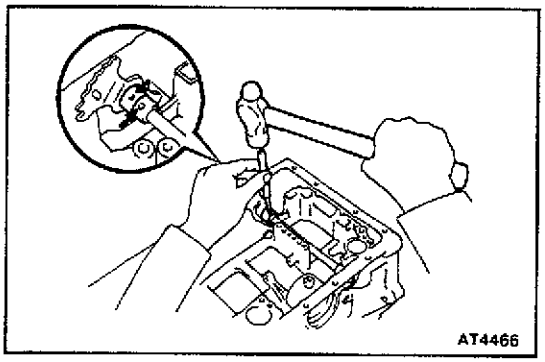
(c) Assemble a new spacer to the manual valve lever.

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

A1

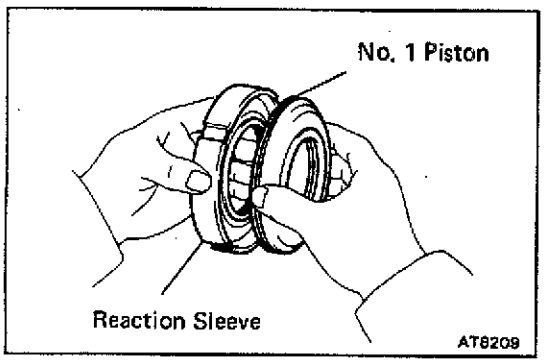


(e) Drive in the pin to the shaft.



(f) Match the spacer hole to the lever calking hollow and calk the spacer to the lever.

(g) Make sure the manual valve lever shaft turns smoothly.



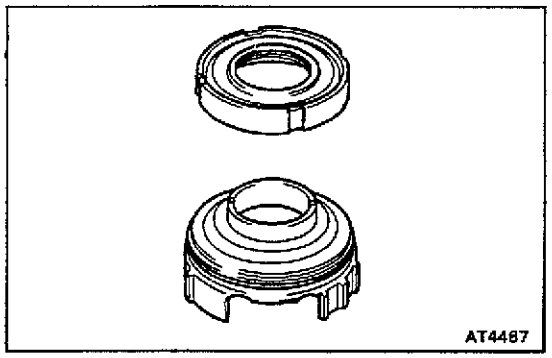
2. INSTALL COMPONENTS OF FIRST AND REVERSE BRAKE PISTON

(a) Coat the 3 new O–rings with ATF.

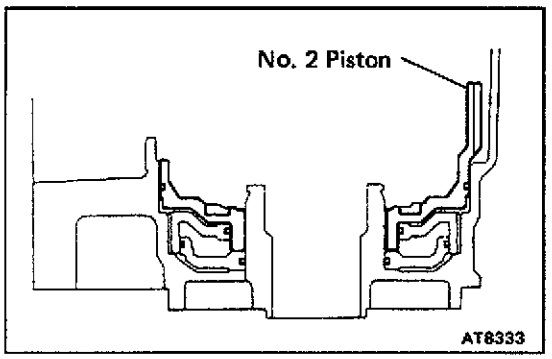
(b) Install the 2 O–rings on the No.1 piston.

(c) Install the O–ring on the reaction sleeve.

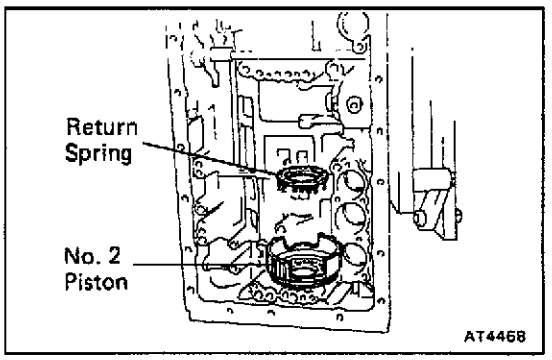
(d) Install the No.1 piston to the reaction sleeve.



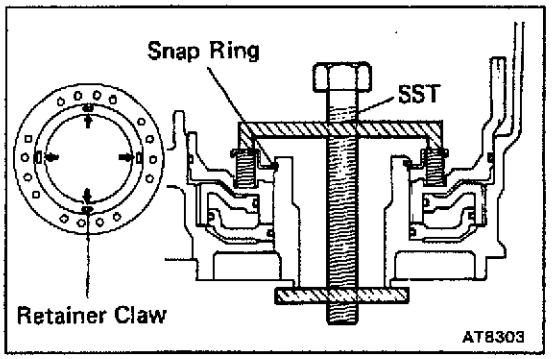
(e) Coat the new O–ring with ATF and install it on the No.2 piston.
(f) Install the No.1 piston with the reaction sleeve onto the No.2 piston.



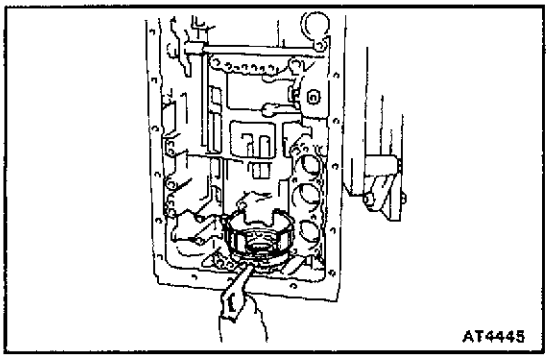
(g) Align the teeth of the No.2 piston into the proper grooves.
(h) Being careful not to damage the O–rings, press in the No.2 and No. 1 first and reverse brake pistons into the transmission case.



(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.

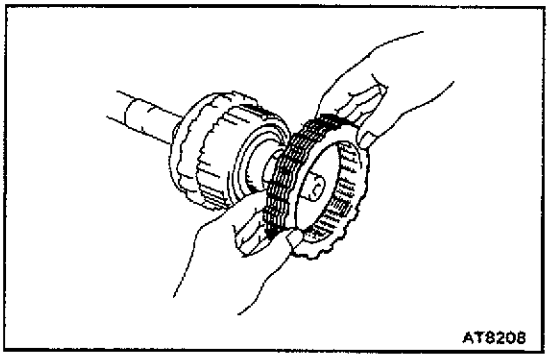


3. CHECK FIRST AND REVERSE BRAKE PISTONS MOVING

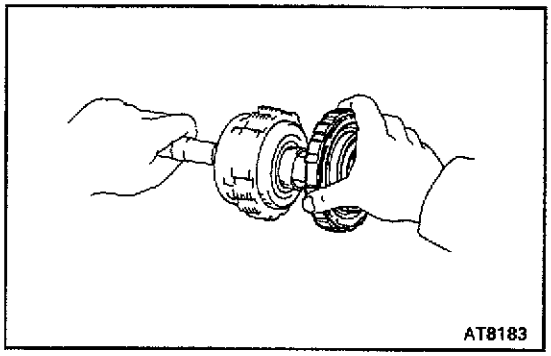
Make sure the first and reverse brake pistons move smoothly when applying and releasing the compressed air into the transmission case.

4. INSTALL REAR PLANETARY GEAR UNIT WITH SECOND BRAKE DRUM, FIRST AND REVERSE BRAKE PACK AND OUTPUT SHAFT

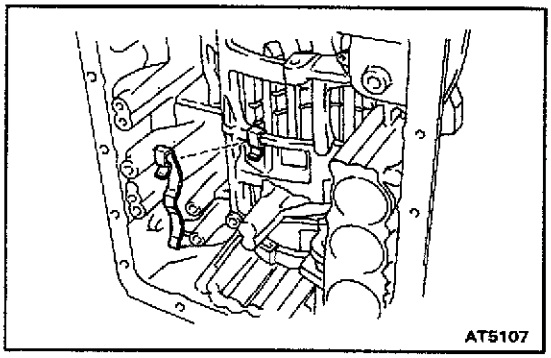
(a) Install the plate.


AT8208

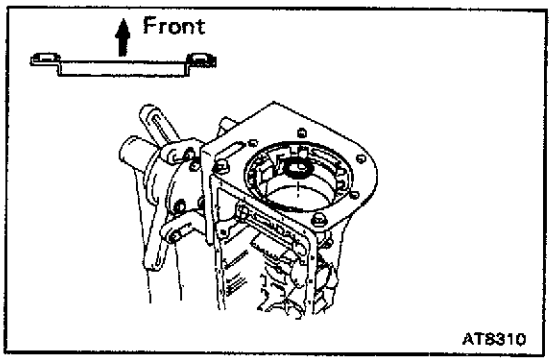
(b) Install the cushion plate rounded end toward you.
(c) Re–install the flange, the rounded edge facing forward.
(d) Install the plates and discs.
Install in order: P = Plate D = Disc
D–P–D–P–D–P–D–P–D–P–D–P


AT8183

(e) Install the second brake drum assembly.


AT5107

(f) Install the leaf spring.

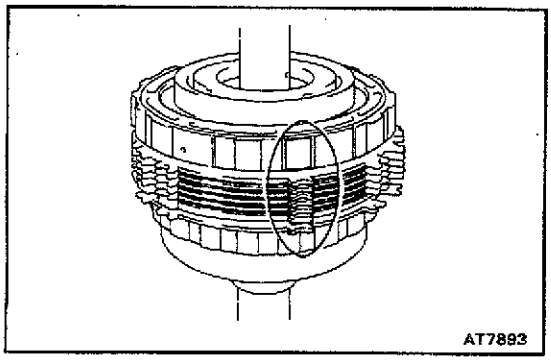


AT8310

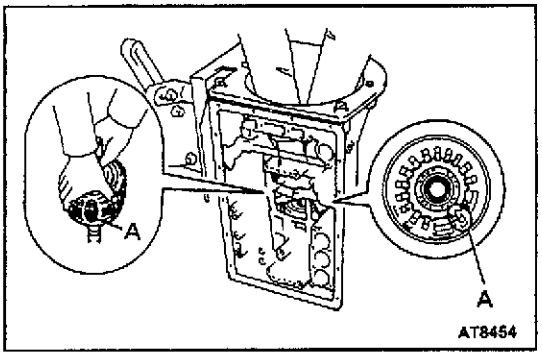
(g) Coat the assembled bearing and race with petroleum jelly and install it onto the case.
Assembled bearing and race diameter

mm (in.)

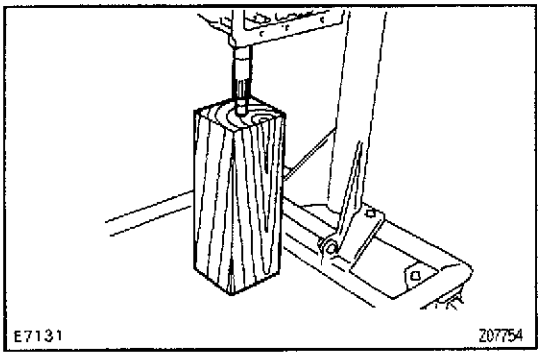
	Inside	Outside
Assembled bearing and race	39.2 (1.543)	57.7 (2.272)


AT7893

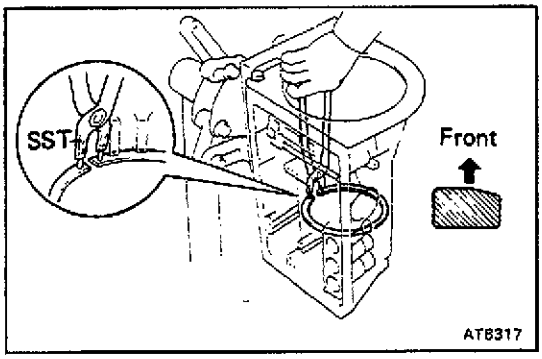
(h) Align the teeth of the second brake drum, flange, discs and plates.



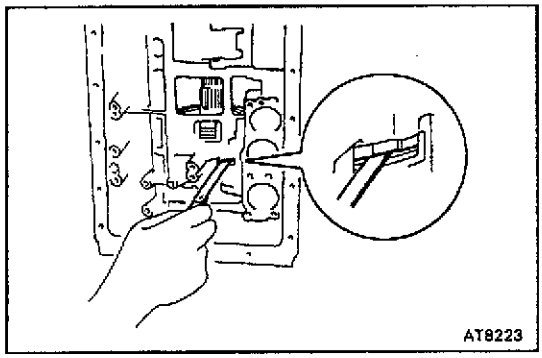
(i) Align the splines of the transmission case and the assembled rear planetary gear, second brake drum, first and reverse brake pack and output shaft, indicated by A.



(j) Hold the output shaft with wooden blocks.



(k) Using SST, install the snap ring.
SST 09350–30020 (09350–07060)



5. CHECK PACK CLEARANCE OF FIRST AND REVERSE BRAKE

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

Clearance:

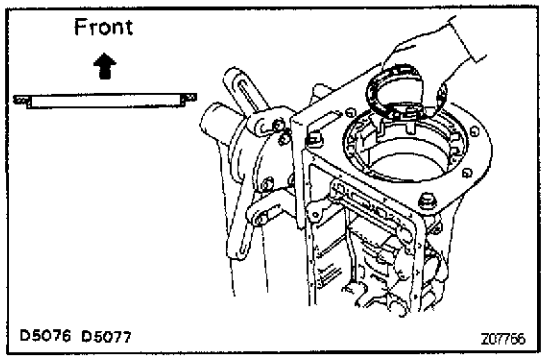
0.60 – 1.32 mm (0.0236 – 0.0520 in.)

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

HINT: There are 6 different thicknesses for the flange.

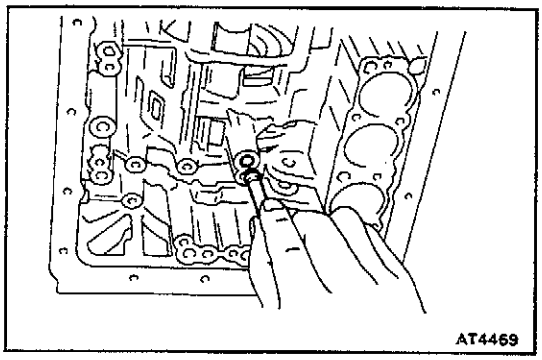
Flange thickness

mm (in.)

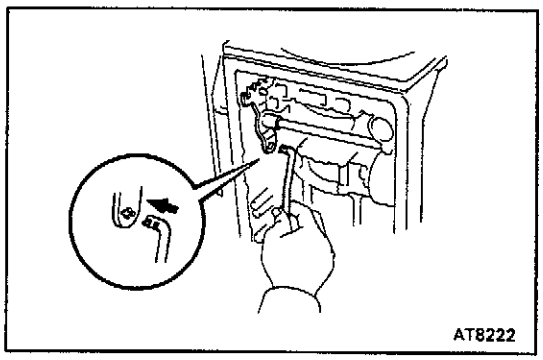


No.	Thickness	No.	Thickness
50	5.0 (0.197)	53	4.4 (0.173)
51	4.8 (0.189)	54	4.2 (0.165)
52	4.6 (0.181)	55	4.0 (0.157)

6. INSTALL SECOND BRAKE PISTON SLEEVE



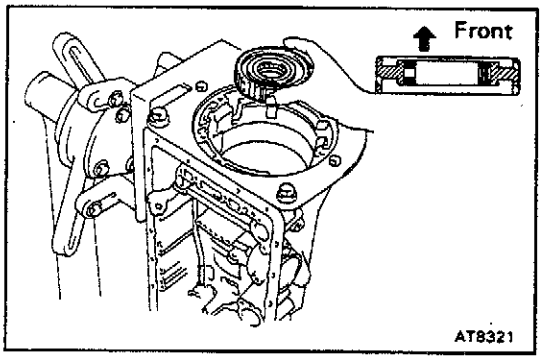
7. INSTALL NEW BRAKE DRUM GASKET



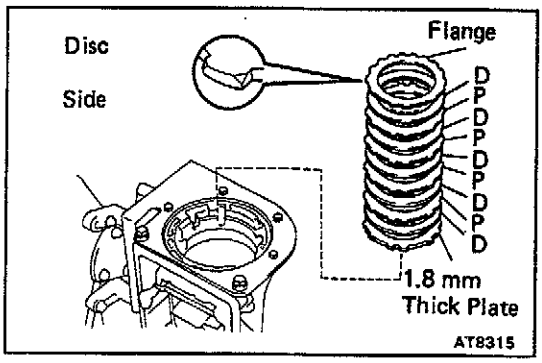
8. INSTALL PARKING LOCK ROD

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

(b) Shift the manual valve lever to the P position, and confirm the transfer direct clutch drum is correctly locked up by the lock pawl.



9. INSTALL NO.1 ONE–WAY CLUTCH



10. INSTALL FLANGE, PLATES AND DISCS OF SECOND BRAKE

(a) Install the plate with the rounded edge side of the plate facing the disc.

Plate thickness:

1.8 mm (0.071 in.)

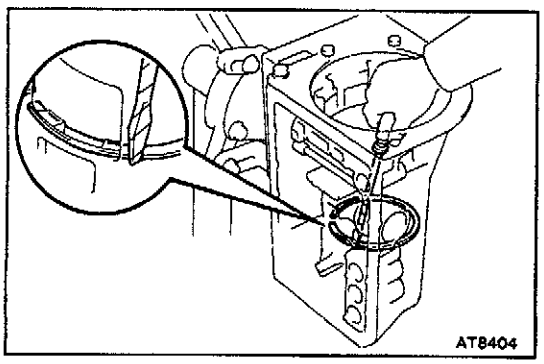
(b) Install the plates and discs.

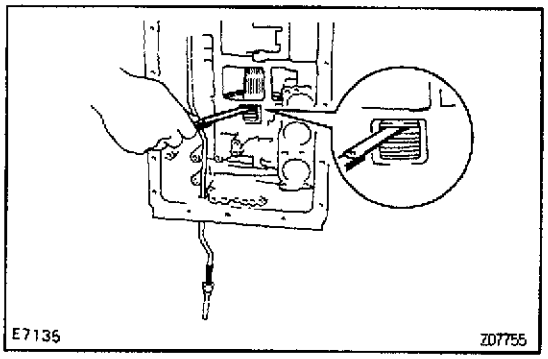
Install in order: P = Plate D = Disc

D–P–D–P–D–P–D–P–D–P–D

(c) Install the flange with the rounded edge of the flange facing the disc.

(d) Install the snap ring.





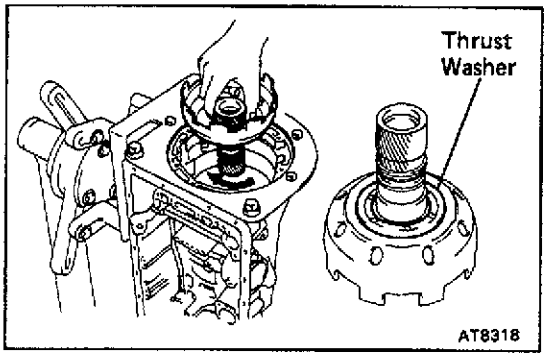
11. CHECK PACK CLEARANCE OF SECOND BRAKE

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

Clearance:

0.62 — 1.98 mm (0.0244 — 0.0780 in.)

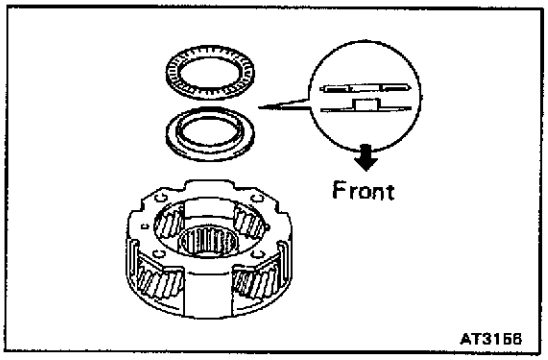
If the values are non—standard, check for an improper installation.



12. INSTALL PLANETARY SUN GEAR

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

HINT: Confirm the thrust washer is installed correctly.



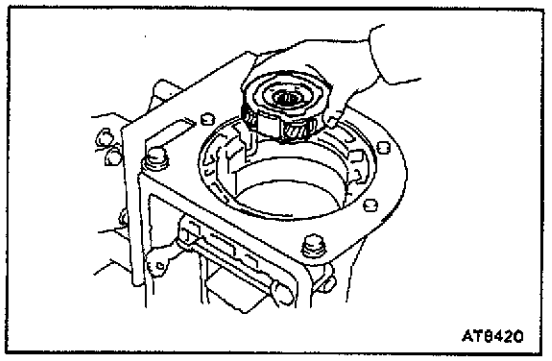
13. INSTALL FRONT PLANETARY GEAR

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

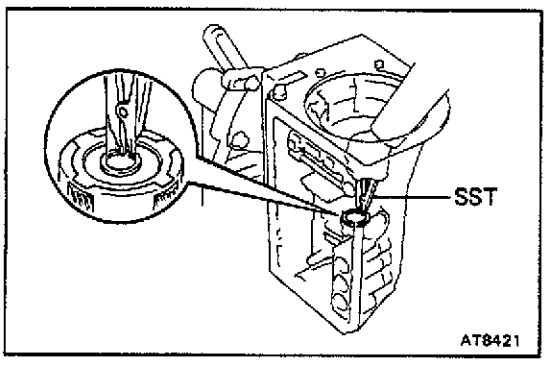
Bearing and race diameter

mm (in.)

	Inside	Outside
Bearing	35.5 (1.398)	47.7 (1.878)
Race	33.7 (1.327)	47.6 (1.874)

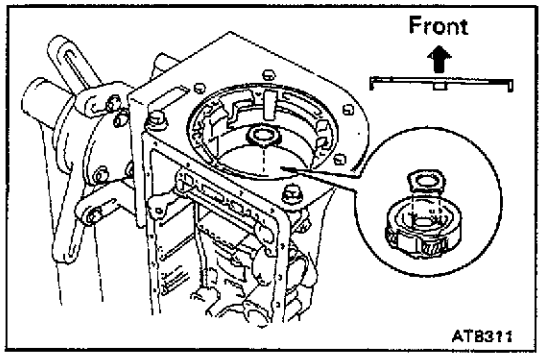


(b) Install the front planetary gear to the sun gear.



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

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

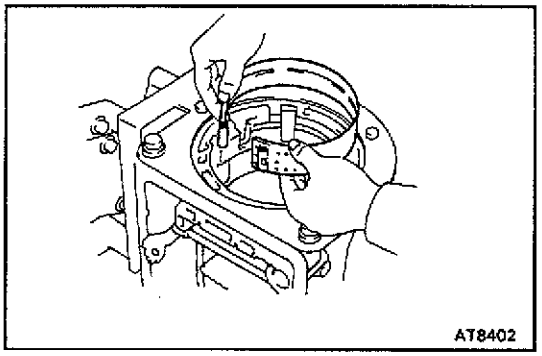


(e) Coat the bearing race with petroleum jelly and install it onto the front planetary gear.

Race diameter

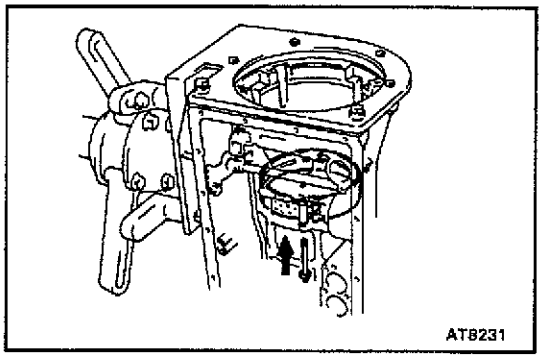
mm (in.)

	Inside	Outside
Race	34.3 (1.350)	47.8 (1.882)

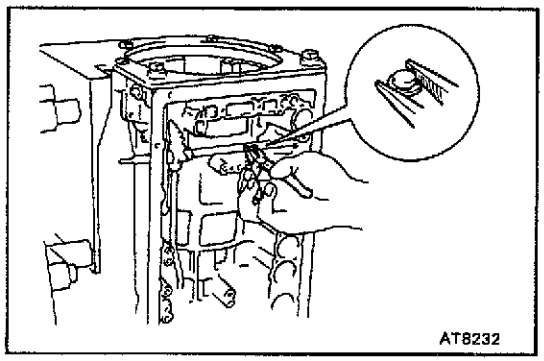


14. INSTALL SECOND COAST BRAKE BAND

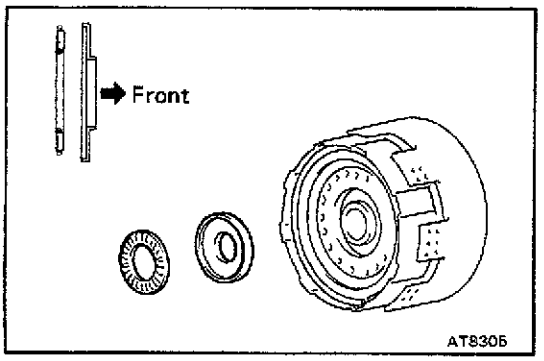
(a) Install the second coast brake band to the case.



(b) Install the pin through the brake band.



(c) Install the E–ring to the pin.



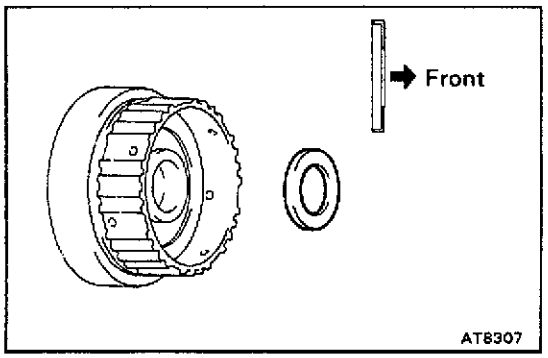
15. INSTALL FRONT PLANETARY RING GEAR TO FORWARD AND DIRECT CLUTCH

(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	26.0 (1.024)	46.7 (1.839)
Race	26.0 (1.024)	48.9 (1.925)

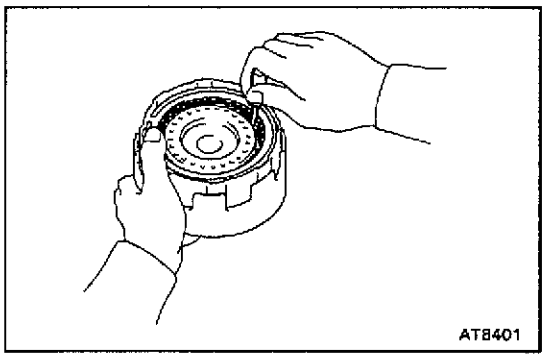


(b) Coat the race with petroleum jelly and install it onto the front planetary ring gear.

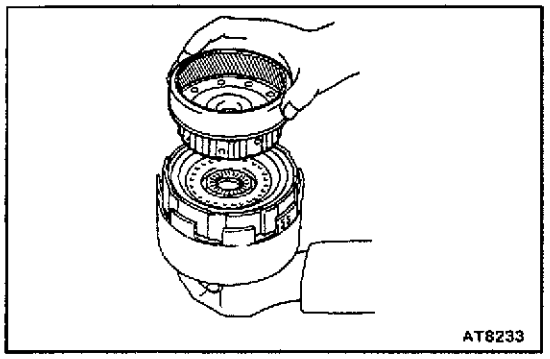
Race diameter

mm (in.)

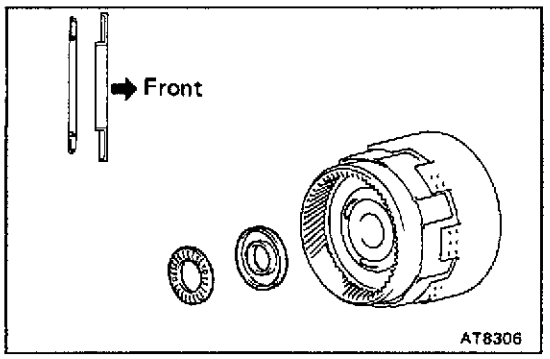
	Inside	Outside
Race	26.8 (1.055)	47.0 (1.850)



(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 clutch.



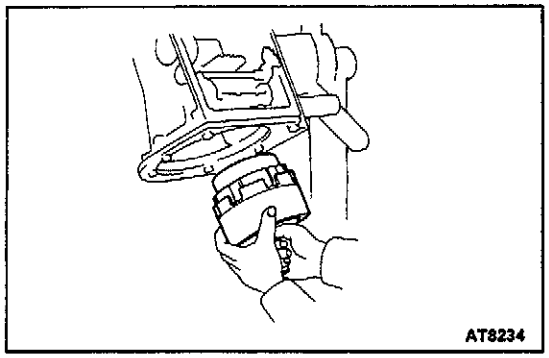
16. INSTALL ASSEMBLED DIRECT CLUTCH, FORWARD CLUTCH AND FRONT PLANETARY RING GEAR INTO CASE

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

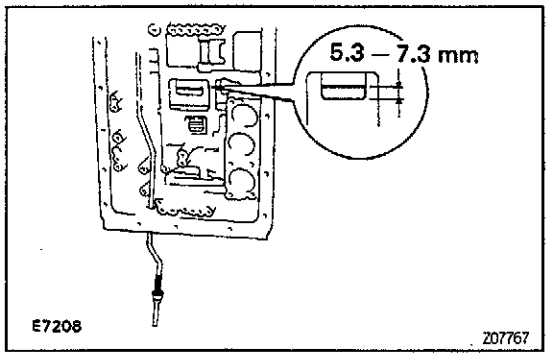
Bearing and race diameter

mm (in.)

	Inside	Outside
Bearing	32.6 (1.283)	47.7 (1.878)
Race	30.6 (1.205)	53.6 (2.110)

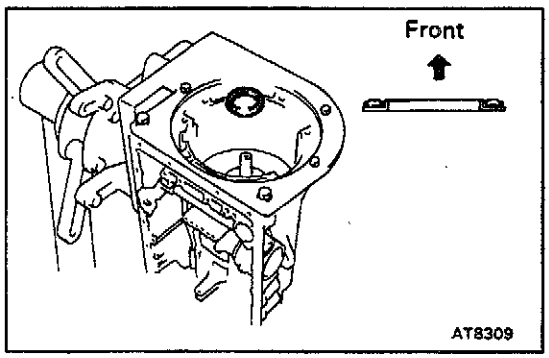


(b) Install the assembled direct clutch, forward clutch and front planetary ring gear into the transmission case.



(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.

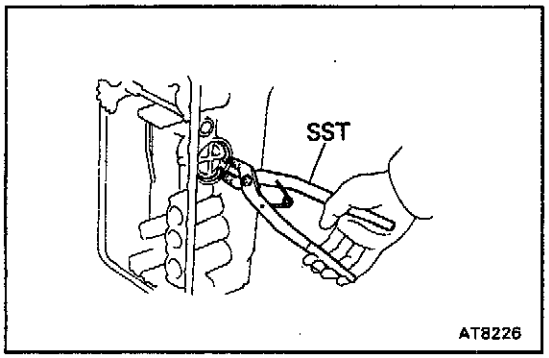
AT



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

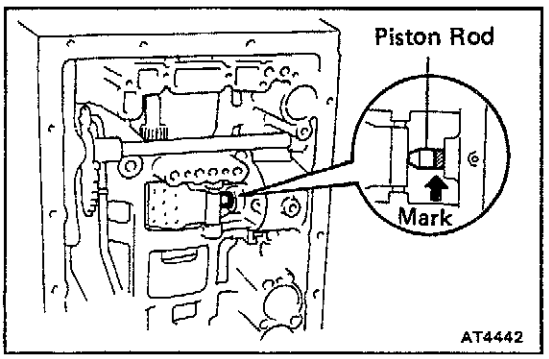
mm (in.)

	Inside	Outside
Assembled bearing and race	33.7 (1.327)	47.6 (1.874)



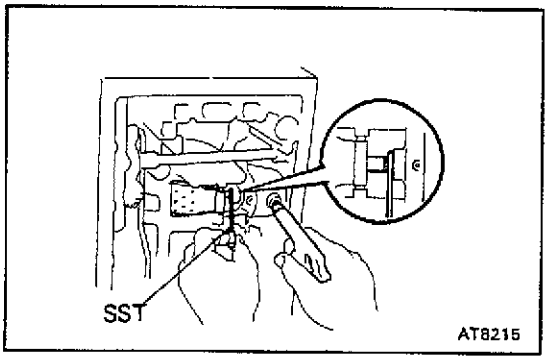
17. INSTALL SECOND COAST BRAKE COVER, PISTON ASSEMBLY AND SPRING

(a) Coat the 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)

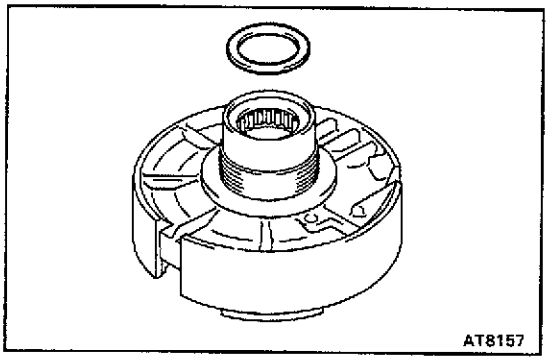


18. CHECK PISTON ROD STROKE OF SECOND COAST BRAKE

(a) Place a mark on the second 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.

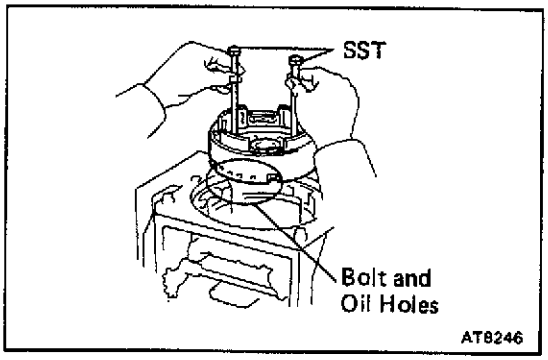


19. INSTALL OVERDRIVE SUPPORT ASSEMBLY

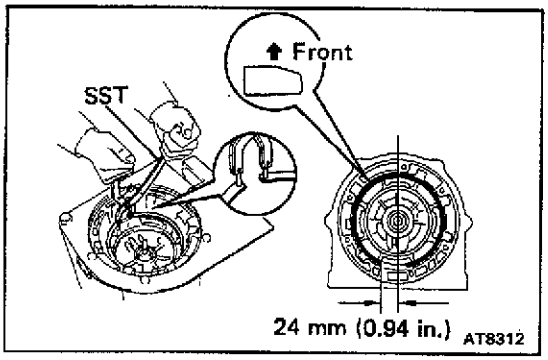
(a) Coat the race with petroleum jelly and install it onto the overdrive support assembly.
Race diameter

mm (in.)

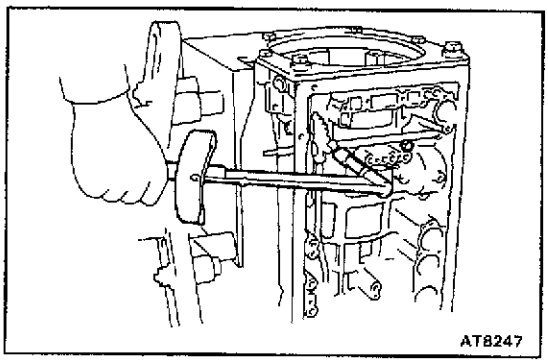
	Inside	Outside
Race	36.8 (1.449)	50.9 (2.004)



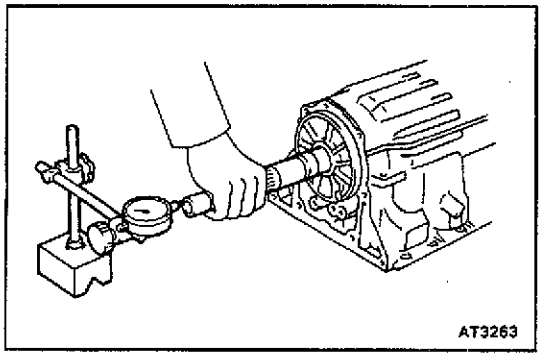
(b) Using 2 bolts of SST, aim the bolt and oil holes of the overdrive support toward the valve body side, and align them with the bolt holes of the transmission case and insert.
SST 09350–30020 (09350–07020)
(c) Temporarily tighten the 2 bolts.



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



(d) Install and torque the 2 bolts.
Torque: 25 N·m (260 kgf·cm, 19 ft·lbf)



20. CHECK OUTPUT SHAFT END PLAY

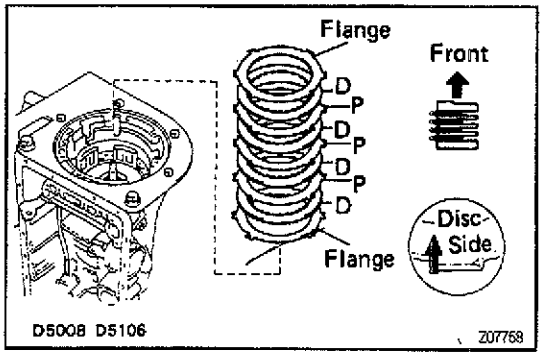
(a) Using a dial indicator, measure the end play of the output shaft with hand.

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.



21. INSTALL FLANGES, PLATES AND DISCS OF OVERDRIVE BRAKE

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

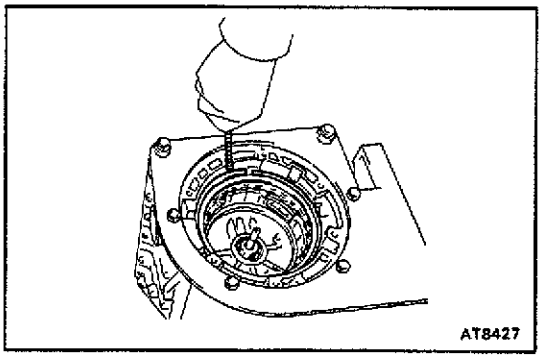
(b) Install the plates and discs.

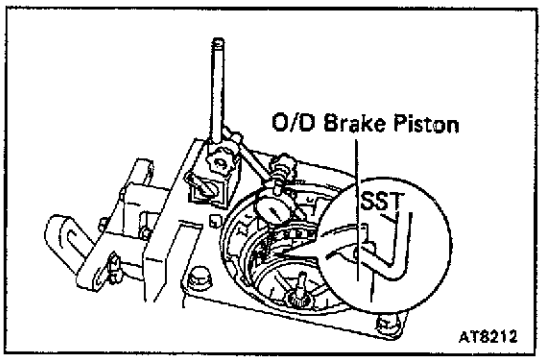
Install in order: P = Plate D = Disc

D–P–D–P–D–P–D

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

(d) Install the snap ring.

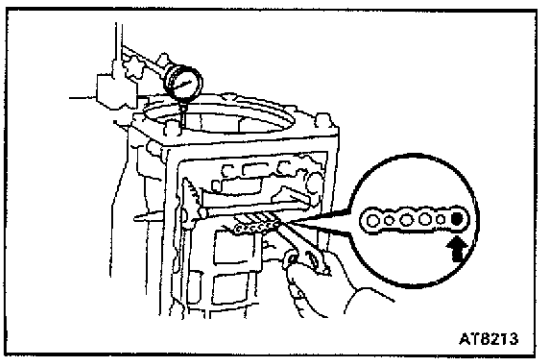




22. CHECK PISTON STROKE OF OVERDRIVE BRAKE

(a) Place SST and a dial indicator onto the overdrive brake piston.

SST 09350–30020 (09350–06120)



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

Piston stroke:

1.40 – 1.70 mm (0.0551 – 0.0669 in.)

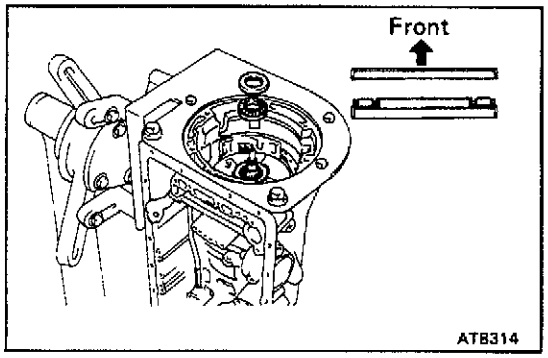
If the piston stroke is less than the limit, parts may have been assembled incorrectly, check and reassemble again. If the piston stroke is non–standard, select another flange.

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)		



AT

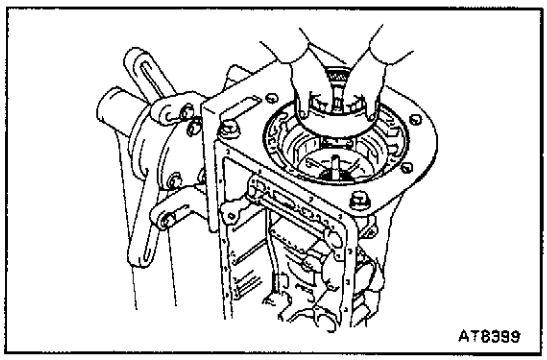
23. INSTALL OVERDRIVE PLANETARY GEAR UNIT WITH OVERDRIVE DIRECT CLUTCH AND ONE-WAY CLUTCH

(a) Coat the bearing and race with petroleum jelly and install them onto the overdrive support.

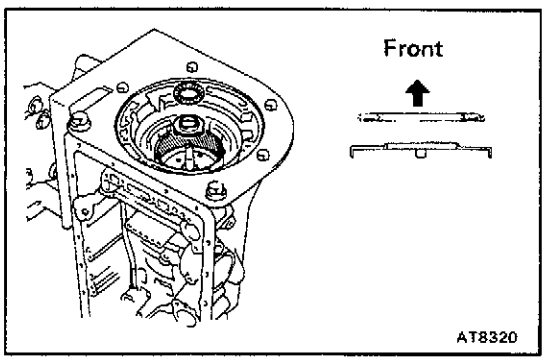
Bearing and race diameter

mm (in.)

	Inside	Outside
Bearing	33.7 (1.327)	50.1 (1.972)
Race	37.2 (1.465)	58.8 (2.315)



(b) Install the overdrive planetary ring gear.

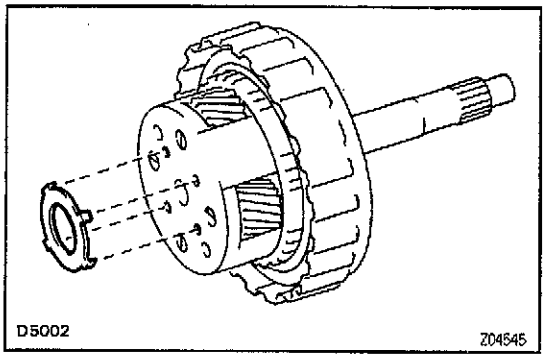


(c) Coat the bearing and race with petroleum jelly and install them onto the planetary ring gear.

Bearing and race diameter

mm (in.)

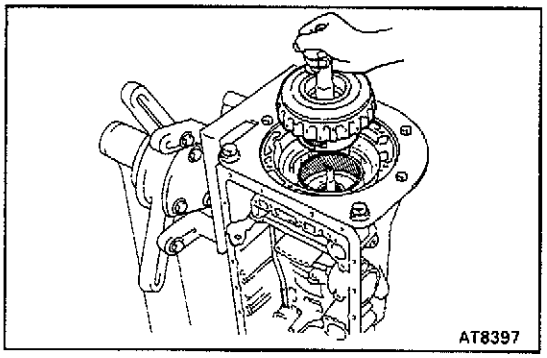
	Inside	Outside
Bearing	26.0 (1.024)	46.8 (1.843)
Race	24.2 (0.953)	47.8 (1.882)



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

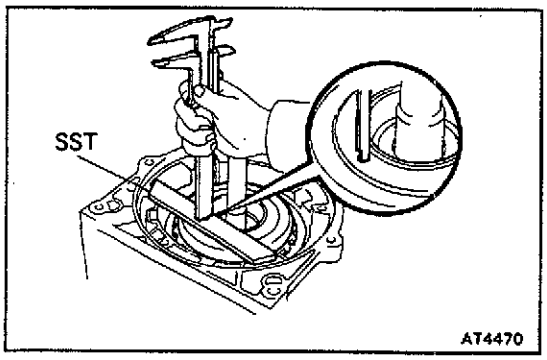
mm (in.)

	Inside	Outside
Race	27.3 (1.075)	41.8 (1.646)



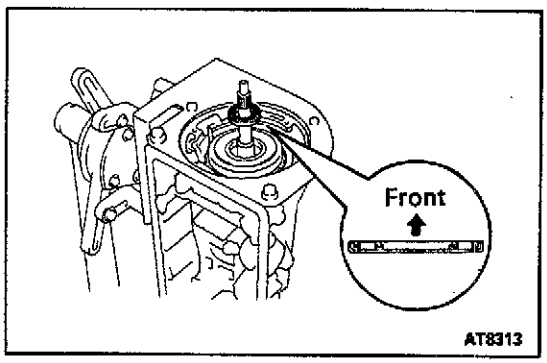
(e) Install the overdrive planetary gear with the overdrive direct clutch and one-way clutch.

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

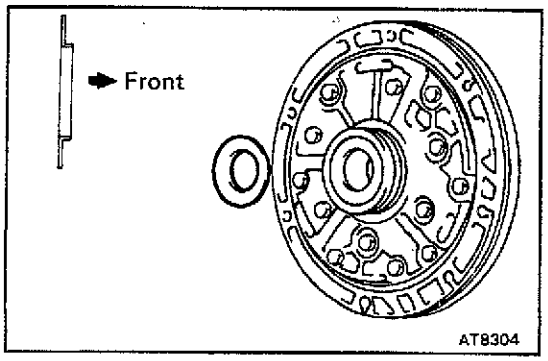
(g) Using calipers, measure distance between the tops of SST and the clutch drum.
Standard distance:
15.5 – 16.5 mm (0.610 – 0.650 in.)
If the values are non-standard, check for an improper installation.



(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 and race	28.9 (1.138)	50.2 (1.976)

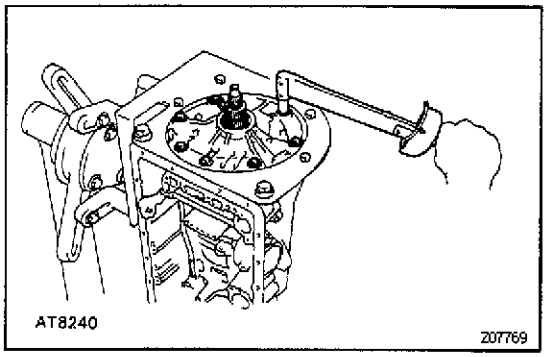


24. INSTALL OIL PUMP INTO CASE

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

mm (in.)

	Inside	Outside
Race	28.1 (1.106)	47.3 (1.862)



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

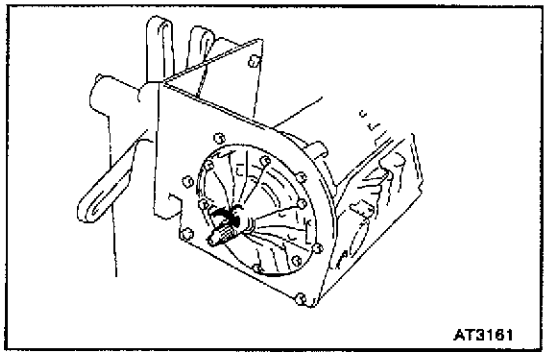
(c) Place the oil pump through the input shaft, and align the bolt holes of the pump body with the transmission case.

(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.

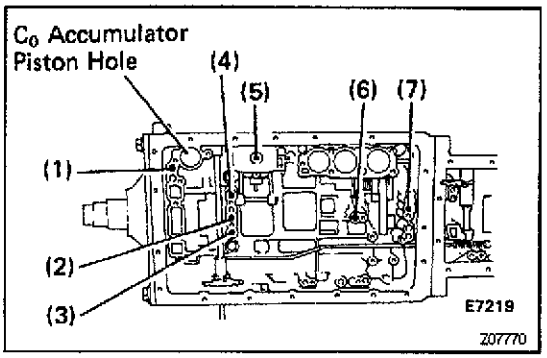
(e) Install the 7 bolts.

Torque: 22 N·m (220 kgf·cm, 16 ft·lbf)



25. CHECK INPUT SHAFT ROTATION

Make sure the input shaft rotates smoothly.



TRANSFER ASSEMBLY

ATGKW–02

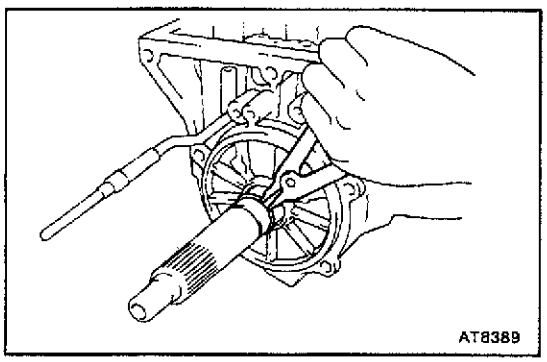
1. INDIVIDUAL PISTON OPERATION INSPECTION

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

(1) O/D direct clutch
(2) Direct clutch
(3) Forward clutch
(4) O/D brake
(5) Second coast brake
(6) Second brake
(7) First and reverse brake

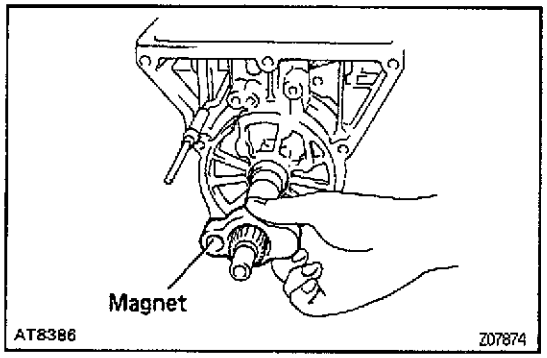
HINT: When inspecting the O/D direct clutch, check with the C_0 accumulator piston hole closed.

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

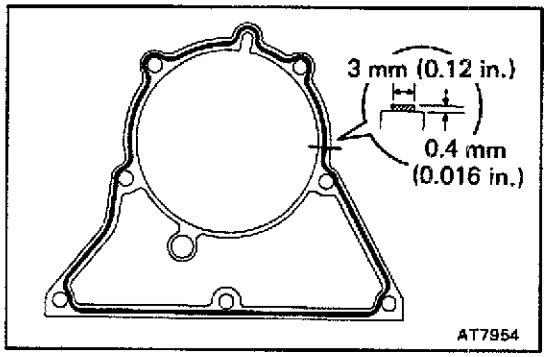


2. INSTALL SPEED SENSOR ROTOR AND KEY

(a) Using snap ring pliers, install the snap ring.



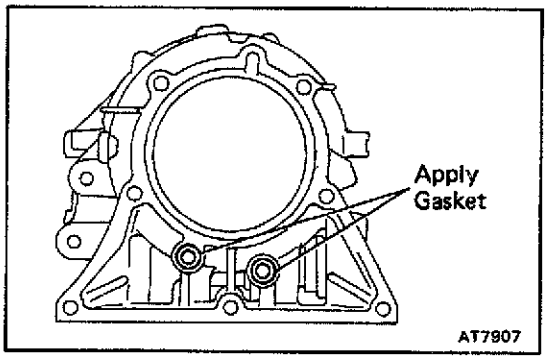
(b) Install the key on the output shaft.
(c) Align the groove of the sensor rotor with the key, install the sensor rotor.
(d) Using snap ring pliers, install the snap ring.



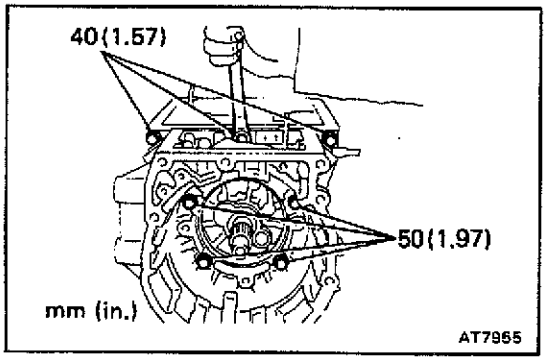
3. INSTALL TRANSFER CASE

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

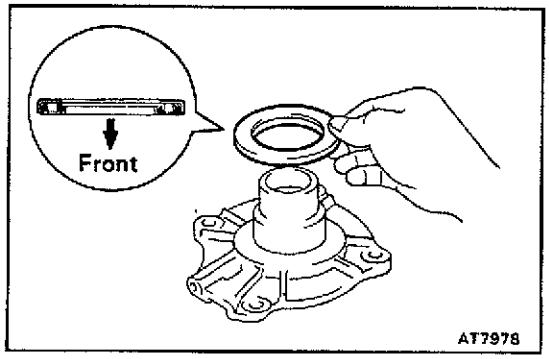
AT



(c) Confirm the 2 apply gaskets are installed correctly.



(d) Install the case and torque the 7 bolts.
Torque: 34 N·m (345 kgf·cm, 25 ft·lbf)
HINT:
- Each bolt length is indicated in the illustration.
- When assembling the transmission case and transfer case, make sure the parking lock rod is above the pawl.

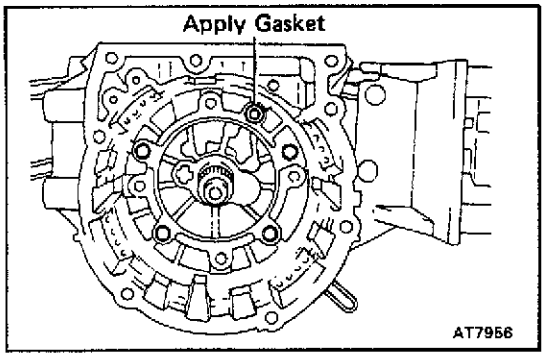


4. INSTALL FRONT SUPPORT TO TRANSFER CASE

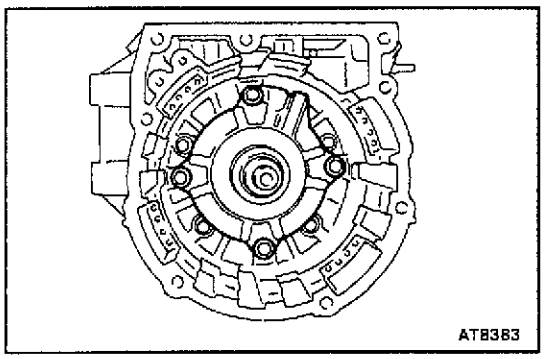
(a) Coat the assembled bearing and race with petroleum jelly and install it onto the front support.
Assembled bearing and race diameter

mm (in.)

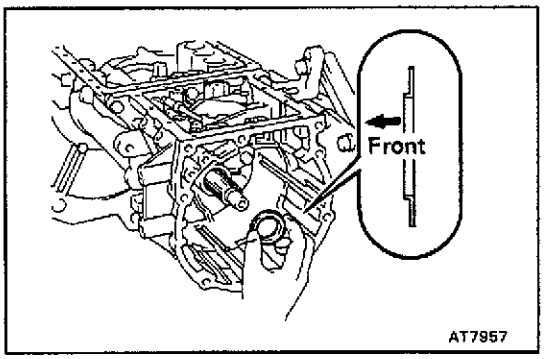
	Inside	Outside
Assembled bearing and race	51.3 (2.020)	78.6 (3.094)



(b) Confirm the apply gasket is installed correctly.



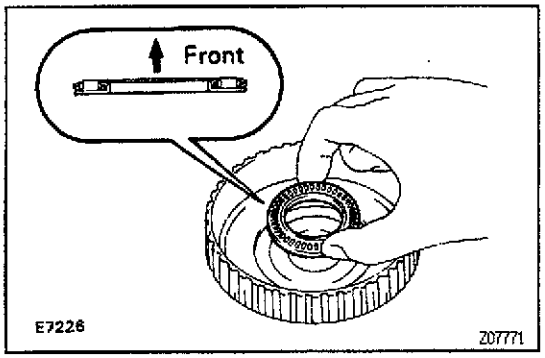
(c) Install the front support and torque the bolts.
Torque: 34 N·m (345 kgf·cm, 25 ft·lbf)



(d) Coat the race with petroleum jelly and install it onto the front support.
Race diameter

mm (in.)

	Inside	Outside
Race	33.5 (1.319)	47.8 (1.882)

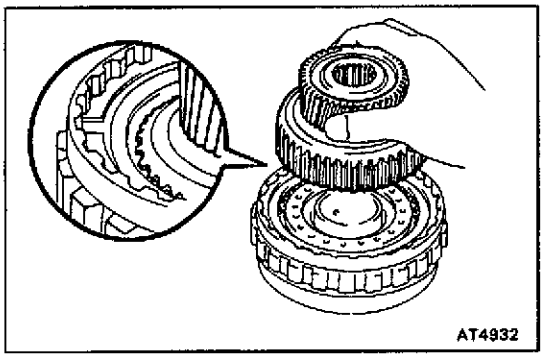


5. INSTALL SUN GEAR TO TRANSFER DIRECT CLUTCH

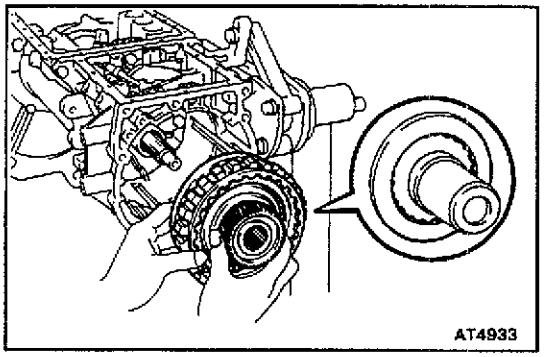
(a) Coat the assembled bearing and race with petroleum jelly and install it onto the sun gear.
Assembled bearing and race diameter

mm (in.)

	Inside	Outside
Assembled bearing and race	30.5 (1.201)	48.0 (1.890)

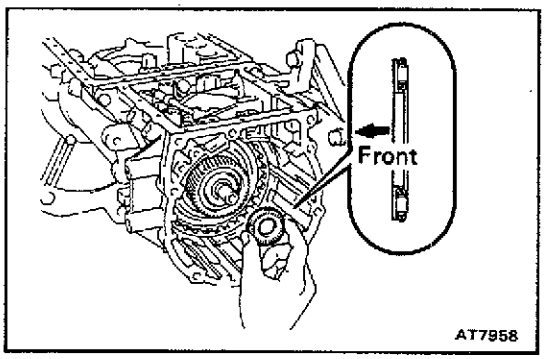


(b) Install the sun gear into the transfer direct clutch.
HINT: Mesh the splines of the sun gear with the flukes of the discs of rotating and pushing the sun gear.



6. INSTALL TRANSFER DIRECT CLUTCH WITH SUN GEAR

(a) Install the transfer direct clutch with the sun gear.

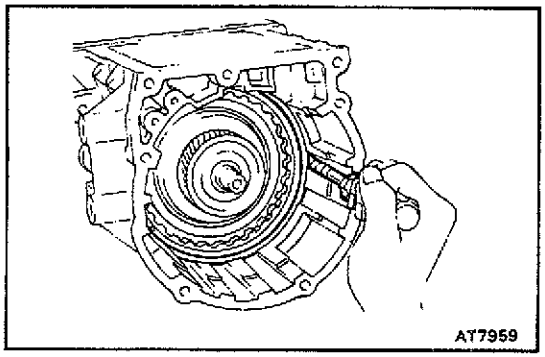


(b) Coat the assembled bearing and race with petroleum jelly and install it onto the sun gear.

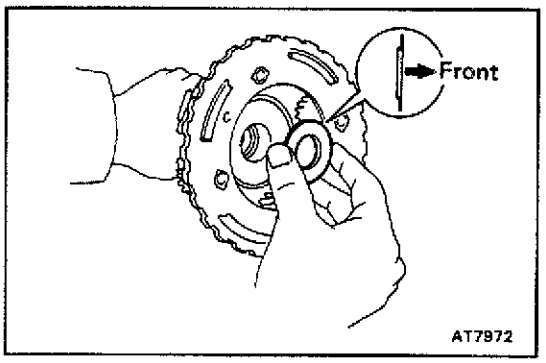
Assembled bearing and race diameter

mm (in.)

	Inside	Outside
Assembled bearing and race	19.0 (0.748)	45.0 (1.772)



(c) Install the snap ring.



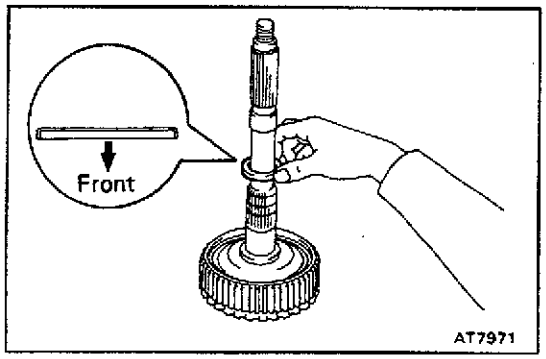
7. INSTALL OUTPUT SHAFT WITH PLANETARY RING GEAR

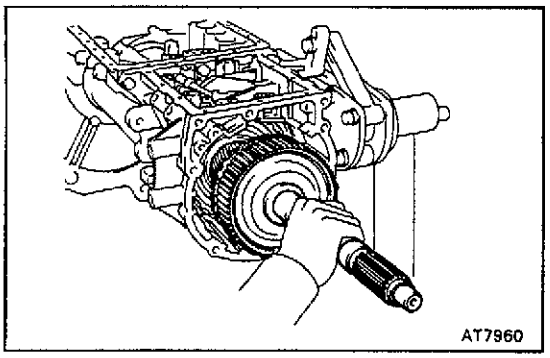
(a) Coat the races with petroleum jelly and install them onto the planetary gear and planetary ring gear.

Race diameter

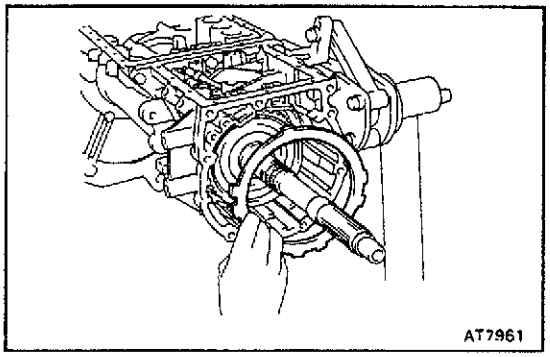
mm (in.)

	Inside	Outside
Front Race	23.1 (0.909)	45.0 (1.772)
Rear Race	36.3 (1.429)	53.9 (2.122)



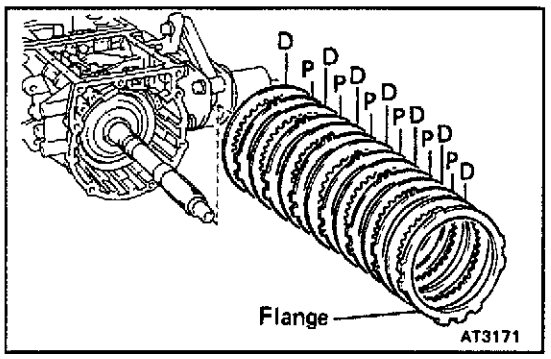

AT7960

(b) Install the output shaft with the planetary ring gear.


AT7961

8. INSTALL FLANGES, PLATES, DISCS AND CUSHION PLATE OF TRANSFER LOW SPEED BRAKE

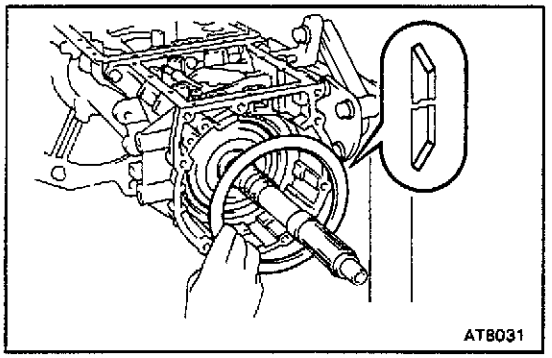
(a) Install the front flange to the case.



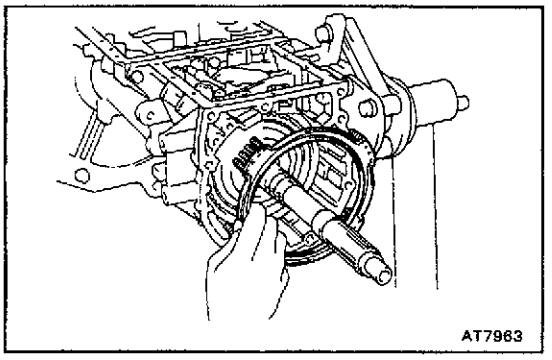
AT3171

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

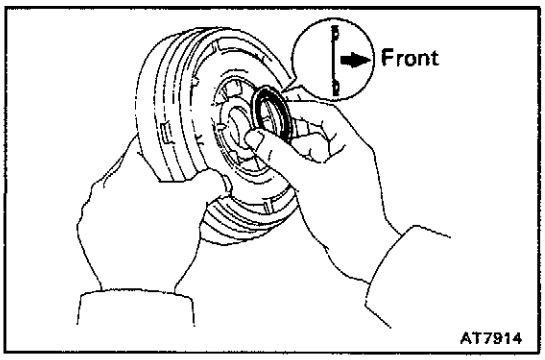
(c) Install the rear flange.


AT8031

(d) Install the cushion plate, the rounded end facing rearward.


AT7963

9. INSTALL PISTON RETURN SPRING OF TRANSFER LOW SPEED BRAKE



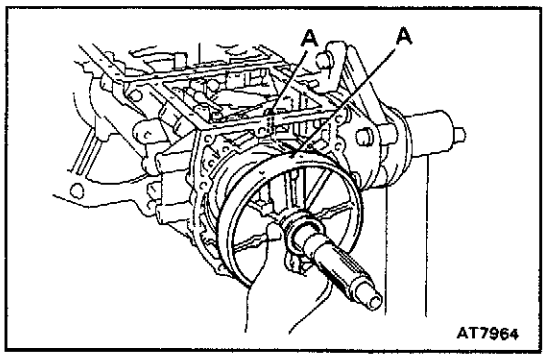
10. INSTALL TRANSFER CENTER SUPPORT

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

Assembled bearing and race diameter

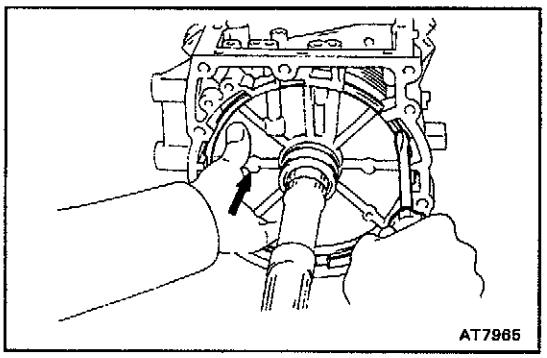
mm (in.)

	Inside	Outside
Assembled bearing and race	38.0 (1.496)	57.3 (2.256)

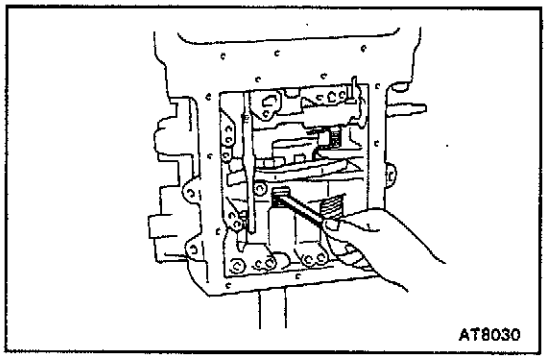


(b) Install the center support to the case.
HINT: Align the oil holes and bolt hole of the center support with those of the case side and insert.

AT



(c) Pushing the center support forward, install the snap ring.



11. CHECK PACK CLEARANCE OF TRANSFER LOW SPEED BRAKE

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

Clearance:

0.91 – 2.10 mm (0.0358 – 0.0827 in.)

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

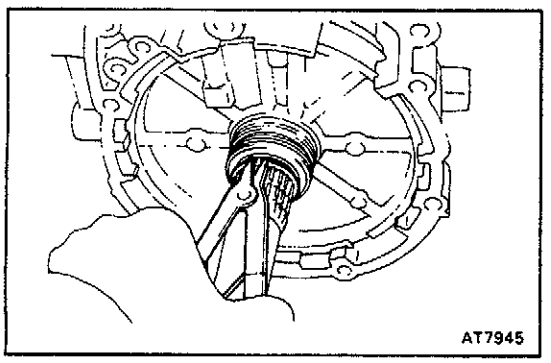
If the piston stroke is non–standard, select another flange.

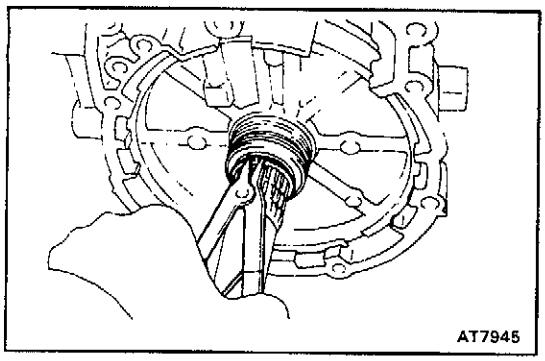
HINT: There are 5 different thicknesses for the flange.

Flange thickness

mm (in.)

Thickness	Thickness
3.8 (0.150)	4.4 (0.173)
4.0 (0.157)	4.6 (0.181)
4.2 (0.165)	

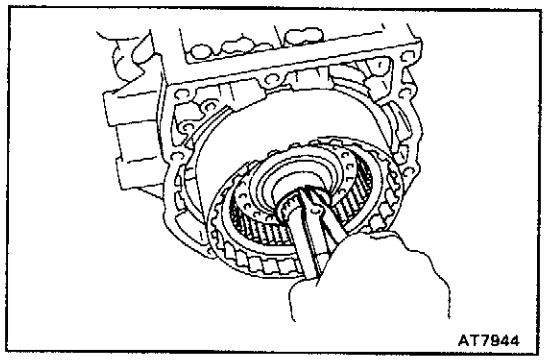




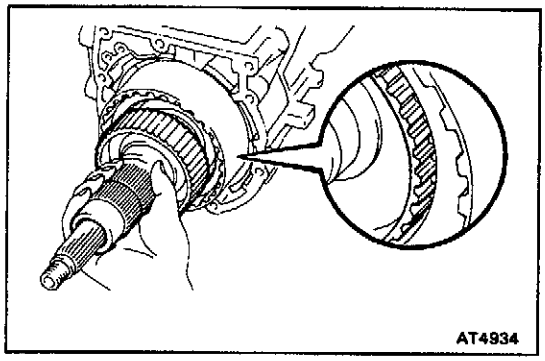
12. INSTALL TRANSFER FRONT DRIVE CLUTCH

(a) Install the snap ring to the output shaft.

(b) Install the front drive clutch.



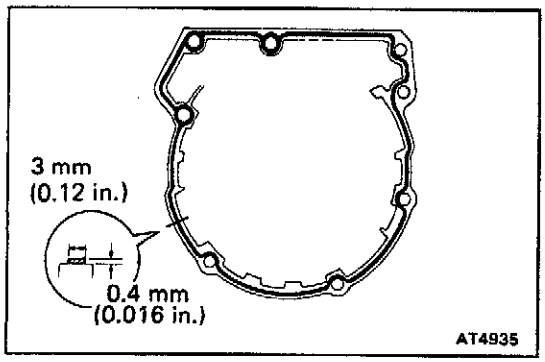
(c) Install the snap ring.



13. INSTALL FRONT OUTPUT SHAFT

Install the front output shaft into the transfer front drive clutch.

HINT: Mesh the splines of the front output shaft with the flukes of the discs by rotating and pushing the front output shaft.



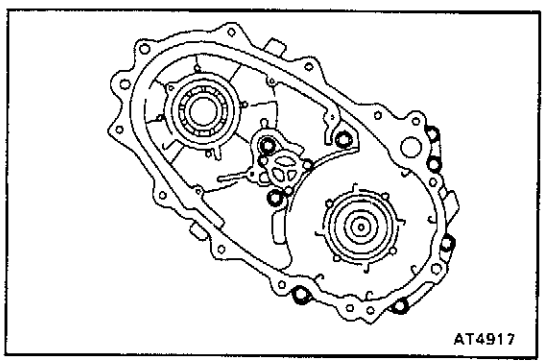
14. INSTALL TRANSFER CHAIN FRONT CASE

(a) Clean contacting surfaces of any residual packing material using gasoline or alcohol.

(b) Apply seal packing to the transfer case.

Seal packing:

Part No. 08826–00090, THREE BOND 1281 or equivalent



(c) Install the transfer chain front case to the transfer case.

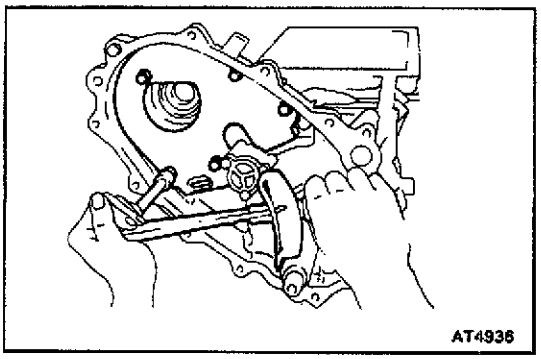
(d) Apply sealant to the threads of the bolts.

Sealant:

Part No. 08833–00070, THREE BOND 1324 or equivalent

(e) Install and torque the 8 bolts.

Torque: 34 N·m (345 kgf·cm, 25 ft·lbf)

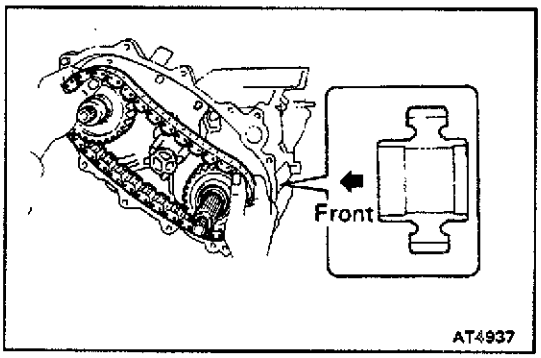


15. INSTALL TRANSFER CHAIN OIL RECEIVER

(a) Apply sealant to the threads of the bolts.
Sealant:
Part No. 08833–00070, THREE BOND 1324 or equivalent

(b) Install the oil receiver to the transfer chain front case.

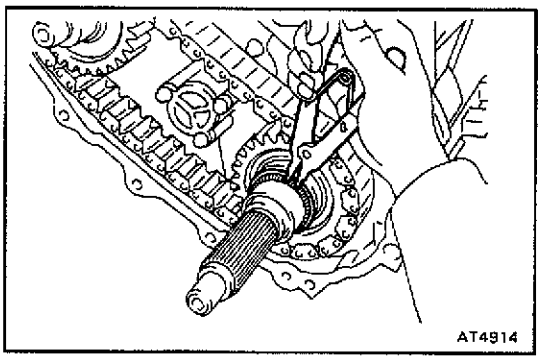
(c) Install and torque the bolts.
Torque: 10 N·m (100 kgf·cm, 7 ft·lbf)



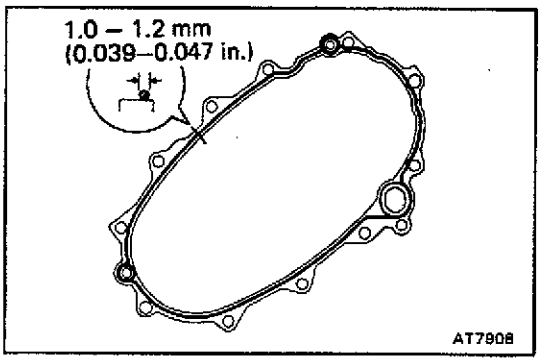
16. INSTALL DRIVE CHAIN WITH DRIVE SPROCKET AND DRIVEN SHAFT

(a) Install the chain with the drive sprocket and driven shaft.

AT



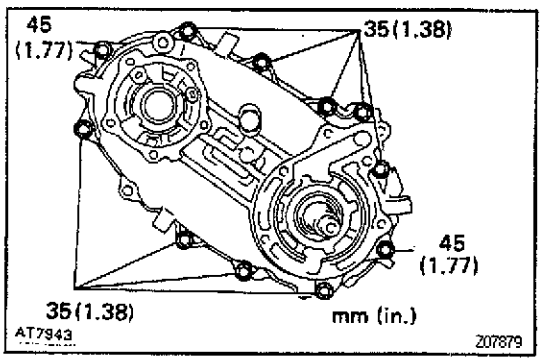
(b) Install the snap ring.



17. INSTALL TRANSFER CHAIN REAR CASE

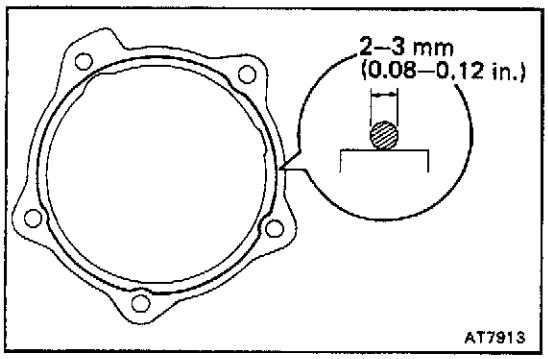
(a) Clean contacting surfaces of any residual packing material using gasoline or alcohol.

(b) Apply seal packing to the chain rear case.
Seal packing:
Part No. 08826–00090, THREE BOND 1281 or equivalent



(c) Install the chain rear case to the front case.

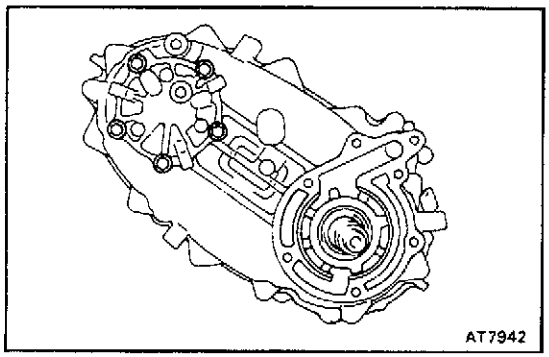
(d) Install and torque the 11 bolts.
Torque: 34 N·m (345 kgf·cm, 25 ft·lbf)
HINT: Each bolt length is indicated in the illustration.



18. INSTALL OIL PUMP ASSEMBLY

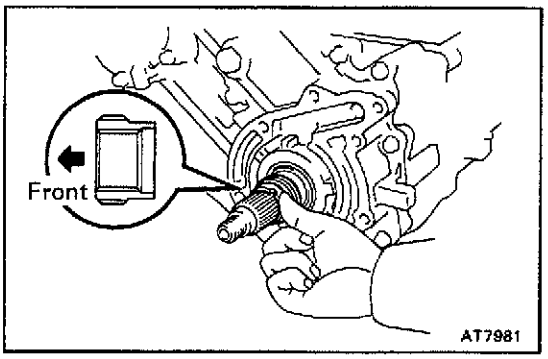
(a) Clean contacting surfaces of any residual packing material using gasoline or alcohol.

(b) Apply seal packing to the chain rear case.
Seal packing:
Part No. 08826–00090, THREE BOND 1281 or equivalent

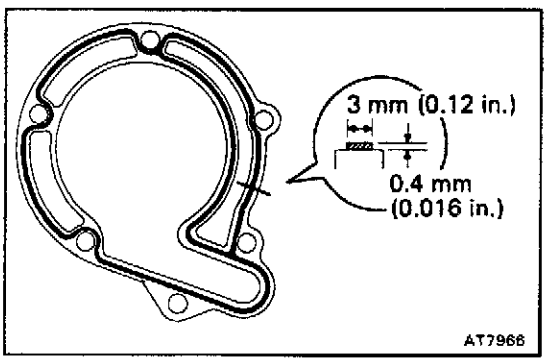


(c) Install the oil pump assembly and torque the 5 bolts.
Torque: 16 N·m (160 kgf·cm, 12 ft·lbf)

AT



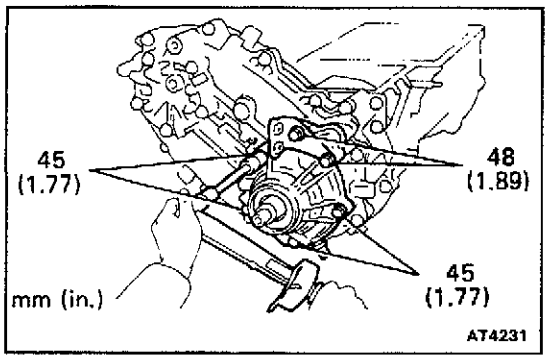
19. INSTALL SPEEDOMETER DRIVE GEAR



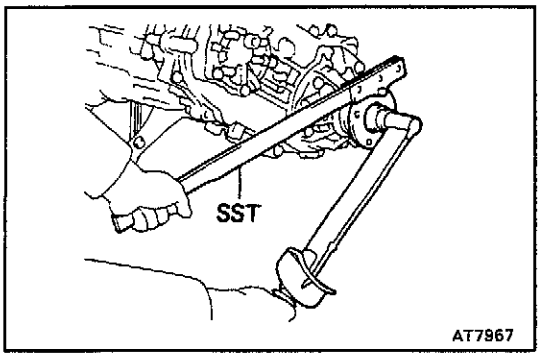
20. INSTALL EXTENSION HOUSING

(a) Clean contacting surfaces of any residual packing material using gasoline or alcohol.

(b) Apply seal packing to the extension housing.
Seal packing:
Part No. 08833–00090, THREE BOND 1131, LOCTITE 518 or equivalent



(c) Install the extension housing to the chain rear case.
Torque: 34 N·m (345 kgf·cm, 25 ft·lbf)
HINT: Each bolt length is indicated in the illustration.

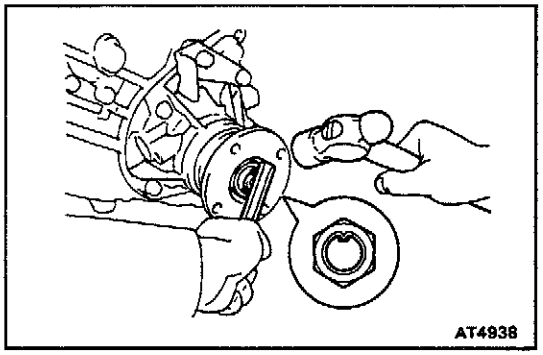


21. INSTALL REAR COMPANION FLANGE

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

(b) Install the companion flange and washer to the shaft.

(c) Using SST to hold the flange, torque a new nut.
SST 09330–00021
Torque: 123 N·m (1,250 kgf·cm, 90 ft·lbf)

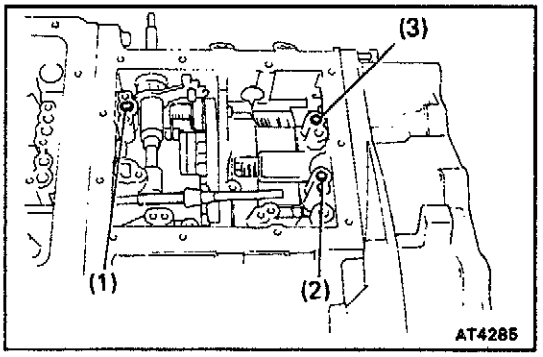


(d) Using a hammer and punch, stake the nut.

22. INSTALL FRONT COMPANION FLANGE

Install the front companion flange in the same way as the rear companion flange.

AT

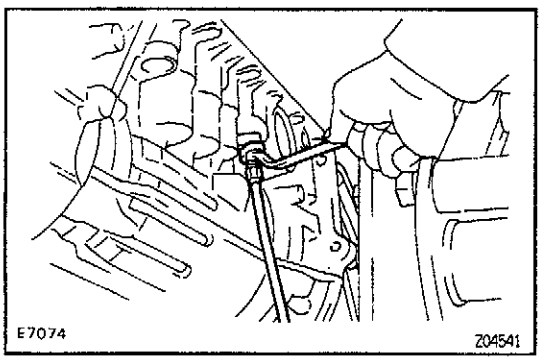


23. INDIVIDUAL PISTON OPERATION INSPECTION

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

(1) Transfer direct clutch
(2) Transfer low speed brake
(3) Transfer front drive clutch

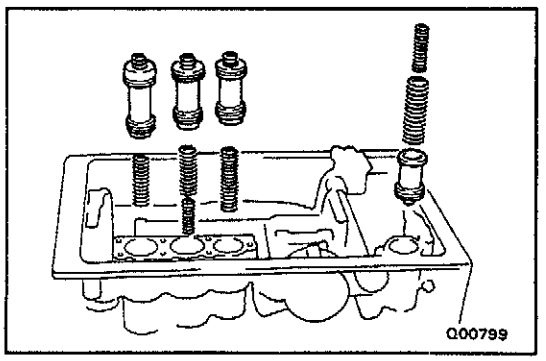
If there is no noise, disassemble and check the installation condition of the parts.



24. INSTALL THROTTLE CABLE

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

(b) Install the cable to the case

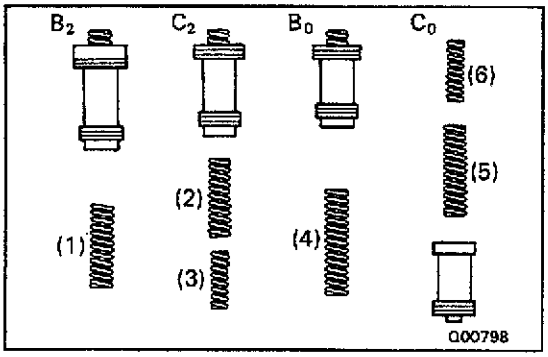


25. INSTALL ACCUMULATOR SPRINGS, PISTONS AND PINS

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

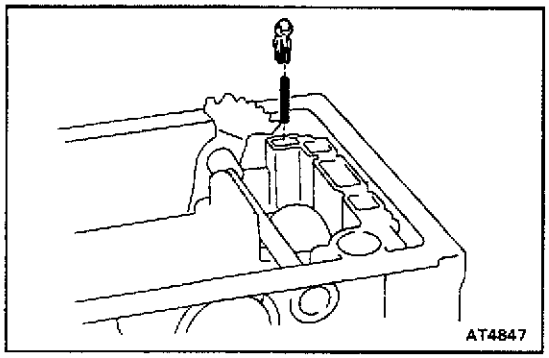
(b) Install the 5 springs, 4 accumulator pistons to the bore.

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

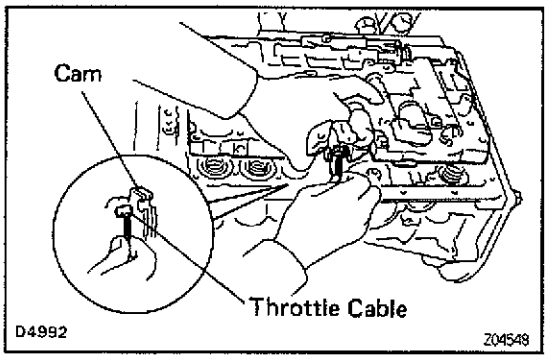


- **Spring**

Spring		Free length Outer diameter	Color
(1) B_2		70.5 mm (2.776 in.) 19.7mm (0.776 in.)	Yellow
(2) C_2	Outer	70.2 mm (2.764 in.) 20.2 mm (0.795 in.)	Purple
(3) C_2	Inner	42.1 mm (1.657 in.) 14.7 mm (0.579 in.)	Purple
(4) B_0		62.0 mm (2.441 in.) 16.0mm (0.630 in.)	Green
(5) C_0	Outer	74.6 mm (2.937 in.) 20.9 mm (0.823 in.)	Orange
(6) C_0	Inner	46.0 mm (1.811 in.) 14.0 mm (0.551 in.)	Yellow



26. INSTALL CHECK BALL BODY AND SPRING

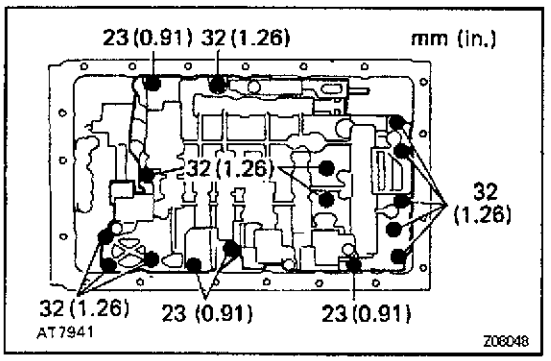


27. INSTALL TRANSMISSION VALVE BODY

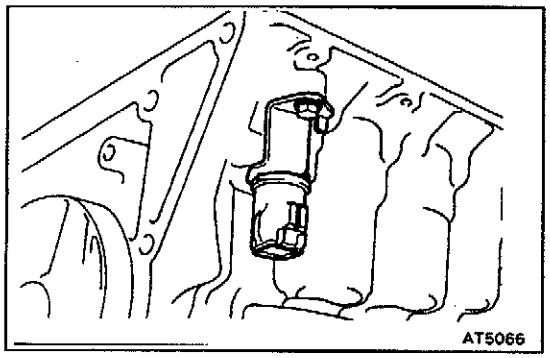
(a) Align the groove of the manual valve to the pin of the lever.

(b) Connect the throttle cable to the cam.

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



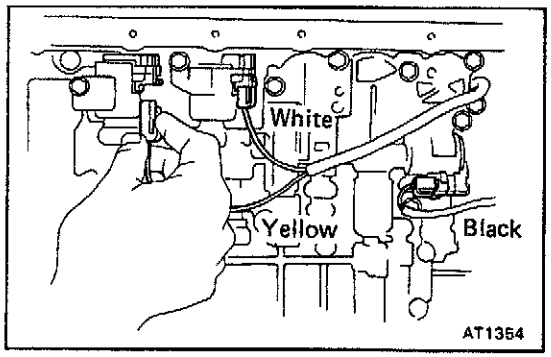
(d) Install the 16 bolts.
HINT: Each bolt length is indicated in the illustration.
Torque: 10 N·m (100 kgf·cm, 7 ft·lbf)



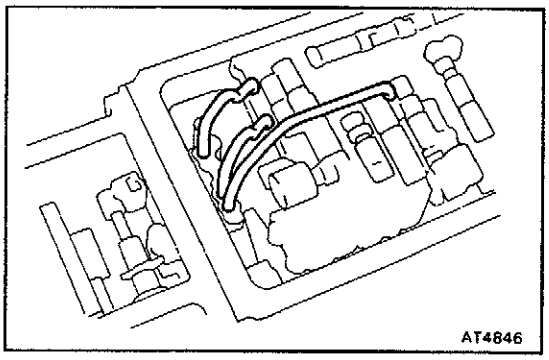
28. INSTALL TRANSMISSION SOLENOID WIRING

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

(b) Insert the solenoid wiring to the case and install the stopper plate.



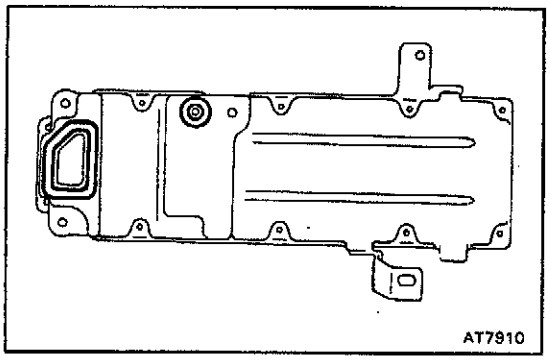
(c) Connect the connectors to the No.1, No.2 and lock–up solenoids.



29. INSTALL OIL TUBES

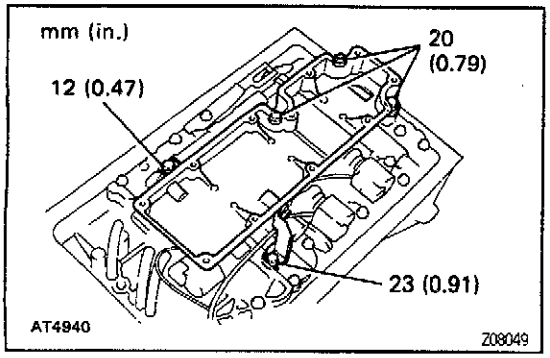
Using a plastic hammer, install the 3 tubes into position.

NOTICE: Be careful not to bend or damage the tubes.



30. INSTALL OIL STRAINER AND GASKETS

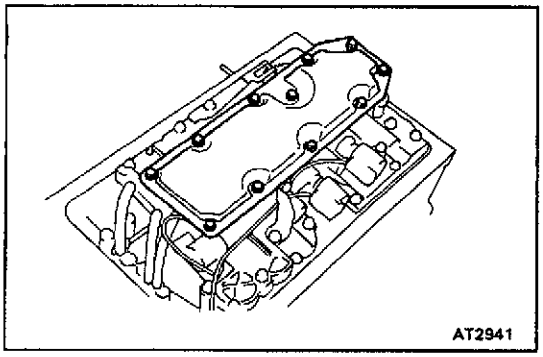
(a) Install the 2 new gaskets in the oil strainer case.



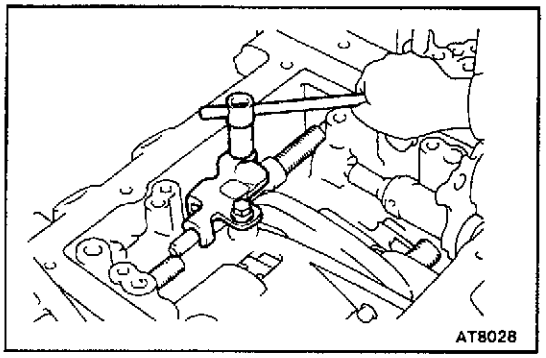
(b) Install the oil strainer case and torque the 5 bolts.

Torque: 10 N·m (100 kgf·cm, 7 ft·lbf)

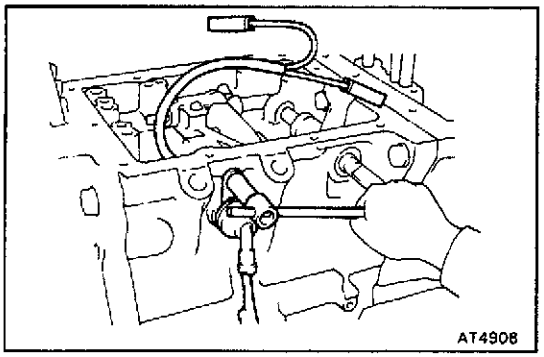
HINT: Each bolt length is indicated in the illustration.



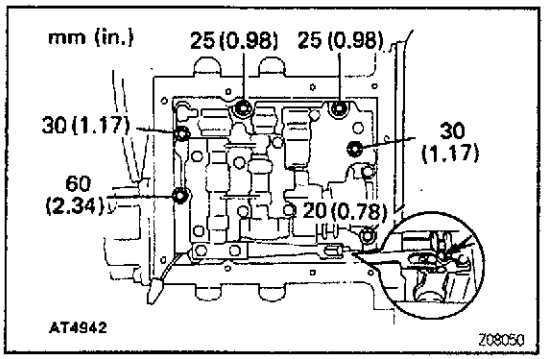
(c) Install the new gasket in the oil strainer case.
(d) Install the oil strainer and torque the 11 bolts.
Torque: 6.9 N·m (70 kgf·cm, 61 in.·lbf)



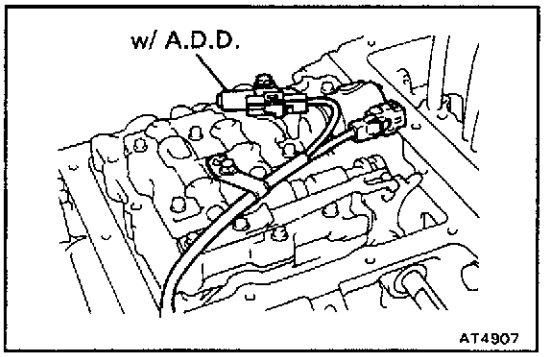
31. INSTALL PARKING LOCK PAWL BRACKET
Torque: 6.9 N·m (70 kgf·cm, 61 in.·lbf)



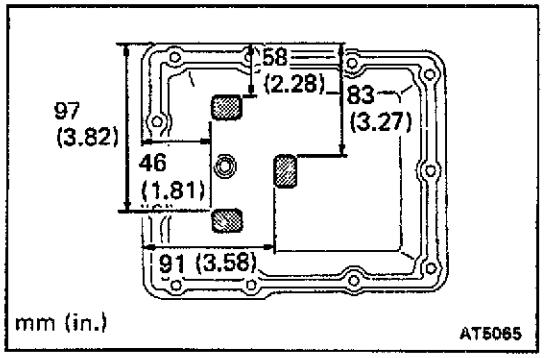
32. INSTALL TRANSFER SOLENOID WIRING
(a) Coat the new O–ring with ATF and install it to the grommet.
(b) Install solenoid wiring into the transfer case.
(c) Install the stopper plate.



33. INSTALL TRANSFER VALVE BODY
(a) Align the groove of the manual valve to the pin of the lever.
(b) Install and torque the 6 bolts.
Torque: 10 N·m (100 kgf·cm, 7 ft·lbf)
HINT: Each bolt length is indicated in the illustration.

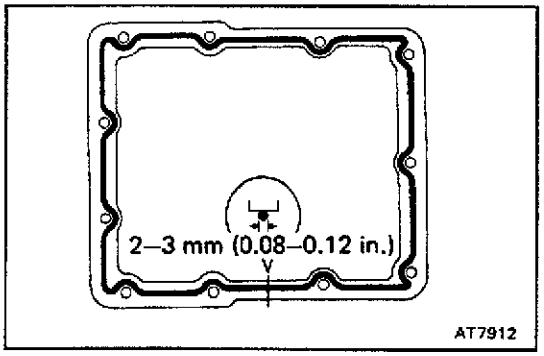


(c) Connect the connectors to the No.4 solenoid and transfer pressure switch.
(d) Clamp the wiring.



34. INSTALL TRANSFER OIL PAN

(a) Install the 3 magnets.

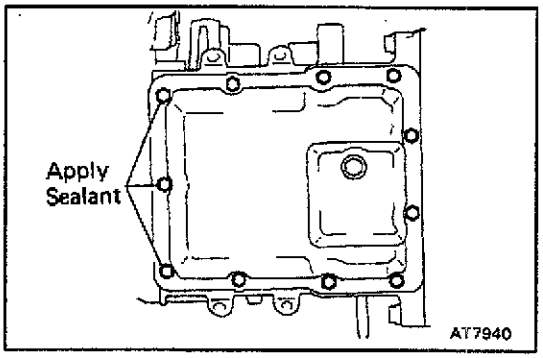


(b) Remove any packing material and be careful not to drop the oil on the contacting surfaces of the oil pan and transfer case.

(c) Apply seal packing to the oil pan.

Seal packing:

Part No. 08826–00090, THREE BOND 1281 or equivalent



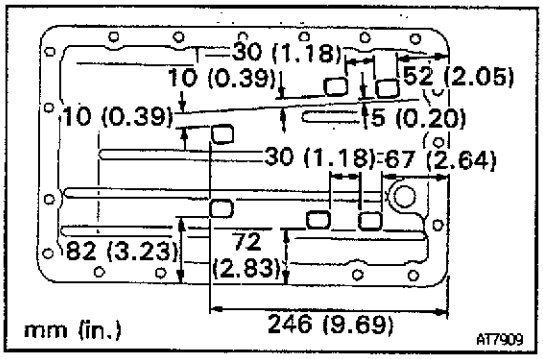
(d) Apply sealant to the treads of the 3 bolts.

Sealant:

Part No. 08833–00070, THREE BOND 1324 or equivalent

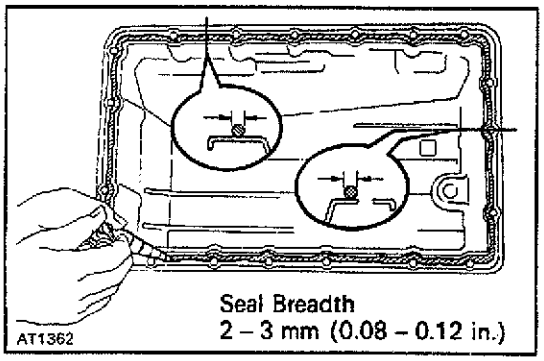
(e) Install the oil pan and torque the 11 bolts.

Torque: 7.4 N·m (75 kgf·cm, 65 in.·lbf)



35. INSTALL TRANSMISSION OIL PAN

(a) Install the 6 magnets.



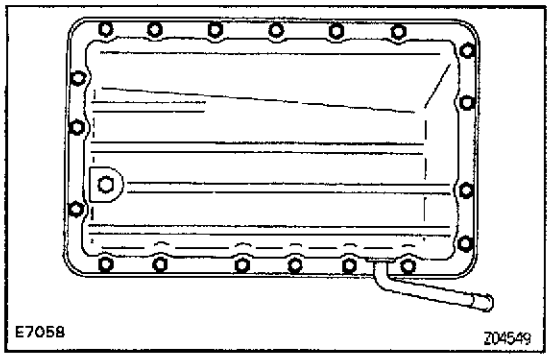
(b) Remove any packing material and be careful not to drop oil on the contacting surfaces of the transmission case and oil pan.

(c) Apply seal packing to the oil pan.

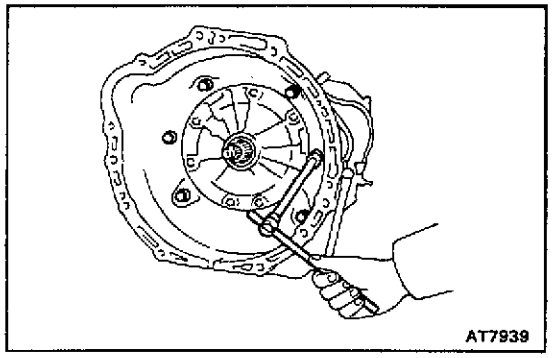
Seal packing:

Part No. 08826–00090, THREE BOND 1281 or equivalent

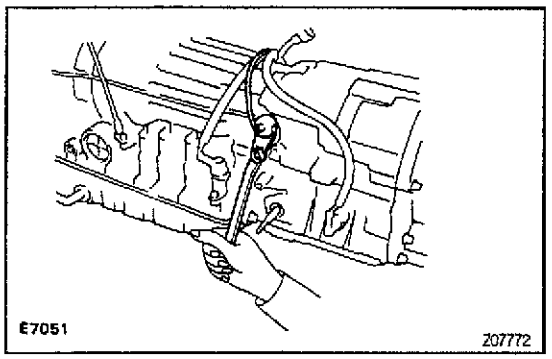
AT



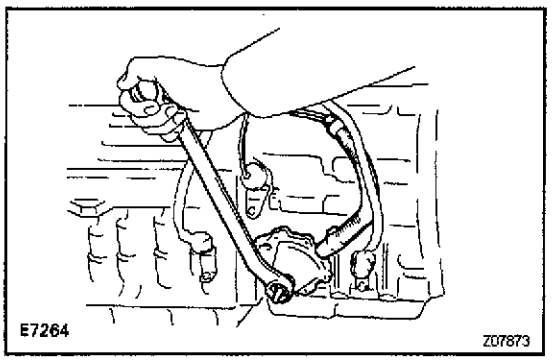
(d) Install and torque the 19 bolts.
Torque: 7.4 N·m (75 kgf·cm, 65 in.·lbf)



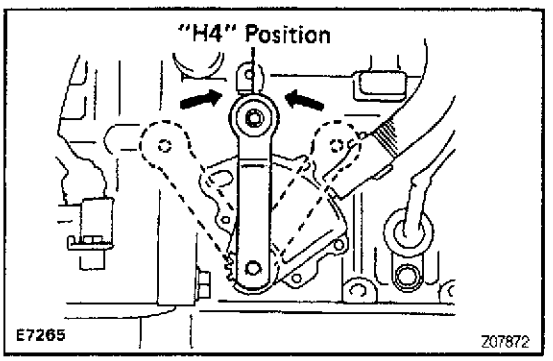
36. INSTALL TRANSMISSION HOUSING
Install and torque the 6 bolts.
Torque:
14 mm bolt 34 N·m (345 kgf·cm, 25 ft·lbf)
17 mm bolt 57 N·m (580 kgf·cm, 24 ft·lbf)



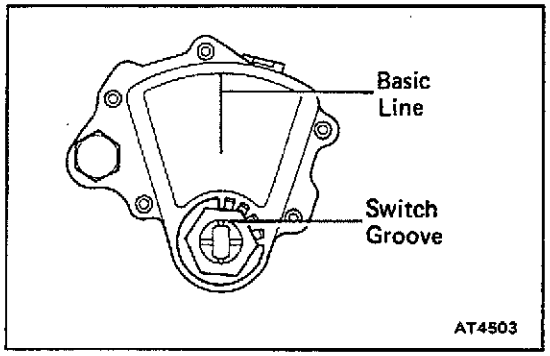
37. INSTALL NO.2 VEHICLE SPEED SENSOR
(a) Coat the new O–ring with ATF and install it to the vehicle speed sensor.
(b) Install the vehicle speed sensor and stopper plate.
(c) Connect the wiring connector.



38. INSTALL TRANSFER POSITION SWITCH
(a) Install the transfer position 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: 3.9 N·m (40 kgf·cm, 35 in.·lbf)

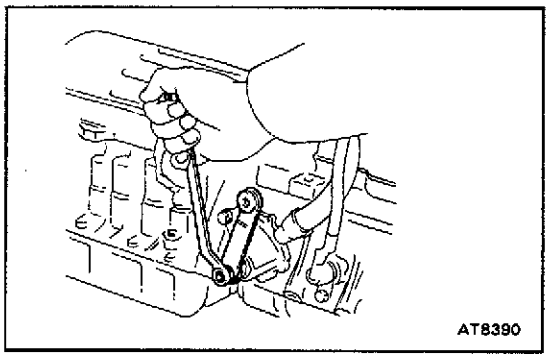


(c) Using the control shaft lever, shift the lever into the "H4" position



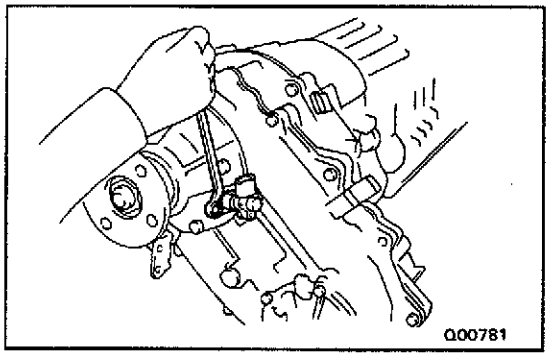
(d) Align the basic line and the switch groove, and tighten the bolt.
Torque: 13 N·m (130 kgf·cm, 9 ft·lbf)

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

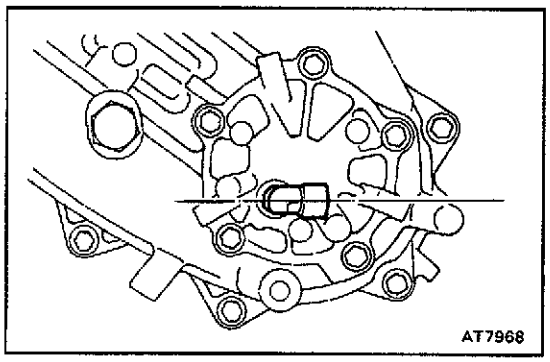


39. INSTALL TRANSFER CONTROL SHAFT LEVER
Torque: 16 N·m (160 kgf·cm, 12 ft·lbf)

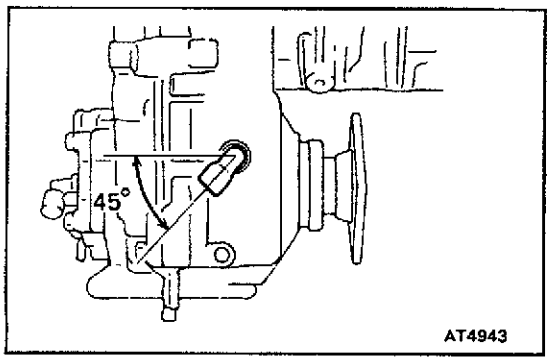
A1



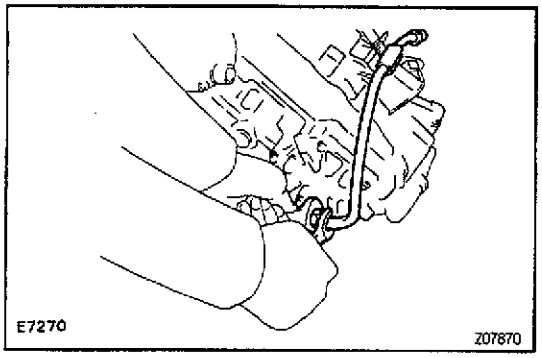
40. INSTALL SPEEDOMETER DRIVEN GEAR
(a) Coat the new O–ring with ATF and install it to the sensor.
(b) Install the driven gear into the sensor.
(c) Install the sensor the extension housing.
(d) Torque the bolt.
Torque: 16 N·m (160 kgf·cm, 12 ft·lbf)



41. INSTALL TRANSFER SIDE UNIONS
(a) Coat the new 2 O–rings with ATF and install them to each union.
(b) Install the outlet union.
Torque: 29 N·m (300 kgf·cm, 22 ft·lbf)



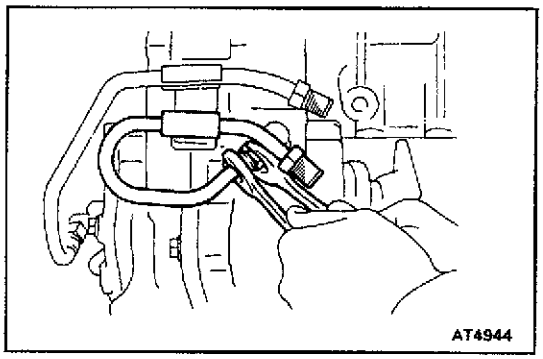
(c) Install the inlet union.
Torque: 29 N·m (300 kgf·cm, 22 ft·lbf)



42. INSTALL TRANSFER OIL COOLER TUBES

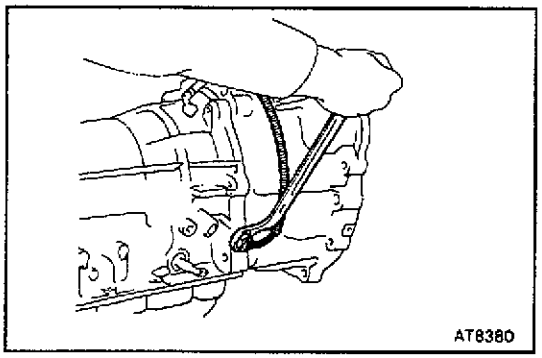
(a) Install the tube clamp bracket.
Torque: 34 N·m (345 kgf·cm, 25 ft·lbf)

(b) Install the outlet tube.
Torque: 34 N·m (350 kgf·cm, 25 ft·lbf)



(c) Install the inlet tube.
Torque: 34 N·m (350 kgf·cm, 25 ft·lbf)

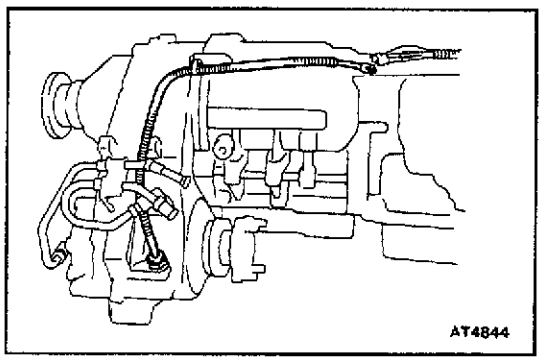
(d) Install the tube clamp
Torque: 10 N·m (100 kgf·cm, 7 ft·lbf)

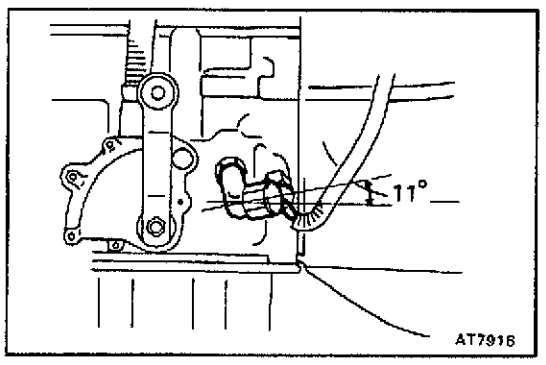


43. INSTALL TRANSMISSION AND TRANSFER FLUID TEMPERATURE SENSORS

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

(b) Install and torque the transmission and transfer fluid temperature sensors.
Torque: 15 N·m (150 kgf·cm, 11 ft·lbf)

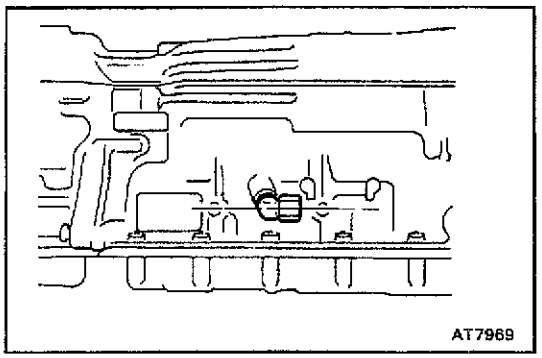




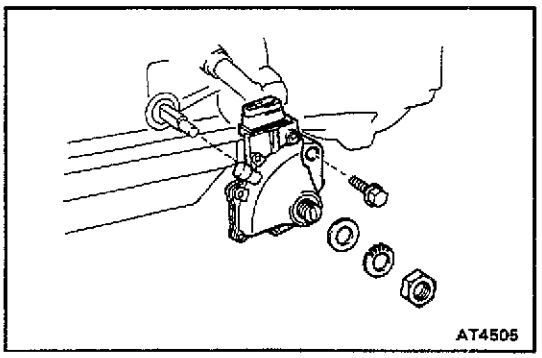
44. INSTALL TRANSMISSION SIDE UNIONS

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

(b) Install the front union.
Torque: 29 N·m (300 kgf·cm, 22 ft·lbf)



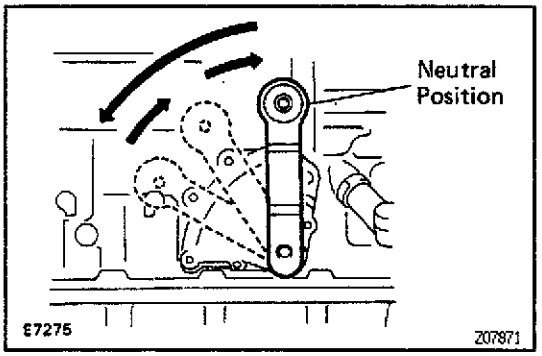
(c) Install the rear union.
Torque: 29 N·m (300 kgf·cm, 22 ft·lbf)



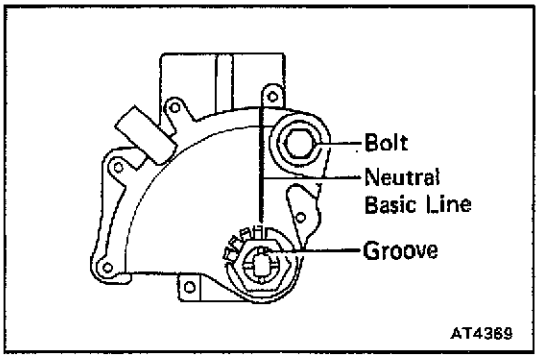
45. INSTALL PARK/NEUTRAL POSITION SWITCH

(a) Install the park / neutral position 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)

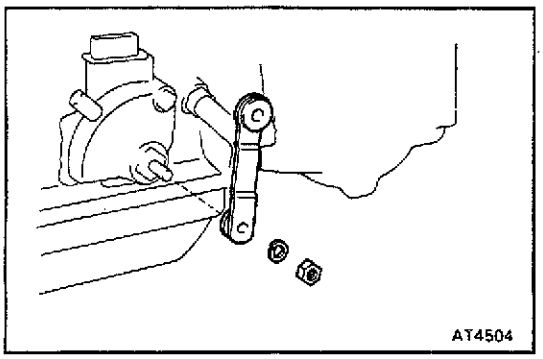


(c) Using the control shaft lever, fully turn the manual lever shaft back and return 2 notches. It is now in neutral.

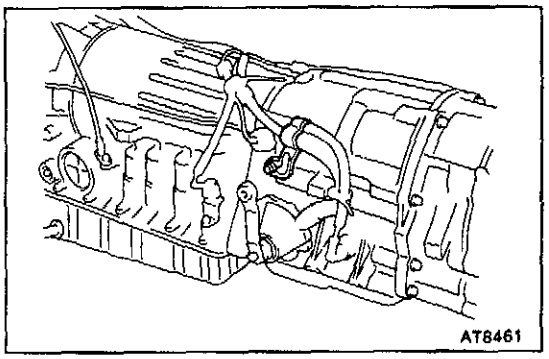


(d) Align the neutral basic line and the switch groove, and tighten the adjusting bolt.
Torque: 13 N·m (130 kgf·cm, 9 ft·lbf)

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



46. INSTALL TRANSMISSION CONTROL SHAFT LEVER
Torque: 16 N·m (160 kgf·cm, 12 ft·lbf)



47. INSTALL WIRE HARNESS CLAMPS

