

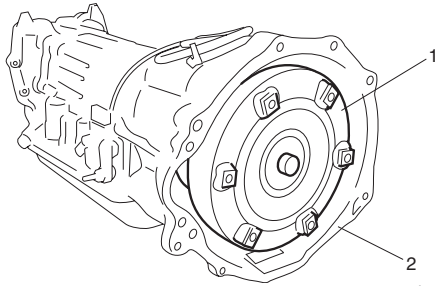
Automatic Transmission Unit Disassembly

S6JB0A5106029

- 1) Extract torque converter. And remove oil filler tube and dipstick.

CAUTION

Remove torque converter as much straight as possible. Leaning it may cause damage to oil seal lip.



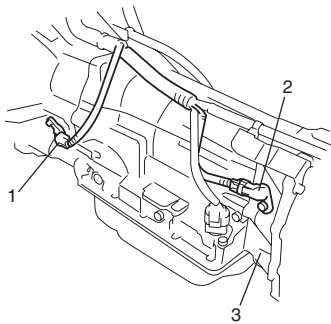
I5JB0A510069-01

- | |
|----------------------|
| 1. Torque converter |
| 2. Converter housing |

- 2) Remove input shaft speed sensor (1) and output shaft speed sensor (2).
- 3) Remove 6 adapter case fixing bolts and then remove adaptor case (3) and gasket.

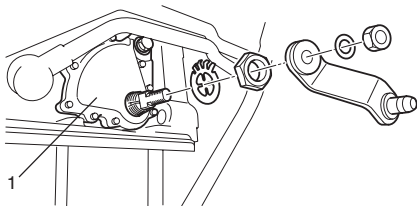
NOTE

Use care not to cause damage to oil seal.



I5JB0A510070-02

- 4) Remove shift switch (1).

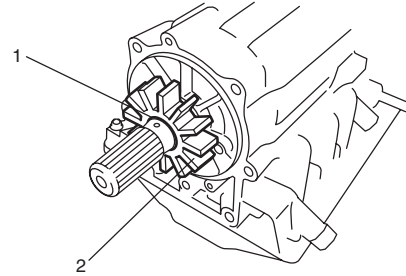


I5JB0A510071-01

- 5) Remove C-ring (1) and then remove speed sensor rotor (2).

NOTE

Use care not to loose rotor stop key.



I5JB0A510072-01

- 6) Remove oil pump (1) by using special tools.

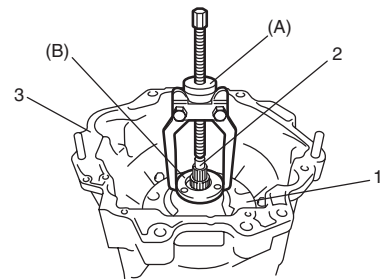
Special tool

- (A): 09913-65135
(B): 09927-66520

NOTE

Use care not to cause damage to shaft bushing surface.

- 7) Remove bearing at the rear of oil pump (1).
- 8) Remove O-ring from oil pump (1).
- 9) Holding input shaft (2) by hand, remove converter housing (3).



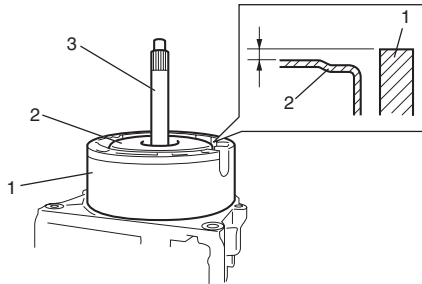
I5JB0A510073-01

5A-105 Automatic Transmission/Transaxle:

- 10) Check dimensions of overdrive (O/D) case (1) surface and clutch cylinder (2) surface for reassembly.
- 11) Remove overdrive (O/D) clutch assembly by holding input shaft (3).
- 12) Remove O/D case, bearing and bearing race.

NOTE

Confirm direction of bearing and bearing race for reassembly.

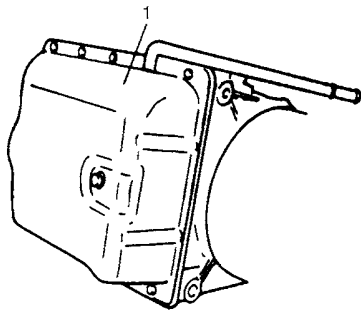


I5JB0A510074-01

- 13) Remove oil pan (1).

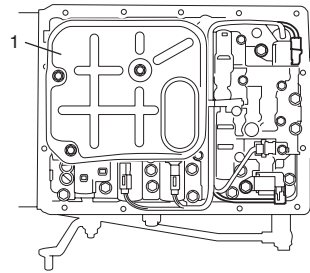
NOTE

- Hold oil pan with oil pan side down to prevent foreign material in oil pan from entering valve body.
- If iron powder is found, it is possible that bearing, gear or clutch plate is worn.



IYSQ01510094-01

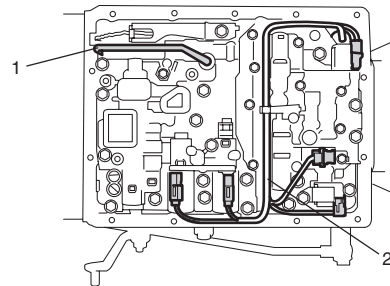
- 14) Remove oil strainer (1).



I5JB0A510075-01

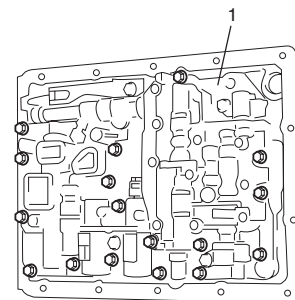
- 15) Remove overdrive (O/D) brake apply tube (1).

- 16) Disconnect couplers, and then remove transmission wire connector (2).



I5JB0A510077-02

- 17) Remove valve body (1) mounting bolts as shown in the figure.

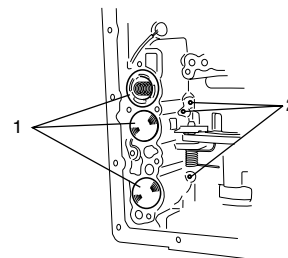


I5JB0A510076-01

- 18) Remove accumulator pistons (1) by blowing air into holes (2) as shown in the figure.

NOTE

Hold accumulator piston (1) with shop cloth while blowing.

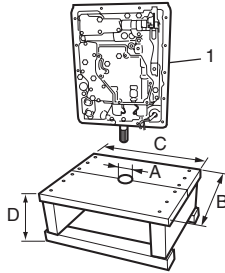


I5JB0A510078-04

19) Place transmission (1) upright as shown in the figure.

NOTE

- To prevent transmission case from getting damaged, protect its contacting surface with stand by using shop cloth or the like.
- A stand of such size as shown in the figure will facilitate work.



I5JB0A510079-01

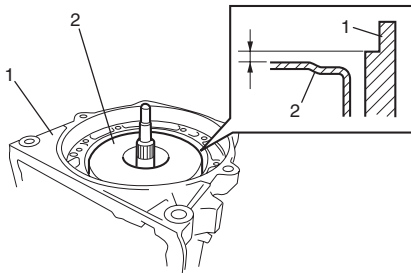
A:	50 mm (1.9 in.)
B:	350 mm (13.8 in.)
C:	400 mm (15.7 in.)
D:	200 mm (7.9 in.)

20) Check top surface level of forward clutch (2) against case (1) for reassembly.

21) Remove forward clutch.

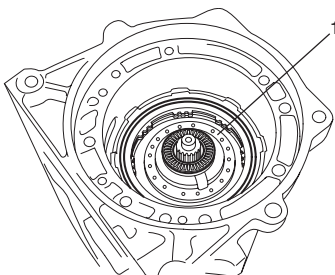
NOTE

Confirm direction of bearing and bearing race for reassembly.



I5JB0A510080-01

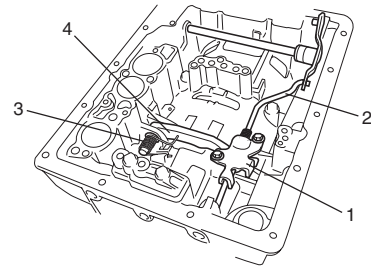
22) Remove direct clutch (1).



I5JB0A510081-01

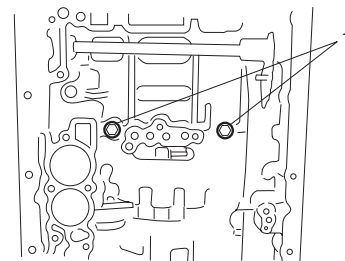
23) Remove pawl bracket (1), and then parking lock rod (2) from manual shift lever.

24) Remove pawl spring (3), pawl pin and parking rock pawl (4).



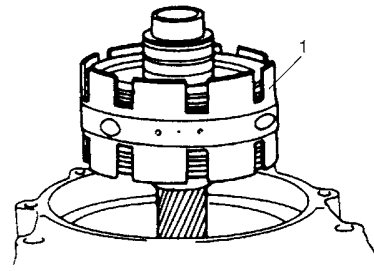
I5JB0A510082-01

25) Remove 2 bolts (1) from valve body side.



I5JB0A510083-01

26) Remove center support assembly (1).

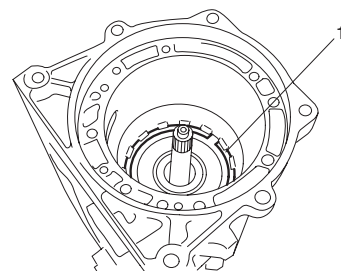


IYSQ01510104-01

27) Remove retaining ring (1), planetary gear assembly leaf spring, bearing and bearing race.

NOTE

- Use care not to cause damage to case when removing retaining ring.
- Confirm direction of bearing and bearing race for reassembly.



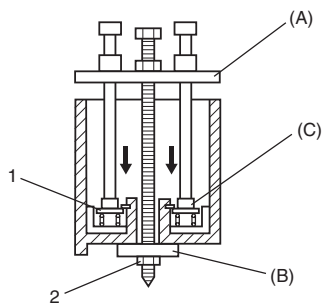
I5JB0A510084-01

5A-107 Automatic Transmission/Transaxle:

- 28) Remove apply tube.
- 29) Remove reverse brake return spring (1) using special tools.

Special tool

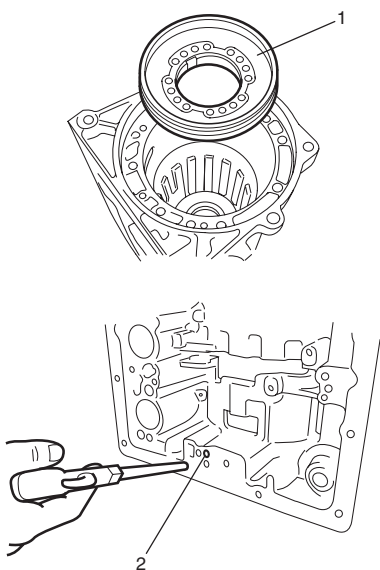
- (A): 09926-98390
- (B): 09944-88210
- (C): 09926-98320



I5JB0A510085-01

2. Nut M12 x 1.75

- 30) Remove reverse brake piston (1) by applying compressed air (400 – 800 kPa, 4 – 8 kg/cm², 57 – 113 psi) to oil hole (2).

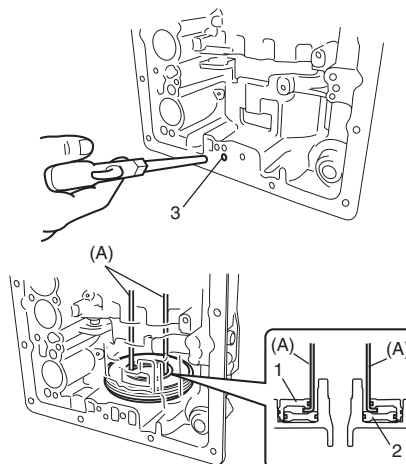


I5JB0A510086-02

- 31) Apply compressed air (400 – 800 kPa, 4 – 8 kg/cm², 57 – 113 psi) to oil hole (3) to remove brake reaction sleeve (1) and secondary reverse piston (2).
- 32) Remove brake reaction sleeve (1) and secondary reverse piston (2) by using special tools.

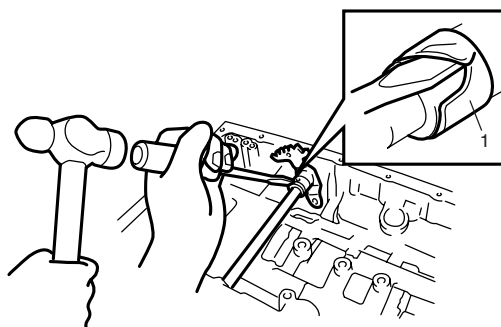
Special tool

- (A): 09920-20310



I5JB0A510087-02

- 33) Remove manual shift shaft and lever as follows.
 - a) Undo caulking of sleeve cover (1) by using flat end rod or the like and hammer.

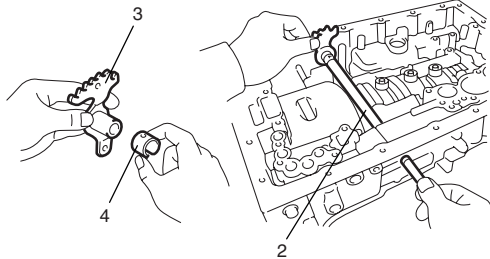
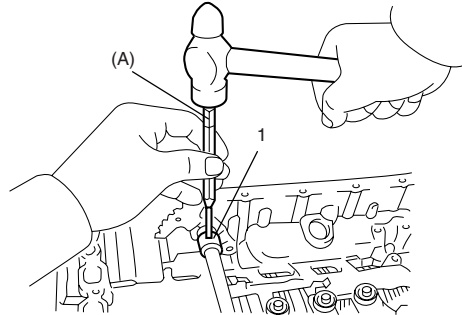


I4JA01512082-01

- b) Drive out manual shift lever pin (1) by using special tool and hammer.

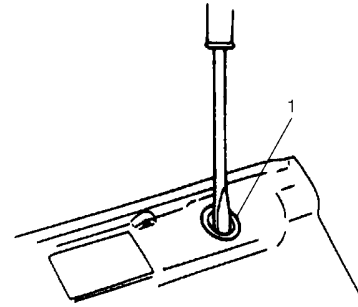
Special tool
(A): 09922-89810

- c) Pull out manual shift shaft (2) from transmission case, and then remove manual shift lever (3) and sleeve cover (4).



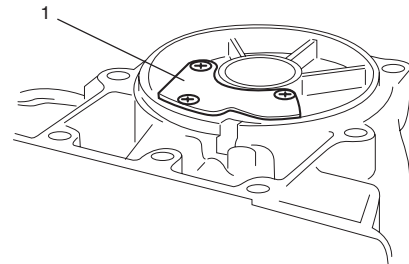
I4JA01512083-01

- 34) Remove oil seal (1) from both sides of transmission case.



IYSQ01510111-01

- 35) Remove cover plate (1).

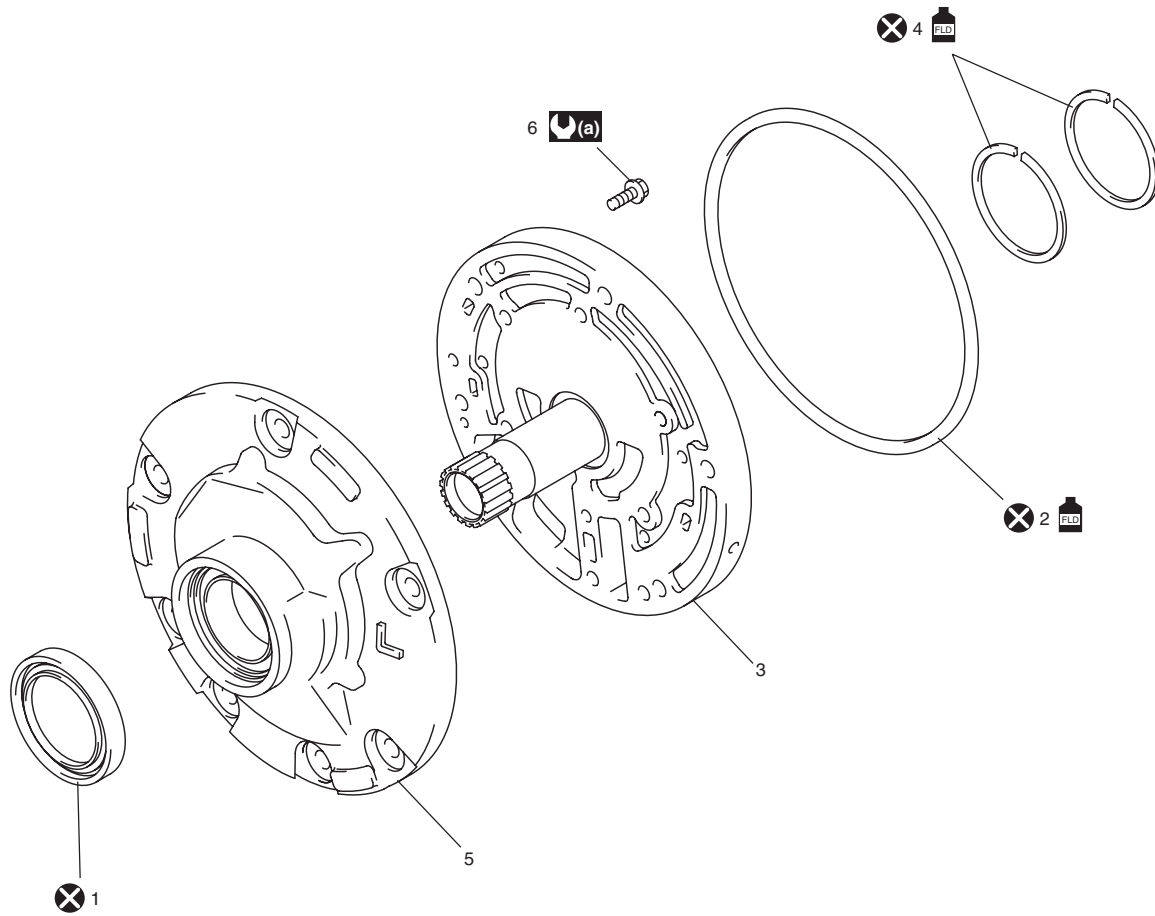


I5JB0A510089-01

5A-109 Automatic Transmission/Transaxle:

Oil Pump Components

S6JB0A5106030



I5JB0A510090-01

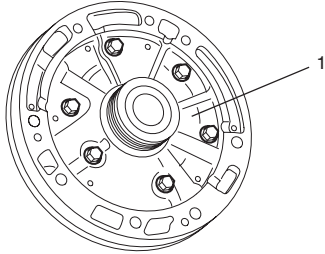
1. Oil pump body oil seal	4. Seal ring	(a) : 7.5 N-m (0.75 kgf-m, 5.5 lb-ft)
2. Oil pump cover O-ring	5. Oil pump body	: Do not reuse.
3. Oil pump cover	6. Oil pump bolt	: Apply A/T fluid.

Oil Pump Disassembly and Assembly

S6JB0A5106031

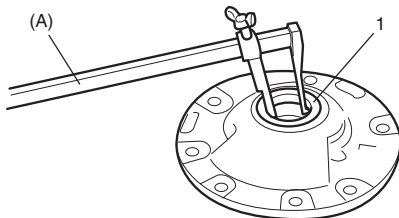
Disassembly

- 1) Remove 6 bolts, oil pump cover (1), drive gear and driven gear in that order.



I5JB0A510091-01

- 2) Remove oil pump cover O-ring.
- 3) Remove oil pump body oil seal (1) using special tool.

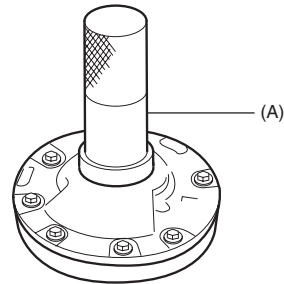
Special tool**(A): 09913-50121**

I5JB0A510093-01

Assembly

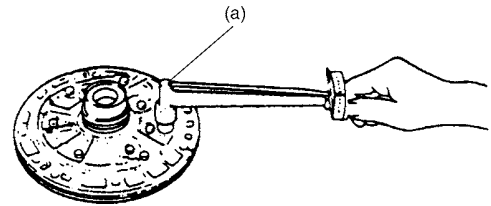
Assemble each component by reversing removal procedure and noting the following points.

- Before installing inner gear and outer gear to pump body, apply A/T fluid to them.
- Install oil pump seal using special tool.

Special tool**(A): 09913-85210**

I5JB0A510092-01

- When installing pump cover, use care so that its splined part will not cause damage to oil seal and use specified torque to tighten it to pump body.

Tightening torque**Oil pump bolt (a): 7.5 N·m (0.75 kgf-m, 5.5 lb-ft)**

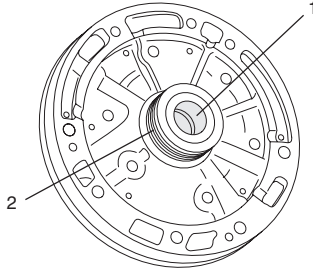
IYSQ01510114-01

- When installing O-ring and oil seal, apply enough A/T fluid to them and fit them securely in groove.
- After installation, check that inner gear turns smoothly by making use of torque converter.
- When installing seal ring, it should not be opened more than necessary.
- Fit claws of seal ring securely.

Oil Pump Inspection

S6JB0A5106032

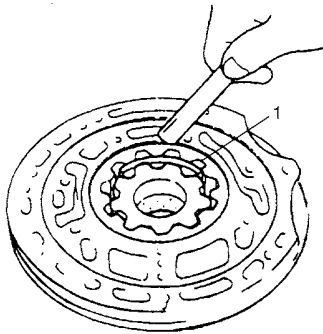
- Check seal ring (2) and bushing (1) for wear and damage.



I5JB0A510094-01

- Check clearance between outer gear (1) and body.

Clearance between outer gear and body
Standard: 0.07 – 0.15 mm (0.0028 – 0.0059 in.)
Service limit: 0.30 mm (0.0118 in.)



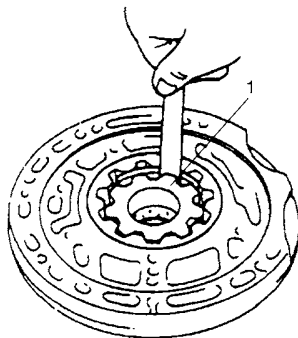
IYSQ01510116-01

- Check tip clearance between inner gear (1) and outer gear.

Tip clearance between inner gear and outer gear
Standard: 0.11 – 0.14 mm (0.0043 – 0.0055 in.)
Service limit: 0.30 mm (0.0118 in.)

NOTE

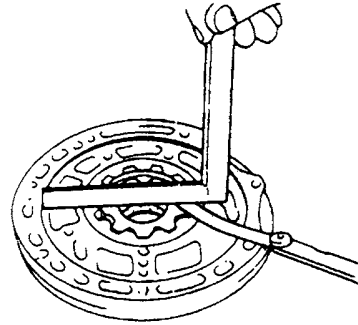
Measure with torque converter installed.



IYSQ01510117-01

- Check side clearance between inner gear/outer gear and pump body.

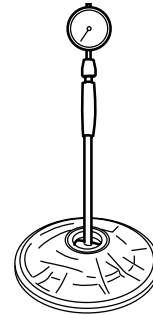
Side clearance between inner gear / outer gear and pump body
Standard: 0.02 – 0.05 mm (0.0008 – 0.0020 in.)
Service limit: 0.1 mm (0.0039 in.)



IYSQ01510118-01

- Measure inside diameter of oil pump body bushing. If inside diameter exceeds limit, replace oil pump body.

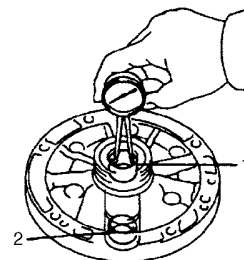
Oil pump body bushing inside diameter standard
38.113 – 38.138 mm (1.5005 – 1.5014 in.)



I4JA01512140-01

- Measure inside diameter of stator shaft assembly bushing. If inside diameter exceeds limit, replace stator shaft assembly.

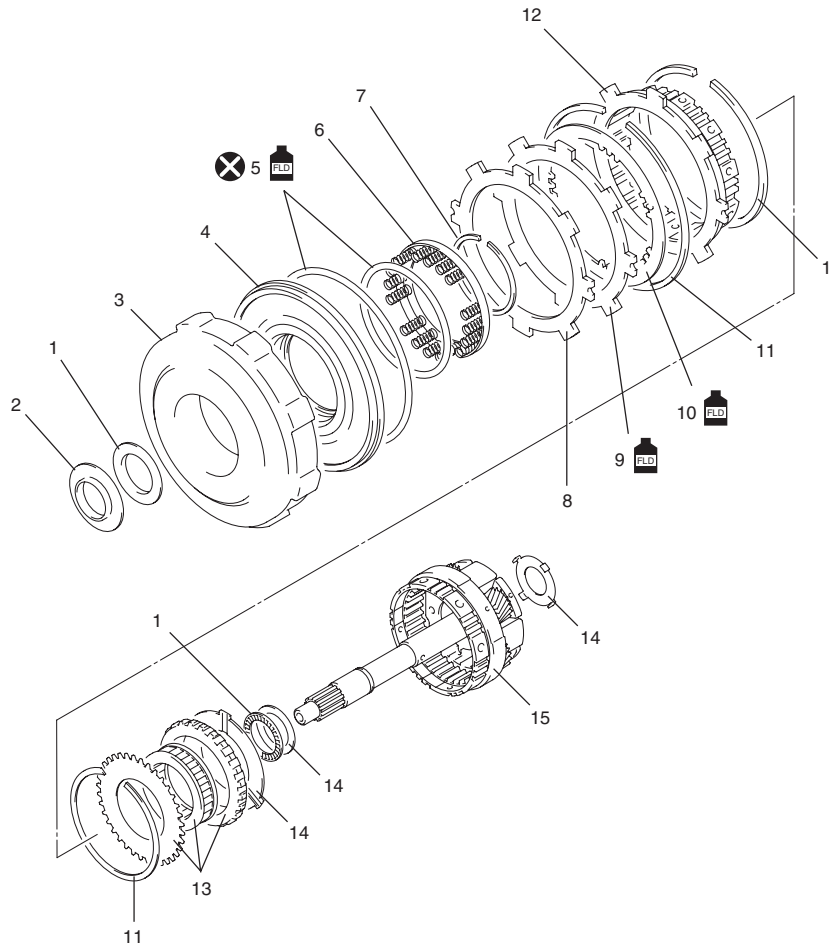
Stator shaft assembly bushing inside diameter standard
Front side (2): 21.501 – 21.527 mm (0.8465 – 0.8475 in.)
Rear side (1): 23.025 – 23.051 mm (0.9065 – 0.9075 in.)



I5JB0A510148-01

Overdrive (Planetary Gear Side) Components

S6JB0A5106033



I5JB0A510096-02

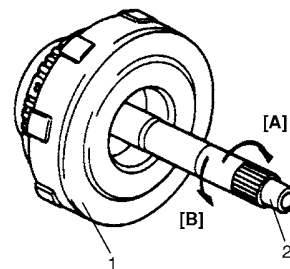
1. Bearing	5. O-ring	9. Clutch plate	13. One-way clutch	: Apply A/T fluid.
2. Race	6. Return spring	10. Clutch disc	14. Thrust washer	
3. Clutch cylinder	7. Snap ring	11. Retaining ring	15. O/D planetary gear	
4. Clutch piston	8. Cushion clutch plate	12. Brake hub	: Do not reuse.	

Overdrive (Planetary Gear Side) Disassembly and Assembly

S6JB0A5106034

Disassembly

- 1) With overdrive (O/D) clutch cylinder (1) held stationary, turn O/D input shaft (2) clockwise to check that it turns smoothly and then counterclockwise to check that it locks.

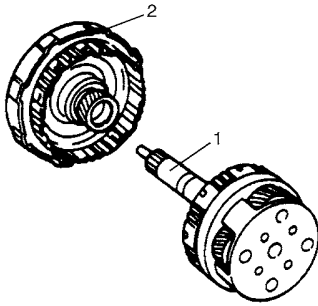


IYSQ01510120-01

[A]: Rotates
[B]: Locks

5A-113 Automatic Transmission/Transaxle:

2) Remove O/D planetary gear assembly (1).

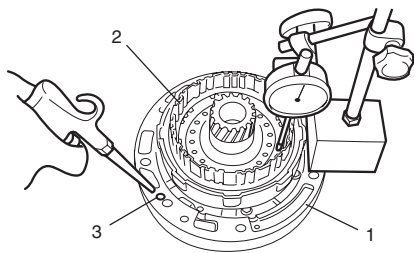


IYSQ01510121-01

2. O/D clutch cylinder

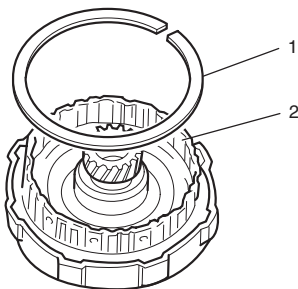
3) With O/D clutch assembly (2) installed to oil pump, apply compressed air (400 – 800 kPa, 4 – 8 kg/cm², 57 – 113 psi) to oil hole (3) in oil pump (1) and measure stroke of clutch piston. If it is not within standard range, replace cushion clutch plate or clutch disc.

Standard stroke of clutch piston
1.74 – 2.44 mm (0.069 – 0.096 in.)



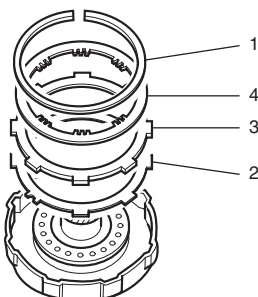
I5JB0A510097-01

4) Remove retaining ring (1) and then remove brake hub (2).



I5JB0A510098-01

5) Remove retaining ring (1) cushion plate (2), clutch plate (3) and clutch disc (4) in that order.



I5JB0A510099-01

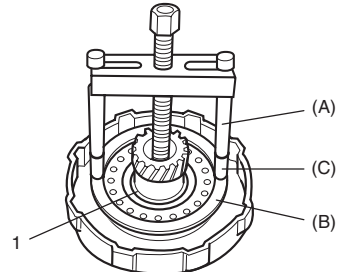
6) With clutch piston return spring compressed with special tools, remove clutch piston return spring.

Special tool

(A): 09918-48211

(B): 09926-98320

(C): 09918-48220

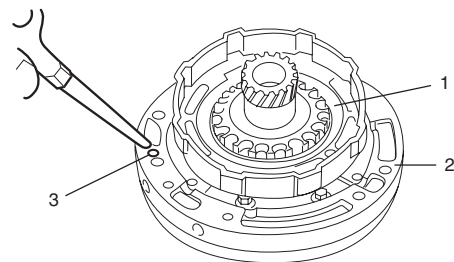


I5JB0A510100-01

1. Snap ring

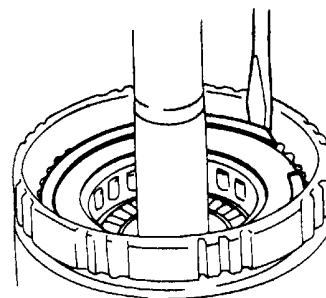
7) Install O/D clutch cylinder to oil pump (2). Apply compression air into fluid hole (3) in oil pump (2) and remove clutch piston (1).

8) Remove piston inner O-ring and piston outer O-ring from clutch piston (1).



I5JB0A510101-01

9) Remove retaining ring from O/D planetary gear and then remove one-way clutch, thrust washer and thrust bearing.

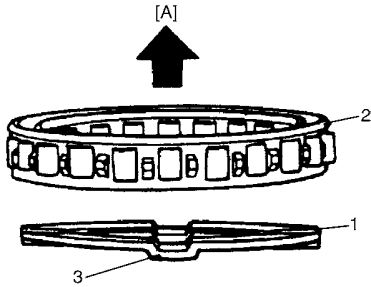


IYSQ01510127-01

Assembly

Assemble each component by reversing removal procedure and noting the following points.

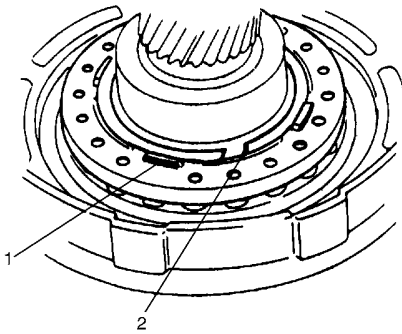
- When installing thrust washer (1), bring its oil groove (3) to the front.
- When installing one-way clutch to one-way clutch outer race, bring its flange (2) to the front.



I5JB0A510154-02

[A]: Front

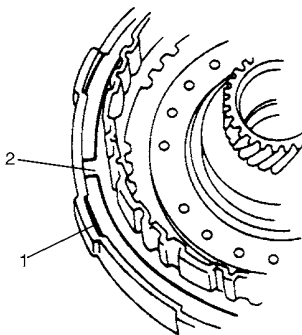
- Before installing piston inner O-ring and piston outer O-ring, apply A/T fluid to them.
- Install so that snap opening and projection (1) of clutch piston return spring will not match.



IYSQ01510129-01

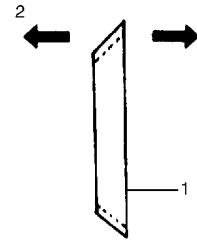
2. Slot

- Install retaining clutch ring and retaining brake hub so that their slots (2) will not match with dent (1) in O/D clutch cylinder.



IYSQ01510130-01

- For installing cushion clutch plate (1), refer to the figure.



IYSQ01510131-01

2. Clutch cylinder side
3. Brake hub side

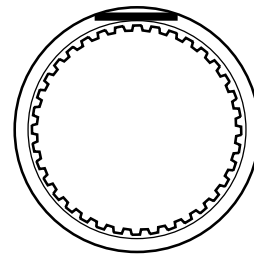
Overdrive (Planetary Gear Side) Inspection

S6JB0A5106035

- Check that sliding surface of discs and plate are not worn or burnt. if necessary, replace them.

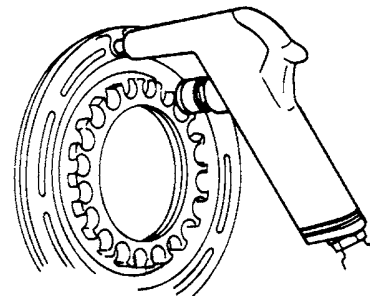
NOTE

- If disc lining is exfoliated, discolored or worn hardly, replace all discs.
- If only a part of printed numbers is corroded, replace all discs.
- Before assembling new discs, soak them in A/T fluid for at least 15 minutes.



I4JA01512210-01

- Check that ball valve of clutch piston is not stuck.
- Check valve for leakage by applying low pressure air into ball valve hale.

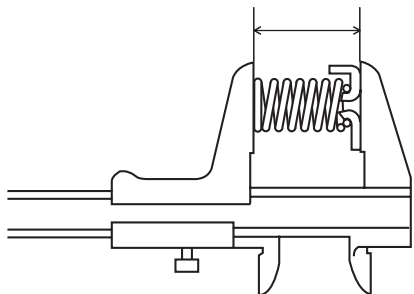


IYSQ01510132-01

5A-115 Automatic Transmission/Transaxle:

- Measure free length of piston return spring.

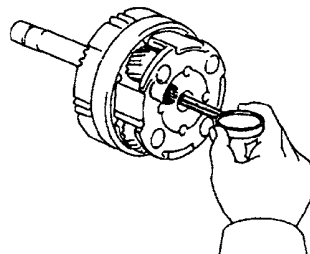
Standard free length of O/D clutch piston return spring
16.9 mm (0.665 in.)



I5JB0A510171-01

- Measure inside diameter of planetary gear bushing. If inside diameter exceeds limit, replace planetary gear.

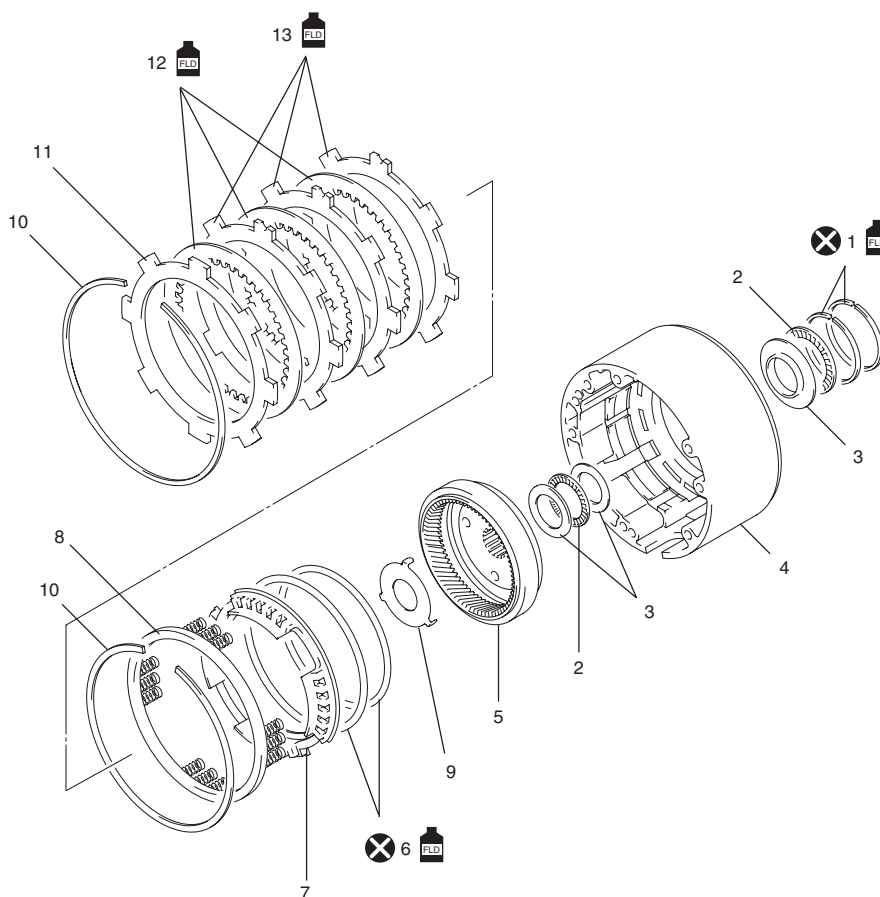
Planetary gear bushing inside diameter standard
11.200 – 11.221 mm (0.4409 – 0.4418 in.)



I5JB0A510149-01

Overdrive (Case Side) Components

S6JB0A5106036



I5JB0A510103-01

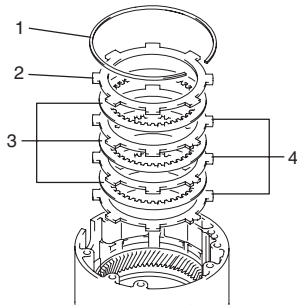
1. Sealing	4. O/D case	7. Brake piston	10. Retaining ring	13. Brake plate
2. Bearing	5. Planetary ring gear	8. Return spring	11. Brake backing plate	⊗ : Do not reuse.
3. Bearing race	6. O-ring	9. Thrust washer	12. Brake disc	FLD : Apply A/T fluid.

Overdrive (Case Side) Disassembly and Assembly

S6JB0A5106037

Disassembly

- 1) Remove retaining ring (1), brake backing plate (2), brake disc (3) and brake plate (4) in that order. Then remove planetary ring gear, thrust bearing race and thrust bearing.



I5JB0A510104-01

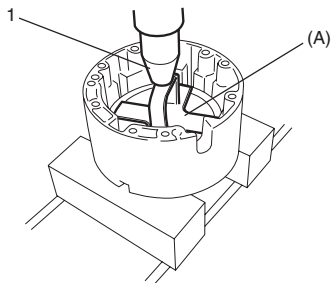
- 2) Remove retaining ring and piston return spring using special tool and press (1).

Special tool

(A): 09926-96510

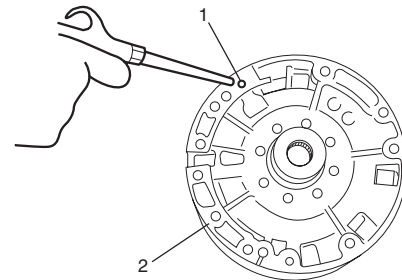
⚠ CAUTION

Be careful when applying pressure, for overpressure will cause plate section of piston return spring to deform.



I5JB0A510105-01

- 3) Apply compressed air (400 – 800 kPa, 4 – 8 kg/cm², 57 – 113 psi) to oil hole (1) in O/D case (2) and remove brake piston.

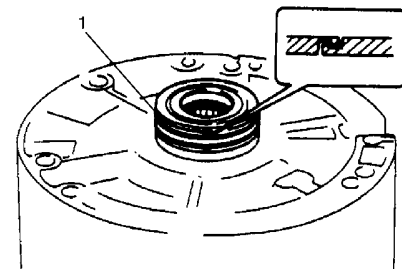


I5JB0A510106-01

- 4) Remove brake piston inner ring and brake piston outer ring from brake piston.
- 5) Unsnap seal ring (1).
- 6) Remove 2 seal rings (1).

NOTE

Be careful not to open seal ring more than necessary.



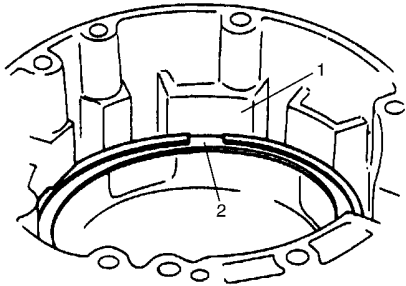
IYSQ01510138-01

5A-117 Automatic Transmission/Transaxle:

Assembly

Install each component by reversing removal procedure and noting the following points.

- When installing rear seal ring, use care not to open it too wide.
- Apply A/T fluid to O-ring, disc, etc. before installing them.
- Opening of retaining brake front ring (2) and projection (1) of O/D case should be matched.



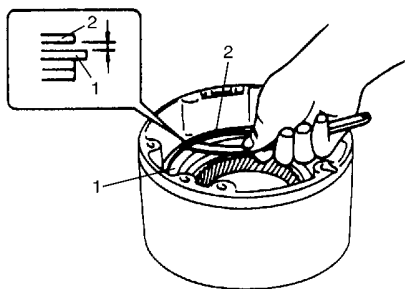
IYSQ01510139-01

- When installing each component, refer to “Overdrive (Case Side) Components”.
- Measure clearance between retaining ring (1) and brake backing plate (2) with thickness gauge. If the clearance is out of specification, select another plate with suitable thickness from the list below and replace it.

Standard clearance between retaining ring and brake backing plate

0.40 – 1.38 mm (0.016 – 0.054 in.)

Thickness
1.95 – 2.05 mm (0.077 – 0.081 in.)
2.25 – 2.35 mm (0.089 – 0.093 in.)



IYSQ01510134-01

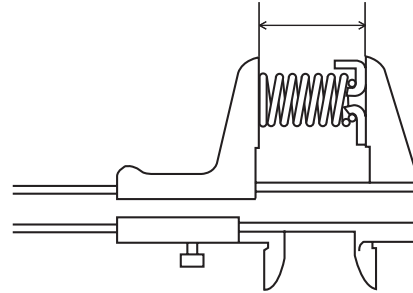
Overdrive (Case Side) Inspection

S6JB0A5106038

- Measure free length of piston return spring.

Standard free length of O/D brake piston return spring

15.10 mm (0.594 in.)

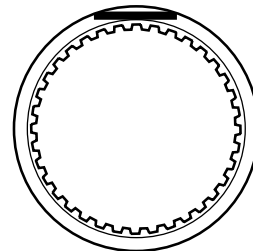


I5JB0A510171-01

- Check that sliding surface of discs and plate are not worn or burnt. If necessary, replace them.

NOTE

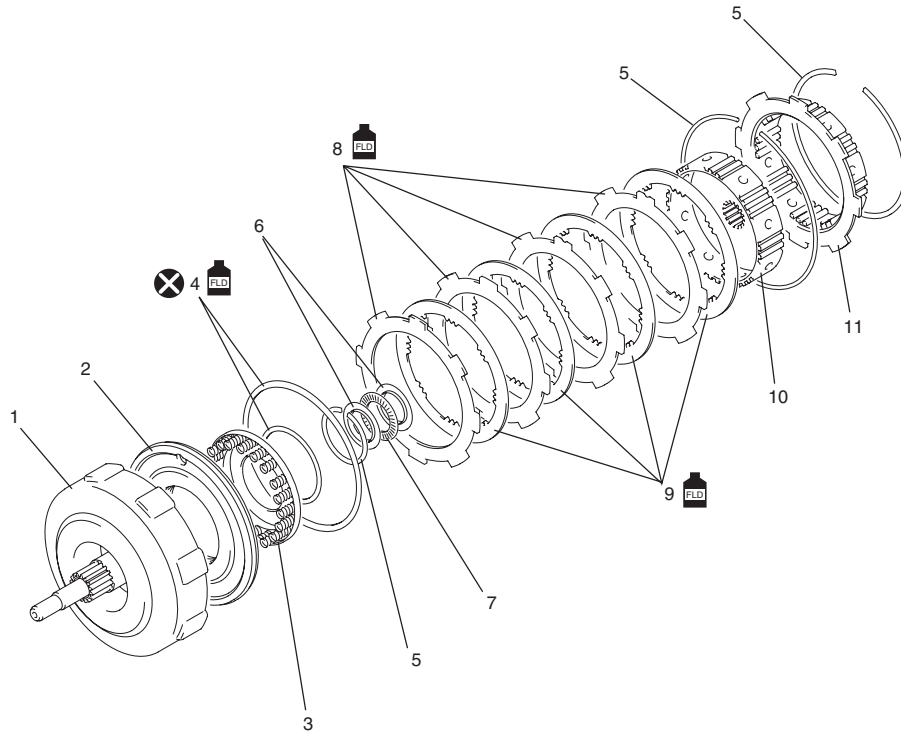
- If disc lining is exfoliated, discolored or worn hardly, replace all discs.
- If only a part of printed numbers is corroded, replace all discs.
- Before assembling new discs, soak them in A/T fluid for at least 15 minutes.



I4JA01512210-01

Forward Clutch Components

S6JB0A5106039



I5JB0A510108-01

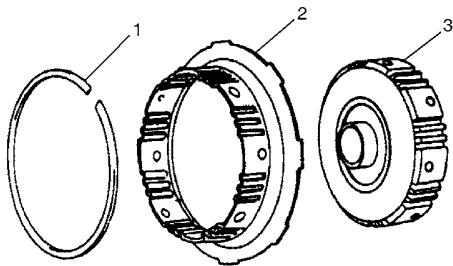
1. Input shaft	5. Retaining ring	9. Clutch disc	: Apply A/T fluid.
2. Piston	6. Bearing race	10. Forward clutch hub	
3. Return spring	7. Bearing	11. Direct clutch hub	
4. O-ring	8. Clutch plate	: Do not reuse.	

Forward Clutch Disassembly and Assembly

S6JB0A5106040

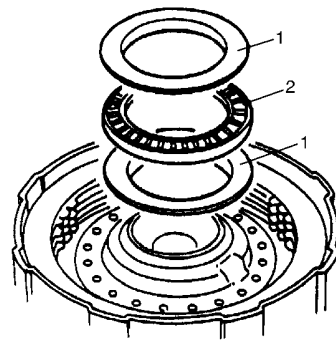
Disassembly

- 1) After removing retaining ring (1), remove direct clutch hub (2) and forward clutch hub (3).



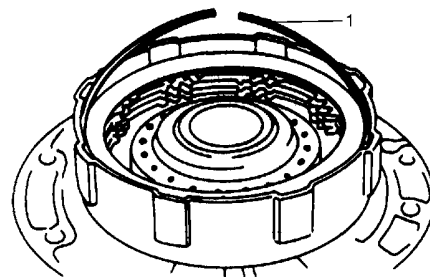
IYSQ01510143-01

- 2) Remove bearing race (1) and thrust bearing (2).



I5JB0A510109-01

- 3) Remove retaining ring (1) and then remove all clutch discs.



IYSQ01510147-01

5A-119 Automatic Transmission/Transaxle:

- 4) Using special tool and hydraulic press, compress forward clutch piston return spring and remove retaining return spring.

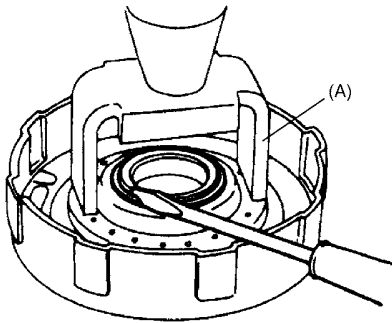
Special tool

(A): 09926-98310

⚠ CAUTION

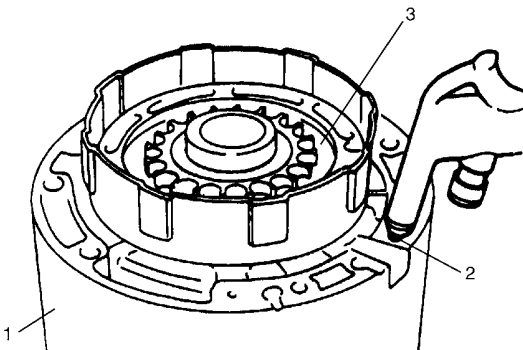
Be careful when applying pressure, for overpressure will cause plate section of piston return spring to deform.

- 5) Remove forward clutch piston return spring.



IYSQ01510148-01

- 6) Install forward clutch to O/D case (1). Blow low pressure air into fluid hole (2) at the right of cut in O/D case to remove forward clutch piston (3).



I5JB0A510110-01

Assembly

- 1) Apply A/T fluid to forward input shaft O-rings, install forward clutch piston and piston return spring (2) to forward input shaft and then install return spring ring with special tool and hydraulic press.

Special tool

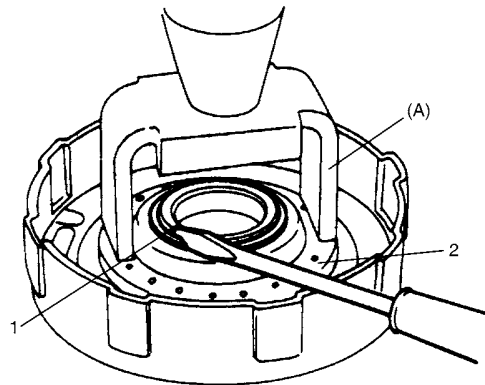
(A): 09926-98310

NOTE

- When installing return spring (2), be careful so that return spring will not fall or tilt.
- Do not align opening in retaining ring (1) with lug of forward clutch piston return spring at its retainer section.

⚠ CAUTION

Be careful when applying pressure, for overpressure will cause plate section of piston return spring to deform.



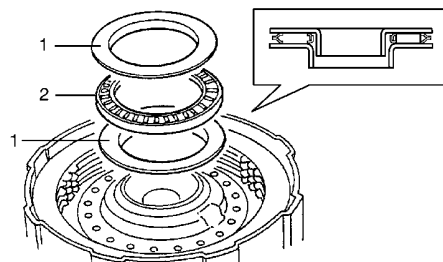
IYSQ01510150-01

- 2) Install clutch discs and plates and then install retaining clutch ring.

NOTE

- Refer to "Forward Clutch Components" when installing each component.
- Do not match opening in retaining clutch ring and dent in forward clutch input shaft.

- 3) Install bearing races (1) and thrust bearing (2).



I5JB0A510111-01