

MITSUBISHI

REAR WHEEL DRIVE AUTOMATIC TRANSMISSION

WORKSHOP MANUAL

FOREWORD

This Workshop Manual contains procedures for removal, disassembly, inspection, adjustment, reassembly and installation, etc. for service mechanics.

All information, illustrations and product descriptions contained in this manual are current as at the time of publication. We, however, reserve the right to make changes at any time without prior notice or obligation.

FILING INSTRUCTION

Please keep these manual pages in the binder No. BN940001.

File these pages according to the signs "Added", "Revised" and "Deleted" on the "List of effective pages" which are interpreted below.

Added: File the pages with this sign additionally in your manual.

Revised. Deleted: Replace the existing pages with the corresponding pages having this sign.

Missing sheets will be supplied upon request.

Automatic Transmission **23A**
R4AW2, V4AW2

Automatic Transmission **23B**
R4AW3, V4AW3

Automatic Transmission **23C**
V4AW4

Automatic Transmission **23D**
R4A51, V4A51

Automatic Transmission **23E**
V5A51

List of Effective Pages

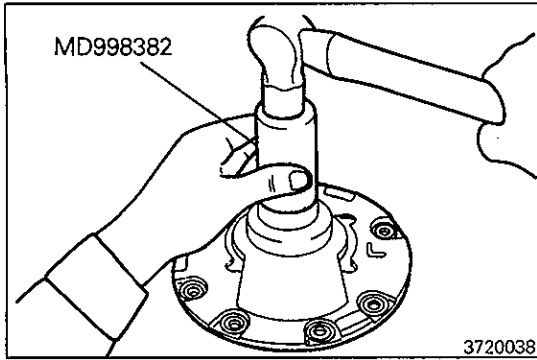
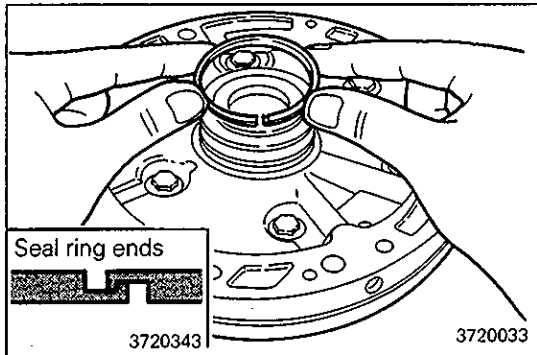
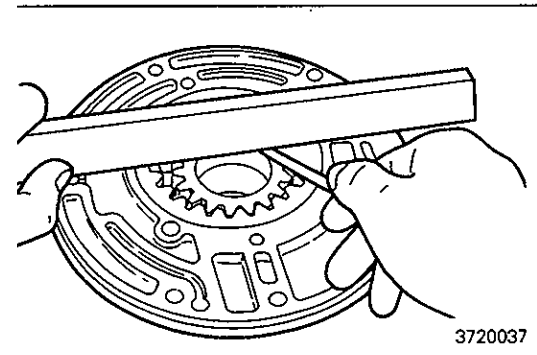
Page	Revision code	Date	Remarks	Page	Revision code	Date	Remarks
23A-0-1	E	Mar. 1996		23A-16-1	E	Mar. 1996	
23A-0-3 and 23A-0-4		Nov. 1989		23A-16-2 and 23A-16-3	A	Feb. 1991	
23A-0-5 and 23A-0-6	B	June 1991		23A-16-4 and 23A-16-5	E	Mar. 1996	
23A-0-6a and 23A-0-6b	D	June 1994		23A-16-6	D	June 1994	
23A-0-7	D	June 1994		23A-16-7 and 23A-16-8	E	Mar. 1996	
23A-0-8 and 23A-0-9	B	June 1991		23A-16-9	D	June 1994	
23A-1-1		Nov. 1989		23A-16-10	E	Mar. 1996	
23A-1-2	D	June 1994		23A-16-11 and 23A-16-12	D	June 1994	
23A-1-2a and 23A-1-2b	D	June 1994		23A-16-13	A	Feb. 1991	
23A-1-2c to 23A-1-2e	H	July 1999		23A-16-14	D	June 1994	
23A-1-2f	L	Apr. 2002		23A-16-15 to 23A-16-18	A	Feb. 1991	
23A-1-2g and 23A-1-2h	O	Feb. 2004	Revised	23A-16-19 and 23A-16-20	E	Mar. 1996	
23A-1-3	K	Aug. 2001		23A-16-21	M	Aug. 2002	
23A-1-4	E	Mar. 1996		23A-16-22	D	June 1994	
23A-1-5 to 23A-1-8	K	Aug. 2001		23A-17-1 to 23A-17-3	D	June 1994	
3A-1-9 to 23A-1-12	E	Mar. 1996		23A-18-1	D	June 1994	
3A-2-1 and 23A-2-2	A	Feb. 1991		23A-19-1	D	June 1994	
3A-2-3 and 23A-2-4		Nov. 1989		23A-20-1 and 23A-20-2	D	June 1994	
3A-3-1 to 23A-3-3	B	June 1991		23A-21-1 and 23A-21-2	D	June 1994	
3A-3-4 to 23A-3-6	D	June 1994		23A-22-1	A	Feb. 1991	
3A-3-7	B	June 1991		23A-23-1	A	Feb. 1991	
3A-3-8		Nov. 1989		23A-24-1	A	Feb. 1991	
3A-3-9 to 23A-3-15	D	June 1994					
3A-3-16	E	Mar. 1996		23B-0-1	F	Dec. 1997	
3A-4-1	E	Mar. 1996		23B-0-2 to 23B-0-6	D	June 1994	
23A-4-2		Nov. 1989		23B-1-1 and 23B-1-2	E	Mar. 1996	
23A-5-1 and 23A-5-2	E	Mar. 1996		23B-1-2a to 23B-1-2c	F	Dec. 1997	
23A-6-1	B	June 1991		23B-1-2d to 23B-1-2f	H	July 1999	
23A-7-1 and 23A-7-2	B	June 1991		23B-1-3	D	June 1994	
23A-8-1	B	June 1991		23B-1-4	E	Mar. 1996	
23A-8-2		Nov. 1989		23B-1-5 and 23B-1-6	F	Dec. 1997	
23A-9-1	D	June 1994		23B-1-6a and 23B-1-6b	F	Dec. 1997	
23A-9-2		Nov. 1989		23B-1-7	F	Dec. 1997	
23A-10-1	B	June 1991		23B-1-8 and 23B-1-9	D	June 1994	
23A-10-2 to 10-4		Nov. 1989		23B-2-1 to 23B-2-4	D	June 1994	
23A-11-1		Nov. 1989		23B-3-1 and 23B-3-2	D	June 1994	
23A-12-1	B	June 1991		23B-4-1 and 23B-4-2	D	June 1994	
23A-13-1 and 23A-13-2		Nov. 1989		23B-4-3 and 23B-4-4	E	Mar. 1996	
23A-14-1		Nov. 1989		23B-4-4a and 23B-4-4b	E	Mar. 1996	
23A-15-1 to 23A-15-5	B	June 1991		23B-4-5 to 23B-4-25	D	June 1994	
23A-15-6	E	Mar. 1996		23B-4-26 and 23B-4-27	F	Dec. 1997	
23A-15-7 to 23A-15-12	B	June 1991		23B-4-27a and 23B-4-27b	F	Dec. 1997	
23A-15-13 to 23A-15-15	D	June 1994		23B-4-28 to 23B-4-32	E	Mar. 1996	
23A-15-16 to 23A-15-22	B	June 1991		23B-5-1 and 23B-5-2	C	Aug. 1993	

SEALANTS

	Specified sealants and adhesives	Quantity
Transmission		
Oil pump bolt (threads)	3M ATD Part No. 8660 or equivalent	As required
Transfer		
Adapter gasket (both sides)	Mitsubishi genuine sealant	As required
	Part No. MD997740 or equivalent	
Air breather (press-in circumference) – V4AW2-1 only	Mitsubishi genuine sealant	As required
	Part No. MD997740 or equivalent	
Chain cover gasket (both sides) – V4AW2-1 only	Mitsubishi genuine sealant	As required
	Part No. MD997740 or equivalent	
Rear cover gasket (both sides) – V4AW2-1 only	Mitsubishi genuine sealant	As required
	Part No. MD997740 or equivalent	
Cover gasket (both sides) – V4AW2-1 only	Mitsubishi genuine sealant	As required
	Part No. MD997740 or equivalent	
Chain cover – V4AW2-3, 7 only	Mitsubishi genuine sealant	As required
	Part No. MD997740 or equivalent	
Rear cover – V4AW2-3, 7 only	Mitsubishi genuine sealant	As required
	Part No. MD997740 or equivalent	
Cover – V4AW2-3, 7 only	Mitsubishi genuine sealant	As required
	Part No. MD997740 or equivalent	
Poppet plug – V4AW2-3, 7 only	3M ATD Part No. 8660 or equivalent	As required
Plug – V4AW2-3, 7 only	3M ATD Part No. 8660 or equivalent	As required
Bolt (threads)	3M STUD Locking 4170 or equivalent	As required

ADJUSTMENT SNAP RINGS AND SPACERS

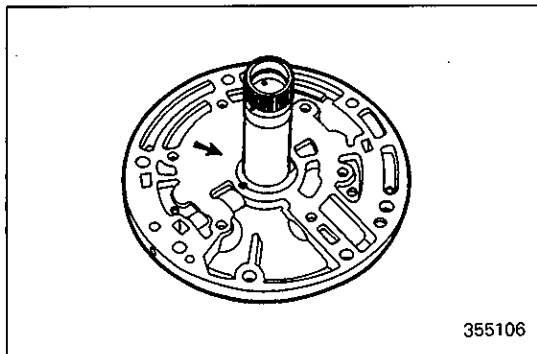
Part name	Thickness mm (in.)	Identification symbol	Parts No.
Transfer			
Snap ring	2.30 (0.091)	–	MD704199
	(For adjustment of input gear bearing)	2.35 (0.093)	Red
		2.40 (0.094)	White
		2.45 (0.096)	Blue
		2.50 (0.098)	Green
Snap ring	2.70 (0.106)	Purple	MD704204
	(For adjustment of input gear assembly)	2.75 (0.108)	Pink
		2.80 (0.110)	Yellow
		2.85 (0.112)	White
		2.90 (0.114)	Blue
Snap ring	2.14 (0.084)	–	MD704212
	(For adjustment of H-L clutch hub)	2.21 (0.087)	Yellow
		2.28 (0.090)	White
		2.35 (0.093)	Blue
		2.42 (0.095)	Red

**SERVICE POINT OF REASSEMBLY****A INSTALLATION OF OIL SEAL****B INSTALLATION OF SEAL RINGS****C INSTALLATION OF OIL PUMP DRIVEN GEAR / OIL PUMP DRIVE GEAR**

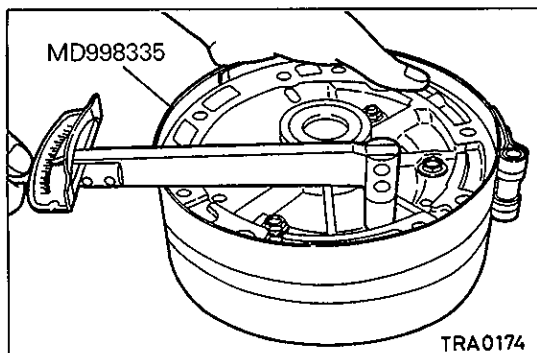
- (1) Install the driven and drive gears on the oil pump body in correct directions according to the marks put during disassembly.
- (2) Using a steel straightedge and a feeler gauge, measure the side clearance of drive and driven gears.

Standard value: 0.02 – 0.05 mm (0.0008 – 0.0020 in.)

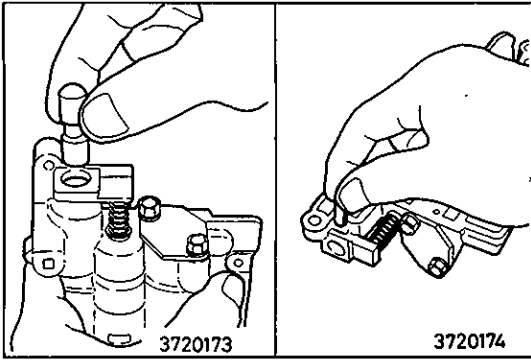
Limit: 0.1 mm (0.004 in.)

**D INSTALLATION OF STATOR SUPPORT**

- (1) Damage or wear of the stator support surface in contact with the oil pump gear (indicated by arrow).

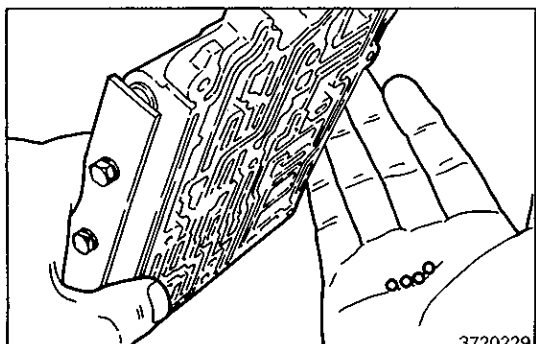
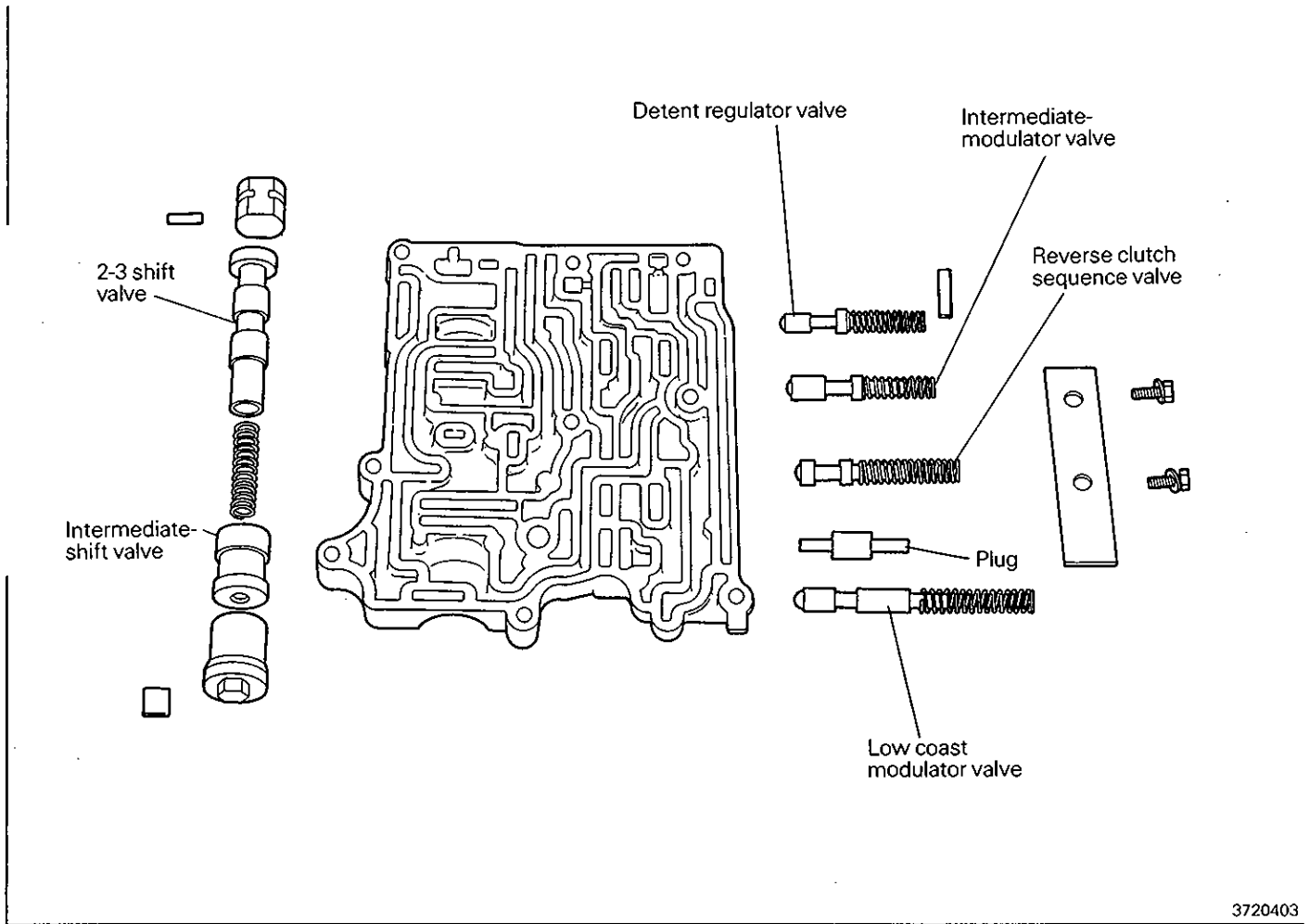


- (2) Assemble the body and stator support and tighten the six bolts finger-tight.
- (3) Tighten outside of the cover and support by using the special tool.
- (4) Tighten the bolts to specified torque.



- (11) Insert the cutback valve and plug.
- (12) Coat the retainer with petrolatum and insert it in the illustrated location.

**UPPER REAR VALVE BODY
DISASSEMBLY AND REASSEMBLY**

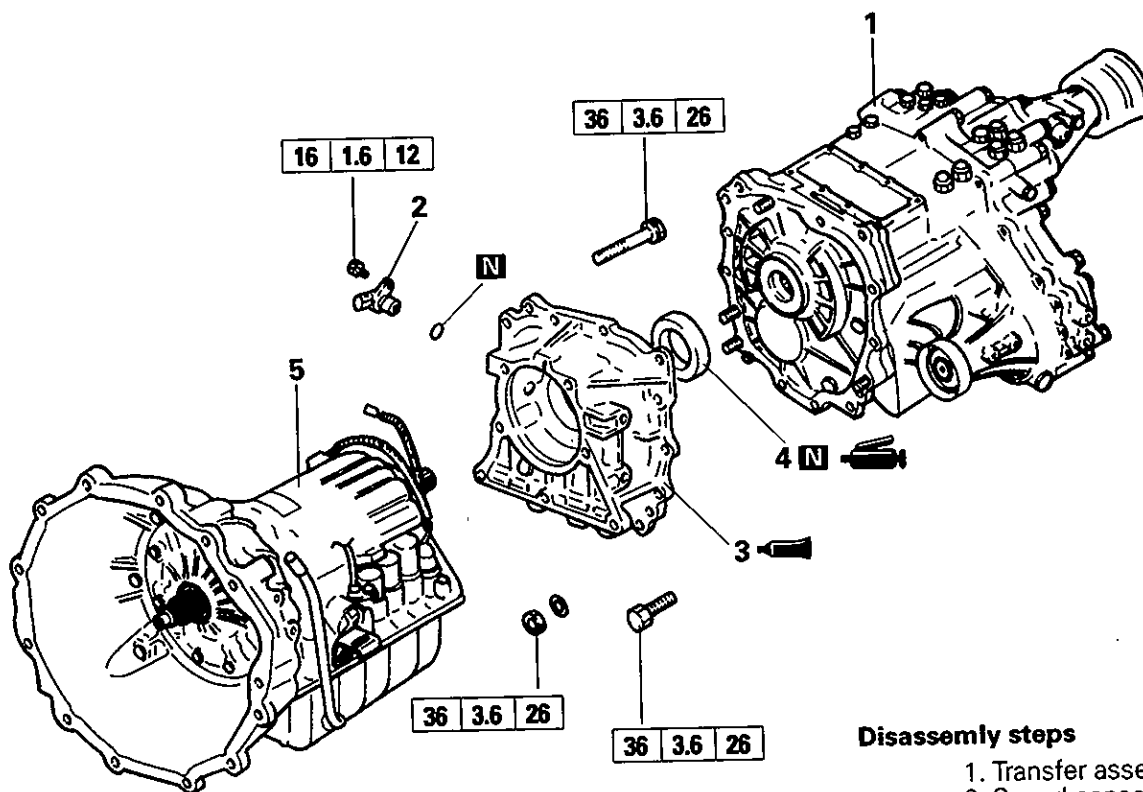


DISASSEMBLY

- (1) Use tweezers to remove the check balls (three rubber balls and one steel ball).

3. TRANSMISSION AND TRANSFER

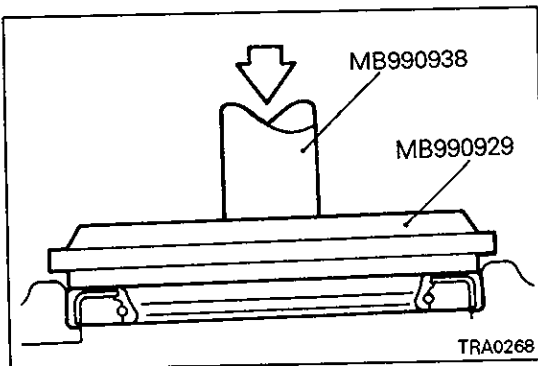
DISASSEMBLY AND REASSEMBLY



Disassembly steps

1. Transfer assembly
2. Speed sensor
- ▶B◀ 3. Transfer case adapter
- ▶A◀ 4. Oil seal
5. Transmission assembly

TRA0451

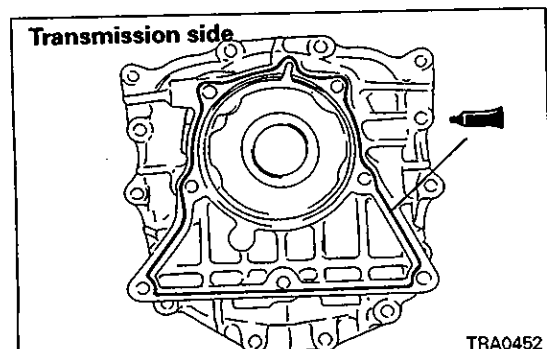


TRA0268

REASSEMBLY SERVICE POINTS

▶A◀ OIL SEAL INSTALLATION

- (1) Using the special tool, install an oil seal on the adapter, and then pack the oil seal lips with grease.



TRA0452

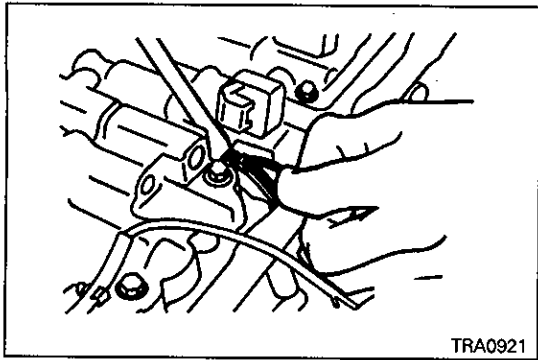
▶B◀ TRANSFER CASE ADAPTER INSTALLATION

Specified sealant:

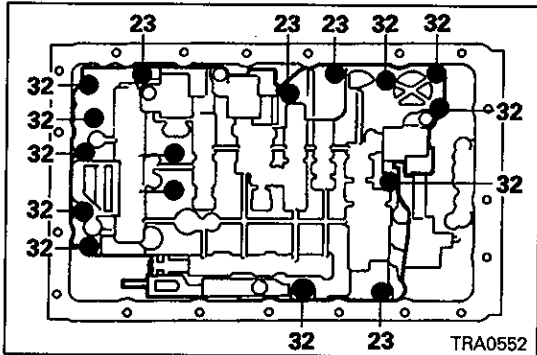
Threebond Seal Packing 1281 Transmission side
 Mitsubishi genuine sealant Part No. MD997740
 or equivalent Transfer side

Caution

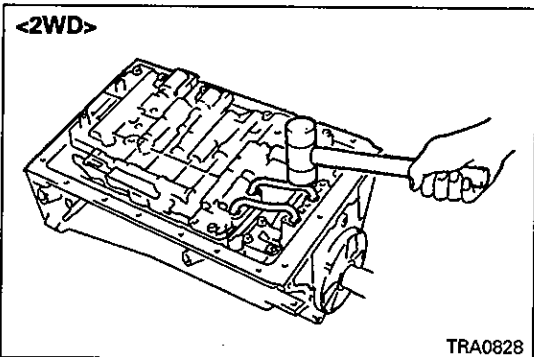
- Squeeze the sealant out evenly to make sure that it is not broken or excessively supplied.



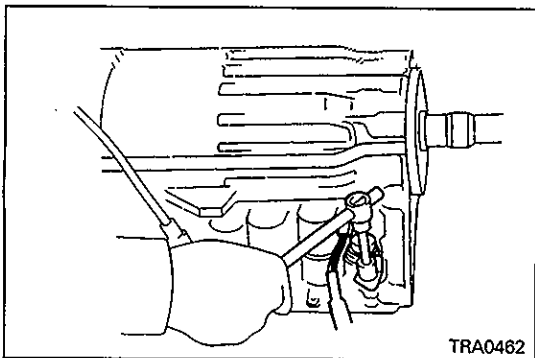
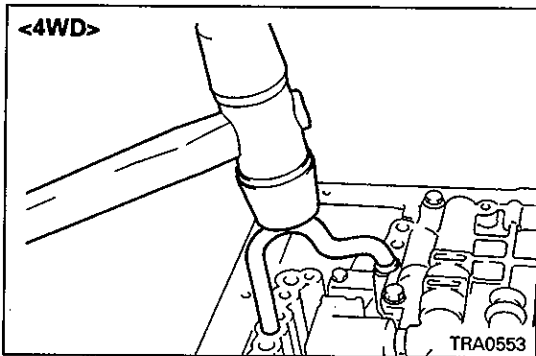
- (74) Install the throttle cable nipple to the throttle cam.
- (75) Check that the spring and collar of the accumulator piston are installed on the valve body side.



- (76) Install the valve body by tightening the 16 bolts uniformly step by step. (The values in the illustration denote the shank length of each bolt.)



- (77) Using a plastic hammer, install the brake tube.

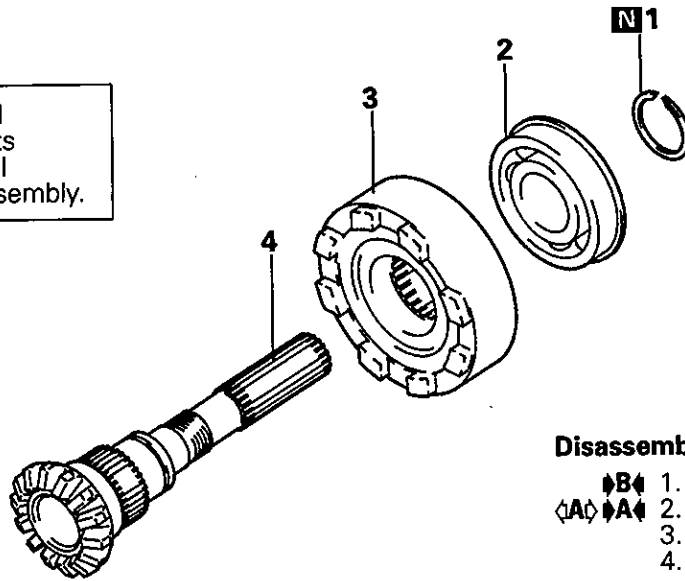


- (78) Apply ATF to a new O-ring.
- (79) Insert the transmission wire in the transmission case and secure it with the stopper plate.

24. REAR OUTPUT SHAFT DISASSEMBLY AND REASSEMBLY



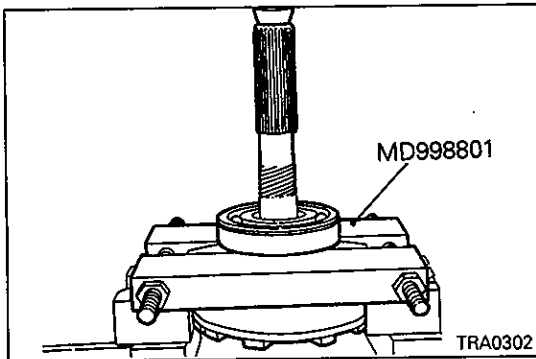
Lubricate all internal parts with gear oil during reassembly.



Disassembly steps

- ◆B◆ 1. Snap ring
- ◇A◇ ◆A◆ 2. Ball bearing
- 3. Viscous coupling
- 4. Rear output shaft

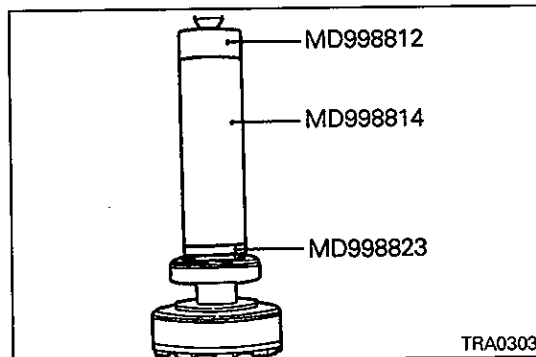
TRA0301



TRA0302

DISASSEMBLY SERVICE POINT

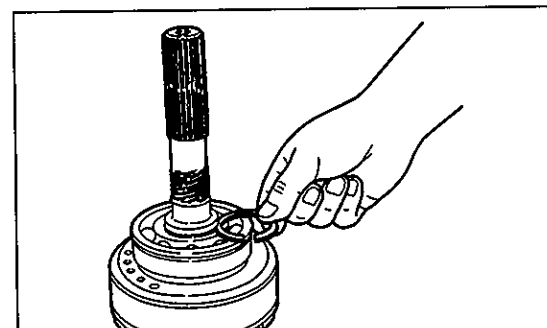
◇A◇ BALL BEARING REMOVAL



TRA0303

REASSEMBLY SERVICE POINTS

◆A◆ BALL BEARING INSTALLATION



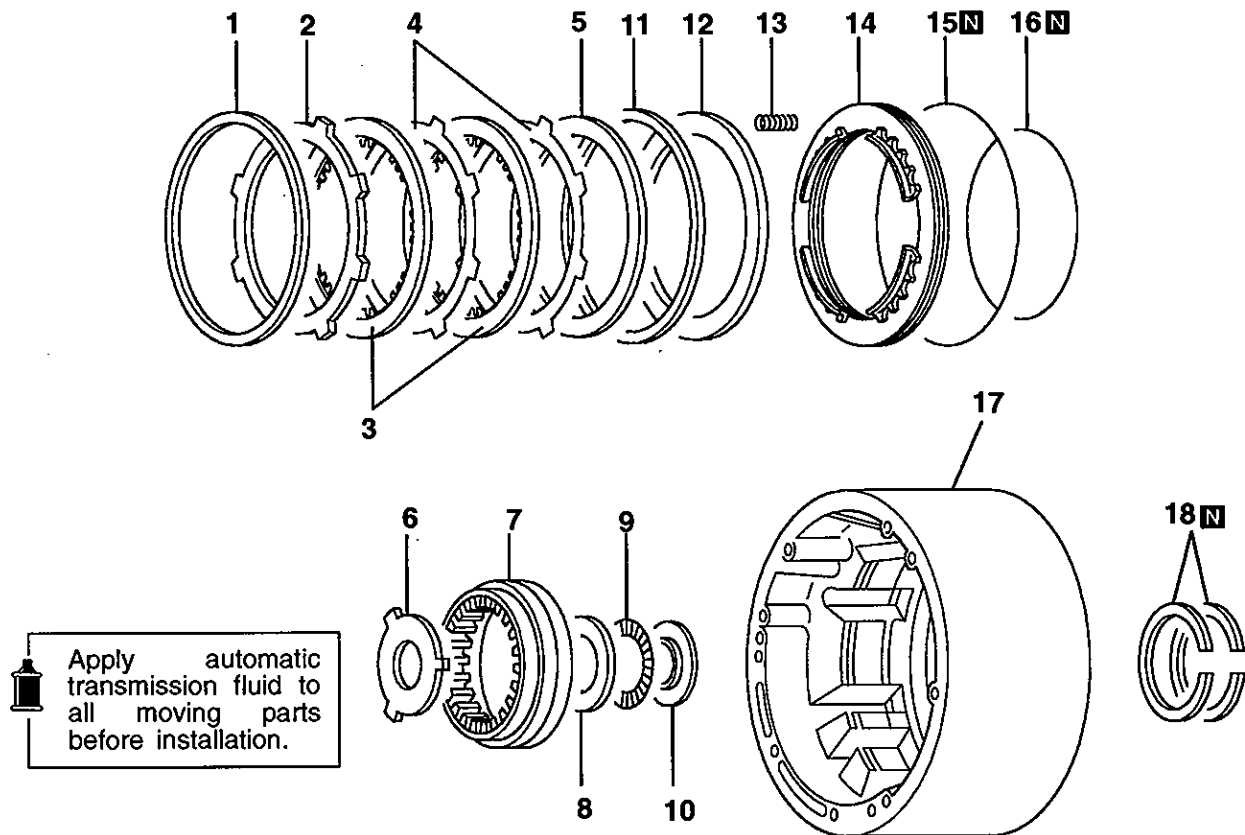
◆B◆ SNAP RING INSTALLATION

- (1) Select and install the snap ring which adjusts the rear output shaft bearing end play to the standard value.

Standard value: 0 – 0.08 mm (0 – 0.0031 in.)

7. OVERDRIVE BRAKE

DISASSEMBLY AND REASSEMBLY



TRA1552

Disassembly steps

- ▶D◀ 1. Snap ring
- ▶C◀ 2. Backing plate
- ▶C◀ 3. Brake discs
- ▶C◀ 4. Brake plates
- ▶C◀ 5. Cushion plate
- ▶B◀ 6. Thrust race
- ▶B◀ 7. Planetary ring gear
- ▶B◀ 8. Thrust bearing race
- ▶B◀ 9. Thrust bearing

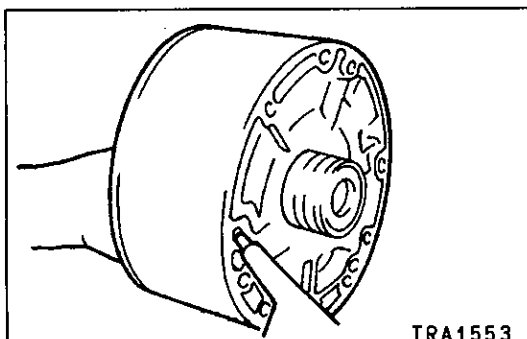
- ▶B◀ 10. Thrust bearing race
- ▶A◀ 11. Snap ring
- ▶A◀ 12. Spring retainer
- ▶A◀ 13. Return spring
- ▶A◀ 14. Brake piston
- ▶A◀ 15. O-ring
- ▶A◀ 16. O-ring
- ▶A◀ 17. Overdrive case
- ▶A◀ 18. Seal ring



DISASSEMBLY SERVICE POINT

◀A▶ BRAKE PISTON REMOVAL


(1) Blow in air to remove the brake piston.

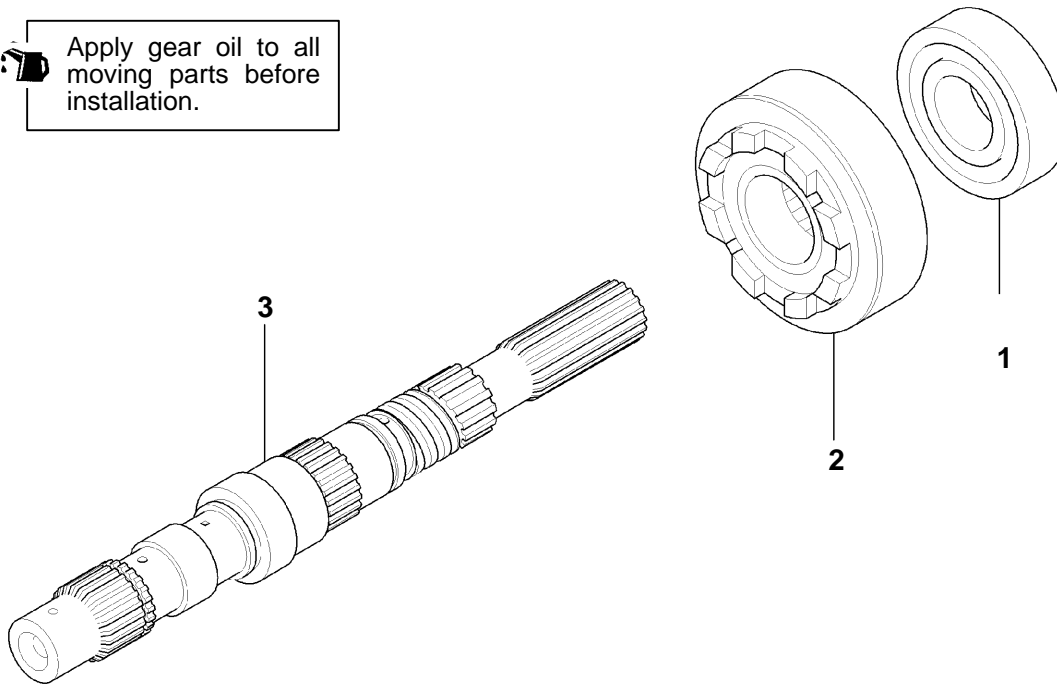


TRA1553

24a. REAR OUTPUT SHAFT <FULL TIME 4WD>

DISASSEMBLY AND REASSEMBLY

 Apply gear oil to all moving parts before installation.

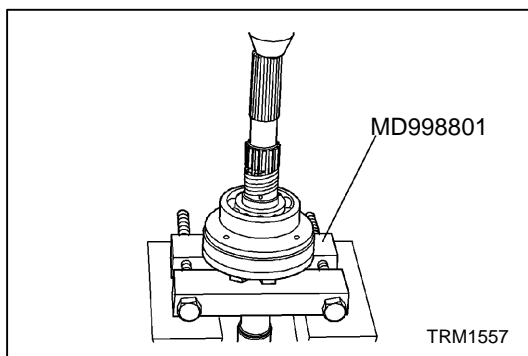


TRA1963

Disassembly steps



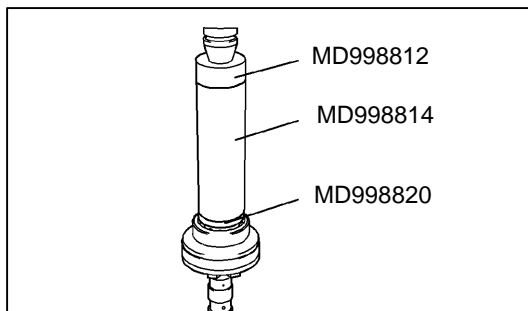
1. Bearing
2. Viscous coupling
3. Rear output shaft



DISASSEMBLY SERVICE POINT

◀A▶ BEARING REMOVAL

- (1) Remove the bearing using the indicated special tool.

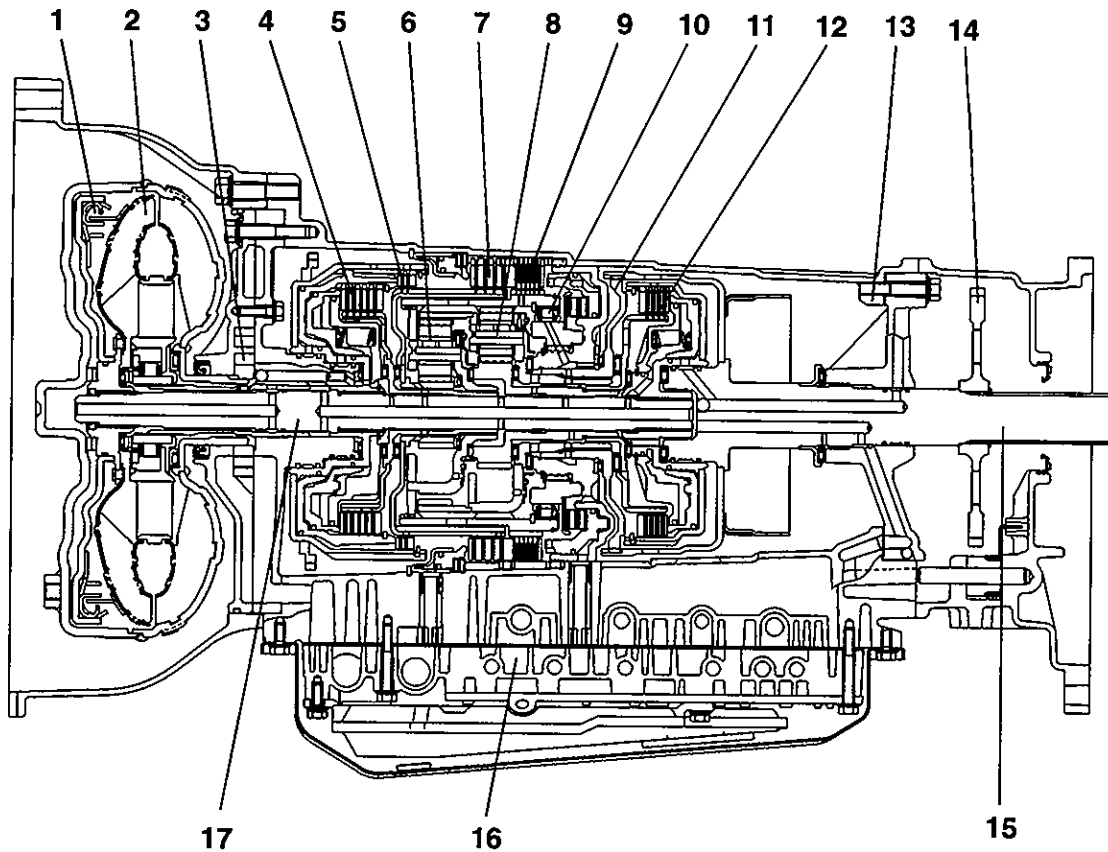


REASSEMBLY SERVICE POINT

▶A◀ BEARING INSTALLATION

- (1) Install the center bearing using the indicated special tool.

SECTIONAL VIEW <V4A51 TRANSMISSION> – 4M40 ENGINE, 6G74 ENGINE



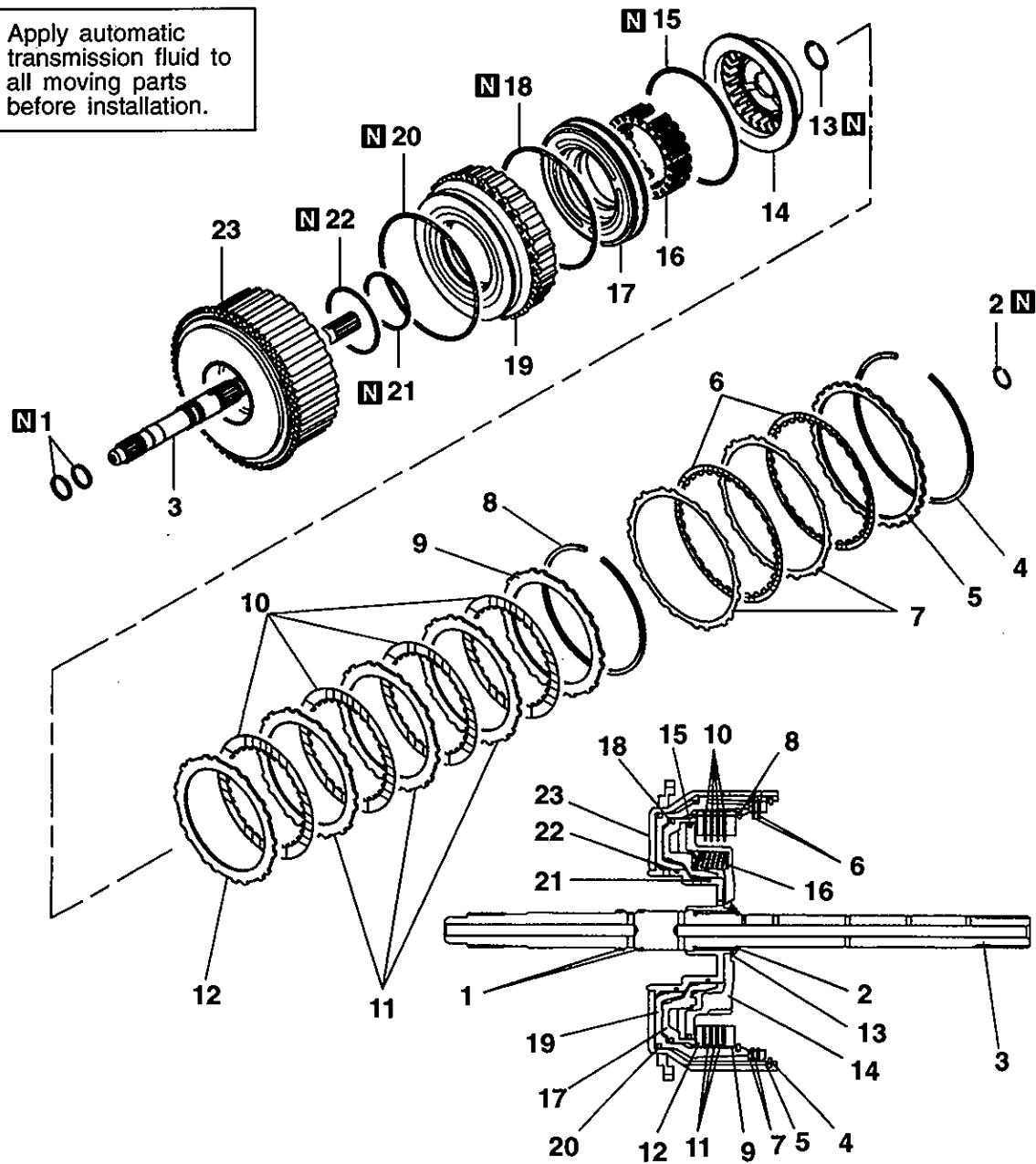
TRA1856

- | | |
|--------------------------------|--------------------------|
| 1. Torque converter clutch | 10. One-way clutch |
| 2. Torque converter | 11. Center support |
| 3. Oil pump | 12. Underdrive clutch |
| 4. Overdrive clutch | 13. Output shaft support |
| 5. Reverse clutch | 14. Parking gear |
| 6. Overdrive planetary carrier | 15. Output shaft |
| 7. Second brake | 16. Valve body |
| 8. Output planetary carrier | 17. Input shaft |
| 9. Low/reverse brake | |

8. REVERSE AND OVERDRIVE CLUTCH

DISASSEMBLY AND ASSEMBLY <FOR 6G72 ENGINE>

Apply automatic transmission fluid to all moving parts before installation.

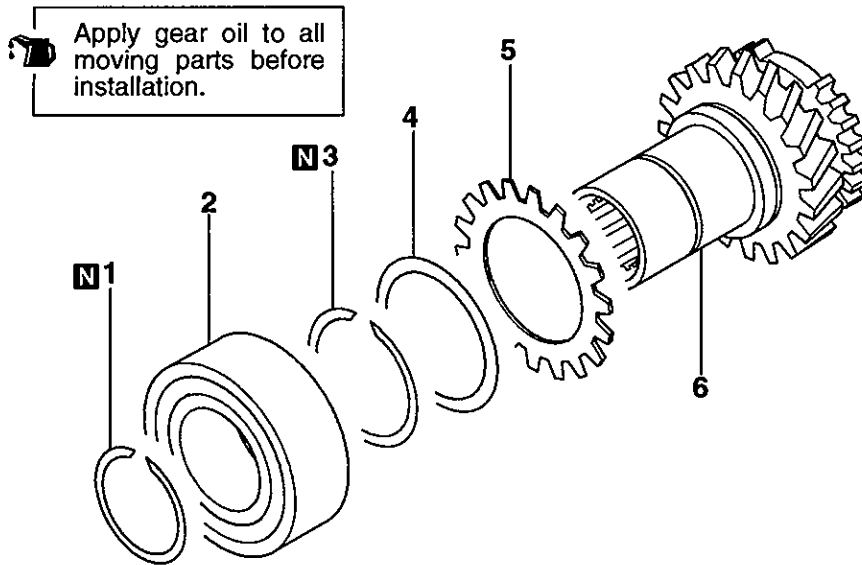


TRA1424

Disassembly steps

- 1. Seal ring
- 2. Snap ring
- 3. Input shaft
- H 4. Snap ring
- G 5. Reaction plate
- G 6. Clutch disc
- G 7. Clutch plate
- F 8. Snap ring
- E 9. Reaction plate
- E 10. Clutch disc
- E 11. Clutch plate
- E 12. Pressure plate

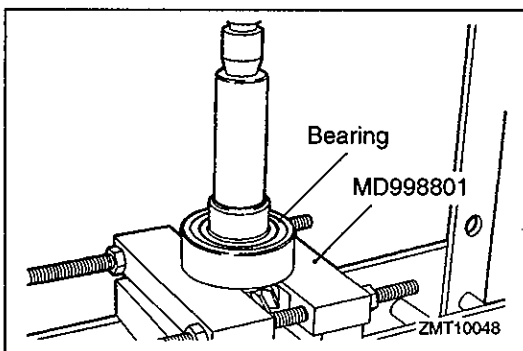
- A D 13. Snap ring
- 14. Spring retainer
- A 15. D-ring
- C 16. Return spring
- 17. Overdrive clutch piston
- A 18. D-ring
- B 19. Reverse clutch piston
- A 20. D-ring
- A 21. D-ring
- A 22. D-ring
- 23. Reverse clutch retainer

16. INPUT GEAR <V4A51>**DISASSEMBLY AND ASSEMBLY**

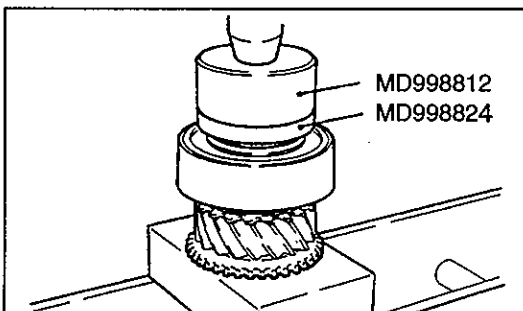
TRA1822

Disassembly steps

- ◀A▶ ▶B▶
 ▶A▶
1. Snap ring
 2. Ball bearing
 3. Snap ring (some model)
 4. Cone spring (some model)
 5. Sub gear (some model)
 6. Transfer input gear

**DISASSEMBLY SERVICE POINT****◀A▶ BALL BEARING REMOVAL**

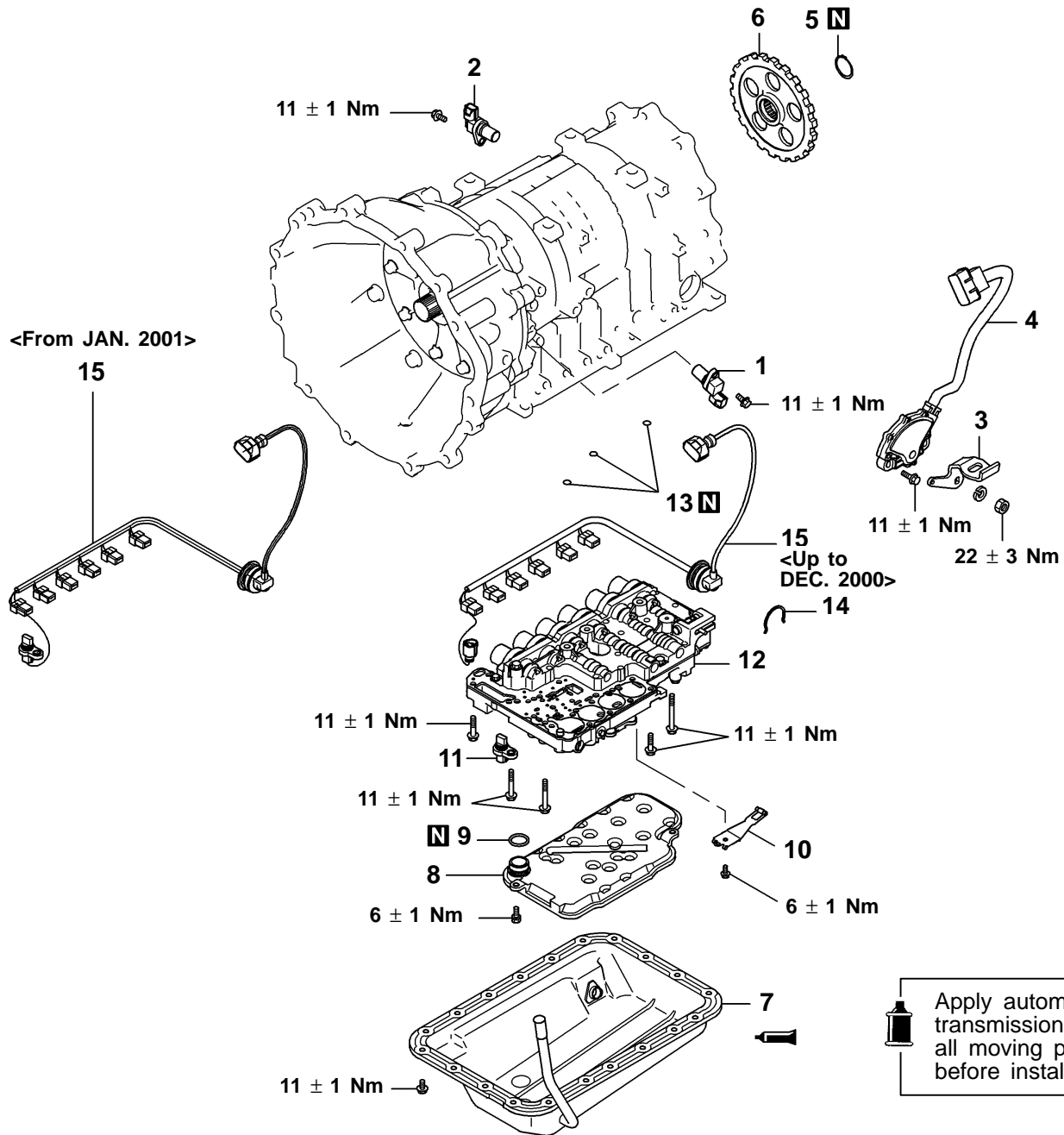
Use the special tool to remove the ball bearing.


**ASSEMBLY SERVICE POINTS****▶A▶ BALL BEARING INSTALLATION**

Use the special tools to install the ball bearing.

5. TRANSMISSION

DISASSEMBLY AND ASSEMBLY

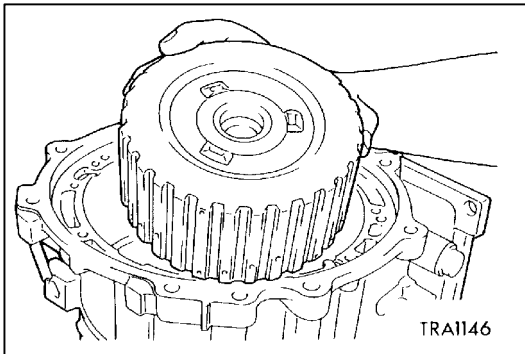


 Apply automatic transmission fluid to all moving parts before installation.

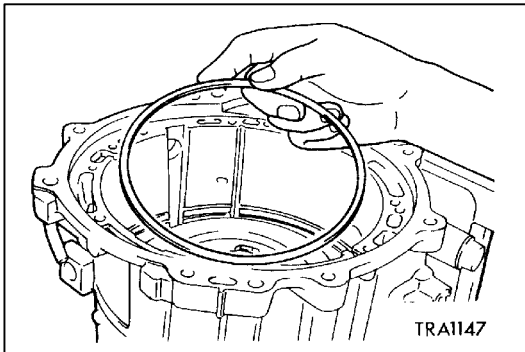
TRA1970

- 1. Input shaft speed sensor
- 2. Output shaft speed sensor
- 3. Manual control lever
- 4. Park/neutral position switch
- 5. Snap ring
- 6. Parking gear
- 7. Oil pan
- 8. Oil filter

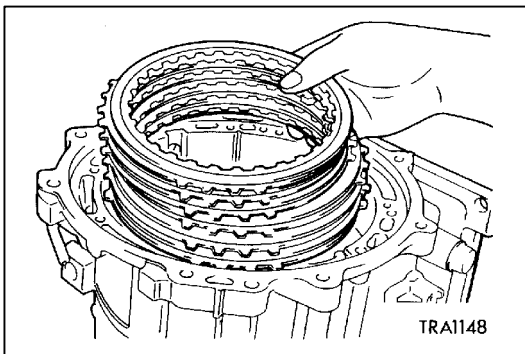
- 9. O-ring
- 10. Detent spring
- 11. Oil temperature sensor <Up to DEC. 2000>
- 12. Valve body
- 13. O-ring
- 14. Snap ring
- 15. Solenoid valve harness



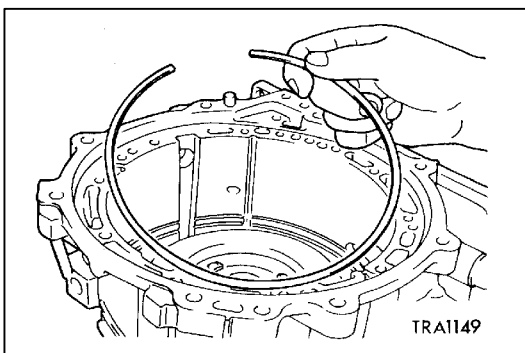
27. Install the reverse sun gear.



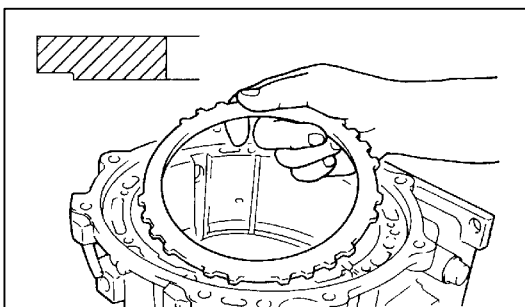
28. Install the wave spring onto the low/reverse brake piston.



29. Install the pressure plate selected in step 24 (12), brake discs and brake plates.



30. Install the snap ring.



31. Install the reaction plate.

Caution

- Take care not to mistake the reaction plate installation direction.