MANUAL TRANSMISSION

CONTENTS

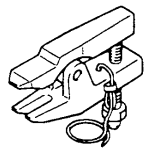
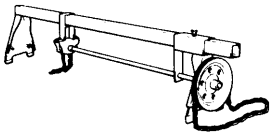
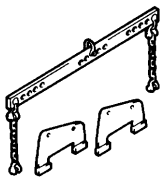
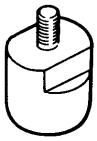
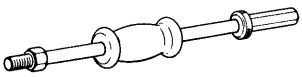
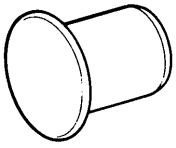
WARNING REGARDING SERVICING OF SUPPLEMENTAL RESTRAINT SYSTEM (SRS) EQUIPPED VEHICLES

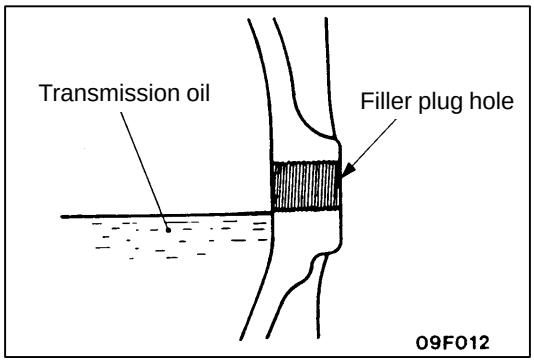
(1) Thoroughly review this manual, especially GROUP 52B – Supplemental Restraint System (SRS) before beginning any service or maintenance of any component of the SRS or any SRS-related component.
(2) When removing or installing the components indicated in the table of contents by an asterisk (*), use special care not to apply shocks to SRS-related components.

LUBRICANT

Item	Specified lubricant	Quantity dm^3 (ℓ)
Transmission oil	MITSUBISHI genuine “Dia-Queen” multi gear oil <75W/85W>	2.8 (2.8)
Transfer oil	MITSUBISHI genuine “Dia-Queen Super” hypoid gear oil (GL-5)	0.62 (0.62)

SPECIAL TOOLS

Tool	Number	Name	Use
 B991113	MB990635 or MB991113	Steering linkage puller	Tie rod end and lower arm disconnection
	Recommended tool MZ203826 by Anzen Jidosha or MZ203827 by Banzai	Engine lifter	Supporting the engine assembly during removal and installation of the transmission
	MB991453	Engine hanger	
	MB991612	Adapter	Removing output shaft
	MB990211	Slide hammer	
	MB991193	Plug	Preventing oil flowing out from and foreign matter entry into transfer.

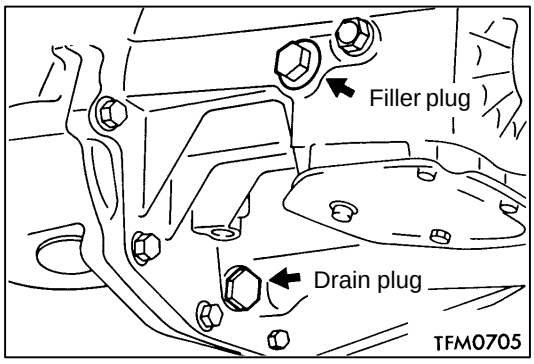


ON-VEHICLE SERVICE

1. TRANSMISSION OIL CHECK

(1) Remove the oil filler plug.
(2) Oil level should be at the lower portion of the filler plug hole.
(3) Check that the transmission oil is not noticeably dirty, and that it has a suitable viscosity.
(4) Tighten the filler plug to the specified torque.

Tightening torque: 32 Nm {3.3 kgf·m}



2. TRANSMISSION OIL REPLACEMENT

(1) Remove the drain plug to drain oil.
(2) Tighten the drain plug to the specified torque.

Tightening torque: 32 Nm {3.3 kgf·m}

(3) Remove the filler plug and fill with specified oil till the level comes to the lower portion of filler plug hole.

Transmission oil

Specified oil:
MITSUBISHI genuine "Dia-Queen" multi gear oil <75W/85W>

Quantity: 2.8 dm^3 (2.8 ℓ)

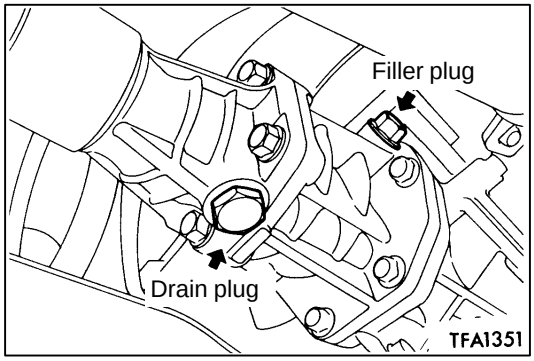
(4) Tighten the filler plug to the specified torque.

Tightening torque: 32 Nm {3.3 kgf·m}

3. TRANSFER OIL CHECK

(1) Remove the oil filler plug.
(2) Oil level should be at the lower portion of the filler plug hole.
(3) Check that the transmission oil is not noticeably dirty, and that it has a suitable viscosity.
(4) Tighten the filler plug to the specified torque.

Tightening torque: 32 Nm {3.3 kgf·m}



4. TRANSFER OIL REPLACEMENT

(1) Remove the drain plug to drain oil.
(2) Tighten the drain plug to the specified torque.

Tightening torque: 32 Nm {3.3 kgf·m}

(3) Remove the filler plug and fill with specified oil till the level comes to the lower portion of filler plug hole.

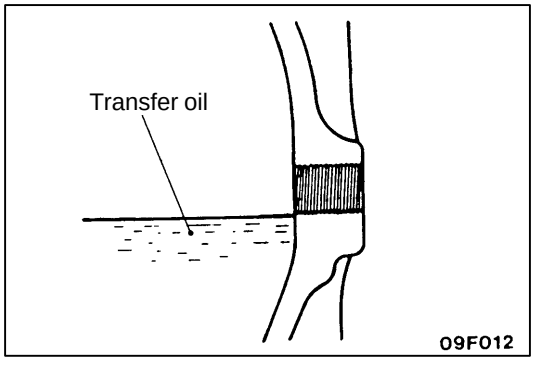
Transfer oil

Specified oil:
MITSUBISHI genuine "Dia-Queen Super" hypoid gear oil (GL-5)

Quantity: 0.62 dm^3 (0.62 ℓ)

(4) Tighten the filler plug to the specified torque.

Tightening torque: 32 Nm {3.3 kgf·m}

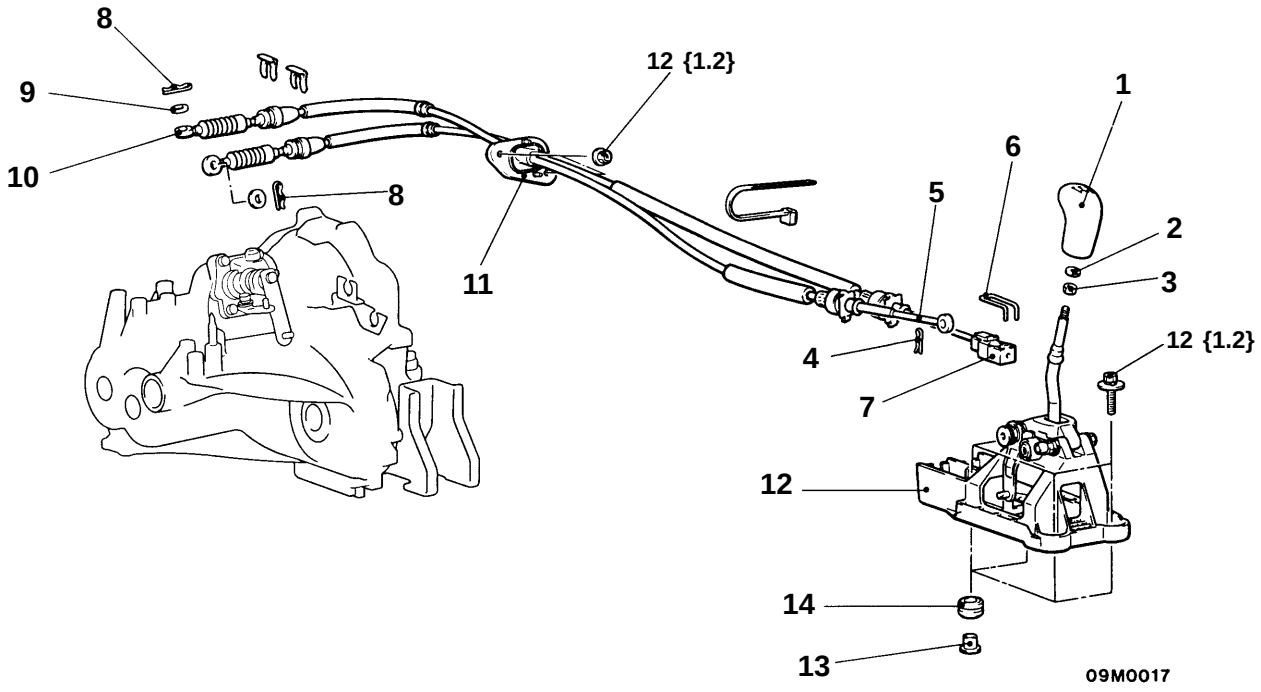


TRANSMISSION CONTROL

REMOVAL AND INSTALLATION

Pre-removal and Post-installation Operation
- Air Cleaner Assembly Removal and Installation

Caution: SRS
Be careful not to subject the SRS-ECU to any shocks during removal and installation of the shift cable and select cable assembly.



Unit: Nm {kgf·m}

Shift cable and select cable assembly removal steps

▶B◀ 1. Shift knob
▶B◀ 2. Spring washer
▶B◀ 3. Nut
- Front floor console (Refer to GROUP 52.)

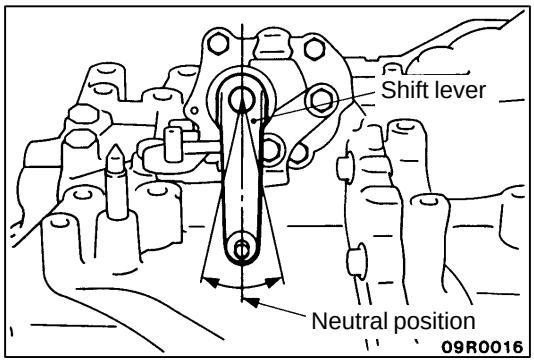
4. Snap pin
5. Select cable connection (Shift lever side)
6. Clip
7. Shift cable connection (Shift lever side)
8. Snap pin

▶A◀ 9. Select cable connection (Transmission side)
▶A◀ 10. Shift cable connection (Transmission side)
▶A◀ 11. Shift cable and select cable assembly

Shift lever assembly removal steps

▶B◀ 1. Shift knob
▶B◀ 2. Spring washer
▶B◀ 3. Nut
- Front floor console (Refer to GROUP 52.)

4. Snap pin
5. Select cable connection (Shift lever side)
6. Clip
7. Shift cable connection (Shift lever side)
12. Shift lever assembly
13. Distance piece
14. Bushing



INSTALLATION SERVICE POINTS

▶A◀ SHIFT CABLE AND SELECT CABLE ASSEMBLY / SHIFT CABLE CONNECTION / SELECT CABLE CONNECTION

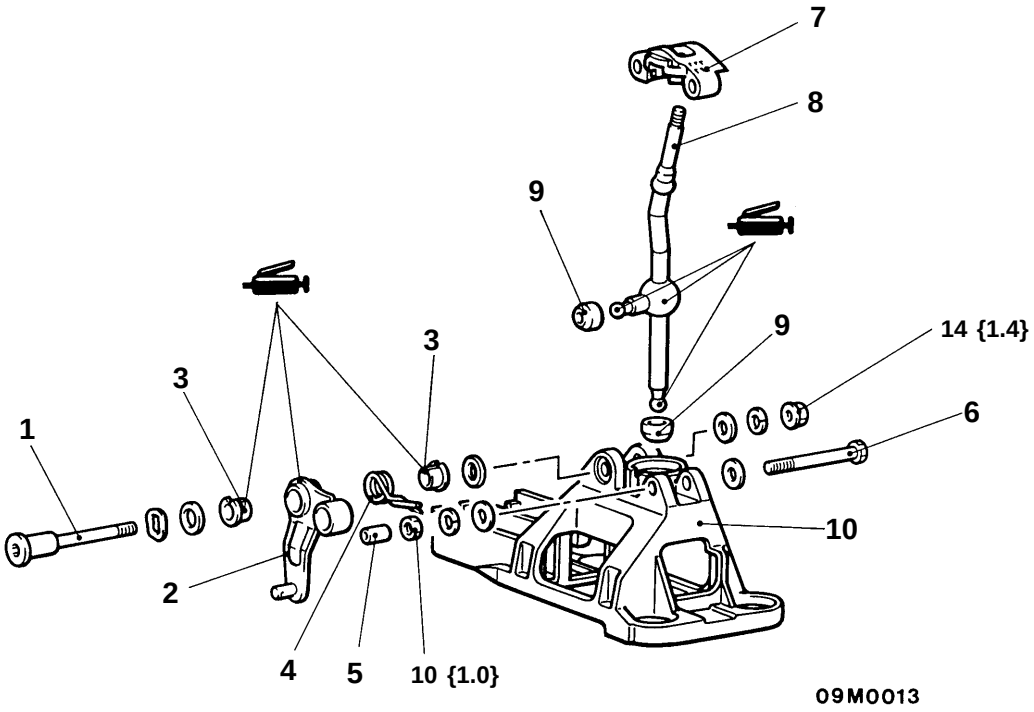
(1) Set the transmission side shift lever and the passenger compartment side shift lever to the neutral position.

(2) For the transmission side, the white and yellow paint marks on the shift and select cable ends should face the snap pins.
(3) Move the shift lever to all positions and check that the operation is smooth.

▶B◀ NUT / SPRING WASHER / SHIFT KNOB INSTALLATION

(1) Screw in the nut all the way by hand, turn back half a turn, and then insert the spring washer.
(2) Screw in the shift knob until it touches the spring washer, and make one more turn. Then turn more to adjust the shift pattern on the shift knob.
(3) If the above steps are impossible, you can turn back the shift knob by one turn at most after screwing in all the way to adjust the shift pattern.

SHIFT LEVER ASSEMBLY
DISASSEMBLY AND REASSEMBLY



Unit: Nm {kgf·m}

Disassembly steps

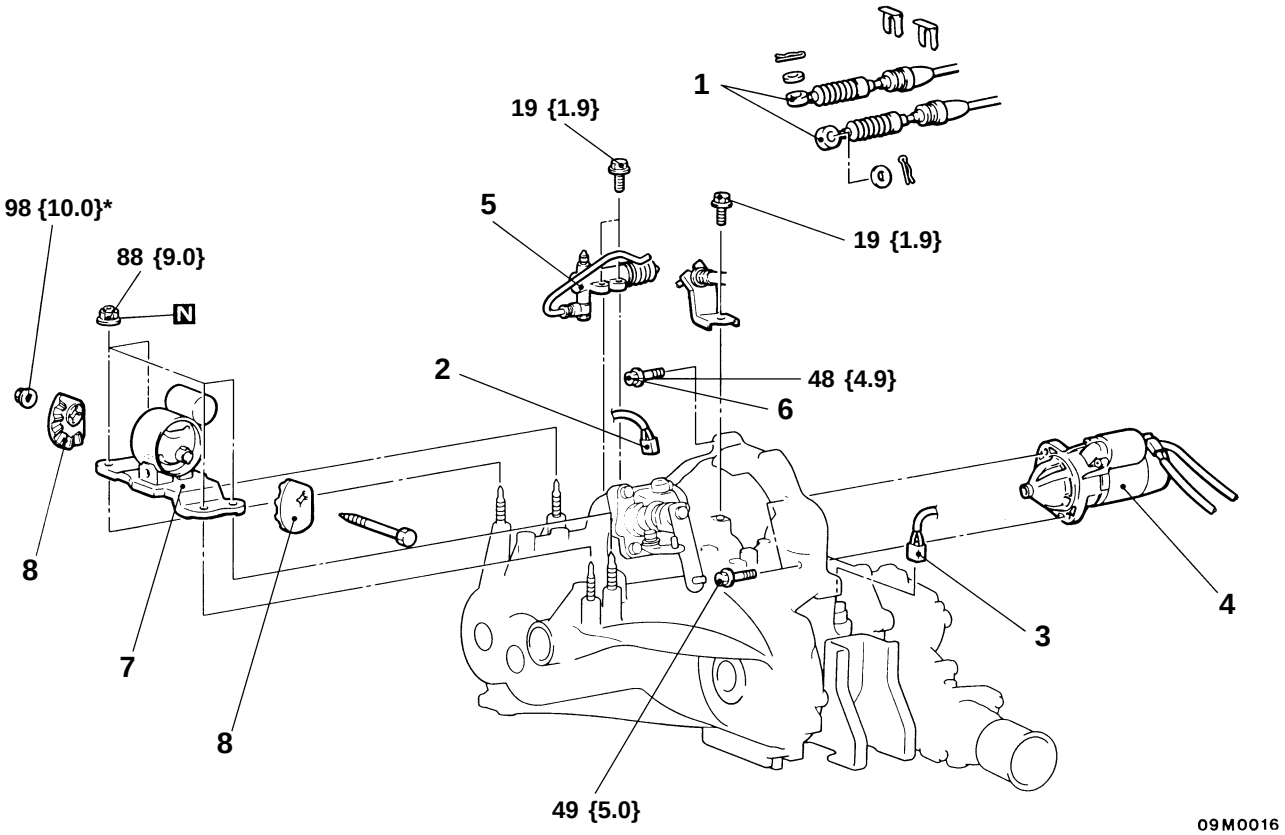
1. Bolt
2. Select lever
3. Bushing
4. Return spring
5. Collar
6. Bolt
7. Cap
8. Shift lever
9. Shift lever bushing
10. Base block

TRANSMISSION ASSEMBLY

REMOVAL AND INSTALLATION

Pre-removal Operation
(1) Transmission Oil Draining (Refer to P.22A-3.)
(2) Transfer Oil Draining (Refer to P.22A-3.)
(3) Under Cover Removal
(4) Front Exhaust Pipe Removal (Refer to GROUP 15.)
(5) Battery and Battery Tray Removal
(6) Air Cleaner Assembly Removal

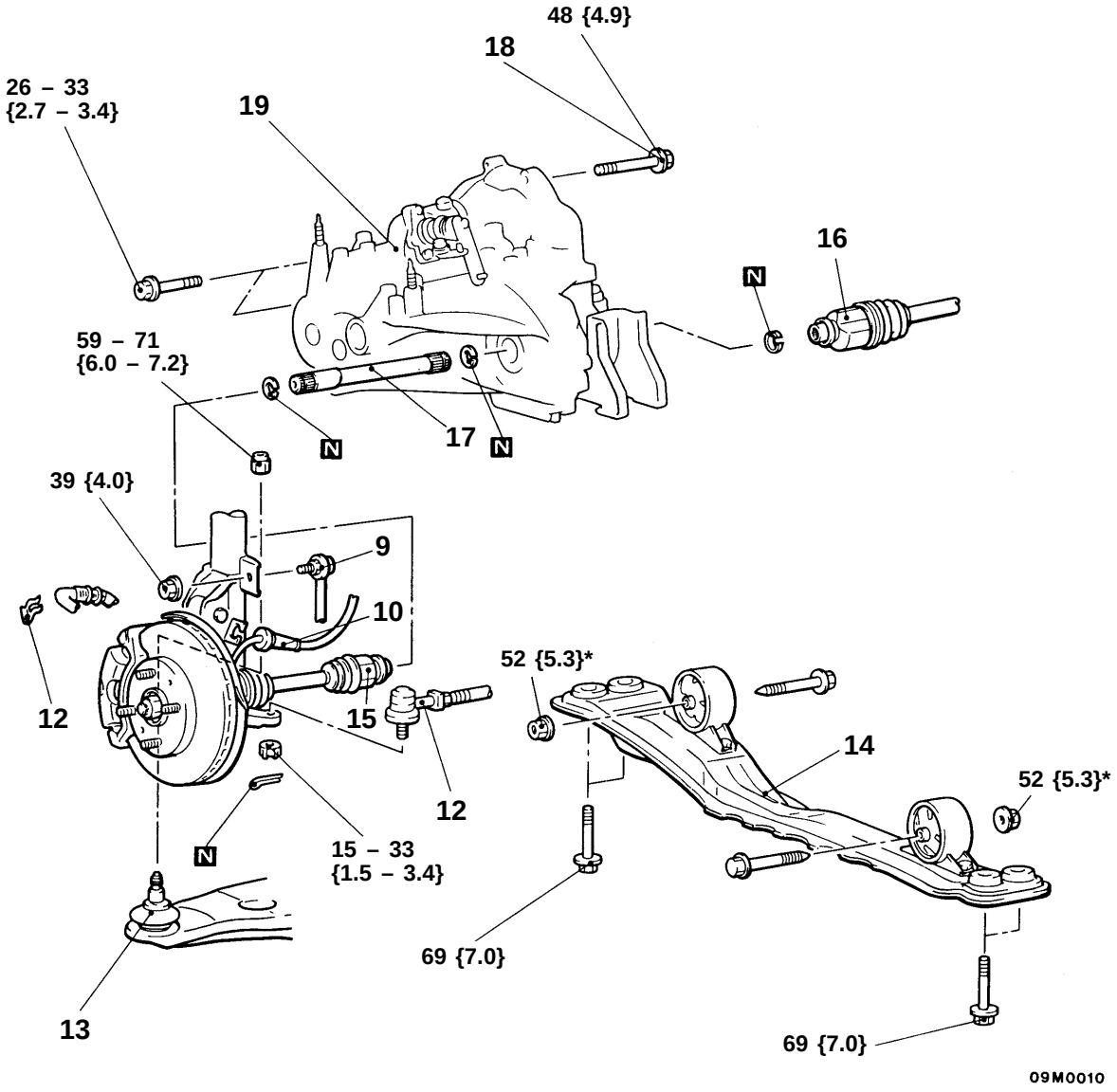
Post-installation Operation
(1) Air Cleaner Assembly Installation
(2) Battery and Battery Tray Installation
(3) Front Exhaust Pipe Installation (Refer to GROUP 15.)
(4) Under Cover Installation
(5) Transfer Oil Supplying (Refer to P.22A-3.)
(6) Transmission Oil Supplying (Refer to P.22A-3.)
(7) Shift Lever Operation Check
(8) Speedometer Operation Check



Unit: Nm {kgf·m}

Removal steps
1. Shift cable and select cable connection
2. Backup lamp switch connector
3. Vehicle speed sensor connector
◀A▶ 4. Starter motor
5. Clutch release cylinder connection
6. Transmission assembly upper part coupling bolts
7. Transmission mount bracket
8. Transmission mount stopper
● Engine assembly supporting

Caution
Mounting locations marked by * should be provisionally tightened, and then fully tightened when the body is supporting the full weight of the engine.



Unit: Nm {kgf·m}

Lifting up of the vehicle

9. Stabilizer bar connection
10. Wheel speed sensor cable connection <Vehicles with ABS>
11. Brake hose clamp
12. Tie rod end connection
13. Lower arm ball joint connection

◀A▶ ● Clutch release bearing connection

14. Centermember assembly

◀B▶ 15. Drive shaft <LH> connection

◀B▶ 16. Drive shaft <RH> connection

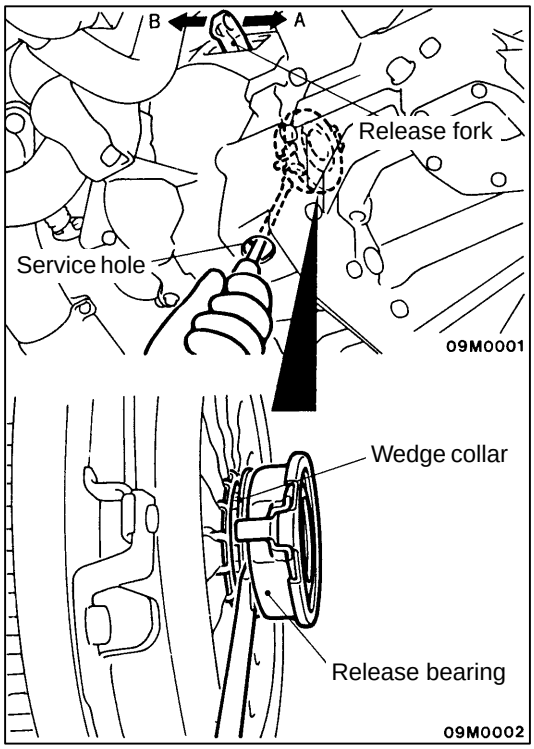
● Strut assembly <LH>
(Refer to GROUP 33A.)

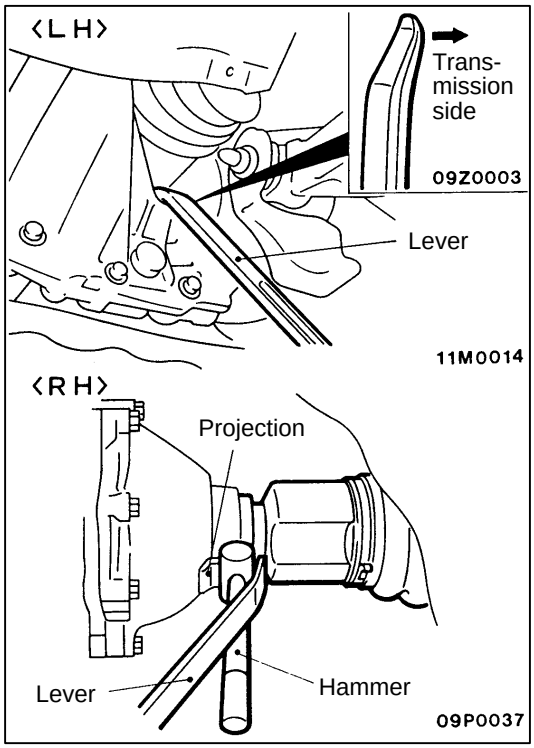
◀C▶ 17. Output shaft

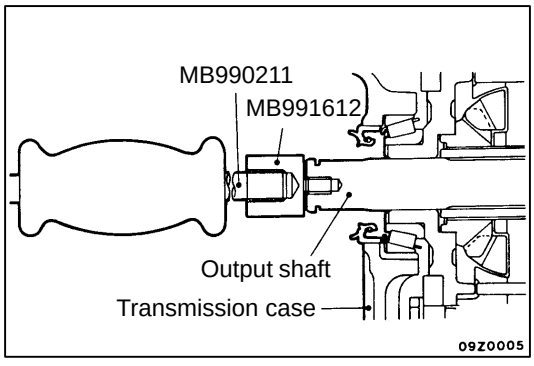
● Air hose A
(Refer to GROUP 15 – Intercooler.)

18. Transmission assembly lower part coupling bolts
19. Transmission assembly

Caution
Mounting locations marked by * should be provisionally tightened, and then fully tightened when the body is supporting the full weight of the engine.







REMOVAL SERVICE POINTS

◀A▶ CLUTCH RELEASE BEARING SEPARATION

(1) Remove the cover from the service hole in the clutch housing.
(2) While pushing the release fork by hand in the direction A, insert a flap-tip screwdriver between the release bearing and the wedge collar.

Caution
Be sure to push the release fork in the direction A before inserting a screwdriver.

(3) Separate the release bearing from the wedge collar by prying with the screwdriver (turning the screwdriver grip 90°).

NOTE
The release fork is forced to move fully in the direction B by the return spring as soon as it is separated from the wedge collar.

Caution
If it is hard to turn the screwdriver (to pry off the release bearing), remove the screwdriver once and repeat the above procedure after pushing the release fork fully in the direction A two to three times. Forcibly prying can cause the release bearing to be damaged.

◀B▶ DRIVE SHAFT <LH> / DRIVE SHAFT <RH> DISCONNECTION

(1) To disconnect the left-hand drive shaft, insert a lever as shown and pry out the shaft from the transmission. To disconnect the right-hand drive shaft, apply a lever and a hammer as shown and lever out the shaft from the transfer assembly using the hammer as a fulcrum.

NOTE
Remove the drive shafts with the hub and knuckle attached.

Caution
Do not attempt to pull out the drive shaft from the BJ in this stage since it can cause the TJ to be damaged. Be sure to remove the drive shaft first from the transmission side using a lever.

(2) Suspend the removed drive shaft with a wire so that there are no sharp bends in any of the joints.

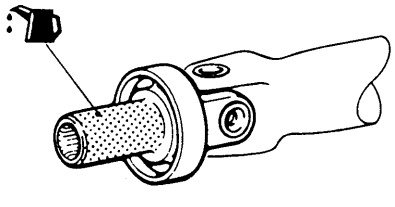
◀C▶ OUTPUT SHAFT REMOVAL

(1) Use the special tools (MB991612, MB990211) to remove the output shaft.
(2) Use a shop towel to cover the transmission case not to let foreign material get into it.

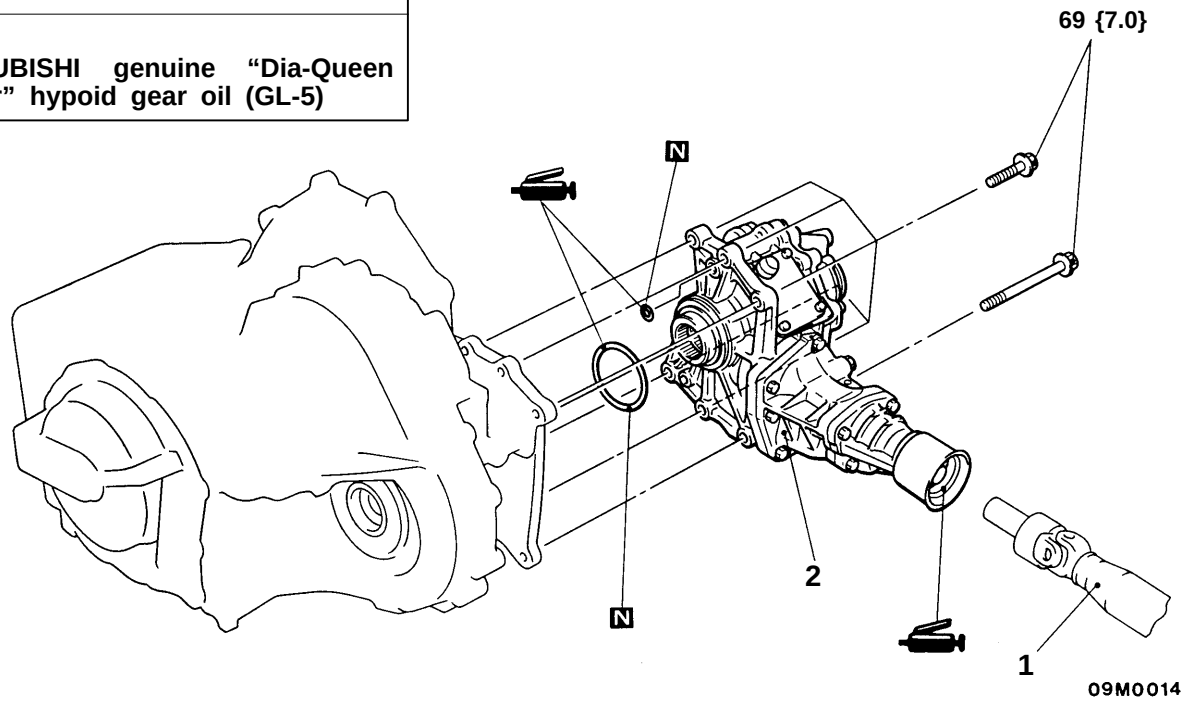
TRANSFER ASSEMBLY

REMOVAL AND INSTALLATION

Pre-removal and Post-installation Operation
- Transmission Oil Draining and Supplying (Refer to P.22A-3.)
- Transfer Oil Draining and Supplying (Refer to P.22A-3.)
- Front Exhaust Pipe Removal and Installation (Refer to GROUP 15.)



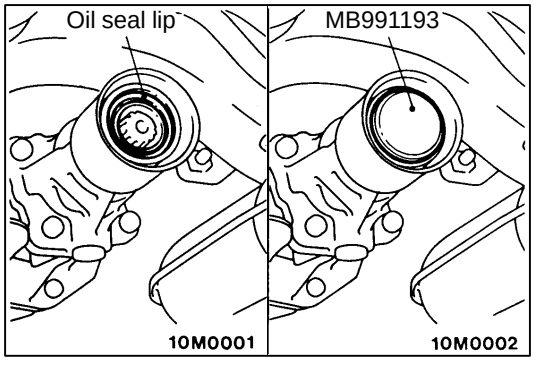
Gear oil:
MITSUBISHI genuine "Dia-Queen Super" hypoid gear oil (GL-5)



Unit: Nm {kgf·m}

Removal steps
- Drive shaft (Refer to P.22A-9.)
- Output shaft (Refer to P.22A-9.)

1. Front propeller shaft (Refer to GROUP 25)
◀A▶ 2. Transfer assembly



REMOVAL SERVICE POINT

◀A▶ TRANSFER ASSEMBLY REMOVAL

Caution

(1) Use care not to damage the lip of the oil seal in the transfer case.

(2) Use the special tool to cover the opening in the transfer case to prevent oil from flowing out or foreign materials from entering the case.