

# MANUAL

# TRANSMISSION

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### WARNINGS REGARDING SERVICING OF SUPPLEMENTAL RESTRAINT SYSTEM (SRS) EQUIPPED VEHICLES

#### WARNING!

- (1) Improper service or maintenance of any component of the SRS, or any SRS-related component, can lead to personal injury or death to service personnel (from inadvertent firing of the air bag) or to the driver and passenger (from rendering the SRS inoperative).
- (2) Service or maintenance of any SRS component or SRS-related component must be performed only at an authorized MITSUBISHI dealer.
- (3) MITSUBISHI dealer personnel must thoroughly review this manual, and especially its GROUP 52B – Supplemental Restraint System (SRS) before beginning any service or maintenance of any component of the SRS or any SRS-related component.

#### NOTE

The SRS includes the following components: SRS-ECU, SRS warning lamp, air bag module, clock spring and interconnecting wiring. Other SRS-related components (that may have to be removed/installed in connection with SRS service or maintenance) are indicated in the table of contents by an asterisk (\*).

## GENERAL INFORMATION

The following service procedures have been established due to the addition of the F5MV1 type transmission and the changes on the F5M42 type transmission control.

Items		Specifications
Model		F5MV1
Type		Manual, 5-speed, Front wheel drive
Gear ratio	1st	3.385
	2nd	1.905
	3rd	1.194
	4th	0.868
	5th	0.652
	Reverse	3.298
Final reduction ratio		3.565

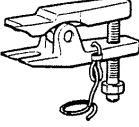
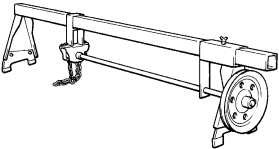
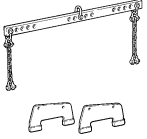
## LUBRICANT

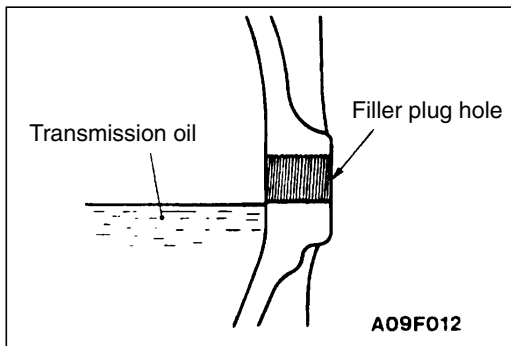
Item	Specified lubricant	Quantity L
Transmission oil	Volvo oil 97308	2.1

## SEALANT

Item	Specified sealant	Remark
Drive shaft spring pin	MITSUBISHI GENUINE PART MD970389 or equivalent	Semi-drying sealant

## SPECIAL TOOLS

Tool	Number	Name	Use
	MB990635 or MB991113	Steering linkage puller	Tie rod end and lower arm disconnection
	GENERAL SERVICE TOOL MZ203827	Engine lifter	Supporting the engine assembly during removal and installation of the transmission
	MB991453	Engine hanger	



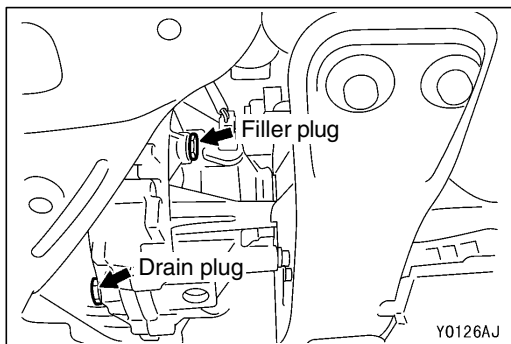
## ON-VEHICLE SERVICE

### TRANSMISSION OIL LEVEL CHECK

Inspect each component for evidence of leakage, and check the oil level by remaining the filler plug. If the oil is contaminated, it is necessary to replace it with new oil.

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

**Tightening torque: 35 Nm**



### TRANSMISSION OIL REPLACEMENT

1. Remove transmission drain plug.
2. Drain oil.
3. Tighten drain plug to specified torque.

**Tightening torque: 35 Nm**

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

**Specified oil: Volvo oil 97308**

**Quantity: 2.1 L**

5. Tighten filler plug to specified torque.

**Tightening torque: 35 Nm**

## TRANSMISSION CONTROL

### REMOVAL AND INSTALLATION

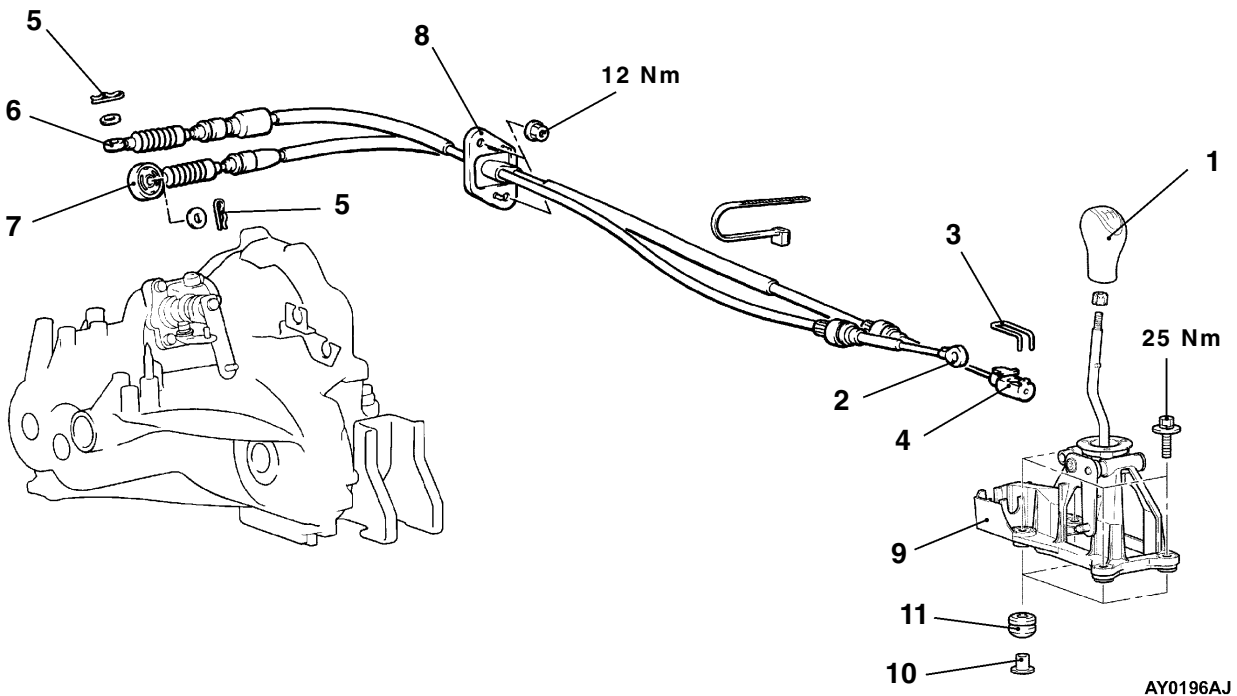
<F5M42>

#### Caution: SRS

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

#### Pre-removal and Post-installation Operation

- Air Cleaner Assembly Removal and Installation
- Floor Console Box Removal and Installation (Refer to GROUP 52A.)



#### Shift cable and select cable assembly removal steps

2. Select cable connection (passenger compartment side)
3. Clip
4. Shift cable connection (passenger compartment side)
5. Snap pin
6. Select cable connection (Transmission side)
7. Shift cable connection (Transmission side)
8. Shift cable and select cable assembly

#### Shift lever assembly removal steps

1. Shift knob
2. Select cable connection (passenger compartment side)
3. Clip
4. Shift cable connection (passenger compartment side)
9. Shift lever assembly
10. Distance piece
11. Bushing

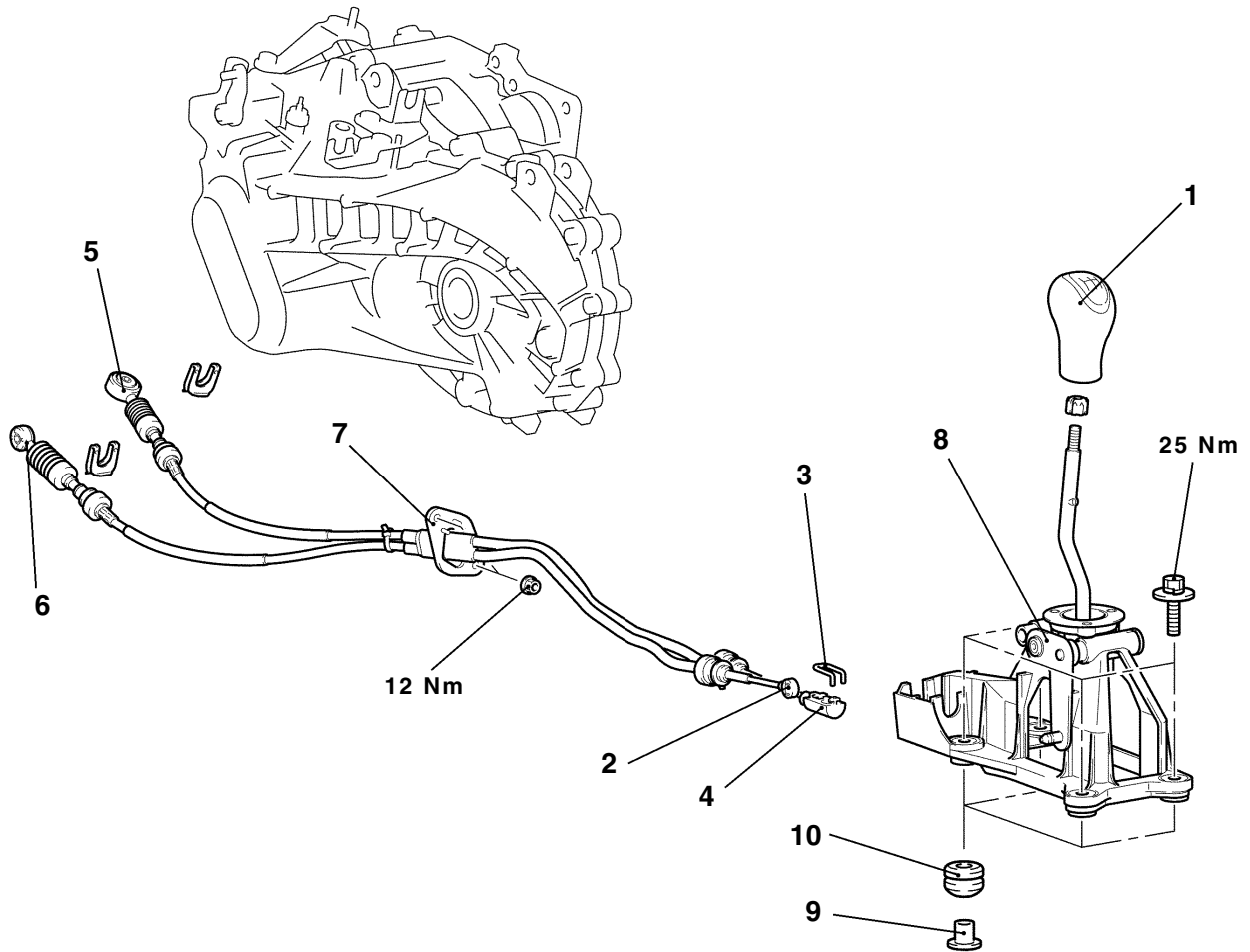
<F5MV1>

**Caution: SRS**

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

**Pre-removal and Post-installation Operation**

- Air Cleaner Assembly Removal and Installation
- Floor Console Box Removal and Installation (Refer to GROUP 52A.)
- Transmission Mount Lower Bracket Removal and Installation (Refer to GROUP 32.)



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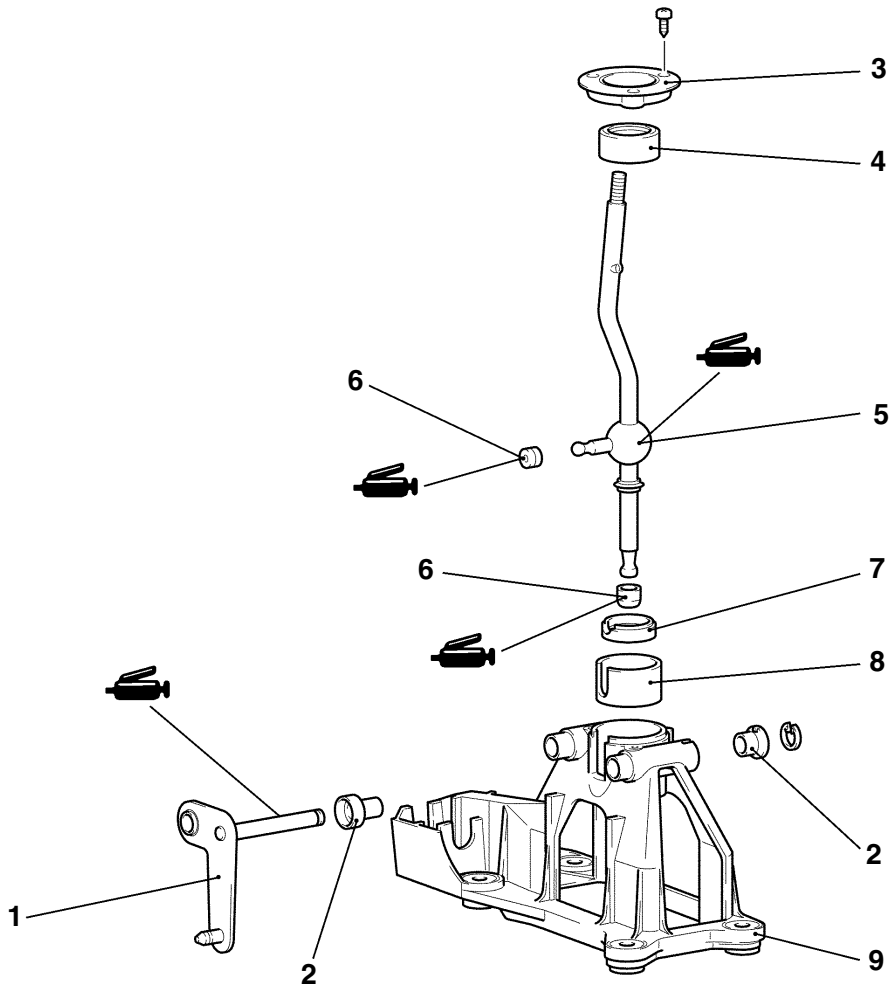
**Shift cable and select cable assembly removal steps**

1. Shift knob
2. Select cable connection (passenger compartment side)
3. Clip
4. Shift cable connection (passenger compartment side)
5. Select cable connection (Transmission side)
6. Shift cable connection (Transmission side)
7. Shift cable and select cable assembly

**Shift lever assembly removal steps**

1. Shift knob
2. Select cable connection (passenger compartment side)
3. Clip
4. Shift cable connection (passenger compartment side)
8. Shift lever assembly
9. Distance piece
10. Bushing

## SHIFT LEVER ASSEMBLY <F5M42, F5MV1> DISASSEMBLY AND REASSEMBLY



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### Disassembly steps

- |                |                      |
|----------------|----------------------|
| 1. Lever       | 6. Ball seat         |
| 2. Bushing     | 7. Ball socket       |
| 3. Cap         | 8. Shroud insulation |
| 4. Ball socket | 9. Housing           |
| 5. Gear lever  |                      |

# TRANSMISSION ASSEMBLY <F5MV1>

## REMOVAL AND INSTALLATION

### Caution

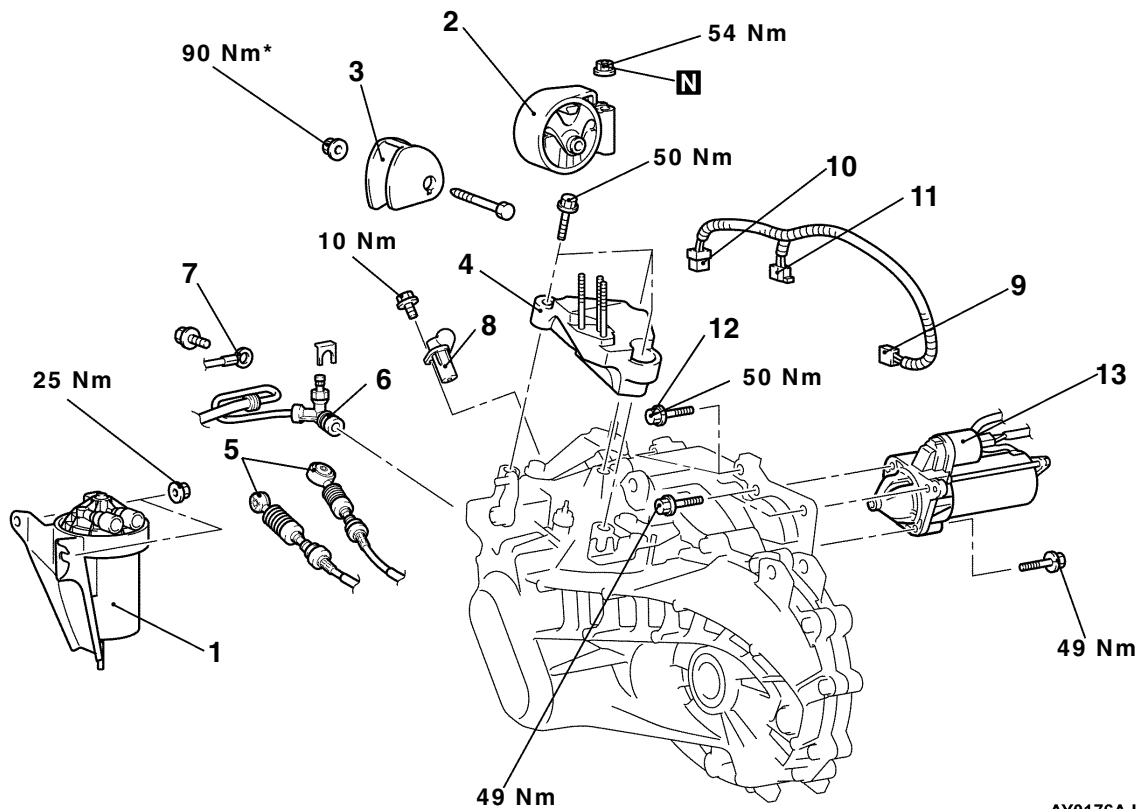
In order to prevent the insulator from being damaged, mounting locations marked by \* should be provisionally tightened, and then fully tightened when the body is supporting the full weight of the engine.

#### Pre-removal Operation

- Transmission Oil Draining (Refer to P.22-3.)
- Under Cover Removal
- Air Cleaner Assembly Removal
- Battery Removal
- Intercooler Hose Removal (Refer to GROUP 15.)

#### Post-installation Operation

- Intercooler Hose Installation (Refer to GROUP 15.)
- Battery Installation
- Air Cleaner Assembly Installation
- Under Cover Installation
- Transmission Oil Supplying (Refer to P.22-3.)
- Shift Lever Operation Check
- Speedometer Operation Check

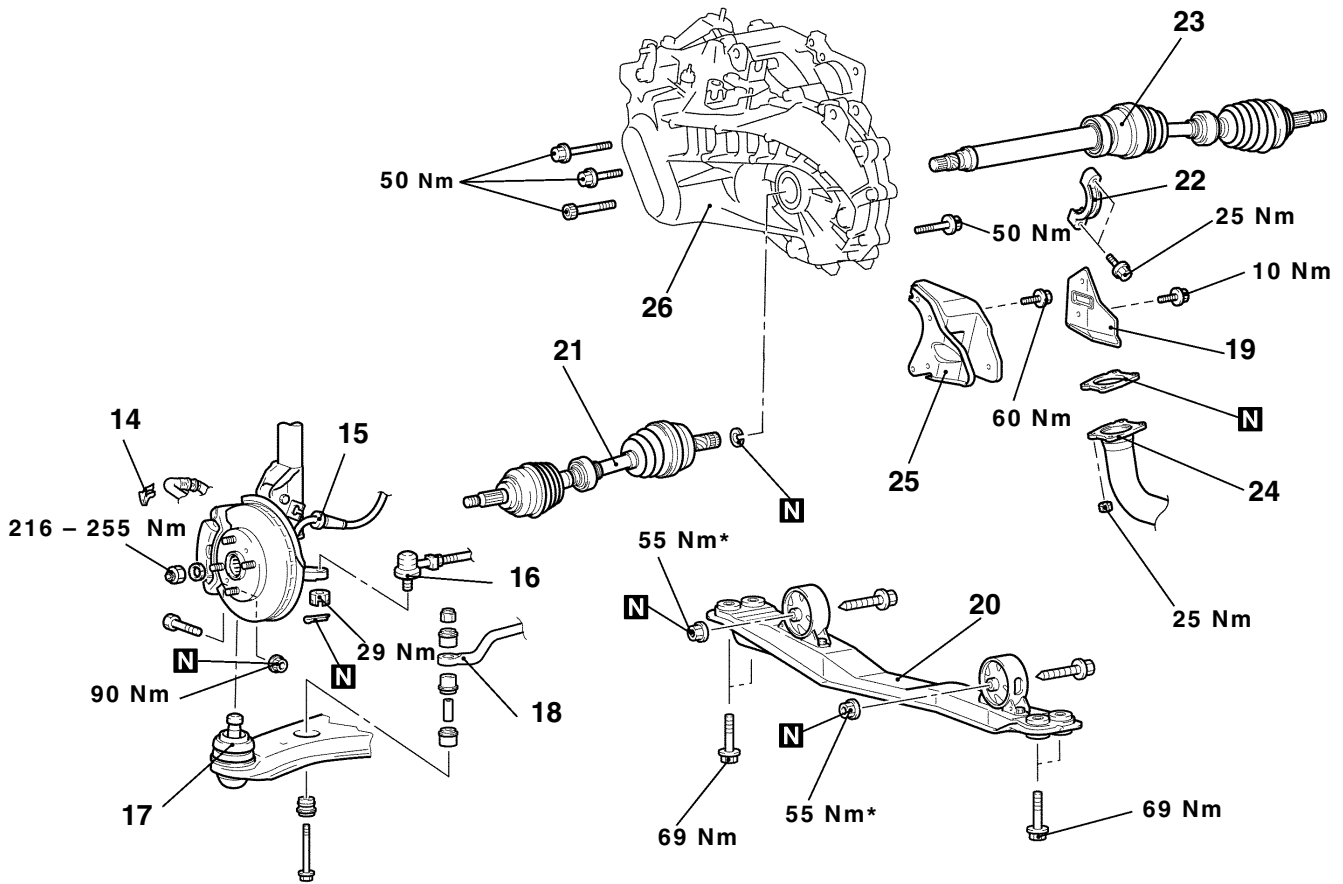


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### Removal steps



1. Fuel filter (Refer to GROUP13D)
2. Transmission mount
3. Transmission mount stopper
4. Transmission mount lower bracket
5. Transmission control cable (transmission side)
6. Clutch tube connection
7. Earth cable
8. Crank angle sensor
9. Speed sensor connector
10. Backup lamp switch connector
11. Control harness and sub-harness connection
12. Transmission upper mounting bolt
13. Starter



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**Lifting up of the vehicle**

- 14. Brake hose clamp
  - 15. Wheel speed sensor cable connection <Vehicles with ABS>
  - 16. Tie rod end connection
  - 17. Lower arm ball joint connection
  - 18. Stabilizer bar connection
  - 19. Heat protector
- ◀B▶
- ▶A◀

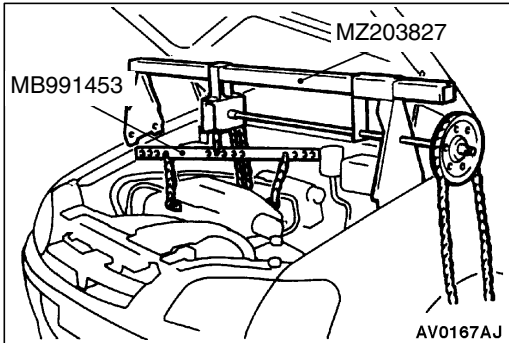
- 20. Centermember assembly
  - 21. Drive shaft <L.H.> connection
  - 22. Bearing bracket
  - 23. Drive shaft <R.H.> connection
  - 24. Front exhaust pipe connection
  - 25. Rear roll stopper bracket
  - 26. Transmission assembly
- ◀C▶
- ◀C▶



**REMOVAL SERVICE POINTS**

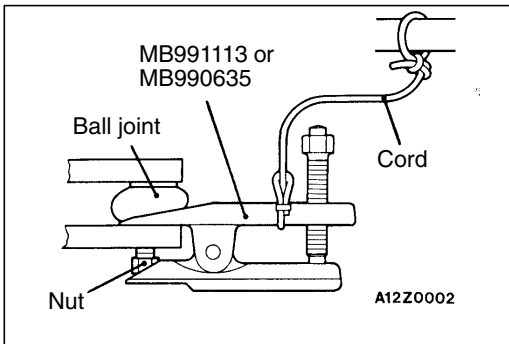
**◀A▶ TRANSMISSION MOUNT BRACKET REMOVAL**

Jack up the transmission assembly gently with a garage jack, and then remove the transmission mount bracket.



**◀B▶ ENGINE ASSEMBLY SUPPORTING**

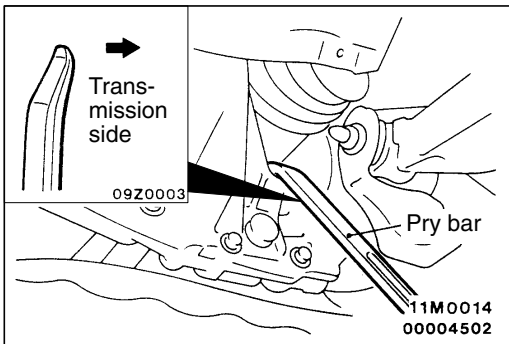
Set the special tool to the vehicle to support the engine assembly.



**◀C▶ TIE ROD END DISCONNECTION**

**Caution**

1. Loosen the nut only; do not remove it from the ball joint. Otherwise ball joint thread will be damaged.
2. The special tool should be suspended by a cord to prevent it from coming off.



**◀D▶ DRIVE SHAFT <L.H.>/DRIVE SHAFT <R.H.> DISCONNECTION**

1. Insert a pry bar between the transmission case and the drive shaft as shown to remove the drive shaft.

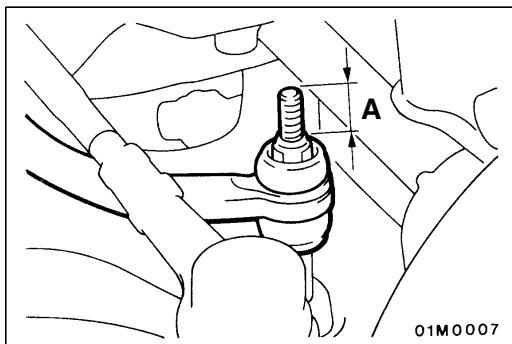
**NOTE**

Do not remove the hub and knuckle from the drive shaft.

**Caution**

**Always use a pry bar, or the T.J. will be damaged.**

2. Suspend the removed drive shaft with a wire so that there are no sharp bends in any of the joints.
3. Use a shop towel to cover the transmission case not to let foreign material get into it.

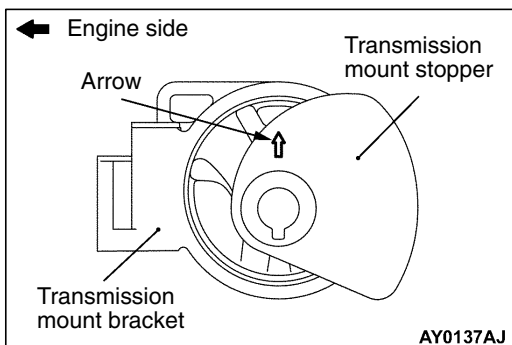


### INSTALLATION SERVICE POINTS

#### ▶A◀ STABILIZER BAR INSTALLATION

Tighten the self-locking nut so that the stabilizer bar mounting bolt protrudes as shown.

**Standard value (A): 22 mm**



#### ▶B◀ TRANSMISSION MOUNT STOPPER INSTALLATION

Install the transmission mount stopper so that the arrow points as shown in the illustration.