

GROUP 32

POWER PLANT MOUNT

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GENERAL INFORMATION

The inertia axial mount system has been adopted for the engine mount system.

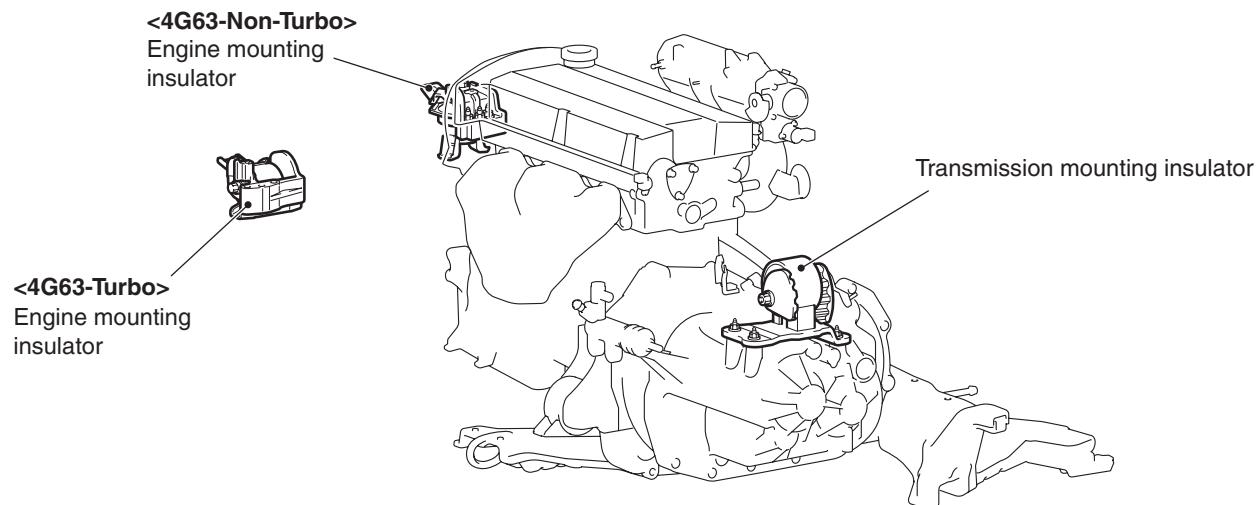
- On vehicles with 4G63-Non-Turbo or 4G69-A/T engine, pressurized liquid-filled longitudinally installed cylindrical engine mounting insulator is adopted to reduce vibration during acceleration and cornering.

M1321000100997

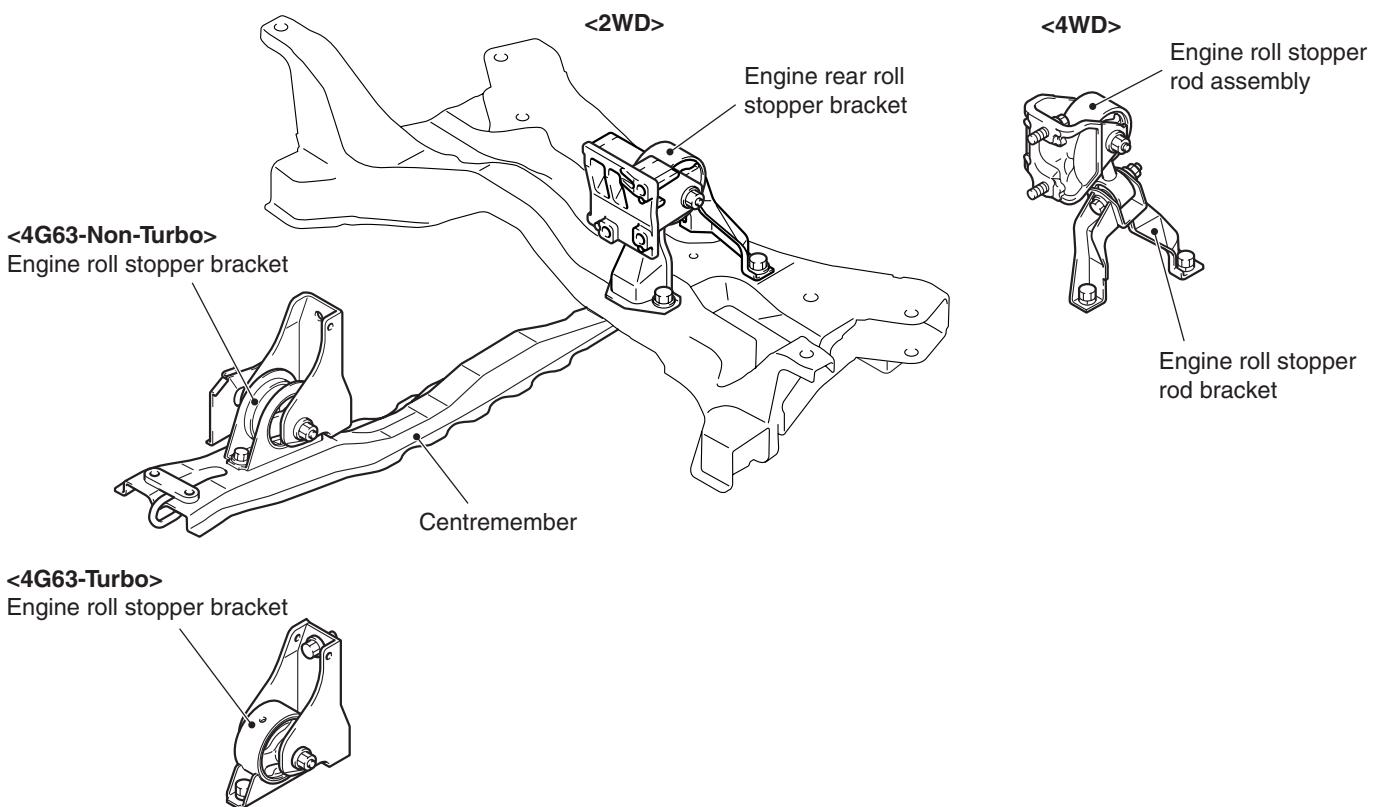
- On vehicles with 4G63-Turbo or 4G69-M/T engine, liquid-filled cylindrical engine mounting insulator is adopted to reduce vibration during acceleration and cornering.
- The liquid-filled transmission mounting insulator improves riding comfort by its refined insulator.
- Installation of engine rear roll stopper bracket or engine roll stopper rod assembly in the upper area limits engine rolling. Further more, large diameter insulator reduces idle vibration.

CONSTRUCTION DIAGRAM

<4G63>

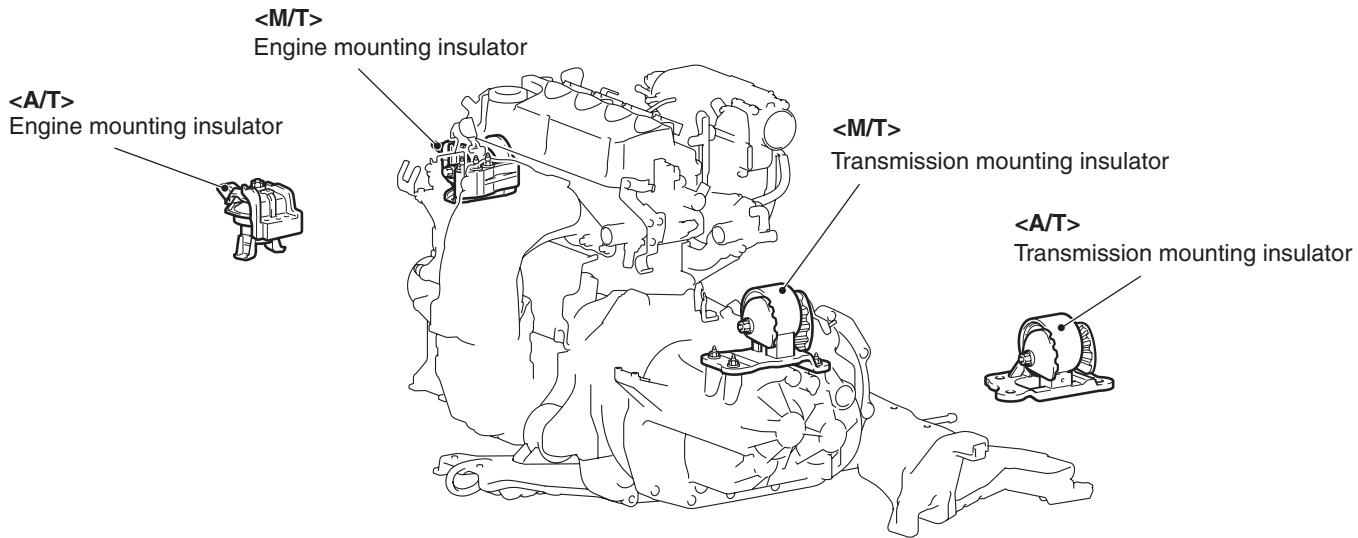


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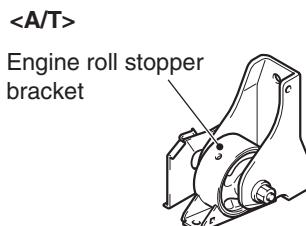
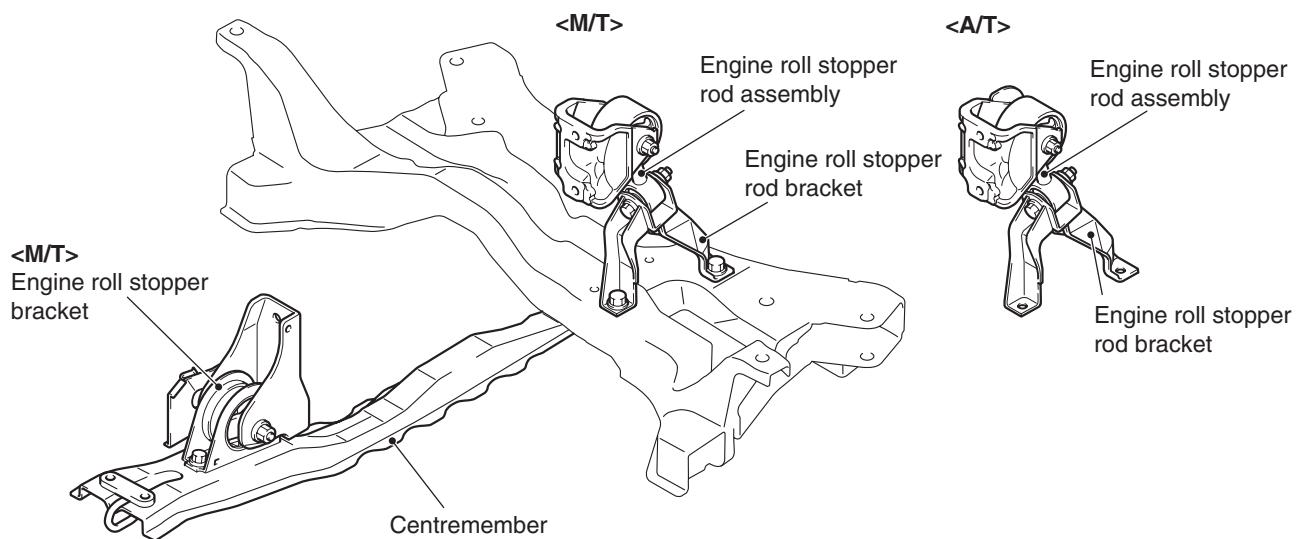


AC400980
AC401158AB

<4G69>



AC309245

AC605099
AC605100 AB

SERVICE SPECIFICATION

M1321000300377

Item	Standard value
Protruding length of stabilizer link thread part mm	9.4 ± 0.4

SPECIAL TOOL

M1321000600420

Tool	Number	Name	Use
 AC106827	MB991897 or MB992011	Ball joint remover	Knuckle and tie rod end ball joint disconnection <i>NOTE: Steering linkage puller (MB990635 or MB991113) is also available to disconnect knuckle and tie rod end ball joint.</i>

ENGINE MOUNTING <4G63-Non-Turbo, 4G69-A/T>

REMOVAL AND INSTALLATION

M1321001100699

CAUTION

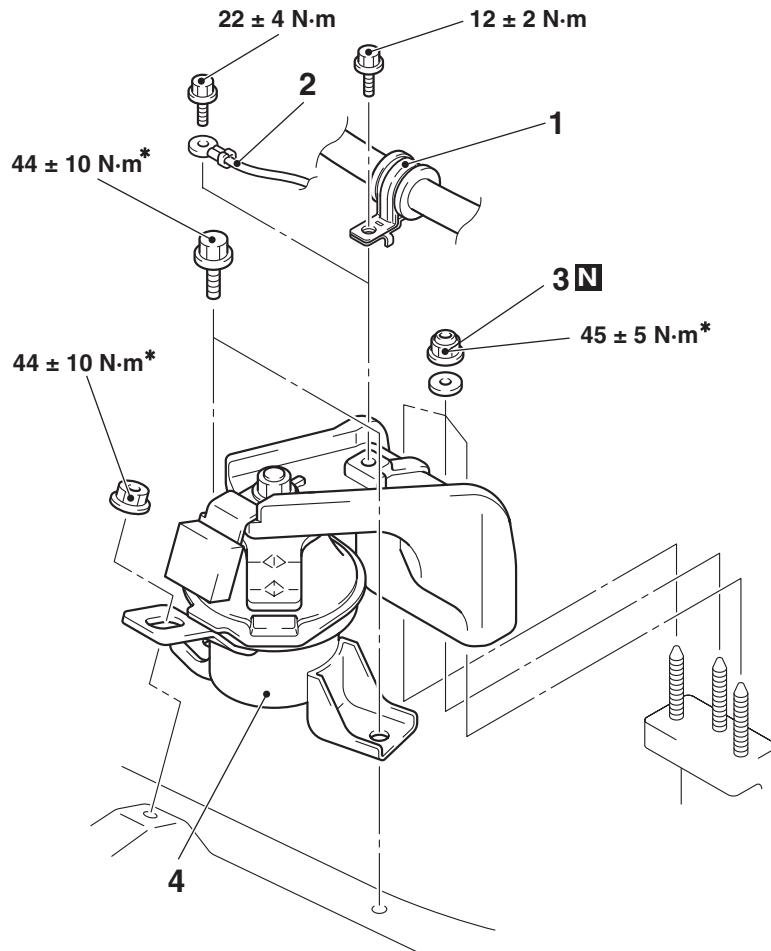
*: Indicates parts which should be initially tightened, and then fully tightened after placing the vehicle horizontally and loading the full weight of the engine on the vehicle body.

Pre-removal Operation

- Raise the engine and transmission assembly until its weight is not applied to the insulator, and support it securely.
- Accelerator Pedal Position Sensor Removal (Refer to GROUP 17, Accelerator Pedal Position Sensor P.17-11) <4G69-A/T>.

Post-installation Operation

- Accelerator Pedal Position Sensor Installation (Refer to GROUP 17, Accelerator Pedal Position Sensor P.17-11) <4G69-A/T>.
- Accelerator Cable Check and Adjustment (Refer to GROUP 17, On-vehicle Service P.17-6) <4G69-A/T>.



AC400982AB

Removal steps

1. Pressure hose clamp <4G63-Non-Turbo>
2. Earth cable connection <4G69-A/T>
- >>A<< 3. Self-locking nuts
4. Engine mounting insulator

INSTALLATION SERVICE POINT**>>A<< SELF-LOCKING NUTS INSTALLATION****CAUTION**

Do not tighten the self-locking nuts while the engine is hot.

Tighten the self-locking nuts to the specified torque while the engine is cold.

Tightening torque: 45 ± 5 N·m

INSPECTION

M1321001200209

- Check the engine mounting insulator for cracks or damage.

ENGINE MOUNTING <4G63-Turbo, 4G69-M/T>

REMOVAL AND INSTALLATION

M1321001100707

⚠ CAUTION

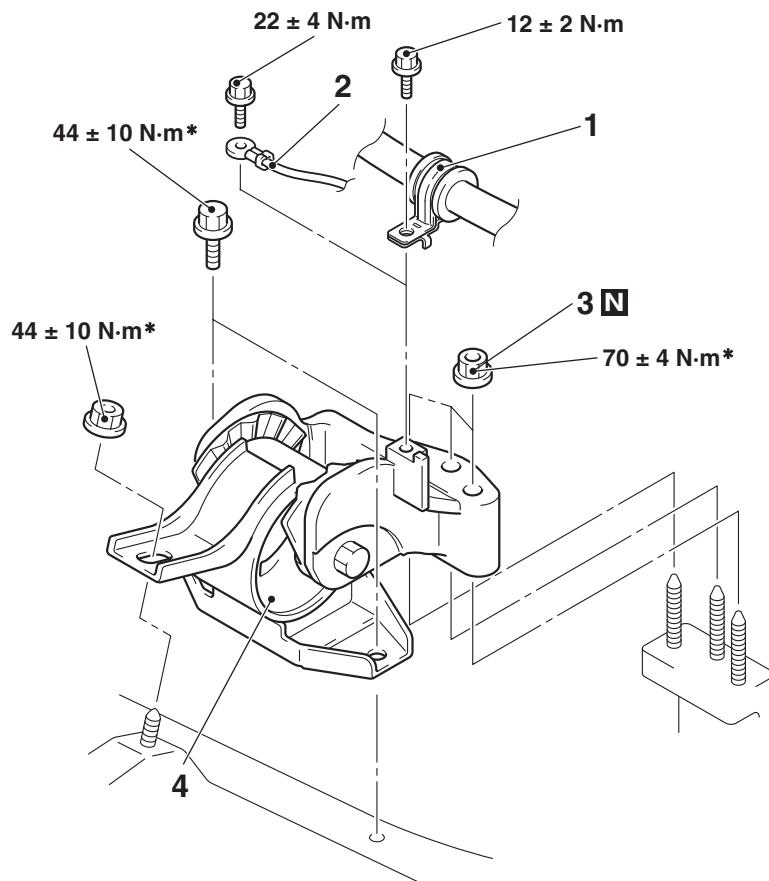
*: Indicates parts which should be initially tightened, and then fully tightened after placing the vehicle horizontally and loading the full weight of the engine on the vehicle body.

Pre-removal Operation

- Raise the engine and transmission assembly until its weight is not applied to the insulator, and support it securely.
- Accelerator Pedal Position Sensor Removal (Refer to GROUP 17, Accelerator Pedal Position Sensor P.17-11).

Post-installation Operation

- Accelerator Pedal Position Sensor Installation (Refer to GROUP 17, Accelerator Pedal Position Sensor P.17-11).
- Accelerator Cable Check and Adjustment (Refer to GROUP 17, On-vehicle Service P.17-6).



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Removal steps

- Pressure hose clamp <4G63-Turbo>
- Earth cable connection <4G69-M/T>
- Self-locking nuts
- Engine mounting insulator

INSPECTION

M1321001200209

- Check the engine mounting insulator for cracks or damage.

TRANSMISSION MOUNTING <M/T>

REMOVAL AND INSTALLATION

M1321001401228

CAUTION

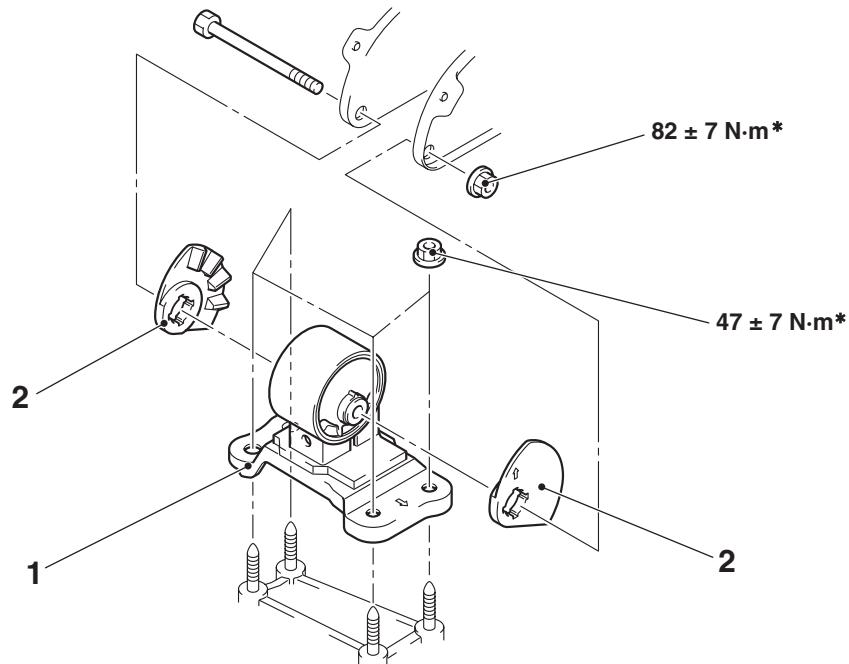
*: Indicates parts which should be initially tightened, and then fully tightened after placing the vehicle horizontally and loading the full weight of the engine on the vehicle body.

Pre-removal Operation

- Raise the engine and transmission assembly until its weight is not applied to the insulator, and support it securely.
- Air Cleaner Removal (Refer to GROUP 15, Air Cleaner P.15-6) <4G63-Non-Turbo>, (Refer to GROUP 15, Air Cleaner P.15-7) <4G63-Turbo>, (Refer to GROUP 15, Air Cleaner P.15-8) <4G69>.
- Centremember and Engine Roll Stopper Bracket Removal <4G63-Non-Turbo-2WD> (Refer to P.32-11).
- Engine Rear Roll Stopper Rod Assembly Removal <4G63-Non-Turbo-4WD, 4G63-Turbo> (Refer to P.32-11).
- Engine Rear Roll Stopper Rod Assembly Removal <4G69> (Refer to P.32-13).

Post-installation Operation

- Centremember and Engine Roll Stopper Bracket Installation <4G63-Non-Turbo-2WD> (Refer to P.32-11).
- Engine Rear Roll Stopper Rod Assembly Installation <4G63-Non-Turbo-4WD, 4G63-Turbo> (Refer to P.32-11).
- Engine Rear Roll Stopper Rod Assembly Installation <4G69> (Refer to P.32-13).
- Air Cleaner Installation (Refer to GROUP 15, Air Cleaner P.15-6) <4G63-Non-Turbo>, (Refer to GROUP 15, Air Cleaner P.15-7) <4G63-Turbo>, (Refer to GROUP 15, Air Cleaner P.15-8) <4G69>.



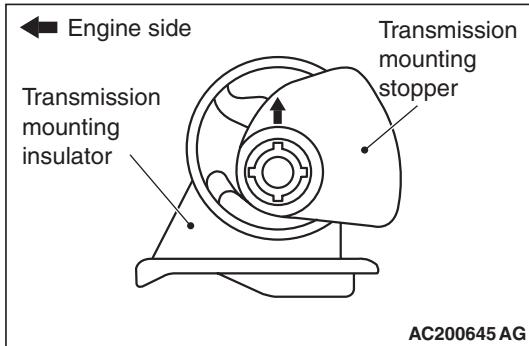
AC301677AB

Removal steps

1. Transmission mounting insulator
- >>A<< 2. Transmission mounting stopper

INSTALLATION SERVICE POINT

**>>A<< TRANSMISSION MOUNTING
STOPPER INSTALLATION**



Install the transmission mounting stopper so that its arrow points upward.

INSPECTION

M1321001500169

- Check the transmission mounting insulator for cracks, separation or deformation.

TRANSMISSION MOUNTING <A/T>

REMOVAL AND INSTALLATION

M1321001400593

CAUTION

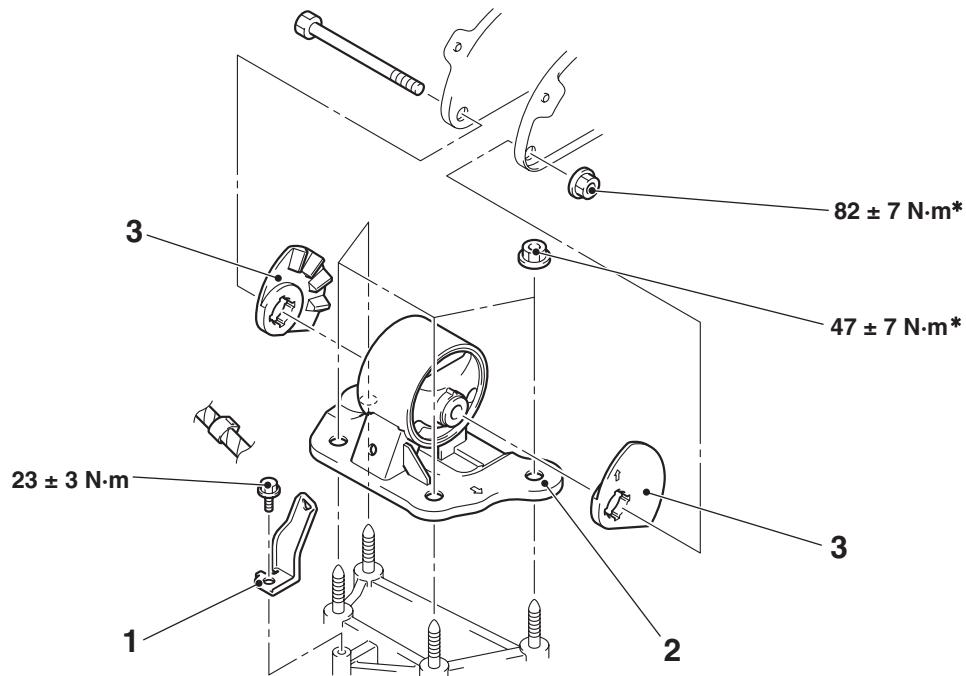
*: Indicates parts which should be initially tightened, and then fully tightened after placing the vehicle horizontally and loading the full weight of the engine on the vehicle body.

Pre-removal Operation

- Raise the engine and transmission assembly until its weight is not applied to the insulator, and support it securely.
- Battery and Battery Tray Removal.
- Air Cleaner Removal (Refer to GROUP 15, Air Cleaner P.15-8).

Post-installation Operation

- Air Cleaner Installation (Refer to GROUP 15, Air Cleaner P.15-8).
- Battery and Battery Tray Installation.



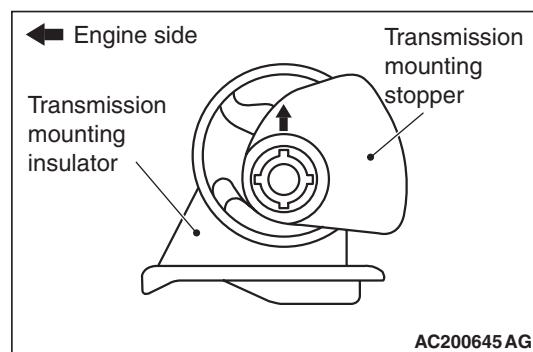
AC107606 AC

Removal steps

>>A<< 1. Control wiring harness bracket
2. Transmission mounting insulator
3. Transmission mounting stopper

INSTALLATION SERVICE POINT

>>A<< TRANSMISSION MOUNTING STOPPER INSTALLATION



AC200645 AG

Install the transmission mounting stopper so that its arrow points upward.

INSPECTION

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- Check the transmission mounting insulator for cracks, separation or deformation.

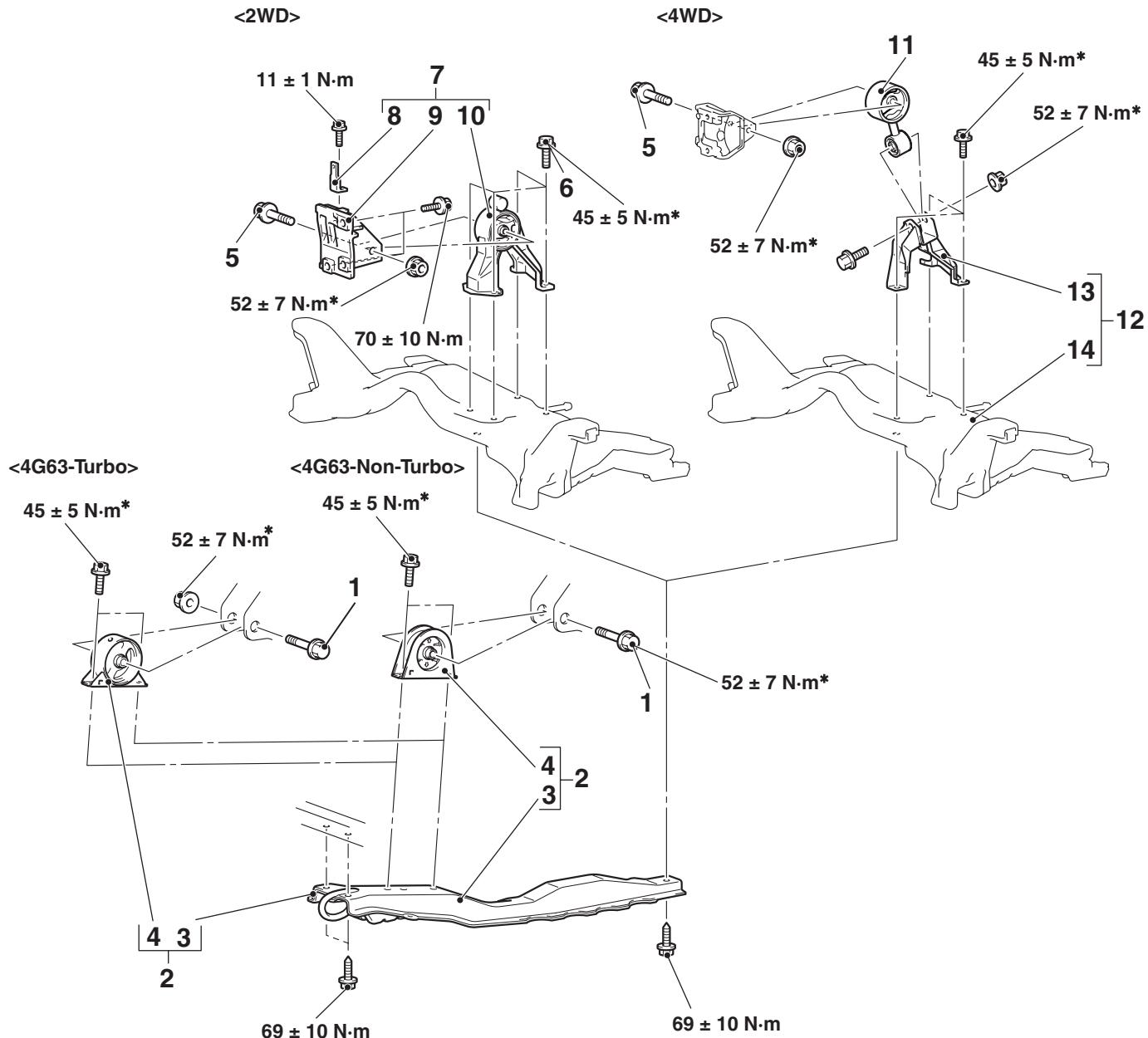
ENGINE ROLL STOPPER, CENTREMEMBER <4G63>

REMOVAL AND INSTALLATION

M1321002300403

⚠ CAUTION

*: Indicates parts which should be initially tightened, and then fully tightened after placing the vehicle horizontally and loading the full weight of the engine on the vehicle body.



Engine roll stopper bracket and centremember removal steps

- Under cover (Refer to GROUP 51, Under cover [P.51-31](#)).

1. Engine roll stopper bracket connecting bolt
2. Centremember and engine roll stopper bracket assembly
3. Centremember
4. Engine roll stopper bracket

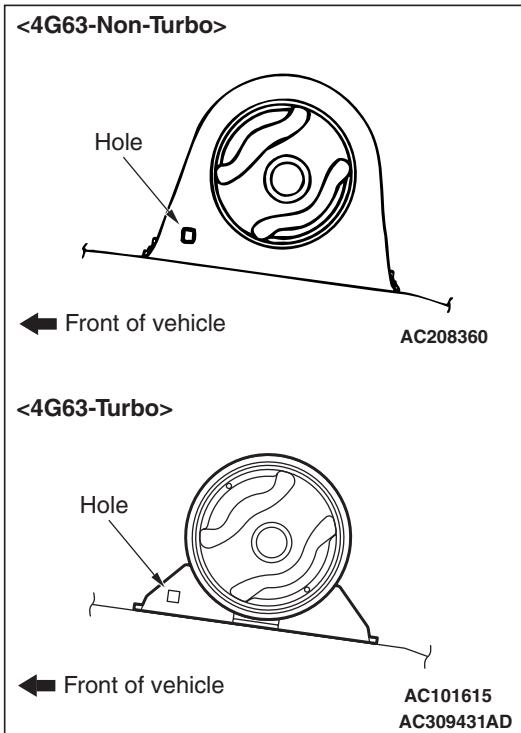
Engine rear roll stopper bracket removal steps <2WD>

5. Engine rear roll stopper bracket connecting bolt
6. Engine rear roll stopper bracket mounting bolt
7. Engine rear roll stopper bracket and mount bracket assembly
8. Clamp bracket
9. Rear roll mount bracket
10. Engine rear roll stopper bracket

>>A<<

Engine roll stopper rod and bracket removal steps <4WD>

- Front exhaust pipe (Refer to GROUP 15, Exhaust Pipe and Main Muffler [P.15-25](#)) <4G63-Non-Turbo>.
- Front exhaust pipe (Refer to GROUP 15, Exhaust Pipe and Main Muffler [P.15-27](#)) <4G63-Turbo>.
- 5. Engine roll stopper rod connecting bolt
- 11. Engine roll stopper rod assembly
- 12. Engine roll stopper rod bracket and crossmember assembly (Refer to [P.32-15](#)).
- 13. Engine roll stopper rod bracket
- 14. Crossmember assembly

INSTALLATION SERVICE POINT**>>A<< ENGINE ROLL STOPPER
BRACKET INSTALLATION**

Install the engine roll stopper bracket so that its hole points towards the front side of the vehicle.

INSPECTION

M1321002400057

- Check the roll stopper for cracks, separation or deformation.
- Check the centremember for cracks or damage.

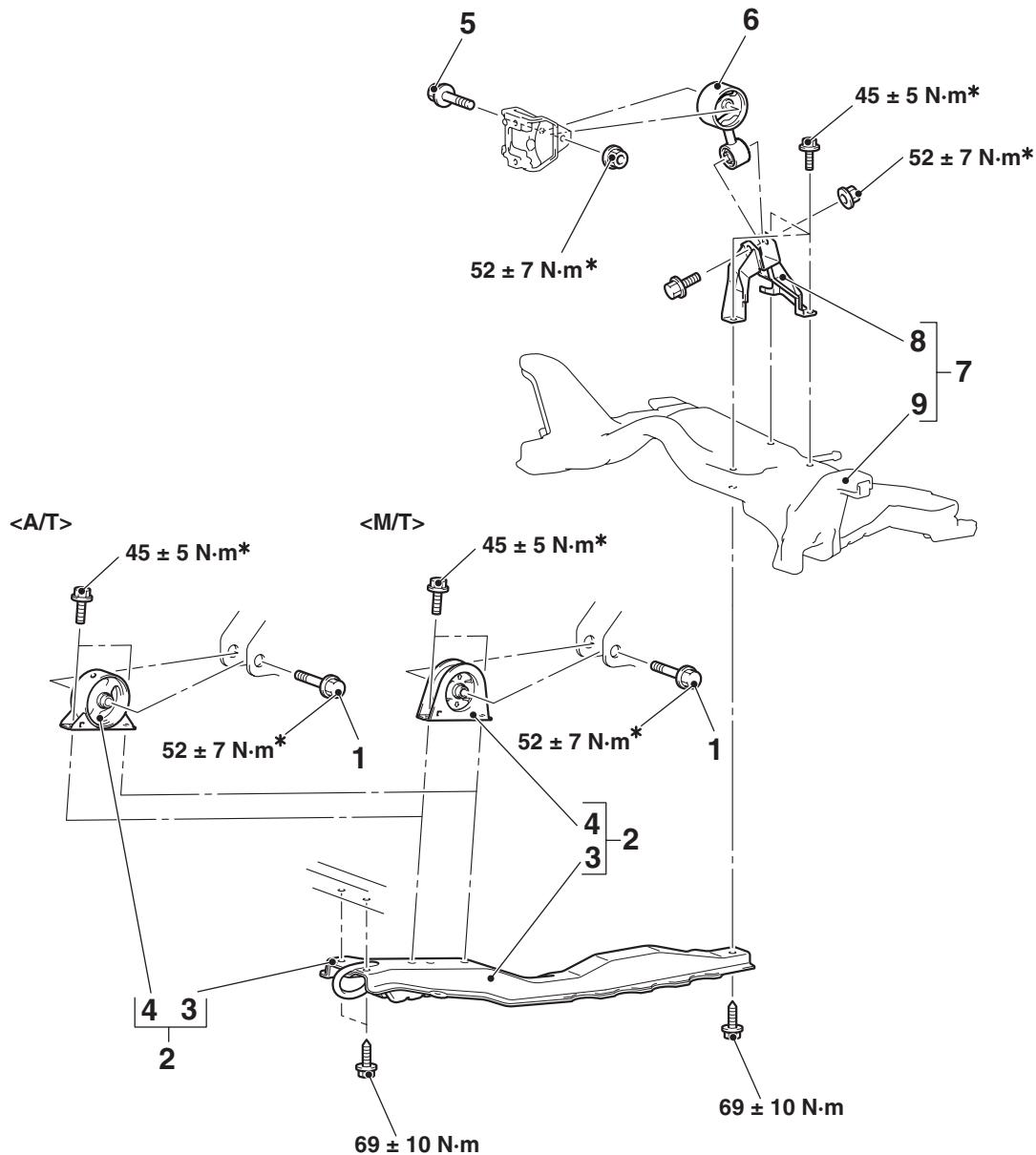
ENGINE ROLL STOPPER, CENTREMEMBER <4G69>

REMOVAL AND INSTALLATION

M1321002300663

CAUTION

*: Indicates parts which should be initially tightened, and then fully tightened after placing the vehicle horizontally and loading the full weight of the engine on the vehicle body.



AC605299AB

Engine roll stopper bracket and centremember removal steps

- Under cover (Refer to GROUP 51, Under cover P.51-31).

1. Engine roll stopper bracket connecting bolt
2. Centremember and engine roll stopper bracket assembly
3. Centremember
4. Engine roll stopper bracket

>>A<<

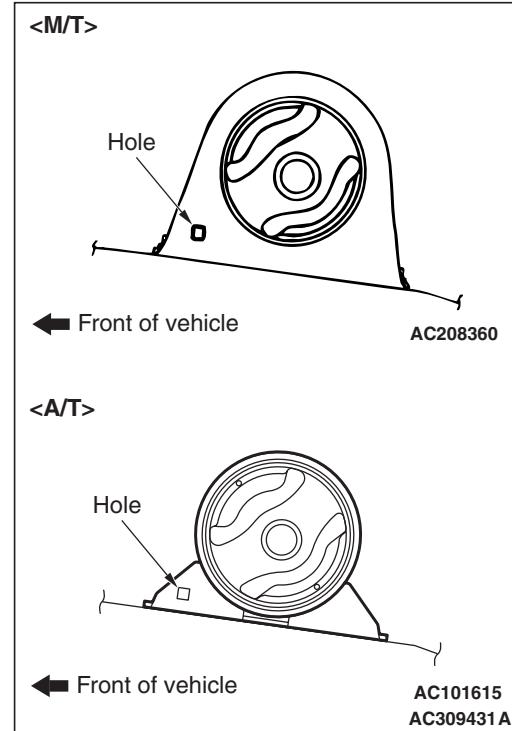
Engine roll stopper rod and bracket removal steps

- Front exhaust pipe (Refer to GROUP 15, Exhaust Pipe and Main Muffler P.15-25).
- 5. Engine roll stopper rod connecting bolt
- 6. Engine roll stopper rod assembly

Engine roll stopper rod and bracket removal steps

7. Engine roll stopper rod bracket and crossmember assembly (Refer to P.32-15).
8. Engine roll stopper rod bracket
9. Crossmember assembly

INSTALLATION SERVICE POINT
**>>A<< ENGINE ROLL STOPPER
BRACKET INSTALLATION**



Install the engine roll stopper bracket so that its hole points towards the front side of the vehicle.

INSPECTION

M1321002400068

- Check the roll stopper for cracks, separation or deformation.
- Check the centremember for cracks or damage.

CROSSMEMBER

REMOVAL AND INSTALLATION

M1321003200896

⚠ CAUTION

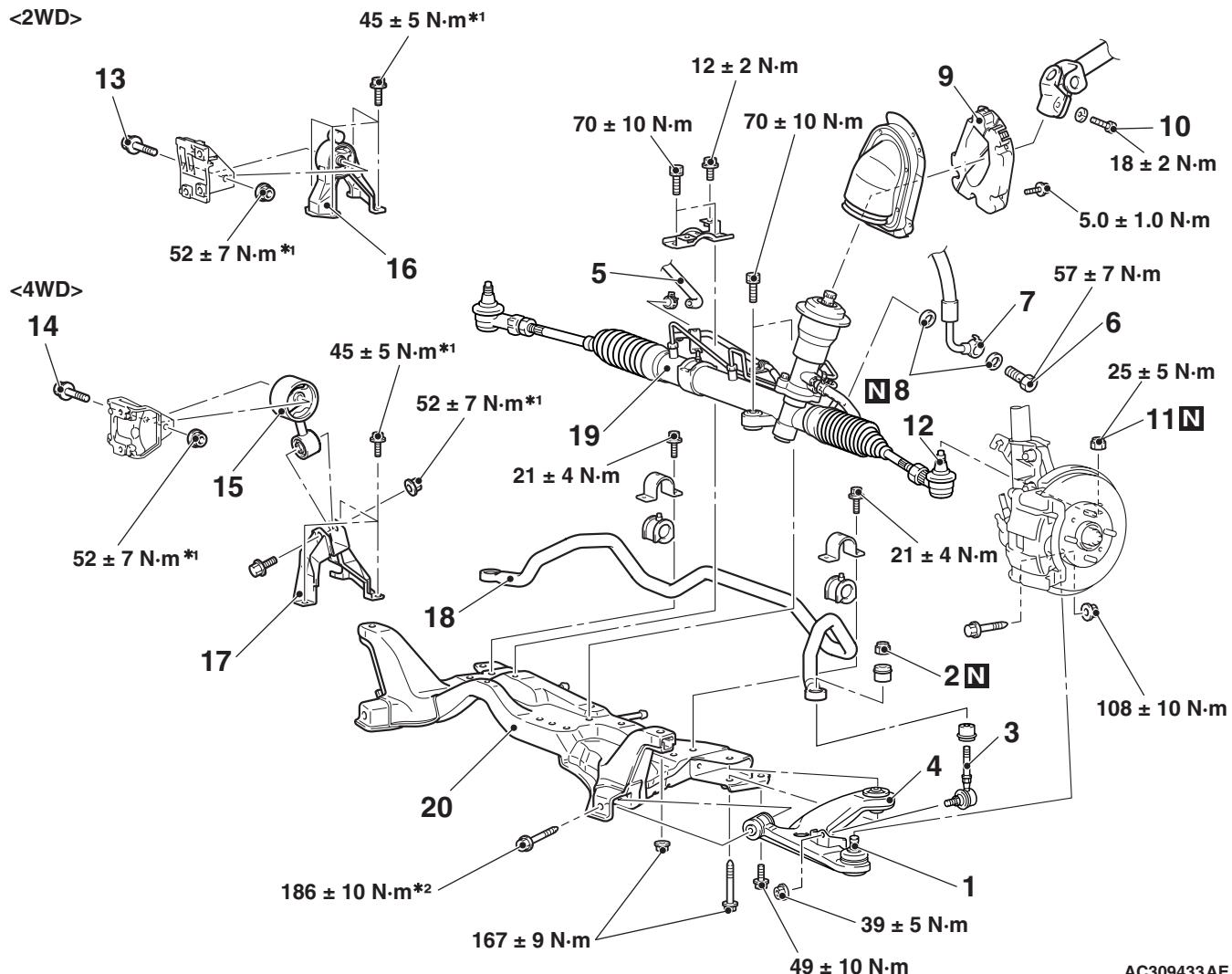
- Before removing the steering wheel and air bag module assembly, always refer to GROUP 52B - Service Precautions [P.52B-4](#), Air bag Module and Clock Spring [P.52B-136](#). Also, set the front wheels so that they are facing straight forward, and remove the ignition key. If you fail to do this, the SRS clock spring will be damaged, causing the SRS air bag to be inoperative and serious injury.
- *¹: Indicates parts which should be initially tightened, and then fully tightened after placing the vehicle horizontally and loading the full weight of the engine on the vehicle body.
- *²: Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the earth in the unladen condition.

Pre-removal Operation

- Steering Wheel Air Bag Module Assembly Removal (Refer to GROUP 37, Steering Wheel [P.37-15](#)).
- Power Steering Fluid Draining (Refer to GROUP 37, On-vehicle Service [P.37-11](#)).
- Front Exhaust Pipe Removal (Refer to GROUP 15, Exhaust Pipe and Main Muffler [P.15-25](#)). <4G63-Non-Turbo,4G69>
- Front Exhaust Pipe Removal (Refer to GROUP 15, Exhaust Pipe and Main Muffler [P.15-27](#)). <4G63-Turbo>
- Centremember Removal (4G63-Non-Turbo, 4G63-Turbo: Refer to [P.32-11](#)), (4G69: Refer to [P.32-13](#)).

Post-installation Operation

- Centremember Installation (4G63-Non-Turbo, 4G63-Turbo: Refer to [P.32-11](#)), (4G69: Refer to [P.32-13](#)).
- Front Exhaust Pipe Installation (Refer to GROUP 15, Exhaust Pipe and Main Muffler [P.15-25](#)). <4G63-Non-Turbo,4G69>
- Front Exhaust Pipe Installation (Refer to GROUP 15, Exhaust Pipe and Main Muffler [P.15-27](#)). <4G63-Turbo>
- Steering Wheel Air Bag Module Assembly Installation (Refer to 37, Steering Wheel [P.37-15](#)).
- Power Steering Fluid Supplying (Refer to GROUP 37, On-vehicle Service [P.37-11](#)).
- Power Steering Fluid Line Bleeding (Refer to GROUP 37, On-vehicle Service [P.37-12](#)).
- Press the dust cover with a finger to check whether the dust cover cracked or damaged.
- Checking Steering Wheel Position with Wheels Straight Ahead.
- Front Wheel Alignment Check and Adjustment (Refer to GROUP 33, On-vehicle Service [P.33-5](#)).



AC309433AE

Removal steps

>>B<<

1. Lower arm and knuckle connection
2. Self-locking nut
3. Stabilizer link assembly
4. Lower arm assembly
5. Return hose connection
6. Eye bolt
7. Pressure hose connection
8. Gasket
9. Shaft cover
10. Steering shaft assembly and gear box connecting bolt
11. Self-locking nut
12. Tie rod end and knuckle connection
13. Engine rear roll stopper bracket connecting bolt <2WD>
14. Engine roll stopper rod connecting bolt <4WD>

<>

<<A>>

Removal steps (Continued)

15. Engine roll stopper rod assembly <4WD>
 - Crossmember, engine rear roll stopper bracket, stabilizer bar and steering gear and linkage assembly <2WD>
 - Crossmember, engine roll stopper rod bracket, stabilizer bar and steering gear and linkage assembly <4WD>
16. Engine rear roll stopper bracket <2WD>
17. Engine roll stopper rod bracket <4WD>

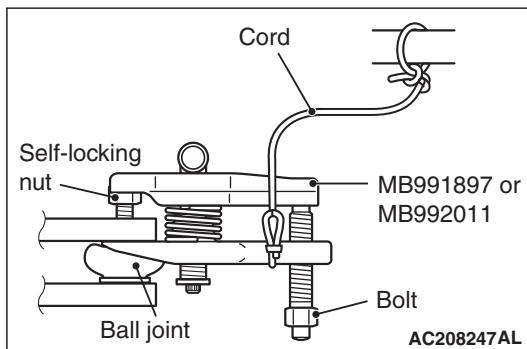
>>A<<

18. Stabilizer bar
19. Steering gear and linkage
20. Crossmember

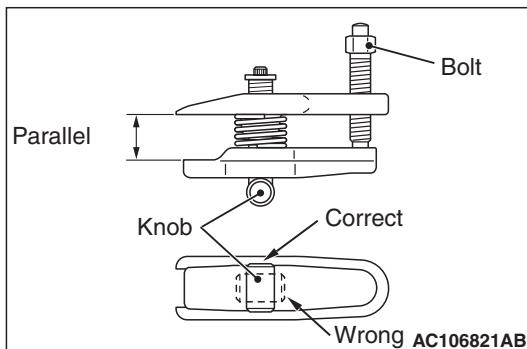
REMOVAL SERVICE POINTS

<<A>> TIE ROD END AND KNUCKLE DIS-
CONNECTION**CAUTION**

- Do not remove the nut from ball joint. Loosen it and use special tool ball joint remover (MB991897 or MB992011) to avoid possible damage to ball joint threads.
- Hang special tool ball joint remover (MB991897 or MB992011) with a cord to prevent it from falling.



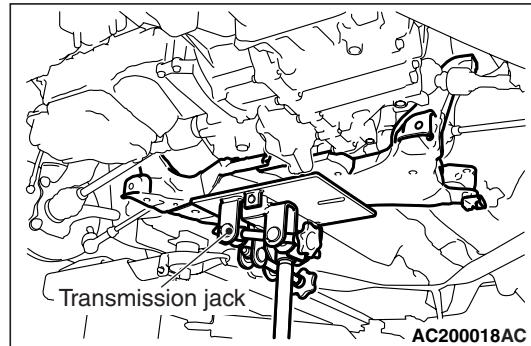
- Install the special tool ball joint remover (MB991897 or MB992011) as shown in the figure.



- Turn the bolt and knob as necessary to make the jaws of the special tool ball joint remover (MB991897 or MB992011) parallel, tighten the bolt by hand and confirm that the jaws are still parallel.

NOTE: When adjusting the jaws in parallel, make sure the knob is in the position shown in the figure.

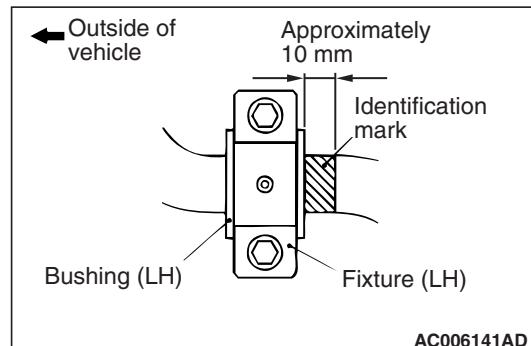
- Tighten the bolt with a wrench to disconnect the tie rod end.

<> CROSSMEMBER, ENGINE REAR
ROLL STOPPER BRACKET, ENGINE
ROLL STOPPER ROD BRACKET,
STABILIZER BAR AND STEERING GEAR
AND LINKAGE ASSEMBLY REMOVAL

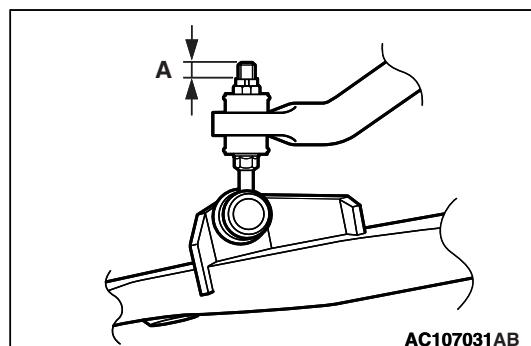
Retain the crossmember with a transmission jack, and then remove the crossmember mounting bolt.

INSTALLATION SERVICE POINTS

>>A<< STABILIZER BAR INSTALLATION



Align the stabilizer bar identification mark with the right end of the bushing (LH).

>>B<< SELF-LOCKING NUT
INSTALLATION

Tighten the self-locking nut until the stabilizer link thread part protruding length meets the standard value.

Standard value (A): 9.4 ± 0.4 mm

INSPECTION

M1321003300224

- Check the crossmember for cracks and damage.