

## GROUP 32

# POWER PLANT MOUNT

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

**⚠ WARNING**

- *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).*
- *Service or maintenance of any SRS component or SRS-related component must be performed only at an authorized MITSUBISHI dealer.*
- *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 air bag control unit, SRS warning light, front impact sensors, air bag module, side-airbag module, curtain air bag module, side impact sensors, seat belt pre-tensioners, 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

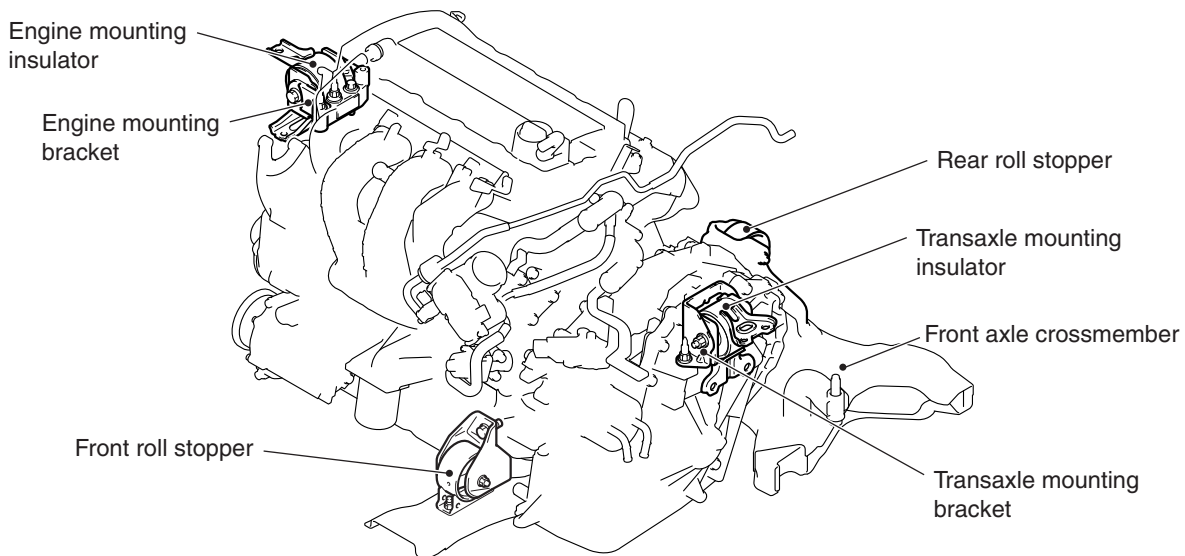
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For the power plant support, the inertial axis four-point mounting system is utilized, and the system has the following features.

- For the engine and transaxle mountings, the cylindrical liquid seal mountings are used. This reduces idling vibration and acceleration noise, and improves riding comfort.
- For the engine mounting bracket, light weight and high rigidity aluminum is used to reduce acceleration noise.
- For the transaxle mounting bracket, light weight and high rigidity sheet metal is used to reduce gear noise.
- For the front and rear roll stoppers, insulators developed for CVT <2.4L ENGINE> or A/T <3.0L ENGINE> are utilized. This reduces idling vibration and acceleration/deceleration shock.
- A front axle crossmember improves steering ability.

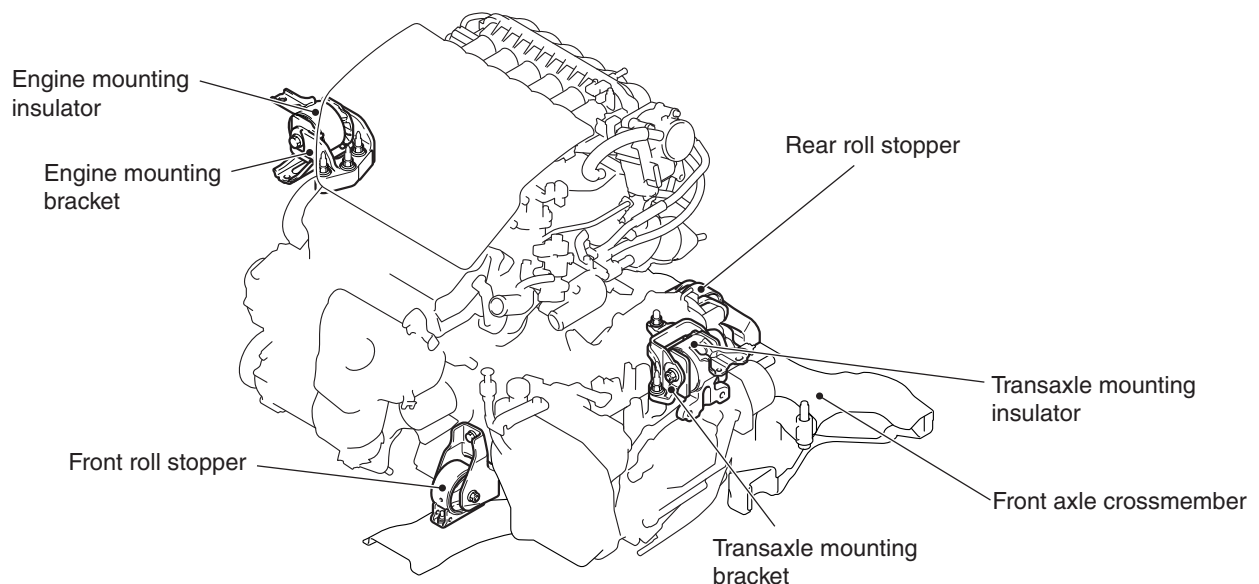
## CONSTRUCTION DIAGRAM

## &lt;2.4L ENGINE&gt;



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## &lt;3.0L ENGINE&gt;

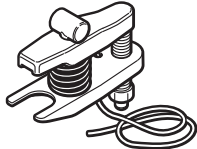


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## SPECIAL TOOL

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Tool	Tool number and name	Supersession	Application
 MB991897	MB991897 or MB992011 Ball joint remover	MB991113-01, MB990635-01 or General service tool	Knuckle and tie rod end ball joint disconnection <i>NOTE: Steering linkage puller (MB990635 or MB991113) is also used to disconnect the knuckle and tie rod end ball joint.</i>

## ENGINE MOUNTING

## REMOVAL AND INSTALLATION &lt;2.4L ENGINE&gt;

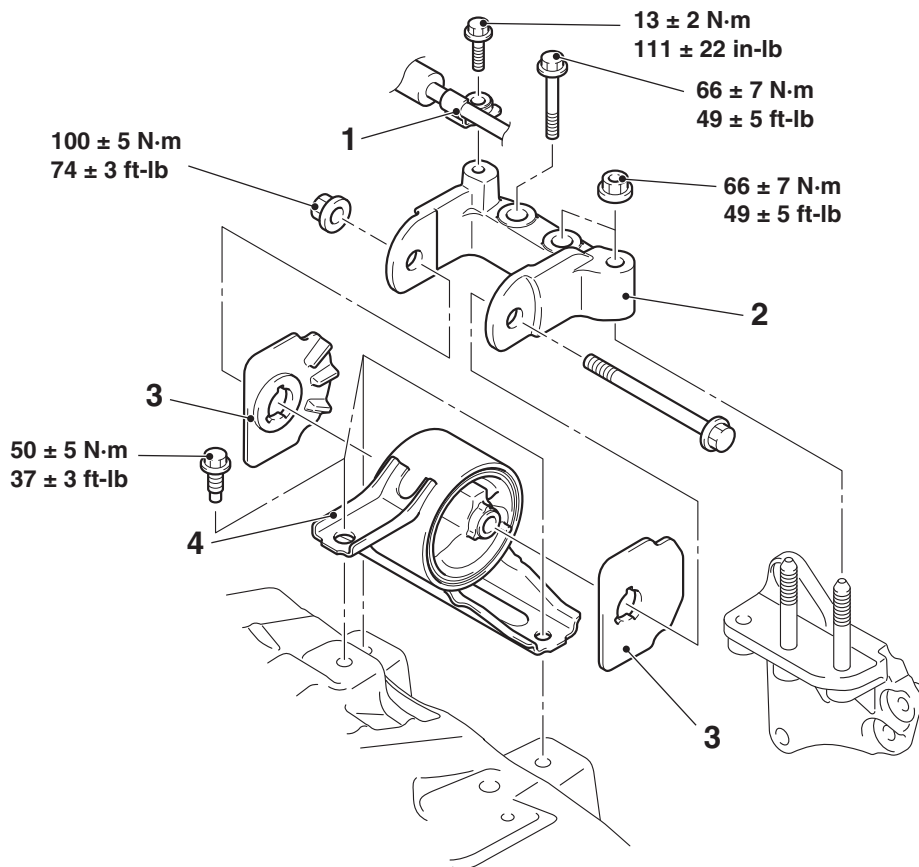
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## Pre-removal Operation

- Radiator Condenser Tank Removal (Refer to GROUP 14, Radiator [P.14-45](#)).
- Power Steering Oil Pump Removal (Refer to GROUP 11A, Engine Assembly [P.11A-82](#)).

## Post-installation Operation

- Power Steering Oil Pump Installation (Refer to GROUP 11A, Engine Assembly [P.11A-82](#)).
- Radiator Condenser Tank Installation (Refer to GROUP 14, Radiator [P.14-45](#)).



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## Removal steps

- Power steering pressure hose clamp
- Engine mounting bracket

## Removal steps (Continued)

- >>A<<
- Engine mounting insulator stopper
  - Engine mounting insulator

&lt;&lt;A&gt;&gt;



## REMOVAL SERVICE POINT

## &lt;&lt;A&gt;&gt; ENGINE MOUNTING BRACKET REMOVAL

**⚠ CAUTION**

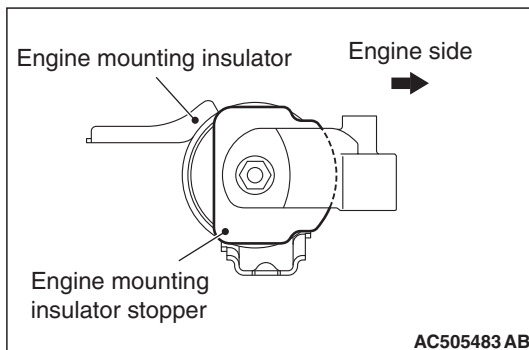
When supporting the engine and transaxle assembly with a garage jack, be careful not to deform the engine oil pan.

1. Place a garage jack against the engine oil pan with a piece of wood in between to support the engine and transaxle assembly.
2. Operate a garage jack so that the engine weight is not applied to the engine mounting insulator, and remove the engine mounting insulator.

## INSTALLATION SERVICE POINT

## &gt;&gt;A&lt;&lt; ENGINE MOUNTING INSULATOR STOPPER INSTALLATION

Install the engine mounting insulator stopper as shown in the figure.





# REMOVAL AND INSTALLATION <3.0L ENGINE>

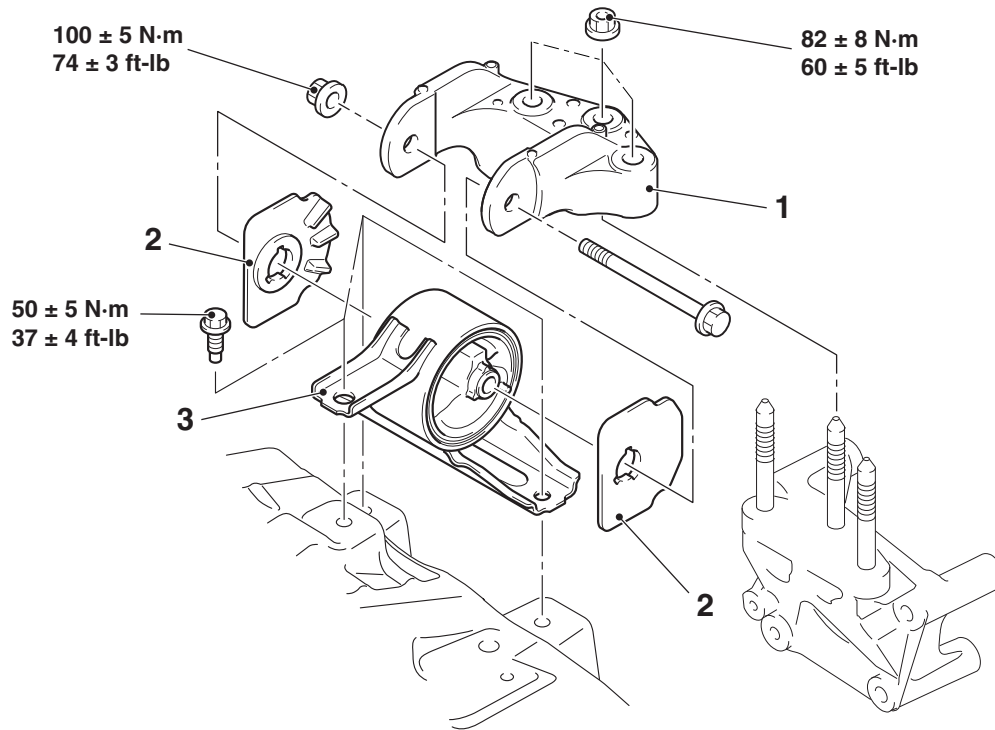
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## Pre-removal operation

- Radiator Condenser Tank Removal (Refer to GROUP 14, Radiator [P.14-48](#)).

## Post-installation operation

- Radiator Condenser Tank Installation (Refer to GROUP 14, Radiator [P.14-48](#)).



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<<A>>

## Removal steps

- Engine mounting bracket

>>A<<

## Removal steps (Continued)

- Engine mounting insulator stopper
- Engine mounting insulator



## REMOVAL SERVICE POINT

## &lt;&lt;A&gt;&gt; ENGINE MOUNTING BRACKET REMOVAL

**⚠ CAUTION**

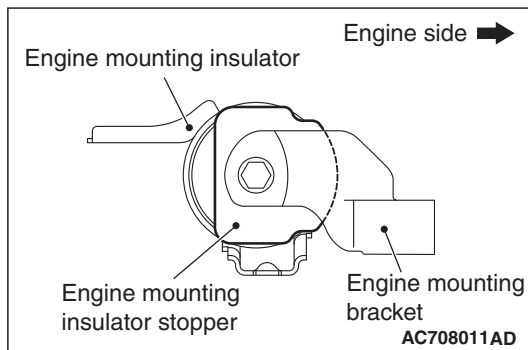
When supporting the engine and transaxle assembly with a garage jack, be careful not to deform the engine oil pan.

1. Place a garage jack against the engine oil pan with a piece of wood in between to support the engine and transaxle assembly.
2. Operate a garage jack so that the engine weight is not applied to the engine mounting insulator, and remove the engine mounting insulator.

## INSTALLATION SERVICE POINT

## &gt;&gt;A&lt;&lt; ENGINE MOUNTING INSULATOR STOPPER INSTALLATION

Install the engine mounting insulator stopper as shown in the figure.





# TRANSAXLE MOUNTING

## REMOVAL AND INSTALLATION <2.4L ENGINE>

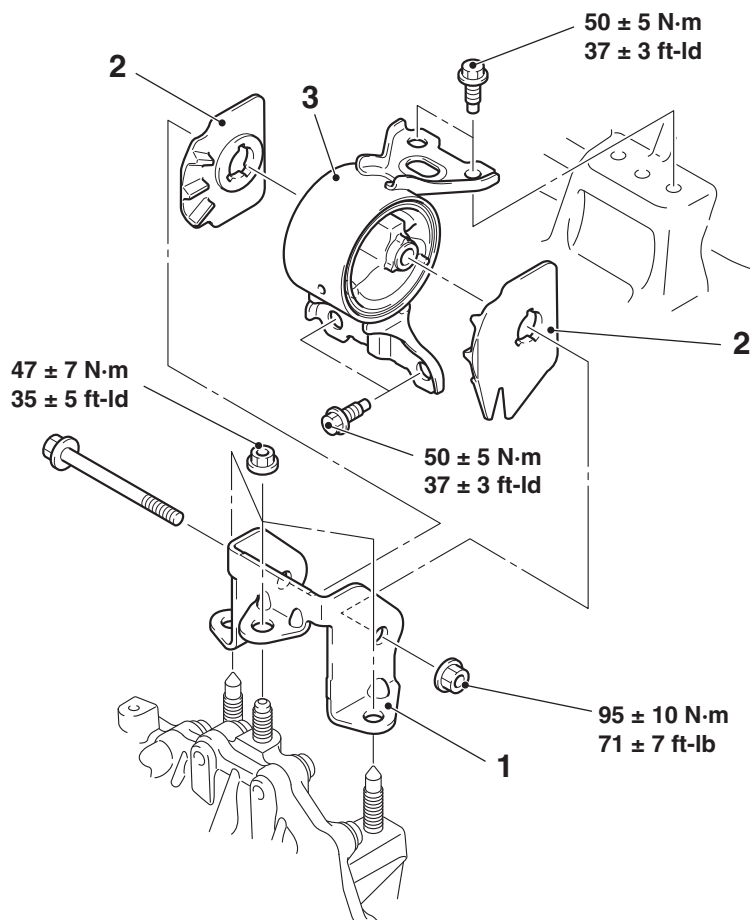
M1321001402049

### Pre-removal operation

- Battery and Battery Tray Removal (Refer to GROUP 54A, Battery [P.54A-10](#)).
- Air Cleaner Assembly Removal (Refer to GROUP 15, Air Cleaner [P.15-4](#)).
- Engine Control Module (ECM) Removal [Refer to GROUP 13A, Engine Control Module (ECM) [P.13A-982](#)].

### Post-installation operation

- Engine Control Module (ECM) Installation [Refer to GROUP 13A, Engine Control Module (ECM) [P.13A-982](#)].
- Air Cleaner Assembly Installation (Refer to GROUP 15, Air Cleaner [P.15-4](#)).
- Battery and Battery Tray Installation (Refer to GROUP 54A, Battery [P.54A-10](#)).



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<<A>>

### Removal steps

1. Transaxle mounting bracket
  - Front roll stopper and centermember assembly (Refer to [P.32-11](#))

### Removal steps (Continued)

- Transfer assembly <AWD> (Refer to GROUP 23A, Transfer Assembly [P.23A-160](#))
- >>A<< 2. Transaxle mounting insulator stopper
  3. Transaxle mounting insulator

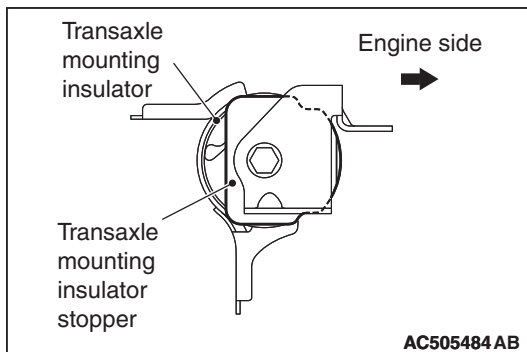


**REMOVAL SERVICE POINT****<<A>> TRANSAXLE MOUNTING BRACKET  
REMOVAL**

1. Place a garage jack against the transaxle case with a piece of wood in between to support the engine and transaxle assembly.
2. Operate a garage jack so that the transaxle weight is not applied to the transaxle mounting insulator, and remove the transaxle mounting bracket.

**INSTALLATION SERVICE POINT****>>A<< TRANSAXLE MOUNTING INSULATOR  
STOPPER INSTALLATION**

Install the transaxle mounting insulator stopper as shown in the figure.





## REMOVAL AND INSTALLATION <3.0L ENGINE>

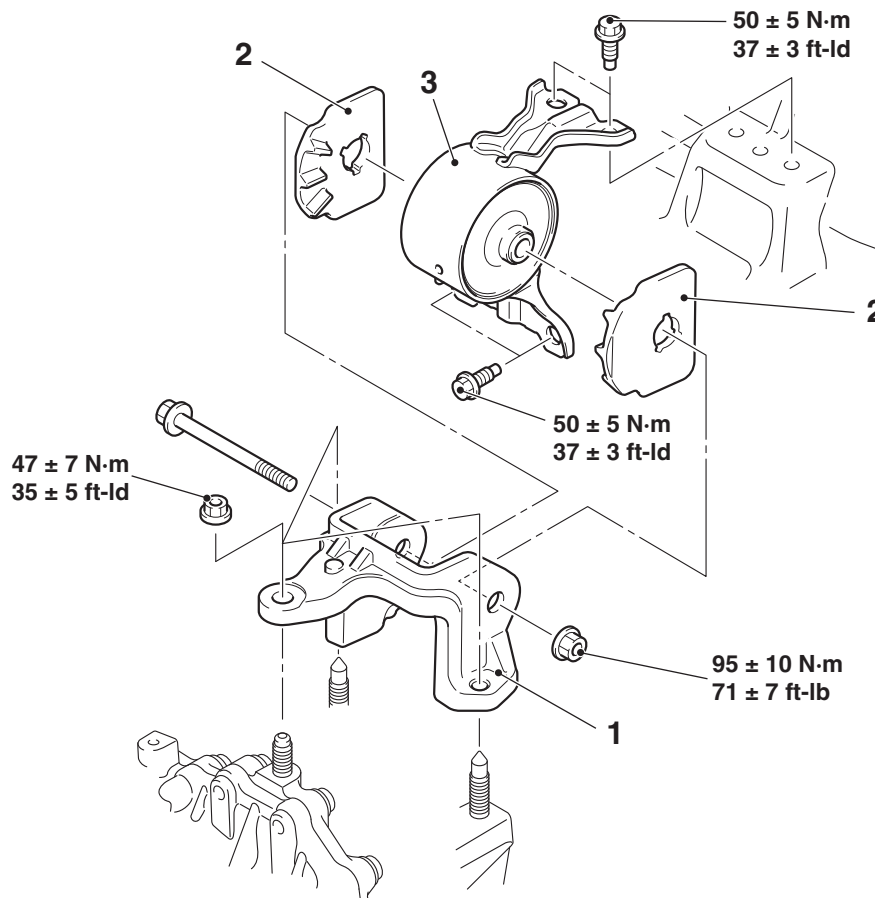
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### Pre-removal operation

- Battery and Battery Tray Removal (Refer to GROUP 54A, Battery [P.54A-10](#)).
- Air Cleaner Assembly Removal (Refer to GROUP 15, Air Cleaner [P.15-5](#)).
- Engine Control Module (ECM) Removal [Refer to GROUP 13B, Engine Control Module (ECM) [P.13B-894](#)].

### Post-installation operation

- Engine Control Module (ECM) Installation [Refer to GROUP 13B, Engine Control Module (ECM) [P.13B-894](#)].
- Air Cleaner Assembly Installation (Refer to GROUP 15, Air Cleaner [P.15-5](#)).
- Battery and Battery Tray Installation (Refer to GROUP 54A, Battery [P.54A-10](#)).



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<<A>>

### Removal steps

1. Transaxle mounting bracket
  - Front roll stopper and centermember assembly (Refer to [P.32-11](#))

### Removal steps (Continued)

- Transfer assembly <AWD> (Refer to GROUP 23C, Transfer Assembly [P.23C-293](#) <Vehicles with S-AWC>, [P.23C-292](#) <Vehicles without S-AWC>)
2. Transaxle mounting insulator stopper
  3. Transaxle mounting insulator

>>A<<

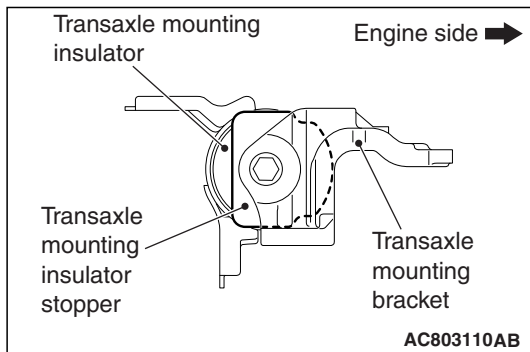


**REMOVAL SERVICE POINT****<<A>> TRANSAXLE MOUNTING BRACKET  
REMOVAL**

1. Place a garage jack against the transaxle case with a piece of wood in between to support the engine and V assembly.
2. Operate a garage jack so that the transaxle weight is not applied to the transaxle mounting insulator, and remove the transaxle mounting bracket.

**INSTALLATION SERVICE POINT****>>A<< TRANSAXLE MOUNTING INSULATOR  
STOPPER INSTALLATION**

Install the transaxle mounting insulator stopper as shown in the figure.





# ENGINE ROLL STOPPER AND CENTERMEMBER

## REMOVAL AND INSTALLATION

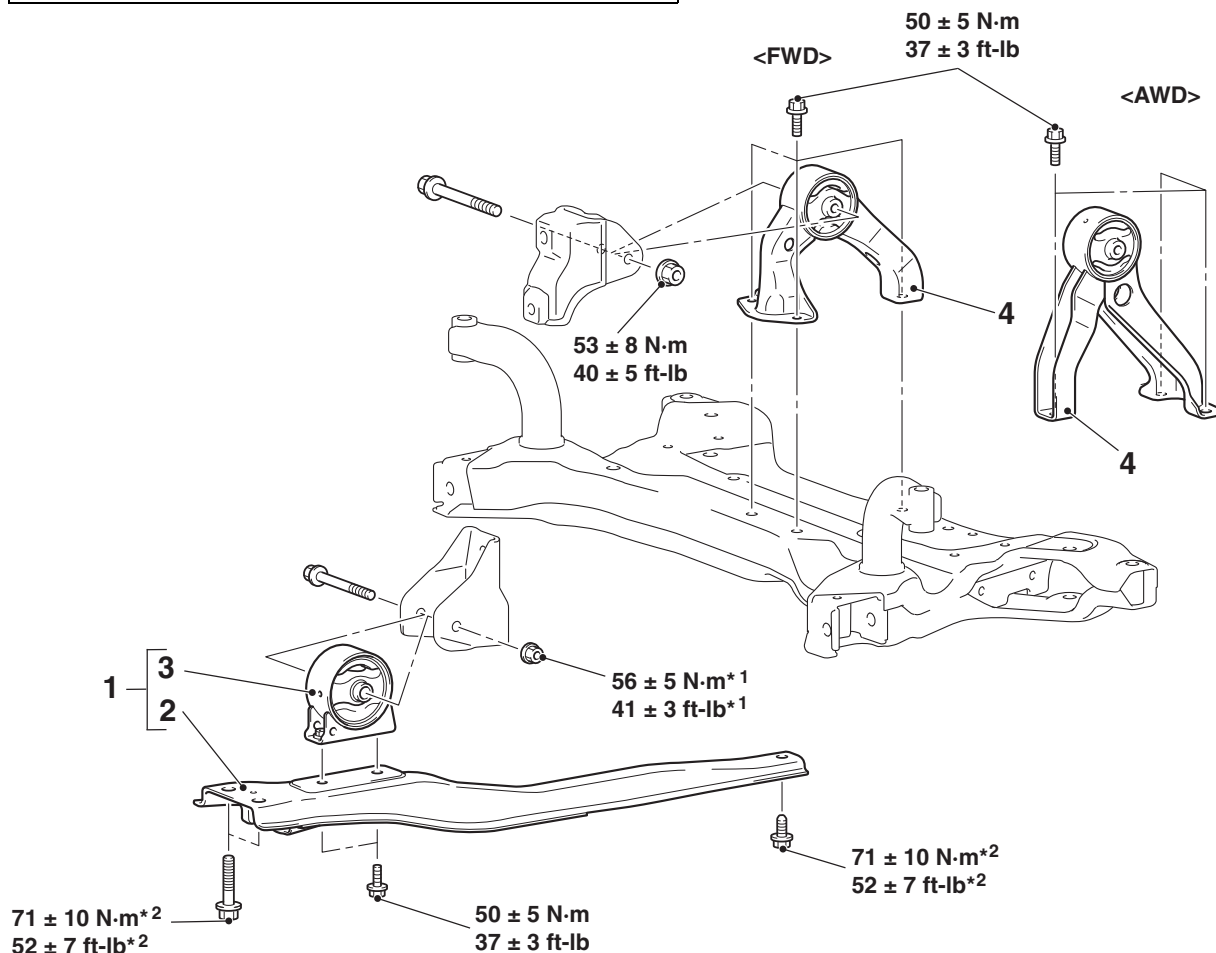
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### CAUTION

- \*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 and transaxle assembly on the vehicle body.
- \*2: Indicates parts are the bolts with friction coefficient stabilizer. In removal, ensure there is no damage, clean dust and soiling from bearing and thread surfaces, and tighten them to the specified torque.

#### Pre-removal and post-installation operation

- Engine Room Under Cover Front A<AWD>, B, and C Removal and Installation (Refer to GROUP 51, Under Cover P.51-22). <2.4L ENGINE>
- Engine Room Under Cover Front Removal and Installation (Refer to GROUP 51, Under Cover P.51-22). <3.0L ENGINE>



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#### Front roll stopper and centermember removal steps

1. Front roll stopper and centermember assembly
  2. Centermember
  3. Front roll stopper
- >>A<<

#### Rear roll stopper removal steps

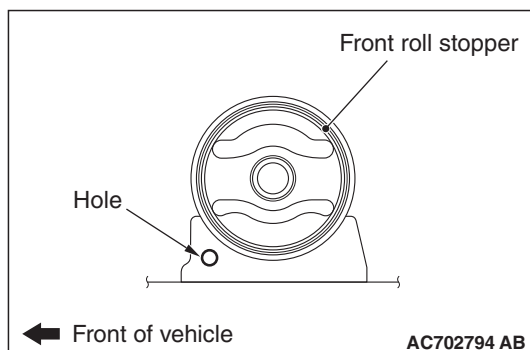
- Transfer assembly <AWD> (Refer to GROUP 23A, Transfer Assembly P.23A-160) <CVT>, Refer to GROUP 23C, Transfer Assembly P.23C-293 <Vehicles with S-AWC>, P.23C-292 <Vehicles without S-AWC>) <A/T>.
- 4. Rear roll stopper



## INSTALLATION SERVICE POINT

## &gt;&gt;A&lt;&lt; FRONT ROLL STOPPER INSTALLATION

Install the front roll stopper so that the hole faces toward the vehicle front.



## CROSSMEMBER

## REMOVAL AND INSTALLATION &lt;2.4L ENGINE&gt;

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**CAUTION**

- Before replacing the steering wheel assembly and driver's air bag module assembly, always refer to GROUP 52B, Service Precautions [P.52B-24](#), and Air Bag Module(s) and Clock Spring [P.52B-443](#). Also, position the front wheels in a straight ahead direction, and remove the ignition key. If you fail to do this, clock spring for SRS may get damage, making the SRS (air bag) inoperative, and it may cause a serious injury to the driver.
- The parts indicated by \* are the bolts/nuts with friction coefficient stabilizer. In removal, ensure there is no damage, clean dust and soiling from the bearing and thread surfaces, and tighten them to the specified torque.
- After installation, perform calibration to make ASC-ECU learn the neutral position of the steering wheel sensor. (Refer to GROUP 35C, On-vehicle Service –Steering Wheel Sensor Calibration [P.35C-286](#)).

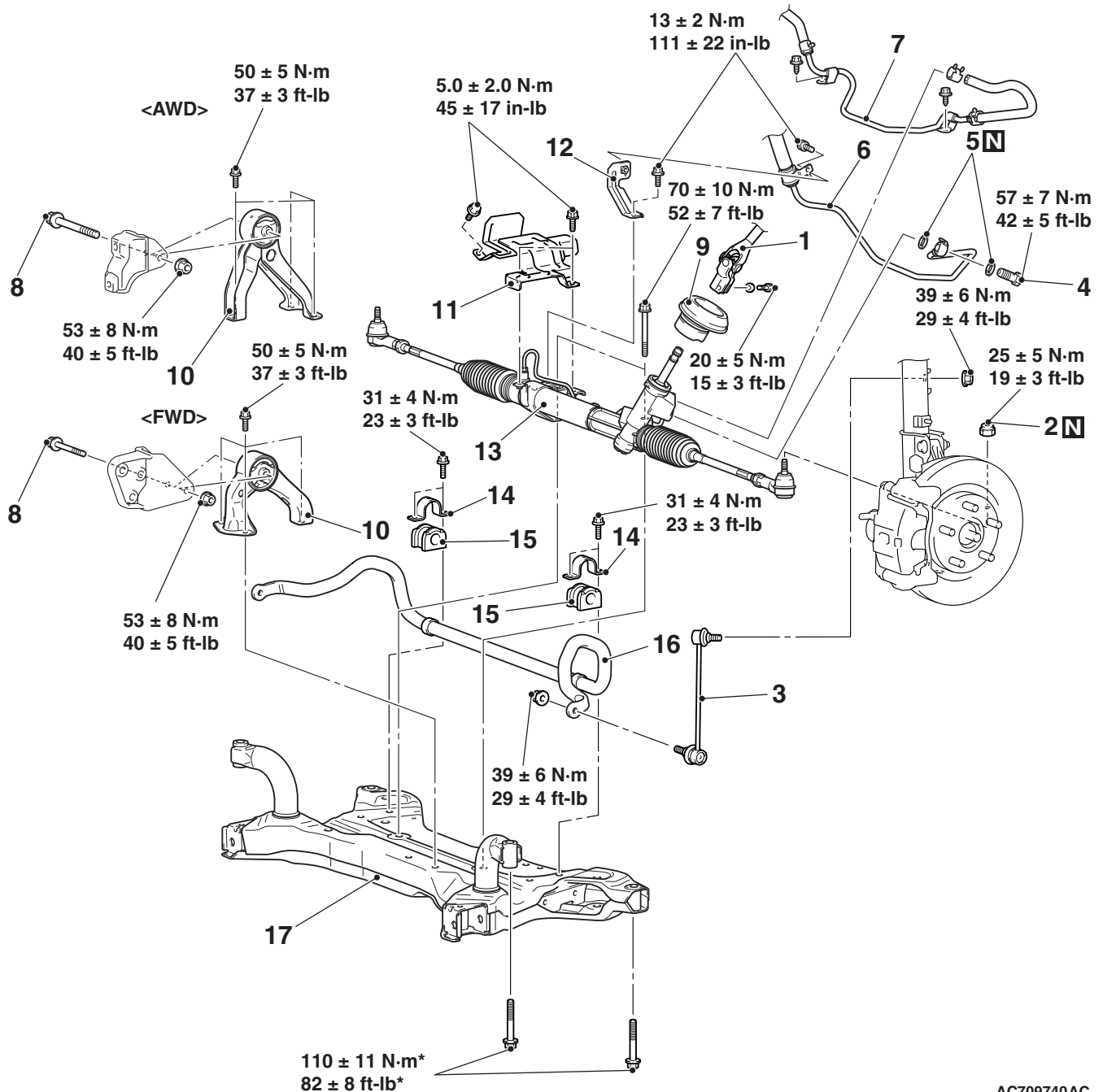
**Pre-removal operation**

- Steering Wheel and Air Bag Module Assembly Removal (Refer to GROUP 37, Steering Wheel [P.37-28](#)).
- Footrest Removal.
- Front Roll Stopper and Centermember Assembly Removal (Refer to [P.32-11](#)).
- Power Steering Fluid Drain (Refer to GROUP 37, On-vehicle Service –Fluid Replacement [P.37-21](#)).
- Engine Room Under Cover A<AWD>, B, C and Engine Room Side Cover Removal (Refer to GROUP 51, Under Cover [P.51-22](#)).
- Lower Arm Assembly Removal (Refer to GROUP 33, Lower Arm [P.33-16](#)).

**Post-installation operation**

- Using Your Fingers, Press The Tie-rod End Ball Joint Dust Cover To Check for a Crack or Damage (Refer to GROUP 37, On-vehicle Service –Ball Joint Dust Cover Inspection [P.37-18](#)).
- Using Your Fingers, Press The Stabilizer Link Ball Joint Dust Cover To Check for a Crack or Damage (Refer to GROUP 33, On-vehicle Service –Lower Arm Ball Joint Dust Cover Inspection [P.33-9](#)).
- Lower Arm Assembly Installation (Refer to GROUP 33, Lower Arm [P.33-16](#)).
- Front Roll Stopper and Centermember Assembly Installation (Refer to [P.32-11](#)).
- Engine Room Under Cover A<AWD>, B, C and Engine Room Side Cover Installation (Refer to GROUP 51, Under Cover [P.51-22](#)).
- Footrest Installation.
- Clock Spring Centering (Refer to GROUP 52B, Air Bag Modules and Clock Spring [P.52B-443](#)).
- Steering Wheel Air Bag Module Assembly Installation (Refer to GROUP 37, Steering Wheel [P.37-28](#)).
- Power Steering Fluid Refilling and Bleeding (Refer to GROUP 37, On-vehicle Service –Fluid Replacement [P.37-21](#)).
- Steering Wheel Straight-ahead Position Check.
- Front Wheel Alignment Check and Adjustment (Refer to GROUP 33, On-vehicle Service –Front Wheel Alignment Check and Adjustment [P.33-8](#)).





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### Removal steps

- <<A>> 1. Steering column shaft assembly connection
- <<B>> 2. Self-lock nut (Tie-rod end and knuckle connection)
3. Stabilizer link assembly
4. Eye bolt
5. Gasket
6. Pressure hose assembly
7. Return hose connection
8. Rear roll stopper center bolt
- <<C>> • Front axle crossmember assembly
- >>B<< 9. Joint cover grommet

### Removal steps (Continued)

10. Rear roll stopper
11. Heat protector
12. Bracket
13. Steering gear and linkage assembly
- >>A<< 14. Stabilizer bar bracket
- >>A<< 15. Stabilizer bushing
- >>A<< 16. Stabilizer bar
17. Front axle crossmember

### Required Special Tool:

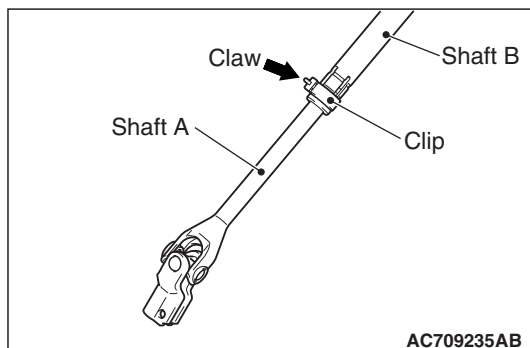
- MB991897 or MB992011: Ball Joint Remover



## REMOVAL SERVICE POINTS

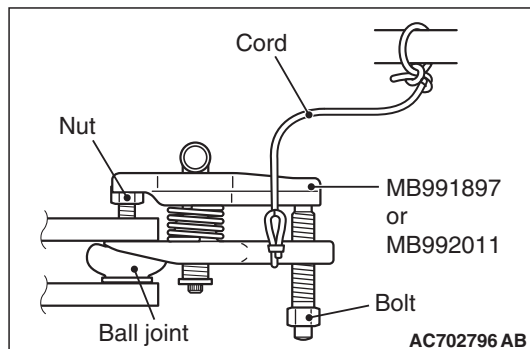
<<A>> STEERING COLUMN SHAFT ASSEMBLY  
CONNECTION DISCONNECTION

Disconnect the steering gear and linkage assembly from the steering column shaft assembly while sliding the shaft A to the shaft B with the clip claw as shown in the figure is pinched.

<<B>> SELF-LOCK NUT (TIE-ROD END AND  
KNUCKLE CONNECTION) REMOVAL**⚠ CAUTION**

- Loosen the self-locking nut from the ball joint, but do not remove here. Use the special tool.
- To prevent the special tool from dropping off, suspend it with a cord.

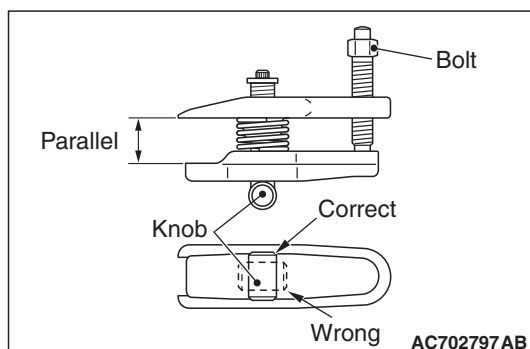
1. Install the special tool MB991897 or MB992011 as shown in the figure.



2. Turn the bolt and knob to make the special tool jaws parallel, then hand-tighten the bolt. After tightening, check that the jaws are still parallel.

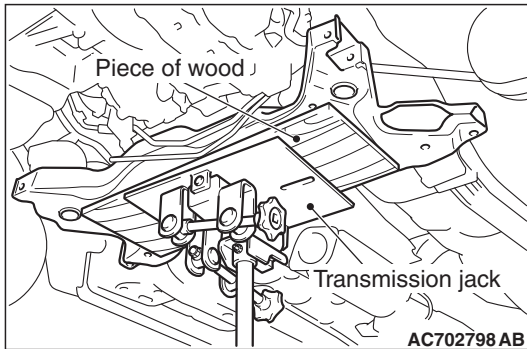
*NOTE: To adjust the special tool jaws to be parallel, set the knob as shown in the figure so that it functions as a fulcrum of the jaws.*

3. Turn the bolt and disconnect the tie-rod end from the steering knuckle.





## <<C>> FRONT AXLE CROSSMEMBER ASSEMBLY REMOVAL

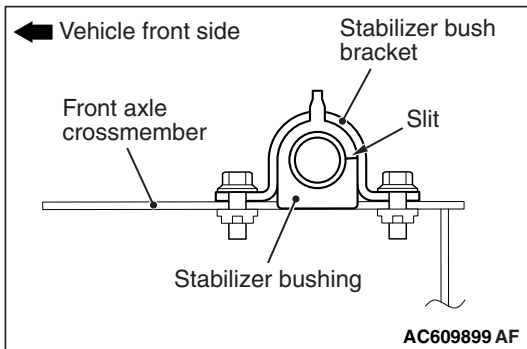


1. Jack up and support the front axle crossmember assembly, and remove it.
2. Check the hoses and harnesses for roughness, and then remove the front axle crossmember assembly with the rear roll stopper and the steering gear and linkage assembly installed.

## INSTALLATION SERVICE POINTS

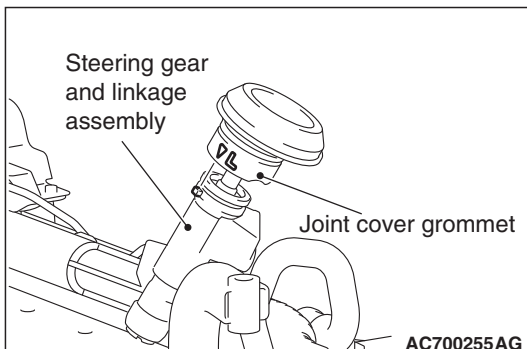
### >>A<< STABILIZER BAR/STABILIZER BUSH- ING/STABILIZER BAR BRACKET INSTALLATION

Install the stabilizer bar, the stabilizer bushing and the stabilizer bar bracket as shown in the figure.



### >>B<< JOINT COVER GROMMET INSTALLATION

Install the joint cover grommet to the steering gear and linkage assembly by aligning the mating marks as shown in the figure.





REMOVAL AND INSTALLATION <3.0L ENGINE>

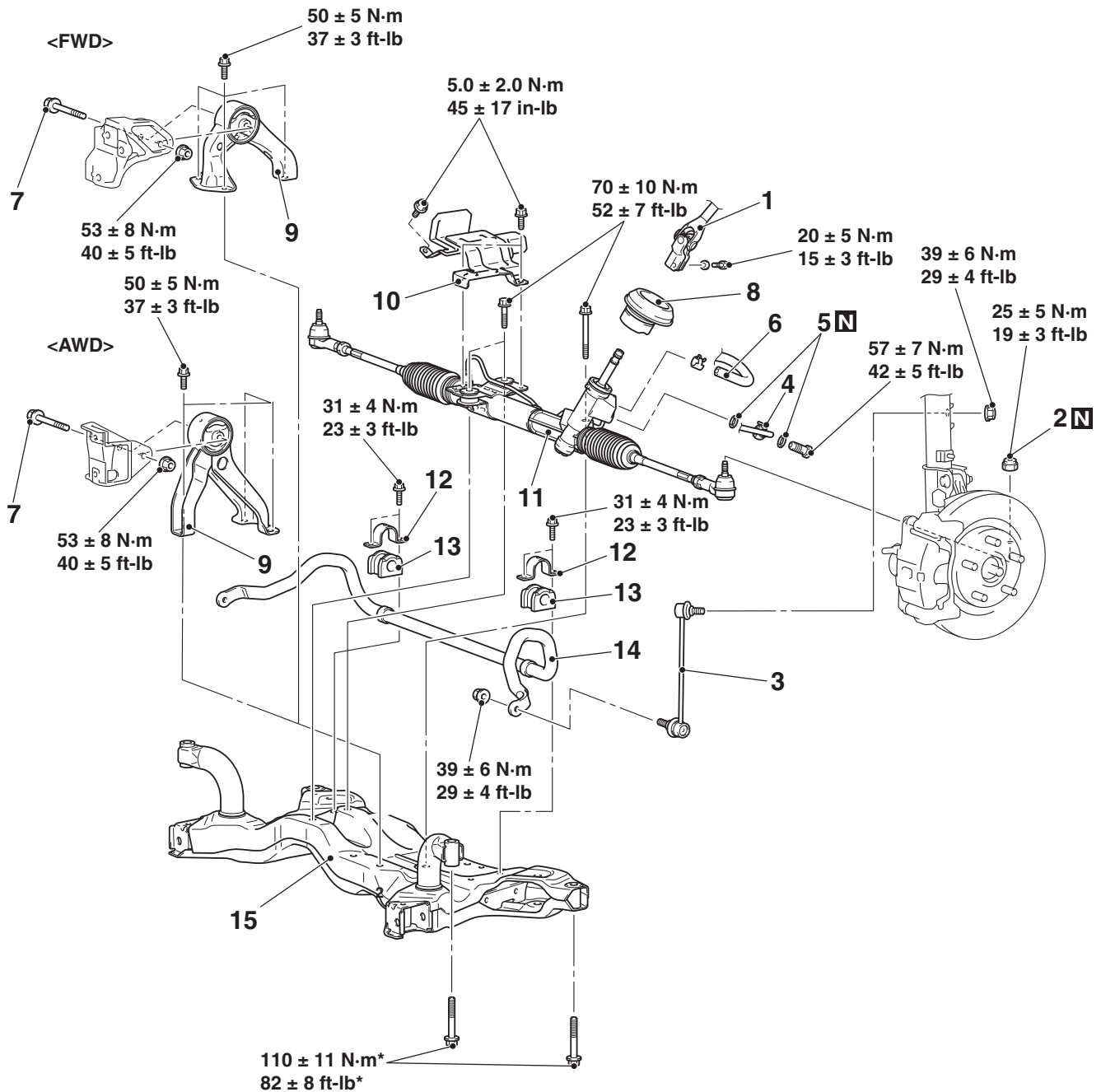
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**⚠ CAUTION**

- Before replacing the steering wheel assembly and driver's air bag module assembly, always refer to GROUP 52B, Service Precautions [P.52B-24](#), and Air Bag Module(s) and Clock Spring [P.52B-443](#). Also, position the front wheels in a straight ahead direction, and remove the ignition key. If you fail to do this, clock spring for SRS may get damage, making the SRS (air bag) inoperative, and it may cause a serious injury to the driver.
- The parts indicated by \* are the bolts/nuts with friction coefficient stabilizer. In removal, ensure there is no damage, clean dust and soiling from the bearing and thread surfaces, and tighten them to the specified torque.
- After installation, perform calibration to make ASC-ECU learn the neutral position of the steering wheel sensor. (Refer to GROUP 35C, On-vehicle Service –Steering Wheel Sensor Calibration [P.35C-286](#)).

<b>Pre-removal operation</b> <ul style="list-style-type: none"><li>• Steering Wheel Air Bag Module Assembly Removal (Refer to GROUP 37, Steering Wheel <a href="#">P.37-28</a>).</li><li>• Footrest Removal.</li><li>• Front Exhaust Pipe Removal (Refer to GROUP 15, Exhaust Pipe and Main Muffler <a href="#">P.15-26</a>).</li><li>• Front Roll Stopper and Centermember Assembly Removal (Refer to <a href="#">P.32-11</a>).</li><li>• Power Steering Fluid Drain (Refer to GROUP 37, On-vehicle Service –Fluid Replacement <a href="#">P.37-21</a>).</li><li>• Engine Room Under Cover Front and Engine Room Side Cover Removal (Refer to GROUP 51, Under Cover <a href="#">P.51-22</a>).</li><li>• Lower Arm Assembly Removal (Refer to GROUP 33, Lower Arm <a href="#">P.33-16</a>).</li></ul>	<b>Post-installation operation</b> <ul style="list-style-type: none"><li>• Using Your Fingers, Press The Tie-rod End Ball Joint Dust Cover To Check for a Crack or Damage (Refer to GROUP 37, On-vehicle Service –Ball Joint Dust Cover Inspection <a href="#">P.37-18</a>).</li><li>• Using Your Fingers, Press The Stabilizer Link Ball Joint Dust Cover To Check for a Crack or Damage (Refer to GROUP 33, On-vehicle Service –Lower Arm Ball Joint Dust Cover Inspection <a href="#">P.33-9</a>).</li><li>• Lower Arm Assembly Installation (Refer to GROUP 33, Lower Arm <a href="#">P.33-16</a>).</li><li>• Front Roll Stopper and Centermember Assembly Installation (Refer to <a href="#">P.32-11</a>).</li><li>• Engine Room Under Cover Front and Engine Room Side Cover Installation (Refer to GROUP 51, Under Cover <a href="#">P.51-22</a>).</li><li>• Footrest Installation.</li><li>• Front Exhaust Pipe Installation (Refer to GROUP 15, Exhaust Pipe and Main Muffler <a href="#">P.15-26</a>).</li><li>• Clock Spring Centering (Refer to GROUP 52B, Air Bag Modules and Clock Spring <a href="#">P.52B-443</a>).</li><li>• Steering Wheel Air Bag Module Assembly Installation (Refer to GROUP 37, Steering Wheel <a href="#">P.37-28</a>).</li><li>• Power Steering Fluid Refilling and Bleeding (Refer to GROUP 37, On-vehicle Service –Fluid Replacement <a href="#">P.37-21</a>).</li><li>• Steering Wheel Straight-ahead Position Check.</li><li>• Front Wheel Alignment Check and Adjustment (Refer to GROUP 33, On-vehicle Service –Front Wheel Alignment Check and Adjustment <a href="#">P.33-8</a>).</li></ul>
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### Removal steps

- <<A>> 1. Steering gear and joint connecting bolt
- <<B>> 2. Self-lock nut (Tie-rod end and knuckle connection)
3. Stabilizer link assembly
4. Pressure hose connection
5. Gasket
6. Return hose connection
7. Rear roll stopper center bolt
- <<C>> • Front axle crossmember assembly
- >>B<< 8. Joint cover grommet

### Removal steps (Continued)

9. Rear roll stopper
10. Heat protector
11. Steering gear and linkage assembly
- >>A<< 12. Stabilizer bar bracket
- >>A<< 13. Stabilizer bushing
- >>A<< 14. Stabilizer bar
15. Front axle crossmember

### Required Special Tool:

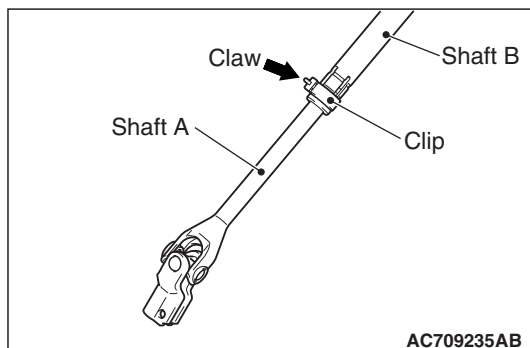
- MB991897 or MB992011: Ball Joint Remover



## REMOVAL SERVICE POINTS

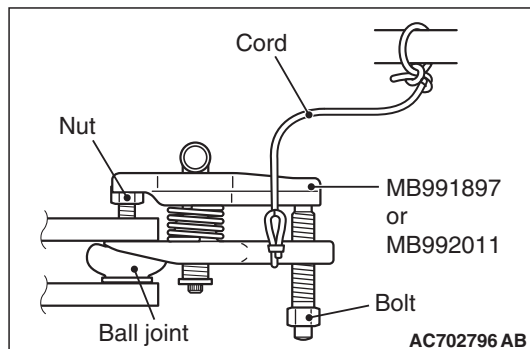
<<A>> STEERING COLUMN SHAFT ASSEMBLY  
CONNECTION DISCONNECTION

Disconnect the steering gear from the steering column assembly while sliding the shaft A to the shaft B with the clip claw as shown in the figure is pinched.

<<B>> SELF-LOCK NUT (TIE-ROD END AND  
KNUCKLE CONNECTION) REMOVAL**⚠ CAUTION**

- Loosen the self-locking nut from the ball joint, but do not remove here. Use the special tool.
- To prevent the special tool from dropping off, suspend it with a cord.

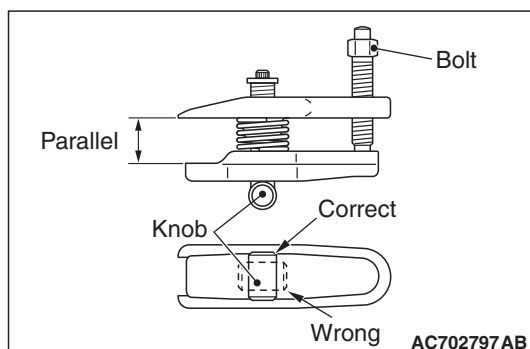
1. Install the special tool MB991897 or MB992011 as shown in the figure.



2. Turn the bolt and knob to make the special tool jaws parallel, then hand-tighten the bolt. After tightening, check that the jaws are still parallel.

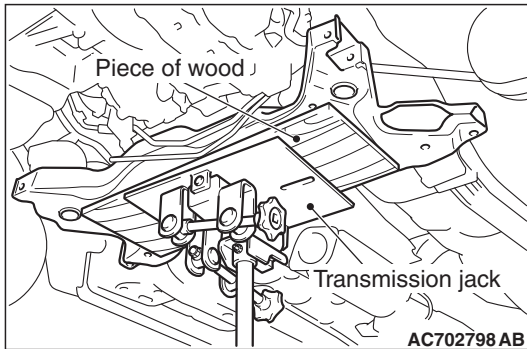
*NOTE: To adjust the special tool jaws to be parallel, set the knob as shown in the figure so that it functions as a fulcrum of the jaws.*

3. Turn the bolt and disconnect the tie-rod end from the steering knuckle.





## <<C>> FRONT AXLE CROSSMEMBER ASSEMBLY REMOVAL

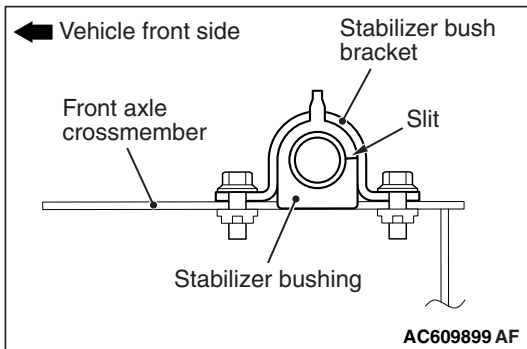


1. Jack up and support the front axle crossmember assembly, and remove it.
2. Check the hoses and harnesses for roughness, and then remove the front axle crossmember assembly with the rear roll stopper and the steering gear and linkage assembly installed.

## INSTALLATION SERVICE POINTS

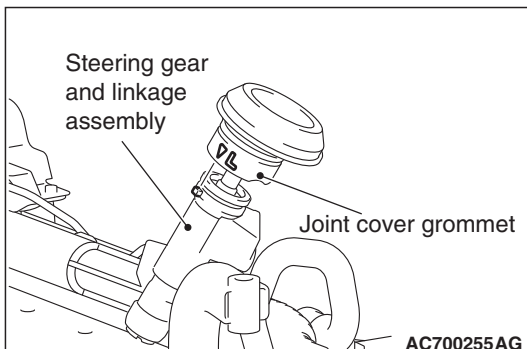
### >>A<< STABILIZER BAR/STABILIZER BUSH- ING/STABILIZER BAR BRACKET INSTALLATION

Install the stabilizer bar, the stabilizer bushing and the stabilizer bar bracket as shown in the figure.



### >>B<< JOINT COVER GROMMET INSTALLATION

Install the joint cover grommet to the steering gear and linkage assembly by aligning the mating marks as shown in the figure.





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## NOTES