

GROUP 33

FRONT SUSPENSION

CONTENTS

GENERAL DESCRIPTION.....	33-2	INSPECTION.....	33-13
FRONT SUSPENSION DIAGNOSIS .	33-3	LOWER ARM	33-14
INTRODUCTION TO FRONT		REMOVAL AND INSTALLATION	33-14
SUSPENSION DIAGNOSIS	33-3	INSPECTION.....	33-15
FRONT SUSPENSION DIAGNOSIS		BALL JOINT DUST COVER	
TROUBLESHOOTING STRATEGY	33-3	REPLACEMENT	33-16
SYMPTOM CHART.....	33-3	LOWER ARM PILLOW BALL BUSHING	
SYMPTOM PROCEDURES	33-4	REPLACEMENT	33-17
SPECIAL TOOLS.....	33-6	STABILIZER BAR.....	33-19
ON-VEHICLE SERVICE.....	33-7	REMOVAL AND INSTALLATION	33-19
FRONT WHEEL ALIGNMENT CHECK		INSPECTION.....	33-22
AND ADJUSTMENT	33-7	CROSSMEMBER BAR.....	33-23
LOWER ARM BALL JOINT END		REMOVAL AND INSTALLATION	33-23
PLAY CHECK	33-8	SPECIFICATIONS	33-23
BALL JOINT DUST COVER CHECK	33-9	FASTENER TIGHTENING	
STRUT ASSEMBLY.....	33-9	SPECIFICATIONS.....	33-23
REMOVAL AND INSTALLATION	33-9	GENERAL SPECIFICATIONS	33-24
INSPECTION	33-9	SERVICE SPECIFICATIONS	33-24
DISASSEMBLY AND ASSEMBLY	33-10		

GENERAL DESCRIPTION

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A MacPherson strut independent suspension-type suspension is used for the front suspension. Aggressive use of special components that include Mitsubishi Motor's own inverted struts and forged aluminum parts reduces weight to create a suspension that gives superior performance made with competition use in mind.

FEATURES (COMPARED TO THE LANCER)

INVERTED STRUTS

Use of inverted struts ensures smooth shock absorber action even during high speed cornering that places high lateral G-force on the suspension.

COIL SPRINGS

The coil spring rate was optimized and high-response spring material is used to achieve high durability and reduce weight.

LOWER ARM ASSEMBLY

Use of forged aluminum reduces load on the coil springs and produces nimble suspension action. In addition, outer casings and stoppers on the front bushings (A-point) and pillow ball bushings in the rear (G-point) improves the feeling of stiffness and stroke. Increased size of the ball on the ball joints at the knuckle connection (B-point) also improve reliability.

The Bilstein shock absorber* has been adopted to improve the road holding performance. <option>

*NOTE: * The Bilstein shock absorber is one of the foremost shock absorber used in the world races.*

STABILIZER

A change to pillow ball joints for the stabilizer link improves stabilizer efficiency to deliver a high level of stability.

CROSSMEMBER

A reinforcing bar (front axle crossmember bar) that connects the left and right lower arm mounts (A-points) increases lateral rigidity. This improves steering feel and adds extra stiffness when cornering.

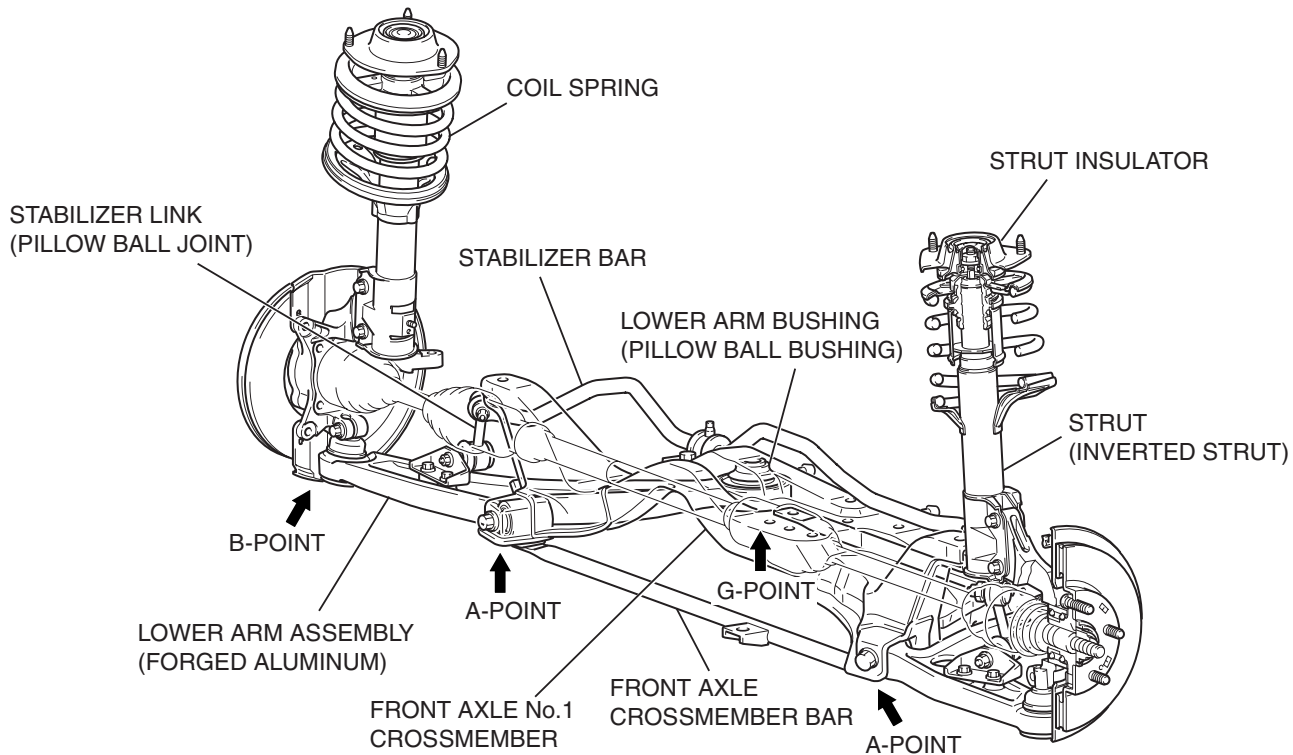
STRUT INSULATOR

Input from the strut has been changed from a separation pattern to a unified one and the use of a metal bearing achieves greater rigidity, durability, and lower friction.

ALIGNMENT

A wider track and optimization of roll center height improves cornering response throughout the range from initial response through to the cornering limit.

CONSTRUCTION DIAGRAM



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FRONT SUSPENSION DIAGNOSIS

INTRODUCTION TO FRONT SUSPENSION DIAGNOSIS

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If the front suspension is faulty, the vehicle will not run straightforward or noise will occur. Incorrect wheel alignment, malfunction of strut assembly, stabilizer bar, coil spring, or worn or out-of-balance tires can cause these problems.

FRONT SUSPENSION DIAGNOSIS TROUBLESHOOTING STRATEGY

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Use these steps to plan your diagnostic strategy. If you follow them carefully, you will be sure that you have exhausted most of the possible ways to find a front suspension fault.

1. Gather information from the customer.

2. Verify that the condition described by the customer exists.
3. Find and repair the malfunction by following the Symptom Chart and Symptom Procedures.
4. Verify malfunction is eliminated.

SYMPTOM CHART

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SYMPTOM	INSPECTION PROCEDURE	REFERENCE PAGE
Steering wheel is heavy, vibrates or pulls to one side	1	P.33-4
Excessive body rolling	2	P.33-4
Poor ride	3	P.33-4
Unequal ride height	4	P.33-5
Noise	5	P.33-5

SYMPTOM PROCEDURES

INSPECTION PROCEDURE 1: Steering Wheel Is Heavy, Vibrates or Pulls to One Side

DIAGNOSIS

STEP 1. Check the tires.

Refer to GROUP 31, Diagnosis [P.31-2](#).

Q: Are the tires in normal condition?

YES : Go to Step 2.

NO : If out of balance, balance the tires as necessary. If excessively worn, replace the tires as necessary and go to Step 5.

STEP 2. Check the wheel alignment.

Refer to [P.33-7](#).

Q: Is the wheel alignment correct?

YES : Go to Step 3.

NO : Adjust it, then go to Step 5.

STEP 3. Check the lower arm ball joint.

Q: Is the ball joint in good condition?

YES : Go to Step 4.

NO : Replace the lower arm assembly, then go to Step 5.

STEP 4. Check the coil spring.

Q: Is the coil spring in good condition?

YES : Go to Step 5.

NO : Replace it, then go to Step 5.

STEP 5. Retest the system.

Q: Is the malfunction eliminated?

YES : The procedure is complete.

NO : Return to Step 1.

INSPECTION PROCEDURE 2: Excessive Body Rolling

DIAGNOSIS

STEP 1. Check for broken or deteriorated stabilizer bar.

Q: Is the stabilizer bar in good condition?

YES : Go to Step 2.

NO : Replace it, then go to Step 3.

STEP 2. Check the strut assembly for damage.

Q: Is the strut assembly in good condition?

YES : Go to Step 3.

NO : Replace it, then go to Step 3.

STEP 3. Retest the system.

Q: Is the malfunction eliminated?

YES : The procedure is complete.

NO : Return to Step 1.

INSPECTION PROCEDURE 3: Poor Ride

DIAGNOSIS

STEP 1. Check for improper tire inflation pressure.

Refer to GROUP 31, On-vehicle Service –Tire Inflation Pressure Check [P.31-6](#).

Q: Is the tire inflation correct?

YES : Go to Step 2.

NO : Adjust it, then go to Step 4.

STEP 2. Check for broken or deteriorated coil spring(s).

Q: Are the coil spring(s) broken or deteriorated?

YES : Replace the coil spring(s), then go to Step 4.

NO : Go to Step 3.

STEP 3. Check for strut assembly damage.

Q: Is the strut assembly damaged?
YES : Replace it, then go to Step 4.
NO : Go to Step 4.

STEP 4. Retest the system.

Q: Is the malfunction eliminated?
YES : The procedure is complete.
NO : Return to Step 1.

INSPECTION PROCEDURE 4: Unequal Ride Height

DIAGNOSIS

STEP 1. Check for broken or deteriorated coil spring(s).

Q: Is the coil spring(s) broken or deteriorated?
YES : Replace it, then go to Step 2.
NO : Go to Step 2.

STEP 2. Retest the system.

Q: Is the malfunction eliminated?
YES : The procedure is complete.
NO : Return to Step 1.

INSPECTION PROCEDURE 5: Noise

DIAGNOSIS

STEP 1. Check for lack of lubrication.

Q: Is lubrication inadequate?
YES : Lubricate it, then go to Step 5.
NO : Go to Step 2.

STEP 2. Check the tightened parts for looseness as well as the bushings for wear.

Q: Are the tightened parts and bushings in good condition?
YES : Go to Step 3.
NO : Replace it, then go to Step 5.

STEP 3. Check for broken coil spring.

Q: Is the coil spring broken?
YES : Replace it, then go to Step 5.
NO : Go to Step 4.

STEP 4. Check for strut assembly damage.

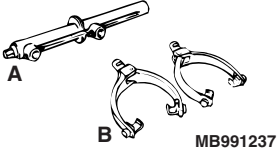
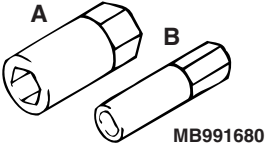
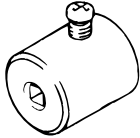
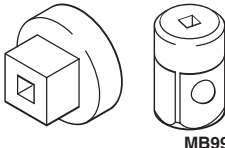

Q: Is the strut assembly damaged?
YES : Replace it, then go to Step 5.
NO : Go to Step 5.

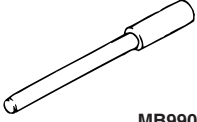
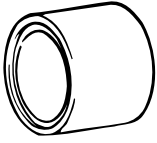
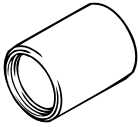
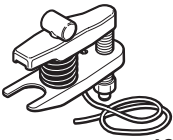
STEP 5. Retest the system.

Q: Is the malfunction eliminated?
YES : The procedure is complete.
NO : Return to Step 1.

SPECIAL TOOLS

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TOOL	TOOL NUMBER AND NAME	SUPERSESSSION	APPLICATION
 <p>MB991237</p>	A: MB991237 Spring compressor body B: MB991238 Arm set	MIT221369 or general service tool	Coil spring compression
 <p>MB991680</p>	MB991680 Wrench and socket set A: MB991681 Wrench B: MB991682 Socket	—	Strut assembly disassembly and reassembly
 <p>MB991006</p>	MB991006 Preload socket	MB990228-01	Lower arm ball joint breakaway torque measurement
 <p>MB990326</p>	MB990326 Preload socket	General service tool	Lower arm ball bushing breakaway torque measurement
 <p>MB990800</p>	MB990800 Ball joint dust cover installer	MB990800-01 or General service tool	Lower arm ball joint dust cover press-in

TOOL	TOOL NUMBER AND NAME	SUPERSESSON	APPLICATION
 MB990883	MB990651 Bar		Lower arm pillow ball bushing removal and press-fitting
	MB991816 Bushing remover & installer base		
 MB991576	MB991576 Base		
 AC106827	MB991897 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 available to disconnect knuckle and tie rod end ball joint.</i>

ON-VEHICLE SERVICE

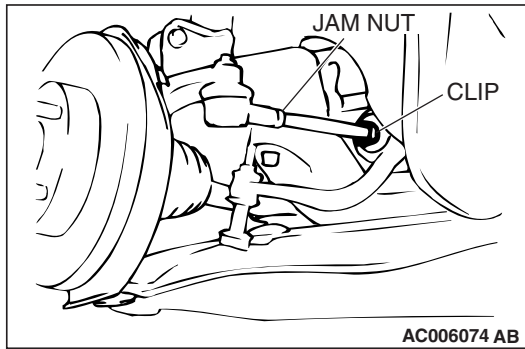
FRONT WHEEL ALIGNMENT CHECK AND ADJUSTMENT

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Measure wheel alignment with alignment equipment on a level surface. The front suspension, steering system, wheels, and tires should be serviced to normal condition before measuring wheel alignment.

TOE-IN

Standard value: 0 ± 2 mm (0 ± 0.08 inch)



1. Adjust the toe-in by undoing the clip and jam nut, and turning the left and right tie rod turnbuckles by the same amount (in opposite directions).
NOTE: The toe will move out as the left turnbuckle is turned toward the front of the vehicle and the right turnbuckle is turned toward the rear of the vehicle.
2. Install the clip and tighten the jam nut to the specified torque.
Tightening torque: $52 \pm 2 \text{ N} \cdot \text{m}$ ($38 \pm 2 \text{ ft} \cdot \text{lb}$)
3. Confirm that the toe-in is at the standard value.
4. Use a turning radius gauge to check that the steering angle is at the standard value.

Standard value:

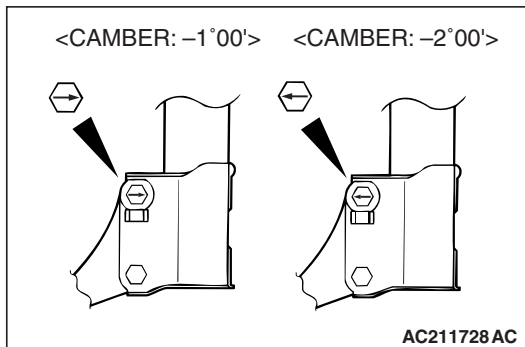
Inner wheel	$31^\circ 45' \pm 1^\circ 30'$
Outer wheel (for reference)	$27^\circ 15'$

CAMBER, CASTER AND KINGPIN INCLINATION**Standard value:**

Items	Specifications
Camber (Selectable from 2 options)	$-1^\circ 00' \pm 0^\circ 30''^*$ or $-2^\circ 00' \pm 0^\circ 30''^*$
Caster	$3^\circ 55' \pm 0^\circ 30''^*$
Kingpin inclination	$13^\circ 45' \pm 1^\circ 30'$

*NOTE: *: Difference between right and left wheels must be less than $30'$*

NOTE: Caster and kingpin inclination are preset at the factory and cannot be adjusted.

**SELECTION THE CAMBER**

Select the camber by the installation direction of the arrow of the connecting bolt of the strut assembly and the knuckle.

- $-1^\circ 00' \pm 0^\circ 30'$: Install the bolt turning the arrow in the direction of inside the vehicle.
- $-2^\circ 00' \pm 0^\circ 30'$: Install the bolt turning the arrow in the direction of outside the vehicle.

LOWER ARM BALL JOINT END PLAY CHECK

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1. Raise the vehicle.
2. Remove the stabilizer bar from the lower arm assembly.
3. Move the lower arm up and down with your hands to check for excessive play in the axial direction of the ball joint. If there is excessive play, replace the lower arm assembly.

BALL JOINT DUST COVER CHECK

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1. Press the dust cover with your finger to check that there are no cracks or damage in the dust cover.
2. If the dust cover is cracked or damaged, replace the lower arm assembly.

NOTE: If the dust cover is cracked or damaged, it is possible that there may also be damage to the ball joint.

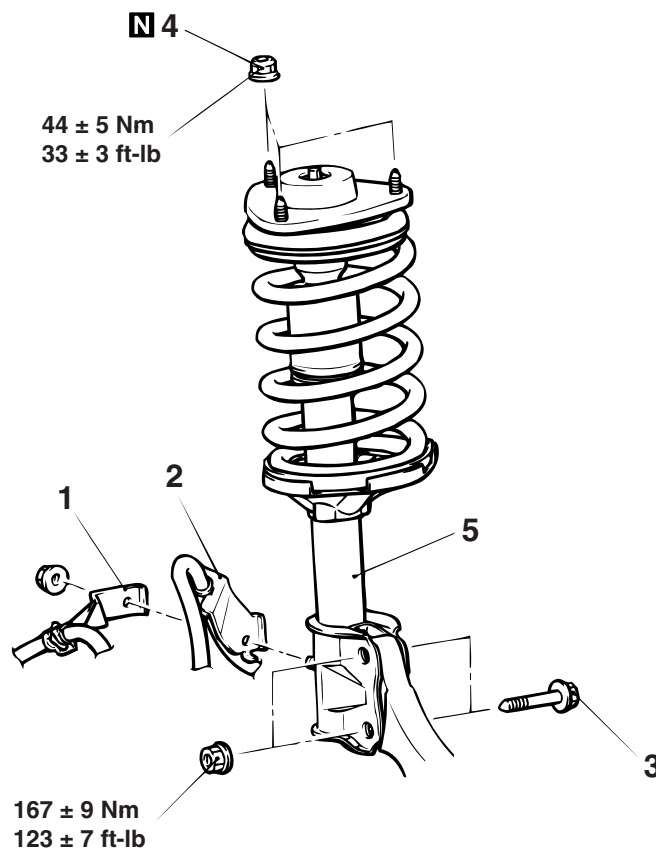
STRUT ASSEMBLY

REMOVAL AND INSTALLATION

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Post-installation Operation

- Front Wheel Alignment Check and Adjustment (Refer to [P.33-7.](#))



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REMOVAL STEPS

1. FRONT WHEEL SPEED SENSOR HARNESS BRACKET
2. BRAKE HOSE BRACKET

REMOVAL STEPS (Continued)

3. KNUCKLE CONNECTION
4. STRUT MOUNTING NUT
5. STRUT ASSEMBLY

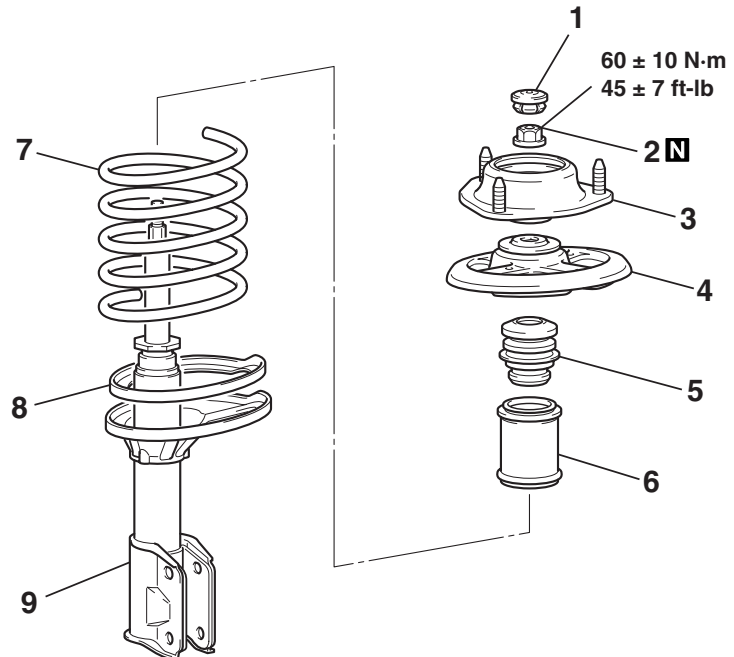
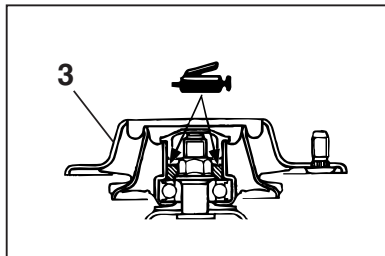
INSPECTION

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- Check for oil leaks from the strut assembly.
- Check the strut assembly for damage or deformation.

DISASSEMBLY AND ASSEMBLY

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DISASSEMBLY STEPS

- <<A>>>>A<<
1. STRUT COVER
 2. STRUT NUT
 3. STRUT INSULATOR
 4. SPRING UPPER SEAT
 5. STRUT DAMPER
 6. STRUT COVER
 7. COIL SPRING

DISASSEMBLY STEPS (Continued)

- <>
8. SPRING LOWER PAD
 9. FRONT SUSPENSION STRUT

Required Special Tools:

- MB991237: Spring Compressor Body
- MB991238: Arm Set
- MB991681: Wrench
- MB991682: Socket

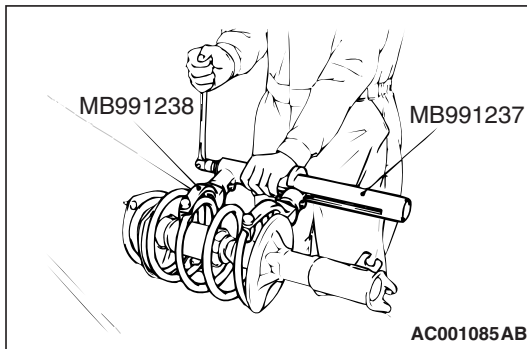
DISASSEMBLY SERVICE POINTS

<<A>> STRUT NUT REMOVAL

CAUTION

- Do not tighten the bolt of special tool MB991237 too tight. Special tool MB991237 will be broken if the allowable tightening torque of 74 N·m (54 ft-lb) is exceeded.
- Install special tool MB991238 evenly, and so that the maximum length will be attained within the installation range.
- Do not use an impact wrench to tighten the bolt of special tool MB991237, otherwise the special tool will break.

1. Use special tools MB991237 and MB991238 to compress the coil spring.

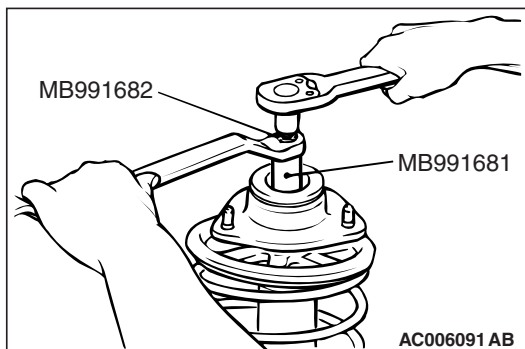


WARNING

Do not use an impact wrench to remove the strut nut.

- ***Vibration of the impact wrench will cause special tools MB991237 and MB991238 to slip and cause personal injury.***
- ***Vibration of the impact wrench will cause the valve inside the strut to drop out.***

2. Use special tools MB991681 and MB991682 to loosen the strut nut.

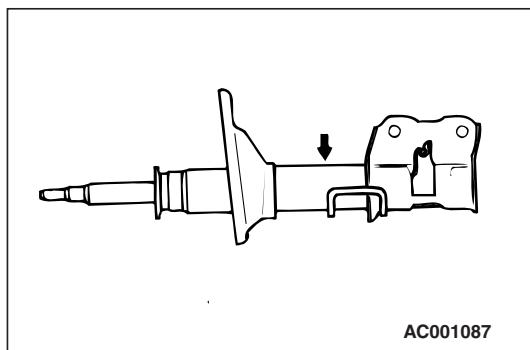


<> FRONT SUSPENSION STRUT REMOVAL

⚠ WARNING

Wear goggles when drilling to protect your eyes from flying metal debris.

The gas must be discharged from the front suspension strut assembly before discarding it. Place the strut horizontally with its piston rod extended. Then drill a hole of approximately 3 mm (0.1 inch) in diameter at the location shown in the illustration and discharge the gas.



ASSEMBLY SERVICE POINTS

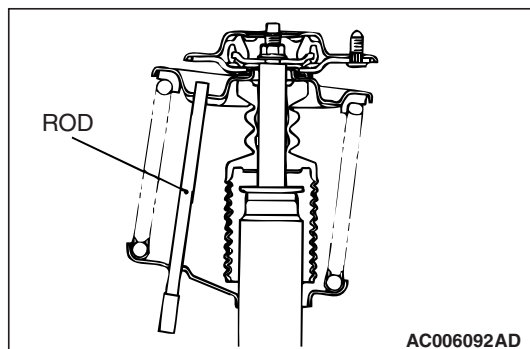
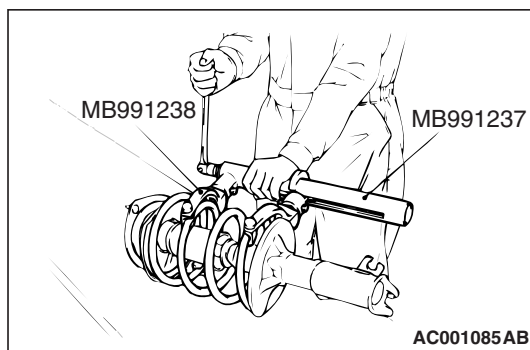
>>A<< STRUT NUT INSTALLATION

1. Ensure that the bearing is seated correctly.
2. Install special tools MB991237 and MB991238 to the strut same as its removal.

⚠ CAUTION

Do not use an impact wrench to tighten the bolt of special tool MB991237, otherwise the special tool will break.

3. While the coil spring is being compressed by the special tools, temporarily tighten the strut nut.



4. Align the hole in the strut spring lower seat with the hole in the upper spring seat.

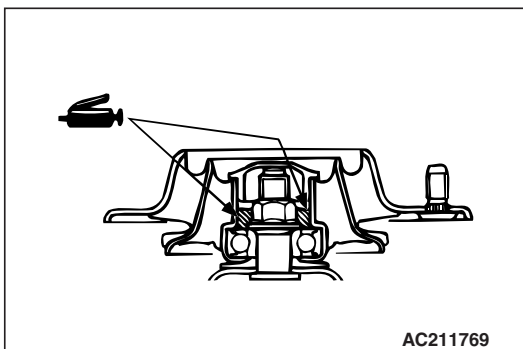
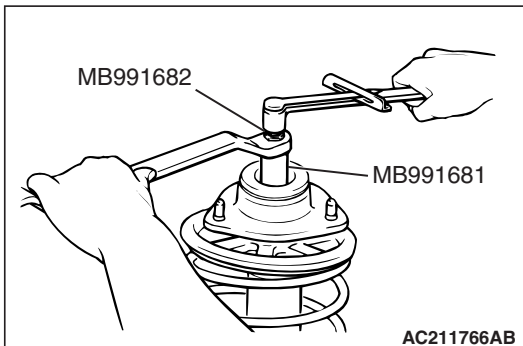
NOTE: Using a rod as shown facilitates the alignment.

5. Correctly align both ends of the coil spring with the grooves in the spring seat, and then loosen the special tools.

⚠ CAUTION

Do not use an impact wrench to tighten the strut nut, otherwise the strut nut will be damaged. Vibration of the impact wrench will cause the valve inside the strut to drop out.

6. Using special tools MB991681 and MB991682, tighten the strut nut to $60 \pm 10 \text{ N} \cdot \text{m}$ ($45 \pm 7 \text{ ft-lb}$).



7. After tightening the strut nut, fill the multi purpose grease to the bearing part of strut insulator.

INSPECTION

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- Check the strut bearing for wear or rust.
- Check the rubber parts for damage or deterioration.
- Check the coil spring for deformation, deterioration or damage.
- Check the front suspension strut for deformation.

LOWER ARM

REMOVAL AND INSTALLATION

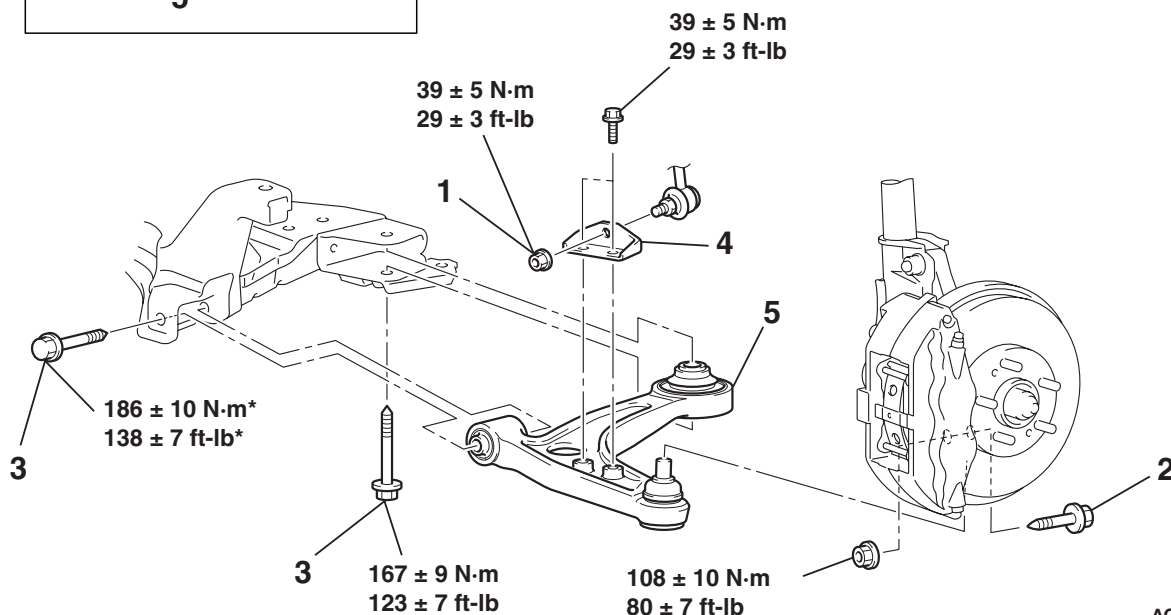
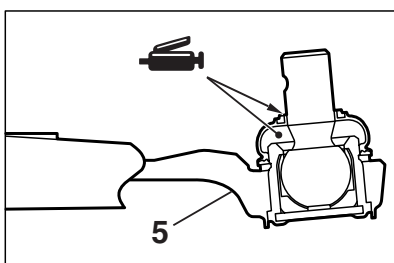
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CAUTION

- During maintenance, take care not to contact the parts or tools to the caliper because the paint of caliper will be scratched. And if there is brake fluid on the caliper, wipe off quickly.
- *: Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the ground in an unladen condition.

Post-installation Operation

- Check the Dust Cover for Cracks or Damage by Pushing it with Your Finger.
- Front Wheel Alignment Check and Adjustment (Refer to P.33-7.)



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REMOVAL STEPS

1. STABILIZER LINK NUT
2. LOWER ARM AND KNUCKLE CONNECTION

<<A>>

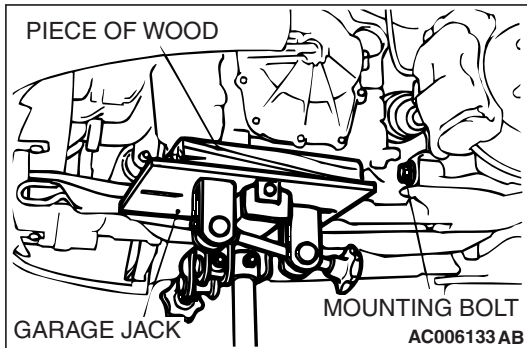
REMOVAL STEPS (Continued)

3. LOWER ARM AND CROSSMEMBER CONNECTION
4. STABILIZER BAR BRACKET
5. LOWER ARM ASSEMBLY

REMOVAL SERVICE POINT

<<A>> LOWER ARM AND CROSSMEMBER DIS-CONNECTION

As for the L.H. lower arm assembly, withdraw the lower arm bolt (front) with the transmission lift up by using a transmission jack.



INSPECTION

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Required Special Tools:

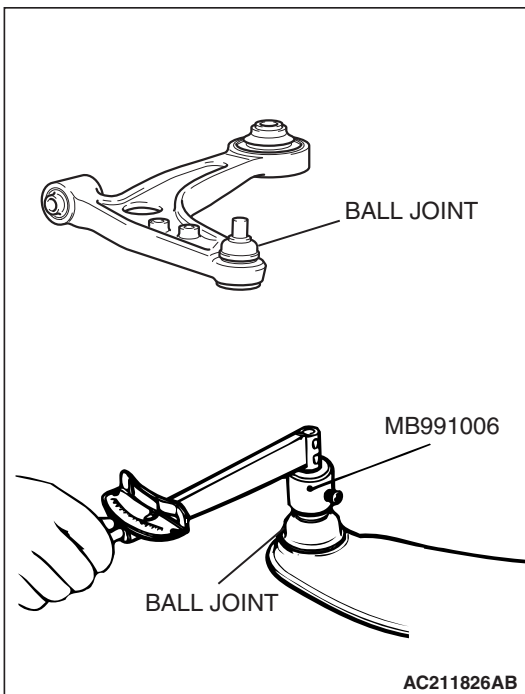
- MB991006: Preload Socket
- MB990326: Preload Socket

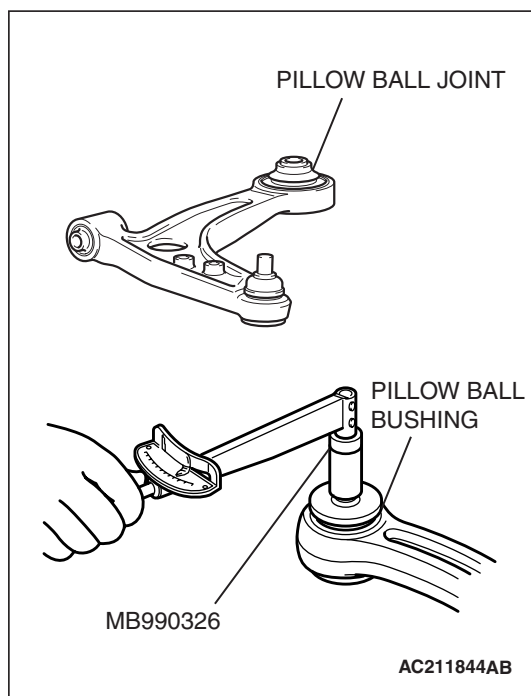
LOWER ARM BALL JOINT BREAKAWAY TORQUE CHECK

1. After shaking the ball joint stud several times, use special tool MB991006 to measure the breakaway torque of the ball joint.

Standard value: 0.5 – 3.4 N·m (4.4 – 30.1 in-lb)

2. When the measured value exceeds the standard value, replace the lower arm assembly.
3. When the measured value is lower than the standard value, check that the lower arm ball joint turns smoothly without excessive play. If there is no excessive play, the ball joint can be reused.



PILLOW BALL BUSHING BREAKAWAY TORQUE CHECK

1. Insert the bolt to the lower arm pillow ball bushing. In the opposite direction, insert the washer then install the nut. After rotating the inner sleeve (contained washer) several times, measure the breakaway torque of the lower arm pillow ball bushing using special tool MB990326.

Standard value: 0.5 – 3.0 N·m (4.4 – 26.6 in-lb)

2. When the measured value exceeds the standard value, replace the pillow ball bushing.
3. When the measured value is lower than the standard value, check that the lower arm pillow ball bushing turns smoothly without excessive play. If there is no excessive play, the pillow ball bushing can be reused.

LOWER ARM BALL JOINT DUST COVER CHECK

1. Check the dust cover for cracks or damage by pushing it with your finger.
2. If the dust cover is cracked or damaged, replace the lower arm.

NOTE: Cracks or damage to the dust cover may cause damage to the ball joint. When it is damaged during service work, replace the dust cover.

BALL JOINT DUST COVER REPLACEMENT

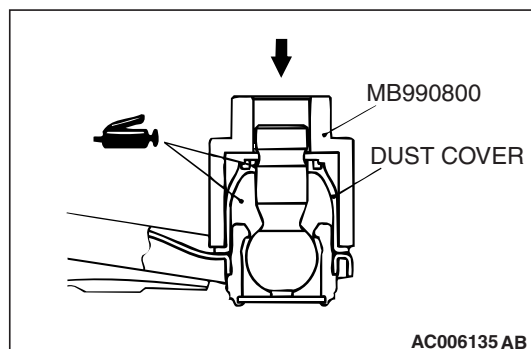
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Required Special Tool:

- MB990800: Ball Joint Remover and Installer

If the dust cover is damaged accidentally during service work, replace the dust cover as follows:

1. Remove the dust cover.
2. Apply multipurpose grease to the lip and inside of the dust cover.
3. Using special tool MB990800, press the dust cover until it contacts the lower arm assembly.
4. Press the dust cover with your finger to check that there are no cracks or damage in the dust cover.



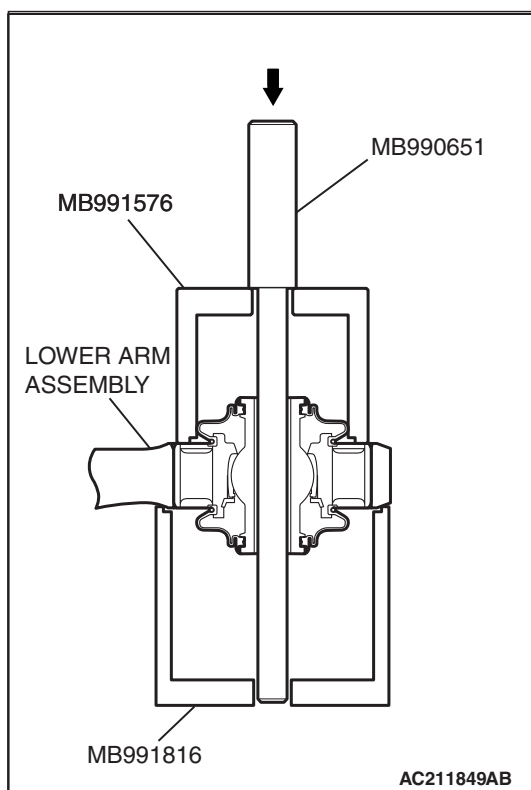
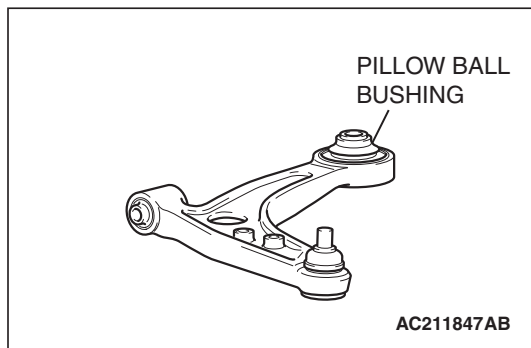
LOWER ARM PILLOW BALL BUSHING REPLACEMENT

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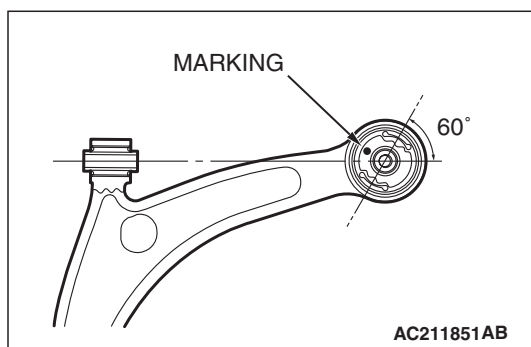
Required Special Tools:

- MB990651: Bar
- MB991576: Base
- MB991816: Bushing Remover & Installer Base

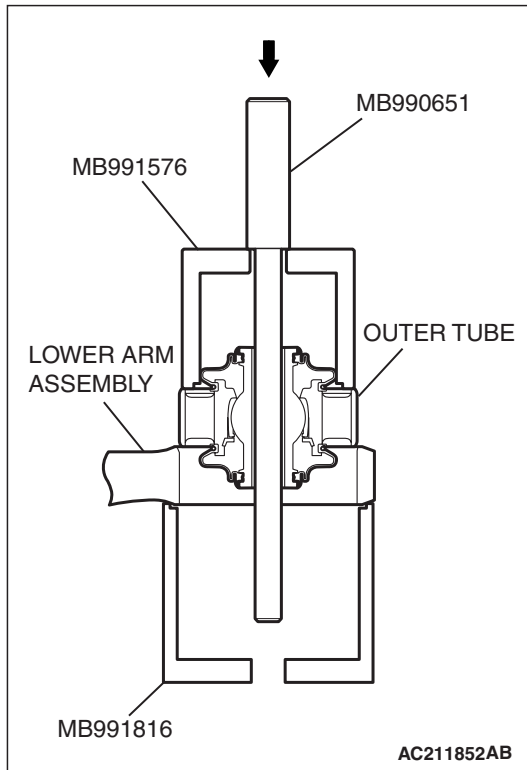
Replace the bushing as follows:



1. Use special tools MB990651, MB991576 and MB991816 to drive out the bushing.



2. Set the bushing to the lower arm assembly so that the bushing marking and the opening are as shown in the illustration.



3. Use special tools MB990651, MB991576 and MB991816 to press in the bushing until its outer tube is flush with the lower arm assembly surface.

STABILIZER BAR

REMOVAL AND INSTALLATION

M1332004000532

CAUTION

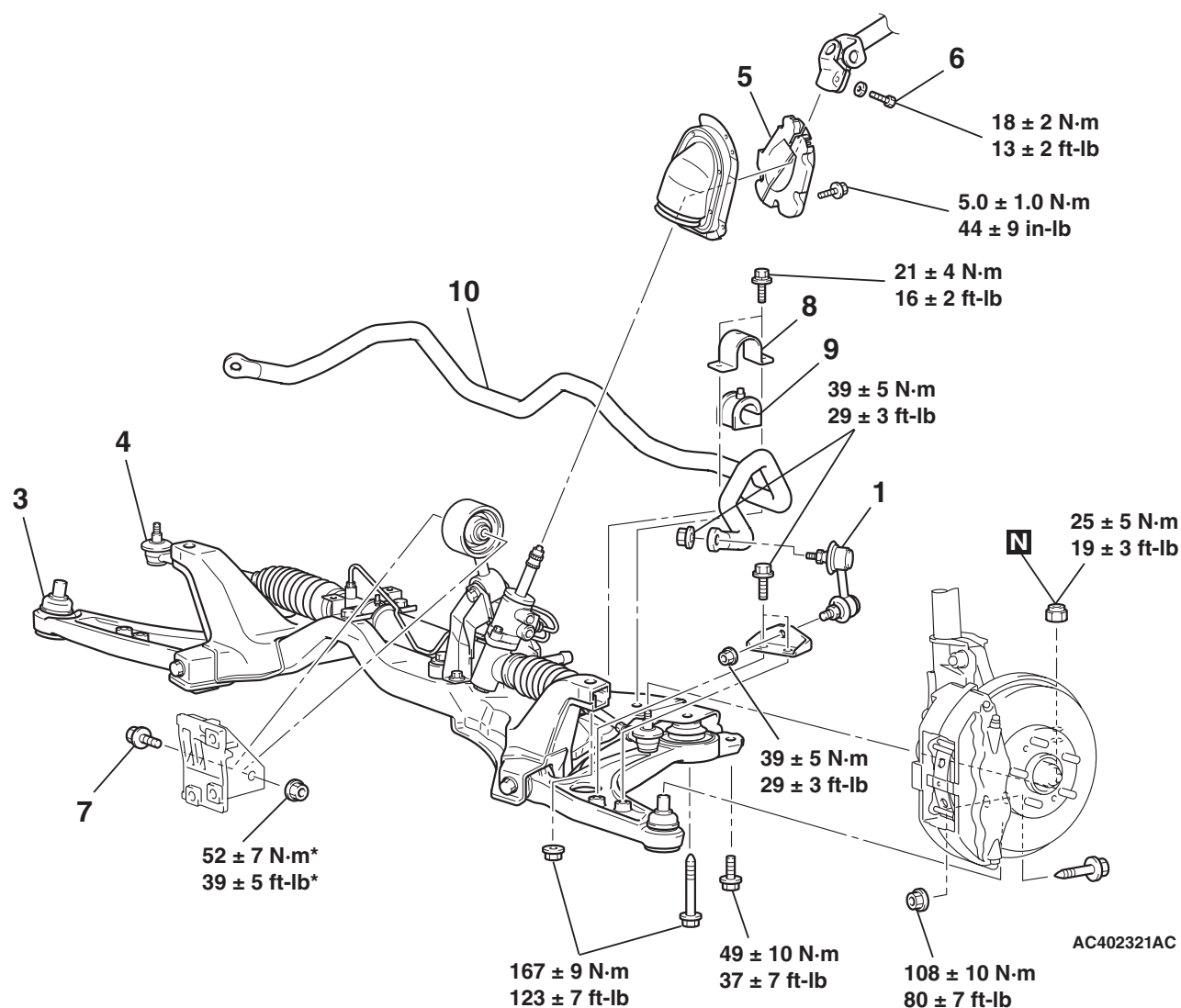
- Before removing the steering wheel and air bag module assembly, refer to GROUP 52B –Service Precautions (P.52B-16) and Air Bag Module and Clock Spring (P.52B-168). Also, put the front wheels in straight-ahead position. Failure to do so may damage the SRS clock spring and render the SRS air bag inoperative, which results serious driver injury.
- During maintenance, take care not to contact the parts or tools to the caliper because the paint of caliper will be scratched. And if there is brake fluid on the caliper, wipe off quickly.
- *: Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the ground in an unladen condition.

Pre-removal Operation

- Steering Wheel - Driver's Air Bag Module Assembly (Refer to GROUP 37, Steering Wheel P.37-24).
- Clock Spring (Refer to GROUP 52B, Air Bag Module(s) and Clock Spring P.52B-168).
- Front Axle Crossmember Bar (Refer to P.33-23).
- Front Axle No.1 Crossmember Assembly (Refer to GROUP 32, Crossmember P.32-9).
- Front Exhaust Pipe (Refer to GROUP 15, Exhaust Pipe and Main Muffler P.15-17).

Post-installation Operation

- Front Exhaust Pipe (Refer to GROUP 15, Exhaust Pipe and Main Muffler P.15-17).
- Front Axle No.1 Crossmember Assembly (Refer to GROUP 32, Crossmember P.32-9).
- Front Axle Crossmember Bar (Refer to P.33-23).
- Clock Spring (Refer to GROUP 52B, Air Bag Module(s) and Clock Spring P.52B-168).
- Steering Wheel - Driver's Air Bag Module Assembly (Refer to GROUP 37, Steering Wheel P.37-24).
- Check the Dust Cover for Cracks or Damage by Pushing it with Finger.
- Checking Steering Wheel Position with Wheels Straight Ahead
- Front Wheel Alignment Check and Adjustment (Refer to P.33-7).

**STABILIZER BAR REMOVAL
STEPS**

1. STABILIZER LINK
2. STABILIZER BAR BRACKET
3. LOWER ARM AND KNUCKLE CONNECTION
4. TIE ROD END KNUCKLE CONNECTION
5. STEERING SHAFT COVER
6. STEERING GEAR AND JOINT CONNECTION BOLT

**STABILIZER BAR REMOVAL
STEPS (Continued)**

7. REAR ROLL STOPPER CONNECTING BOLT
8. STABILIZER BRACKET
9. STABILIZER BUSHING
10. STABILIZER BAR

Required Special Tool:

- MB991897: Ball Joint Remover

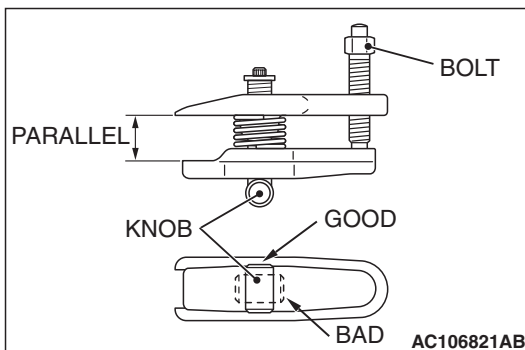
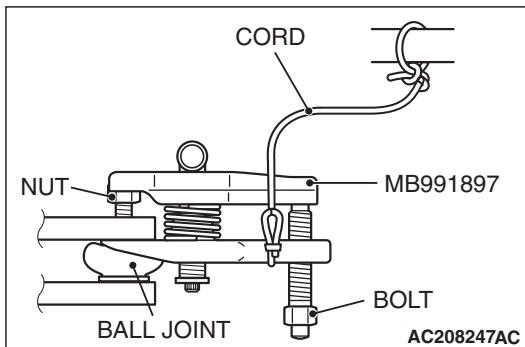
REMOVAL SERVICE POINTS

<<A>> TIE ROD END AND KNUCKLE DISCONNECTION

CAUTION

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

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



2. Turn the bolt and knob as necessary to make the jaws of special tool MB991897 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.

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

<> STABILIZER BRACKET/STABILIZER BUSHING/STABILIZER BAR REMOVAL

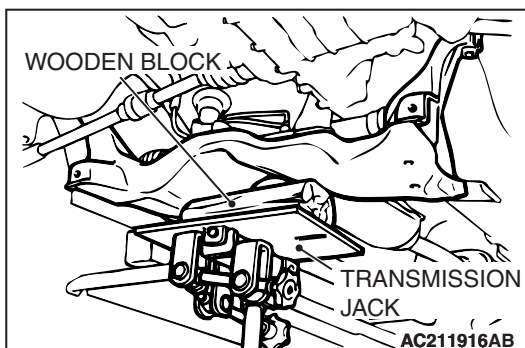
Carry out the following operations to ensure working space in order to remove the fixture, the bushing and the stabilizer bar.

1. Use a transmission jack to hold the crossmember, remove the crossmember mounting nuts and bolts.

CAUTION

Be careful not to lower the crossmember excessively. The power steering return hose bracket may deform if the crossmember is lowered too much.

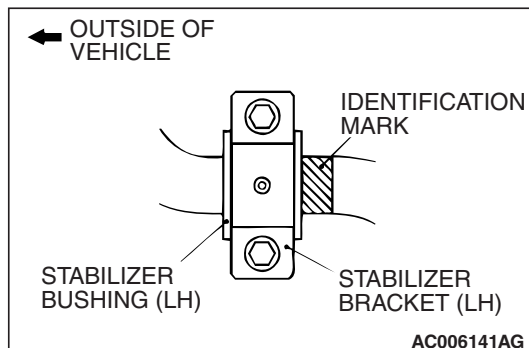
2. Lower the crossmember until the fixture, the bushing and the stabilizer bar can be removed.



INSTALLATION SERVICE POINTS

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

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



INSPECTION

M1332002000224

- Check the stabilizer bushings for wear and deterioration.
- Check the stabilizer bar for deterioration or damage.
- Check all bolts for condition and straightness.

STABILIZER LINK BALL JOINT TURNING
TORQUE CHECK

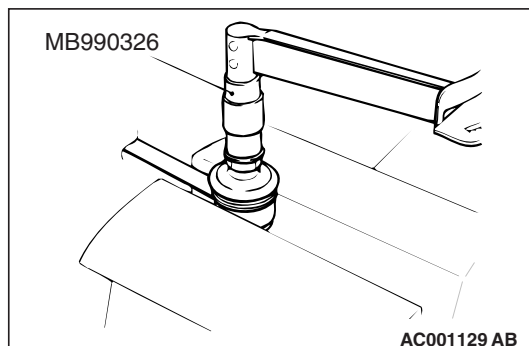
Required Special Tool:

- MB990326: Preload Socket

1. After shaking the ball joint stud several times, install the nut to the stud and use special tool MB990326 to measure the turning torque of the ball joint.

Standard value: 1.7 – 3.2 N·m (15 – 28 in-lb)

2. When the measured value exceeds the standard value, replace the stabilizer link.
3. When the measured value is lower than the standard value, check that the ball joint turns smoothly without excessive play. If so, it is possible to re-use that ball joint.

STABILIZER LINK BALL JOINT DUST COVER
CHECK

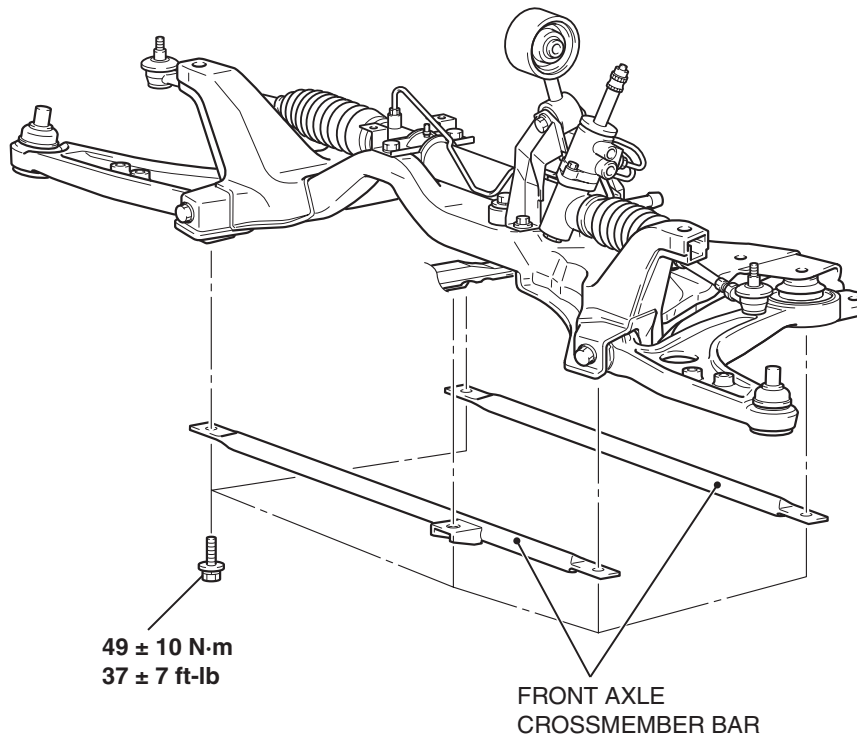
1. Check the dust cover for cracks or damage by pushing it with your finger.
2. If the dust cover is cracked or damaged, replace the stabilizer link.

NOTE: Cracks or damage of the dust cover may cause damage to the ball joint.

CROSSMEMBER BAR

REMOVAL AND INSTALLATION

M1332016100042



SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

M1332008500238

ITEM	SPECIFICATION
Front axle crossmember bar	
Front axle crossmember bar bolt	49 ± 10 N· m (37 ± 7 ft-lb)
Lower arm assembly	
Lower arm to crossmember connection bolt (Rear)	167 ± 9 N· m (123 ± 7 ft-lb)
Lower arm to crossmember connection bolt (Front)	186 ± 10 N· m (138 ± 7 ft-lb)
Lower arm to knuckle connection nut	108 ± 10 N· m (80 ± 7 ft-lb)
Stabilizer bar bracket bolt	39 ± 5 N· m (29 ± 3 ft-lb)
Stabilizer bar	
Crossmember to body connection bolt and nut	167 ± 9 N· m (123 ± 7 ft-lb)
Crossmember bolt	49 ± 10 N· m (37 ± 7 ft-lb)
Rear roll stopper connection nut	52 ± 7 N· m (39 ± 5 ft-lb)
Stabilizer bar bracket bolt	39 ± 5 N· m (29 ± 3 ft-lb)
Stabilizer link bolt	39 ± 5 N· m (29 ± 3 ft-lb)
Stabilizer bracket bolt	21 ± 4 N· m (16 ± 2 ft-lb)
Steering gear and joint connecting bolt	18 ± 2 N· m (13 ± 2 ft-lb)

ITEM	SPECIFICATION
Steering shaft cover bolt	5.0 ± 1.0 N· m (44 \pm 9 in-lb)
Lower arm to knuckle connection nut	108 ± 10 N· m (80 \pm 7 ft-lb)
Tie rod end to knuckle connection nut	25 ± 5 N· m (19 \pm 3 ft-lb)
Strut assembly	
Strut nut (jam nut)	60 ± 10 N· m (45 \pm 7 ft-lb)
Strut assembly to body connection nut	44 ± 5 N· m (33 \pm 3 ft-lb)
Strut assembly to knuckle connection nut	167 ± 9 N· m (123 \pm 7 ft-lb)

GENERAL SPECIFICATIONS

M1332000200255

COIL SPRING

ITEM	RS	GSR
Wire diameter mm (in)	14 (0.6)	14 (0.6)
Average diameter mm (in)	155 (6.1)	155 (6.1)
Free length mm (in)	281 (11.1)	286 (11.3)

SERVICE SPECIFICATIONS

M1332000300304

ITEM		SPECIFICATION
Toe-in mm (in)		0 ± 2 (0 \pm 0.08)
Steering angle	Inner wheel	$31^{\circ} 45' \pm 1^{\circ} 30'$
	Outer wheel (reference)	$27^{\circ} 15'$
Camber (selectable from 2 options)		$-1^{\circ} 00' \pm 0^{\circ} 30'$ or $-2^{\circ} 00' \pm 0^{\circ} 30'$ (Left/right deviation within 30')
Caster		$3^{\circ} 55' \pm 0^{\circ} 30'$ (Left/right deviation within 30')
Kingpin inclination		$13^{\circ} 45' \pm 1^{\circ} 30'$
Lower arm ball joint breakaway torque N· m (in-lb)		0.5 – 3.4 (4.4 – 30.1)
Lower arm pillow ball bushing breakaway torque N· m (in-lb)		0.5 – 3.0 (4.4 – 26.6)
Stabilizer link ball joint turning torque N· m (in-lb)		1.7 – 3.2 (15 – 28)