

## GROUP 8

# REFERENCE MATERIAL

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# BOLTED PANEL FIT AND ADJUSTMENT

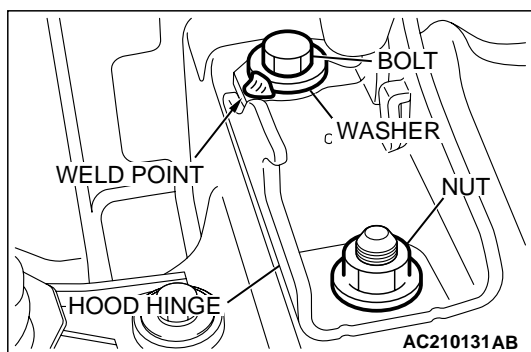
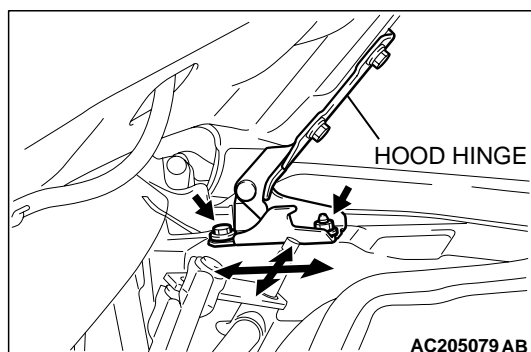
## HOOD

M4080005000134

### ADJUSTMENT OF CLEARANCE AROUND HOOD

Detach the front deck garnish. Then loosen the hood hinge mounting nuts and bolts as shown, and adjust the hood by moving it until the clearance around it is even.

**Hood hinge mounting nut and bolt tightening torque:**  
 $12 \pm 2 \text{ N}\cdot\text{m}$  ( $102 \pm 22 \text{ in}\cdot\text{lb}$ )



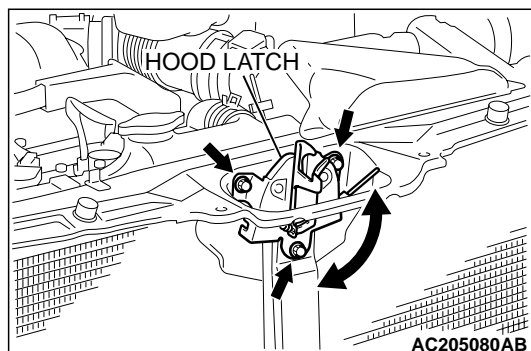
**NOTE:** If the hood hinge mounting bolt washers are welded, grind off the welding according to the procedure below beforehand.

1. Remove the hood hinge.
2. Use a chisel or grinder to release the hood hinge mounting bolt washer, which is welded to the hood hinge.
3. On completion, paint the affected area with a suitable touch-up brush to prevent corrosion.
4. Install the hood hinge.

### ALIGNMENT OF HOOD LATCH AND STRIKER

Note the routing of the hood release cable, and then loosen the hood latch mounting bolts. Then align the latch with the striker by moving the hood latch. After alignment, ensure that the hood can be locked and unlocked correctly.

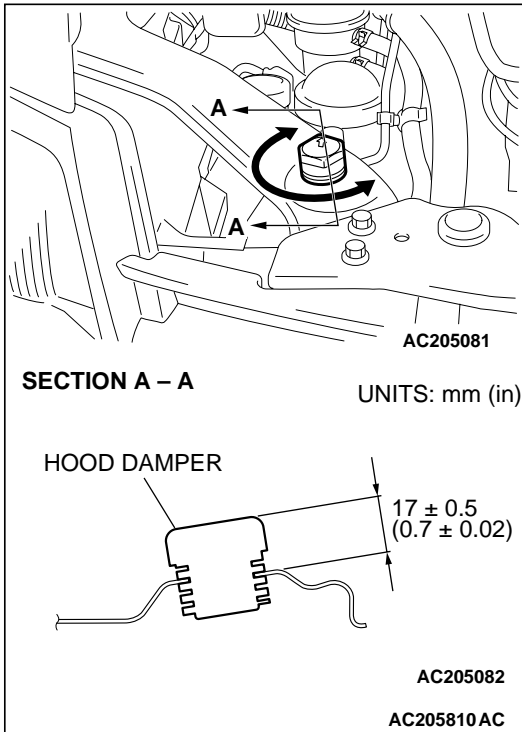
**Hood latch mounting bolt tightening torque:**  $9 \pm 2 \text{ N}\cdot\text{m}$   
( $80 \pm 17 \text{ in}\cdot\text{lb}$ )



## ADJUSTMENT OF HOOD HEIGHT

Turn the hood dumper until its height is as shown. If the hood height is still not even at the left and right sides, turn the hood dumper further until the hood height is even.

**NOTE:** Turning a new hood dumper one full turn will increase/decrease the hood height by approximately 3 mm (0.1 inch).



## DOOR

M4080006000160

## ADJUSTMENT OF DOOR FIT

### Required Special Tools:

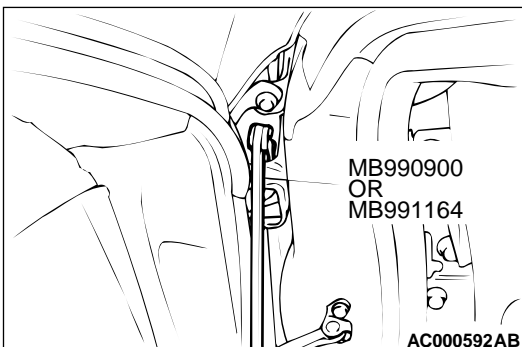
- MB990211: Slide Hammer
- MB990243: Body Puller
- MB990900 or MB991164: Door adjusting Wrench
- MB990939: Brass Bar

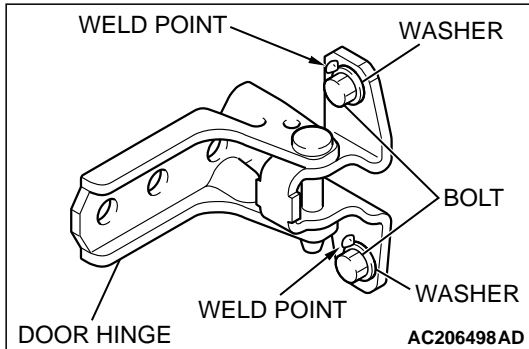
### ⚠ CAUTION

- Attach protection tape to the fender and door edges where the hinge is installed.
- Do not rotate special tool MB991164 with a torque of over 98 N·m (72 ft-lb).

1. Use special tool MB990900 or MB991164 to loosen the hinge mounting bolts on the body side, and then adjust the clearance around the door so that it is uniform on all sides.

**Door hinge mounting bolt tightening torque: 27 ± 5 N·m (20 ± 4 ft-lb)**



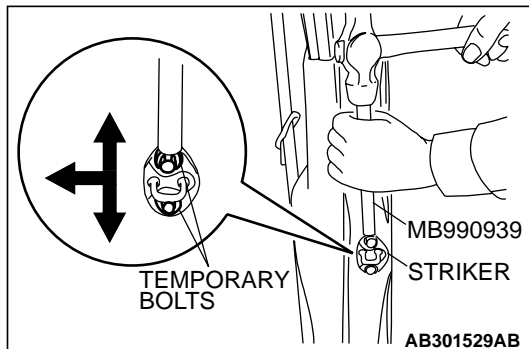


2. If a door is not flush with its surrounding panels, loosen the door-side door hinge mounting bolts and adjust the door as necessary.

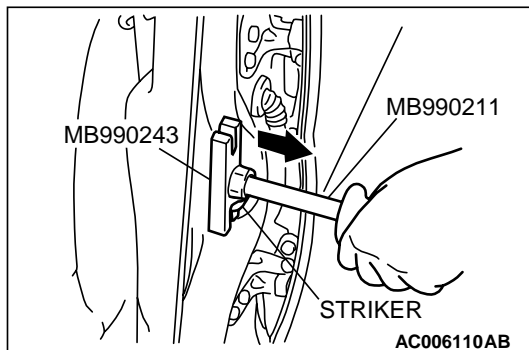
**Door hinge mounting bolt body side tightening torque:  $21 \pm 4 \text{ N}\cdot\text{m}$  ( $16 \pm 2 \text{ ft}\cdot\text{lb}$ )**

*NOTE: If the door hinge mounting bolt washers are welded, grind off the welding according to the procedure below beforehand.*

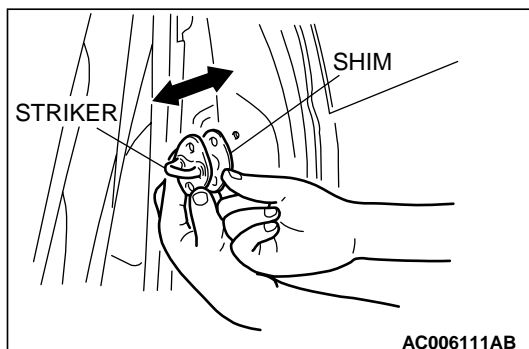
- a. Remove the door hinge.
- b. Use a chisel or grinder to release the door hinge mounting bolt washers, which is welded to the door hinge.
- c. On completion, paint the affected area with touch-up paint to prevent corrosion.
- d. Install the door hinge.



3. If the door is stiff to lock and unlock:
- (1) Adjustment by using the striker (toward the inside of the vehicle and vertical direction)  
 Install an temporary bolts instead of the striker mounting bolt, and use special tool MB990939 and a hammer to tap the bolt in the desired direction.



- (2) Adjustment by using the striker (toward the outside of the vehicle)  
 Use special tools MB990211 and MB990243 to pull the striker toward the outside of the vehicle.



- (3) Adjustment by using shims (forward and rearward)  
 Increase or decrease the number of shims so that the striker engages with the door latch properly.

**Door striker mounting bolt door side tightening torque:  $24 \pm 3 \text{ N}\cdot\text{m}$  ( $18 \pm 2 \text{ ft}\cdot\text{lb}$ )**

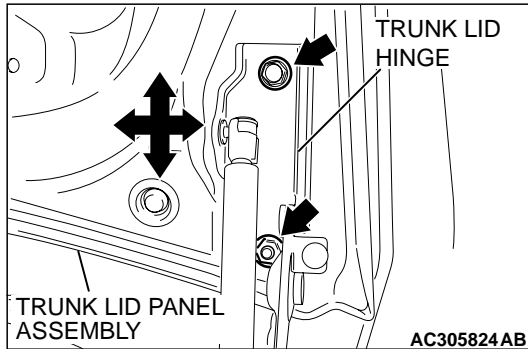
## TRUNK LID

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### ADJUSTMENT OF CLEARANCE AROUND TRUNK LID

Loosen the trunk lid hinge mounting bolt and nut, and move the trunk lid panel assembly to make the clearance around the trunk lid uniform.

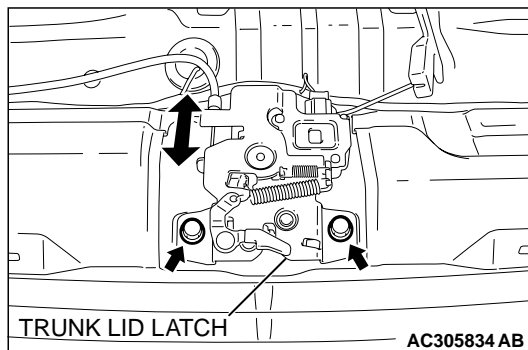
**Trunk lid hinge mounting bolt and nut tightening torque:  $13 \pm 2$  N·m ( $111 \pm 22$  in-lb)**



### TRUNK LID LATCH ADJUSTMENT

After checking the trunk lid release cable for proper routing, loosen the trunk lid latch mounting bolts. Change the position of the trunk lid latch relative to the trunk lid striker so that trunk lid locking and unlocking effort is correct.

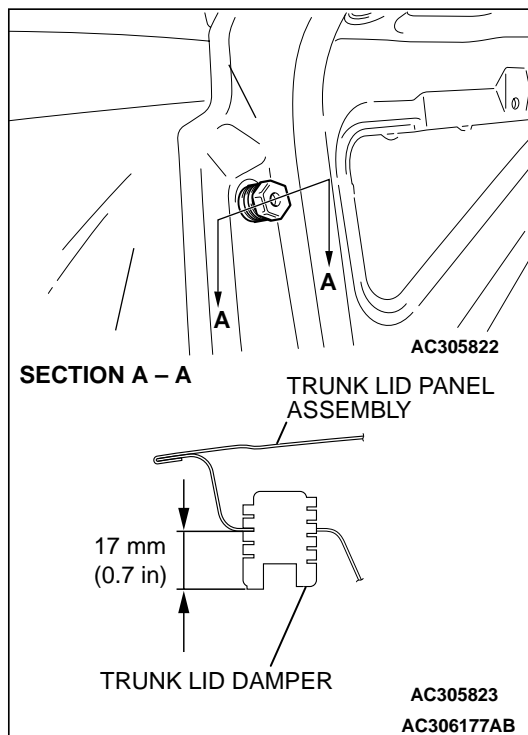
**Trunk lid latch mounting bolt tightening torque:  $9.0 \pm 2.0$  N·m ( $80 \pm 17$  in-lb)**



### TRUNK LID HEIGHT ADJUSTMENT

Turn each trunk lid dumper until the height shown in the drawing is reached. If the trunk lid panel height on one side is different from that on the other side (even after the trunk lid dumpers have been adjusted to the height indicated in the drawing), turn the trunk lid dumper(s) slightly to make fine adjustments to the trunk lid panel height

*NOTE: When the dumper is new, one full turn of the trunk lid dumper changes the height approximately 3 mm (0.1 inch). Turn it clockwise to reduce height. Turn it counterclockwise to increase height*

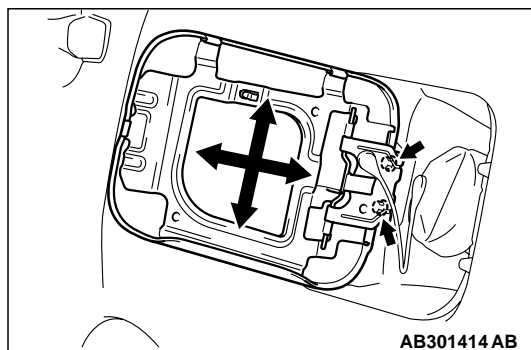


**FUEL FILLER LID**

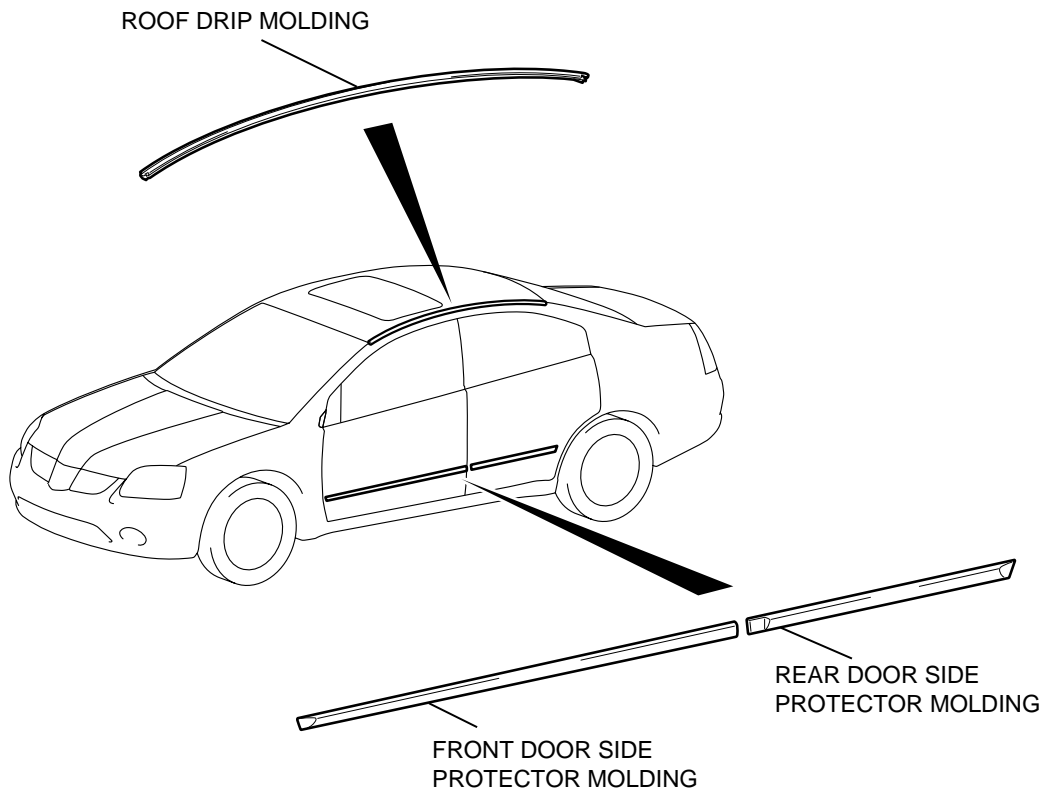
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**ADJUSTMENT OF FUEL FILLER LID FIT**

If the leveling and clearance of the fuel filler lid is uneven, loosen the fuel filler lid mounting bolt, then move and adjust the fuel filler lid.

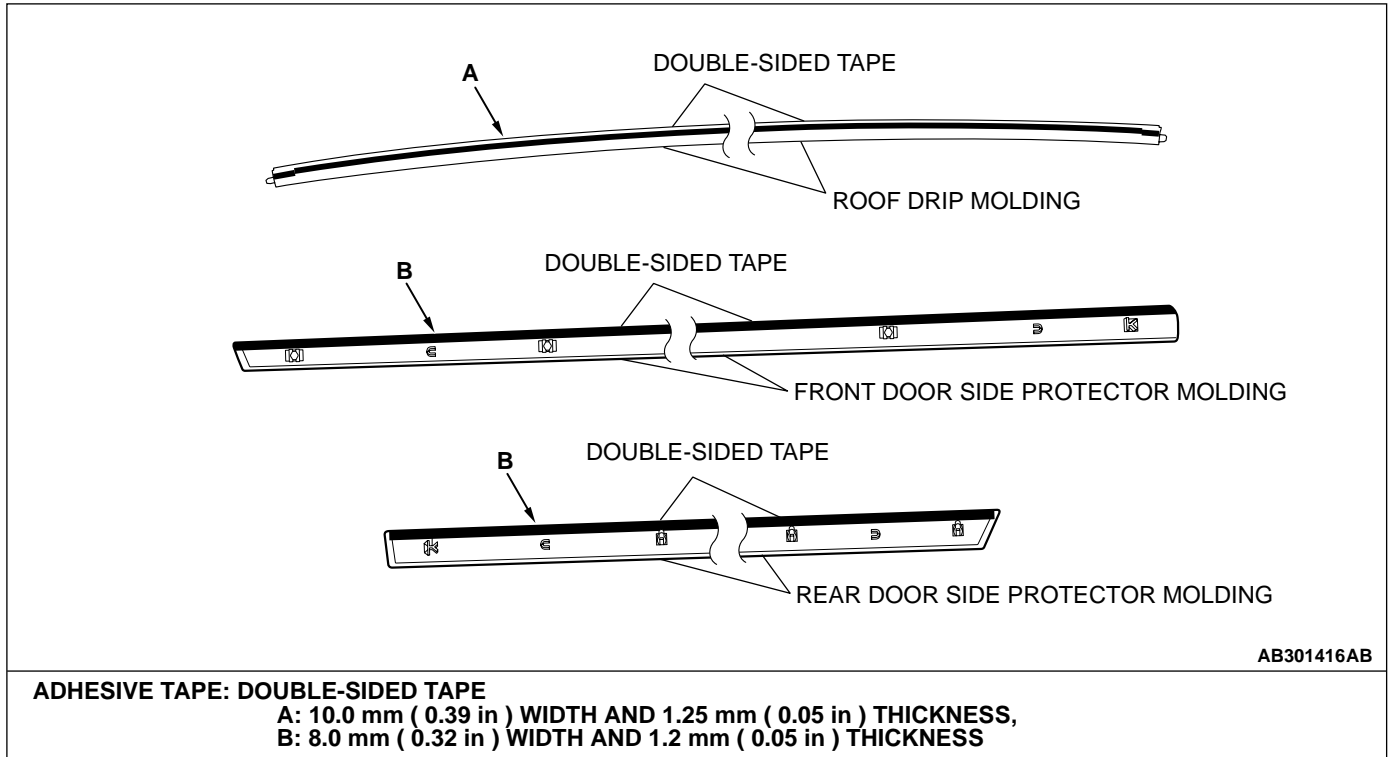
**INSTALLATION AND REMOVAL OF ADHESIVE COMPONENTS****MOLDING**

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## ADHESIVE TAPE POSITION



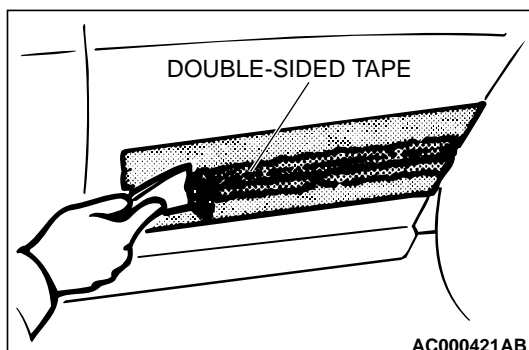
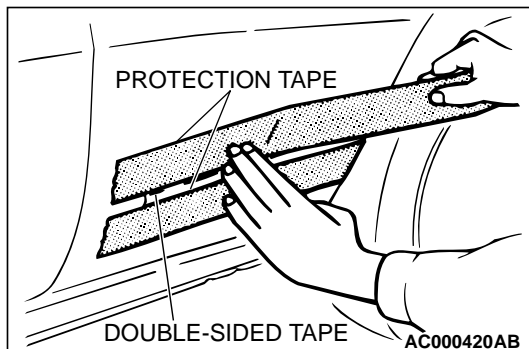
## REMOVAL SERVICE POINTS

### SIDE PROTECTOR MOLDING REMOVAL

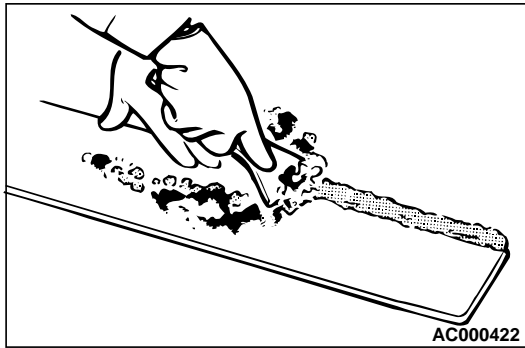
Gently lift and remove the side protector molding. If there is any double-sided tape remaining on the side protector molding, remove according to the following instructions.

**<Remove double-sided tape remaining on the body surface>**

1. Attach protection tape all the way along the edges of the double-sided tape which is still adhering to the body.



2. Scrape off the double-sided tape with a resin spatula as possible.
3. Peel off the protection tape.
4. Use a shop towel moistened with 3M™ AAD Part number 8906 or equivalent to wipe the body.



**<Remove double-sided tape remaining on SIDE PROTECTOR MOLDING and adhere double-sided tape (when re-using SIDE PROTECTOR MOLDING)>**

1. Scrape off the double-sided tape on the side protector molding with a resin spatula as possible.
2. Use a shop towel moistened with 3M™ AAD Part number 8906 or equivalent to wipe the side protector molding surface.
3. Remove only a small portion of the residual adhesive.
4. Adhere the double-sided tape as specified on the side protector molding.

### ROOF DRIP MOLDING REMOVAL

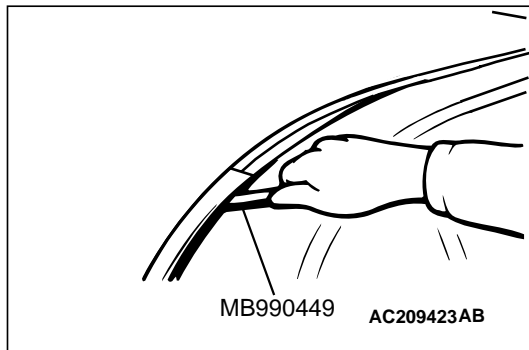
**Required Special Tool:**

- MB990449: Window Molding Remover

#### **⚠ CAUTION**

**If the molding has become warped, it should not be reused.**

Use special tool MB990449 to pry out the molding.



### INSTALLATION SERVICE POINT

#### **SIDE PROTECTOR MOLDING INSTALLATION.**

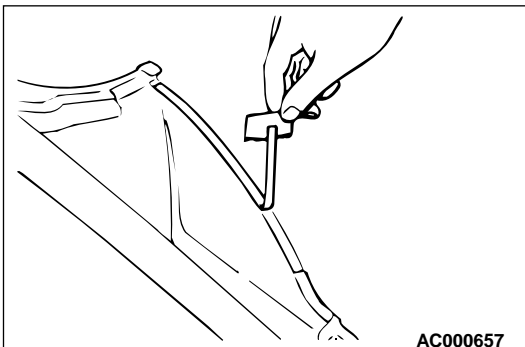
1. Tear off the double-sided tape backing paper.

*NOTE: If you attach the adhesive tape to the edge of the backing paper, it will be easy to tear off.*

2. Install the side protector molding.

*NOTE: If the double-sided tape is difficult to affix in cold temperature, etc., warm the bonding surfaces of the body and side protector molding to about 40 – 60 °C (104 – 140 °F) before affixing the tape.*

3. Firmly press in the side protector molding.





## ADJUSTMENT OF OTHER PARTS

### FRONT WHEEL ALIGNMENT

M4080009000136

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

#### TOE-IN

**Standard value:  $0 \pm 3$  mm ( $0 \pm 0.12$  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:  $52 \pm 2$  N·m ( $38 \pm 2$  ft-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.

#### STEERING ANGLE

**Standard value:**

ITEM	VEHICLES WITH 16-INCH WHEELS	VEHICLES WITH 17-INCH WHEELS
Inner wheel	$37^{\circ}12' \pm 2^{\circ}00'$	$33^{\circ}48' \pm 2^{\circ}00'$
Outer wheel (reference)	$30^{\circ}18'$	$28^{\circ}18'$

### CAMBER, CASTER AND KINGPIN INCLINATION

#### Required Special Tool:

- MB991004: Wheel Alignment Gauge Attachment

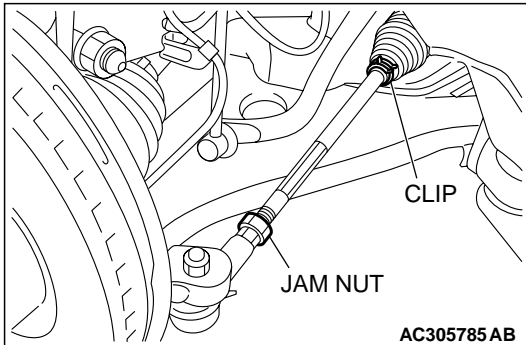
**Standard value:**

**Camber:  $0^{\circ} 00' \pm 30'$  (Left/right deviation within  $30'$ )**

**Caster:  $3^{\circ} 00' \pm 30'$  (Left/right deviation within  $30'$ )**

**Kingpin inclination:  $12^{\circ} 54' \pm 1^{\circ} 30'$**

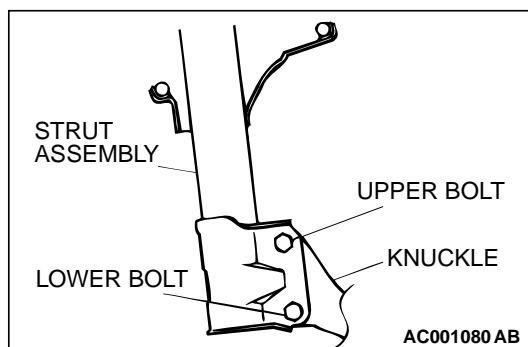
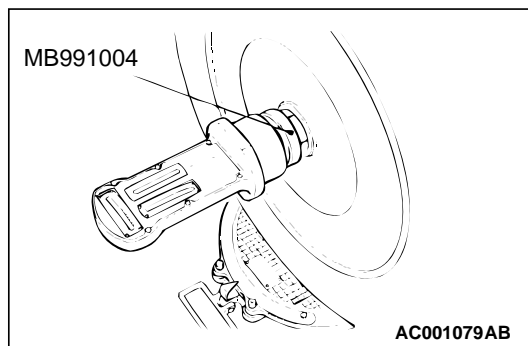
*NOTE: Caster are preset at the factory and cannot be adjusted.*



**⚠ CAUTION**

Never subject the wheel bearings to the vehicle load when the drive shaft nuts are loosened.

*NOTE: Attach the camber/caster/kingpin gauge to the drive-shaft by using special tool MB991004. Tighten special tool MB991004 to the same torque  $226 \pm 29$  N·m ( $167 \pm 21$  ft-lb) as the drive shaft nut.*



If the camber is outside of the standard value, perform the following adjustment procedures.

1. Estimate how much additional camber adjustment is required. Using the table below, select the camber adjusting bolt, and then replace the knuckle and strut assembly connection bolts (upper bolt, lower bolt) with the selected bolts.

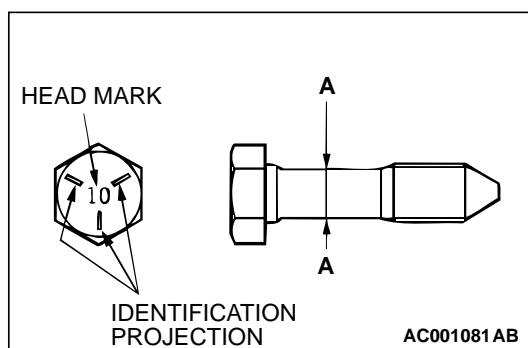
BOLT DIAMETER mm (in)		CAMBER ADJUSTING VALUE					
		0°15'	0°30'	0°45'	1°00'	1°15'	1°30'
Upper bolt	16.0 (0.63)	•	•				
	14.9 (0.59)			•	•		
	14.1 (0.56)					•	
	13.6 (0.54)						•
Lower bolt	16.0 (0.63)	•					
	14.9 (0.59)		•	•			
	14.1 (0.56)				•	•	
	13.6 (0.54)						•

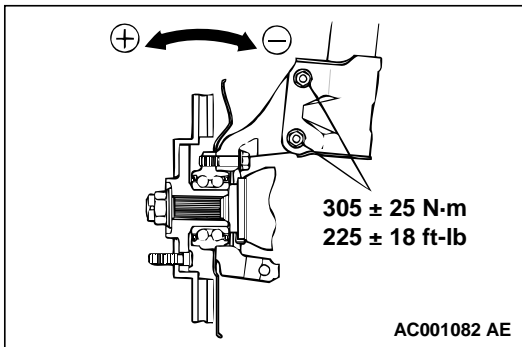
*NOTE: If the camber adjusting value that is required is greater than 1°30', check for bent or damaged parts and replace as necessary.*

Bolts are identified in the following table:

DIAMETER A mm (in)		NUMBER OF IDENTIFICATION PROJECTION
Set bolt	16.0 (0.63)	
Adjusting bolt	14.9 (0.59)	1
	14.1 (0.59)	2
	13.6 (0.54)	3

*NOTE: Set bolt is the bolt installed at factory. "10" embossed on bolt head is head mark.*





2. Tighten the nuts temporarily, and then pull or push the front axle to adjust the camber.
- NOTE: Pulling the upper side of the front axle to the outside of the vehicle will increase the camber. Pushing it to the inside of the vehicle will decrease the camber.*
3. Tighten the nuts to  $305 \pm 25$  N·m ( $225 \pm 18$  ft-lb).
  4. Recheck the camber.

## REAR WHEEL ALIGNMENT

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Measure wheel alignment with an alignment equipment on level ground.

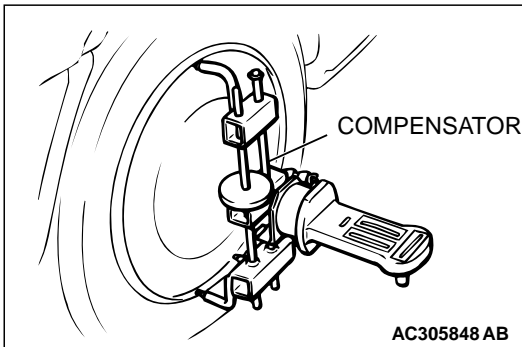
The rear suspension and tires should be serviced to the normal condition prior to wheel alignment measurement.

### CAMBER

**Standard value:**

**– 0° 50' ± 30' (Left/right deviation within 30')**

*NOTE: For vehicles with aluminum wheels, attach the camber/caster/kingpin gauge by using a compensator.*



### TOE-IN

**Standard value:  $3 \pm 3$  mm ( $0.12 \pm 0.12$  inch)**

If camber and/or toe-in is not within the standard value, adjust by following procedures.

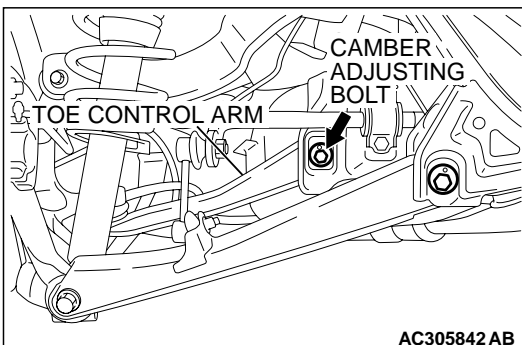
#### **CAUTION**

- When adjusting the camber, the arms other than the toe control arm should be tightened.
- After adjusting the camber, be sure to adjust the toe.

1. Carry out camber adjustment by turning the camber adjusting bolt.

**NOTE:**

- LH: Clockwise viewed from the rear → (–) camber
- RH: Clockwise viewed from the rear → (+) camber
- If either of camber or toe is adjusted, both should fluctuate. For the relationship between the two, refer to CAMBER AND TOE REFERENCE TABLE.



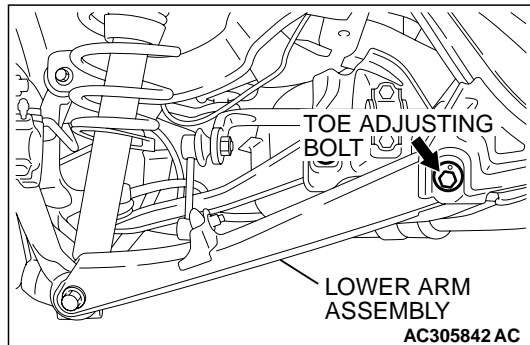
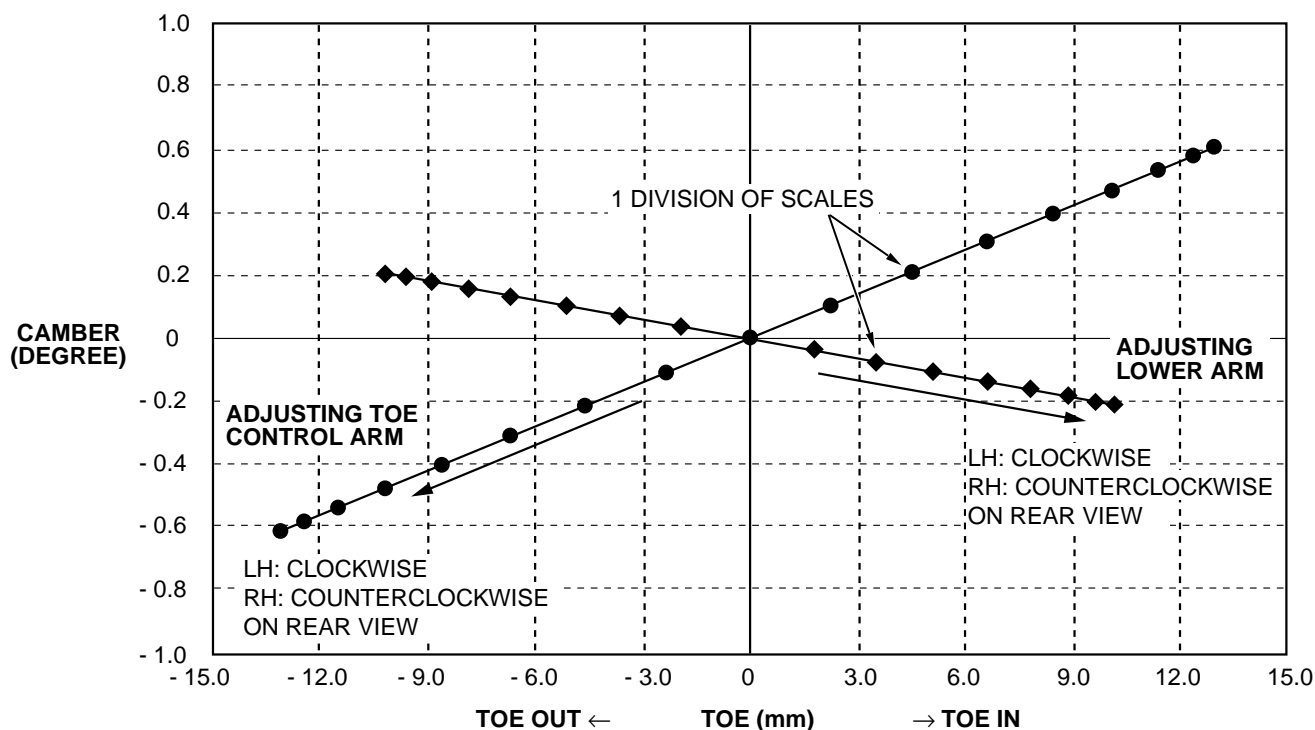
**⚠ CAUTION**

When adjusting the toe, tighten the toe control arm and the trailing arm assembly, not the lower arm assembly.

2. Carry out toe adjustment by turning the toe adjusting bolt.

**NOTE:**

- LH: Clockwise viewed from the rear → Toe-in
- RH: Clockwise viewed from the rear → Toe-out
- If either of camber or toe is adjusted, both should fluctuate. For the relationship between the two, refer to CAMBER AND TOE REFERENCE TABLE.

**CAMBER AND TOE REFERENCE TABLE**

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**HEADLIGHT AIMING**

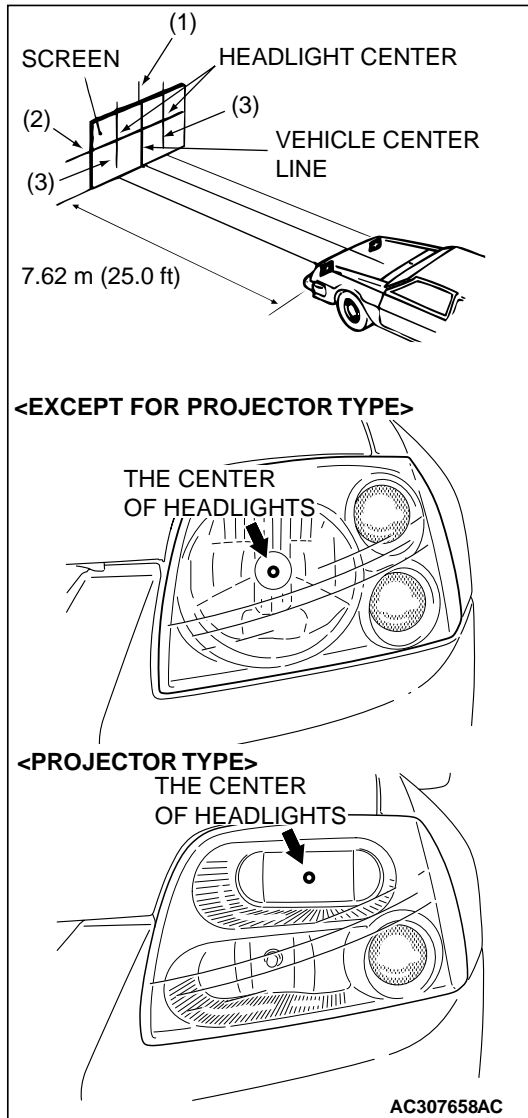
M4080011000144

**PRE-AIMING INSTRUCTIONS**

1. Inspect for badly rusted or faulty headlight assemblies.
2. These conditions must be corrected before a satisfactory adjustment can be made.
3. Inspect tire inflation, and adjust if it is necessary.
4. If the fuel tank is not full, place a weight in the trunk of the vehicle to simulate weight of a full tank [3 kg (6.5 pounds) per gallon].

5. There should be no other load in the vehicle other than driver or substituted weight of approximately 70 kg (150 pounds) placed in driver's position.
6. Thoroughly clean headlight lenses.
7. Place the vehicle on a level floor, perpendicular to a flat screen 7.62 m (25.0 feet) away from the bulb center-marks on the headlight lens.
8. Rock vehicle sideways to allow vehicle to assume its normal position.
9. Bounce the front suspension through three (3) oscillations by applying the body weight to hood or bumper.
10. Set the distance between the screen and the bulb center marks of the headlight as shown in the illustration.
11. Four lines of adhesive tape (or equivalent markings) are required on screen or wall:

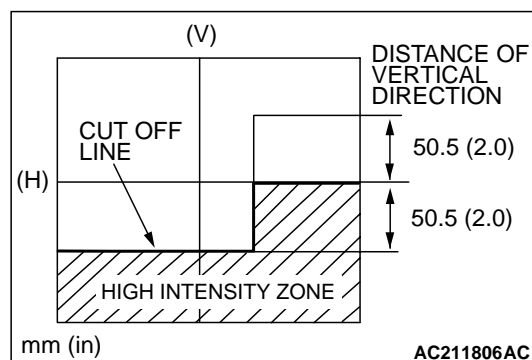
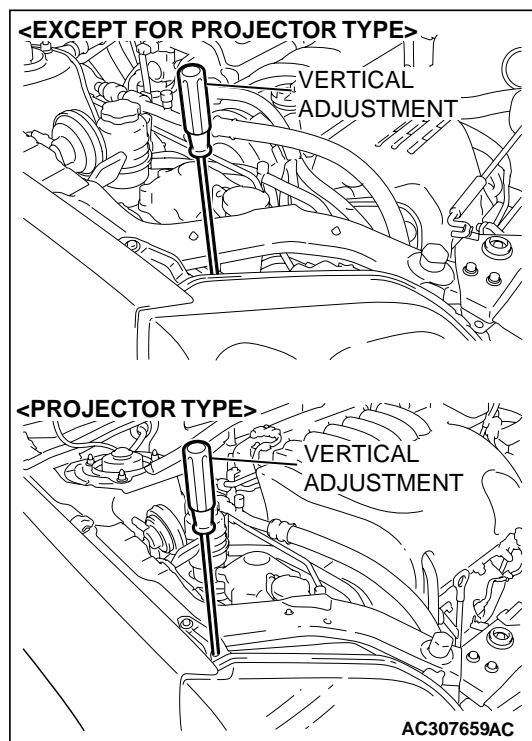
- (1) Position a vertical tape or mark so that it is aligned with the vehicle center line.
- (2) Measure the distance from the center-marks on the headlight lens to the floor [ (reference value: 675 mm (26.6 inches) <except for projector type>, 732 mm (28.8 inches) <projector type>]. Transfer the measurement to the screen. Horizontal tape or mark on the screen is for reference of vertical adjustment.
- (3) Measure the distance from the center line of the vehicle to the center of each headlight. Transfer the measurement to the screen. Vertical tape or mark on the screen with reference to the center line of each headlight bulb.



## HEADLIGHT ADJUSTMENT

*NOTE: When adjusting headlight, disconnect the other headlight harness.*

1. The low beam headlight will project on the screen upper edge of the beam (cut-off).
2. Turn the adjusting screws to achieve the specified low-beam cut-off location on the aiming screen.



**Standard value:**

**(Vertical direction) Horizontal center line  $\pm 50.5$  mm ( $\pm 2.0$  inches) (0.38 degrees angle)**

**CAUTION**

**Do not cover a headlight for more than three minutes to prevent the plastic headlight lens deformation.**

*NOTE: There is no horizontal aim adjustment. Horizontal aim is preset and does not require adjustment. High-beam pattern should be correct when the low-beams are adjusted properly.*

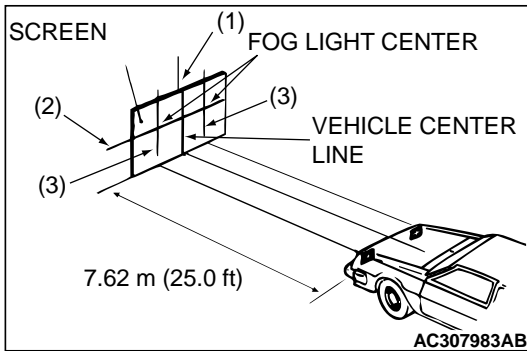
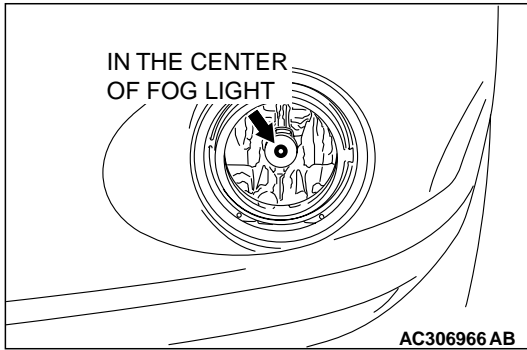
## FOG LIGHT AIMING

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## PRE-AIMING INSTRUCTIONS

1. Inspect for badly rusted or faulty fog light assemblies.
2. These conditions must be corrected before a satisfactory adjustment can be made.
3. Inspect tire inflation, and adjust if necessary.
4. If the fuel tank is not full, place a weight in the trunk of the vehicle to simulate weight of a full tank [3 kg (6.5 pounds) per gallon].
5. There should be no other load in the vehicle other than driver or substituted weight of approximately 70 kg (150 pounds) placed in driver's position.

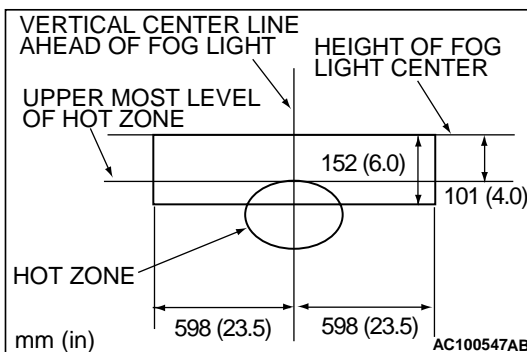
6. Thoroughly clean the fog light lenses.
7. Place the vehicle on a level floor, perpendicular to a flat screen 7.62 meters (25.0 feet) away from the bulb center-marks on the foglight lens.
8. Rock the vehicle sideways to allow the vehicle to assume its normal position.
9. Bounce the front suspension through three (3) oscillations by applying the body weight to the hood or bumper.
10. Measure the center of the fog lights as shown in the illustration.

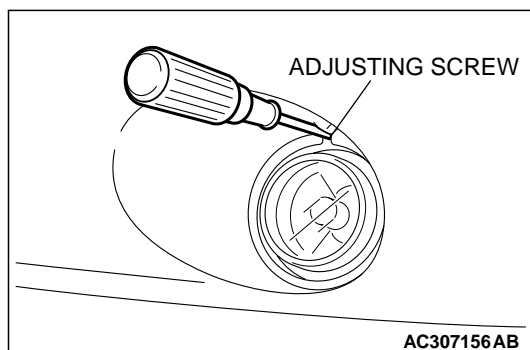


11. Four lines of adhesive tape (or equivalent markings) are required on screen or wall:
  - (1) Position a vertical tape or mark so that it is aligned with the vehicle center line.
  - (2) Measure the distance from the center of the fog light lens to the floor. Transfer the measurement to the screen. Horizontal tape or mark on the screen is for reference of vertical adjustment.
  - (3) Measure the distance from the center line of the vehicle to the center of each fog light. Transfer the measurement to the screen. Vertical tape or mark on the screen is for reference to the center line of each fog light.

## FOG LIGHT ADJUSTMENT

1. Check if the beam shining onto the screen is at the standard value.





2. If it is not within the standard value range, adjust by turning the adjusting screw.

**Standard value:**

(Vertical direction): Top of the hot zone should be 101 mm (4.0 inches) (0.76 degrees angle) downward from the height of the fog light center.

**Limit:**

(Vertical direction): Top of the hot zone should be 152mm (6.0 inches) (1.14 degrees angle) in maximum downward from the height of the fog light center.

*NOTE: The horizontal direction is non-adjustable. If deviation of the light beam axis exceeds the standard value, check that the mounting location or some other points are not faulty.*

## SUPPLEMENTAL RESTRAINT SYSTEM (SRS) - AIR BAG

M4080016000105

**⚠ WARNING**

- *Improper service maintenance of any SRS air bag can lead to unintended operations of the SRS system or serious injury.*
- *If heat damage occurs during paint work, remove the SRS-ECU, the air bag modules, the clock spring, front seats, and the seat belt with pre-tensioner.*
  - *SRS-ECU, air bag module, clock spring: 93°C (200°F) or more*
  - *Seat belt with pre-tensioner: 90°C (194°F) or more*
- *Service or maintenance of any SRS air bag components or related components must be performed only at an authorized MITSUBISHI dealer.*
- *Before beginning service or maintenance of any SRS air bag components or related components, MITSUBISHI dealer personnel must thoroughly review the Service Manual (especially GROUP 52B - SRS AIR BAG).*