

SERVICE MANUAL

SERVICE MANUAL SECTION

HOOD, GRILLE, FENDERS, AND BUMPER - PROSTAR™

Model: PROSTAR™

S09011

04/02/2008

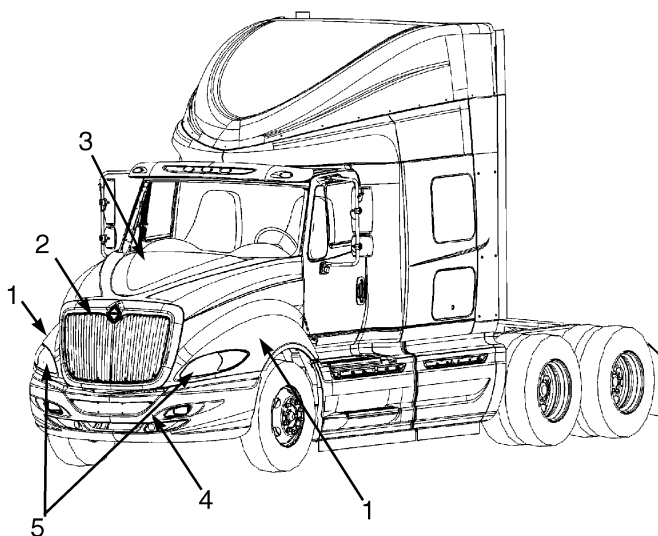
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1. DESCRIPTION



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- | | |
|--------------------------|-------------------------|
| 1. FRONT FENDERS | 4. TILT-AWAY BUMPER |
| 2. GRILLE AND BUG SCREEN | 5. HEADLIGHT ASSEMBLIES |
| 3. HOOD ASSEMBLY | |

Figure 1 Component Locations

1.1. TILT-AWAY BUMPER

The ProStar™ features a unique, patented, service-friendly tilt-away bumper, which gives mechanics and drivers the ability to stand next to the engine without leaning over, or climbing over, the bumper. The tilt-away bumper also provides extra room for the mechanic who desires to roll under the front corner of the truck on a creeper. The tilt-away bumper rotates on two hinges and is quickly activated by releasing two hand-operated latches.

1.2. GRILLE AND BUG SCREEN

The grille is a one-piece, chrome, injection-molded assembly that is secured to the hood using four screws and six insert tabs. A front end bug screen helps protect the radiator from damage or blockage caused by insects and other small pieces of road debris. The bug screen is fitted to the back side of the grille and is removed with the grille.

1.3. HOOD ASSEMBLY

The front end consists of the front fenders, made of high impact fiber-reinforced plastic, and the hood, made of high-strength composite. The hood is designed with three exterior panels to aid in the ease of repair, if needed, a panel can be replaced instead of the entire hood. The hood is mounted with a three-point design to minimize stress on the hood.

1.4. HOOD TILT ASSIST

The hood tilt assist system consists of a torsion bar spring system and a tilt assist cylinder which aid in the opening and closing of the hood. Only 30 pounds (approximately) of force is necessary to open the hood.

1.5. HOOD SEAL

The hood seal on the ProStar™ is a two-piece seal. The hood seal is located on the leading edge of the cowl tray. The cowl tray is mounted to the upper, front, cab engine wall, below the windshield. The hood seal forms a seal between the hood section and the cowl tray.

1.6. SPLASH SHIELDS

Under-hood, front wheel splash shields protect the hood, engine, and headlight assemblies from splash and road debris. The front wheel driver-side and passenger-side splash panels are attached to the hood. Splash panels automatically flip up with the hood for easy engine compartment access.

1.7. AIR INTAKE

On the ProStar™, air is taken in at the vent located at the rear of the hood, below the windshield. The intake air is routed through molded duct work bonded to the underside of the hood assembly and routed to the air cleaner.

1.8. FENDER

Fenders are part of the seven-piece bonded hood assembly on the ProStar™ truck. If damaged, the fenders can be individually replaced. The front of the fenders are molded to house the headlight assemblies.

1.9. FENDER EXTENSIONS

The fender extensions are part of the body splash protection system. The wheel well openings in the fender extensions have been designed to provide splash and spray protection. The fender extensions protect the lower front of the cab from splash and road debris kicked up by the front tires.

1.10. HEADLIGHT ASSEMBLY

The headlight assemblies are a one-piece wrap-around design with high-impact lens. The bulbs can easily be changed by twisting each bulb out of the sockets on the back side of the headlight assembly.

2. REMOVE AND INSTALL PROCEDURES



To prevent vehicle damage, personal injury, or possible death, park the vehicle on a flat, level surface. Make sure the engine ignition is in the off position and the transmission is in neutral or in the park position if the vehicle is equipped with an automatic transmission. Set the parking brake, chock the wheels, and disconnect the batteries at the negative terminal before doing any service procedures on the engine or vehicle.

NOTE – There is minimal clearance between the hood and tilt-away bumper when lowering or raising the tilt-away bumper. Note the location of the no hand hold decals to avoid pinching fingers.

IMPORTANT – Before performing any work on the hood or bumper components, be sure to perform these basic procedures:

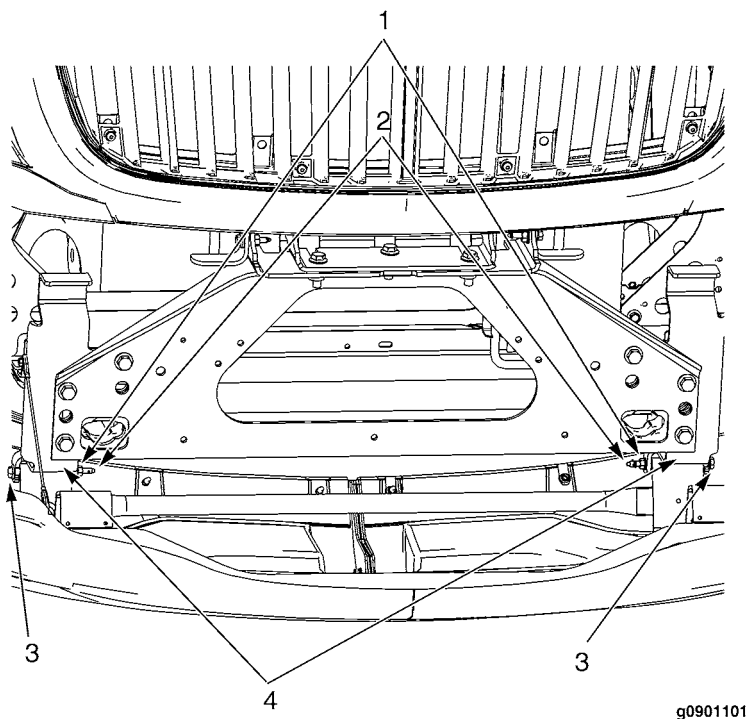
1. Park the chassis on a flat, level surface.
2. Place transmission in neutral (or park, if automatic transmission).
3. Set the parking brake.
4. Turn off ignition.
5. Install wheel chocks.
6. Disconnect the battery.

2.1. TILT-AWAY BUMPER

The two chassis hinge brackets are designed to aid the mechanic during removal and installation of the tilt-away bumper. The outside holes of the chassis hinge brackets are notched to allow the mount bolts to be partially removed from the tilt-away bumper mount hinges. Then, the tilt-away bumper can be removed from the chassis mount hinge brackets.

Tilt-Away Bumper – Removal

1. Unlatch and open the hood.
2. Release latches and lower the tilt-away bumper.
3. If equipped with fog lights, disconnect electrical connectors from fog lights.

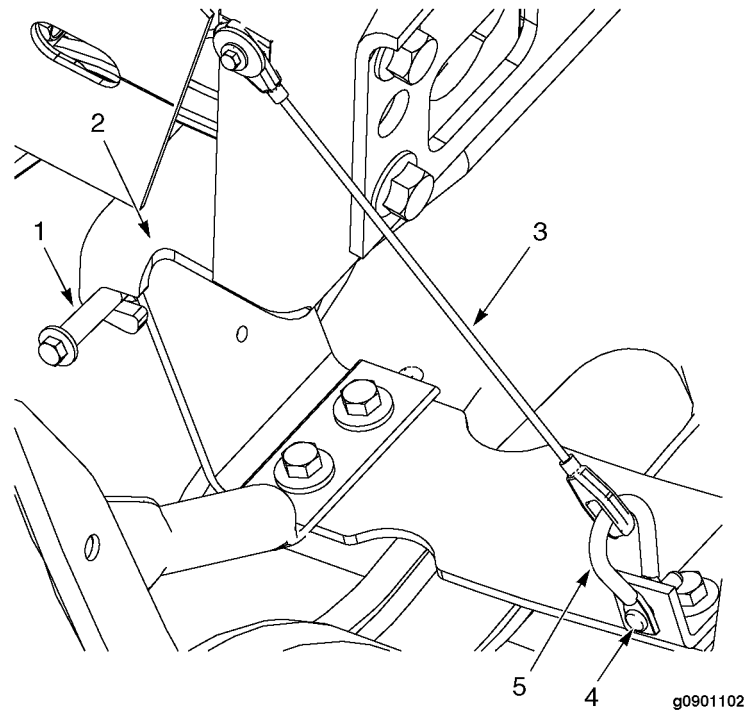


1. MOUNT NUTS
2. PINS

3. BUMPER HINGE BOLTS
4. CHASSIS HINGE BRACKETS

Figure 2 Bumper Hinge Bolts

4. Remove two pins and mount nuts from two bumper hinge bolts.

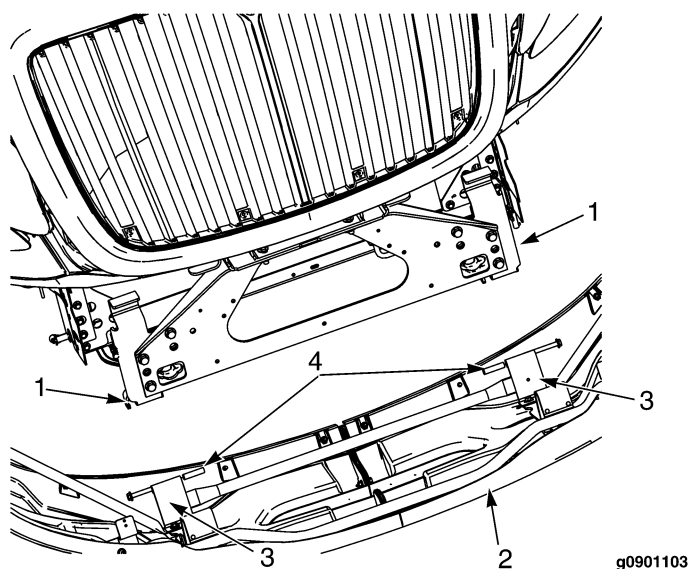


1. BUMPER HINGE BOLT
2. CHASSIS HINGE BRACKET
3. SUPPORT CABLE

4. CLEVIS PIN
5. CLEVIS

Figure 3 Support Cable

5. Slide two bumper hinge bolts out of two chassis hinge brackets far enough to clear the inside of the chassis hinge brackets.
6. Remove clevis pin from each clevis and disconnect two support cables.



- 1. CHASSIS HINGE BRACKETS
- 2. TILT-AWAY BUMPER

- 3. BUMPER HINGE BRACKETS
- 4. NYLON BUSHINGS

Figure 4 Tilt-Away Bumper

- 7. With the aid of an assistant, remove the tilt-away bumper from the chassis hinge brackets.
- 8. If replacing nylon bushings, remove them from the bumper hinge brackets.

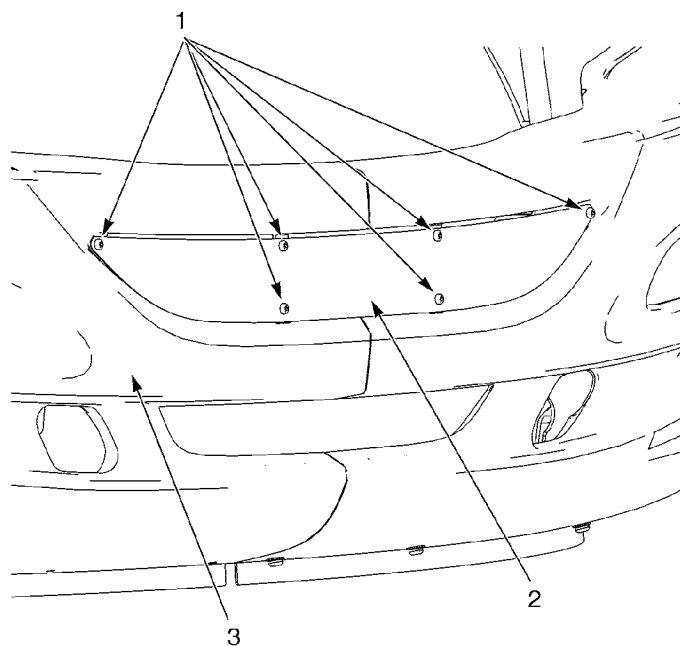
Tilt-Away Bumper – Installation

1. If replacing nylon bushings, insert new bushings into the bumper hinge brackets (Figure 4, Items 3 and 4).
2. Install two bumper hinge bolts into the bumper hinge brackets, making sure that the bolt heads are on the outside of the hinge brackets and the ends of the bolts are not protruding through the hinge brackets (Figure 4, Item 3).
3. With the aid of an assistant, install the tilt-away bumper on the chassis hinge brackets (Figure 4, Items 1 and 2).
4. Slightly lift each side of the tilt-away bumper to slide the mount bolts completely through the chassis hinge brackets.
5. Connect two support cables to the tilt-away bumper with a clevis and clevis pin on each side (Figure 3, Items 3, 4, and 5).
6. Install two locknuts on two bumper hinge bolts (Figure 2, Items 1 and 3). Torque bolts to 12 to 15 lbf-ft (16 to 20 N•m).
7. Install two pins through holes in two hinge bracket bolts (Figure 2, Items 2 and 3).
8. If equipped with fog lights, connect electrical connector to fog lights.
9. Raise the tilt-away bumper and secure latches.
10. Close and latch the hood.

2.2. BUMPER PANELS

Bumper Panel – Removal

1. Unlatch and open the hood.
2. Release latches and lower the tilt-away bumper.
3. If equipped with fog lights, disconnect electrical connectors from fog lights.
4. Remove two pins and locknuts from two bumper hinge bolts (Figure 2, Items 1, 2 and 3).
5. Slide two bumper hinge bolts out of two chassis hinge brackets far enough to clear the inside of the chassis hinge brackets (Figure 2, Items 2 and 3).
6. Remove clevis pin from each clevis and disconnect two support cables (Figure 3, Items 3, 4, and 5).
7. With the aid of an assistant, remove the tilt-away bumper from the chassis hinge brackets and position bumper on a solid work surface (Figure 4, Items 1 and 2).



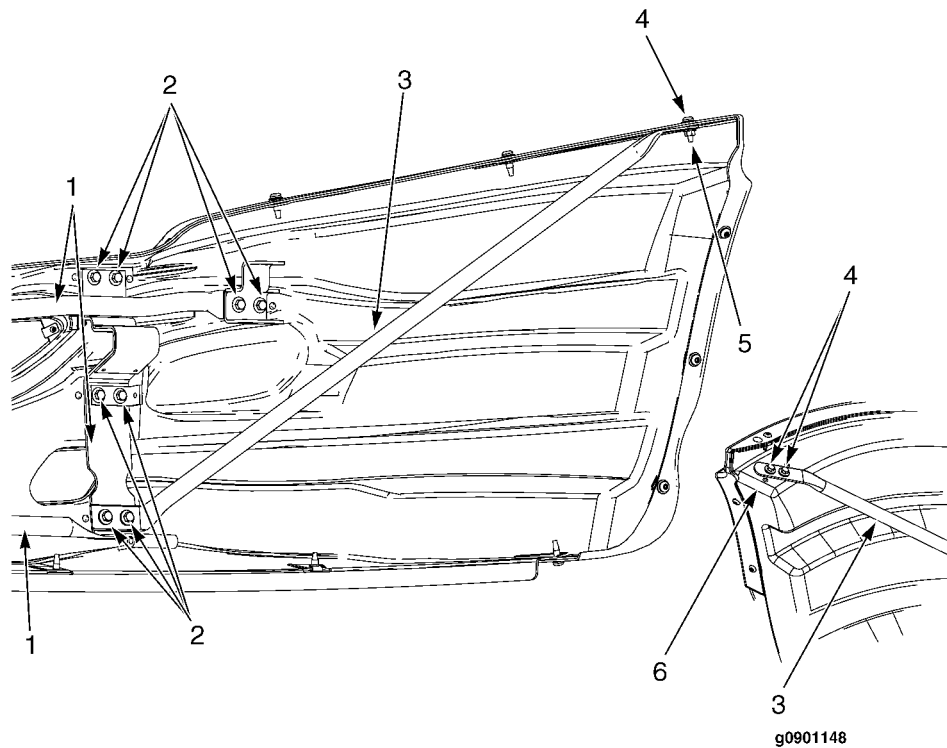
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1. SCREWS
2. BUMPER GRILLE

3. TILT-AWAY BUMPER

Figure 5 Bumper Grille

8. Remove six screws and bumper grille from tilt-away bumper.



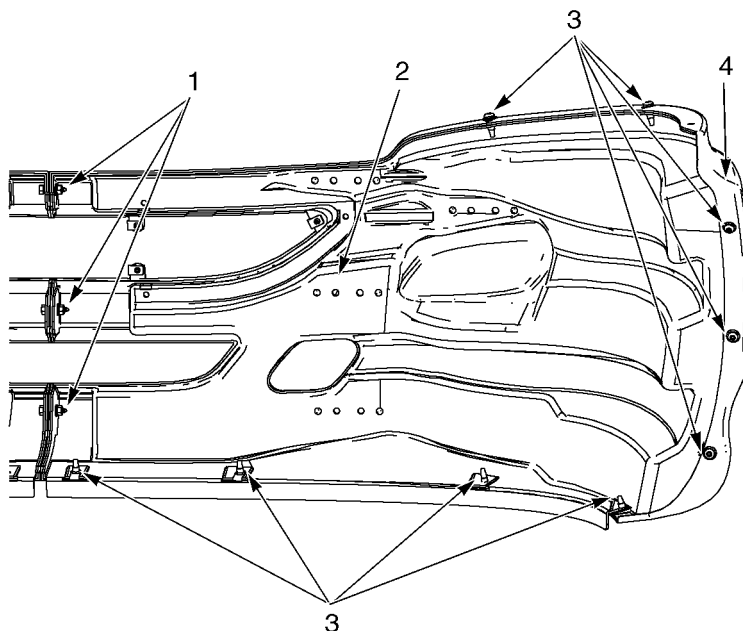
- 1. BUMPER FRAME
- 2. FRAME MOUNT BOLTS
- 3. SUPPORT TUBE
- 4. SUPPORT TUBE MOUNT BOLT

- 5. SUPPORT TUBE MOUNT NUT
- 6. BUMPER WITH CHROME PANELS

Figure 6 Bumper Frame

NOTE – If equipped with the chrome bumper, the support tube is secured to the bumper panel with an additional bolt that must be removed.

- 9. Remove eight bolts from each side of bumper frame.
- 10. Remove bumper frame from the tilt-away bumper.
- 11. Remove nut, bolt, and support tube from tilt-away bumper. To remove the support tube from the bumper with chrome panels, remove two bolts and support tube from tilt-away bumper.



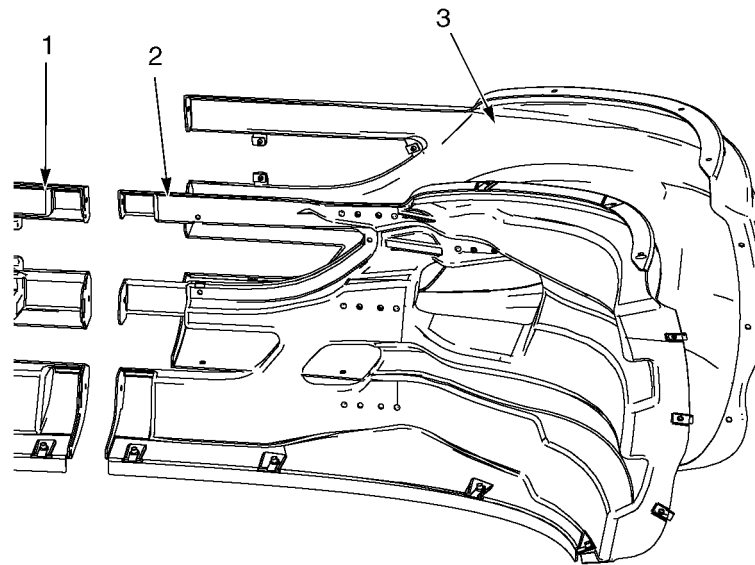
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- 1. PANEL MOUNT NUTS AND BOLTS
- 2. INNER PANEL

- 3. PANEL MOUNT SCREWS
- 4. OUTER PANEL

Figure 7 Bumper Panel Attachments

- 12. Remove nine screws from bumper panels.
- 13. Remove three nuts and bolts from the center of bumper panels.



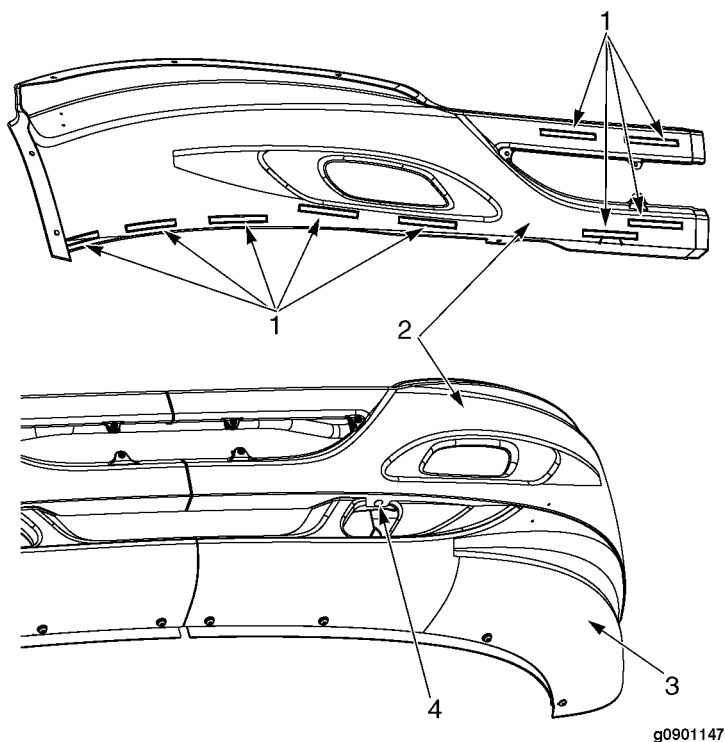
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- 1. LEFT BUMPER HALF
- 2. INNER PANEL

- 3. OUTER PANEL

Figure 8 Bumper Panel

- 14. Separate the two halves of the tilt-away bumper.
- 15. Carefully separate the inner panel from the outer panel.



- 1. TWO-SIDED TAPE
- 2. CHROME BUMPER PANEL

- 3. OUTER PANEL
- 4. PUSH PIN FASTENER

Figure 9 Chrome Bumper

NOTE – If equipped with the chrome bumper panel perform steps 16 and 17.

16. Remove the push pin fastener from the chrome bumper panel. If removing the right chrome bumper panel, two push pin fasteners will need to be removed.

CAUTION

Exercise extreme care when removing the chrome bumper panel from the outer panel of the bumper. Use a scraper or putty knife to work the panels apart, but avoid gouging, scratching, or breaking the panels during disassembly. Never use any form of heat to disassemble these panels, as the painted surface is not designed to withstand high heat. Failure to comply with these instructions will result in damage to these components.

17. The chrome bumper panel is secured to the outer panel using two-sided tape. Carefully pull the chrome bumper panel loose from the outer panel.

Bumper Panel – Installation

NOTE – If equipped with the chrome bumper panel perform steps 1 and 2.

1. Install two-sided tape onto chrome bumper panel (Figure 9, Items 1 and 2).
2. Position chrome bumper panel on the outer panel and install push pin fastener (Figure 9, Items 2, 3, and 4). If installing the right chrome bumper panel, two push pin fasteners will need to be installed.
3. Insert the inner panel into the outer bumper panel (Figure 8, Items 2 and 3).
4. Secure the outer panel to the inner panel with nine screws (Figure 7, Items 2, 3, and 4). Torque bolts to 9 to 11 lbf-ft (12 to 15 N•m).
5. Align the two bumper halves together and secure with three bolts and nuts (Figure 7, Item 1). Torque bolts to 8 to 10 lbf-ft (11 to 14 N•m).
6. Align bumper frame on tilt-away bumper and secure bumper frame with nine bolts (Figure 6, Items 1 and 2). Torque bolts to 12 to 15 lbf-ft (16 to 20 N•m).

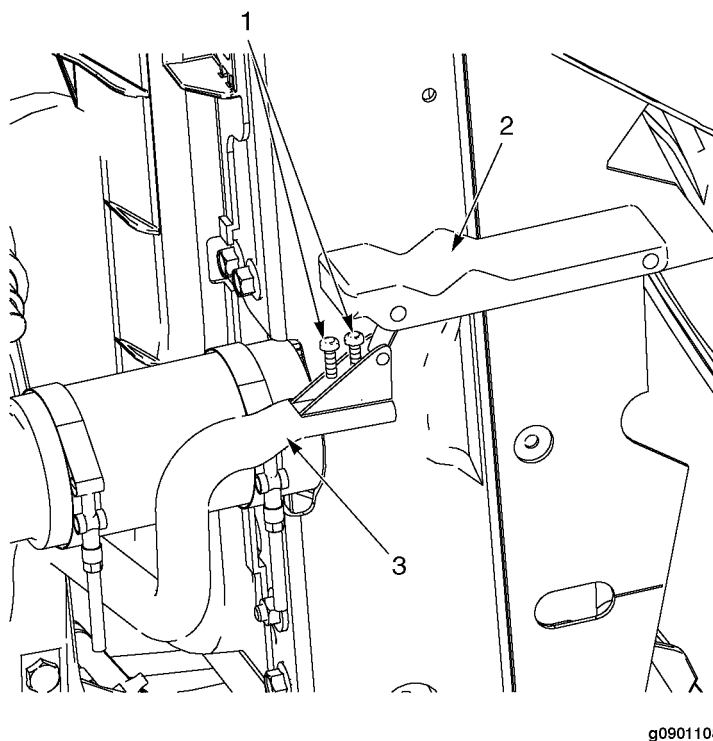
NOTE – If equipped with the chrome bumper, the support tube is secured to the bumper panel with an additional bolt that must be installed.

7. Secure the support tube to the bumper panels with a nut and bolt (Figure 6). To install the support tube on the bumper with chrome panels, install two bolts and support tube on the tilt-away bumper. Torque bolts to 8 to 10 lbf-ft (11 to 14 N•m).
8. Install two bumper hinge bolts into the bumper hinge brackets making sure that the bolt heads are on the outside of the hinge brackets and the ends of the bolts are not protruding through the hinge brackets (Figure 4, Item 3).
9. With the aid of an assistant, install the tilt-away bumper on the chassis hinge brackets (Figure 4, Items 1 and 2).
10. Slightly lift each side of the tilt-away bumper to slide the mount bolts completely through the chassis hinge brackets.
11. Connect two support cables to the tilt-away bumper with a clevis and clevis pin on each side (Figure 3, Items 3, 4, and 5).
12. Install two mount nuts on two bumper hinge bolts (Figure 2, Items 1 and 2). Torque bolts to 12 to 15 lbf-ft (16 to 20 N•m).
13. Install two pins through holes in two hinge bracket bolts (Figure 2, Items 2 and 3).
14. If equipped with fog lights, connect electrical connector to fog lights.
15. Raise the tilt-away bumper and secure latches.
16. Close and latch the hood.

2.3. BUMPER LATCH

The tilt-away bumper is secured by two hand-operated latches. The latches consist of strap-style latches that are mounted to brackets on each side of the radiator and locking brackets that are mounted to brackets on each side of the tilt-away bumper.

Bumper Latch – Removal



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1. MOUNT SCREWS

2. BUMPER LATCH

3. BUMPER LATCH MOUNT
BRACKET

Figure 10 Bumper Latch

1. Remove two screws from bumper latch.
2. Remove the bumper latch from the mount bracket.

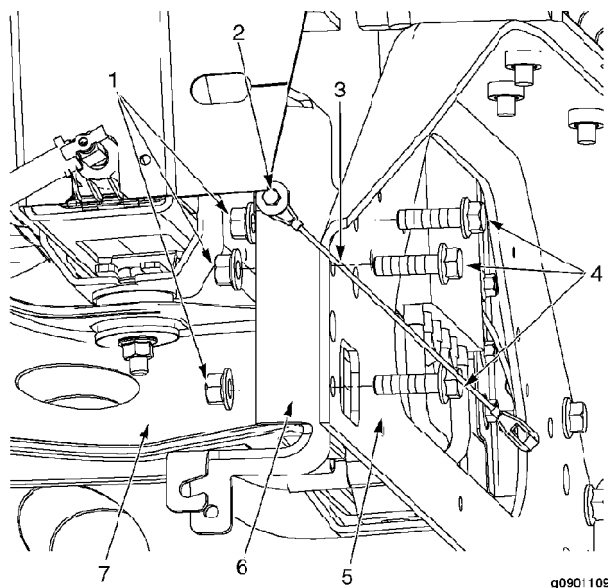
Bumper Latch – Installation

1. Align the bumper latch on the mount bracket (Figure 10, Items 2 and 3).
2. Using two screws, secure the bumper latch to the mount bracket (Figure 10, Items 1, 2, and 3).

2.4. TILT BRACKET

Tilt Bracket – Removal

1. Unlatch and open the hood.
2. Release latches and lower the tilt-away bumper.
3. If equipped with fog lights, disconnect electrical connectors from fog lights.
4. Remove two pins and locknuts from two bumper hinge bolts (Figure 2, Items 1, 2, and 3).
5. Slide two bumper hinge bolts out of two chassis hinge brackets far enough to clear the inside of the chassis hinge brackets (Figure 2, Items 3 and 4).
6. Remove clevis pin from each clevis and disconnect two support cables (Figure 3, Items 3, 4, and 5).
7. With the aid of an assistant, remove the tilt-away bumper from the chassis hinge brackets and position bumper on a solid work surface (Figure 4, Items 1 and 2).

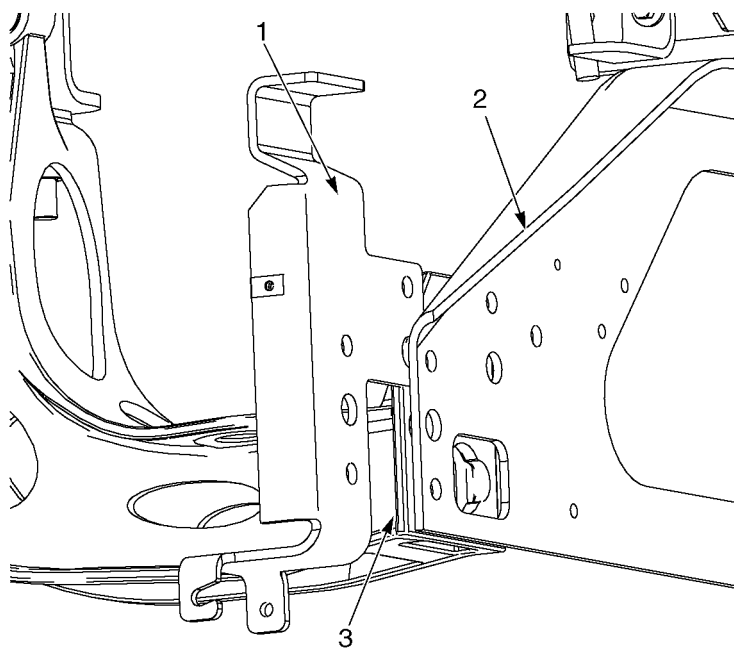


1. TILT BRACKET MOUNT NUTS
2. SUPPORT CABLE MOUNT BOLT
3. SUPPORT CABLE
4. TILT BRACKET MOUNT BOLTS

5. HOOD CROSSMEMBER
6. TILT BRACKET
7. MEGA BRACKET

Figure 11 Tilt Bracket Assembly

8. Remove bolt and support cable from tilt bracket.
9. Remove three bolts and nuts from tilt bracket, hood crossmember, and mega bracket.



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- 1. TILT BRACKET
- 2. HOOD CROSSMEMBER

- 3. MEGA BRACKET

Figure 12 Tilt Bracket

- 10. Remove the tilt bracket from between the hood crossmember and mega bracket.

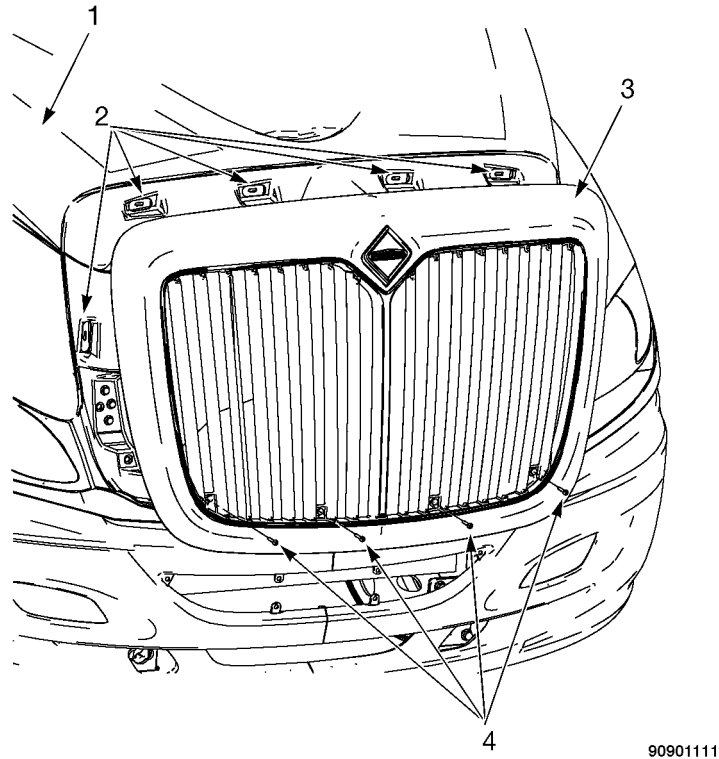
Tilt Bracket – Installation

1. Align the tilt bracket between the hood crossmember and mega bracket (Figure 12, Items 1, 2, and 3).
2. Install three bolts and nuts on tilt bracket, hood crossmember, and spring support bracket (Figure 11, Items 1 and 4). Torque bolt to 70 to 85 lbf-ft (95 to 115 N•m).
3. Install support cable on tilt bracket with one bolt (Figure 11, Items 2, 3, and 6). Torque bolt to 12 to 15 lbf-ft (16 to 20 N•m).
4. Install two bumper hinge bolts into the bumper hinge brackets making sure that the bolt heads are on the outside of the hinge brackets and the ends of the bolts are not protruding through the hinge brackets (Figure 4, Item 3).
5. With the aid of an assistant, install the tilt-away bumper on the chassis hinge brackets (Figure 4, Items 1 and 2).
6. Slightly lift each side of the tilt-away bumper to slide the mount bolts completely through the chassis hinge brackets.
7. Connect two support cables to the tilt-away bumper with a clevis and clevis pin on each side (Figure 3, Items 3, 4, and 5).
8. Install two mount nuts on two bumper hinge bolts (Figure 2, Items 1 and 2). Torque bolts to 12 to 15 lbf-ft (16 to 20 N•m).
9. Install two pins through holes in two hinge bracket bolts (Figure 2, Items 2 and 3).
10. If equipped with fog lights, connect electrical connector to fog lights.
11. Raise the tilt-away bumper and secure latches.
12. Close and latch the hood.

2.5. GRILLE AND BUG SCREEN

Grille and Bug Screen – Removal

NOTE – The grille should be removed with the hood in the closed position.

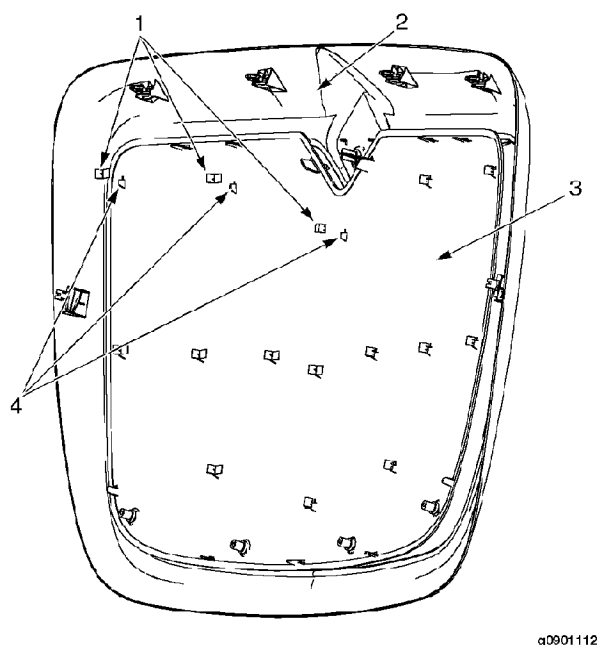


1. HOOD ASSEMBLY
2. TAB INSERTS

3. GRILLE
4. GRILLE MOUNT SCREWS

Figure 13 Grille

1. Remove four mount screws from the lower portion of the grille.
2. To remove the grille, lift the grille out to release the tabs from the tab inserts.
3. Place the grille upside down on a padded surface to protect the finished surface of the grille.



- 1. BUG SCREEN CLIPS
- 2. GRILLE

- 3. BUG SCREEN
- 4. GRILLE TABS

Figure 14 Bug Screen

CAUTION

Care must be taken when removing the bug screen clips to avoid breaking the tabs off the grille.

- 4. Remove 15 bug screen clips from grille tabs by prying the bug screen clips loose from the grille tabs.
- 5. Lift the bug screen off the grille.

Grille and Bug Screen – Installation

- 1. Position the bug screen on the grille making sure that all grille tabs are positioned through the bug screen (Figure 14, Items 2, 3, and 4).
- 2. Secure the bug screen to the grille by installing 15 bug screen clips on the grille tabs (Figure 14).

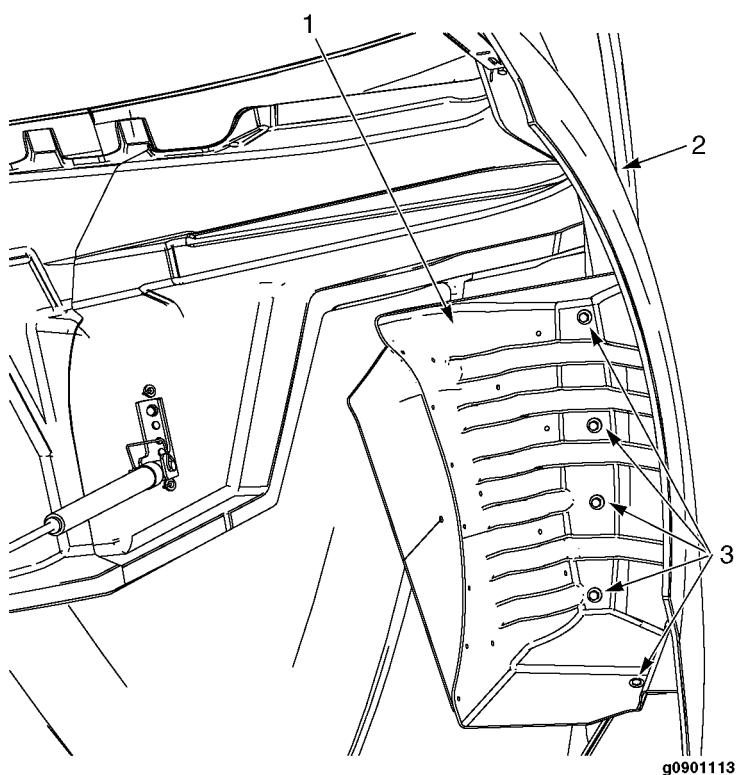
NOTE – Before installing the grille, inspect the hood insert holes and ensure that all six insert tabs are properly attached to the grille.

- 3. Align grille insert tabs with the hood insert holes ((Figure 13, Items 2 and 3).
- 4. With the palm of your hand, press the grille at all six insert tab locations to seat grille onto the hood (Figure 13, Items 1, 2, and 3).
- 5. Install four mount screws in bottom of grille (Figure 13, Items 3 and 4). Torque screws to 4 to 5 lbf-ft (5 to 7 N•m).

2.6. SPLASH SHIELDS

Splash Shields – Removal

1. Unlatch and open the hood.
2. Clean dirt and debris away from all splash shield mount hardware.

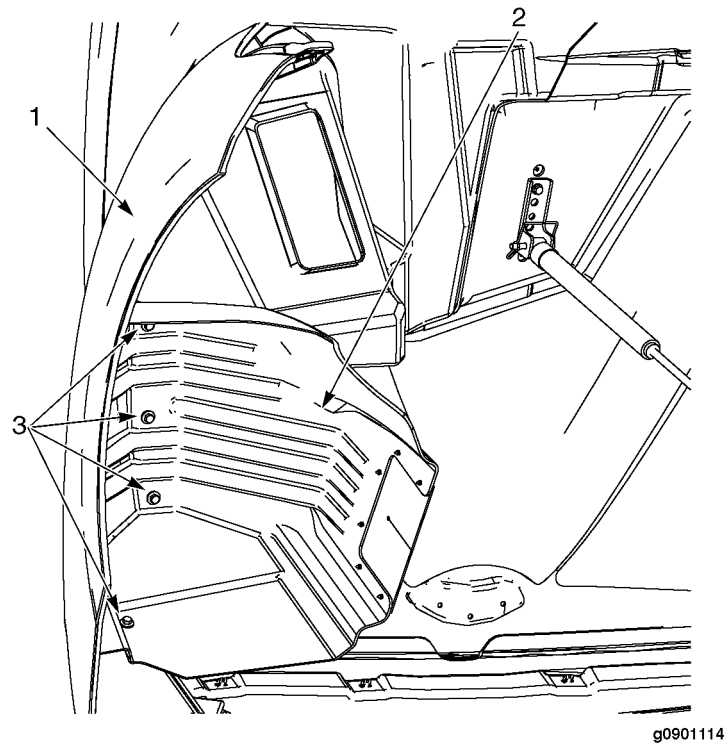


1. RIGHT SPLASH SHIELD
2. RIGHT FRONT FENDER

3. MOUNT BOLTS

Figure 15 Right Splash Shield

3. Remove five bolts and right splash shield from front fender.

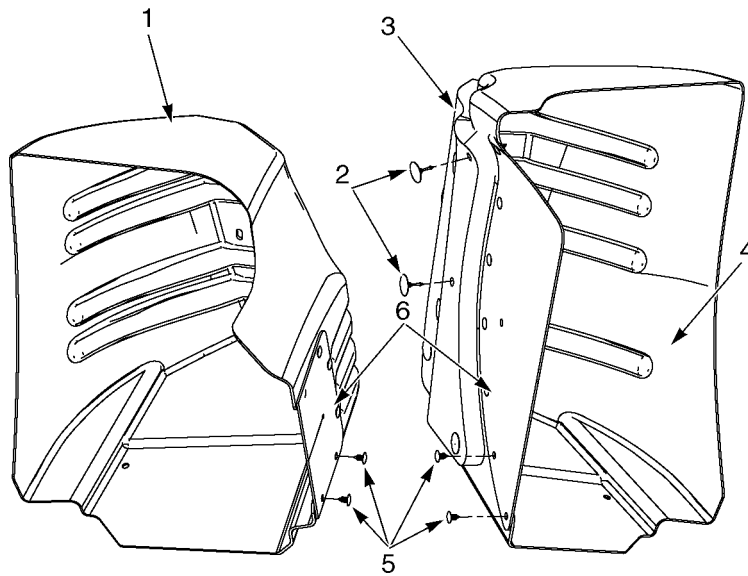


1. LEFT FRONT FENDER
2. LEFT SPLASH SHIELD

3. MOUNT BOLTS

Figure 16 Left Splash Shield

4. Remove four bolts and left splash shield from front fender.



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- 1. LEFT SPLASH SHIELD
- 2. ATTACHMENT PINS
- 3. INSULATION PANEL

- 4. RIGHT SPLASH SHIELD
- 5. PUSH PINS
- 6. RUBBER PANELS

Figure 17 Splash Shield Components

- 5. To disassemble the splash shields, remove the push pins and rubber panels from the splash shields.
- 6. Remove the attachment pins and insulation panel from the right splash shield.

Splash Shields – Installation

- 1. Align the insulation panel on the right splash shield and secure with the attachment pins (Figure 17, Items 2, 3, and 4).
- 2. Align rubber panels on splash shields and secure with push pins (Figure 17, Items 5 and 6).
- 3. Install left splash shield on left side of hood and secure with four bolts (Figure 16). Torque bolts to 15 to 19 lbf-ft (20 to 26 N•m).
- 4. Install right splash shield on right side of hood and secure with five bolts (Figure 15). Torque bolts to 15 to 19 lbf-ft (20 to 26 N•m).
- 5. Close and latch the hood.

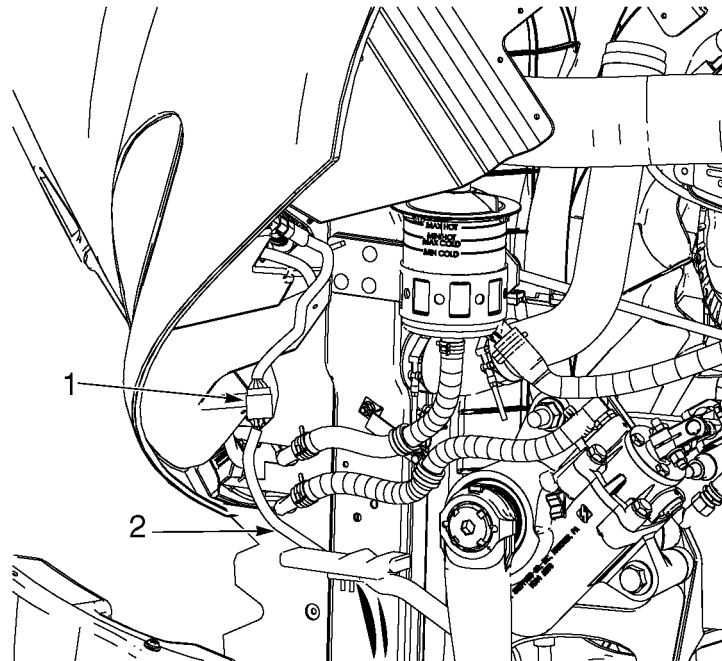
2.7. HOOD

Hood – Removal

CAUTION

Increased hood-tilt, after disconnection of the hood tilt assist cylinder, will cause the ends of the hood tilt assist torsion bars to rotate into and damage the radiator and/or oil coolers. Prior to removing the hood tilt assist cylinder, remove the torsion bars so they will not damage any components.

1. Remove four mount screws from the lower portion of the grille (Figure 13, Items 3 and 4).
2. To remove the grille, lift the grille out to release the tabs from the tab inserts (Figure 13, Items 2 and 3).
3. Place the grille upside down on a padded surface to protect the finished surface of the grille.
4. Unlatch and open the hood.



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1. HEADLIGHT HARNESS
CONNECTOR

2. FRONT CHASSIS WIRING
HARNESS

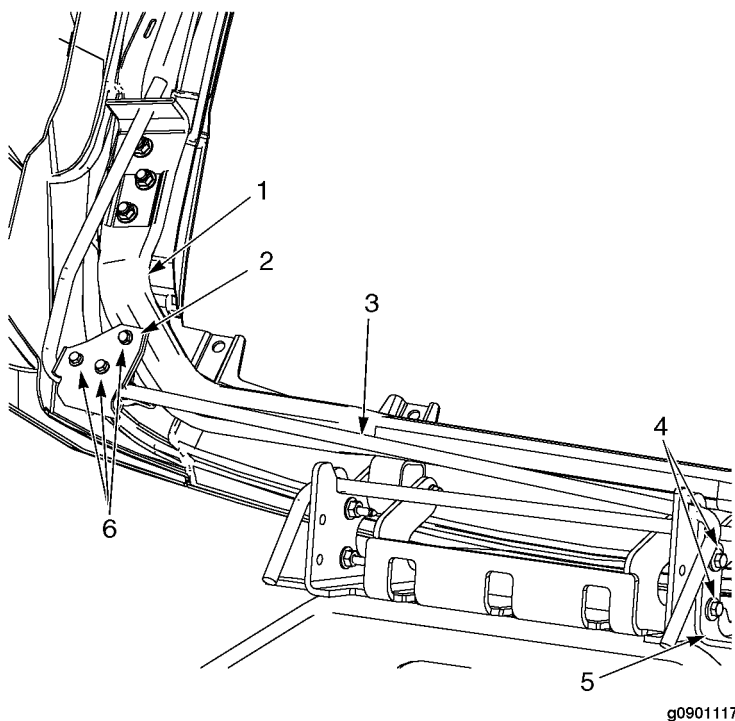
Figure 18 Headlight Harness

5. Disconnect the headlight harness connectors from both sides of the hood assembly.



The hood torsion bars become spring loaded as the hood is closed and are unloaded when the hood is in the open position. Therefore, the hood must be in the open position to remove or install the torsion bars from the hood. Failure to comply may result in injury to personnel.

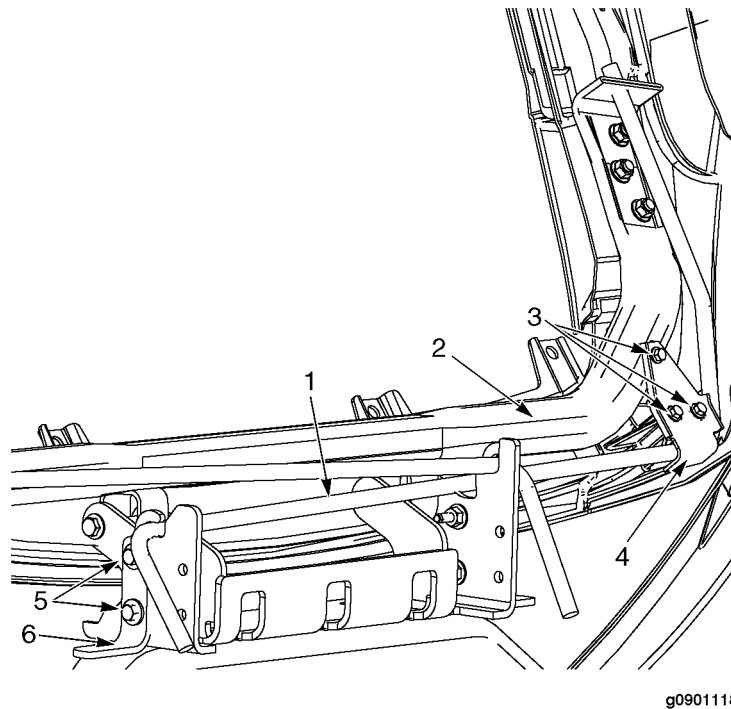
NOTE – Prior to removal, mark each torsion bar to show which side the torsion bars mount on the hood.



- | | |
|-----------------------------|----------------------------------|
| 1. HOOD HINGE ROD | 5. LEFT TORSION BAR LOAD BRACKET |
| 2. TORSION BAR MOUNT PLATE | 6. TORSION BAR MOUNT PLATE BOLTS |
| 3. LEFT TORSION BAR | |
| 4. LOAD BRACKET MOUNT BOLTS | |

Figure 19 Left Torsion Bar

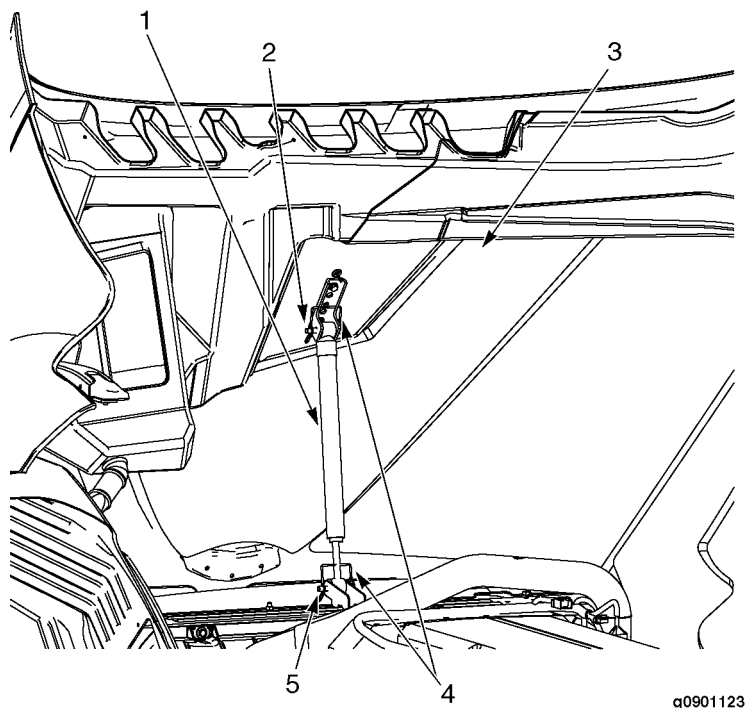
6. Remove three bolts from the left torsion bar mount plate.
7. Remove left torsion bar mount plate from left torsion bar.
8. Loosen, but do not remove, two bolts on the left torsion bar load bracket.
9. Slide the left torsion bar out of the hood hinge rod and remove left torsion bar.



- | | |
|----------------------------------|-----------------------------------|
| 1. RIGHT TORSION BAR | 4. TORSION BAR MOUNT PLATE |
| 2. HOOD HINGE ROD | 5. LOAD BRACKET MOUNT BOLTS |
| 3. TORSION BAR MOUNT PLATE BOLTS | 6. RIGHT TORSION BAR LOAD BRACKET |

Figure 20 Right Torsion Bar

10. Remove three bolts from the right torsion bar mount plate.
11. Remove right torsion bar mount plate from right torsion bar.
12. Loosen, but do not remove, two bolts on the right torsion bar load bracket.
13. Slide the right torsion bar out of the hood hinge rod and remove right torsion bar.

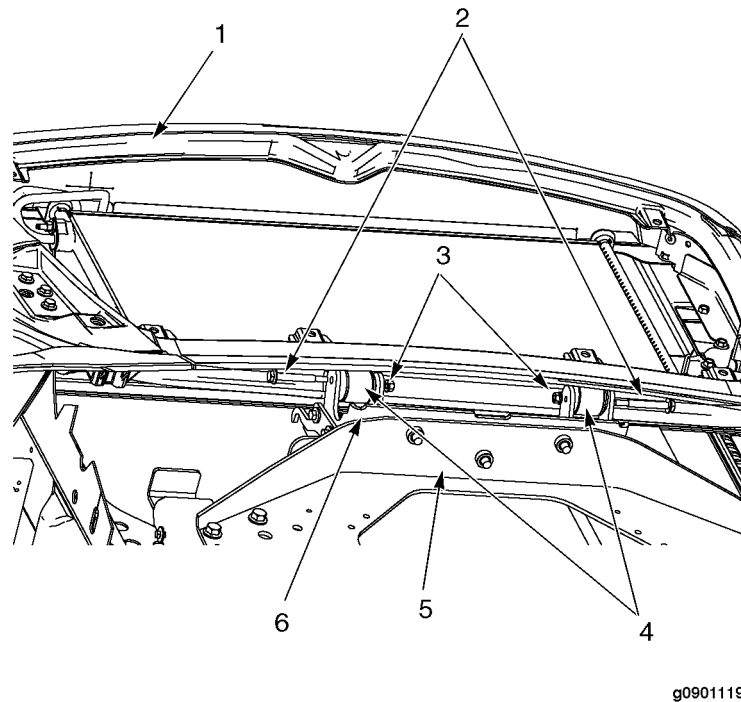


- 1. TILT ASSIST CYLINDER
- 2. UPPER RETAINING PIN
- 3. HOOD

- 4. LOCKING CLIPS
- 5. LOWER RETAINING PIN

Figure 21 Hood Tilt Assist Cylinder

- 14. Tilt the hood assembly to a 45-degree angle and support the tilted hood with a floor stand to relieve tension on the tilt assist cylinder assembly.
- 15. Unlatch the locking clip from the upper retainer pin.
- 16. Remove the upper retainer pin from the tilt assist cylinder.
- 17. Unlatch the locking clip from the lower retainer pin.
- 18. Remove the lower retainer pin from the tilt assist cylinder.
- 19. Remove the tilt assist cylinder from the hood.
- 20. Release latches and lower the tilt-away bumper.
- 21. Close the hood, but do not fasten latches.



- 1. HOOD
- 2. HOOD MOUNT BOLTS
- 3. HOOD MOUNT NUTS

- 4. HOOD HINGE ROD
- 5. HOOD CROSSMEMBER
- 6. HOOD HINGE BRACKET

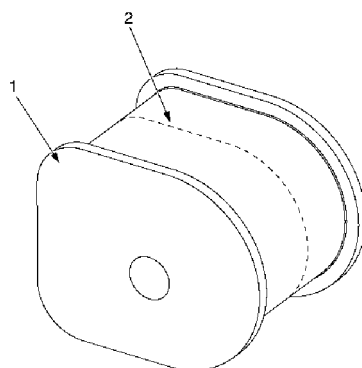
Figure 22 Hood Mounts

22. Remove two bolts and nuts from hood hinge bracket and hood hinge rod.



The hood is extremely heavy and requires a lifting device with a strap or a minimum of four people to remove or install the hood assembly. Failure to comply may result in injury to personnel.

23. Remove the hood and place in a secure place to prevent damage to the hood.
24. To remove D-shaped hood insulators, use an adequate punch to tap insulators free from the hood hinge rod.

Hood – Installation

g0901120

1. D-SHAPED HOOD INSULATOR

2. CENTER CUT LINE

Figure 23 Hood Insulators

1. To install D-shaped hood insulators, measure and mark the center point of each D-shaped hood insulator.
2. Using a sharp knife, cut the D-shaped hood insulators on the marked center line.
3. Insert the D-shaped hood insulators into the hood hinge rod.

**WARNING**

The hood is extremely heavy and requires a lifting device with a strap or a minimum of four individuals to remove or install the hood assembly. Failure to comply may result in injury to personnel.

4. Install the hood on the vehicle and align the hood hinge bracket mounting holes (Figure 22, Items 1 and 6).
5. Install two bolts and nuts to hood hinge bracket and hood hinge rod (Figure 22, Items 2 and 3). The bolts must be installed pointing toward the center of the vehicle. Torque bolts to 15 to 18 lbf-ft (20 to 24 N•m).
6. Raise the hood to approximately a 45-degree angle and support the hood.
7. Secure the tilt assist cylinder to the hood with the upper retainer pin and secure locking clip onto upper retainer pin (Figure 21).
8. Align bottom of tilt assist cylinder. Install lower retaining pin and secure lower retaining pin with locking clip (Figure 21).
9. Install the right torsion bar through the hood hinge rod and align right torsion bar on the load bracket (Figure 20, Items 1, 2, and 6).

10. Position right torsion bar mount plate on the right torsion bar (Figure 20, Items 1 and 4).
11. Install three bolts in right torsion bar mount plate (Figure 20, Items 3 and 4). Torque bolts to 6 to 8 lbf-ft (8 to 11 N•m).
12. Secure the right torsion bar load bracket by tightening two bolts (Figure 20, Items 5 and 6).
13. Install the left torsion bar through the hood hinge rod and align left torsion bar on the left load bracket (Figure 19, Items 1, 3, and 5).
14. Position left torsion bar mount plate on the left torsion bar (Figure 19, Items 2 and 3).
15. Install three bolts in left torsion bar mount plate (Figure 19, Items 2 and 6). Torque bolts to 6 to 8 lbf-ft (8 to 11 N•m).
16. Secure the left torsion bar load bracket by tightening two bolts (Figure 19, Items 4 and 5).
17. Connect both headlight harness connectors to the front chassis wiring harness (Figure 18, Items 1 and 2).

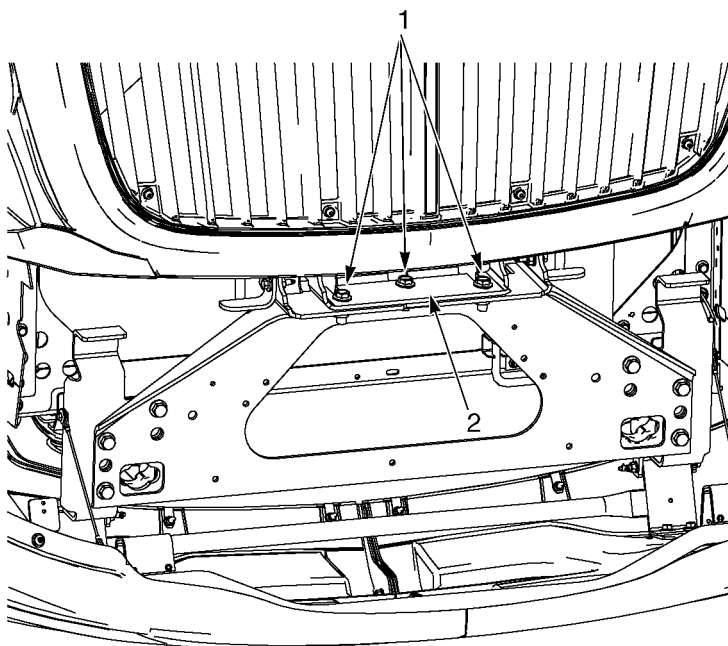
NOTE – Before installing the grille, inspect the hood insert holes and ensure that all six insert tabs are properly attached to the grille.

18. Align grille insert tabs with the hood insert holes (Figure 13, Items 2 and 3).
19. With the palm of your hand, press the grille at all six insert tab locations to seat grille onto the hood (Figure 13, Items 1, 2, and 3).
20. Install four mount screws in bottom of grille (Figure 13, Items 3 and 4). Torque screws to 4 to 5 lbf-ft (5 to 7 N•m).
21. Raise the tilt-away bumper and secure latches.
22. Check hood adjustment and adjust as needed. Refer to **Hood – Adjustment** procedures in this manual.

Hood – Adjustment

NOTE – Hood height adjustment at the cowl and rear edge of hood is not adjustable. The rear hood supports are designed so they can not be aligned incorrectly.

IMPORTANT – The cab air suspension must be fully aired up before hood adjustment. Failure to do so will result in binding of the hood on the rear supports causing premature wear.



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1. HOOD HINGE MOUNT BOLTS

2. HOOD HINGE BRACKET

Figure 24 Hood Hinge Adjustment

The hood adjustment is done by moving the hood hinge bracket located at the front crossmember.

1. To adjust the hood left to right:
 - a. Release latches and lower the tilt-away bumper.
 - b. Loosen the hood hinge mount bolts and slide the hood hinge bracket left or right.
 - c. Check the alignment with the hood contour lines. If the hood alignment is proper, tighten the hood hinge bracket mount bolts. Torque bolts to 65 to 80 lbf-ft (88 to 108 N•m).

2. To adjust hood forward and back:
 - a. Release latches and lower the tilt-away bumper.
 - b. Loosen the hood hinge mount bolts at the hood hinge bracket.
 - c. Slide the hood forward or backward as required.
 - d. Check for proper distance between the rear edge of hood and the windshield.
 - e. Tighten the hood hinge bracket mount bolts. Torque bolts to 65 to 80 lbf-ft (88 to 108 N•m).

2.8. HOOD TILT ASSIST

Hood Tilt Assist – Removal

CAUTION

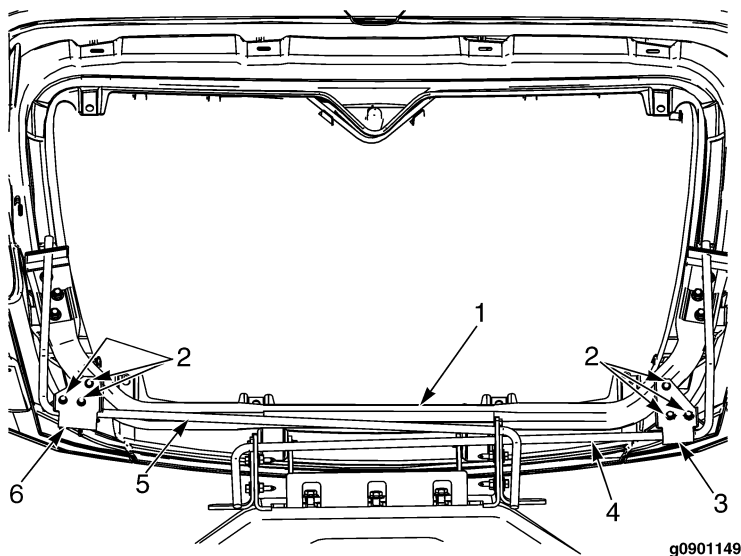
Increased hood-tilt, after disconnection of the hood tilt assist cylinder, will cause the ends of the hood tilt assist torsion bars to rotate into and damage the radiator and/or oil coolers. Prior to removing the hood tilt assist cylinder, remove the torsion bar mount plates from each side of the hood hinge mounting bracket and position the torsion bars so they will not damage any components.

1. Remove four mount screws from the lower portion of the grille (Figure 13, Items 3 and 4).
2. To remove the grille, lift the grille out to release the tabs from the tab inserts (Figure 13, Items 2 and 3).
3. Place the grille upside down on a padded surface to protect the finished surface of the grille.

CAUTION

Prior to disconnecting the tilt assist cylinder, position a padded support under the front face of the hood. Components will be damaged if the hood is allowed to open beyond the limit normally controlled by the Hood Tilt Assist Cylinder.

4. Release hood latches on each side of the hood and tilt the hood assembly to a 45-degree angle. Support the tilted hood with a floor stand to relieve tension on the tilt assist cylinder assembly.



- | | |
|-------------------------------------|------------------------------------|
| 1. HOOD HINGE ROD | 4. RIGHT TORSION BAR |
| 2. BOLT | 5. LEFT TORSION BAR |
| 3. RIGHT TORSION BAR MOUNT
PLATE | 6. LEFT TORSION BAR MOUNT
PLATE |

Figure 25 Torsion Bar Mounting Plates

5. Remove three bolts from the left torsion bar mount plate.
6. Remove left torsion bar mount plate from left torsion bar.
7. Remove three bolts from the right torsion bar mount plate.
8. Remove right torsion bar mount plate from right torsion bar.
9. Slide both torsion bars out of the hood hinge rod.
10. Temporarily tie the ends of both loose torsion bars forward and out of the way until it is time to reinstall the torsion bar mount plates.
11. Unlatch the locking clip from the upper retainer pin (Figure 21, Items 2 and 4).
12. Remove the upper retainer pin from the tilt assist cylinder (Figure 21, Items 1 and 2).
13. Unlatch the locking clip from the lower retainer pin (Figure 21, Items 4 and 5).
14. Remove the lower retainer pin from the tilt assist cylinder (Figure 21, Items 1 and 5).
15. Remove the tilt assist cylinder from the hood (Figure 21, Items 1 and 3).

Hood Tilt Assist – Installation

1. Secure the tilt assist cylinder to the hood with the upper retainer pin and secure locking clip onto upper retainer pin (Figure 21).
2. Align bottom of tilt assist cylinder, install lower retaining pin, and secure lower retaining pin with locking clip (Figure 21).
3. Untie the ends of both torsion bars and slide them into their proper position onto the hood hinge rod (Figure 25, Items 1, 4, and 5).
4. Position right torsion bar mount plate on the right torsion bar (Figure 25, Items 3 and 4).
5. Install three bolts in right torsion bar mount plate (Figure 25, Items 2 and 3). Torque bolts to 6 to 8 lbf-ft (8 to 11 N•m).
6. Position left torsion bar mount plate on the left torsion bar (Figure 25, Items 5 and 6).
7. Install three bolts in left torsion bar mount plate (Figure 25, Items 2 and 6). Torque bolts to 6 to 8 lbf-ft (8 to 11 N•m).

NOTE – Before installing the grille, inspect the hood insert holes and ensure that all six insert tabs are properly attached to the grille.

8. Align grille insert tabs with the hood insert holes (Figure 13, Items 2 and 3).
9. With the palm of your hand, press the grille at all six insert tab locations to seat grille onto the hood (Figure 13, Items 1, 2, and 3).
10. Install four mount screws in bottom of grille (Figure 13, Items 3 and 4). Torque screws to 4 to 5 lbf-ft (5 to 7 N•m).
11. Close and latch the hood.

2.9. TORSION BARS

Torsion Bar – Removal

1. Remove four mount screws from the lower portion of the grille (Figure 13, Items 3 and 4).
2. To remove the grille, lift the grille out to release the tabs from the tab inserts (Figure 13, Items 2 and 3).
3. Place the grille upside down on a padded surface to protect the finished surface of the grille.
4. Release hood latches on each side of the hood and tilt the hood assembly to a 45-degree angle. Support the tilted hood with a floor stand to relieve tension on the tilt assist cylinder assembly.



The hood torsion bars become spring loaded as the hood is closed and are unloaded when the hood is in the open position. Therefore, the hood must be in the open position to remove or install the torsion bars from the hood. Failure to comply may result in injury to personnel.

NOTE – Prior to removal, mark each torsion bar to show which side the torsion bars mount on the hood.

5. Remove three bolts from the left torsion bar mount plate (Figure 19, Items 2 and 6).
6. Remove left torsion bar mount plate from left torsion bar (Figure 19, Items 2 and 3).
7. Loosen, but do not remove, two bolts on the left torsion bar load bracket (Figure 19, Items 4 and 5).
8. Slide the left torsion bar out of the hood hinge rod and remove left torsion bar (Figure 19, Items 1 and 3).
9. Remove three bolts from the right torsion bar mount plate (Figure 20, Items 3 and 4).
10. Remove right torsion bar mount plate from right torsion bar (Figure 20, Items 1 and 4).
11. Loosen, but do not remove, two bolts on the right torsion bar load bracket (Figure 20, Items 5 and 6).
12. Slide the right torsion bar out of the hood hinge rod and remove right torsion bar (Figure 20, Items 1 and 2).

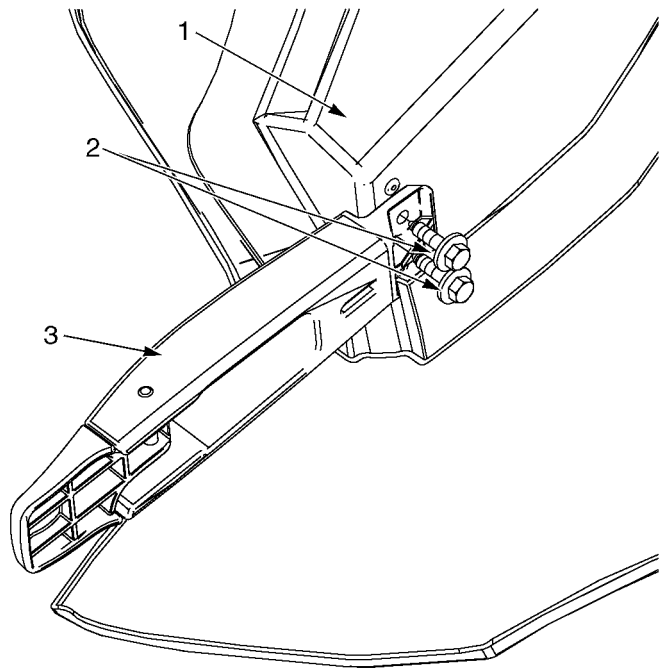
Torsion Bar – Installation

1. Install the right torsion bar through the hood hinge rod and align right torsion bar on the load bracket (Figure 20, Items 1, 2, and 6).
2. Position right torsion bar mount plate on the right torsion bar (Figure 20, Items 1 and 4).
3. Install three bolts in right torsion bar mount plate (Figure 20, Items 3 and 4). Torque bolts to 6 to 8 lbf-ft (8 to 11 N•m).
4. Secure the right torsion bar load bracket by tightening two bolts (Figure 20, Items 5 and 6).
5. Install the left torsion bar through the hood hinge rod and align left torsion bar on the left load bracket (Figure 19, Items 1, 3, and 5).
6. Position left torsion bar mount plate on the left torsion bar (Figure 19, Items 2 and 3).
7. Install three bolts in left torsion bar mount plate (Figure 19, Items 2 and 6). Torque bolts to 6 to 8 lbf-ft (8 to 11 N•m).
8. Secure the left torsion bar load bracket by tightening two bolts (Figure 19, Items 4 and 5).
9. Align grille insert tabs with the hood insert holes (Figure 13, Items 2 and 3).
10. With the palm of your hand, press the grille at all six insert tab locations to seat grille onto the hood (Figure 13, Items 1, 2, and 3).
11. Install four mount screws in bottom of grille (Figure 13, Items 3 and 4). Torque screws to 4 to 5 lbf-ft (5 to 7 N•m).
12. Check hood operation and close and latch hood.

2.10. HOOD LATCH

Hood Latch – Removal

There are two hood latches mounted on the sides of the hood assembly. The lock-down brackets are mounted on the cab.



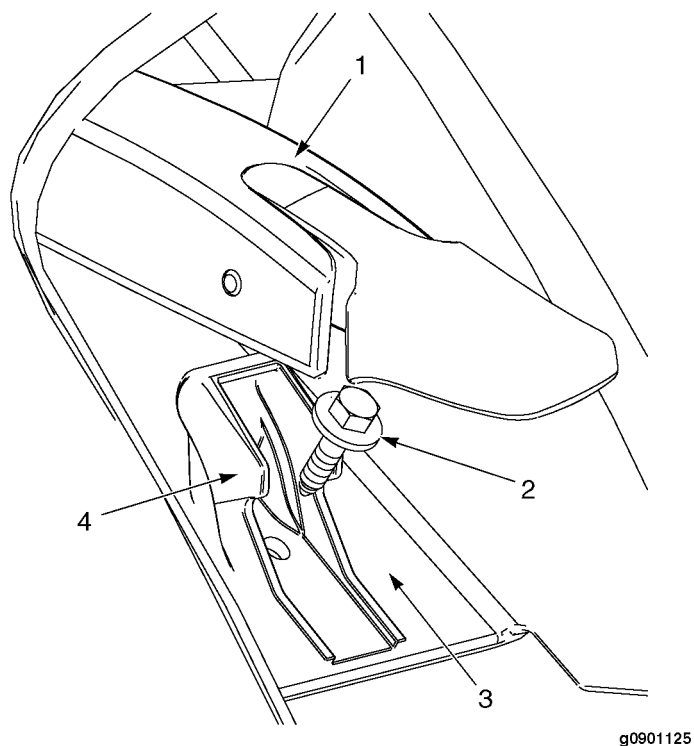
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- 1. HOOD
- 2. LATCH MOUNT BOLTS

- 3. HOOD LATCH

Figure 26 Hood Latch

1. Remove two latch mount bolts and hood latch from hood.



- | | |
|--|----------------------------|
| 1. HOOD LATCH | 3. CAB |
| 2. LATCH LOCK-DOWN BRACKET
MOUNT BOLT | 4. LATCH LOCK-DOWN BRACKET |

Figure 27 Latch Lock-Down Bracket

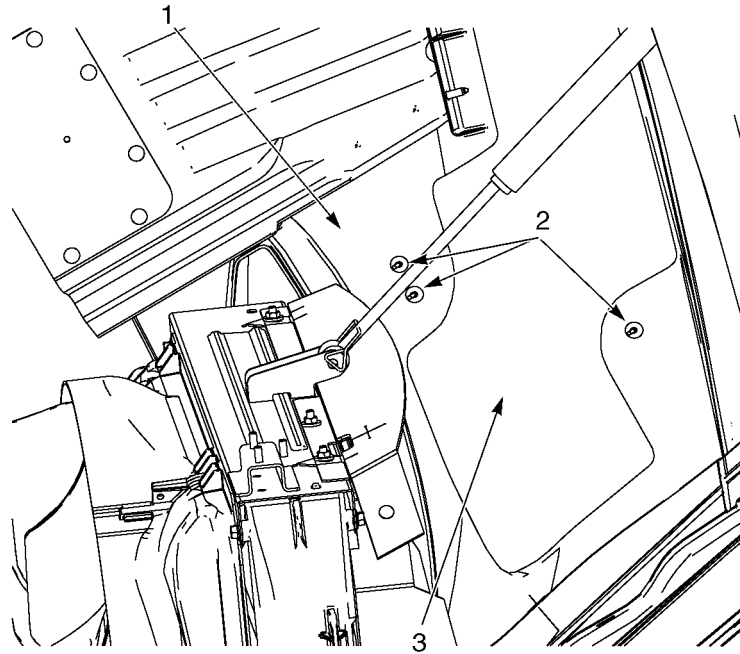
2. Remove one bolt and latch lock-down bracket from cab.

Hood Latch – Installation

1. Install one bolt and latch lock-down bracket on cab (Figure 27, Items 1 and 2). Torque bolts to 15 to 19 lbf-ft (20 to 26 N•m).
2. Install two latch mount bolts and hood latch on hood (Figure 26). Torque bolts to 15 to 19 lbf-ft (20 to 26 N•m).

2.11. HOOD MIRROR

Hood Mirror – Removal



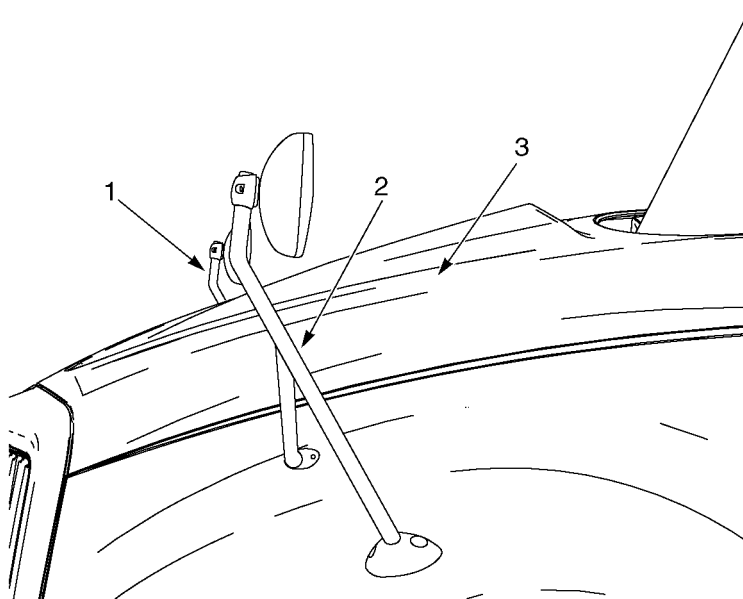
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- 1. HOOD
- 2. MOUNT NUTS AND WASHERS

- 3. SOUND INSULATION

Figure 28 Hood Mirror Mount Hardware

1. Unlatch and open the hood.
2. If the hood is equipped with sound insulation, gently pry the sound insulation away from the hood mirror mounting hardware as needed.
3. Remove three nuts and washers from inside of hood.



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- 1. RIGHT HOOD MIRROR
- 2. LEFT HOOD MIRROR

- 3. HOOD

Figure 29 Hood Mirrors

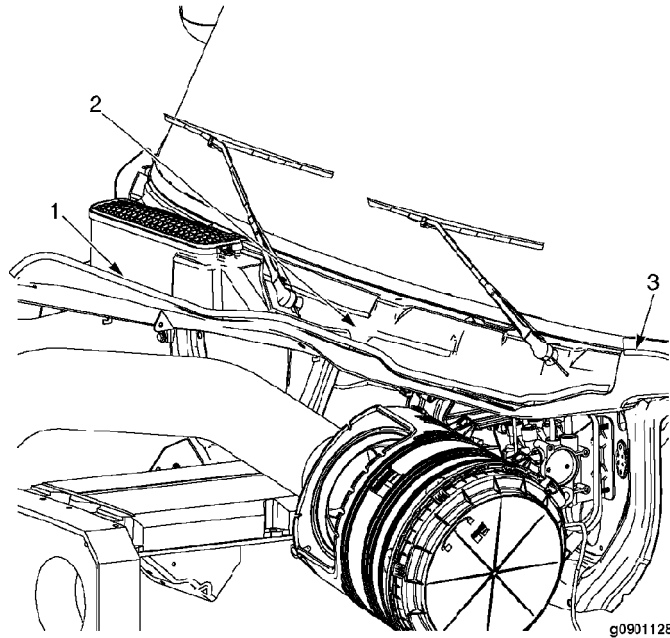
- 4. Remove mirror from hood.

Hood Mirror – Installation

- 1. Align hood mirror on hood (Figure 29).
- 2. Secure hood mirror to hood with three washers and nuts (Figure 28, Items 1 and 2). Torque bolts to 9 to 12 lbf-ft (12 to 16 N•m).
- 3. If sound insulation was removed from hood mirror mounting area, glue sound insulation back into position (Figure 28, Items 1 and 3).

2.12. HOOD SEAL

Hood Seal – Removal



1. PRIMARY HOOD SEAL
2. COWL TRAY

3. SECONDARY HOOD SEAL

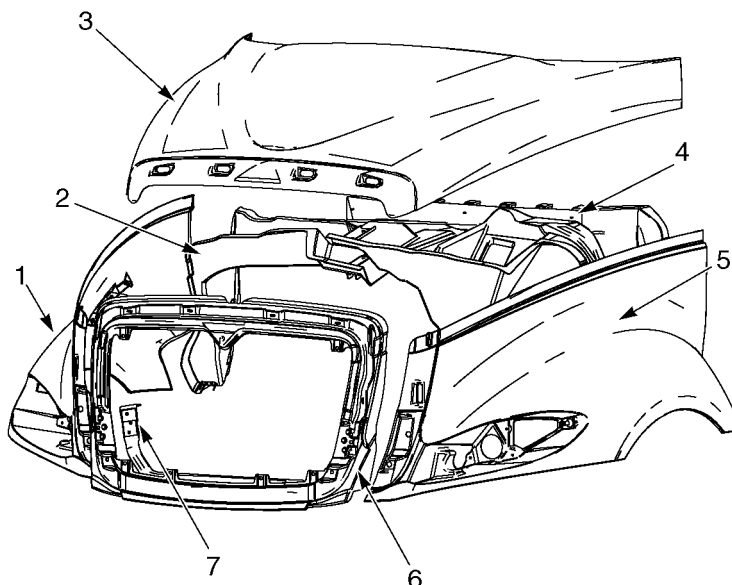
Figure 30 Hood Seals

1. Unlatch and open the hood.
2. Locate the primary hood seal on the forward edge of the cowl tray.
3. Beginning on the passenger side of the cowl tray, grip the primary hood seal and lift upward off the cowl tray.
4. Pull upward to remove the primary hood seal from the entire lip of the cowl tray across the front of the cab.
5. Remove the secondary hood seal in the same manner.

Hood Seal – Installation

1. Place primary hood seal on the forward edge of the cowl tray on the passenger side and press down on primary hood seal causing the trim-lock portion to secure on the cowl tray edge (Figure 30, Items 1 and 2).
2. Continue across the entire forward edge of the cowl tray with the primary hood seal (Figure 30, Items 1 and 2).
3. Check that seal is pushed down on edge of the cowl tray as far as is allowable.
4. Install the secondary hood seal in the same manner (Figure 30, Item 3).
5. Close and latch the hood.

2.13. HOOD AND FENDER PANELS



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- | | |
|-----------------------------------|------------------------|
| 1. RIGHT FENDER SECTION | 5. LEFT FENDER SECTION |
| 2. RIGHT HOOD REINFORCEMENT PANEL | 6. FRONT HOOD SUPPORT |
| 3. HOOD TOP PANEL | 7. HOOD HINGE ROD |
| 4. LEFT HOOD REINFORCEMENT PANEL | |

Figure 31 Hood/Fender Assembly

**WARNING**

To avoid possible personal injury, wear protective clothing, use safety glasses, face mask, and rubber gloves during this procedure. Use a NIOSH or MSHA approved respirator to avoid breathing dust and fumes. Work in a separate area away from other operations.

NOTE – All panels of the hood replace in a similar manner. This procedure covers replacement of the left fender section. The same steps can be followed to replace the other hood panels.

MATERIALS AND EQUIPMENT REQUIRED

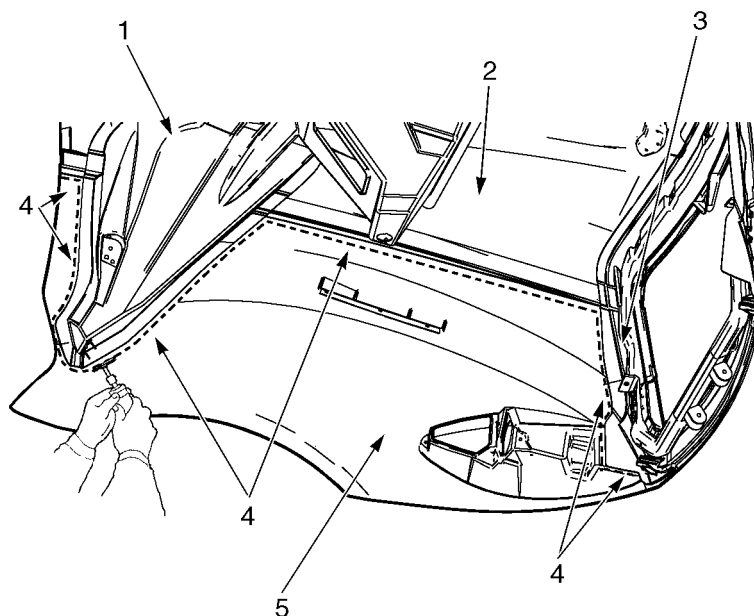
To complete the removal and replacement of the left fender section, the following materials and equipment will be necessary;

- Fusor repair adhesive
- adhesive application gun
- heat gun (250 degrees)
- putty knife and hammer
- C-clamps
- 180-grit sandpaper
- clean rags
- masking tape
- cutting disk and/or saw
- face mask
- rubber gloves.

Before performing this procedure, remove the hood and place in a secure place to prevent damage to the hood. Refer to **Hood – Removal** procedures in this manual.

Hood and Fender Panel – Removal

Before removing the left fender section, certain hood/fender components will have to be removed, such as the headlight assembly, splash shield, hood mirror, and sound insulation. Remove the necessary components at this time.

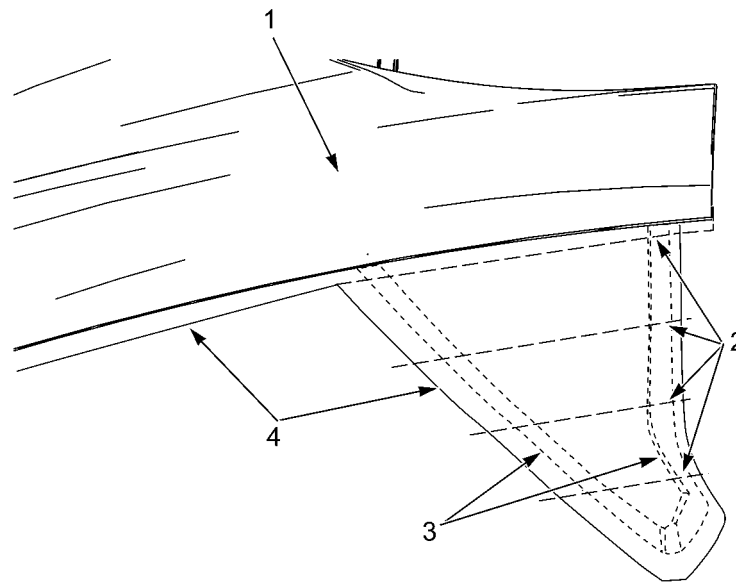


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- | | |
|-------------------------------------|------------------------|
| 1. LEFT HOOD REINFORCEMENT
PANEL | 3. FRONT HOOD SUPPORT |
| 2. HOOD TOP PANEL | 4. CUT LINE |
| | 5. LEFT FENDER SECTION |

Figure 32 Cut Fender Section Away

1. From inside the hood, mark a reference cut line along the left fender section as close as possible to the hood top panel, front hood support, and left hood reinforcement panel.
2. Use a saw and/or cutting disk to cut along the entire cut line and remove the left fender section from the hood top panel, front hood support, and left hood reinforcement panel.



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- 1. HOOD TOP PANEL
- 2. CUT LINES
- 3. LEFT HOOD REINFORCEMENT
PANEL

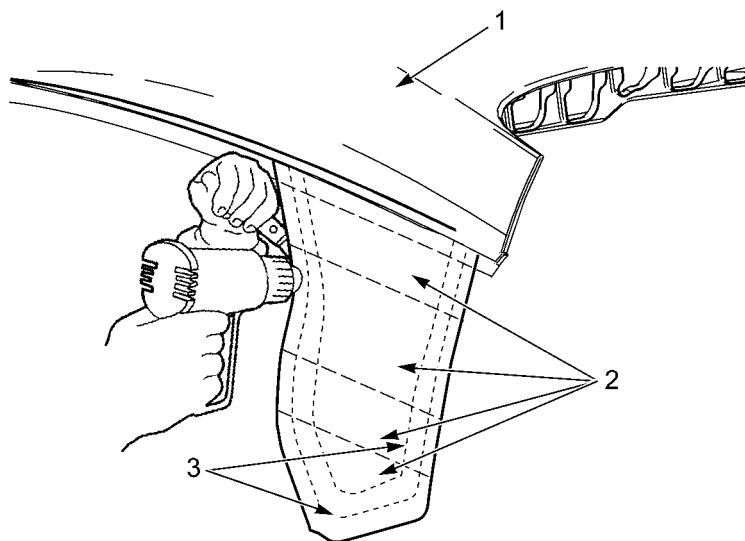
- 4. LEFT FENDER SECTION

Figure 33 Fender Section Cut Out

- 3. Mark four cut lines along the remaining left fender section at the left hood reinforcement.

NOTE – Be careful not to cut into the left hood reinforcement panel.

- 4. Using a cutting disk, score through the left fender section remaining at the left hood reinforcement panel. This will make it easier to heat and remove the remaining left fender section pieces.

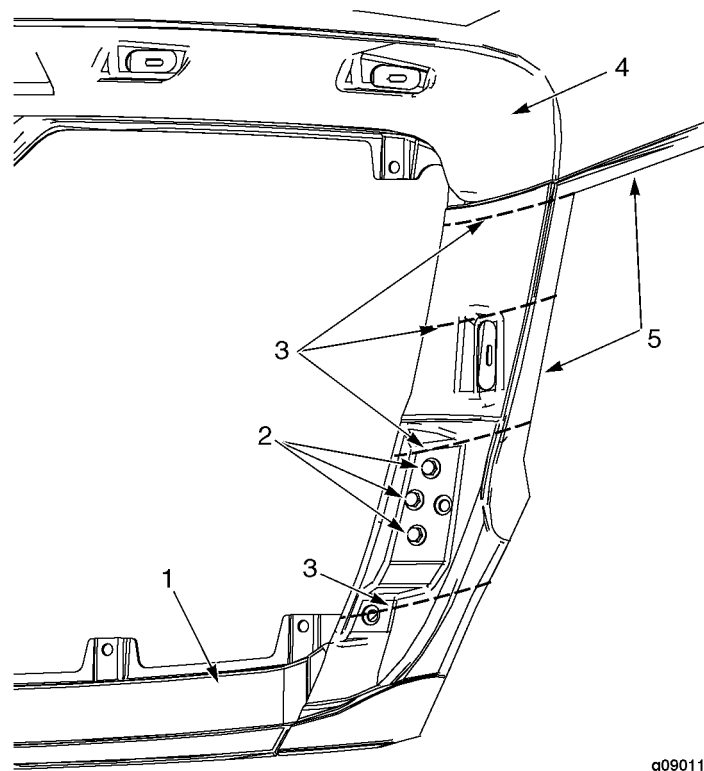


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- | | |
|------------------------------|----------------------------|
| 1. HOOD TOP PANEL | 3. LEFT HOOD REINFORCEMENT |
| 2. LEFT FRONT FENDER SECTION | PANEL |

Figure 34 Fender Section Removal

5. Using a heat gun, apply heat to the remaining left fender section pieces at the left hood reinforcement panel.
6. Use a hammer and putty knife and work the putty knife between the left fender section pieces and the left hood reinforcement panel to remove the remaining left fender section pieces.



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- 1. FRONT HOOD SUPPORT
- 2. HOOD HINGE ROD MOUNT BOLTS

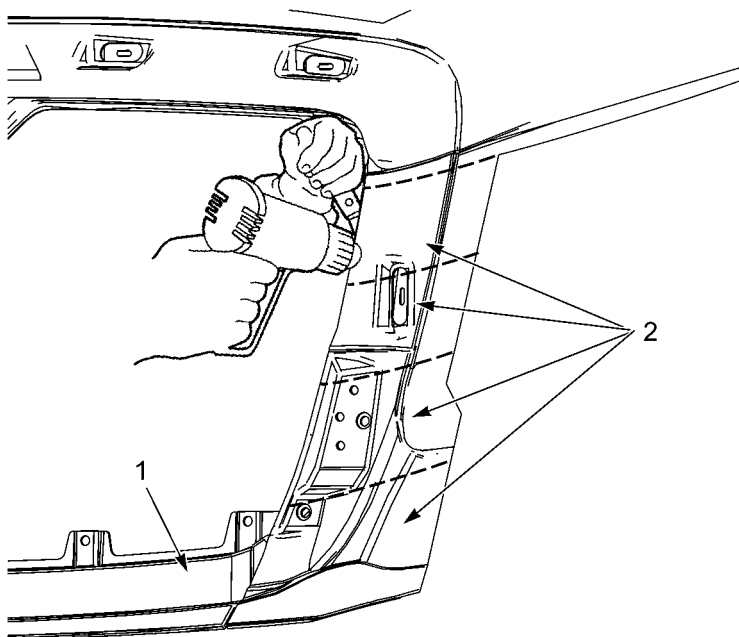
- 3. CUT LINES
- 4. HOOD TOP PANEL
- 5. LEFT FRONT FENDER SECTION

Figure 35 Cut Fender Section Pieces

- 7. Remove three bolts from the left fender section and front hood support.
- 8. Mark four cut lines along the remaining left fender section at the front hood support.

NOTE – Be careful not to cut into the front hood support.

- 9. Using a cutting disk, cut out the fender section and score through the fender section remaining at the front hood support. This will make it easier to heat and remove the remaining left front fender section pieces.



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1. FRONT HOOD SUPPORT

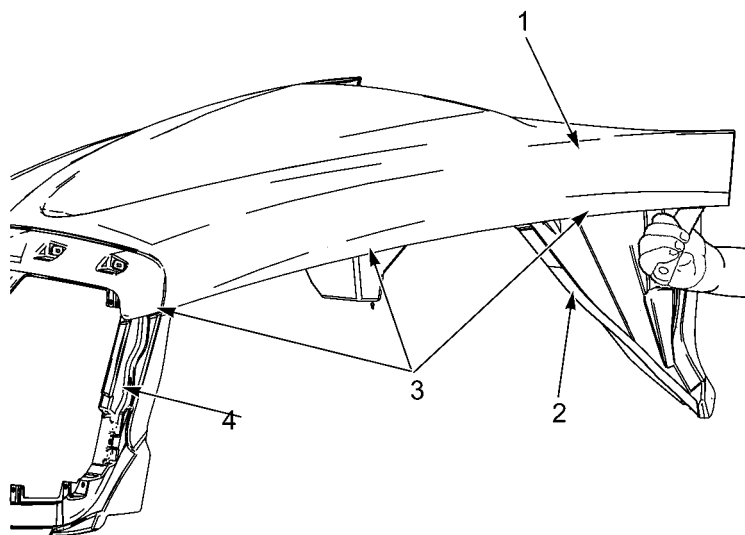
2. LEFT FRONT FENDER SECTION

Figure 36 Remaining Fender Section Pieces

10. Using a heat gun, apply heat to the remaining left fender section pieces at the front hood support.

NOTE – Be careful not to crack the front hood support while working the putty knife between the left fender section pieces and front hood support.

11. Use a hammer and putty knife and work the putty knife between the left fender section pieces and the front hood support to remove the remaining left front fender section pieces.



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- 1. HOOD TOP PANEL
- 2. LEFT HOOD REINFORCEMENT
PANEL

- 3. LEFT FENDER SECTION PIECE
- 4. FRONT HOOD SUPPORT

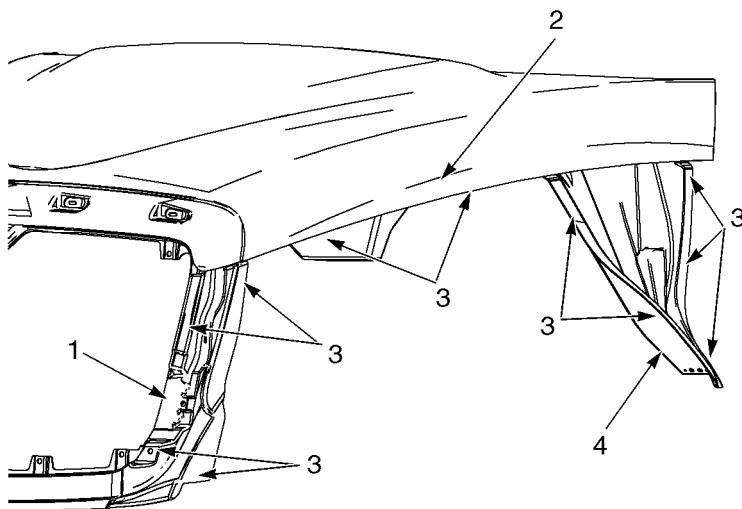
Figure 37 Fender Section at Hood Top and Side Hood Support

NOTE – Be careful not to crack the hood top panel.

- 12. Starting at the rear edge of the hood/fender assembly, use a heat gun to heat the left fender section piece from inside the hood top panel. Push a putty knife between the hood top panel and the left fender section piece to separate them. Work toward the front hood support at the front of the hood.

NOTE – Be careful not to crack the hood top panel while working the putty knife between the hood top panel and the left fender section piece.

- 13. Where the left fender section piece is bonded to both the left hood reinforcement panel and top hood panel, heat will also need to be applied to the hood top panel. Be careful not to apply too much heat to the hood top panel.
- 14. Continue to apply heat to both the left fender section piece and front hood support. Use the putty knife and pliers to work the left fender section piece out from between the front hood support and hood top panel.



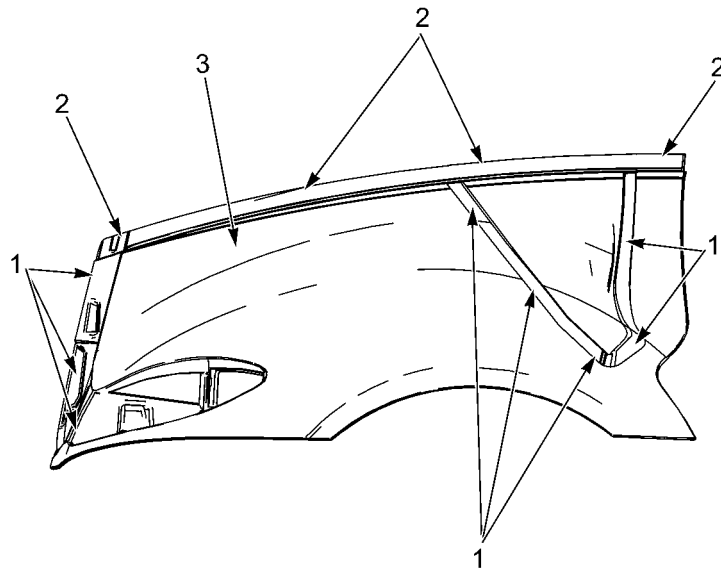
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- 1. FRONT HOOD SUPPORT
- 2. HOOD TOP PANEL
- 3. ADHESIVE SURFACE

- 4. LEFT HOOD REINFORCEMENT
PANEL

Figure 38 Clean Surfaces

15. Once the damaged fender section is completely removed, use a sanding disk and clean the remaining adhesive. Remove all adhesive from the front hood support, left hood reinforcement panel, and inside surface of hood top panel where the new fender section will be secured with adhesive. Then, with a lint-free cloth and alcohol, clean these surfaces and scuff with 180-grit sandpaper.



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- 1. INSIDE MATING SURFACES
- 2. OUTSIDE MATING SURFACES

- 3. NEW FENDER SECTION

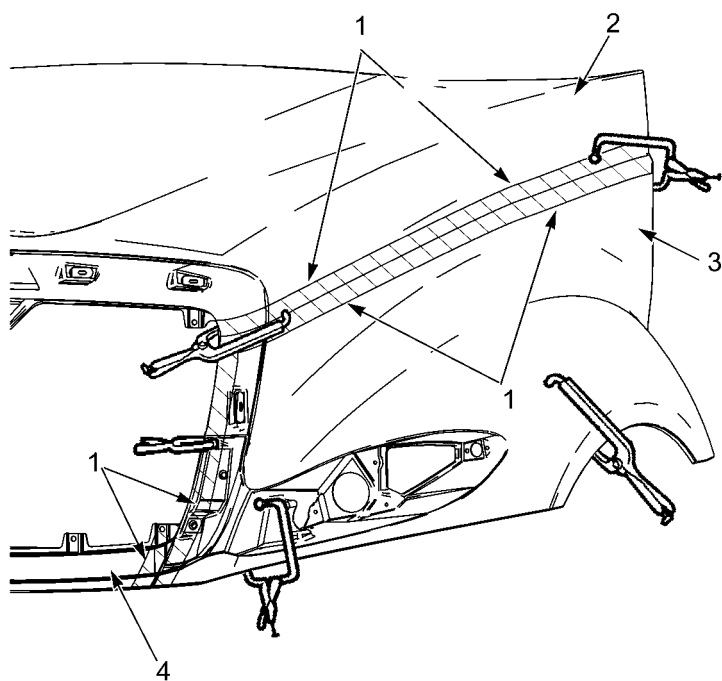
Figure 39 Scuff These Surfaces

16. Use a clean, lint-free cloth and alcohol to clean the surfaces on both the inside and outside of the new left fender section where it will be secured with adhesive to the front hood support, hood top panel, and left hood reinforcement panel. Scuff these surfaces with 180-grit sandpaper.
17. Use a clean, dry, lint-free cloth to wipe any loose fiberglass and dust from the front hood support, hood top panel, left hood reinforcement panel and the new left fender section before applying the adhesive.

Hood and Fender Panel – Installation



Avoid contact with eyes, skin, and clothing. Avoid breathing vapor or mist. Do not breathe dust. Use with adequate ventilation and appropriate breathing apparatus. Refer to Fusor Corporate Material Safety Data Sheet before using this material. Fusor may be contacted by calling 1-800-234-Fusor. More information can be found on the ISIS® Web site (Supplier→ Fusor).



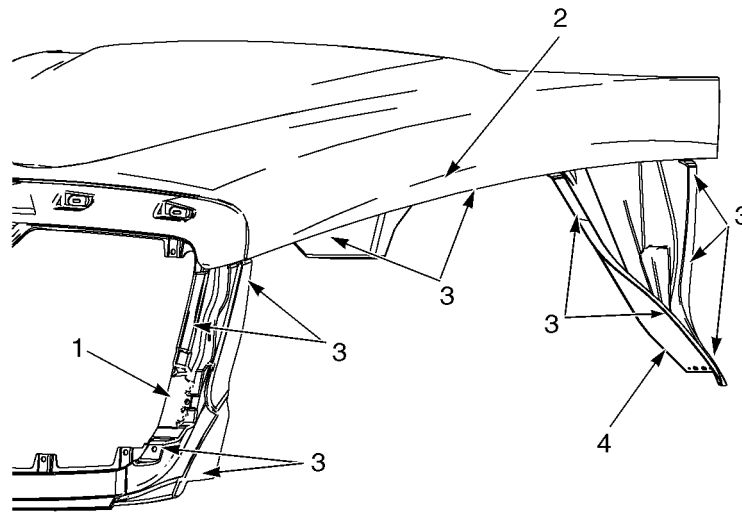
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- 1. MASKING TAPE
- 2. HOOD TOP PANEL

- 3. LEFT FENDER SECTION
- 4. FRONT HOOD SUPPORT

Figure 40 Fit New Fender

1. Before applying adhesive to any components, slide the new left fender section into position on the hood and check the fit. Use clamps to hold the new left fender section in place.
2. Apply masking tape vertically on the front hood support and along the front of the left fender section to aid in the cleanup of excessive adhesive.
3. Apply masking tape horizontally on the left fender section and the hood top panel, starting at the front edge of the fender section and hood top panel to the rear edge of each panel.
4. Remove the left fender section from the hood.



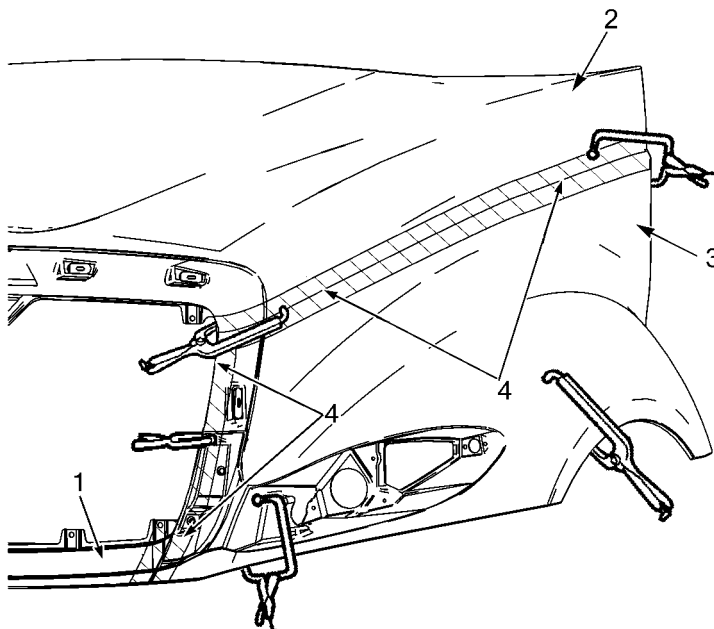
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- 1. FRONT HOOD SUPPORT
- 2. HOOD TOP PANEL
- 3. ADHESIVE POINTS

- 4. LEFT HOOD REINFORCEMENT
PANEL

Figure 41 Apply Adhesive

- 5. Apply Fusor adhesive to all mating surfaces with the left fender section on the front hood support, left hood reinforcement panel, and hood top panel.
- 6. Once the adhesive has been applied, with assistance from a coworker, position the front of the new fender section between the front hood support and the top hood panel. Position the offset of the left fender section behind the hood top panel.



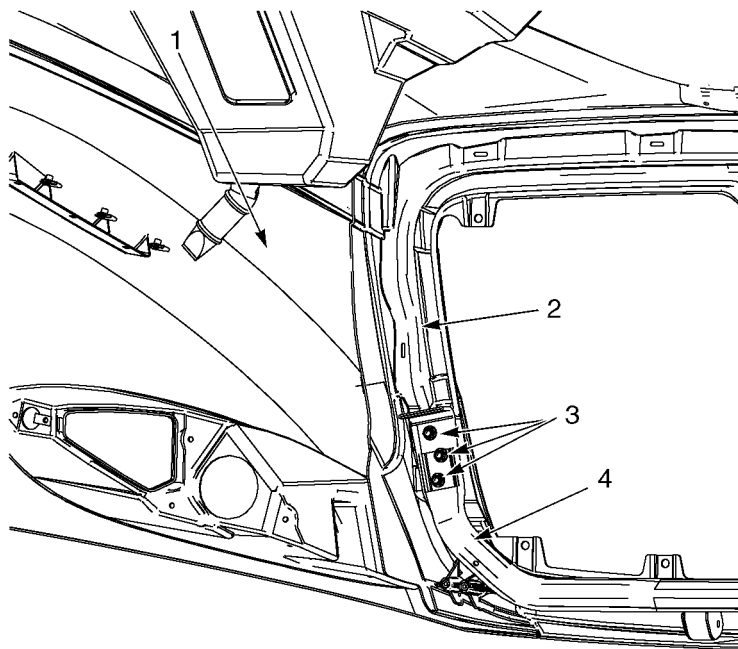
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- 1. FRONT HOOD SUPPORT
- 2. HOOD TOP PANEL

- 3. LEFT FENDER SECTION
- 4. ADHESIVE SEAMS

Figure 42 Adhesive Clean Up

- 7. Clamp the left fender section in place along the front hood support, at the rear of the top hood panel, and bottom of the left hood reinforcement panel.
- 8. Use a piece of plastic or wood to remove the excess adhesive from the seam between the top of the hood and the new fender section. Also, remove excess adhesive from the front hood support and the front of the left fender section before it starts to cure.
- 9. Remove the masking tape from the left fender section, front hood support, and top hood panel.



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- 1. LEFT FENDER SECTION
- 2. FRONT HOOD SUPPORT

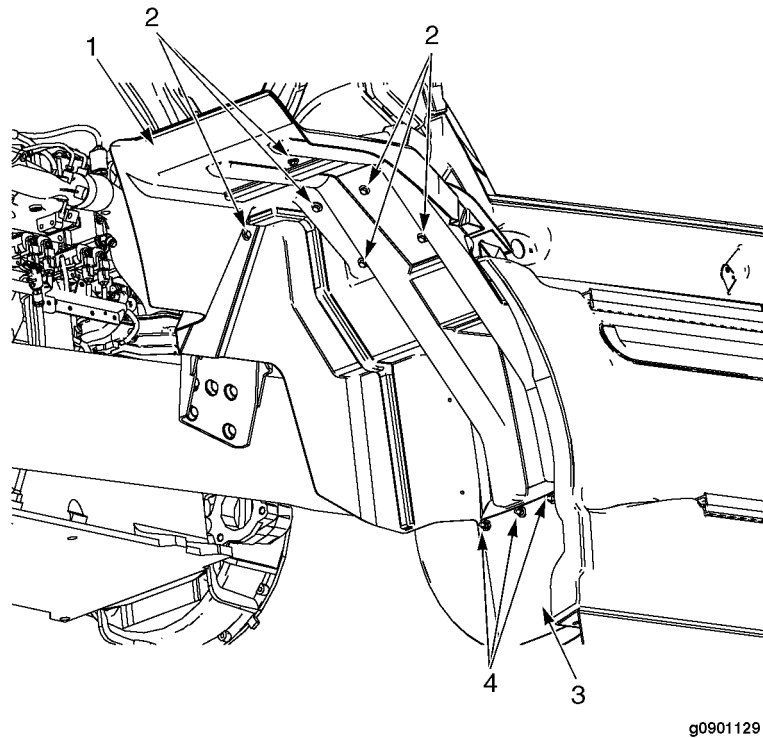
- 3. MOUNT HOLES
- 4. HOOD HINGE ROD

Figure 43 Fender\Hood Hinge Mount Holes

10. Use the hood hinge rod as a template and, from inside the hood assembly, drill three holes through the left fender section for mounting the hood hinge rod to the left fender section.
 11. Secure the left fender section to the front hood support and hood hinge rod with three bolts and nuts (Figure 36). Torque bolts to 21 to 27 lbf-ft (28 to 37 N•m).
 12. Allow the adhesive to cure for at least four hours before removing the clamps.
- NOTE – At 70°F/21°C, the adhesive will fully cure in 24 to 48 hours (or 1 hour at 140°F/60°C).**
13. Once the adhesive has cured properly, install the headlight assembly, splash shield, hood mirror, and sound insulation as needed.
 14. Install the hood on the vehicle. Refer to **Hood – Installation** procedures in this manual.

2.14. FENDER EXTENSIONS

Fender Extensions – Removal



- 1. LEFT FENDER EXTENSION
- 2. FENDER EXTENSION MOUNT BOLTS

- 3. FRONT MUD GUARD
- 4. MUD GUARD MOUNT BOLTS

Figure 44 Left Fender Extension

1. Unlatch and open the hood.
2. Clean dirt and debris away from all mount hardware.
3. Remove six bolts and left fender extension from chassis.

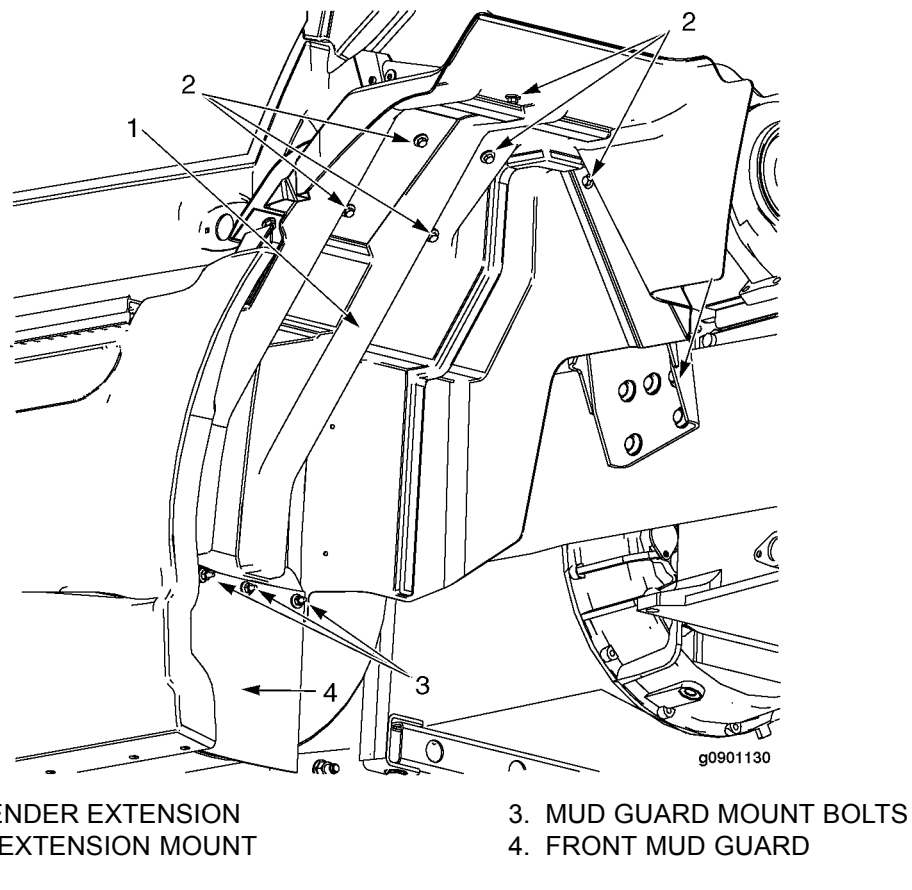


Figure 45 Right Fender Extension

4. Remove five bolts and right fender extension from chassis.
5. To remove either front mud guard, remove four bolts and mud guard from fender extension.

Fender Extensions – Installation

1. To install either front mud guard, align the mud guard on the fender extension and secure with four bolts, nuts, and eight washers (Figure 45, Items 3 and 4) (Figure 45, Items 3 and 4). Torque bolts to 14 to 18 lbf-ft (19 to 24 N•m).
2. Install fender extension on chassis and align mounting holes.
3. Secure right fender extension with five bolts (Figure 45, Items 1 and 2). Torque bolts to 18 to 19 lbf-ft (24 to 26 N•m).
4. Secure left fender extension with six bolts (Figure 44, Items 1 and 2). Torque bolts to 18 to 19 lbf-ft (24 to 26 N•m).
5. Close hood and ensure fender extensions are aligned properly.
6. If either fender extension is not aligned properly, loosen mounting bolts, align fender extension, and tighten bolts.

2.15. HEADLIGHT ASSEMBLY

Headlight Assembly – Removal

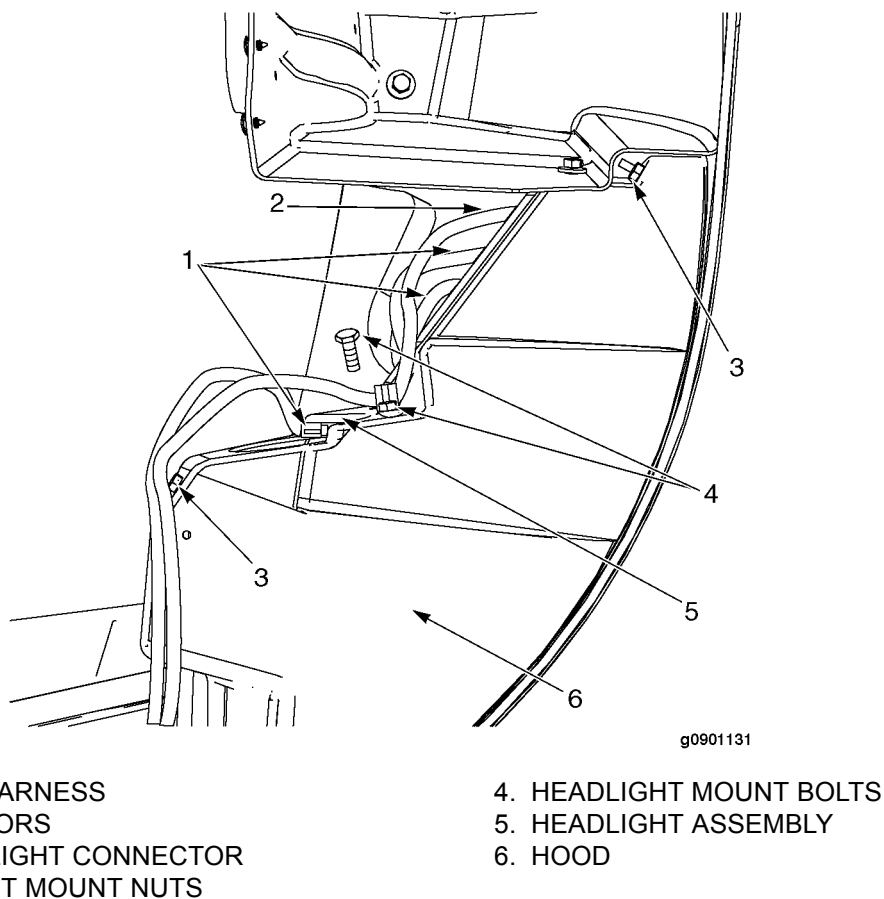
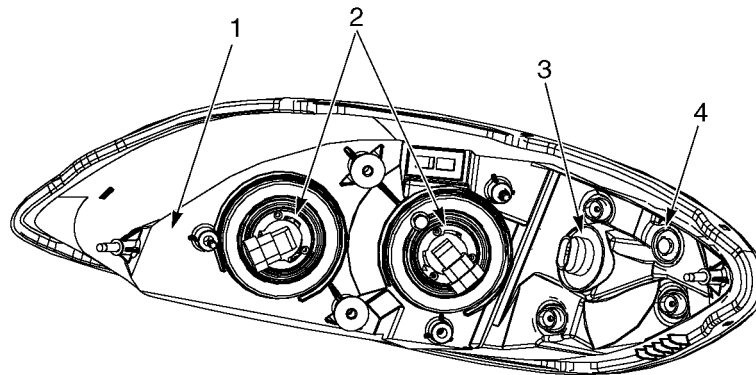


Figure 46 Headlight Assembly

1. Unlatch and open the hood.
2. Disconnect three connectors from rear of headlight assembly.
3. Turn marker light connector $\frac{1}{4}$ turn counterclockwise and remove from headlight housing.
4. Remove two bolts and wire harness P-clip from hood and headlight assembly.
5. Remove two nuts from hood and headlight assembly.
6. Remove headlight assembly from hood.

Headlight Assembly – Installation

1. Install headlight assembly in hood opening and secure with two nuts (Figure 46, Items 3 and 5). Torque nuts to 4 lbf-ft (5 N•m).
2. Install two bolts and wire harness P-clip through hood and secure headlight assembly (Figure 46, Items 4 and 5). Torque bolts to 4 lbf-ft (5 N•m).
3. Install marker light connector into headlight assembly opening and turn clockwise ¼ turn to lock in headlight assembly (Figure 46, Items 2 and 5).
4. Connect three electrical connectors to rear of headlight assembly (Figure 46, Items 1 and 5).
5. Close and latch the hood.

Headlight Bulb Replacement

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1. HEADLIGHT ASSEMBLY
2. HEADLIGHT BULBS

3. TURN SIGNAL BULB
4. MARKER LIGHT MOUNT HOLE

Figure 47 Headlight Bulbs

1. To remove turn signal and headlight bulbs from headlight assembly, turn counterclockwise and remove.
2. Install turn signal and headlight bulbs into proper positions in headlight assembly and turn clockwise to lock in position.

Headlight Adjustment

The horizontal adjustment for the headlights is set at the factory and no adjustment is needed.

1. To adjust the headlight vertical direction, release hood latch and tilt hood forward.
2. Locate adjustment control stem on rear of headlight housing.
3. Rotate the adjustment screw clockwise or counterclockwise to adjust the vertical adjustment of the headlight beam.

TORQUE

Table 1 Torque Chart

Figure No. (Item No.)	Location	Lbf-ft/in.	N•m
Figure 2 (Item 3)	Bumper Hinge Mount Bolts	12 to 15	16 to 20
Figure 6 (Item 2)	Bumper Frame Mount Bolts	12 to 15	16 to 20
Figure 6 (Item 4)	Bumper Support Tube Bolts	12 to 15	16 to 20
Figure 7 (Item 1)	Bumper Panel Mount Bolts	12 to 15	16 to 20
Figure 7 (Item 3)	Bumper Panel Mount screws	9 to 11	12 to 15
Figure 11 (Item 2)	Support Cable Mount Bolts	12 to 15	16 to 20
Figure 11 (Item 4)	Tilt Bracket Mount Bolts	70 to 85	95 to 115
Figure 13 (Item 4)	Grille Mount Screws	4/48 to 5/60	5 to 7
Figure 15 (Item 3) Figure 16 (Item 3)	Hood Splash Shield Mount Bolts	15 to 19	20 to 26
Figure 19 (Item 6) Figure 20 (Item 3) Figure 25 (Item 2)	Torsion Bar Mount Plate Bolts	6/72 to 8/96	8 to 11
Figure 22 (Item 2)	Hood Mount Bolts	15 to 18	20 to 24
Figure 24 (Item 1)	Hood Hinge Mount Bolts	65 to 80	88 to 108
Figure 26 (Item 2)	Hood Latch Mount Bolts	15 to 19	20 to 26
Figure 27 (Item 2)	Hood Latch Lock-Down Bracket Mount Bolt	15 to 19	20 to 26
Figure 28 (Item 2)	Hood Mirror Mount Nuts	9 to 12	12 to 16
Figure 35 (Item 2)	Hood Hinge Rod Mount Bolts	21 to 27	28 to 37
Figure 44 (Item 2) Figure 45 (Item 2)	Fender Extension Mount Bolts	18 to 19	24 to 26
Figure 44 (Item 4) Figure 45 (Item 3)	Front Mud Guard Mount Bolts	14 to 18	19 to 24
Figure 46 (Items 3 and 4)	Headlight Mount Nuts and Mount Bolts	4/48	5