

SERVICE MANUAL

SERVICE MANUAL SECTION

HOOD, GRILLE, FENDERS AND BUMPER - 8600

Truck Model: 8600

s09008

11/11/2002

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DESCRIPTION

BUMPER

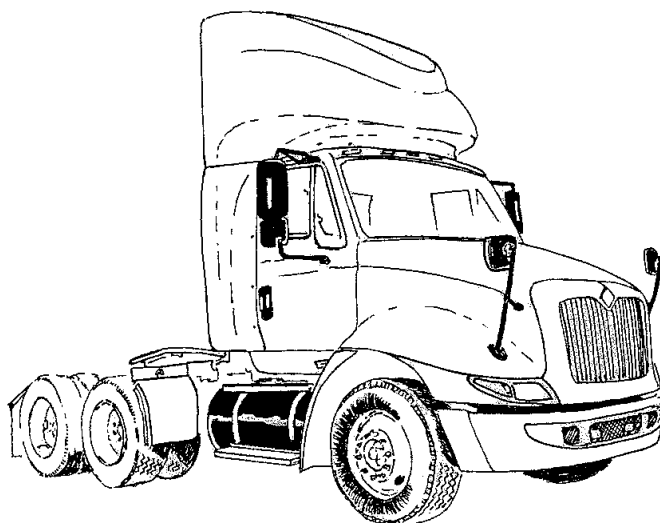


Figure 1 8600 Series Cab and Chassis

The 8600 series front bumper is a stylized wrap around steel bumper assembly with stylized side bumper extenders. The wrap around design allows access for the towing eye pins, and enhances the air flow to the radiator for better engine cooling.

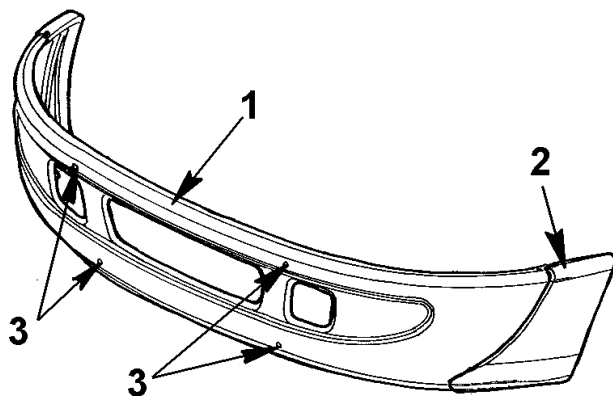


Figure 2 Bumper

- 1. 8600 SERIES BUMPER
- 2. BUMPER SIDE EXTENSION
- 3. MOUNTING HOLES

The front bumper is a one piece aerodynamically styled steel bumper, with composite side extenders (Figure 2, Item 2).

HOOD

The fiberglass hood is a sculptured hood with bonded fender, valance and cross bar cover sections. The hood is a tilting type. The narrowed, streamlined, tilting, fiberglass hoods provide aerodynamics (Figure 3) and functional design styling, while still enclosing the air cleaner.

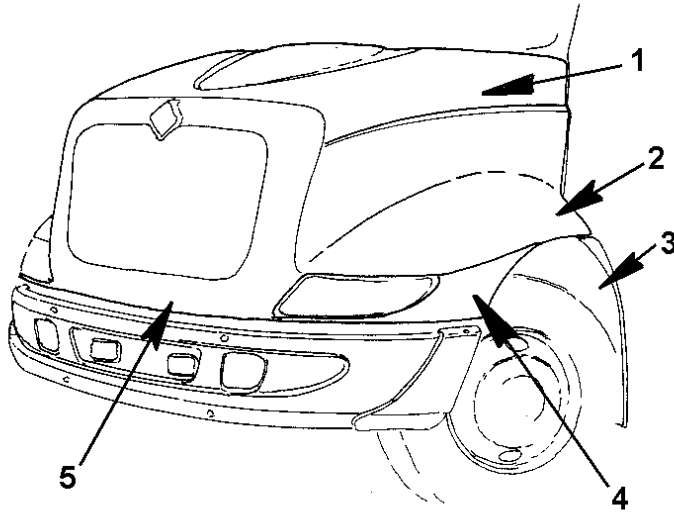


Figure 3 8600 Series Hood

1. 8600 SERIES HOOD
2. UPPER FENDER ASSEMBLY (BONDED TO HOOD)
3. FENDER EXTENSION
4. FENDER VALANCE (BONDED TO FENDER)
5. CROSS BAR COVER

SPLASH PANELS

The splash panels on all models minimize splash and mud, protecting vital engine systems from corrosion and malfunction (Figure 4, and Figure 5).

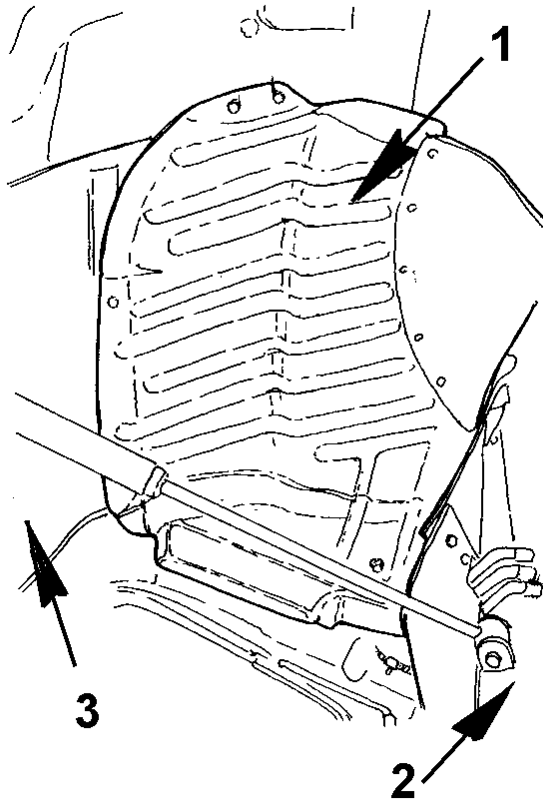


Figure 4 8600 Series Hood Splash Panel (Passenger Side Shown)

1. SPLASH PANEL
2. RADIATOR TOP FRAME
3. HOOD

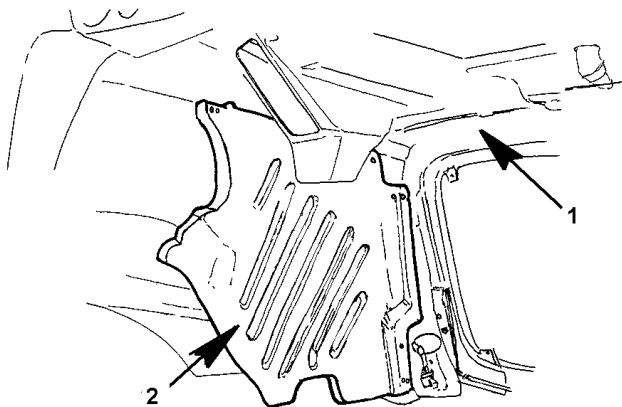


Figure 5 8600 Splash Panel (Driver Side Shown)

- 1. HOOD
- 2. SPLASH PANEL

GRILLE

The grille on the 8600 series is a two-piece integral fiberglass grille bolted to the hood, and is furnished in chrome finish (Figure 6). The grille on the 8600 series model can be removed without removing the hood.

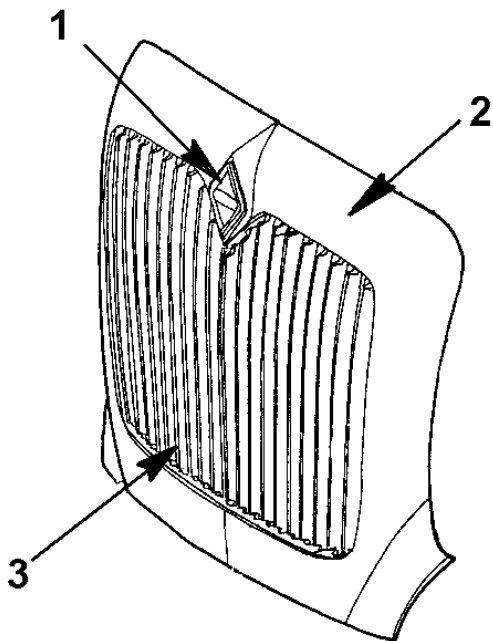


Figure 6 8600 Model Grille

- 1. INTERNATIONAL NAMEPLATE
- 2. GRILLE SHROUD
- 3. GRILLE INSERT

AIR INTAKES

On the 8600 series, 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 (Figure 7).

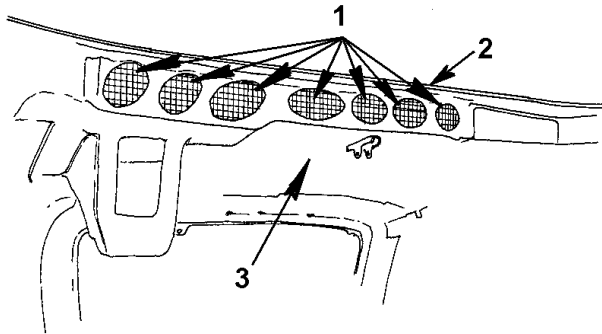


Figure 7 8600 Series Air Intake

1. INTAKE OPENINGS
2. REAR EDGE OF HOOD
3. HOOD

FENDERS

Fenders are part of the four-piece bonded tilt type hood assembly on the 8600 series vehicles (Figure 3 and Figure 8). All model hoods have fender extensions which are mounted to the lower forward cab structure.

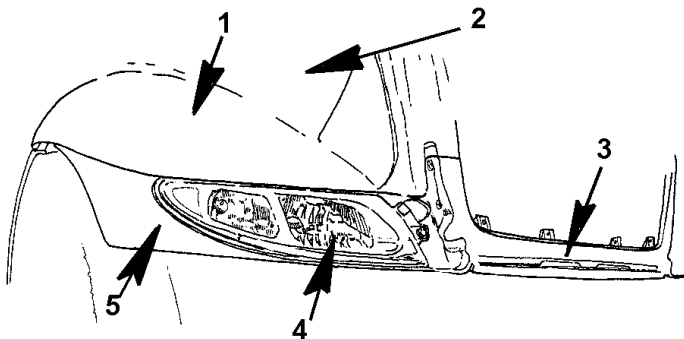


Figure 8 8600 Series Fender (Passenger Side Shown)

1. FENDER SECTION
2. HOOD (SIDE SECTION SHOWN)
3. CROSS BAR COVER SECTION
4. HEADLIGHT ASSEMBLY
5. VALANCE SECTION

FENDER EXTENSIONS

Fender extensions are an integral part of the fender system on the 8600 series vehicles. The fender extensions have been designed to provide splash and spray protection. This protects the lower front of the cab from splash and road debris kicked up by the front tires, and it also keeps the step cleaner (Figure 9).

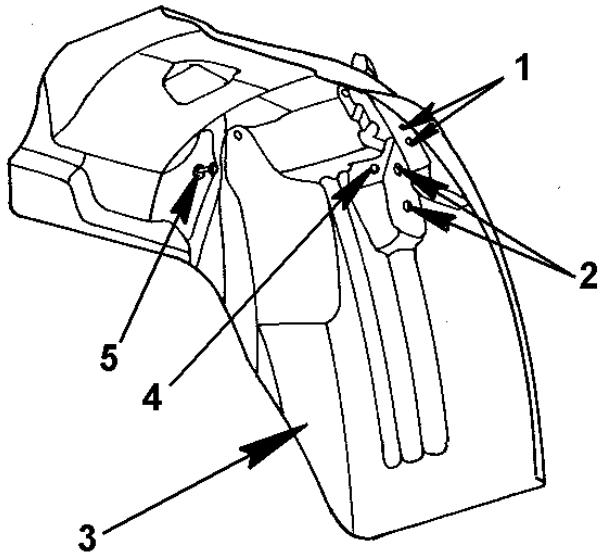


Figure 9 8600 Series Fender Extension

1. HOOD LATCH MOUNTING HOLES
2. FENDER EXTENSION TO CAB STRUCTURE MOUNTING HOLES
3. FENDER EXTENSION
4. FENDER EXTENSION MOUNTING HOLE
5. FENDER EXTENSION MOUNTING STUD

HOOD SEAL

The hood seal is located on the leading edge of the cowl tray (Figure 10). The cowl tray is mounted to the upper front cab engine wall, below the windshield. The cowl tray seal forms a seal between the hood section and the cowl tray. The cowl seal on the 8600 model series is a two piece seal.

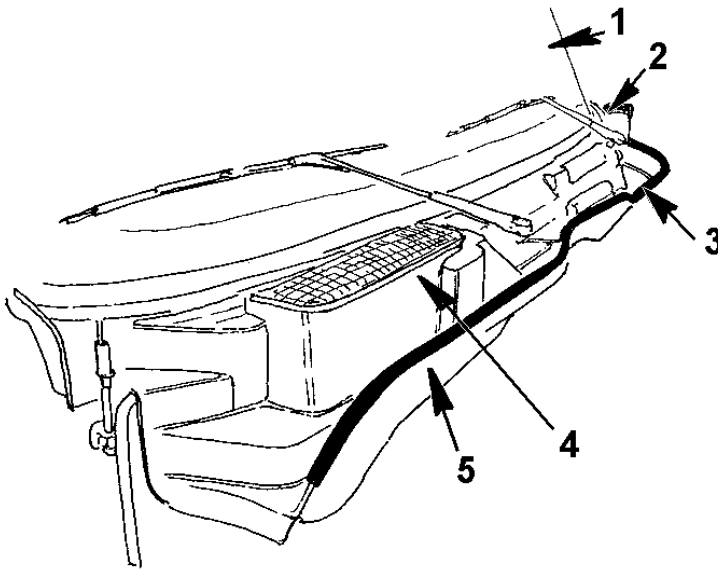


Figure 10 Hood Seal 8600 Series

1. WINDSHIELD
2. UPPER DRIVER SIDE HOOD SEAL
3. HOOD SEAL
4. HEATER HVAC AIR INTAKE
5. COWL TRAY

REMOVE AND INSTALL

BUMPER

Bumper Removal

The 8600 Series aerodynamic bumper is attached to the chassis bumper mounting brackets utilizing (4) four mounting bolts.

1. Beginning at the upper two bolts, loosen bolts (Figure 11, Item 2).
2. Loosen both lower bumper bolts.
3. With an assistant supporting the bumper, remove the two remaining lower bolts. Remove bumper.

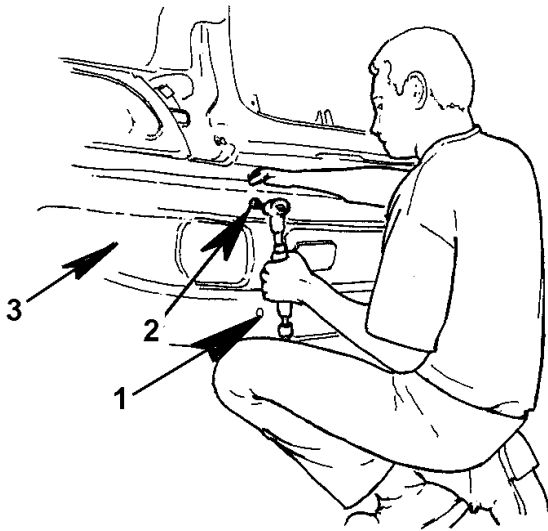


Figure 11 Bumper Removal

1. LOWER BOLT LOCATION (PASSENGER SIDE SHOWN)
2. UPPER BUMPER MOUNTING BOLT
3. BUMPER ASSEMBLY

Bumper Install

Beginning at the upper bolt hole of the steel bumper:

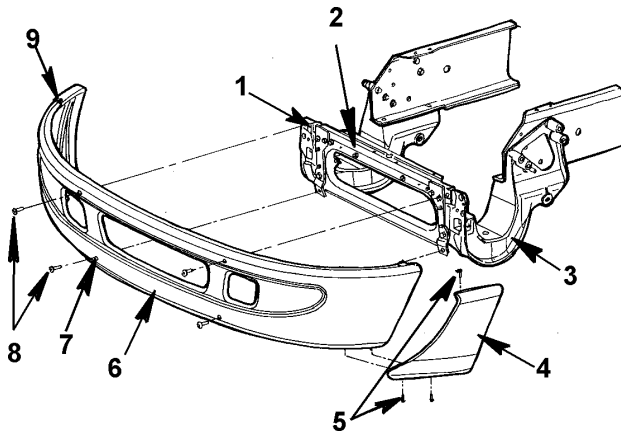


Figure 12 Bumper Installation

1. CROSS MEMBER BUMPER MOUNTING HOLES
2. FRONT CROSS MEMBER
3. MEGA BRACKET
4. BUMPER SIDE EXTENSION
5. SIDE SECTION MOUNTING BOLTS
6. BUMPER ASSEMBLY
7. BUMPER MOUNTING HOLES
8. BUMPER MOUNTING BOLTS
9. BUMPER SIDE SECTION MOUNTING HOLES

1. With an assistant, place bumper at front cross member, align bumper mounting holes with mounting holes in cross member.
2. Insert bolts in the upper holes (Figure 12, Item 8), one driver side, one passenger side. Hand tighten.
3. Locate the lower bumper mounting holes and insert lower bolts, and hand tighten.
4. Tighten bumper bolts to required torque value.
5. Torque bumper bolts to 50 to 55 lbf-ft. (68 to 75 Nm).

HOOD

Hood Removal

1. Place wheel chocks at wheels as required. Remove grille and shroud as detailed in Grille Removal section (Figure 33).
2. 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 (Figure 15, Item 1).
3. Beginning on the passenger side of the hood assembly, locate and disconnect the chassis harness from the hood harness (Figure 13, Item 3). Follow the same procedure on the drivers side (Figure 14, Item 2). The harness stays with the hood.

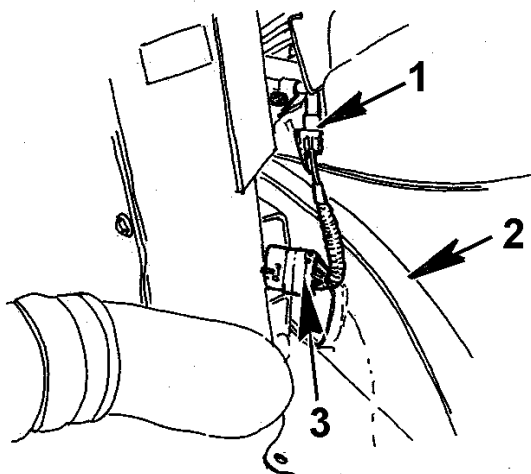


Figure 13 Harness Connections (Passenger Side Shown)

1. HEADLIGHT HARNESS CONNECTION
2. FRONT BUMPER
3. CHASSIS PIG TAIL

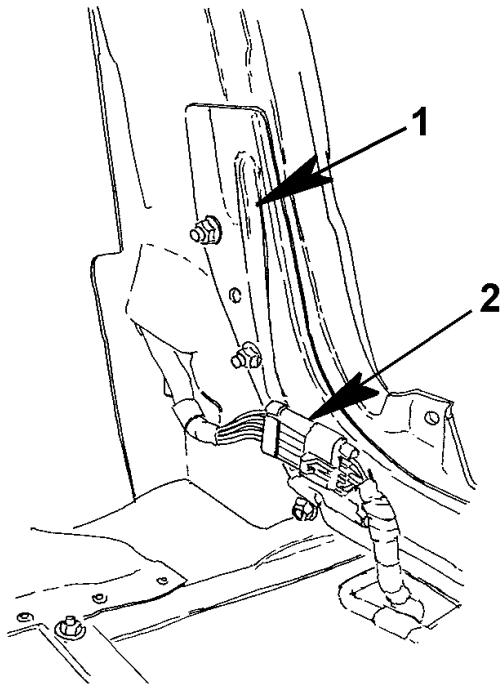


Figure 14 Harness Connection (Driver Side Shown)

1. HOOD SUPPORT REINFORCING BRACKET AND TORSION BAR
2. CHASSIS PIG TAIL CONNECTION

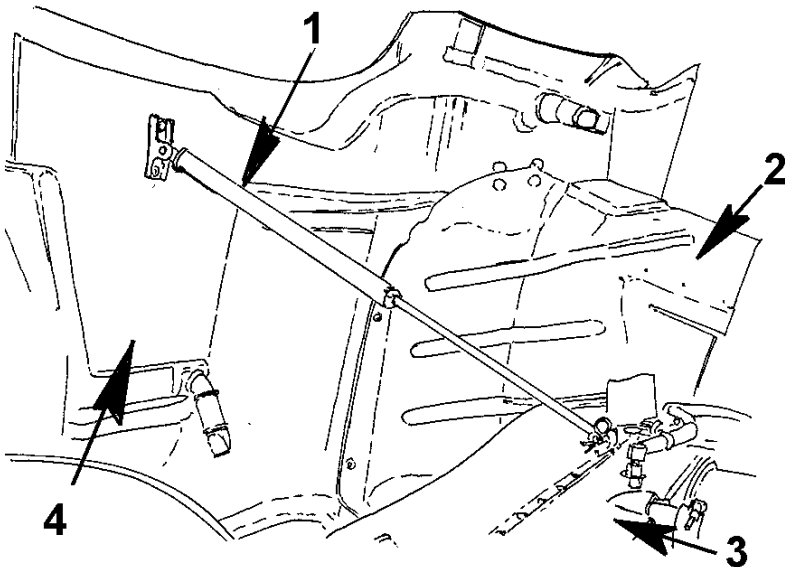


Figure 15 8600 Series Tilt Assist Assembly

1. TILT ASSIST CYLINDER
2. SPLASH PANEL (PASSENGER SIDE SHOWN)
3. RADIATOR TOP FRAME
4. HOOD ASSEMBLY

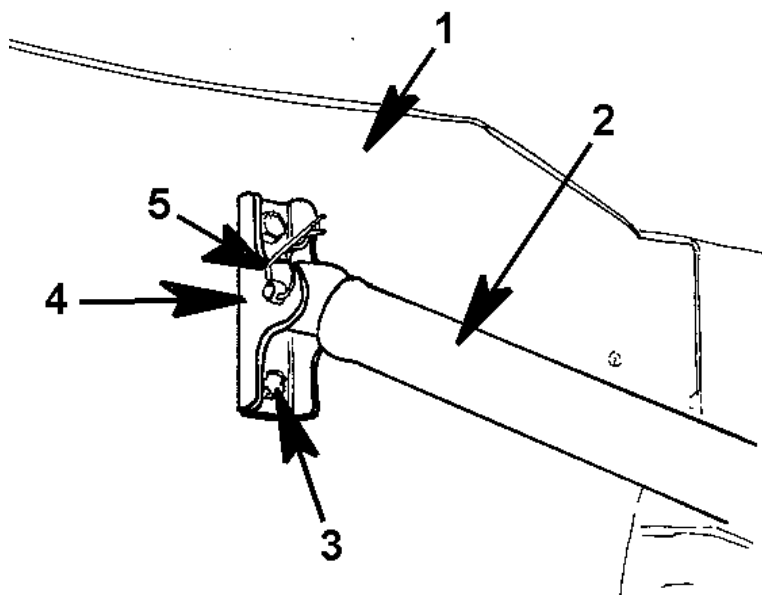


Figure 16 Assist Cylinder Upper Mounting Bracket

1. HOOD
2. HOOD TILT ASSIST CYLINDER
3. ASSIST CYLINDER BRACKET MOUNTING BOLTS
4. ASSIST CYLINDER MOUNTING BRACKET
5. RETAINER CLIP

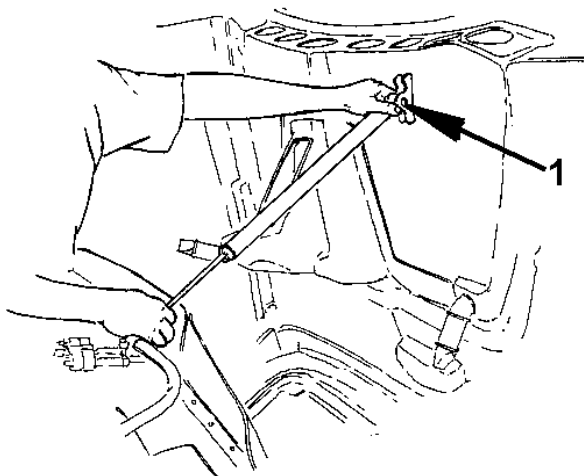


Figure 17 8600 Model Hood Tilt Assist Removal

1. ASSIST CYLINDER RETAINER PIN

4. Locate the hood tilt assist cylinder brackets, both upper and lower (Figure 16, Item 4 and Figure 18, Item 5), on the underside of the hood assembly.
5. Locate and remove the upper retainer pin clip (Figure 16, Item 5) from the assist cylinder retainer pin.
6. Remove the retainer pin from the assist cylinder and mounting bracket (Figure 17, Item 1).
7. Locate the torsion bar hood tilt assist assembly lower bracket (Figure 18, Item 5). Remove the retaining pin clip (Figure 18, Item 2) that secures the retainer pin to the tilt assist cylinder and assist cylinder mounting bracket (Figure 18, Item 1 and 5).
8. Remove the retainer pin (Figure 18, Item 4).
9. Remove the tilt assist cylinder (Figure 19, Item 2) from the hood tilt assembly brackets.

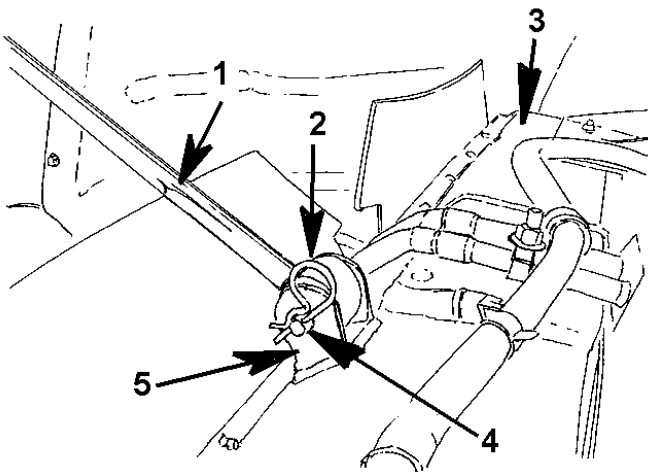


Figure 18 Hood Tilt Lower Assist Assembly

1. HOOD TILT ASSIST ARM
2. RETAINER CLIP
3. TILT ASSIST LOWER RETAINER PIN
4. RADIATOR TOP FRAME
5. TILT ASSIST RADIATOR MOUNTING BRACKET

10. With the hood still in the open position, locate the hinge hex head locking nuts (Figure 20, Item 4), and the torsion bar mounting points (Figures 21 and 23).

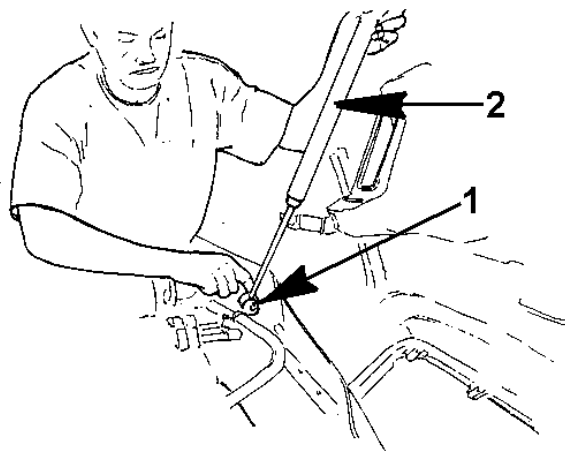


Figure 19 Tilt Assist Arm Removal

1. LOWER MOUNTING ASSEMBLY
2. TILT ASSIST ARM

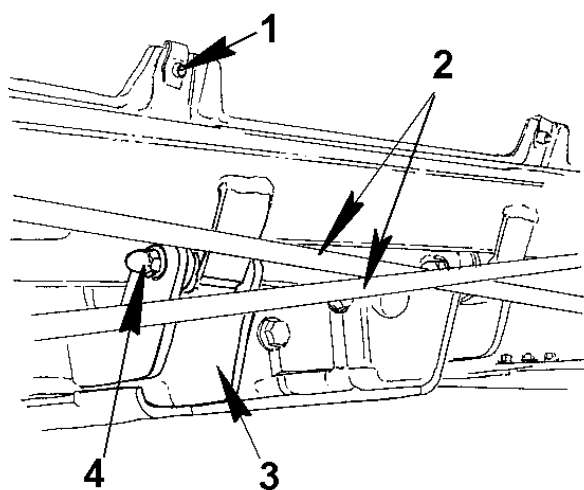


Figure 20 Torsion Bars and Hinge Assembly

1. GRILLE MOUNTING TABS
2. TORSION BARS
3. HINGE MOUNTING ASSEMBLY
4. HINGE BOLT LOCKING NUTS

11. Locate the torsion bar ends at each side of the hood assembly (Figure 21, Item 1).

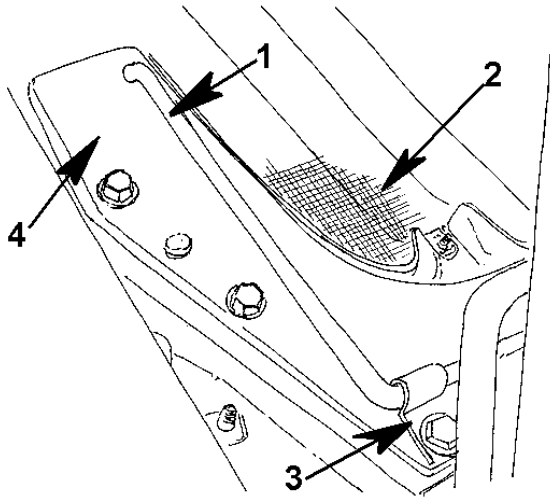


Figure 21 Torsion Bar Hood Mounting Assembly (Driver Side Shown)

1. TORSION BAR
2. GRILLE AND BUG SCREEN ASSEMBLY
3. TORSION BAR MOUNTING BRACKET
4. HOOD VERTICAL SUPPORT BRACKET

12. Loosen and remove the torsion bar mounting bolt (Figure 22, Item 1) that secures the mounting bracket to the lower section of the hood vertical support bracket.
13. With torsion bar mounting bracket removed, lift torsion bar upward and remove torsion bar end from the vertical hood support bracket (Figure 21, Item 4) and torsion bar support bracket (Figure 24, Item 2).

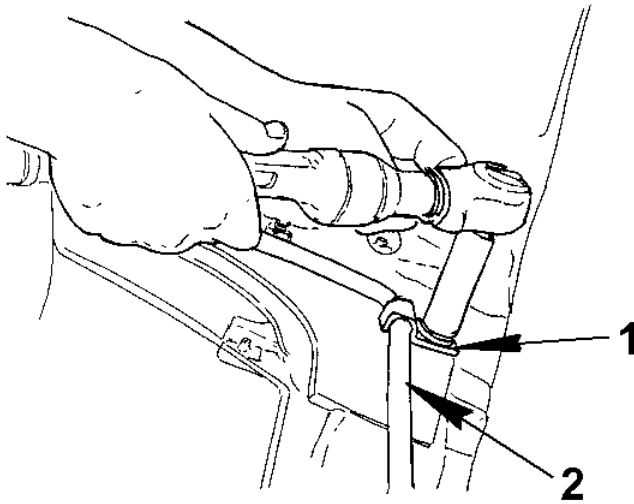


Figure 22 Torsion Bar Mounting Bracket

1. TORSION BAR MOUNTING BRACKET AND BOLT
2. TORSION BAR

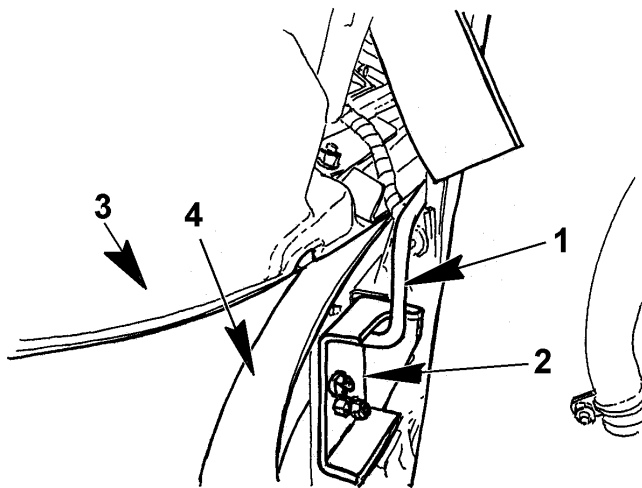


Figure 23 Torsion Bar End Stop Bracket

1. TORSION BAR LOWER END (DRIVER SIDE SHOWN)
2. TORSION BAR STOP BRACKET
3. HEADLIGHT LOWER HOUSING SECTION
4. FRONT BUMPER

14. After removing upper end of torsion bar, locate and remove the lower end of torsion bar from chassis end stop bracket (Figure 23, Item 2).

15. Follow same procedure to remove remaining torsion bar.

16. With an assistant, close the hood assembly to the original position.
17. Locate the hood hinge pin and hex nut at (Figure 24, Item 3) the hinge plate (Figure 24, Item 1).
18. Loosen and remove the hinge bolt/pin flat washers and hex nuts (Figure 26, Items 5 and 8).

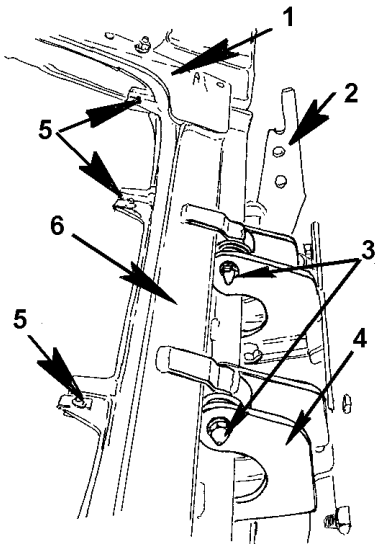


Figure 24 Cross Bar and Hinge Assembly

1. HOOD VERTICAL SUPPORT BRACKET
2. TORSION BAR GUIDE BRACKET
3. HINGE PIN/BOLT HEX HEAD LOCK NUTS
4. HINGE PLATE
5. GRILLE MOUNTS
6. HINGE CROSS BAR

19. With an assistant, remove the hood assembly (Figure 28). Place the hood on an appropriate padded surface to protect painted surfaces.

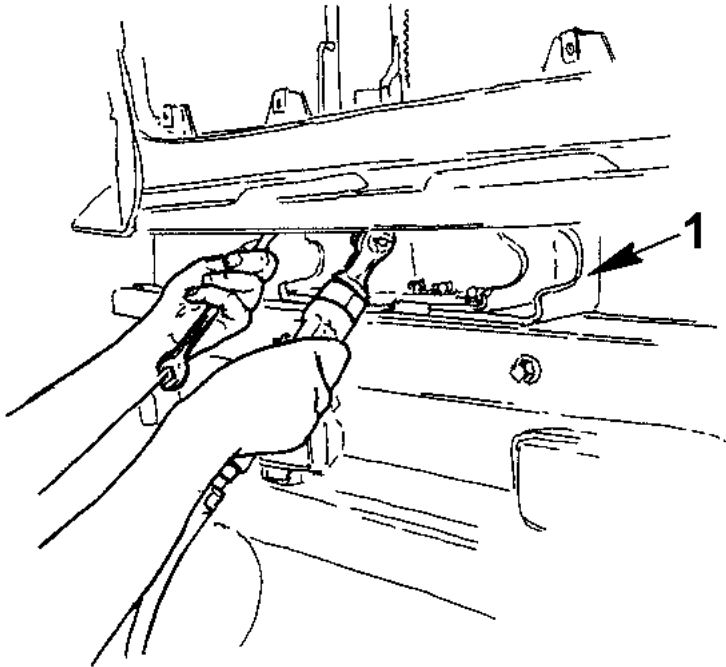


Figure 25 Hinge Pin/Bolt Removal

1. HINGE PLATE VERTICAL HINGE MOUNT BRACKET

Hood — Install

If required, assemble tilt assist support assemblies, splash panels, insulator panels and the hood hinge plates to the hood before installing hood.

1. Place a padded work stand in front of the vehicle. With an assistant, rest the hood assembly on the work stand. Locate the hinge cross bar assembly and hinge mounting plate (Figure 27, Items 1 and 2). If the hinge assembly has been disassembled, insure all components have been reassembled (Figure 26, Items 4, 5, and 6). Position the hood hinge section (Figure 26, Item 6) on the chassis hinge mounting plate (Figure 26, Item 10). Install the hood hinge pins (Figure 26, Item 7) from the outboard side through the hinge mounting plate and hinge sleeve.

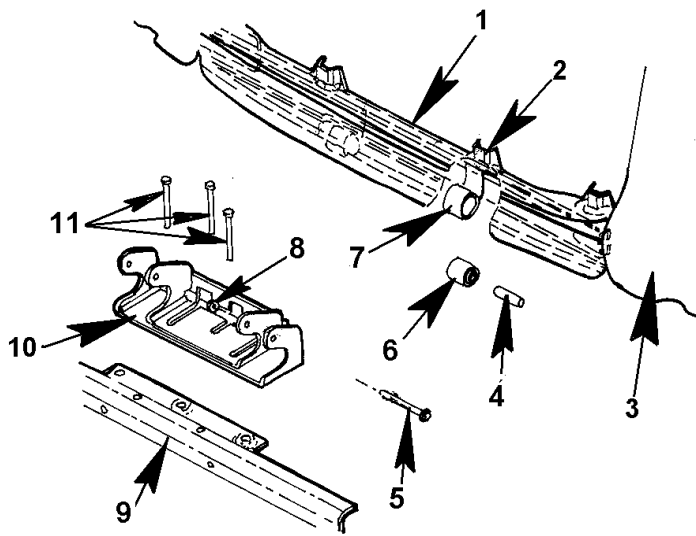


Figure 26 Hood Hinge Mounting Components

1. HINGE CROSS BAR COVER ASSEMBLY
2. GRILLE MOUNTING TABS
3. FENDER SECTION
4. HINGE PIN SLEEVE
5. HINGE BUSHING
6. BUSHING HOUSING
7. HINGE PIN BOLT
8. HINGE BOLT LOCK NUT
9. HINGE CROSS BAR
10. HINGE ASSEMBLY MOUNTING PLATE
11. HINGE PLATE MOUNTING BOLTS

2. Hand tighten the hood hinge pin lock nuts.
3. Install the opposite side hinge pin and nuts, hand tighten.
4. Tighten the hinge pin lock nuts to 43 to 50 lbf-ft (58 to 68 Nm).

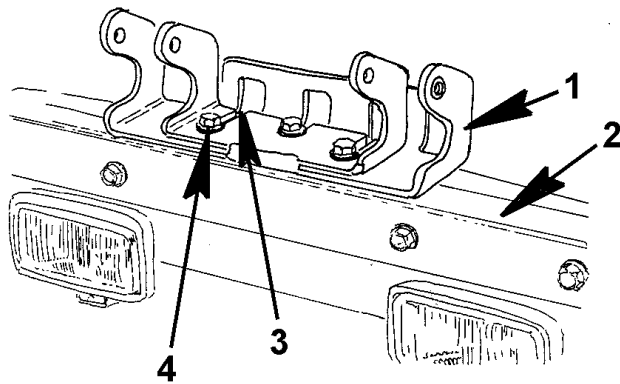


Figure 27 Hood Hinge Mounting Plate

1. HOOD HINGE MOUNTING PLATE
2. HOOD HINGE CROSS BAR
3. HOOD HINGE ADJUSTMENT SLOTS
4. HOOD HINGE PLATE MOUNTING BOLTS

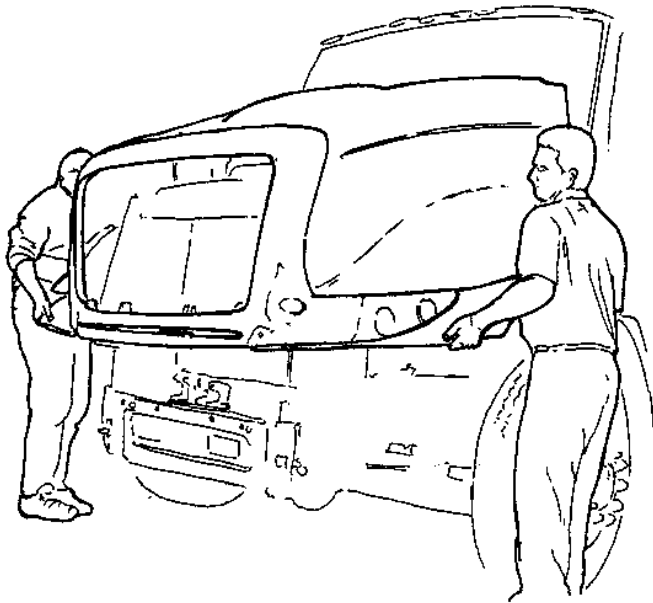


Figure 28 Front Hood- Remove and Install

5. Install hex nuts (Figure 26, Item 8) on each of the hinge pins inboard and outboard side (Figure 26, Item 5) and tighten.
6. With an assistant tilt the hood forward and rest on a padded floor stand.
7. Beginning on the passenger side of the vehicle, locate and replace the hood torsion assist bars (Figure 23, Item 1) in the frame torsion bar stop bracket (Figure 23, Item 2) at the side of the frame rail.

8. Locate the tilt assist hood alignment bracket (Figure 24, Item 32). Place the torsion bar through the alignment bracket, then insert the end of the torsion assist bar into the hood vertical support bracket (Figure 21, Item 4).
9. Locate and align the torsion bar mounting bracket and bolt on the hood vertical support bracket (Figure 21, Item 3). Insert the torsion bar mounting bracket bolt and tighten (Figure 22, Item 1).
10. Tighten the torsion bar mounting bracket bolts to 43 to 55 lbf-ft (58 to 68 Nm).
11. Follow the same procedure for the drivers side torsion bar installation.
12. Raise the hood to approximately a 45 degree angle and support it, to allow for reconnection of the hood assist cylinder.
13. Align the lower end of the hood assist cylinder in the radiator top frame mounting bracket (Figure 19, item 1). Insert the retaining pin through the bracket and cylinder bushing (Figure 18, Item 4). Insert the retaining pin clip into the retaining pin (Figure 18, Item 2). Extend the assist cylinder upward and align the upper assist cylinder end with the upper hood mounted bracket (Figure 17, Item 1). Insert the retainer pin through the assist cylinder end and mounting bracket. Install the retainer pin clip (Figure 16, Item 5) through the retainer pin.
14. Reconnect front end wire harness connectors (Figure 13, Item 3 and Figure 14, Item 2). Secure the wire harness with the clips and loop clamps provided, as necessary.
15. Close the hood and latch the hood on both sides.
16. The front grille and shroud may be re-installed at this time.

SPLASH PANELS

Splash Panel– Removal

The splash panels (Figure 4) on the 8600 series minimize splash and mud, protecting vital engine systems from corrosion and malfunction.

Splash Panel Removal - Drivers Side

1. Tilt the hood assembly forward and locate the splash panel mounting bolts (Figure 29, Item 4) at the forward lower section of the splash panel. Loosen and remove the splash panel mounting bolts.
2. Locate the forward upper splash panel mounting bolts (Figure 29, Item 2). Loosen and remove the mounting bolts attaching the splash panel to the upper section of the hood assembly.
3. Locate the rear splash panel mounting bolts (Figure 29, Item 7), loosen and remove.
4. Remove the splash panel.
5. With the hood tilted locate the driver side 2 forward mounting bolts (Item 2) attaching the splash panel to the front hood assembly.
6. Remove the bolts and lock washers.
7. Remove the 2 rear splash panel mounting bolts and lock washers located along the upper edge of the splash panel.

8. Remove the splash panel assembly.

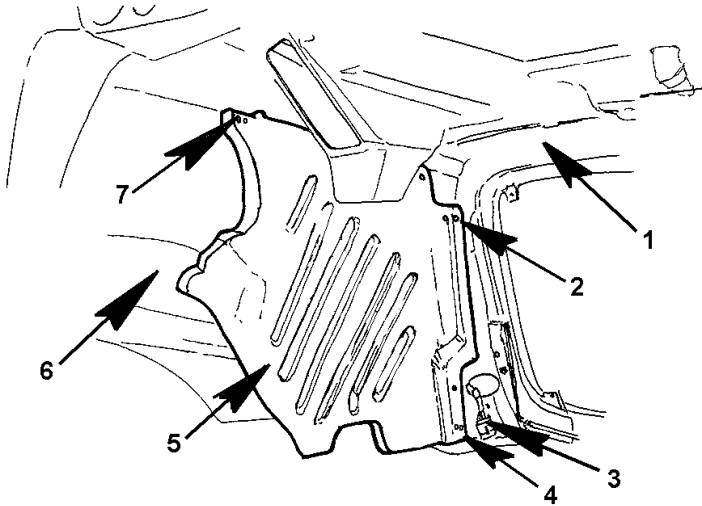


Figure 29 Splash Panel Removal (Driver Side Shown)

1. HOOD
2. SPLASH PANEL FORWARD, UPPER MOUNTING BOLTS
3. HOOD HARNESS
4. SPLASH PANEL FORWARD, LOWER MOUNTING BOLTS
5. SPLASH PANEL
6. FENDER SECTION
7. UPPER REAR SPLASH PANEL MOUNTING BOLTS

Splash Panel - Install

Beginning on the passenger side:

1. Align the splash panel mounting holes with the hood mounting holes (Figure 30, Item 1) insert the mounting bolts and lock washers.
2. Hand tighten only.
3. Align the lower mounting holes with the inner fender section (Figure 29, Item 7).
4. Insert the mounting bolts (Figure 30, Item 1) and lock washers.
5. Tighten the splash panel mounting bolts.
6. Tighten to 125 to 140 in-lbs (14 to 16 Nm).

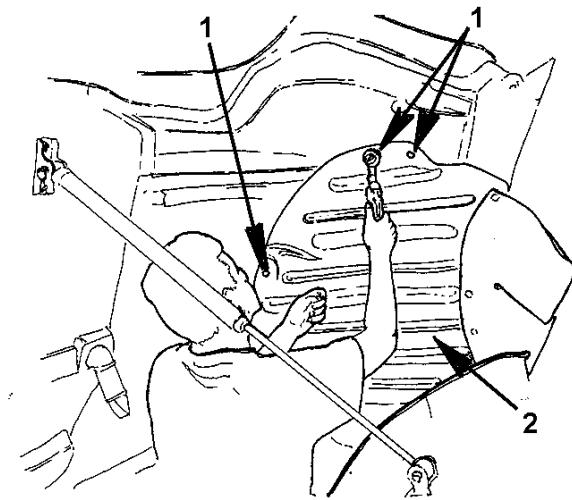


Figure 30 Splash Panel Remove/Install (Passenger Side Shown)

1. HOOD TILT ASSIST CYLINDER
2. SPLASH PANEL MOUNTING BOLTS
3. SPLASH PANEL

7. Position the hood / fender splash panel on the inner fender of the hood / fender assembly (Figure 31, Item 5). Install the 2 forward mounting bolts and lock washer to the hood / fender assembly.

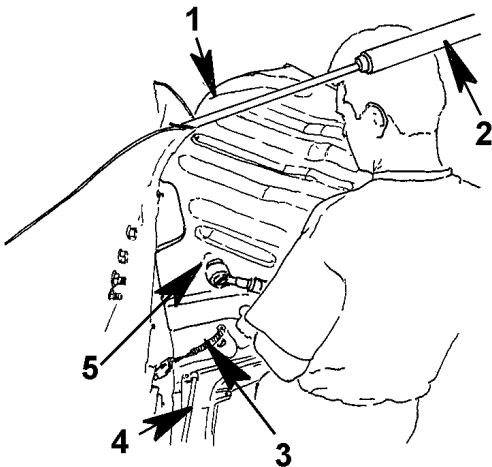


Figure 31 Splash Panel Install (Driver Side Shown)

1. SPLASH SHIELD
2. HOOD TILT ASSIST CYLINDER
3. HOOD HARNESS
4. TORSION ASSIST BAR
5. SPLASH SHIELD FORWARD MOUNTING BOLTS

8. Position the 2 rear splash panel mounting holes in place on the hood and install the mounting bolts and lock washers. Securing it to the hood assembly.

9. Tighten the bolts to the required torque.
10. Tighten to 125 to 140 in-lbs (14 to 16 Nm).
11. Close hood and secure the hood latches.

GRILLE

Grille — Removal

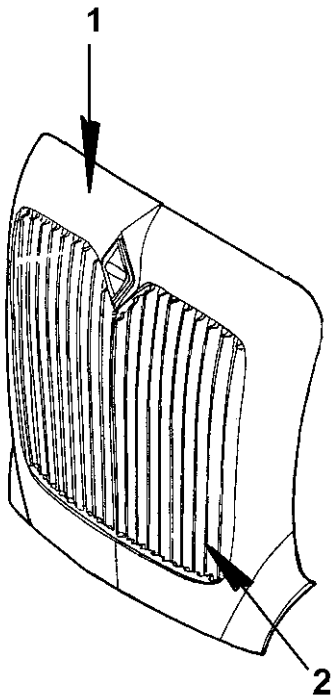


Figure 32 Grille And Shroud Removal

1. GRILLE SHROUD
2. GRILLE INSERT

The grille is a two piece chromed injection molded assembly (Figure 32), designed with an aerodynamic styling to enhance the overall appearance of the 8600 series truck chassis.

1. Locate the four lower grille and shroud mounting screws on the grille assembly (Figure 33, Item 3).
2. Loosen and remove the screws.
3. To remove the grille assembly, lift the grille and shroud assembly out.

Grille — Install

Prior to installing the grille and shroud assembly, inspect the mounting tabs on the inner upper surface of the shroud. Insure that all tabs are functional and in place.

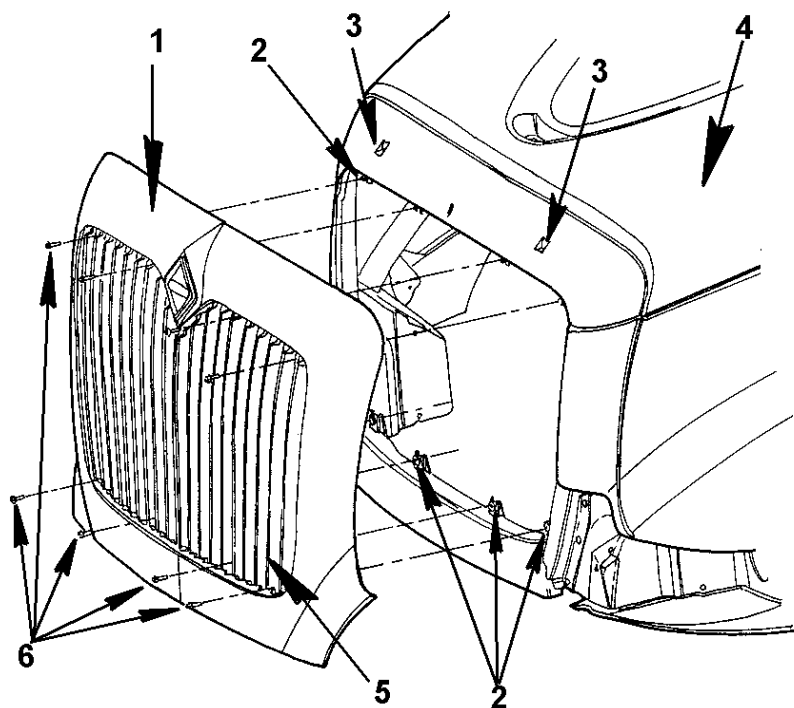


Figure 33 Grille Installation

1. GRILLE SHROUD
2. GRILLE MOUNTING HOLES
3. GRILLE MOUNTING TAB INSERT SLOTS
4. HOOD
5. GRILLE INSERT
6. GRILLE MOUNTING BOLTS

1. Align the four (4) upper mounting holes.
2. Insert the upper grille/shroud mounting bolts in the grille mounting holes. Hand tighten only.
3. Insure the alignment of the lower bolt mounting holes, insert the four mounting screws in the assembly and tighten.
4. Tighten to 3 to 3.3 lbf-ft (4 to 4.5 Nm).

IMPORTANT – Do not overtighten the mounting screws.

AIR INTAKES

Air Intakes

The air intake assembly is located at the rear edge (Figure 34, Item 1) of the hood assembly. The seven openings allow the air flow through the sculptured under hood duct work. There are no serviceable or replacement parts on the air intake vents.

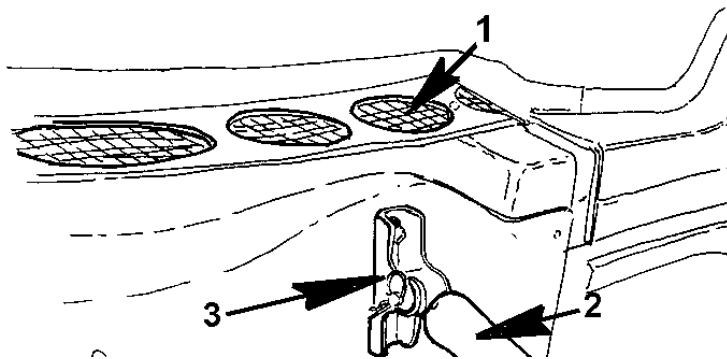


Figure 34 Air Intake Openings

1. AIR INTAKE VENTS
2. HOOD TILT CYLINDER
3. UPPER HOOD TILT ASSIST CYLINDER MOUNTING BRACKET

FENDERS

The 8600 Series fender assemblies (Figure 35) are a bonded component of the hood section, including the wheel well opening "valance", headlight housing, and front cross bar cover. The grille, grille shroud and headlight assemblies are the only major removable components of the front hood assembly.

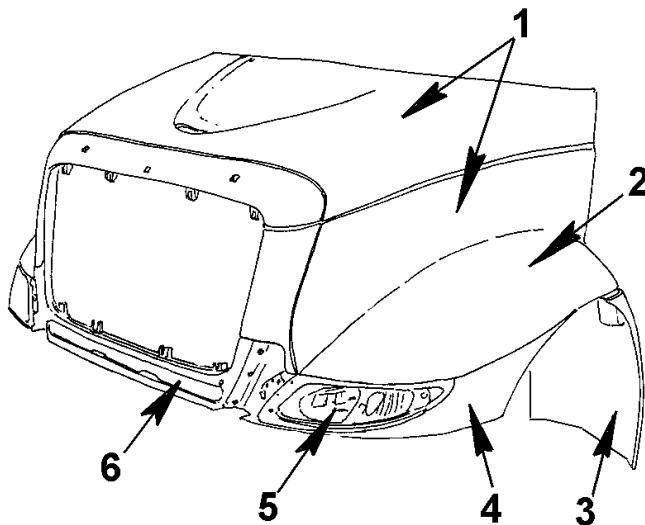


Figure 35 Fender Assembly

1. HOOD AND SIDE PANEL
2. FENDER SECTION
3. FENDER EXTENSION
4. VALANCE
5. HEADLIGHT ASSEMBLY
6. CROSS BAR COVER ON LOWER GRILLE MOUNT

Headlight — Removal

To remove the headlight assembly (Figure 36) refer to the procedure for removing and installing the grille and shroud. The grille and shroud must be removed prior to removing the headlight assembly.

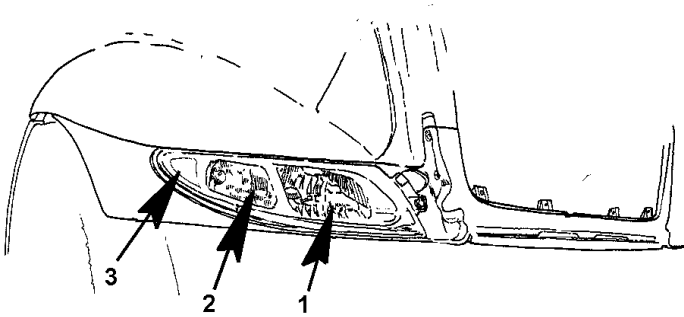


Figure 36 Headlight Assembly

1. HEADLIGHT HALOGEN BULB
2. AMBER DIRECTIONAL BULB
3. AMBER CLEARANCE AND SIDE DIRECTIONAL BULB

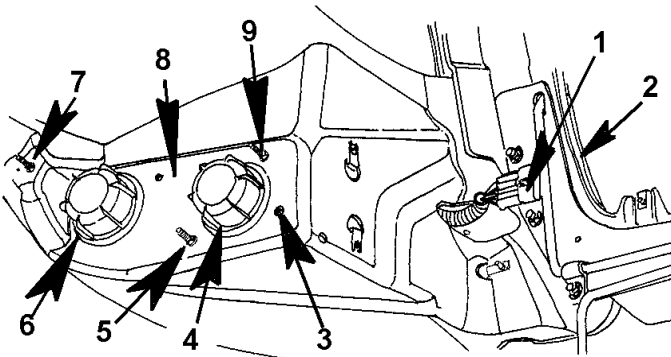


Figure 37 Headlight Assembly Remove

1. HEADLIGHT ASSEMBLY MOUNTING NUT
2. LOWER FENDER/VALANCE ASSEMBLY
3. LOWER HEADLIGHT ASSEMBLY MOUNTING HOLES
4. HEADLIGHT ASSEMBLY
5. MOUNTING BOLT
6. HEADLIGHT ASSEMBLY TAB
7. HEADLIGHT ASSEMBLY MOUNTING STUD
8. HEADLIGHT MOUNTING BOLT HOLE
9. HOOD AND FENDER ASSEMBLY
10. HEADLIGHT HOUSING FENDER OPENING

1. Tilt the hood assembly forward, disconnect the headlight and clearance light harness.

2. Loosen and remove the three (3) headlight assembly mounting nuts from the headlight assembly mounting studs on the rear of the headlight housing.

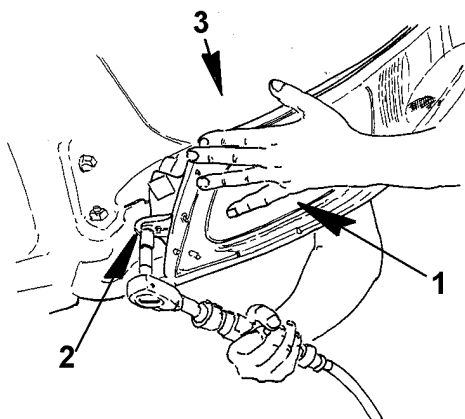


Figure 38 Headlight Housing Installation

1. HEADLIGHT HOUSING
2. HEADLIGHT ASSEMBLY FRONT MOUNTING BOLT
3. FENDER

3. Tilt hood to original position. Loosen and remove the headlight assembly mounting bolt from the fender assembly mounting hole).
4. Remove headlight assembly.
5. To remove the opposite side headlight assembly follow the procedures as listed above.

Headlight adjustment is addressed in **ADJUSTMENTS** section.

Headlight Install

The grille and shroud assembly should have been previously removed.

1. Insert the headlight assembly into the headlight housing opening (Figure 39, Item 1), aligning the mounting studs (Figure 37, Items 3, 5, 7 and 9) with the mounting holes in the headlight housing.
2. Insert the headlight assembly mounting bolt (Figure 38, Item 2) into the headlight mounting tab and headlight assembly bolt hole.

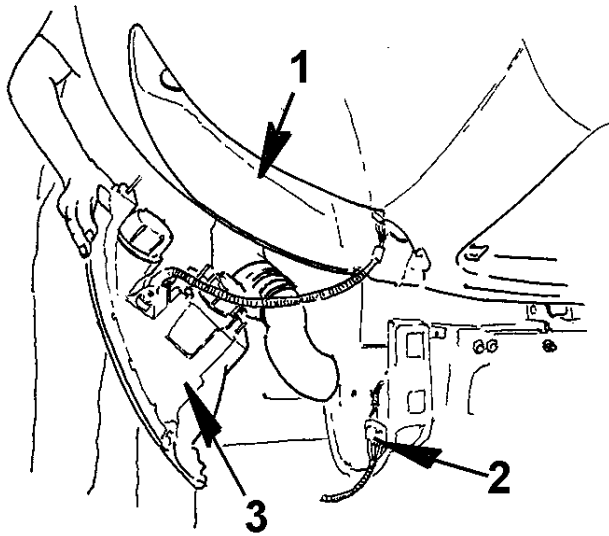


Figure 39 Headlight Assembly Remove and Install

- 1. HEADLIGHT HOUSING
- 2. WIRING CONNECTION
- 3. HEADLIGHT ASSEMBLY

3. Tilt the hood forward.
4. Install the headlight assembly mounting nuts on the mounting studs located on the rear of the headlight housing. Tighten nuts to torque value on torque chart.
5. Insert the lower headlight assembly mounting screws through mounting holes in the valance assembly and tighten.
6. Tighten the housing stud nuts to 11 to 13 lbf-ft (14.8 to 18.1 Nm).
7. Tighten the headlight mounting assembly bolts to 34 to 38 lbf-ft (46 to 51 Nm).
8. Reconnect the head light harness into the chassis harness located above the frame rail section at the opening below the vertical hood support bracket.
9. Tilt the hood back and secure the hood latches.
10. Re-install shroud and grille assembly.

Hood Latches, Upper and Lower Assembly

The hood latching mechanism consists of two assemblies: the upper hood / fender assembly latch clip (Figure 41, Item 2) and the lower fender extension lock (Figure 41, Item 1).

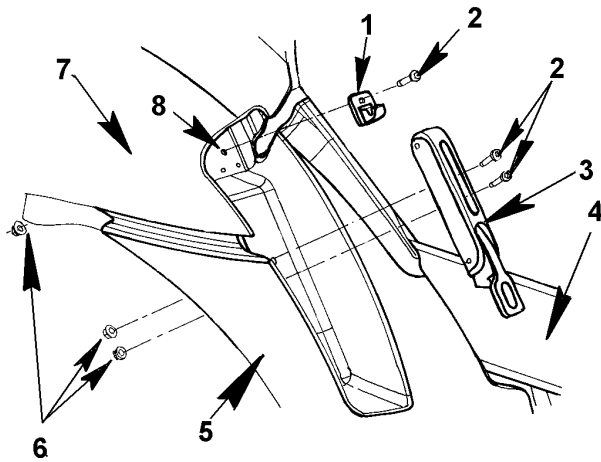


Figure 40 Hood Latch Assembly

1. FENDER HOOD CLIP
2. HOOD LATCH AND FENDER CLIP MOUNTING BOLTS
3. LOWER FENDER EXTENSION LATCH LOCK DOWN ASSEMBLY
4. CAB RISER PANEL
5. FENDER EXTENSION
6. HOOD LATCH MOUNTING NUTS
7. DRIVERS SIDE FENDER SECTION SHOWN
8. FENDER HOOD LATCH MOUNTING HOLES

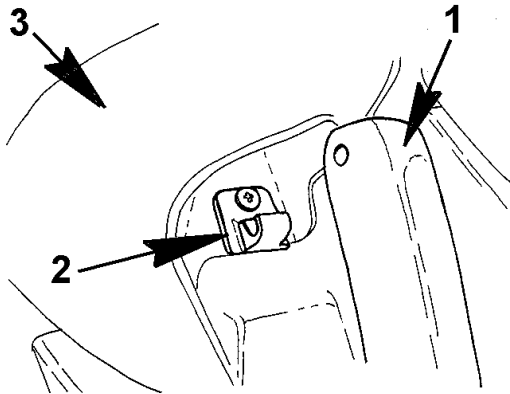


Figure 41 Upper Hood / Fender Latch Attachment — Driver Side Shown

1. LOWER HOOD LATCH ASSEMBLY
2. UPPER FENDER LATCHING ATTACHMENT
3. FENDER SECTION

The upper hood/fender latch attachment assembly is located at the rear section of the fender assembly (Figure 41, Item 2). The latching assembly is attached to the fender extension. This part swings up and latches on the upper catch assembly and secures the hood in position. To remove the latch assembly:

1. Release the latching mechanism both sides of the hood and tilt hood forward.
2. Loosen and remove the hood clip mounting bolts, washers and lock nuts (Figure 40, Items , 2 and 6) and remove the clip assembly (Figure 40, Item 1) from the fender assembly.
3. Locate, loosen and remove the mounting bolts, washers and lock nuts (Figure 40, Items 2 and 6) securing the fender extension latch mechanism (Figure 40, Item 3).
4. Follow same procedure for removal of opposite side.

Upper and Lower Hood Latch — Install

Release the latching mechanism both sides of hood and tilt hood forward.

1. Position the upper clip assembly with the mounting holes in the fender section. Align the mounting holes of the latch assembly with the mounting holes in the fender assembly.
2. Insert the mounting bolt through the clip assembly and fender section. Install the flat washer and lock nut on the inside of the fender section and tighten.
3. Tighten upper latch assembly to 34 to 38 lbf-ft (46 to 51 Nm).
4. Place the lower latch mechanism (Figure 42, Item 2) on the fender extension, align the mounting holes.
5. Insert the mounting bolts through the latching assembly and fender extension.
6. Install the flat washer and luck nuts on the mounting bolts and tighten.

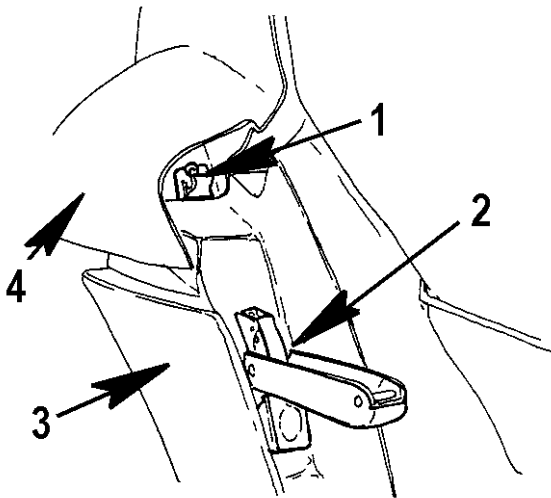


Figure 42 Hood Latching Mechanism (Driver Side Shown)

1. MOUNTING HOLES (2)
2. FENDER EXTENSION
3. LOWER FENDER EXTENSION MOUNTING HOLE
4. CAB STUD FENDER EXTENSION MOUNTING HOLE

7. Follow same procedure for installation on opposite side.
8. Tighten lower mounting bolts to 34 to 38 lbf-ft (46 to 51 Nm).
9. Lower hood and latch both sides of the hood.

FENDER EXTENSIONS

Fender Extension — Remove

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. These protect the lower front of the cab from splash and road debris kicked up by the front tires, and it also keeps the step cleaner (Figure 9).

1. Release hood latches on each side of the hood and tilt the hood assembly forward.
2. Locate the fender extension mounting bolts and nuts on the fender extension assembly (Figure 43, Items 2 and 4).
3. Loosen and remove the three mounting bolts (Figure 43, Items 2 and 4) on the rear surface of the fender extension.
4. Loosen and remove the stud mounting nut (Figure 46, Item 2) from the fender extension mounting stud.
5. Remove the fender extension (Figure 45).
6. Follow same procedure to remove opposite side fender extension.

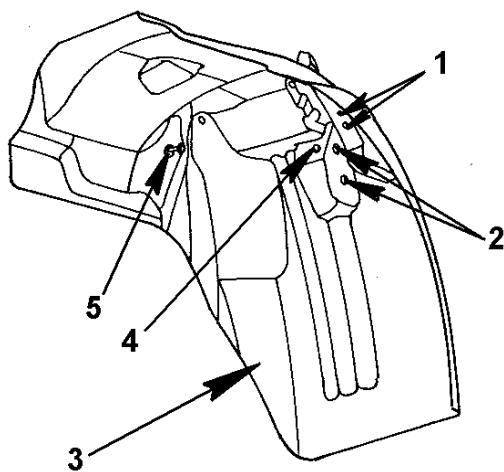


Figure 43 Fender Extension Removal

1. HOOD LATCH MOUNTING BOLTS
2. FENDER EXTENSION TO CAB FRAME MOUNTING BOLTS
3. FENDER EXTENSION
4. CAB MOUNTING BOLT
5. FENDER EXTENSION MOUNTING STUD WITH NUT

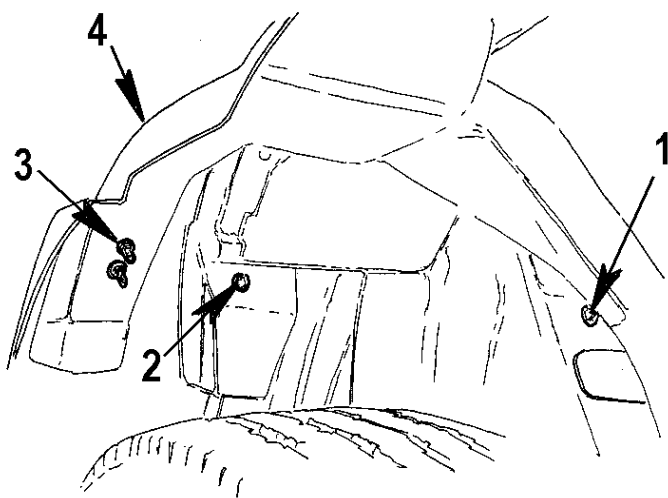


Figure 44 Fender Extension Installation

1. MOUNTING STUD AND NUT
2. CAB MOUNTING BOLT
3. LATCH MOUNTING BOLTS
4. FENDER EXTENSION

Fender Extension — Install

With hood in the tilted position, locate the fender extension mounting stud on the cab lower forward structure (Figure 44, Item 1).

1. Align the fender extension mounting hole on the mounting stud (Figure 45, Item 3), install mounting nut. Hand tighten.

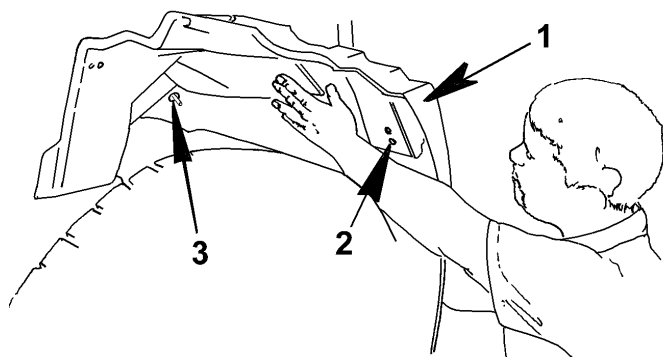


Figure 45 Fender Extension Alignment

1. FENDER EXTENSION
2. FENDER EXTENSION LATCH MOUNTING HOLES
3. FENDER EXTENSION MOUNTING STUD

2. Align the mounting holes on the fender extension with the mounting holes on the lower cab structure.

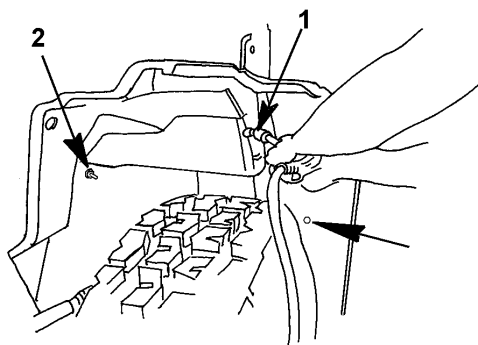


Figure 46 Fender Extension Install

1. CAB MOUNTING BOLTS AND FLAT WASHERS
2. MOUNTING STUD
3. FENDER EXTENSION

3. Install mounting bolts and lock washers and tighten.
4. Tighten the mounting nut on the fender extension mounting stud.
5. Torque the mounting bolts to 50 to 55 lbf-ft (68 to 75 Nm).

HOOD SEAL

Hood Seal— Removal

Release the hood latches on each side and raise the hood to the full tilt position. Locate the hood seal on the forward edge of the cowl tray (Figure 47, Item 1).

1. Beginning on the passenger side of the cowl tray, grip the hood seal and lift in upward direction.
2. Pull upward to remove the seal (Figure 48, Item 1) from the entire lip of the cowl tray across the front of the cab.

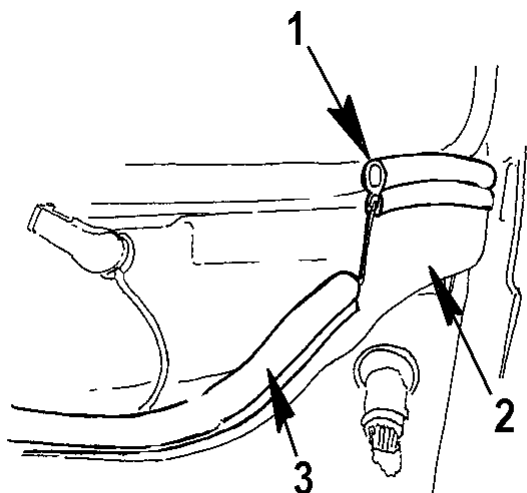


Figure 47 Hood Seal Removal — Drivers Side Shown

1. HOOD SEAL
2. COWL TRAY
3. HOOD SEAL

Hood Seal— Install

To install the hood seal, release the hood latches both sides and tilt hood forward.

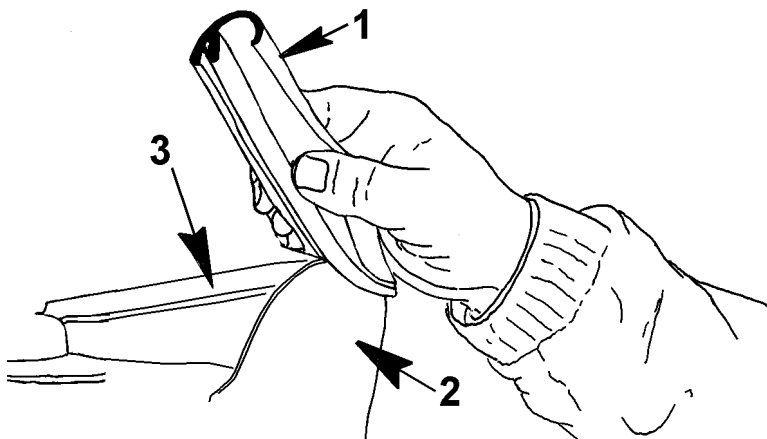


Figure 48 Hood Seal — Install

1. HOOD SEAL
2. COWL TRAY
3. COWL TRAY FORWARD EDGE

1. Place hood seal material on the forward edge of the cowl tray on the passenger side and press down on seal causing the trim lock portion to secure on the cowl tray edge.
2. Continue across the entire forward edge of the cowl tray with the hood seal material.
3. Check that seal is pushed down on edge as far as is allowable. Lower hood and latch hood release.

ADJUSTMENTS

HOOD ADJUSTMENT AND ALIGNMENT

The 8600 series front hood adjustment is done by moving the hinge plate attachment located at the front crossmember.

1. To adjust the hood left to right
 - a. Loosen the hinge attachment bolts and slide the hinge plate assemble left or right.
 - b. Check the alignment with the hood contour lines. If the hood alignment is proper, tighten the hinge plate bolts. Torque to required value.
2. To adjust hood forward and back (reference Figure 49), loosen the hinge mounting bolts at the mounting plate (Figure 49, Item 2) on the front cross member.
 - a. Slide the hood forward or aft as required.
 - b. Check the distance between the rear edge of hood and clearance to windshield.
 - c. Tighten the hinge plate mounting bolts and torque to 50 to 55 lbf-ft (68 to 75 Nm).

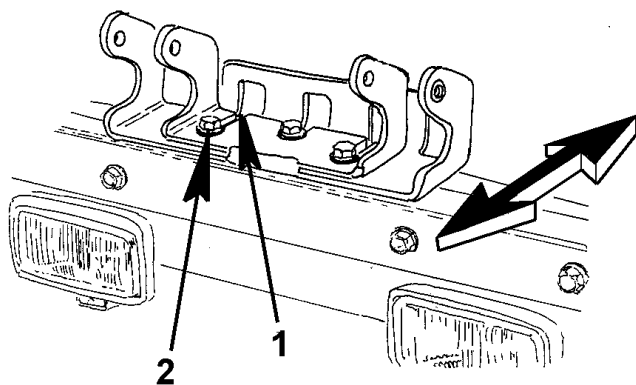


Figure 49 Hood Hinge Adjustment

- 1. HINGE MOUNTING PLATE
- 2. HINGE PLATE MOUNTING BOLTS

HOOD STOP ADJUSTMENT

Hood height adjustment at the cowl and rear edge of hood is adjusted by moving the hood stop either up or down.

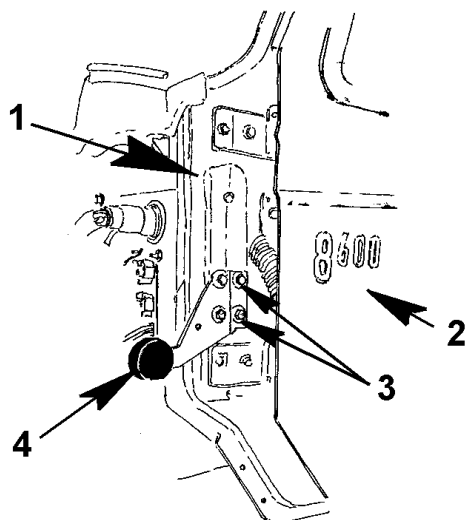


Figure 50 Hood Stop (Drivers Side Shown)

- 1. CAB STRUCTURE SIDE POST
- 2. DRIVERS SIDE DOOR
- 3. FOUR MOUNTING BOLTS AND LOCK WASHERS
- 4. HOOD STOP BUSHING

1. Unlatch hood and tilt hood forward.
2. To adjust hood in either direction, loosen the four bolts (Figure 50, Item 3) located at the hood stop bracket.
3. Slide the bracket upward or down to set desired height.

4. Lower the hood and rest hood on hood stop bushings. Check rear edge alignment with cowl.
5. Raise the hood and Re-tighten the bolts (Figure 50, Item 3) to secure the hood stop at the desired location.
6. The same procedure should be applied to adjust the opposite side of hood.
7. Tighten to 147 to 181 lbf-ft (200 to 245 Nm).

HEADLIGHT ADJUSTMENT

To adjust the headlight direction, release hood latch and tilt hood forward.

1. Locate adjustment control stem on rear of headlight housing (Figure 51, Item 2).
2. Rotate the adjustment screw clockwise or counter clockwise to adjust the height of the headlight beam.

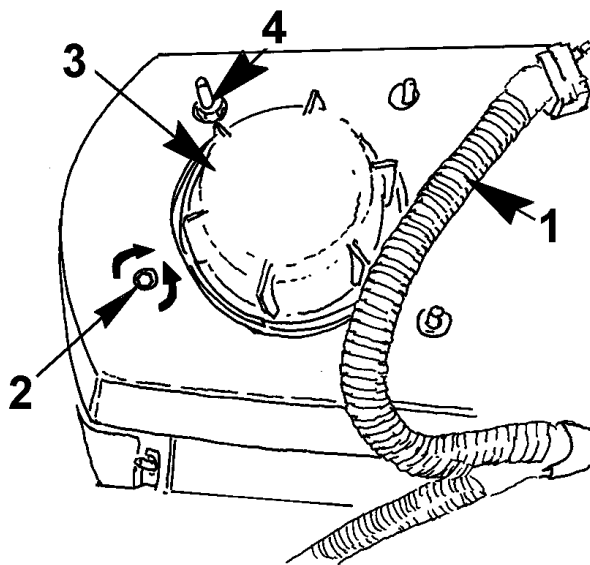


Figure 51 Headlight Adjustment

1. HEADLIGHT HARNESS
2. ADJUSTMENT SCREW
3. BULB / SOCKET COVER

HEADLAMP REPLACEMENT

To replace head lamp and directional bulbs, unlatch hood on both sides and tilt hood forward.

1. Locate the rear side of the headlight housing.
2. Turn the socket cover and remove (Figure 52, Item 1).
3. Remove light socket pigtail plug (Figure 53, Item 3).

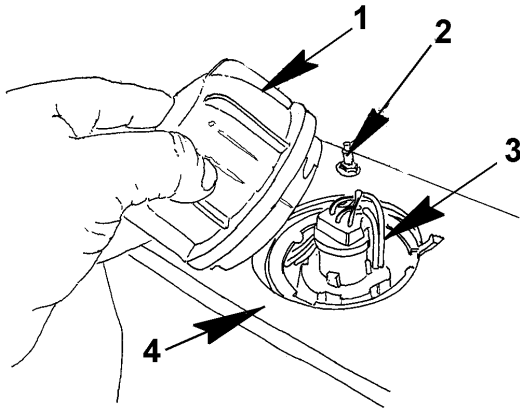


Figure 52 Head Lamp Replacement

1. SOCKET COVER
2. HEADLIGHT ASSEMBLY MOUNTING STUD WITH NUT
3. SOCKET
4. HEADLIGHT HOUSING

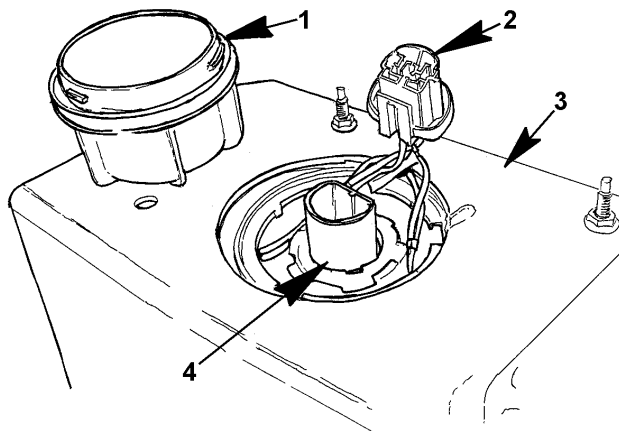
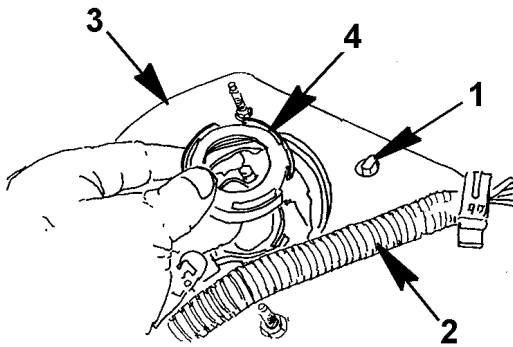


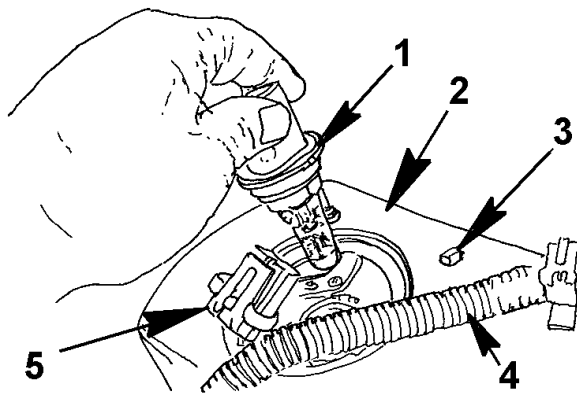
Figure 53 Bulb Removal

1. SOCKET COVER
2. HEAD LAMP PLUG
3. HEADLIGHT HOUSING
4. PLUG HOUSING

4. Twist bulb retainer and lift up.
5. Remove seal (Figure 54, Item 4).
6. Remove halogen bulb (Figure 55, Item 1).

**Figure 54 Seal Removal**

1. HEADLIGHT ADJUSTMENT SCREW
2. HEADLIGHT HARNESS
3. HEADLIGHT HOUSING
4. SOCKET SEAL

**Figure 55 Bulb Removal**

1. HEADLIGHT HALOGEN BULB
2. HEADLIGHT HOUSING
3. ADJUSTMENT SCREW
4. HEADLIGHT HARNESS
5. HEADLIGHT PLUG

DIRECTIONAL BULB REMOVE AND REPLACE

The directional bulbs are located within the headlight module on the underside of the fender assembly. To replace the headlight halogen bulb or the amber directional bulb, the hood must be tilted.

1. Unlatch the hood assembly and tilt the hood to the open position.
2. Locate the outboard socket cover (Figure 56, Item 1), this will be the directional socket on each side of the chassis.

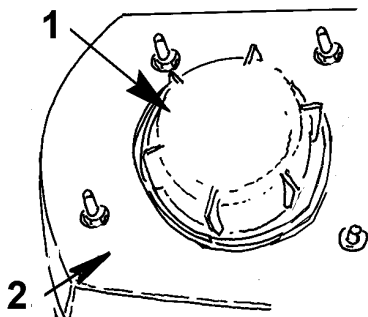


Figure 56 Directional Light Assembly

1. DIRECTIONAL BULB SOCKET COVER
2. HEADLIGHT AND DIRECTIONAL LIGHT HOUSING

3. Twist the socket cover (Figure 57, Item 1) to remove.

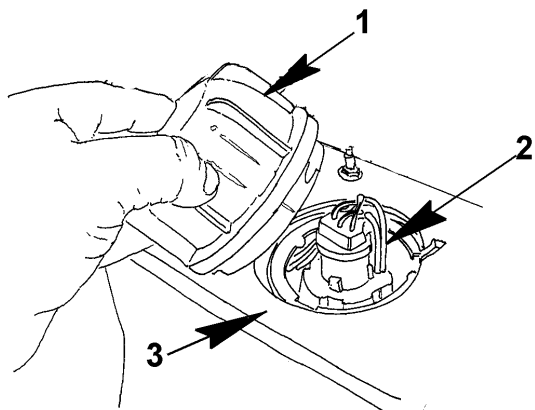


Figure 57 Directional Bulb Access

1. SOCKET COVER
2. BULB AND SOCKET ASSEMBLY
3. HEADLIGHT HOUSING

4. Locate the socket and bulb assembly (Figure 57, Item 2), twist and pull up to remove (Figure 58).

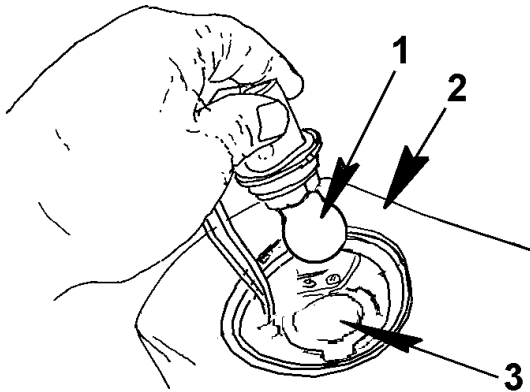


Figure 58 Directional Bulb Remove/ Install

- 1. AMBER DIRECTIONAL BULB
- 2. HEADLIGHT HOUSING
- 3. BULB SOCKET

- 5. To remove (Figure 59, Item 2) or install directional bulb, push downward on bulb, twist and lift out.
- 6. to install the directional bulb, insert bulb in socket, push down and twist to lock.
- 7. Insert bulb (Figure 60, Item 1) and socket assembly in light housing and twist to lock bulb in socket seat.
- 8. Replace socket cover and twist to lock.

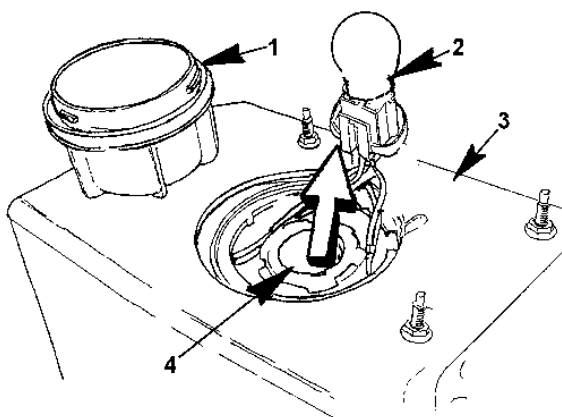


Figure 59 Directional Bulb Removal

1. SOCKET COVER
2. DIRECTIONAL AMBER BULB
3. HEADLIGHT HOUSING
4. DIRECTION BULB SOCKET AND SEAT

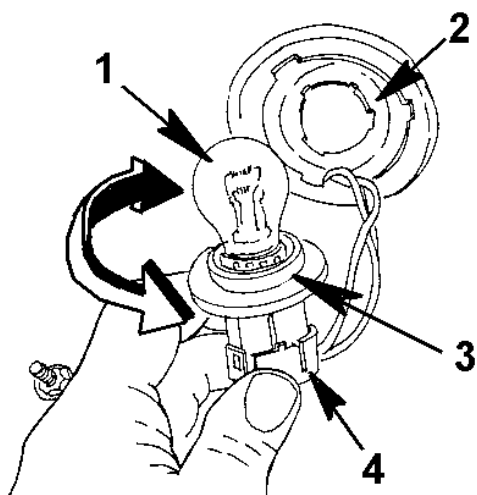


Figure 60 Directional Bulb Replacement

1. AMBER BULB
2. SEAL
3. BULB SOCKET
4. HOUSING BASE AND WIRE CONNECTION

FOG LIGHT — REMOVAL

The fog lights are located at the center opening (Figure 61, Item 1) of the front bumper assembly.

1. Tilt the hood forward.
2. Locate the fog light assembly harness and connection.

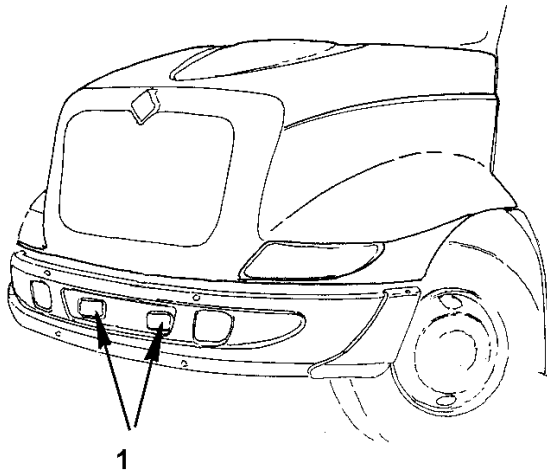


Figure 61 Chassis Fog Lights

1. FOG LIGHT LOCATION

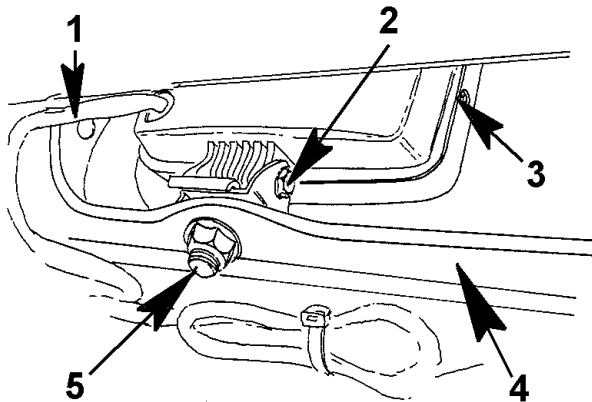


Figure 62 Fog Light Removal

1. FOG LIGHT HARNESS
 2. VERTICAL ADJUSTMENT
 3. LENS COVER RETAINER SCREW
 4. CROSS BAR
 5. FOG LIGHT MOUNTING FLAT WASHER AND LOCK NUT
3. Disconnect the harness from hood harness.
 4. Loosen and remove fog light mounting nut and flat washer (Figure 62, Item 5).

5. Remove fog light assembly.
6. Locate and remove lens ring screws (Figure 63, Item 3) to gain access to fog light bulb.
7. Remove the bulb and replace if required.

Follow same procedure for removal of opposite side fog light.

FOG LIGHTS — INSTALL

With hood tilted insert the fog light assembly into the center opening of the front bumper and locate the mounting hole.

1. Align and insert fog light assembly in mounting bracket. Install flat washer and lock nut, finger tighten. Adjust the fog light direction and tighten mounting bolt (Figure 63, Item 4).

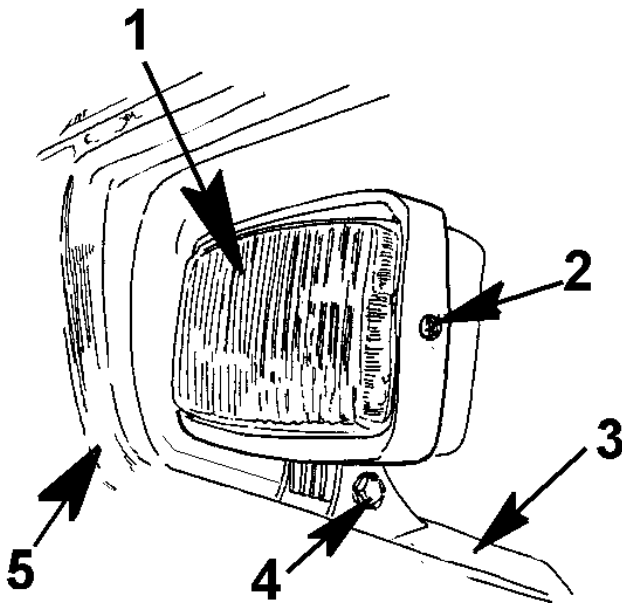


Figure 63 Fog Light Assembly

1. FOG LIGHT ASSEMBLY
2. LENS COVER RETAINING SCREW
3. CROSS BAR
4. VERTICAL ADJUSTMENT BOLT
5. FRONT BUMPER

2. Plug fog light harness into headlight assembly harness.

FENDER MOUNTED MIRRORS- REMOVE

Fender mounted mirror assemblies are mounted on the forward section of the fender assembly (Figure 64, Items 3 and 4) with a lateral mounting brace attached to the side of the hood section. The mirror assemblies are bolted to the hood and fender assemblies.

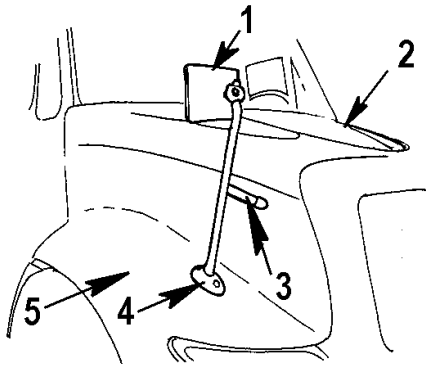


Figure 64 Fender Mounted Mirror (Passenger Side Shown)

1. MIRROR HEAD
2. HOOD
3. SIDE LATERAL BRACE
4. MIRROR FENDER MOUNTING BRACKET
5. FENDER SECTION

1. Tilt the hood and fender assembly forward to access the mounting bolts for the nuts and flat washers.

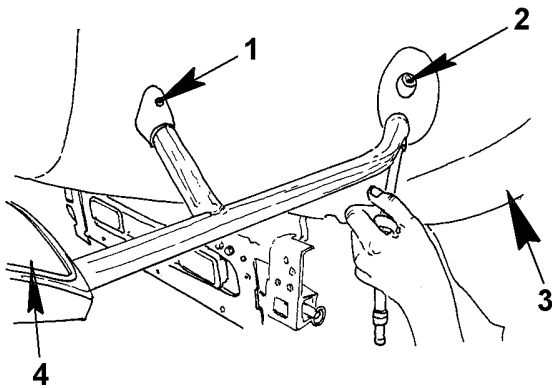


Figure 65 Fender Mounted Mirror Removal

1. LATERAL MIRROR MOUNTING BRACE
2. FENDER MOUNTING BRACKET BOLT
3. FENDER SECTION
4. MIRROR HEAD

2. Locate the lock nut and flat washer on the underside of the fender section. Secure the lock nut and flat washer and loosen (Figure 65, Item 2) the mounting bolts in the mounting bracket on the outside fender section.

3. Locate the lock nut and washer on the inside vertical section of the hood assembly. Loosen the mounting bolt in the lateral bracket base (Figure 65, Item 1). It would be advisable to have an assistant steady the mirror during the removal process and to prevent breakage if the mirror should fall.
4. Remove the mirror assembly and brackets.
5. Follow the same procedure to remove the opposite side mirror assembly.

FENDER MOUNTED MIRRORS- INSTALL

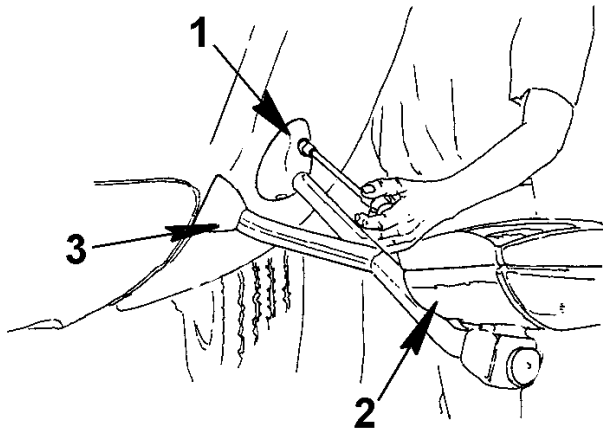


Figure 66 Fender Mounted Mirror Assembly — Install

1. FENDER MOUNTED MIRROR BRACKET
2. MIRROR HEAD
3. LATERAL BRACE MOUNTING BRACKET

1. With an assistant holding the mirror assembly, locate and align the bracket mounting holes and the fender mounting holes.
2. Insert the mounting bolts through the bracket base and fender section. Install the flat washer and lock nut on the underside of the fender section and hand tighten (Figure 66, Item 1).
3. Locate and align the lateral bracket base hole with the mounting hole in the side section of the hood assembly.
4. Insert the mounting bolt through the base and hood section. Install the flat washer and lock nut.
5. Tighten all nuts. (See Torque chart for values)
6. Follow the same procedure for the opposite side mirror assembly.

TORQUE

Table 1 Torque Chart

Item No.*	Location (Figure No.)	Lbf-ft	Nm
6	Bumper Mounting Bolts (Figure 12)	50 to 55	68 to 75
1	Torsion Bar Mounting Brackets (Figure 22)	43 to 55	58 to 68
5, 8	Hinge Pin Lock Nuts (Figure 26)	43 to 55	58 to 68
1	Splash Panel Mounting Bolts (Passenger side) (Figure 30)	125 to 140 in-lbs.	14 to 16
5	Splash Panel Mounting Bolts (Drivers side) (Figure 31)	125 to 140 in-lbs.	14 to 16
6	Grille Mounting Bolts (Figure 33)	3 to 3.3	4 to 4.5
5, 7, 9	Headlight Housing (Figure 37)	125 to 140 in-lbs.	14 to 16
2	Headlight Assembly (Figure 38)	34 to 38	46 to 51
2, 8	Upper hood Latch Mounting Bolts (Figure 40)	34 to 38	46 to 51
2, 6	Lower Hood Latch Mtg. Bolts and Hex Nuts (Figure 36)	34 to 38	46 to 51
1, 2, 3	Fender Extension Mounting Bolts (Figure 44)	50 to 55	68 to 75
2	Hood Stop (Figure 50)	147 to 181	200 to 245
5	Fog Light Mounting Lock Nuts (Figure 62)	32 to 40	43 to 54
4	Fog Light Vertical Adjustment (Figure 63)	28 to 35	38 to 47
1, 2	Fender Mounted Rear View Mirrors (Figure 65)	9 to 12	12 to 16
*Refer to Figures specified in the location column.			