

Part Number: PT413-21050

Kit Contents

Item #	Quantity Reqd.	Description
1	1	Fog Lamp Rt Hand
2	1	Fog Lamp Lt Hand
3	1	Relay
4	1	Switch
5	1	Engine Wire Harness
6	1	Interior Wire Harness
7	1	Fog Light Housing & Grill
8	8	Metal Clip

Hardware Bag Contents

Item #	Quantity Reqd.	Description
1	6	Wire Ties
2	2	Foam Tape

Additional Items Required For Installation

Item #	Quantity Reqd.	Description
1		

Conflicts

Front End Mask - Bumper (lower) piece

Recommended Tools

Personal & Vehicle Protection	Notes
Vehicle Protection	Blankets
Special Tools	Notes
Hella Photometric Beam Setter (or equivalent)	If available
Installation Tools	Notes
Nylon Panel Removal Tool	e.g. Panel Pry Tool #1 Toyota SST #00002-06001-01
Torque Wrench	0-10 lbf-ft.
Side Cutters	
Screwdriver	Phillips #2
Ratchet	
Socket	10 mm
Special Chemicals	Notes
None	

General Applicability

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NOTE: Part number of this accessory may not be the same as the part number shown.

Recommended Sequence of Application






Item #	Accessory
1	Fog Lights
2	Ground Effects
3	Cold Air Intake

*Mandatory

Vehicle Service Parts (may be required for reassembly)

Item #	Quantity Reqd.	Description
1		Plastic Clip (P/N 90467-07164)

Legend

	STOP: Damage to the vehicle may occur. Do not proceed until process has been complied with.
	OPERATOR SAFETY: Use caution to avoid risk of injury.
	CRITICAL PROCESS: Proceed with caution to ensure a quality installation.
	GENERAL PROCESS: This highlights specific processes to ensure a quality installation.
	TOOLS & EQUIPMENT: Calls out the specific tools and equipment recommended for this process.

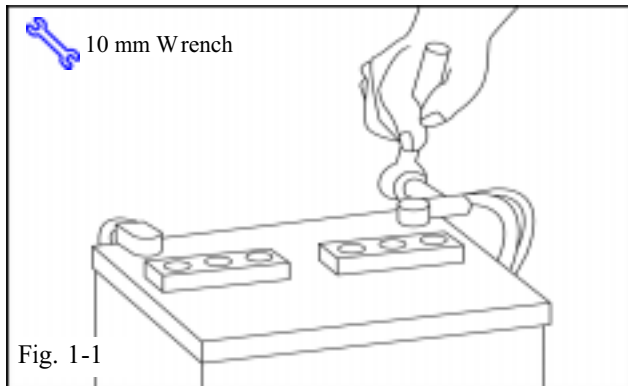
Care must be taken when installing this accessory to ensure damage does not occur to the vehicle. The installation of this accessory should follow approved guidelines to ensure a quality installation.

These guidelines can be found in the "Accessory Installation Practices" document.



This document covers such items as:-

- Vehicle Protection (use of covers and blankets, cleaning chemicals, etc.).
- Safety (eye protection, rechecking torque procedure, etc.).
- Vehicle Disassembly/Reassembly (panel removal, part storage, etc.).
- Electrical Component Disassembly/Reassembly (battery disconnection, connector removal, etc.).

Please see your Toyota dealer for a copy of this document.

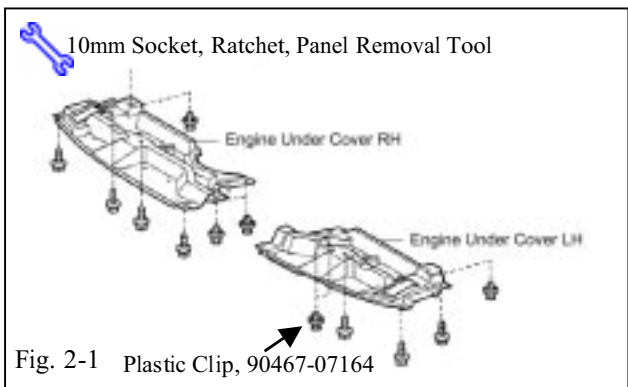



1. Remove Battery Cable.

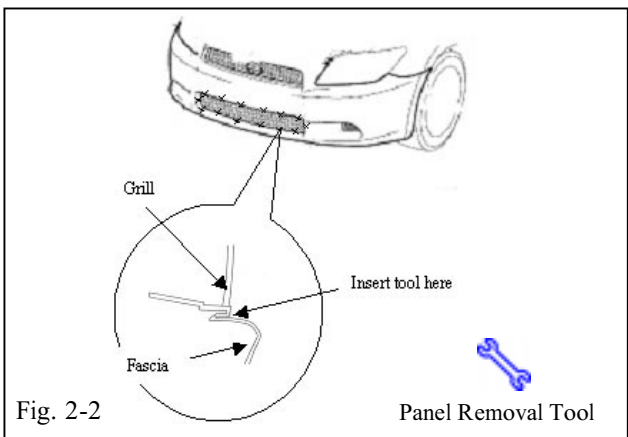
-  (a) Protect fender before starting.
-  (b) Do not touch the positive terminal with any tool when removing cable.
- (c) Remove the negative battery cable. (Fig. 1-1)

2. Exterior Parts Removal.

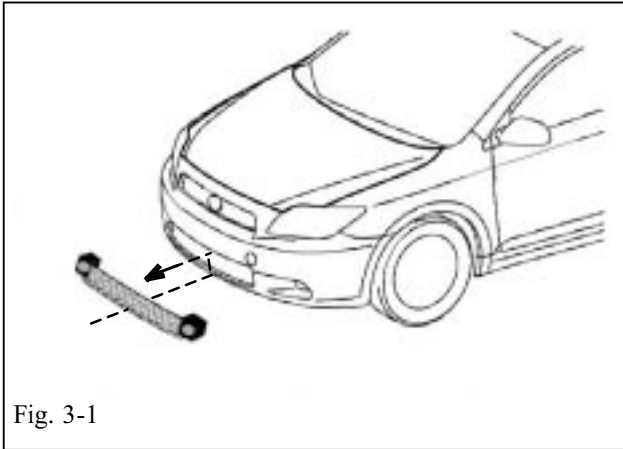
- (a) Remove the left and right engine under covers. (Fig. 2-1).
- (1) Save screws, clips and under covers.



-  (b) Insert panel removal tool at the 12 locations indicated by the "X" to disengage the fascia tabs from the grill. (Fig. 2-2)
- (1) Be sure to not scratch or damage the bumper fascia.
- (c) Carefully push the grill rearward and remove from the underside of vehicle and discard.



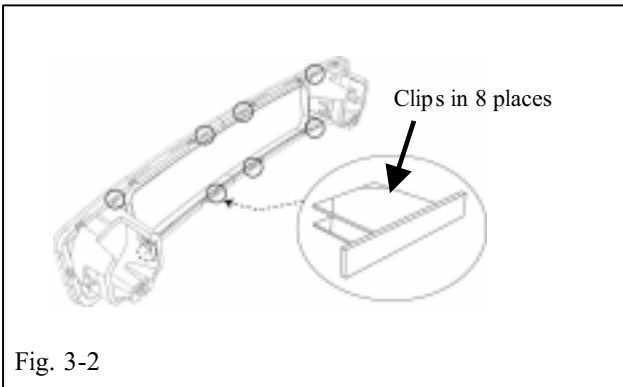
3. Installation of Fog Lights & Grill.



(a) Install the new Fog Light Grill by routing it from under the bumper and forward to engage the bumper fascia. (Fig. 3-1)



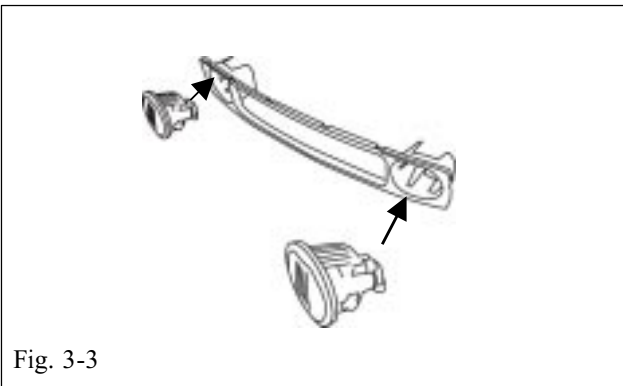
(b) Push the Fog Light Grill forward and confirm that the fascia clips in all 12 locations are secure.



(c) Install the metal retention clips in 8 locations. (Fig. 3-2)



(1) Ensure the clips are fully engaged.



(d) Install the left and right fog lamps into the grill. Each lamp is designated with a "L" or "R" (Fig. 3-3)

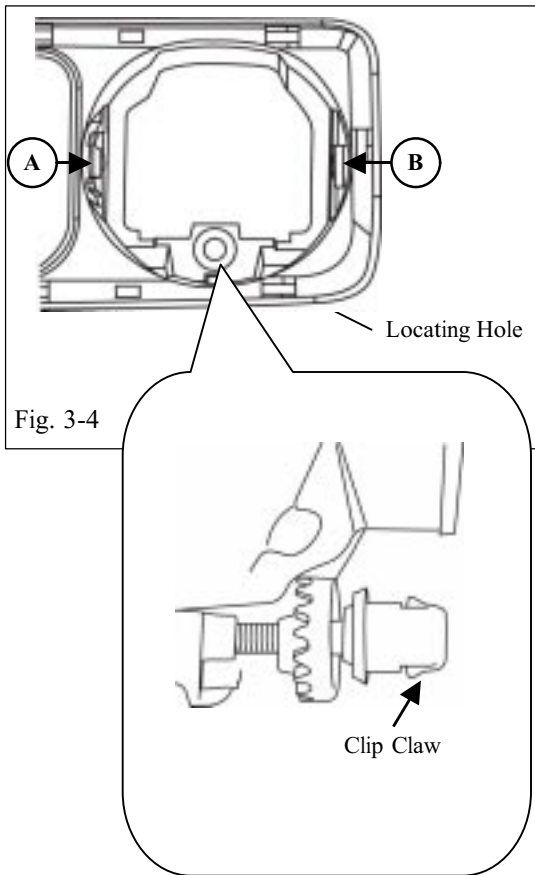




Fig. 3-4

-  (e) Confirm that the lamp adjustment screw retention clip claw is snapped into the locating hole. (Fig. 3-4)
-  (f) Confirm that the fog light black pivot posts are secure in grill housing at locations A and B (Fig. 3-4)

4. Engine Wire Harness Installation.

- (a) Route the wire harness with the ground lug along the metal support bracket and next to the vehicle wire harness and into the area just forward of the wheel well. (Fig. 4-1)
- (b) Allow approximately 12 inches of the wire harness to pass into the area forward of the fender well.

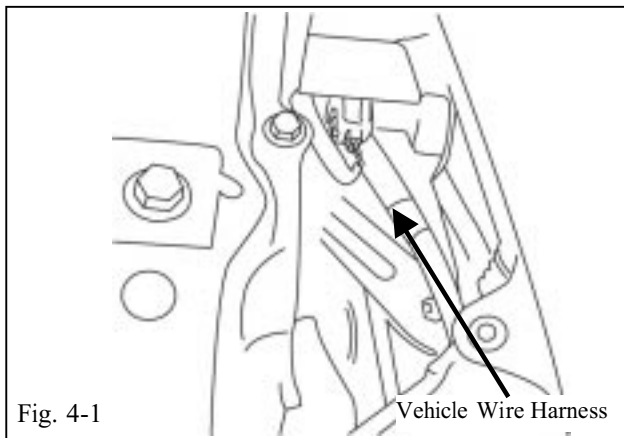
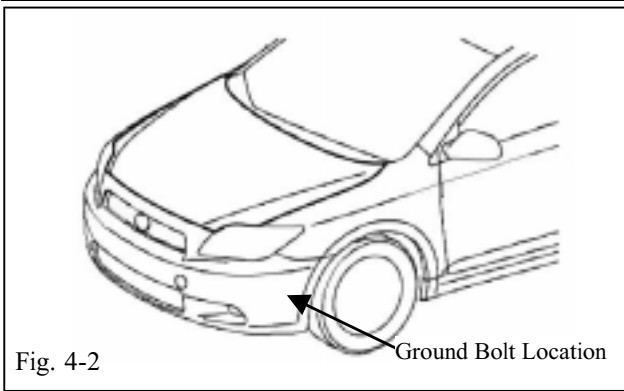
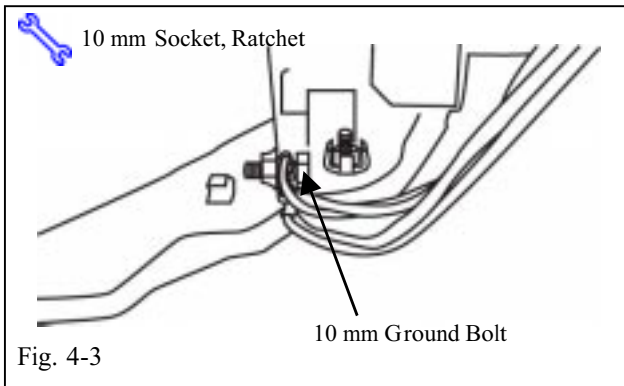


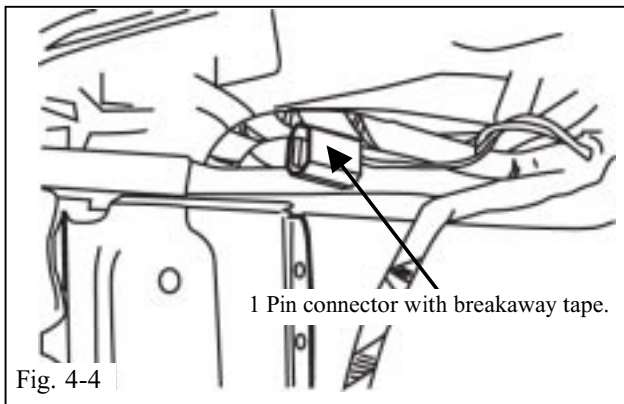
Fig. 4-1



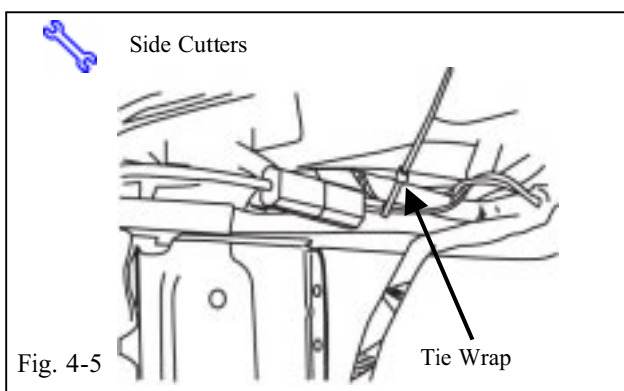
- (c) From under the vehicle, locate the ground bolt just forward of the left front wheel well. (Fig. 4-2)




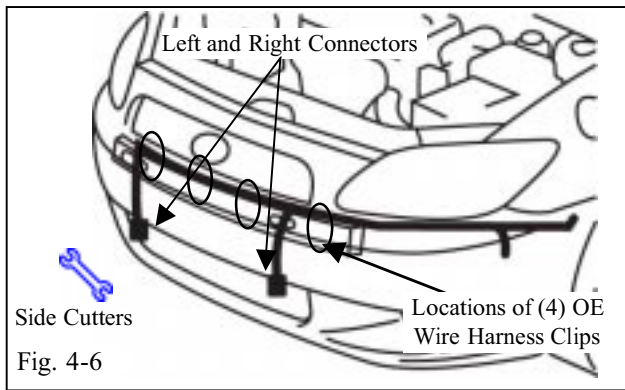
- (d) Remove the 10 mm hex head ground bolt. (Fig. 4-3)
 - (1) Attach the Fog Light wire harness ground lug over the vehicle ground terminal and secure it with the 10 mm hex head bolt.



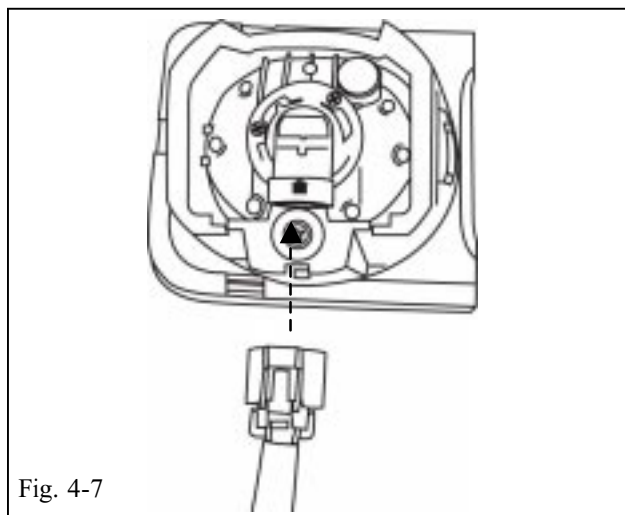
- (e) Locate the 1 pin connector that is taped to the vehicle wire harness just forward of the ground bolt. (Fig. 4-4)
 - (1) Remove the breakaway tape from the connector.



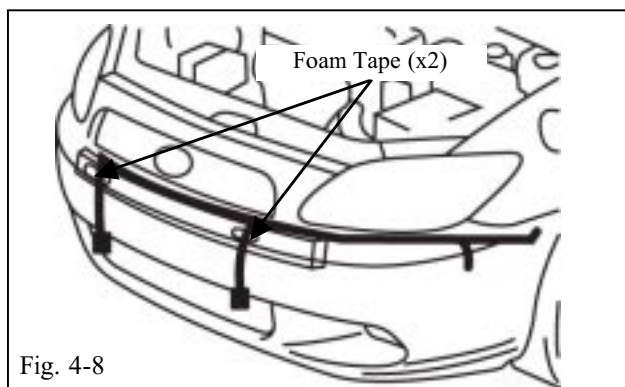
- (f)  Connect the male-female 1 pin connectors together.
 - (1) Make sure the connectors are snapped together and do not separate.
 - (2) Secure the connectors to the wire harness with a large tie wrap. (Fig. 4-5)
 - (3) Cut off excess wire tie material.



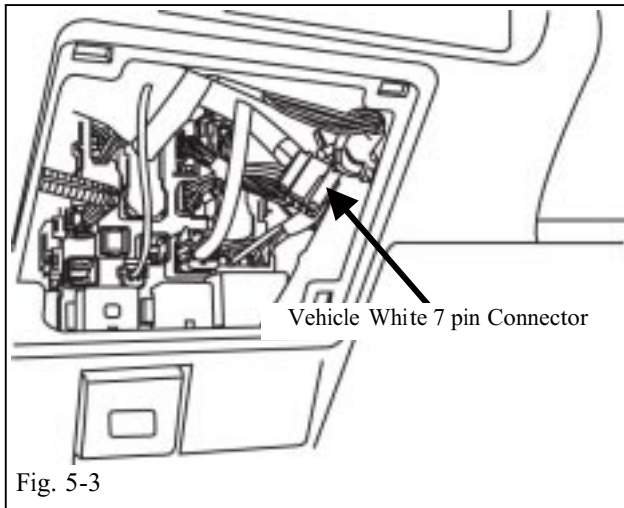
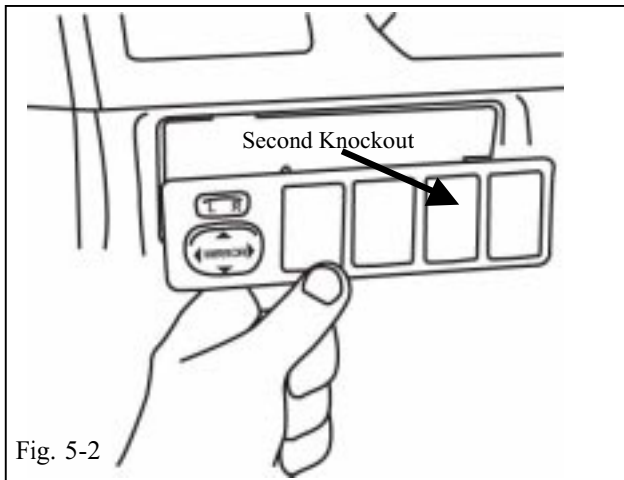
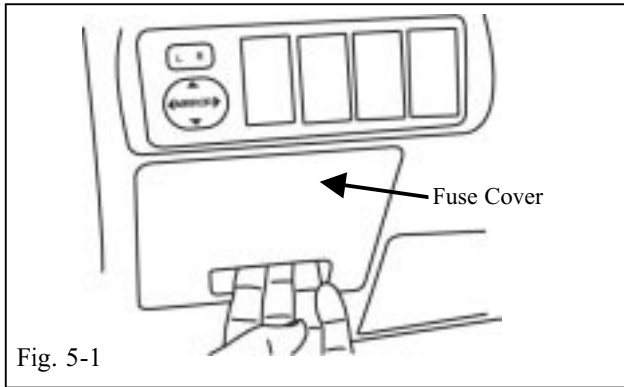
- (g) Route the Fog Light wire harness along the top of the metal bumper. (Fig. 4-6)
 - (1) Be sure to remove any wire harness slack left in the area forward of the wheel well.
 - (2) Route each 1 pin connector down and behind the bumper towards the left and right fog lamps.
 - (3) Use 4 wire ties and secure the Fog Light wire harness to the 4 OE wire harness clips.



- (4) Cut off excess wire tie material.
- (h) Plug the left side 1 pin connector into the left fog lamp. (Fig. 4-7)
- (i) Plug the right side 1 pin connector into the right fog lamp.
- (j) Be sure both left and right side connectors are securely snapped together.

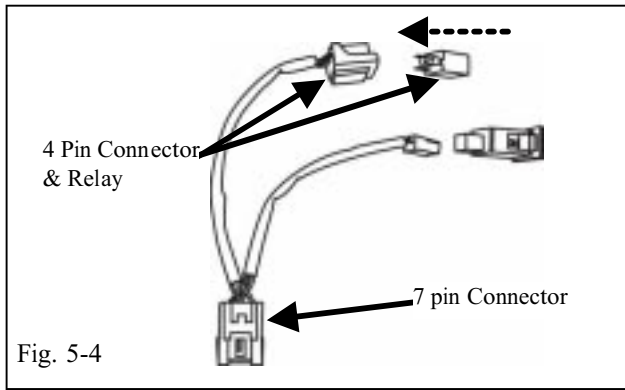


- (k) Secure both left and right side vertical drops of the wire harness with foam tape to the rear side of the bumper. (Fig. 4-8)

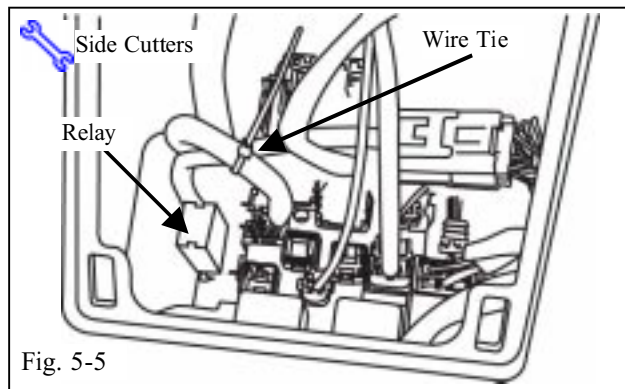


5. Interior Switch Installation.

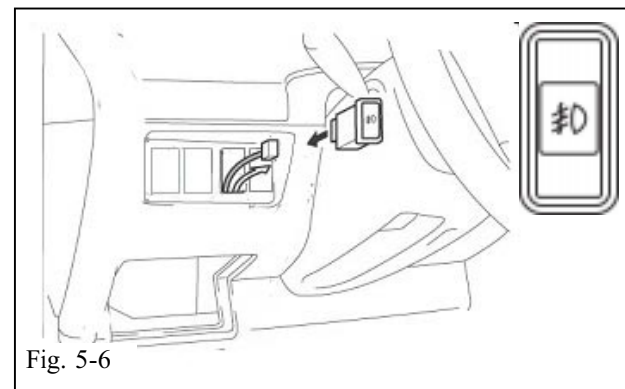
- (a) Remove the fuse cover and store. (Fig. 5-1)
- (b) Insert hand into the fuse panel opening and push out the mirror control panel assembly.
 - (1) Disconnect the mirror control connector from the mirror control panel assembly.
- (c) Remove the second knockout by pushing it rearward with hand. (Fig. 5-2)
 - (1) Store the mirror control panel assembly.
- (d) Locate the white 7 pin connector to the right side of the fuse cover opening. (Fig. 5-3)



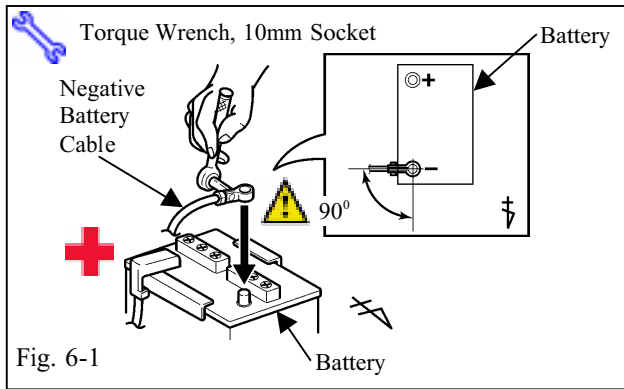
- (e) Plug the relay into the 4 pin female connector of the switch wire harness. (Fig. 5-4)
- (f) Plug the male 7 pin connector of the switch wire harness into the vehicle white connector.



- (g) Install the Relay/Connector onto the connector slide attachment located on the junction block. (Fig. 5-5)
 - (1) Make sure the relay is facing rearward as shown.
 - (2) Be sure the Relay/Connector is secure and cannot slide off the junction block.
 - (3) Wire tie the switch wire harness to the vehicle harness and cut off excess.



- (h) Route the 4 pin connector of the switch wire harness through the opening. (Fig. 5-6)
 - (1) Connect the 4 pin connector to the fog light switch.
 - (2) Correctly orient the switch in hole as shown and install switch.
- (i) Reconnect the mirror control and any other functions to the mirror control panel assembly.
- (j) Reinstall mirror control panel.



6. Reconnect Negative Battery Cable.

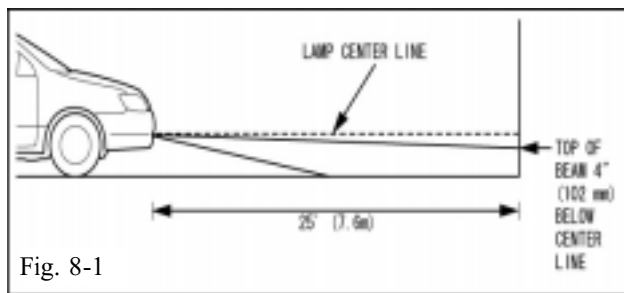
- (a) Reconnect the vehicles negative battery cable. (Fig. 6-1)
 - (1) Position the negative terminal to the battery as shown (~90 degrees).
 - (2) Tighten the nut to 4.1 N-m (36 lbf-in).
 - (3) Do not touch the positive terminal with any tool when replacing the cable.

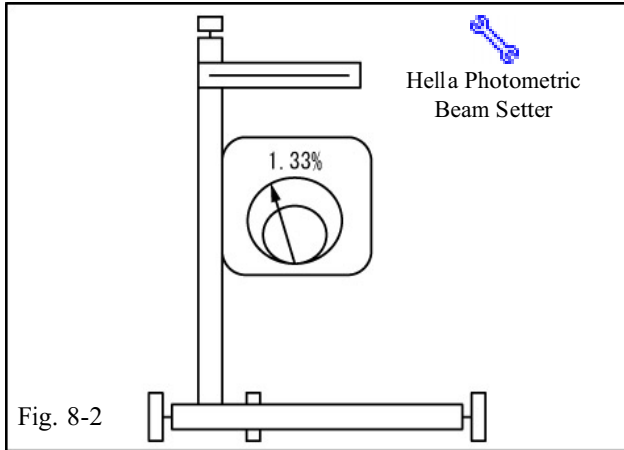
7. Final Assembly.

- (a) Reinstall the fuse cover
- (b) Reinstall the left and right engine under covers.

8. Aiming Instructions.


- (a) Position vehicle on flat surface at a distance of 25 feet (7.6 m) from the fog light to the wall. (Fig. 8-1)
 - (1) Measure the distance from the center of the lamp to the ground and mark off the same height on the wall. This is your fog light centerline.
 - (2) Adjustment of the fog lights is done by turning the adjustment screw using a Phillips screwdriver.
 - (3) Turn on the fog lights and adjust them so that the top of the beam (high intensity portion) falls 4 inches (102 mm) below the top mark on the wall (fog light centerline).





- (b) Alternate aiming method: Use Hella Photometric Beam Setter (or equivalent) to correctly align fog light beam. (Fig. 8-2)
 - (1) Adjustment of the fog lights is done by turning the adjustment screw using a Phillips screwdriver.
- (c) Repeat for other side.

Checklist - these points **MUST** be checked to ensure a quality installation.

Check:	Look For:
<p><u>Accessory Function Checks</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Turn on headlights <input type="checkbox"/> Turn on fog lights <input type="checkbox"/> Turn off headlight <input type="checkbox"/> Check fog light switch orientation <input type="checkbox"/> Switch on high beams <input type="checkbox"/> Check dashboard lights 	<p>Headlights "ON".</p> <p>Fog lights "ON".</p> <p>Fog lights are not "ON" with headlights "OFF".</p> <p>Lamp symbol is facing left.</p> <p>High beams "ON" / Fog lights "OFF".</p> <p>Low beams "ON" / Fog lights "ON".</p>
<p><u>Vehicle Function Checks</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Check taillights. <input type="checkbox"/> Turn off headlights. <input type="checkbox"/> Check brake lights. <input type="checkbox"/> Check turn signals. <input type="checkbox"/> Check reverse lights. <input type="checkbox"/> Check emergency flashers. <input type="checkbox"/> Check mirror controls.  <input type="checkbox"/> Check battery terminals for tightness with 10 mm socket and torque wrench. 	<p>Taillights "ON".</p> <p>Headlights "OFF".</p> <p>Brake lights "ON".</p> <p>Turn signals "ON"</p> <p>Reverse lights "ON".</p> <p>Emergency flashers "ON".</p> <p>Mirrors can be adjusted.</p> <p>Terminals are tight.</p>