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HIGHMARK FENDER FLARES RAM HD REAR

THE AEV HIGHMARK FENDER FLARES ARE DESIGNED FOR TRUCKS
WITH A 6.5' BED. PLEASE CONTACT US IF YOU HAVE AN 8' BED.

WWW.AEV-CONVERSIONS.COM

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AEV30119AE

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INSTALLATION GUIDE



PLEASE READ BEFORE YOU START

TO GUARANTEE A QUALITY INSTALLATION, WE RECOMMEND READING THESE INSTRUCTIONS THOROUGHLY BEFORE BEGINNING ANY WORK. THESE INSTRUCTIONS ASSUME A CERTAIN AMOUNT OF MECHANICAL ABILITY AND ARE NOT WRITTEN NOR INTENDED FOR SOMEONE NOT FAMILIAR WITH AUTO REPAIR.

INCLUDED PARTS

Flare RH
Flare LH
Wheel Liner RH
Wheel Liner LH
Fastener Pack
LED Lamp Kit
Mounting Bracket Kit
Drill Templates

REQUIRED TOOLS

Basic hand tools
Hammer
Drill
Drill bits - 1/4, 7/16, 1/2, 13/32, 3/4
Rivet gun
Plastic rivet gun
Wire strippers
Air saw
Cut off wheel
Grinder
Vise
Wax & grease remover
Rust preventer
Silicone

**AEV Rear Splash Guards are available for use with
the AEV Highmark Fender Flares**





REAR FLARE INSTALLATION

I. REMOVE FACTORY COMPONENTS

1. Position the truck on a flat, level surface.
 - A. Place truck on jack stands.
 - B. Remove wheels and tires.
2. Remove the factory wheel flares (if equipped) and wheel house liners (fig. 1).
 - A. Remove the 10 screws (each side).
 - B. Remove the christmas tree fastener (each side).
 - C. Save all hardware including the U-nuts on the factory liners.

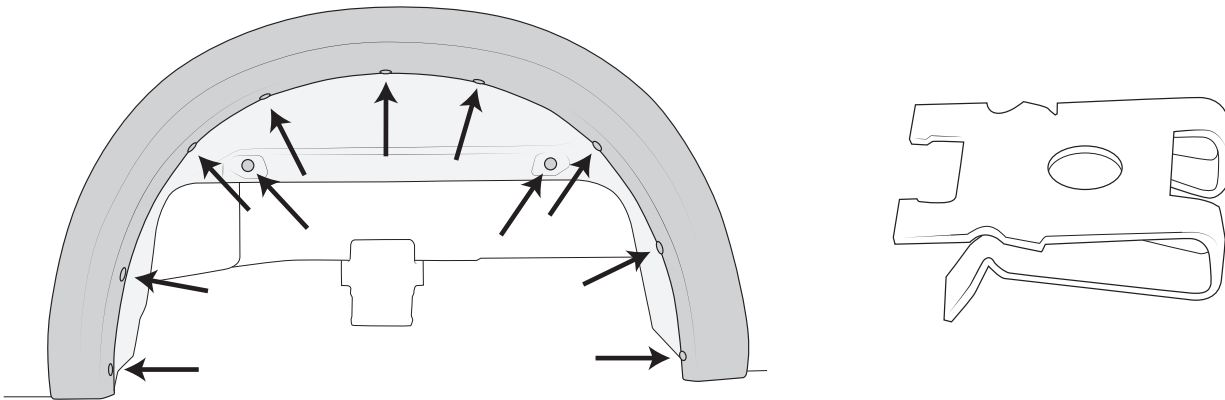


Figure 1 Remove factory flares

3. Remove the wheel house liner's rear plastic support and save — it will be reused. Save all hardware.
4. Remove and save the U-nuts along the edge of the plastic support, the bottom most U-nut may remain in place (fig. 2).
5. Remove the metal support rods and save. Save all hardware (fig. 2).

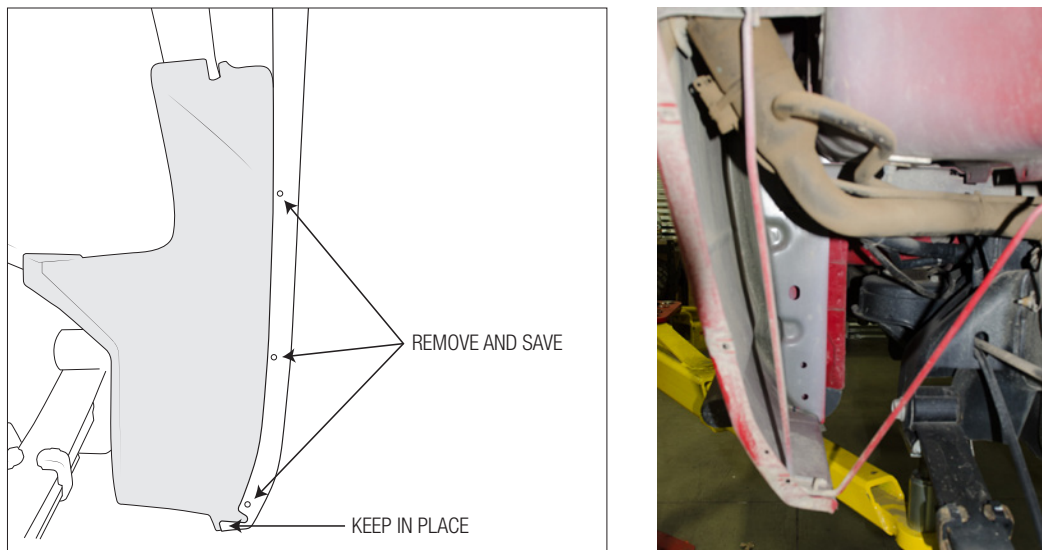


Figure 2 Remove plastic support and metal support rods



II. PREPARE FOR CUTTING

1. Protect bedside with crash wrap, welding blankets, or other non-flammable material. Sparks from cutting and grinding can damage paint and glass.
2. With a helper, hold the AEV flare in position on the bedside (fig. 3).
 - A. Center over the wheel opening. Measure from side to side to aid in proper positioning. Make sure the notches in the flare fit correctly with the corresponding body lines.
 - B. Trace the inside arc of the flare with a marker.
 - C. Mark the outside edges of the flare at both sides near the bottom. This will help re-position the flare once the new wheel opening has been cut.
 - D. Remove the flare and draw a line offset approximately 1/4" from the arc marked in step B. This will be your cut line (fig. 4).

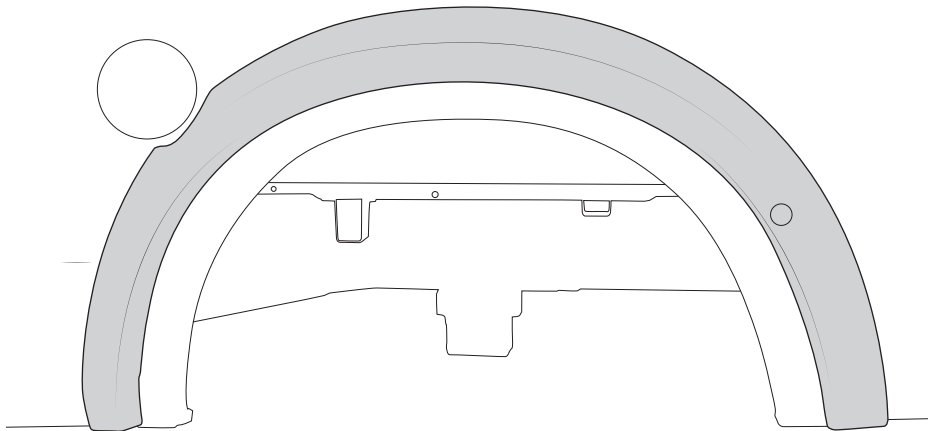


Figure 3 Position flare on bedside

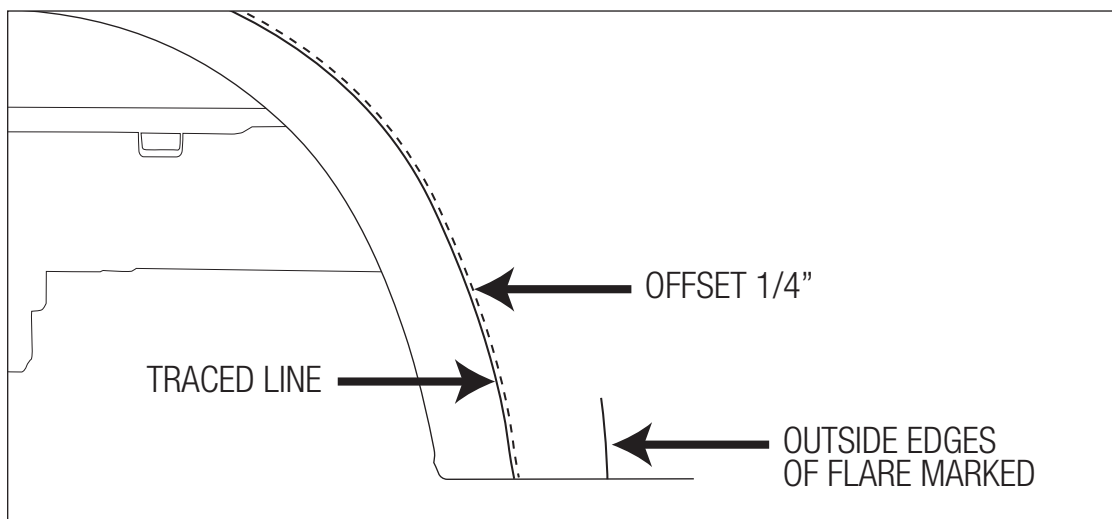


Figure 4 Marked cut line



III. CUTTING NEW WHEEL OPENING

1. Begin cutting the new wheel opening.
 - A. Start by cutting the bedside support structure. This is the material that connects the inner portion of the bed to the bedside. It is located inside the wheel well at the top of the arc. Be sure to cut to the outside of the pinch weld. DO NOT cut the pinch weld off (fig. 5)

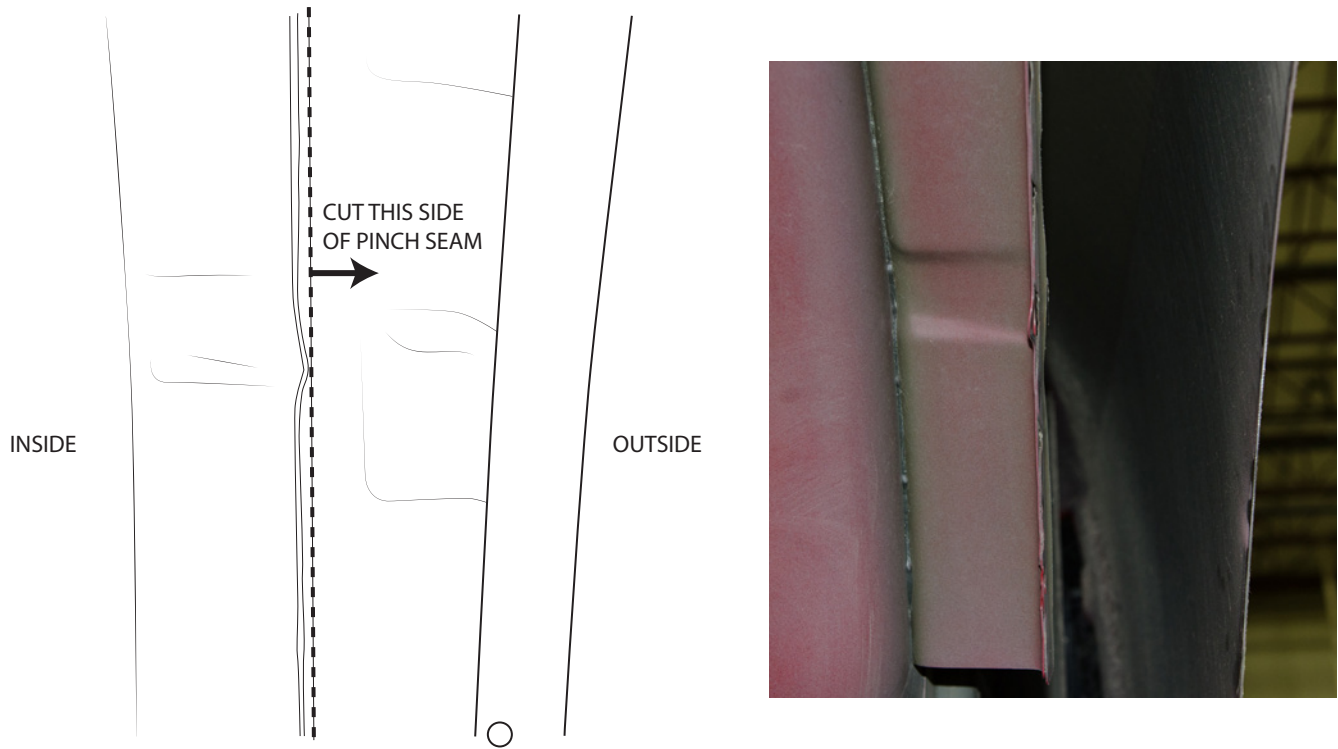


Figure 5 Left: Before Right: After

- B. Cut the new wheel opening using an air saw, cut off wheel, or air sheers. For added protection you can layer painter's tape around the wheel opening so tools will not contact the paint. GO SLOW and take your time as to not generate too much heat that can damage the paint.
 - C. If your truck is equipped with a Ram Box Bed you will need to cut a section out of the pinch weld (fig. 6).

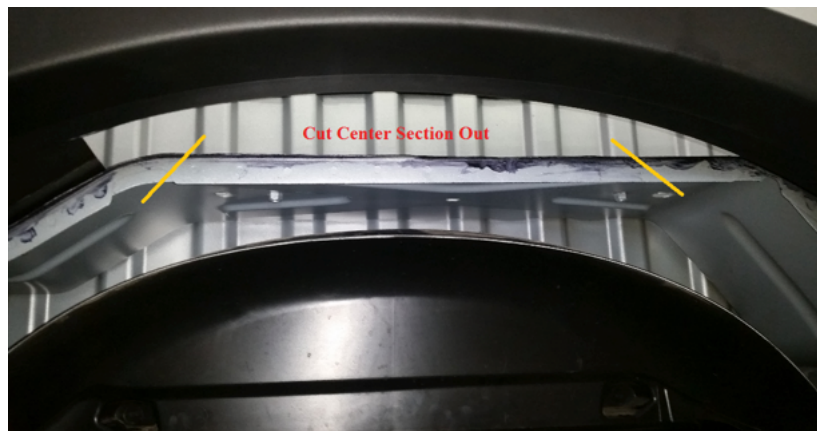


Figure 6



- D. At the bottoms of the wheel opening make sure the cut is perpendicular to the bedside.
 - E. Remove any loose u-nuts on the pinch weld.
 - F. Smooth all cut edges and treat with rust inhibitor or paint.
2. Install bedside support rod.
- A. Cut the stock support rod as shown (fig. 7). Threaded hole will be used.
 - B. Drill a $7/16$ " hole in the pinch weld $2\ 1/2$ " from the stock location towards the front of the vehicle (fig. 8).
 - C. Remove the factory u-nut and place over the newly drilled hole.
 - D. Drill another $7/16$ " hole in the bottom lip of the bedside. This hole should be 1 " forward of your cut and $1\ 1/2$ " from the inboard edge out (fig. 9).
 - E. Install the support rod using the hardware saved from disassembly (fig. 10).

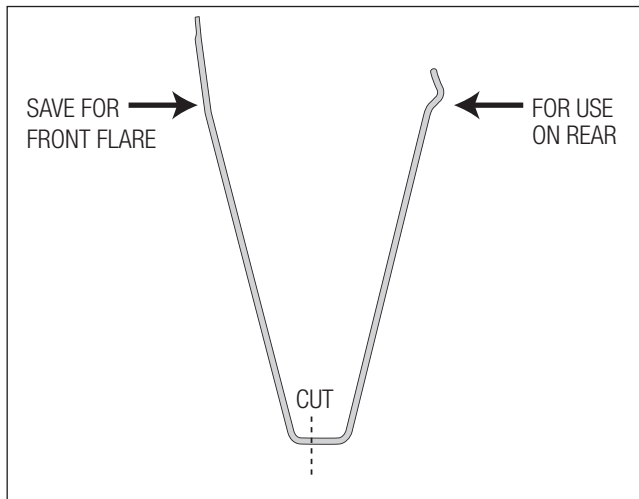


Figure 7

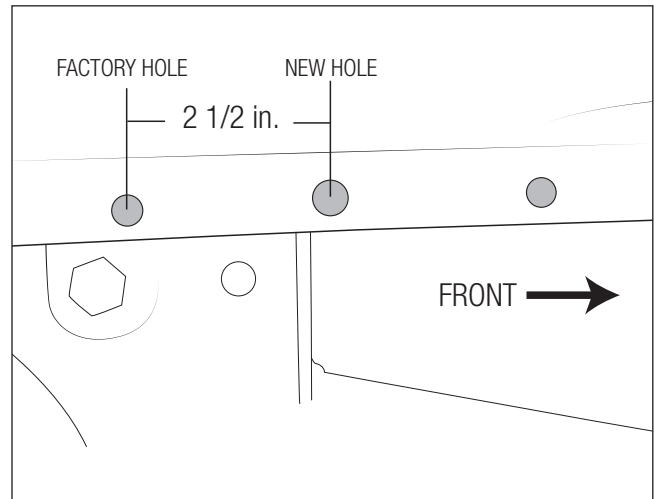


Figure 8: Passenger Side Shown

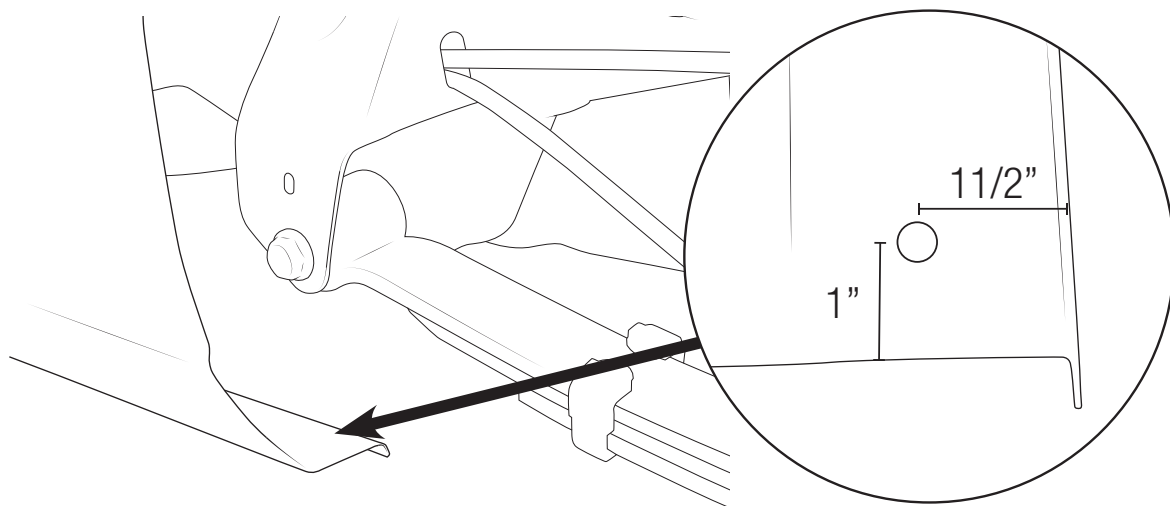


Figure 9: Driver's Side Shown

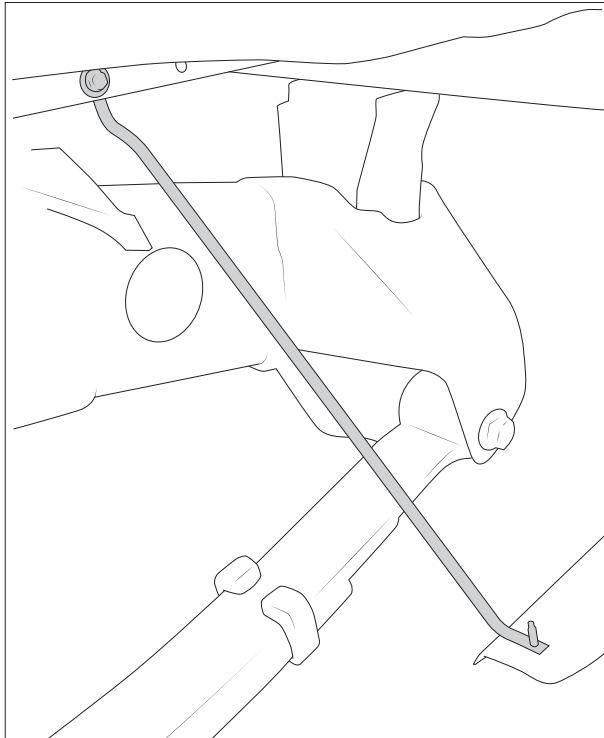


Figure 10: Passenger Side Shown

IV. PREPARING FLARES FOR INSTALLATION

1. Mark hole locations for AEV flares.
 - A. Remove small square film exposing adhesive on template (fig. 11).

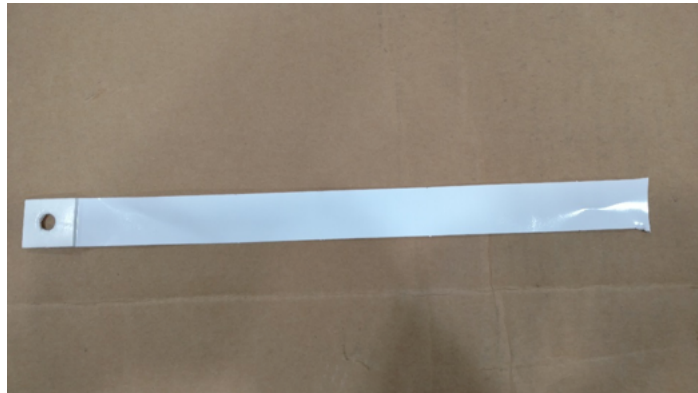


Figure 11

- B. Clean around threaded inserts with grease and wax remover. Other chemicals will not remove the oily residue from the manufacturing process and the templates will not stick to the flares.
 - C. Along with the flares, the bedsides of the truck will also need to be wiped down.
 - D. Place tape over hole locations on the mounting surface of the flare (fig. 12)



Figure 12

- E. Fold the pull tab over so that when the flare is pressed against the body it can still be removed (fig. 13).



Figure 13

- F. With help, position the flare on bedside. Using the marks from Figure 4, center the flare in the wheel opening.
- G. Pull each pull tab one at a time and push the flare firmly against the body at each mounting hole location.
- H. Carefully remove flares making sure the templates transfer from the flare to the bedside (fig. 14).

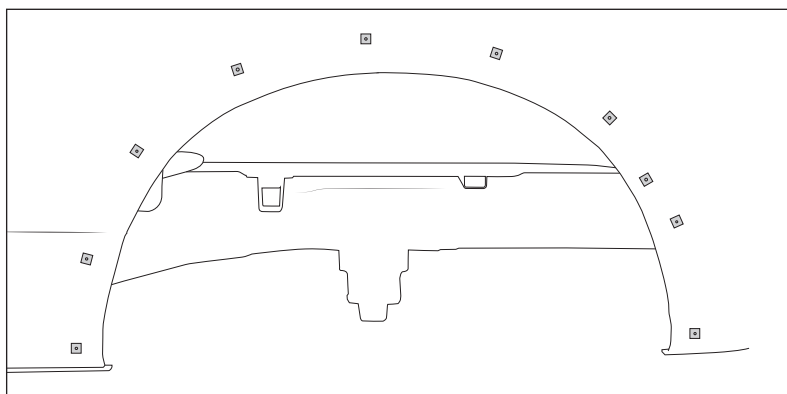


Figure 14



- I. Mark locations of holes with a marker on bedside.
- J. Mark 8 more holes on the same arch as the templates directly between the current locations (fig. 15).
- K. Center punch and drill pilot holes.
- L. Drill out holes to no more than 1/2 in.
- M. In total there should be seventeen 1/2 in holes, and one 3/4" hole (per side). The 3/4" hole will be for the marker light wires to pass through (fig. 15).

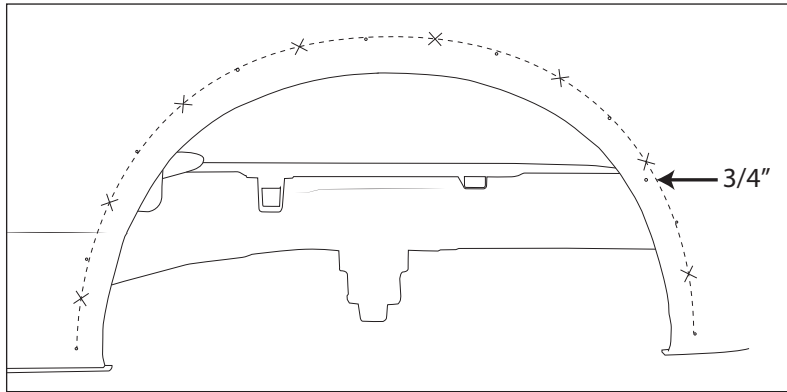


Figure 15

- N. Remove burrs from the back sides of the holes and treat bare metal with rust treatment.
 - O. Loosely fasten flare to the bedside and mark location for hi-low screws on the flare. Remove the flare and drill pilot holes.
2. Drill holes for bedside support brackets.
- A. Hold the bedside support brackets in position lined up with holes drilled for the flares in the locations shown (fig. 16-A). The longer brackets go towards the rear of the vehicle.
NOTE: Vehicles equipped with RAM BOX use a larger front bracket (fig. 16-B).

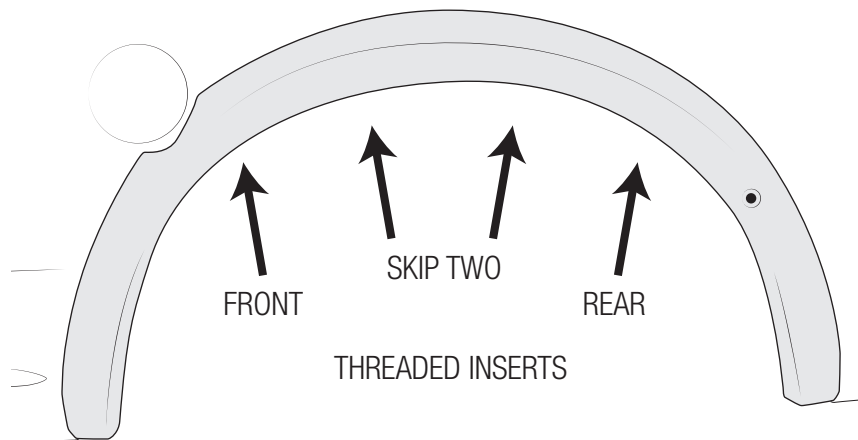


Figure 16-A

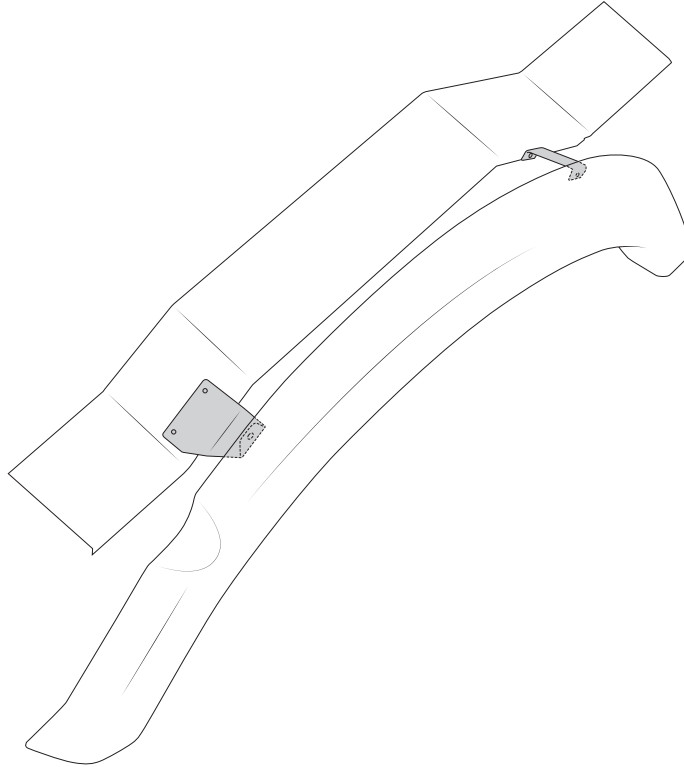


Figure 16-B: RAM BOX installation

- B. Hold the brackets against the pinch weld on inner structure and mark hole locations.
- C. Center punch and drill out to 1/4". Apply rust inhibitor or paint.
- D. Loosely fasten the brackets to the pinch weld with M6 bolts, nuts, and washers (fig. 17).



Figure 17 Left: Front Driver Side Right: Rear Driver Side



3. Install Marker Lights

- A. Drill out the hole for the marker light using a 3/4" hole saw.
- B. Insert the grommet into the hole.
- C. Pass the wires through the grommet and flare then out of the hole on the mounting side of the flare.
- D. Seat light into the grommet (fig. 18).



Figure 18

V. INSTALL FLARES

1. Pass the wiring harness through the 3/4" hole in the bedside.
2. Position the flare on the bedside and secure with M6 x 16 bolts and M6 fender washers. Two of the smaller washers will be used in the locations of the bedside brackets.
3. Use hi-low screws in the locations between M6 hardware. Use large washers and screw directly into the plastic.
4. Tighten all hardware including the bolts for the bedside brackets.
5. Solder connector to marker light and tail light wiring.
 - A. Determine the style of connector you have by pulling out the tail lights and examining the headlight plugs. Notice the color of the wires in positions 2 and 3 for base models, or 1 and 6 for premium models (fig. 19).

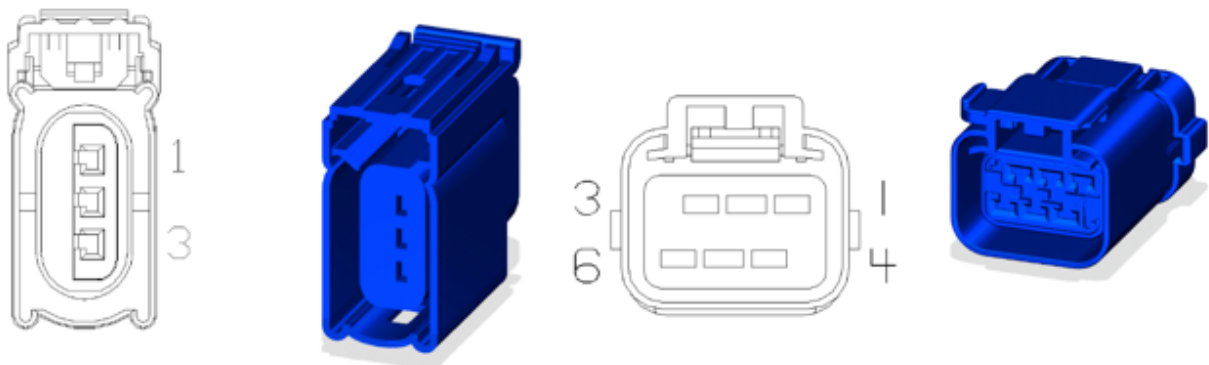


Figure 19 Left: Base Tail Light Right: Premium Tail Light



- B. The female end of the connectors will be soldered to the tail light wiring.
- C. Tap into the tail light wiring at the location shown (fig. 20). This harness is towards the rear of the wheel opening just below the tail lights.



Figure 20

- D. One female bullet connector will be soldered to each of the wires in locations 2 and 3 (base connectors) or 1 and 6 (premium connectors). Keep in mind that the ground for the tail lights will either be black or black with a gray tracer.
- E. The white pigtail will be soldered to the ground circuit of the tail light and the black pigtail will be soldered to the park lamp circuit. DO NOT solder the black pigtail to the ground circuit, the black wire on the marker light is the power circuit.
- F. Use zip ties to secure wiring harness to structure (fig. 21).



Figure 21

VI. INSTALL NEW WHEEL LINERS

- 1. Modify rear plastic liner support.
 - A. Trim plastic support using the top rib as the cut line (fig. 22).
 - B. Drill two 1/4" holes placed one inch from the vertical ribs and 1/2 inch down from the cut line (fig. 23).

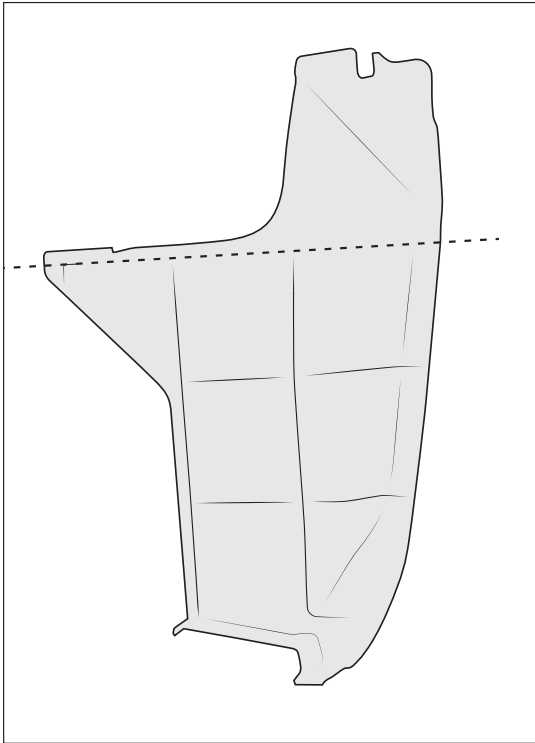


Figure 22

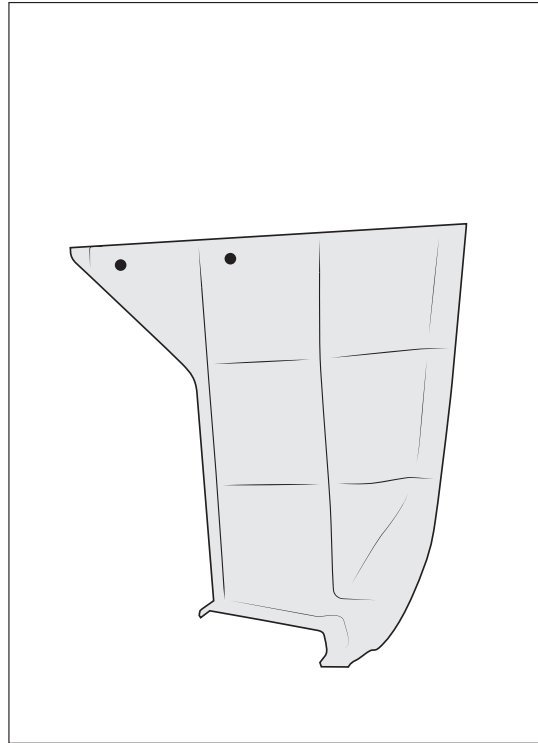


Figure 23

- C. Position and transfer holes to bed structure.
- D. Drill 1/8" holes in the bed rail.
- E. Reuse two of the stock wheel liner screws to fasten the plastic support to the bed rail and one screw at the bottom lip of the bedside.
- F. The plastic locating pin will go into the existing hole in the bottom lip of the bedside. Drill a 1/4" hole placed one inch from center of plastic locating pin towards the rear of the vehicle for a screw (fig. 24).

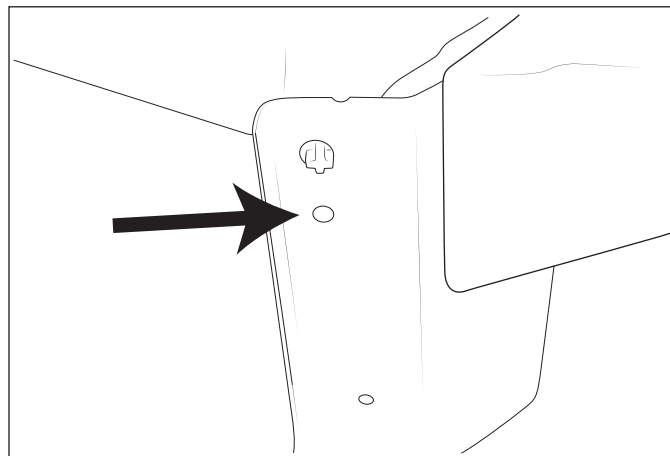


Figure 24



2. Cut the factory wheel liner.

- A. Mark wheel liner and cut using an air saw or utility knife. DO NOT cut too much, you can trim excess after the hole locations are marked (fig. 25).

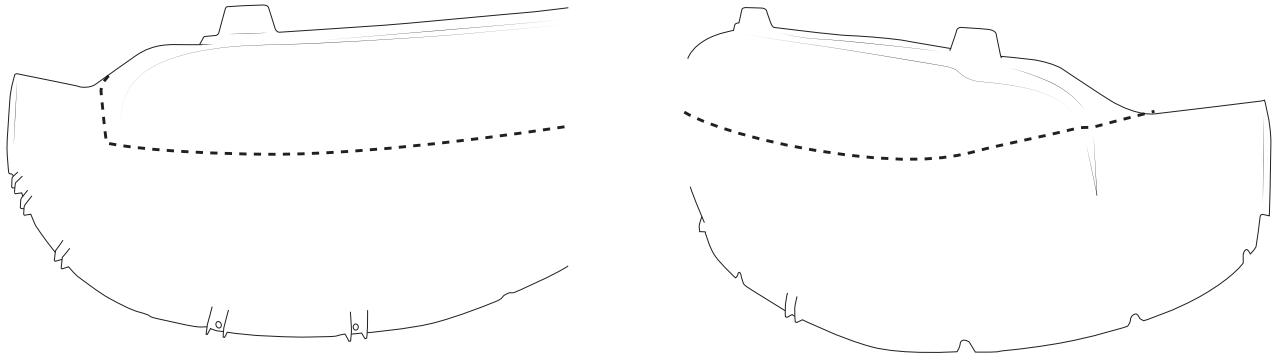


Figure 25

- B. Keep all C-nuts that are on the factory wheel liner.
C. Install modified factory liner back into place with two factory screws.

3. Fit new wheel liner.

- A. With a helper, position new wheel liner. The new liner will fasten to the bottom side of the factory wheel liner and will fit uniformly in the recess of the wheel flare (fig. 26)



Figure 26

- B. Transfer holes to flare.
C. Drill holes to 1/4".
D. Install several 1/4" plastic rivets, DO NOT install all of them at this time.
E. Push liner into position on mating surface of factory liner.



- F. Transfer holes onto factory liner.
- G. Remove the modified factory liner.
- H. Drill 1/4" holes into factory liner where marked.
- I. Install u-nuts from factory liner over the holes. If there is too much material for the u-nuts to fit into position, trim the liner for proper fit. You can also cut slots for the u-nuts to slide through (fig. 27).



Figure 27

- J. Reinstall the modified factory liner.
- K. Install new wheel liner with 1/4" plastic rivets into the flare and factory hardware into the factory wheel liner.
- L. Use the supplied p-clip to fasten the bottom front of the wheel liner to the bedside support rods. Use an M6 button head bolt and a large black fender washer on the front side of the liner with a locking nut on the back side (fig. 28).



Figure 28