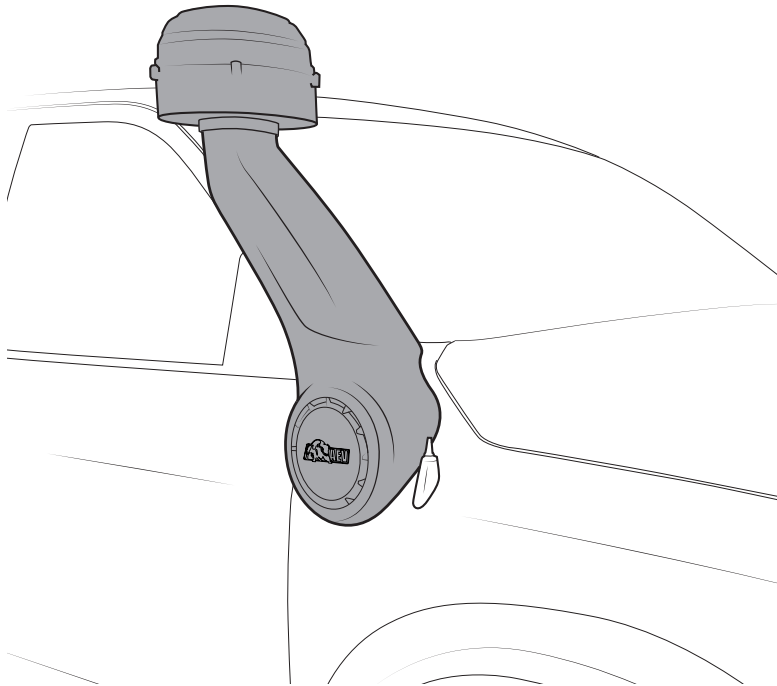




RAISED AIR INTAKE
RAM HEAVY DUTY





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	QTY	REQUIRED TOOLS
Intake Body	1	1/16" Drill Bit
Intake Extension (Gas Only)	1	1/2" Step Bit
Air box Inlet Elbow (Gas Only)	1	1" Hole Saw
Air box Inlet Flange (Gas Only)	1	Air or Electric Cut-off Wheel
Air Ram (optional)	1	Die Grinder with Carbide Bit
High Dust Filtration System (optional)	1	Flexible Straight Edge
Hardware Pack	1	Center Punch
Template	1	De-burring Tool
		Touch-up Paint or Rust Inhibitor
		Masking Tape
		Common Hand Tools



A. TRUCK PREPARATION

1. Clean the vehicle including the fender liner area.
2. Remove the right front fender liner.
 - a. Remove the six (6) screws from around the fender lip.
 - b. Remove the two (2) inner screws holding the fender liner.
 - c. Remove the three (3) plastic push pins.
 - d. Remove fender liner.

NOTE: It is not necessary to remove the factory fender flares.

B. PREPARE TEMPLATE

A full-size template is included with your AEV Raised Air Intake kit. If you need to download another template from the AEV website, print it on 11x17 paper and use the 1" square scale to ensure it is printed at 100%.

1. Trim on the dotted lines for the door line and fender line.
2. Using a sharp razor blade, VERY CAREFULLY cut along the dotted lines to remove the hole for the factory antenna location.

C. REMOVE ANTENNA

1. Remove the antenna mast.
2. Use the supplied tool and a 1 1/16 in wrench to remove the antenna nut (Fig. 1).

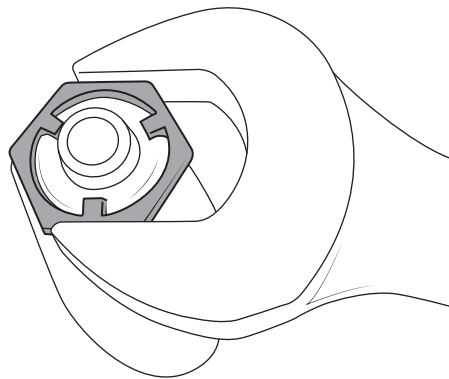


Figure 1

3. Remove the plastic antenna base.
4. Push the Antenna mount and cable through the hole in the fender.



D. TAPE TEMPLATE TO TRUCK

1. The template is primarily located using the factory antenna hole, use the two trimmed edges to achieve the best fit.
2. Tape in place so that the template sits flat on the surface of the vehicle everywhere with no wrinkles (Fig. 2).

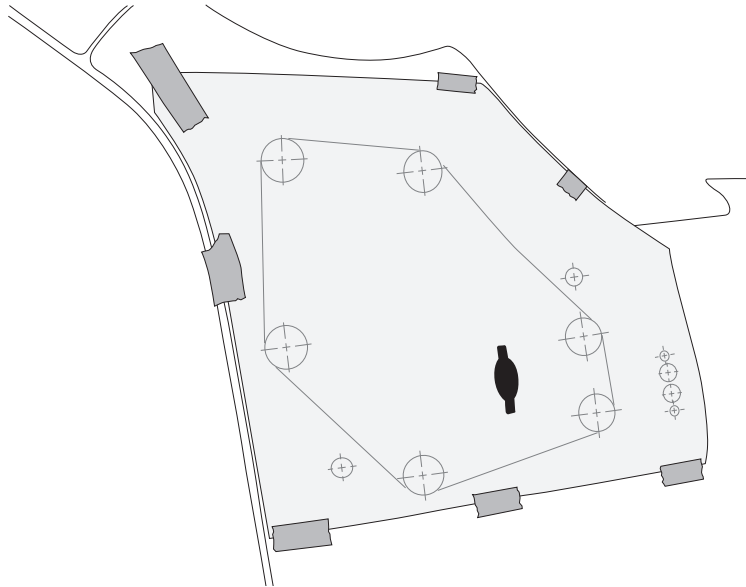


Figure 2

E. MARKING HOLES

1. Use a center punch to mark all 22 center points.
2. Drill all 22 center marks with a 1/16" drill bit (Fig. 3).
3. You can now remove the template. NOTE: It is a good idea to mask off surrounding areas to protect paint.

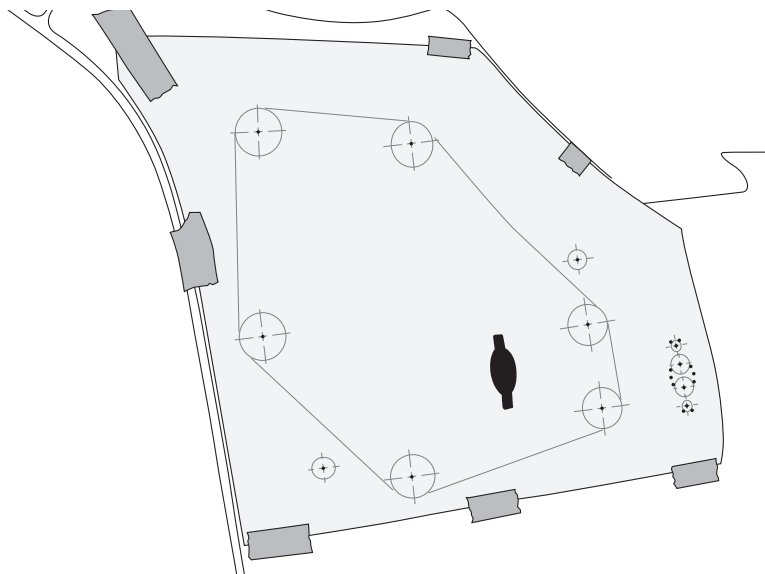


Figure 3



F. DRILLING HOLES

1. After all 22 holes are drilled with a 1/16" bit, continue to drill the two (2) 9/32" holes and the four (4) 1/2" holes with a step bit (Fig. 4 Left).
2. Drill all six (6) 1" holes with a hole saw very carefully (Fig. 4 Right).
3. De-bur all hole edges using a de-burring tool.



Figure 4

G. CUTTING THE INTAKE HOLE

1. Use a flexible straight edge and felt marker or painter's masking tape to mark the main hole. Go from tangent to tangent (Fig. 5).

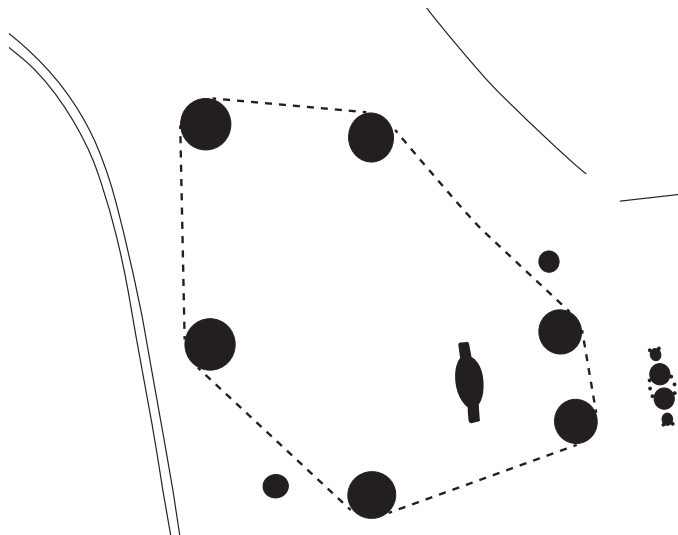


Figure 5

2. Using air saw or an electric or air powered abrasive cut-off wheel, carefully cut on lines to make one large cut-out. NOTE: Be sure to wear proper safety equipment including gloves and eye protection. Always cover any exposed window glass or painted surface to protect from sparks.
3. Use touch-up paint or rust inhibitor on all bare metal edges.



H. CUTTING NEW ANTENNA HOLE

1. Use a combination of cut-off wheel, air saw, or die grinder with carbide bit to cut the straight and elliptical portions of the antenna hole (Fig. 6).
2. Square up all ends using a hand file and de-burr all edges.
3. Use touch-up paint or rust inhibitor on all bare metal edges.

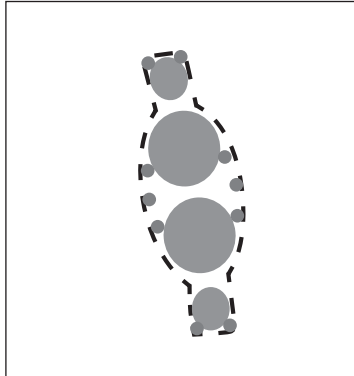


Figure 6

GAS/ECO-DIESEL TRUCKS SKIP TO STEP K

I. INSTALL ANTENNA

1. Test fit the antenna base into the newly cut hole. Make adjustments as necessary.
2. Install the plastic base and antenna nut.
3. Test fit the antenna mast and be sure antenna is vertical on vehicle from both the side and front of the vehicle. Adjust as necessary.



J. LOOSEN RIGHT FENDER

(See Figure 7)

1. Remove the three (3) bolts on top of the right fender.
2. Remove the top two (2) bolts on the right side battery tray.
3. Loosen the inside two (2) bolts at the top of the battery tray.
4. Remove the bolt at the top of the fender under the windshield trim.
5. Remove the bolt at the top of the fender in the door opening.
6. Remove the bolt inside of the fender, half way up the door opening.

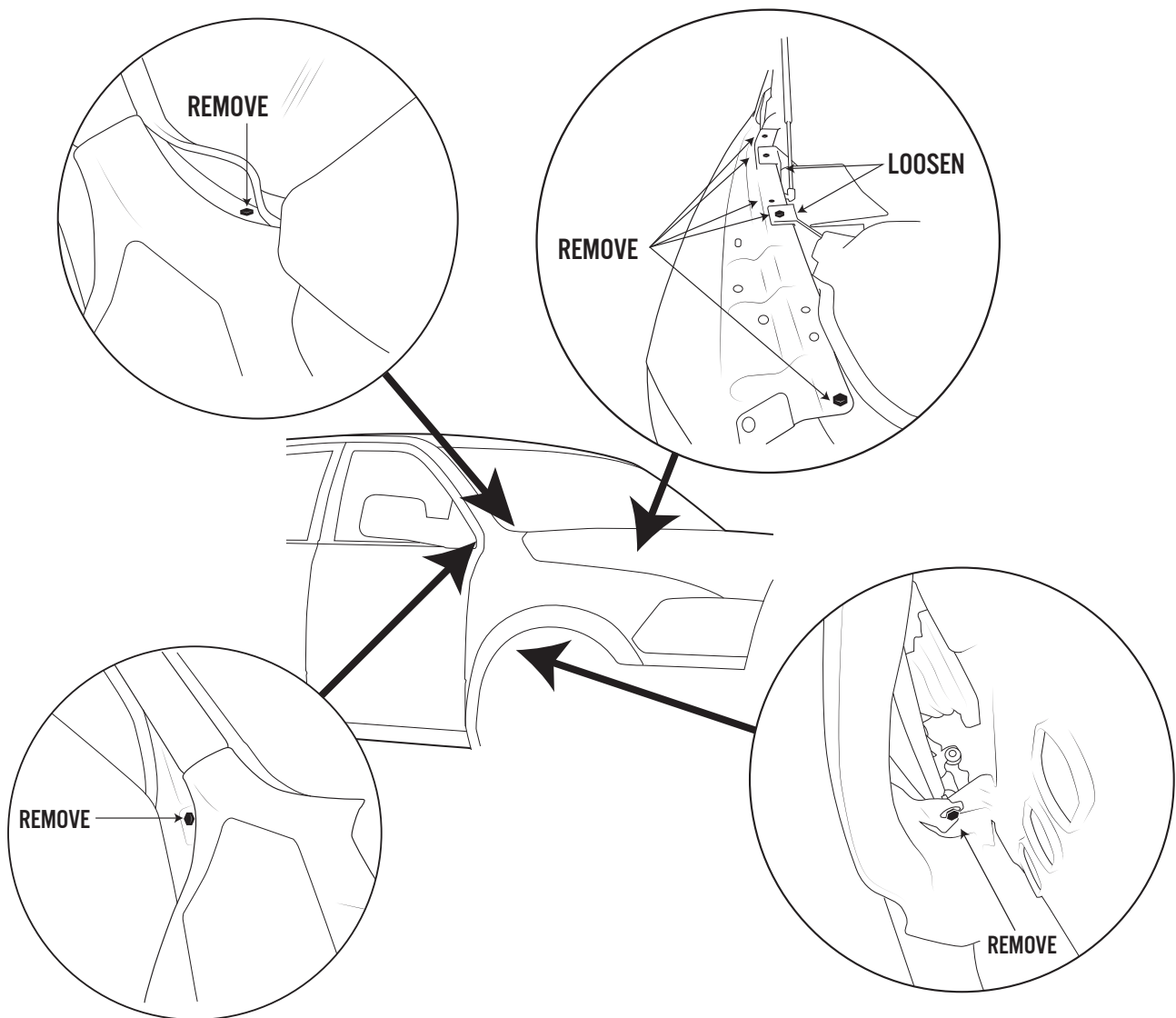


Figure 7



DIESEL TRUCKS SKIP TO STEP 0

K. REMOVE RIGHT FENDER – GAS/ECO-DIESEL TRUCKS ONLY

1. Disconnect the negative battery terminal.
2. Remove the upper shroud by prying the six (6) plastic push pins out (Fig. 8).

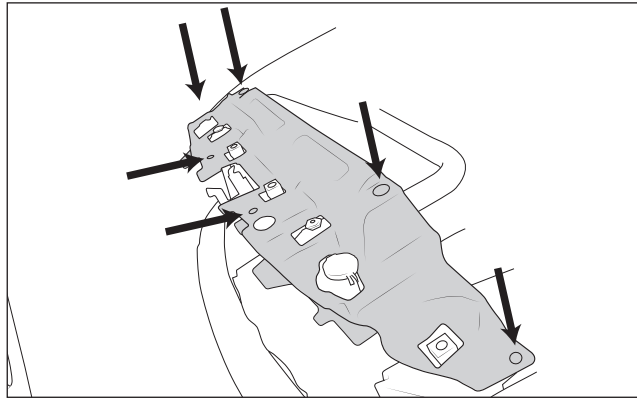


Figure 8

3. Remove the bolt behind the headlight. (Refer to Figure 9 for steps 3–8)
4. Remove the two lower fender bolts at the pinch seam.
5. Remove the bolt inside of the fender, half way up the door opening.
6. Remove the bolt at the top of the fender under the windshield trim.
7. Remove the bolt at the top of the fender in the door opening.
8. Remove the three (3) bolts on top of the right fender and carefully remove the fender.

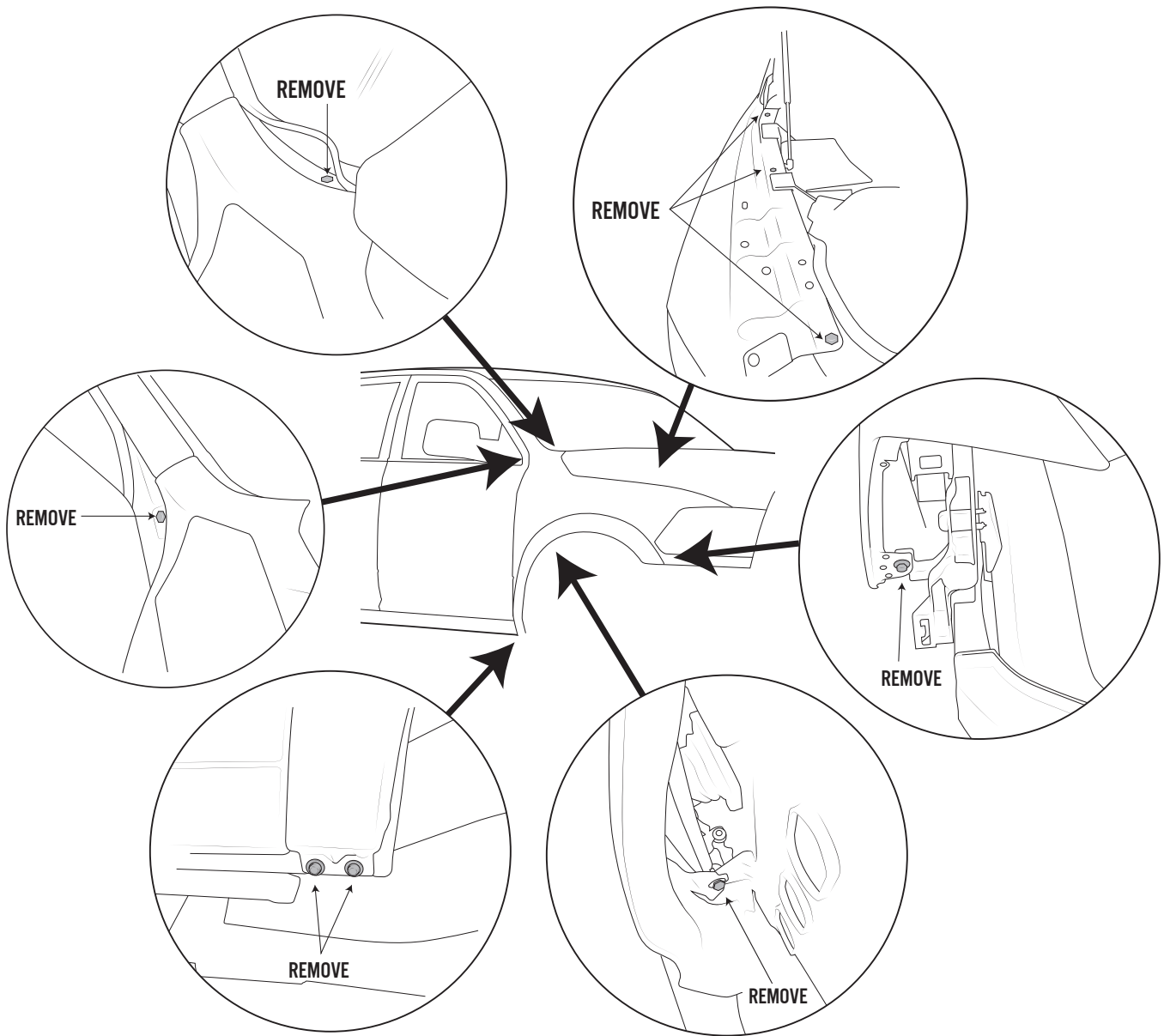


Figure 9



L. ENGINE COMPARTMENT PREPARATION-GAS/ECO-DIESEL TRUCKS ONLY

1. Remove Plastic Shroud (Fig. 10).

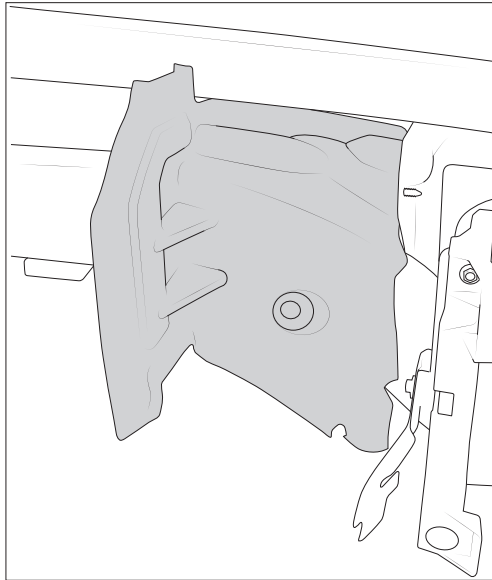


Figure 10

2. Remove the PCM and mounting bracket.
 - a. Unplug the two connectors attached to the PCM (Fig. 11).

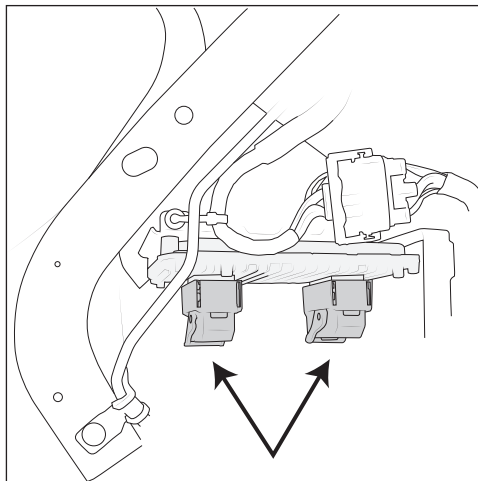


Figure 11

- b. Disconnect the 34 way connector on top of the PCM bracket.
 - c. Unbolt the ground wire from the fender rail.
 - d. Disconnect all wiring and hoses from the PCM bracket.
 - e. Remove the PCM and mounting bracket. Note: It is not necessary to remove the PCM from the bracket.



3. Remove the factory air box.
 - a. Unplug the MAF sensor.
 - b. Disconnect the air tube from the air box.
 - c. Remove the two bolts holding the AC line to the air box (Fig. 12).
 - d. Remove the clips holding the AC lines to the air box (Fig. 13).
 - e. Pull the air box up to remove it. Be careful not to snag the AC lines.

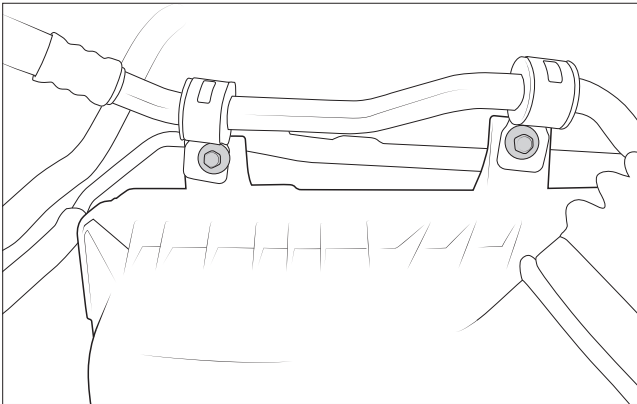


Figure 12

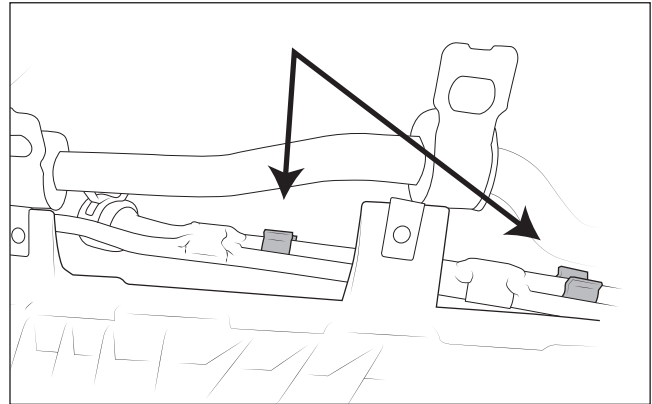


Figure 13

M. AIR BOX MODIFICATION—GAS/ECO-DIESEL TRUCKS ONLY

1. Remove the air box cover and air filter.
2. Remove the air inlet tube (Fig. 14).
3. Position the AEV air inlet flange to the air box and mark the holes (Fig. 15). NOTE: Some air boxes have a smaller inlet hole. These should be trimmed using the AEV inlet flange as a guide.

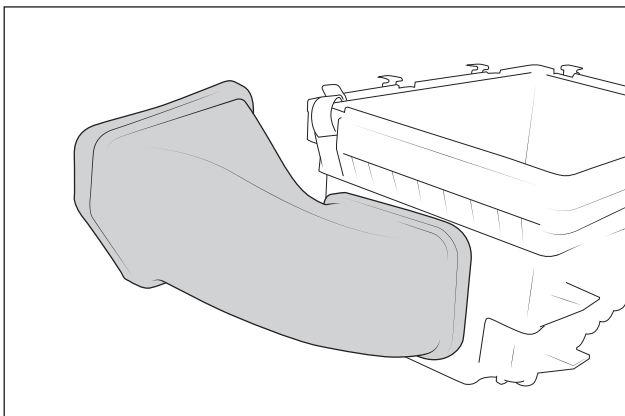


Figure 14

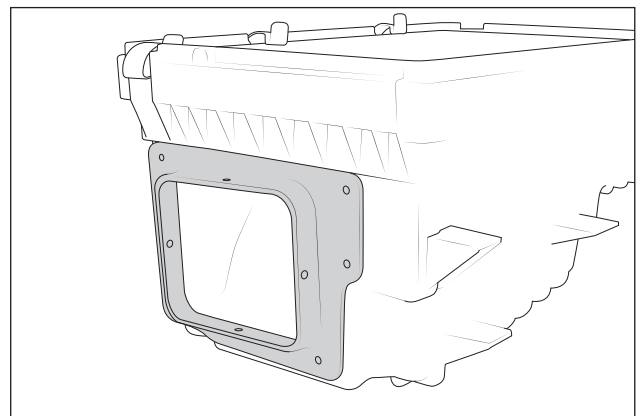


Figure 15

4. Drill the holes to 3/16".
5. Rivet the air inlet flange to the air box with the supplied rivets.



6. Rivet the air inlet elbow to the air inlet flange with the supplied rivets (Fig. 16).
7. Trim plastic for clearance of air inlet as shown (Fig. 17).
8. Re-install the modified air box.
9. Re-install the PCM.

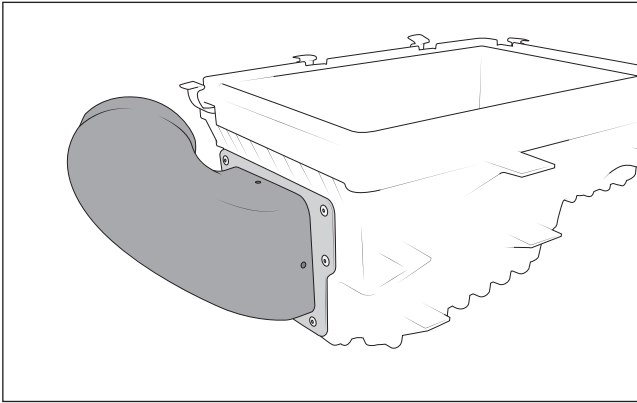


Figure 16

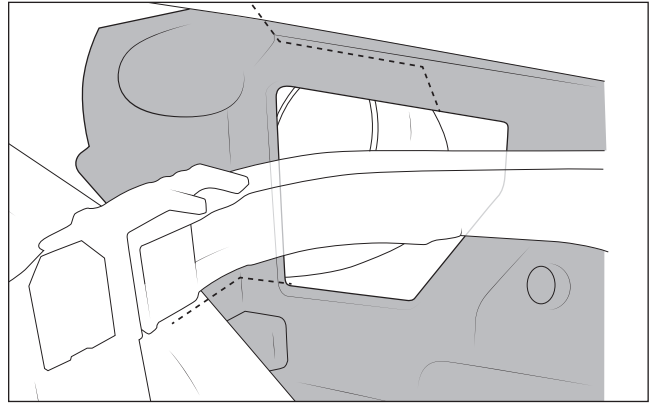


Figure 17

10. Install the adhesive foam pads to the extension tube as shown (Fig. 18).

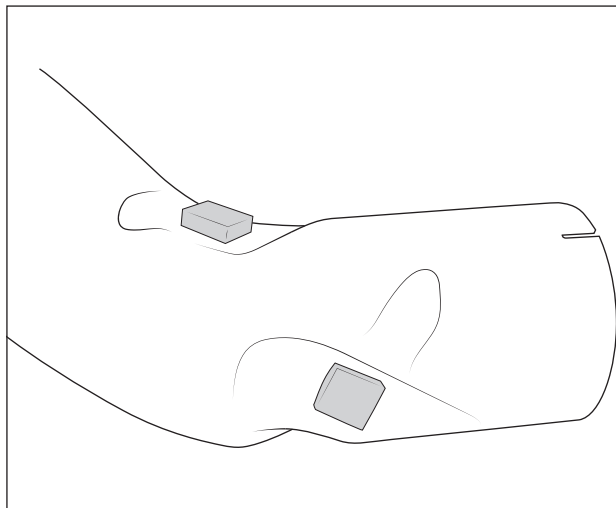


Figure 18



11. Install the extension tube as shown (Fig. 19). Leave loose at this time.

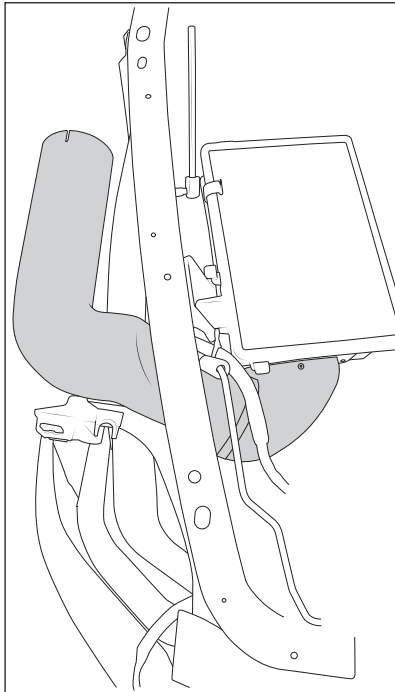


Figure 19

12. Attach the fender with the two lower pinch seam bolts and the bolt behind the headlight. Use one bolt at the top to help hold the fender.
13. Tighten the two bolts at the pinch seam and the bolt behind the headlight.

NOTE: Make sure to line up the witness marks in the paint with the washer on the bolts. This will align the fender back to its original location.

N. INSTALL ANTENNA—GAS/ECO-DIESEL TRUCKS ONLY

1. Push the antenna base through the hole.
2. Install the plastic base and antenna nut.
3. Test fit the antenna mast and be sure antenna is vertical on vehicle from both the side and front of the vehicle. Adjust as necessary.

O. INSTALL A-PILLAR MOUNT

1. Gently slide the top of the fender out about one inch.
2. Pre-Install the hose clamp onto the factory air inlet tube, or AEV extension tube (GAS/ECO-DIESEL TRUCKS).
3. Install the Intake body. Use a helper to guide the Intake body past the antenna and into the factory air inlet tube, or AEV extension tube (GAS/ECO-DIESEL TRUCKS).



4. Loosely install the 8 mm bolts through the fender and into the Intake body, install the BOTTOM bolt first. Snug them but DO NOT TIGHTEN at this time.
5. Gently push the fender back into place. Be sure the intake body is aligned properly and mark the upper holes on the A-Pillar using a felt tip pen through the intake body.
6. Remove the intake body.
7. Center punch and carefully drill holes to 1/2". Use touch-up paint or rust inhibitor on bare metal.
8. Install rubber well-nuts by inserting into the 1/2" hole (Fig. 20).

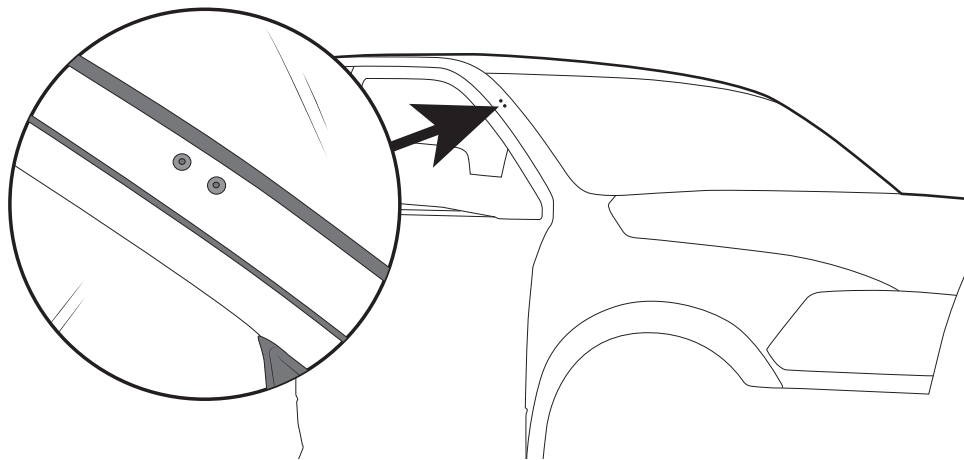


Figure 20

GAS TRUCKS SKIP TO STEP Q

P. INSTALL INTAKE BODY

1. With a helper, re-install the Intake body through the fender and into the factory air intake tube.
2. Gently push the fender back into place and tighten or re-install all fender and battery tray hardware.
3. Loosely install the 8 mm bolts into the Intake body through the fender. Begin with the bottom bolt. Use BLUE thread lock compound.
4. Loosely install the 6 mm bolts and washers to the upper A-Pillar well-nuts.
5. Tighten all hardware when the best fit is achieved.
6. Remove the factory air box.
7. Remove the factory foam seal that sits between the inner fender and the airbox.
8. Clean the surface and install the AEV supplied seal onto the inner fender (Fig 21).

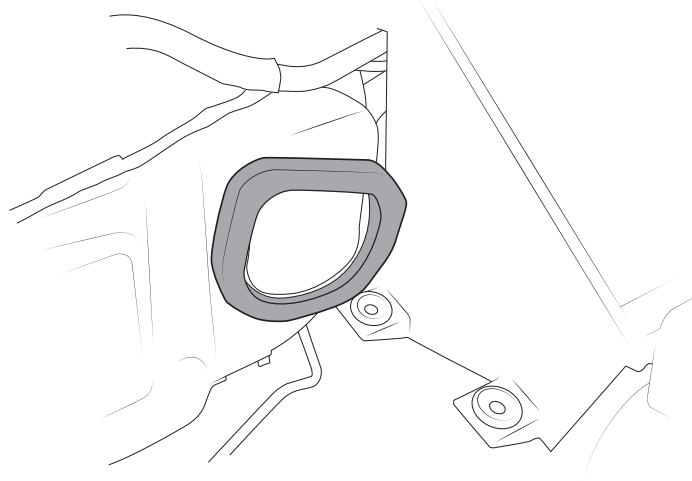


Figure 21

9. Reinstall the air box and secure with original hardware.
10. Tighten hose clamp to the factory air intake tube.
11. Re-install the fender liner using included push pins and re-using factory bolts.

Q. INSTALL INTAKE BODY-GAS TRUCKS ONLY

1. With a helper, re-install the Intake body through the fender and into the factory air intake tube.
2. Gently push the fender back into place and tighten or re-install all fender and battery tray hardware.
3. Loosely install the 8 mm bolts into the Intake body through the fender. Begin with the bottom bolt. Use BLUE thread lock compound.
4. Loosely install the 6 mm bolts and washers to the upper A-Pillar well-nuts.
5. Tighten all hardware when the best fit is achieved.
6. Reinstall the air box and secure with original hardware.
7. Tighten both hose clamps to the air intake tube.
8. Re-install everything in the engine compartment.
9. Re-install the fender liner using included push pins and re-using factory bolts.

R. INSTALL OPTIONAL AIR RAM

1. Slide the supplied hose clamp over the Intake Body.
2. Attach the Air Ram and adjust so it is forward facing.
3. Mark the hole location on the Intake body and drill a 5/16" hole (Fig 22).



4. Install the push pin.
5. Slide the hose clamp up around the Air Ram and tighten.

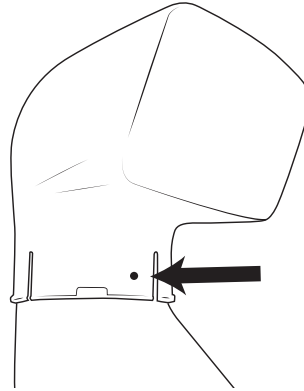


Figure 22

S. INSTALL OPTIONAL HIGH DUST FILTRATION SYSTEM

1. Slide the supplied hose clamp over the Intake Body
2. Install the High Dust Filtration System. This must be installed with the vent to the rear of the vehicle (Fig. 23).
3. Slide the hose clamp up around the High Dust Filtration System and tighten.

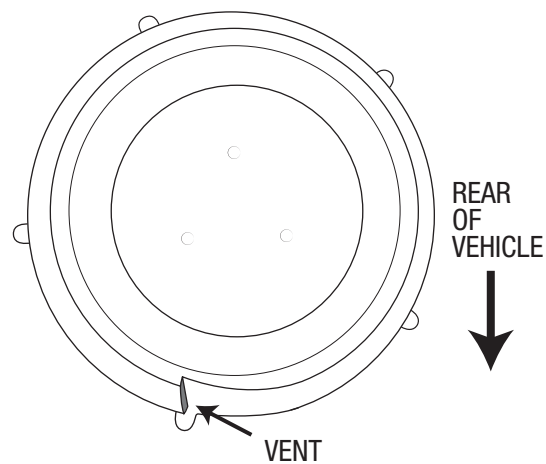


Figure 23