



COLD AIR SYSTEM

Installation Instructions for:
Part Number 21-485
2004-2008 Mazda RX-8 Instructions

ADVANCED ENGINE MANAGEMENT INC.

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www.aempower.com

Instruction Part Number: 10-7056

The applications listed are covered by at least one of the following EO numbers:

2004-2008 Mazda RX-8 C.A.R.B. E.O. # D-392-30

Cold Air Intake Systems that are pending CARB approval are illegal in California except on racing vehicles which may never be used on public highways.

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Congratulations! You have just purchased the finest Air Induction & Filtration system for your car at any price!

The **AEM** Short Ram Air Intake System is the result of extensive development on a wide variety of cars. It is the most advanced short pipe air intake system on the market. Each system is specifically engineered for its particular application. All **AEM** Short Ram Air Intake Systems deliver maximum performance gains through lightweight, all-aluminum, mandrel-bent tubing that is tuned in both length and diameter. The aluminum will not crack in extended use like plastic. The tube length and diameter are matched for each specific engine to give power over a broad RPM range. Unlike plastic systems that use a continually diverging cross-section, we take advantage of the acoustical energy in the inlet duct to promote cylinder filling during the intake valve opening event. Every intake is coated with a high-gloss, heat-reducing Zirconia based powder coating. This special blend of powder coating helps reduce heat penetration, which in turn reduces the temperature of the inlet air charge. The cooler inlet air temperature translates to more power during the combustion process because cool air is denser than warm air. The air mass flow to the engine is increased because of the increased airflow and reduced inlet temperature, which translates to more power.

Bill of Materials for: 21-485

Quantity	Part Number	Description
1	21-2109	Air Filter Assembly 3.25 9" Element
1	2-402	Upper Inlet Pipe 3.5"
1	2-405	Lower Inlet Pipe 3.25"
2	5-329	3.5" Coupler w/ Screens
1	2-403	Inlet Pipe
1	2-404	Inlet Pipe
1	5-353	Hose, Adapter 3.50/3.00X3
1	5-576	3.25 - 3.5" Hump Hose
1	10-7056	Instructions
2	1-2023	8-32 MAF Bolts
1	8-105	Vac Cap
6	103-BLO-6020	3.5" Hose Clamps
1	103-BLO-4820	3.0" Hose Clamp
1	103-BLO-5620	3.25" Hose Clamp
1	10-922E350	AEM Decal
2	444.460.04	6mm Nylok Nut
2	1-3028	Washer, 1/4 SAE FLAT
2	1-2075	Bolt, Hex/Flange M6 X 40
1	10-901	Vacuum Hose Diagram
2	2-658	Spacer 1.00 OD .256 ID X 1"
2	559999	Fender Washer

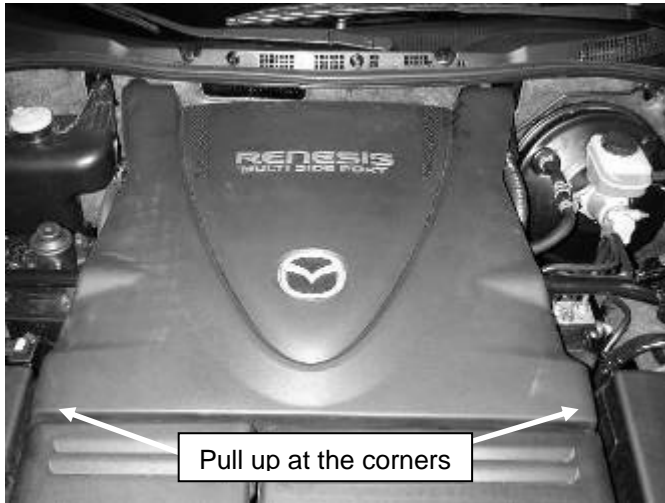
For technical inquiries email tech@aempower.com

Read and understand these instructions **BEFORE** attempting to install this product.

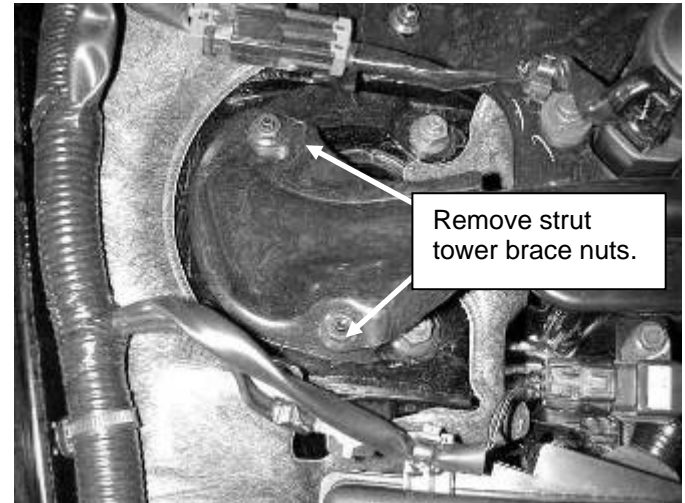
1) Getting Started

- a) Make sure vehicle is parked on a level surface.
- b) Set parking brake.
- c) Jack the front of the vehicle and support with properly rated jack stands.
- d) Lift the plastic battery cover and disconnect both battery terminals.
- e) If engine has run within the past two hours let it cool down.
- f) **Due to the amount of hardware accumulated during removing the stock system it is important to keep all tabs, push-in tabs, screws, and bolts organized for re-installation.**

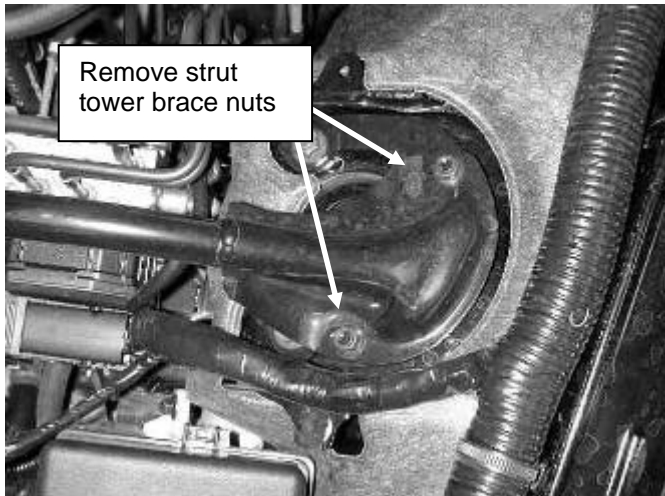
2) Removing the stock air inlet system



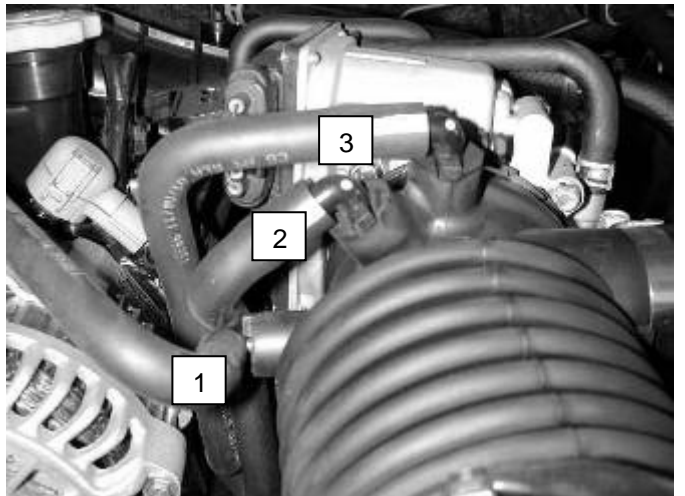
a) Start by removing the engine cover. Gently lift up at the base then pull the cover towards the front of the car.



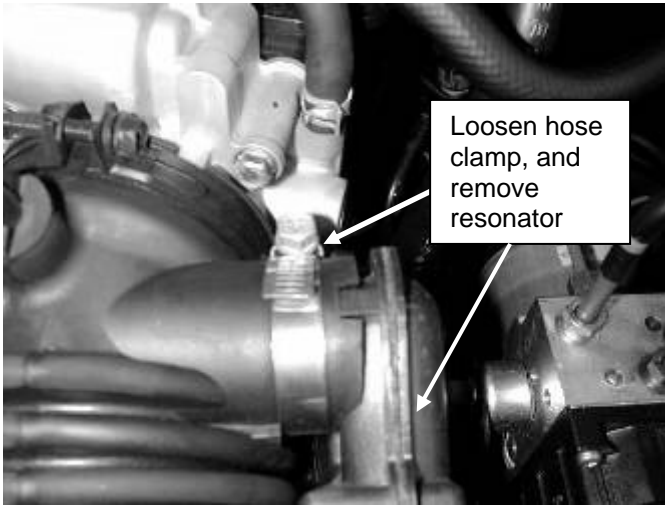
b) Remove the passenger side nuts to the strut tower brace.



c) Remove the driver's side nuts to the strut tower brace. Remove the strut tower brace.

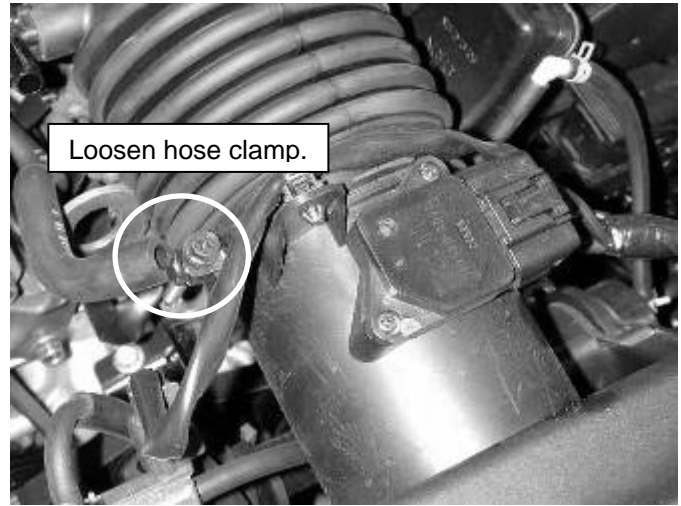


d) Remove these three hoses before the throttle body labeled 1,2, and 3.



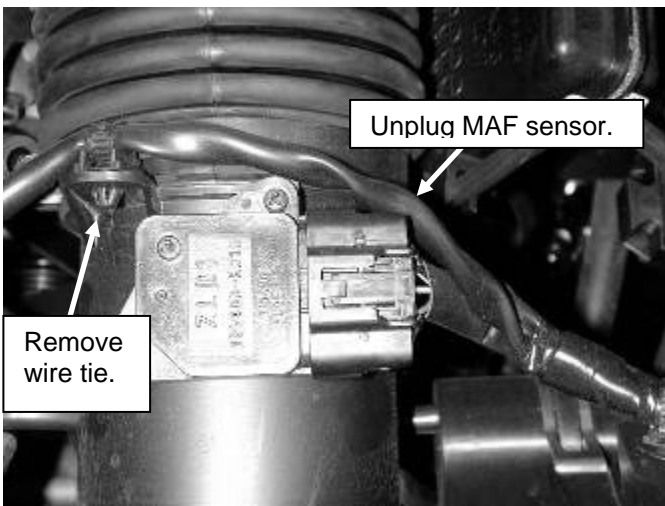
Loosen hose clamp, and remove resonator

e) Loosen hose clamp and remove resonator from the inlet tube. *This will not be reused.*



Loosen hose clamp.

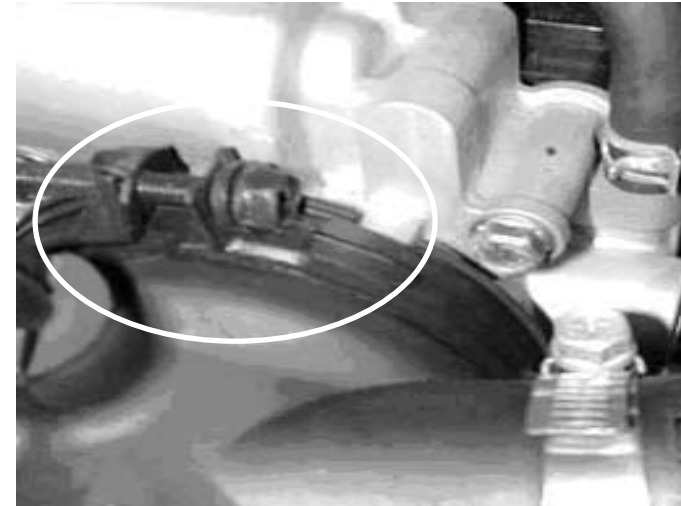
f) Loosen hose clamp to the MAF sensor.



Unplug MAF sensor.

Remove wire tie.

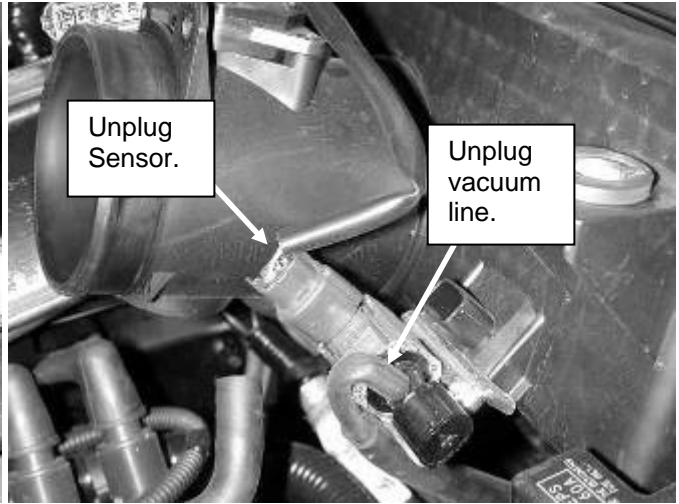
g) Unplug MAF sensor. Remove wire tie.



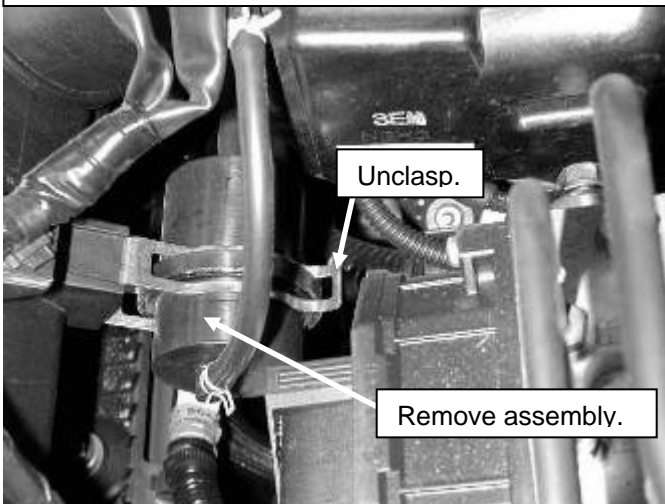
h) Loosen hose clamp at the throttle body and remove inlet tube.



i) Gently pull up on air box, do not completely remove.



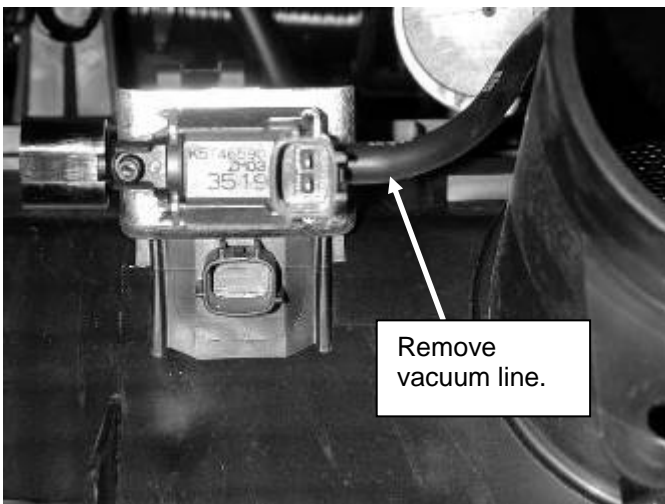
j) Unplug sensor (will not be used) and remove vacuum line. Sensor is used for secondary air inlet.



k) Unclasp and remove assembly from the air box.



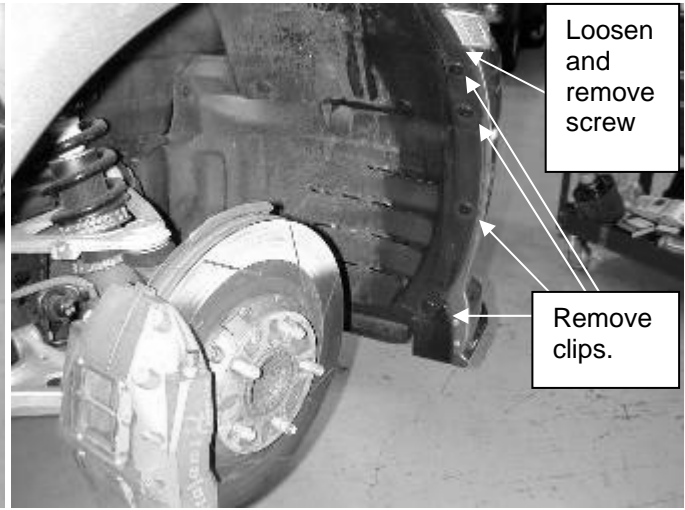
l) Remove wire tie from the air box.



m) Remove vacuum line. The secondary inlet system will not be reused. Cap the inlet at the manifold.



n) Remove air box.



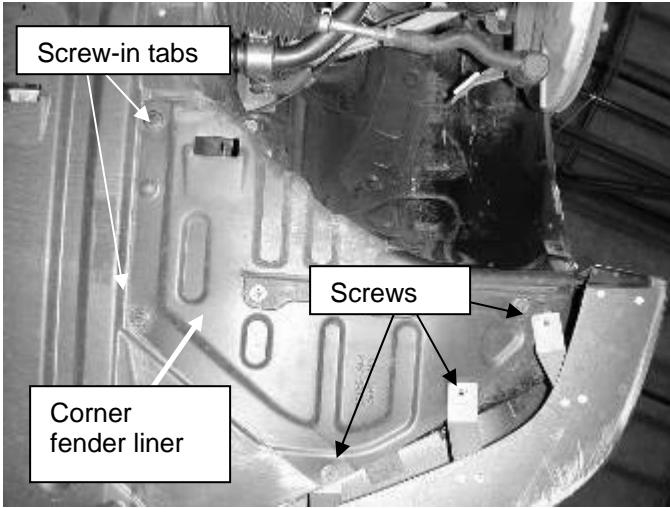
o) Remove both the passenger and driver's side wheels to access the fender liner for bumper removal.

p) Remove the push-in clips from the fender liner on both sides of the bumper. Peel back the fender liner to access the screw connecting the bumper to the fender located under the corner lamp. Loosen and remove screw. Unplug corner lamps.

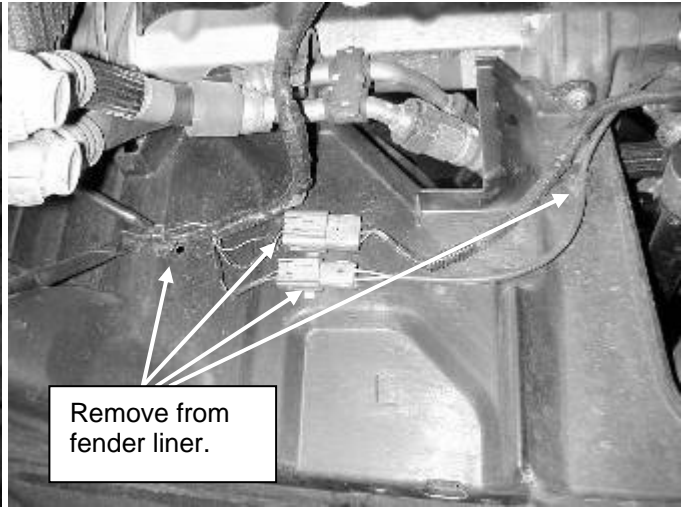


q) Loosen and remove mounting bolts and push-in clip.

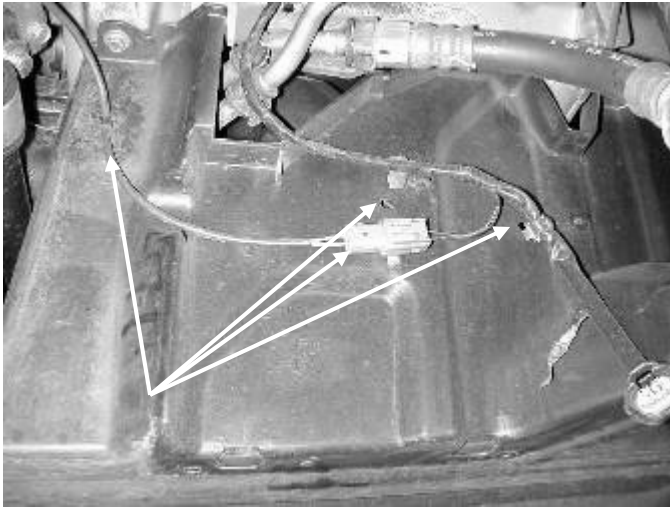
r) Loosen and remove mounting bolts and push-in clip.



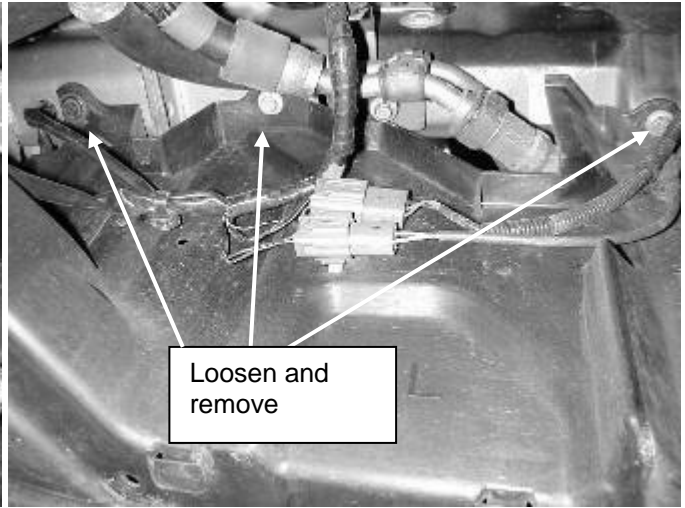
s) Loosen and remove screw-in tabs on both sides. Loosen and remove screws on both sides. Remove corner fender liner on both sides.



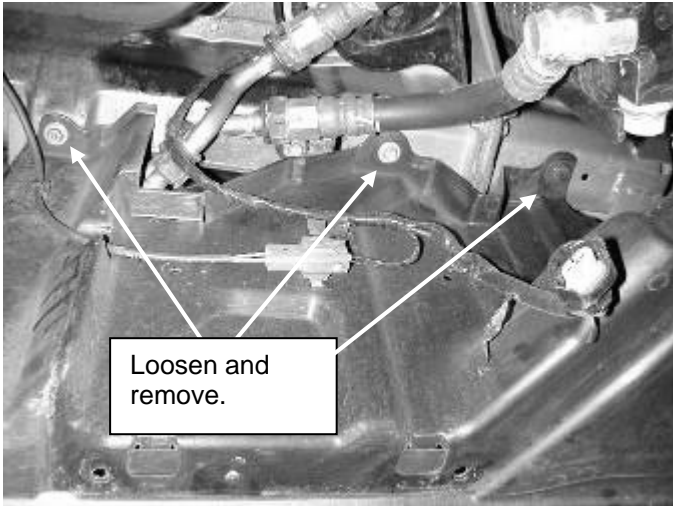
t) Remove the connectors and clips from the bottom fender liner on the driver's side.



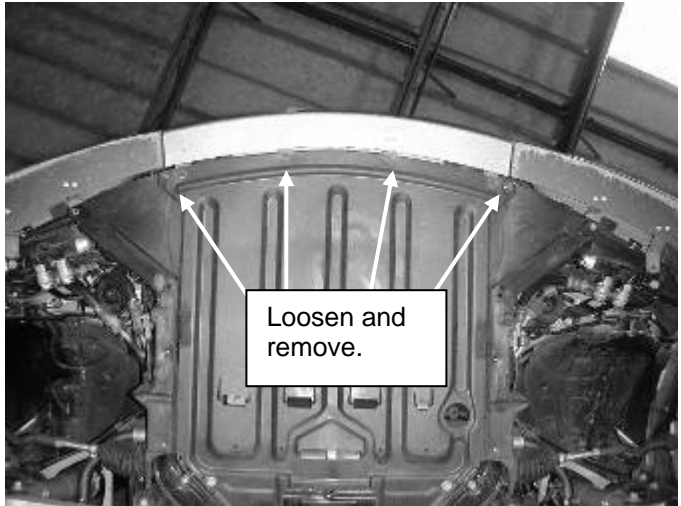
u) Remove the connector and clips from the bottom fender liner on the passenger side.



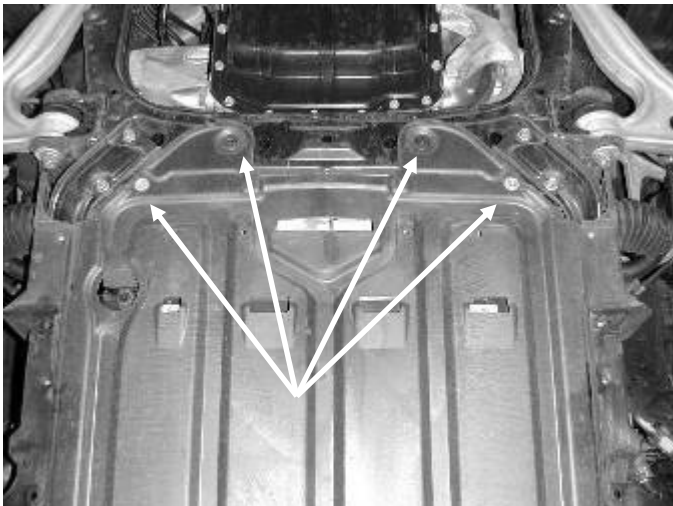
v) Loosen and remove the two mounting bolts for the bottom fender liner on the driver's side. Remove push-in tab.



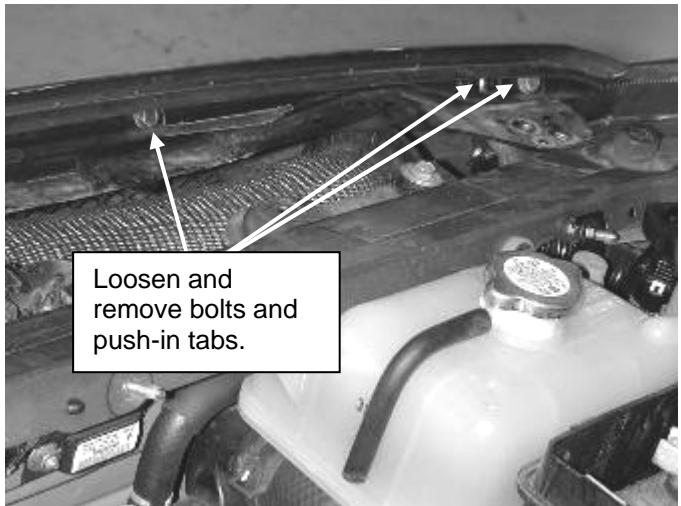
w) Loosen and remove the two mounting bolts for the bottom fender liner on the passenger side. Remove push-in tab.



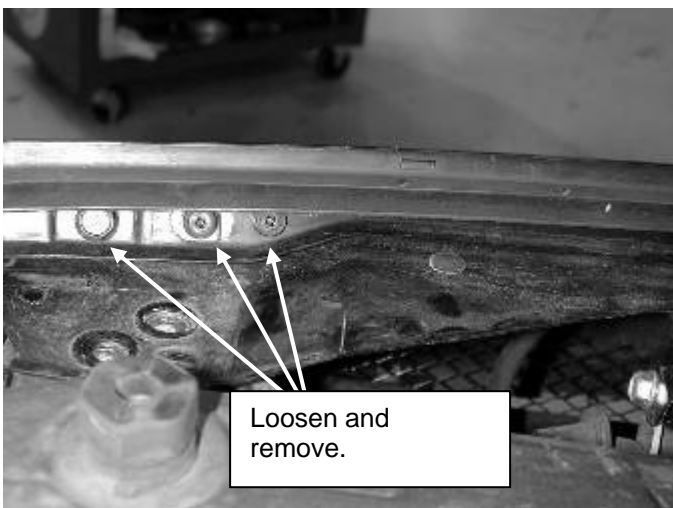
x) Loosen and remove mounting screws for the bottom fender liner.



y) Loosen and remove mounting bolts. Then loosen and remove push-in tabs. Remove the bottom fender liner.



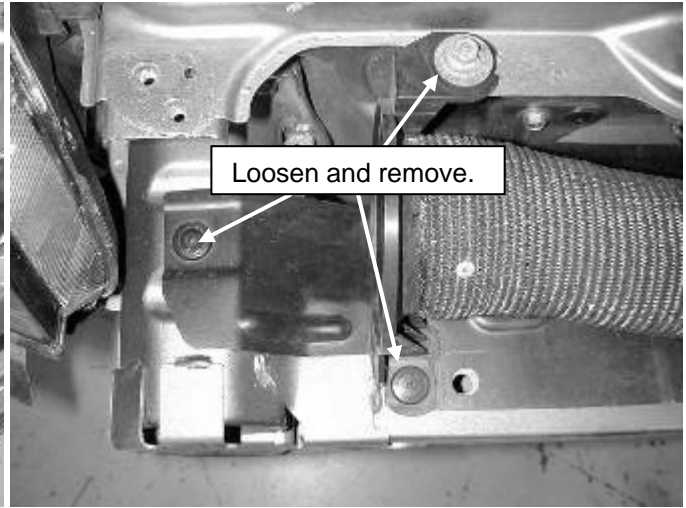
z) Loosen and remove mounting bolts and push-in tab.



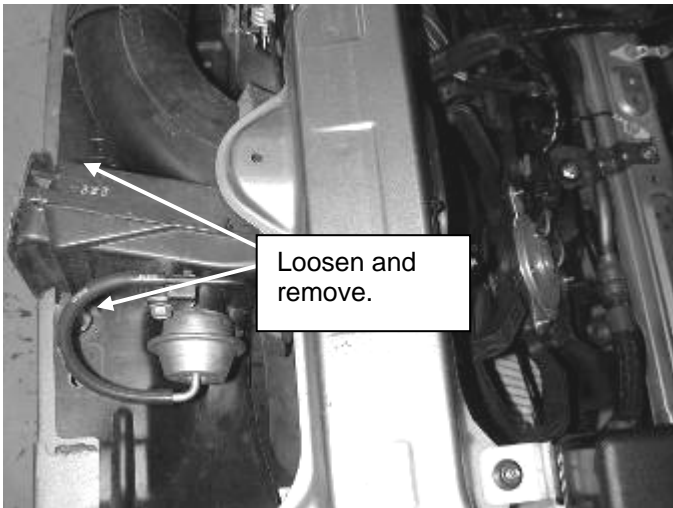
AA) Loosen and remove mounting bolts and push-in tab.



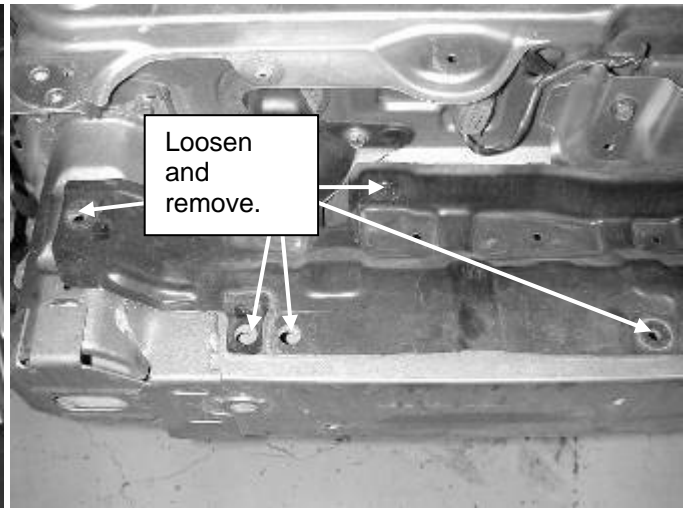
AB) Remove bumper and set aside.



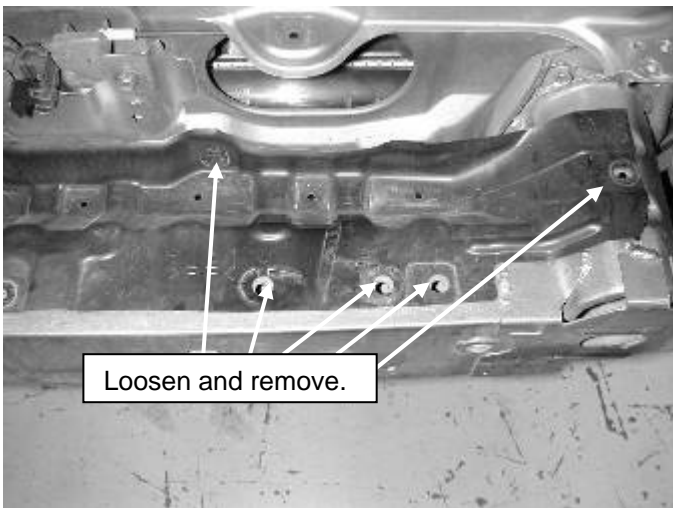
AC) Loosen and remove mounting bolt. Loosen and remove push-in tabs.



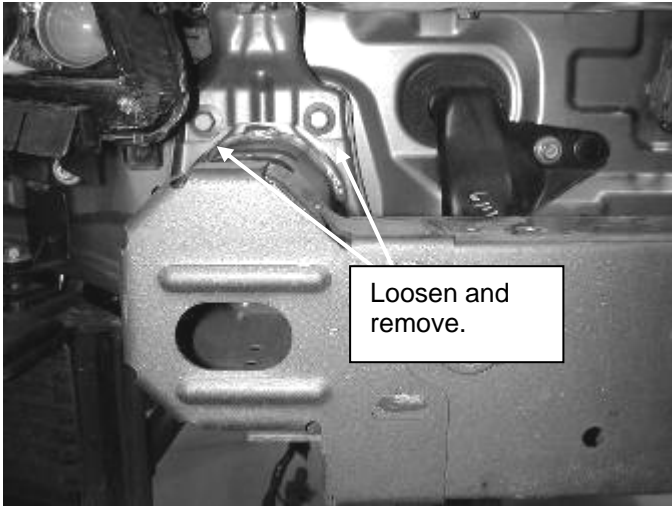
AD) Loosen and remove push-in tabs. Remove inlet valve and tubing assembly.



AE) Loosen and remove push-in tabs.



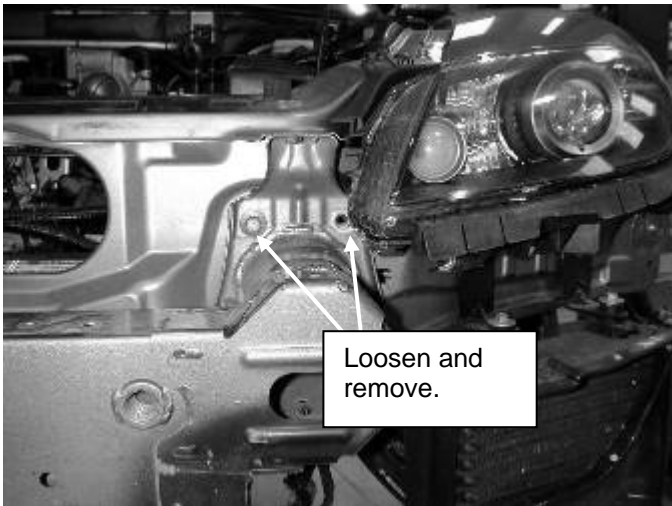
AF) Loosen and remove push-in tabs. Remove liner.



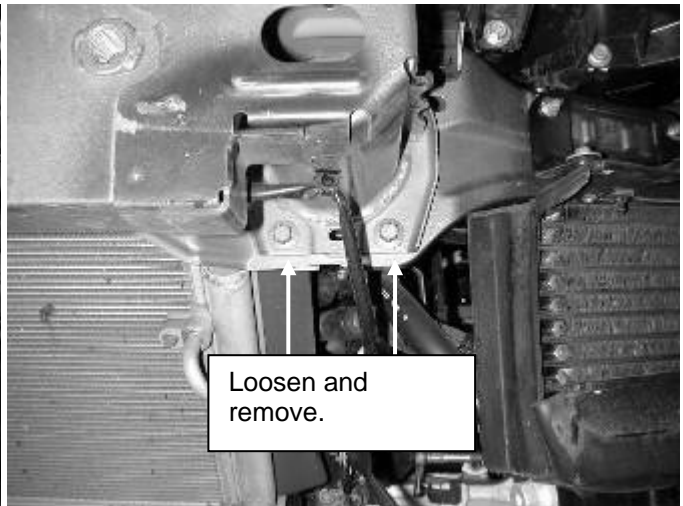
AG) Loosen and remove upper two mounting bolts for the front bumper support.



AH) Loosen and remove lower two mounting bolts.



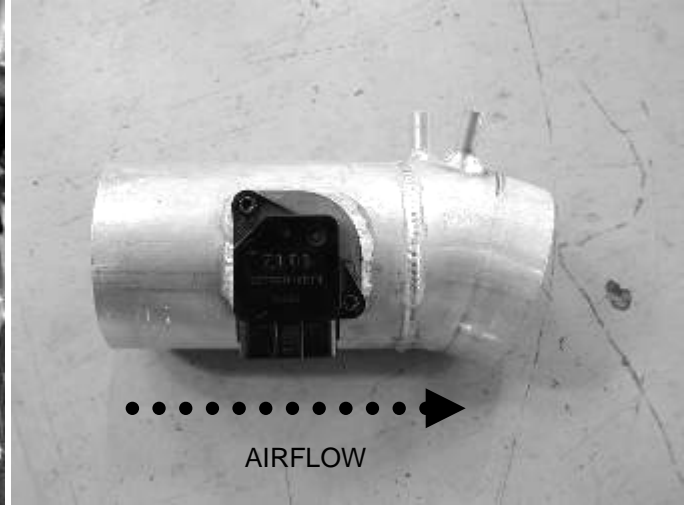
AI) Loosen and remove upper two mounting bolts.



AJ) Loosen and remove lower two mounting bolts, unplug temperature sensor and remove bumper support.

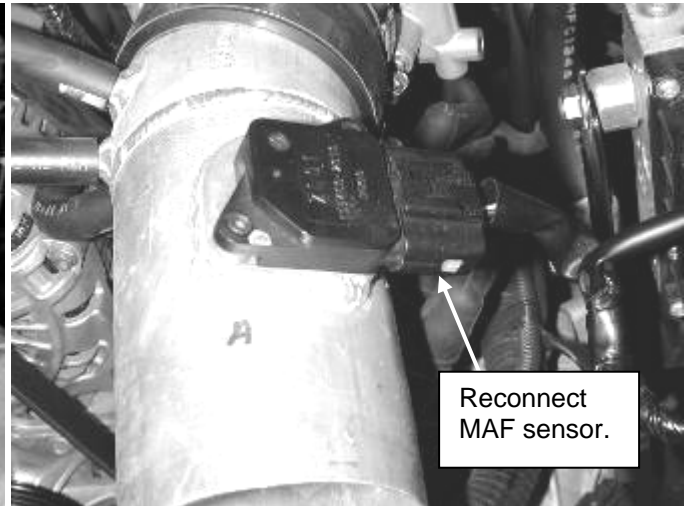
3) Installing the AEM Cold Air Intake

a) When installing the **AEM** intake, DO NOT completely tighten the hose clamps, MAF sensor assembly or the mounting tab hardware until instructed to do so later in these instructions.



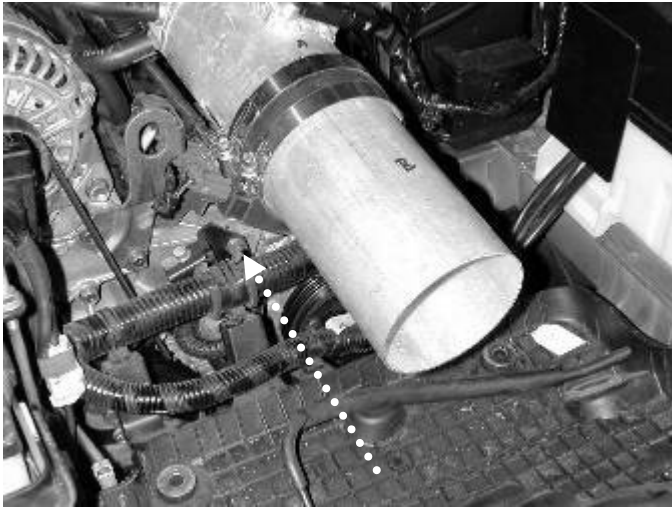
b) Attach reducer coupler and secure with provided 3.0" hose clamp.

c) Install the MAF sensor into the upper inlet pipe. Secure with provided hardware. Note the airflow direction. Airflow is toward the breather nipples.

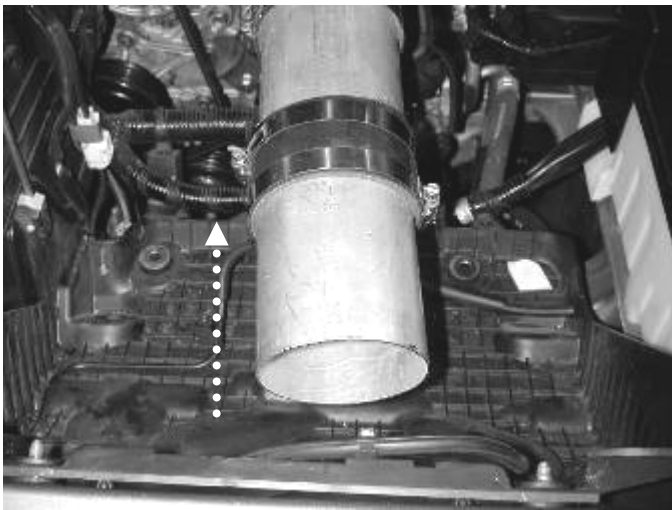


d) Attach the three breather hoses from *Step 2d*.

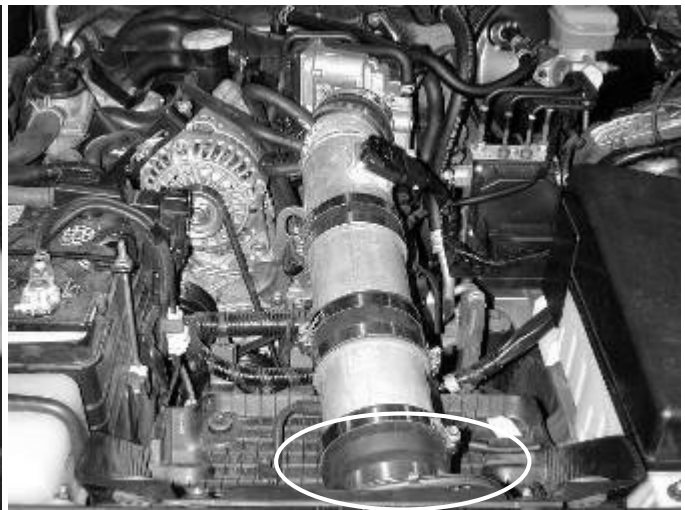
e) Plug in the MAF sensor harness connector.



f) Attach the screened coupler and secure to the upper inlet pipe. Insert the longer of the two 3.50" straight inlet pipes. The pipe should be about 5.5" long.



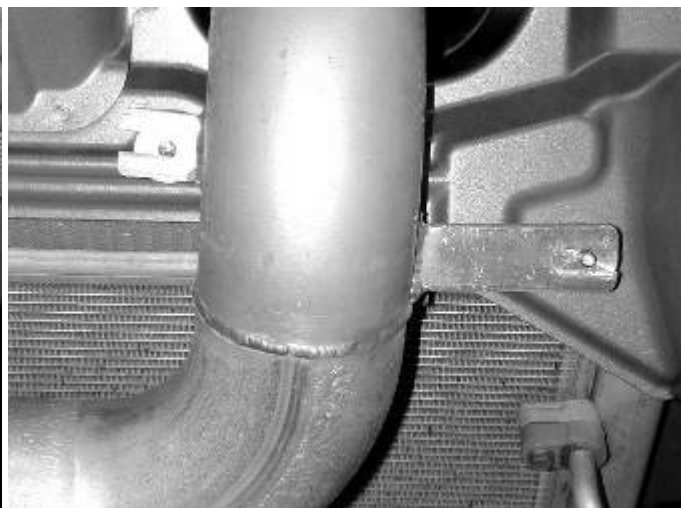
g) Attach the second screened coupler and secure. Insert the shorter 3.50" straight inlet pipe. This pipe should be 4.0" long.



h) Attach 3.25" – 3.50" reducer hump hose. Adjust all three pipes along with the opening for the fourth inlet pipe.



i) Locate the opening left by the stock inlet tubing. On the lower left and right side are two openings for the lower inlet pipe mounting supports. From the inside of the body insert bolt 1-2075 along with washer 1-3028. Once through, attach spacer 2-658. Do the same on the lower right side.



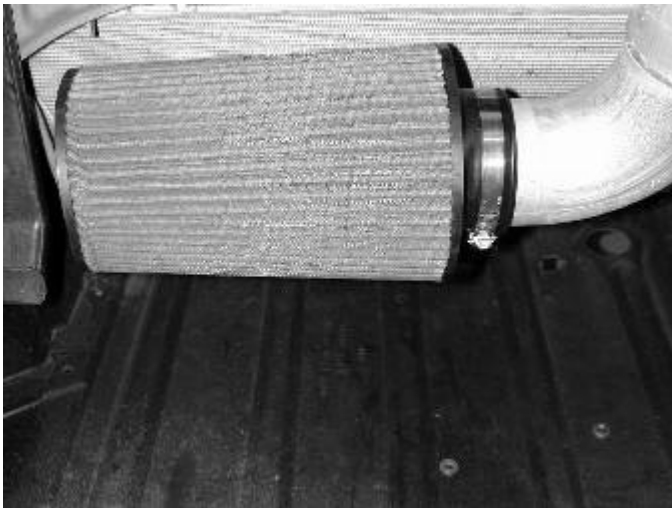
j) Insert the lower inlet pipe into the 3.25" opening of the reducer hump hose. Align both brackets with the new mounts from the prior step.



k) Once aligned, check for clearance around the opening and on the inner bend. Secure on the mount with fender washer and Nylok nut.



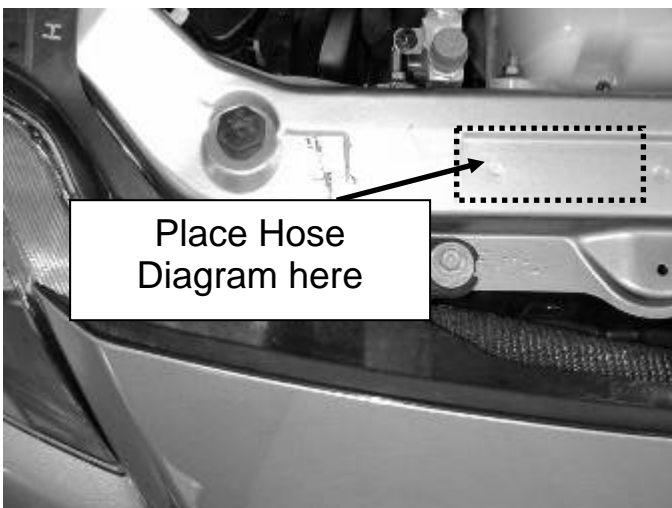
l) Repeat *Step 3k* for the right side. Check for clearance.



m) Attach filter element and secure. Reattach bumper support.



n) Your AEM CAS for the RX-8 should look like this.



o) Do not forget to apply hosing diagram sticker to radiator support in the location shown in the picture.

4) Re-assemble the vehicle

- a) Position the filter for best fitment. Be sure the filter or any other components do not contact any part of the vehicle.
- b) Tighten all hose clamps.
- c) Tighten both Nylok nuts.
- d) Reattach the lower fender liner, fender liner, and bumper, plug in temperature sensor that was unplugged in step 2AJ.
- e) Re-install wheels.
- f) Plug in corner lamps.
- g) Inspect the engine bay for any loose tools and check all fasteners that were removed are tight.
- h) Start engine and perform a final inspection before driving the vehicle.

5.) Service and Maintenance

- a) It is recommended that you service your AEM Dryflow filter every 20,000 miles for optimum performance.
Use AEM Dryflow cleaning kit part # 21-110.
- b) Use aluminum polish to clean your polished AEM intake pipe.
- c) Use window cleaner to clean your powder coated AEM intake pipe. **(NOTE: DO NOT USE Aluminum polish on a powder coated AEM intake pipe)**

AEM Air Intake System Warranty Policy

AEM warrants that its intake systems will last for the life of your vehicle. AEM will not honor this warranty due to mechanical damage (i.e. improper installation or fitment), damage from misuse, accidents or flying debris. AEM will not warrant its powdercoating if the finish has been cleaned with a hydrocarbon-based solvent. The powdercoating should only be cleaned with a mild soap and water solution. Proof of purchase of both the vehicle and AEM intake system is required for redemption of a warranty claim.

This warranty is limited to the repair or replacement of the AEM part. In no event shall this warranty exceed the original purchase price of the AEM part nor shall AEM be responsible for special, incidental or consequential damages or cost incurred due to the failure of this product. Warranty claims to AEM must be transportation prepaid and accompanied with dated proof of purchase. This warranty applies only to the original purchaser of product and is non-transferable. Improper use or installation, use for racing, accident, abuse, unauthorized repairs or alterations voids this warranty. AEM disclaims any liability for consequential damages due to breach of any written or implied warranty on all products manufactured by AEM. Warranty returns will only be accepted by AEM when accompanied by a valid Return Merchandise Authorization (RMA) number. Credit for defective products will be issued pending inspection. Product must be received by AEM within 30 days of the date RMA is issued.

If you have a warranty issue, please call (310) 484-2322, extension 203 and our customer service department will assist you. A proof of purchase is required for all AEM warranty claims.

For Technical Inquiries
E-Mail Us At
tech@aempower.com