



Equipped with AEM® Dryflow™ Filter  
No Oil Required!

## INSTALLATION INSTRUCTIONS

### Part Numbers

21-485B (Blue Finish)

21-485C (Gun Metal Grey Finish)

21-485P (Vacuum Metalized Chrome - VMC)

21-485R (Red Finish)

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2004-2011 MAZDA RX-8 R2-1.3L C.A.R.B. E.O. # D-670-21

**Intake systems for vehicles listed are 50  
state legal. See [AEMIntakes.com](http://AEMIntakes.com) for CARB  
status on each part for a specific vehicle.**

## PARTS LIST

Description	Qty.	Part Number
Air Filter Assy. 3.25 X 9" Dry Element	1	21-2109DK
Inlet Pipe	1	2-402B/C/P/R
Inlet Pipe	1	2-403B/C/P/R
Inlet Pipe	1	2-404B/C/P/R
Inlet Pipe	1	2-405B/C/P/R
Pre-Filter, 9"	1	1-4001
Hose, 3.25 X 2" W/Screen	2	5-329
Hose, Adapter 3.00/3.50x3 Blk.	1	5-353
Hose, Hump 3.25/3.50 X3.00"	1	5-576
Spacer, 1.00 OD .256 ID X 1"	2	2-658
Vacuum Cap, 1/8"	1	8-105
Bolt, Hex/Flange M6-1 X 50	2	1-2070
Bolt, Socket 8-32 X 5/16 SS	2	1-2023
Washer, 1/4 SAE Flat	2	1-3028
Washer, 6mm Soft Mount	2	08160
Nut, M6 Hex Serrated	2	444.460.04
1/2" Bnd. Hose Clamp, 2.56"-3.50"	1	9448
1/2" Bnd. Hose Clamp, 3.15"-4.00"	2	9456
1/2" Bnd. Hose Clamp, 3.31"-4.25"	6	9460
Vacuum Cap, 3/8"	1	8-101
Decal, Vacuum Mazda RX8	1	10-901

Read and understand these instructions **BEFORE** attempting to install this product. Failure to follow installation instructions and not using the provided hardware may damage the intake tube, throttle body and engine.

## 1. Preparing Vehicle

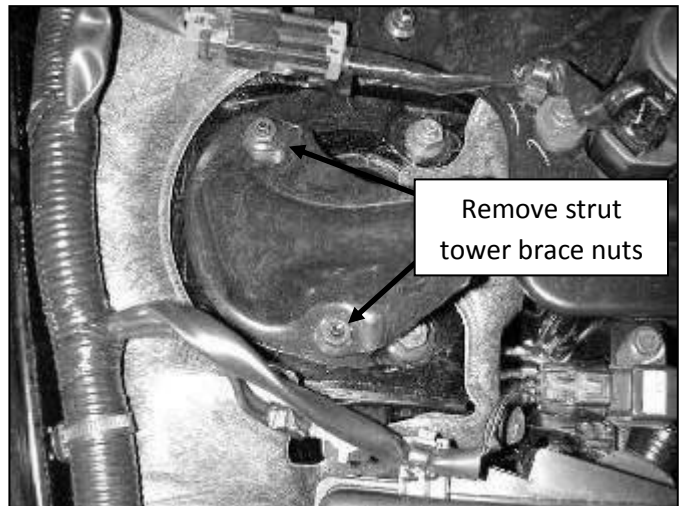
- a. Make sure vehicle is parked on level surface.
- b. Set parking brake.
- c. If engine has run in the past two hours, let it cool down.
- d. Lift the plastic battery cover and disconnect both battery terminals.
- e. Raise the front of the vehicle with a jack. Refer to your owner's manual for proper jack and jack stand placement to properly support vehicle. Support your vehicle using properly rated jack stands before wheel removal or while working under the vehicle.  
**NEVER WORK UNDER A VEHICLE WITHOUT USING JACK STANDS.**
- f. Do not discard stock components after removal of the factory system.
- g. **NOTE: 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. Removal of stock system

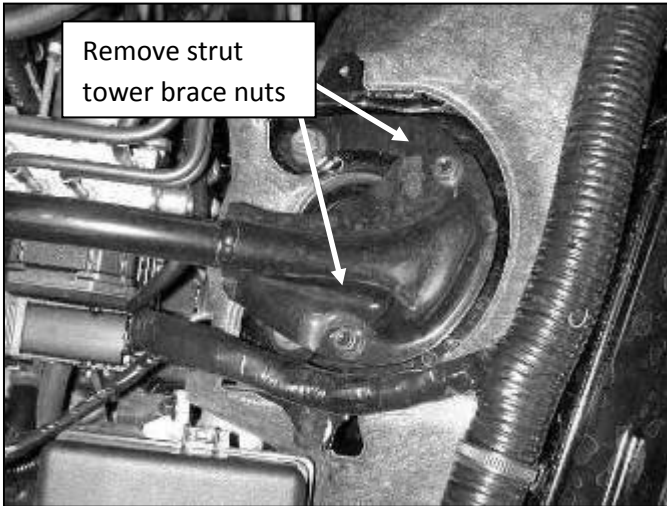
**WARNING:** Please follow these installation instructions carefully. The AEM® prefilter included with this kit must be installed on the AEM® air filter when used with an AEM® intake system. The AEM intake system is a performance product that can be used safely during mild weather conditions. During harsh and inclement weather conditions, you must return your vehicle to stock OEM air box and intake tract configuration. Failure to follow these instructions will void your warranty.



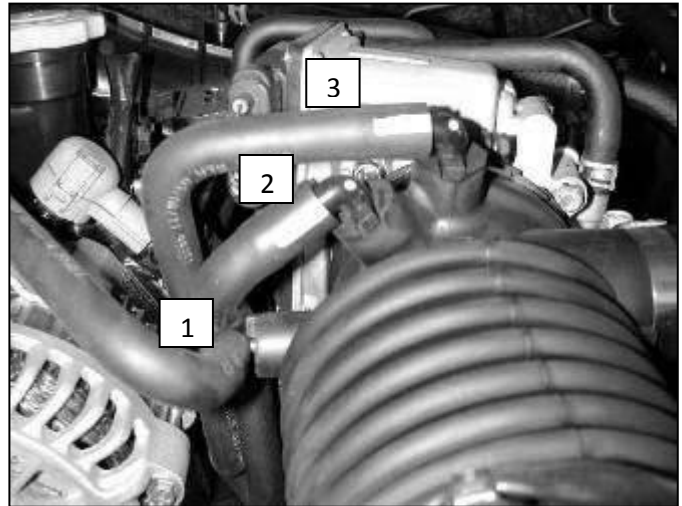
a. Start by removing the engine cover. Gently lift up at the base then pull the cover towards the front of the vehicle.



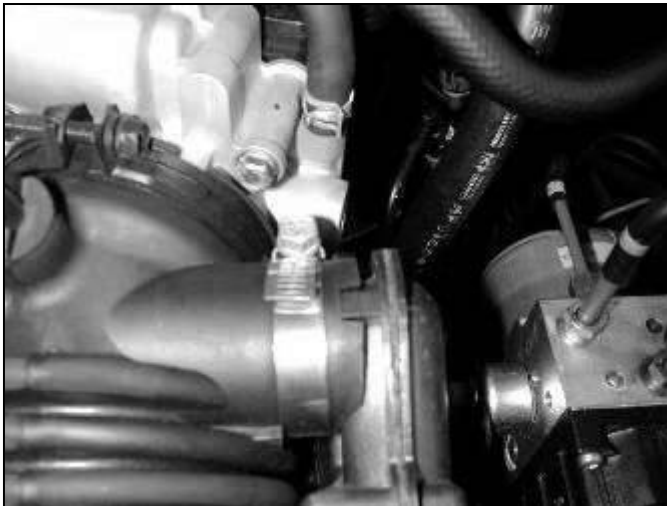
b. Remove the nuts securing the passenger side of the strut tower brace.



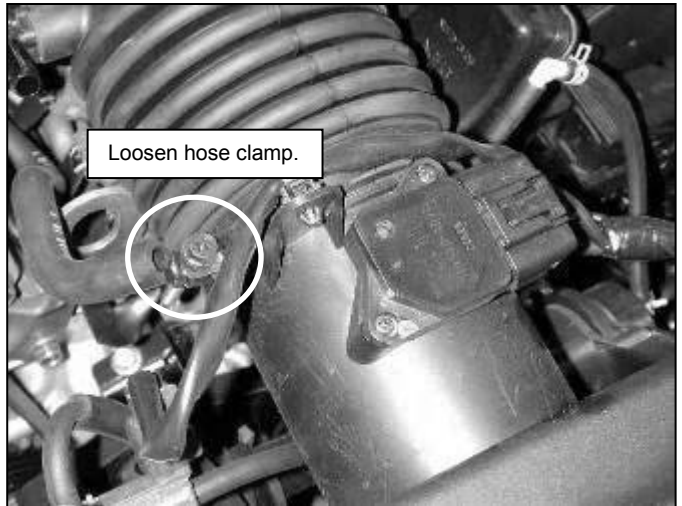
c. Remove the nuts securing the driver's side of the strut tower brace. Remove the strut tower brace.



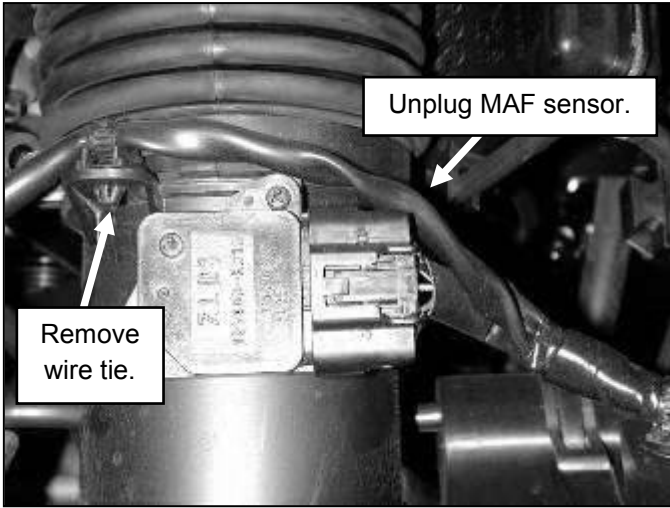
d. Remove these three hoses before the throttle body labeled 1, 2, and 3.



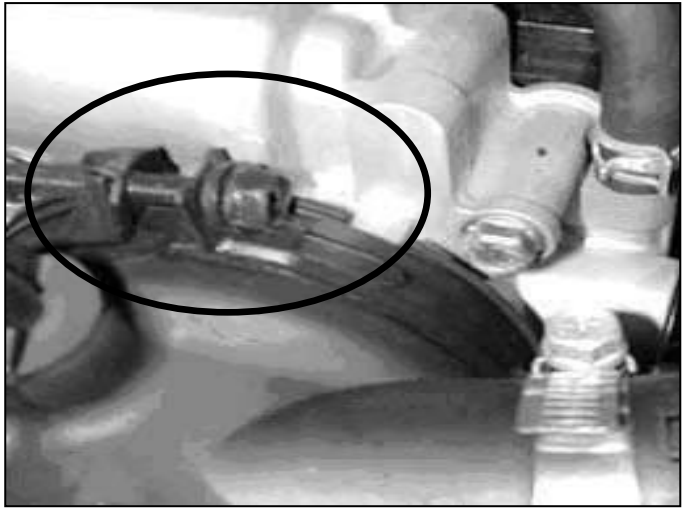
e. Loosen the hose clamp and remove the Resonator from the inlet tube. This will not be reused.



f. Loosen the hose clamp to the MAF sensor.



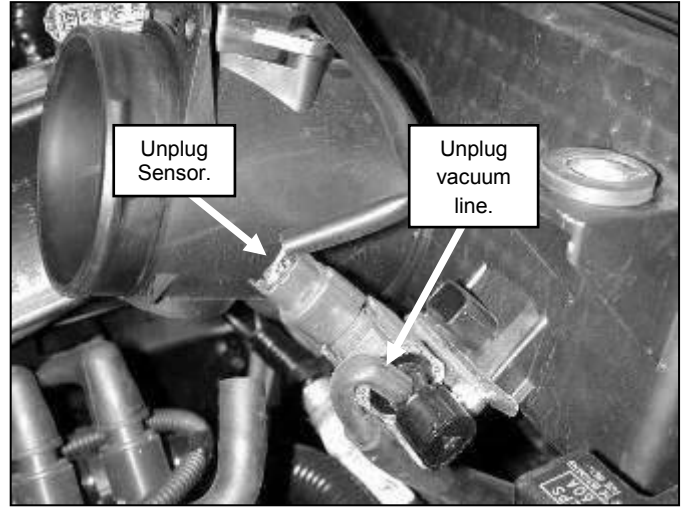
g. Unplug the MAF sensor and remove the wire tie.



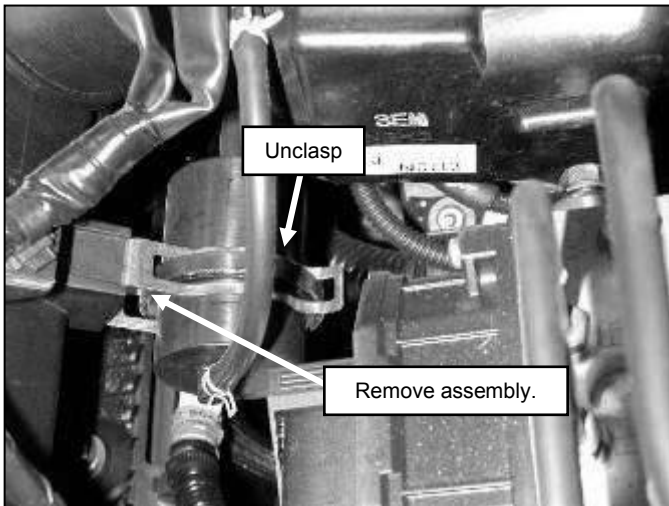
h. Loosen the hose clamp at the throttle body, then remove the inlet tube.



i. Gently pull up on airbox, do not completely remove.



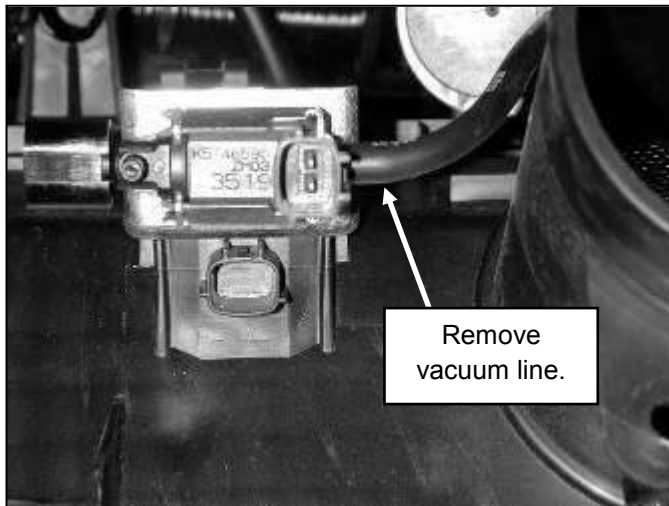
j. Unplug the sensor (will not be used) and remove the vacuum line. Sensor is used for secondary air inlet.



k. Unclasp and remove the assembly from the airbox.



l. Remove the wire tie from the airbox.



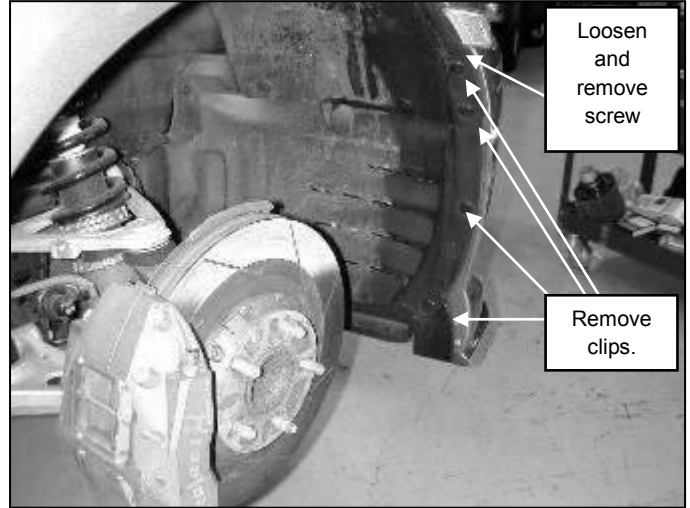
m. Remove the vacuum line. The secondary inlet system will not be reused. Cap the inlet at the manifold.



n. Remove the airbox.



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



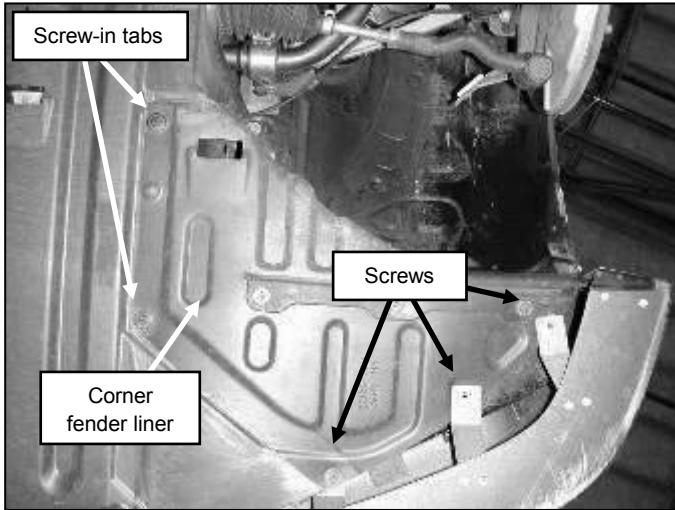
p. Remove the push-in clips from the fender liner on both sides of the bumper. Peel back the fender liner to access the screw connecting the bumper to the fender located under the corner lamp. Loosen and remove the screw. Unplug the corner lamps.



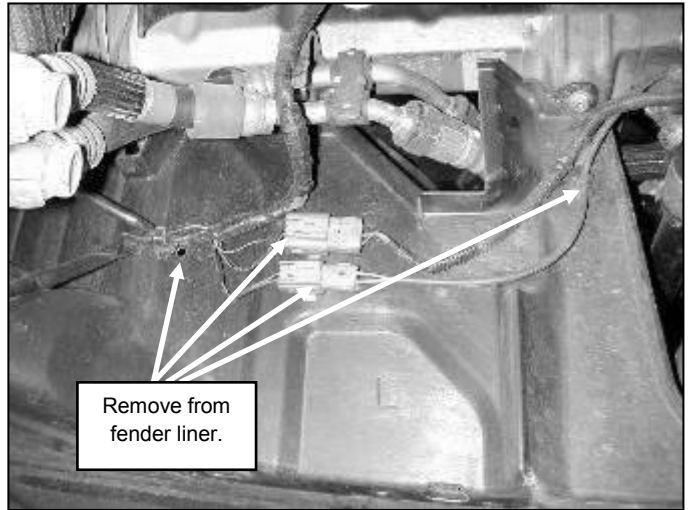
q. Loosen and remove the mounting bolts and push-in clip on the passenger side.



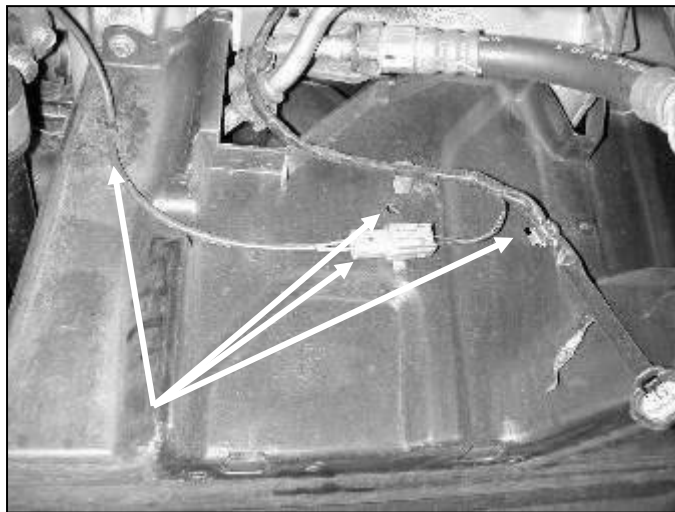
r. Loosen and remove the mounting bolts and push-in clip on the driver side.



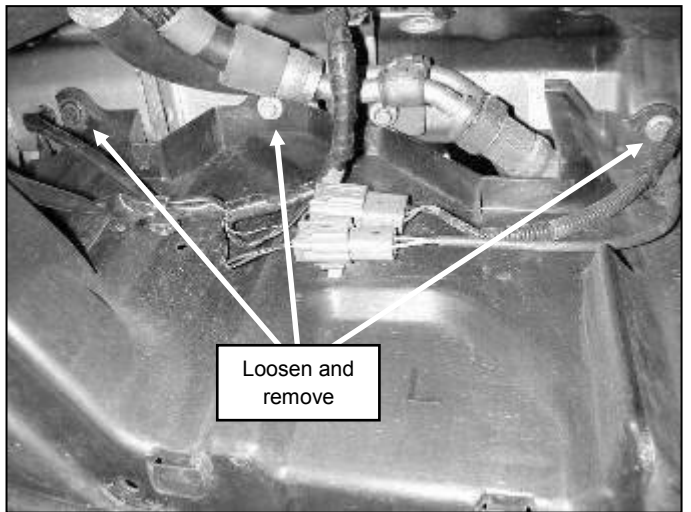
s. Loosen and remove screw-in tabs on both sides. Loosen and remove screws on both sides. Remove the corner fender liner on both sides.



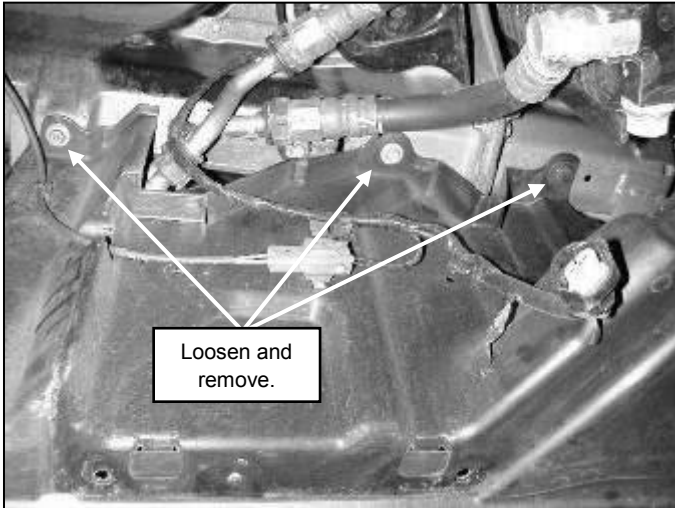
t. Remove the connectors and clips from the bottom fender liner on the driver's side.



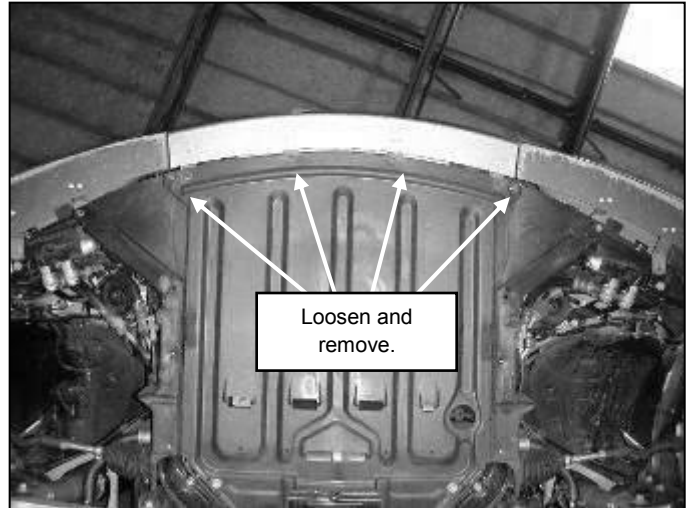
u. Remove the connector and clips from the bottom fender liner on the passenger side.



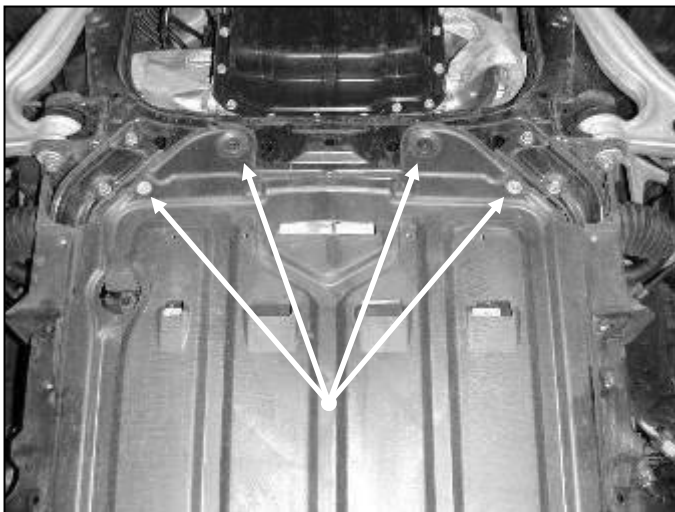
v. Loosen and remove the two mounting bolts for the bottom fender liner on the driver's side. Remove push-in tab.



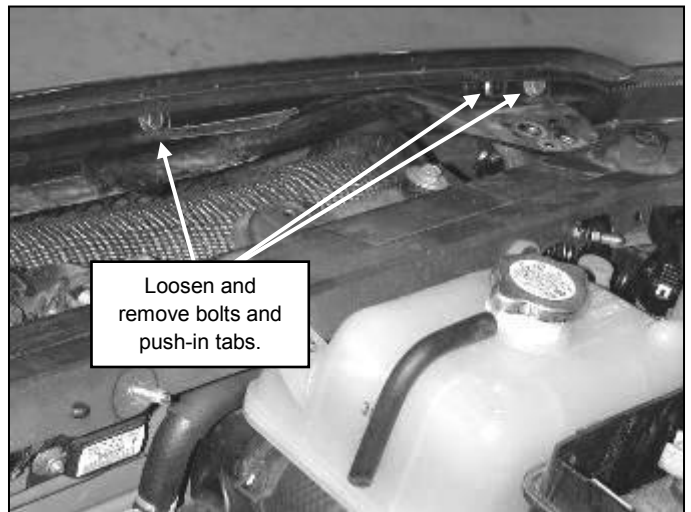
w. Loosen and remove the two mounting bolts for the bottom fender liner on the passenger side. Remove the push-in tab.



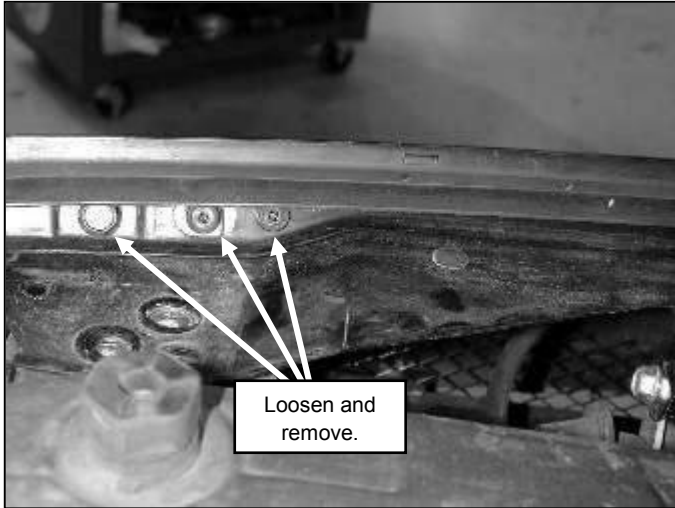
x. Loosen and remove the mounting screws for the bottom fender liner.



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



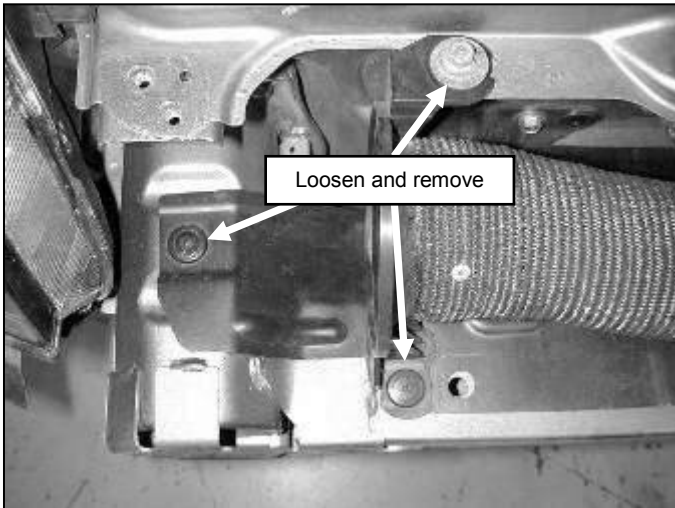
z. Loosen and remove the mounting bolts and push-in tab.



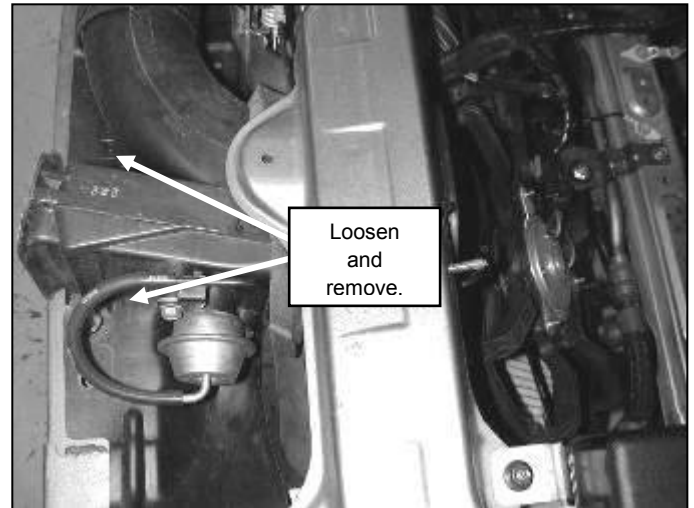
Aa. Loosen and remove the mounting bolts and push-in tab.



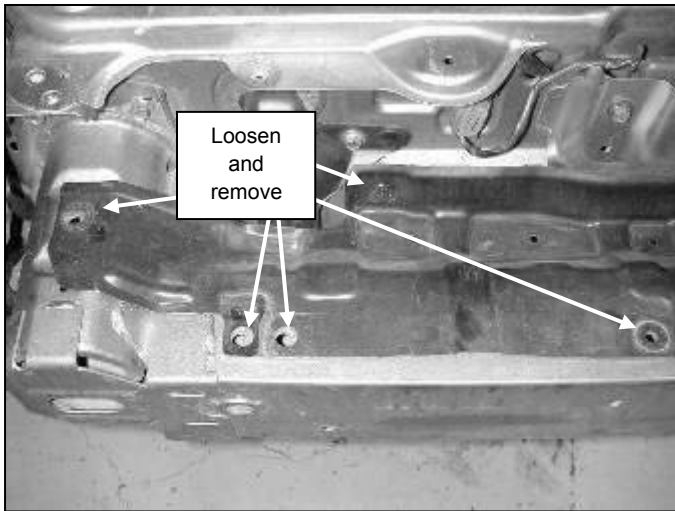
Ab. Remove the bumper and set aside.



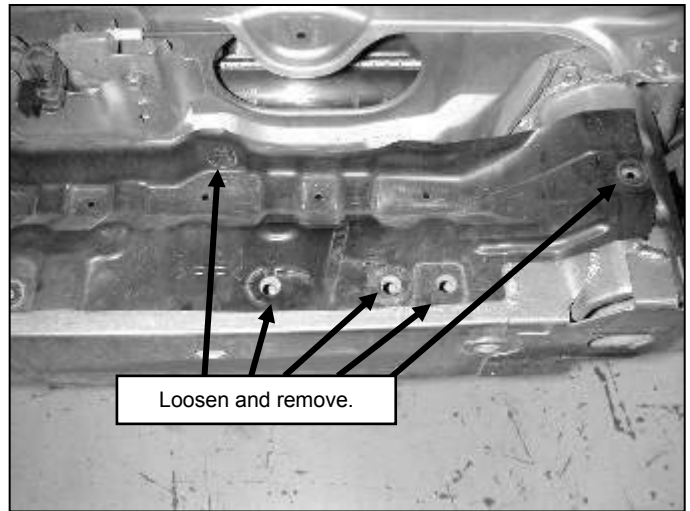
Ac. Loosen and remove the mounting bolt. Loosen and remove the push-in tabs.



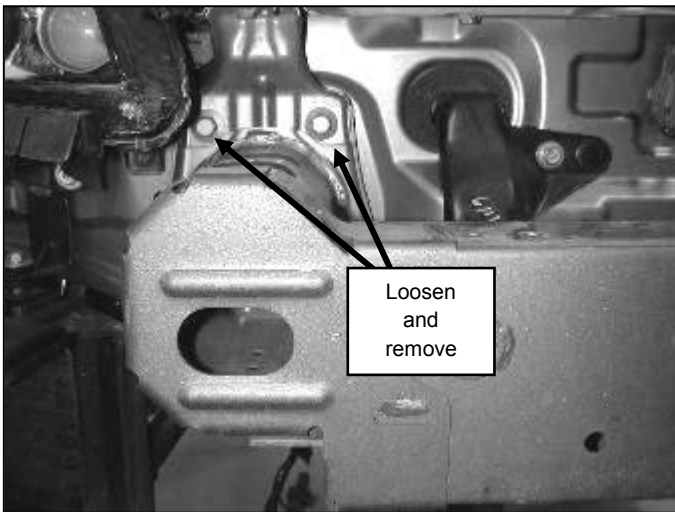
Ad. Loosen and remove the push-in tabs. Remove the inlet valve and tubing assembly.



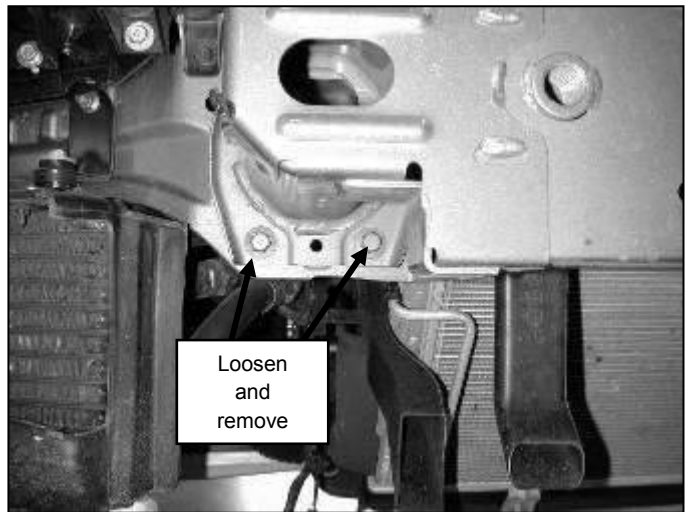
Ae. Loosen and remove the push-in tabs.



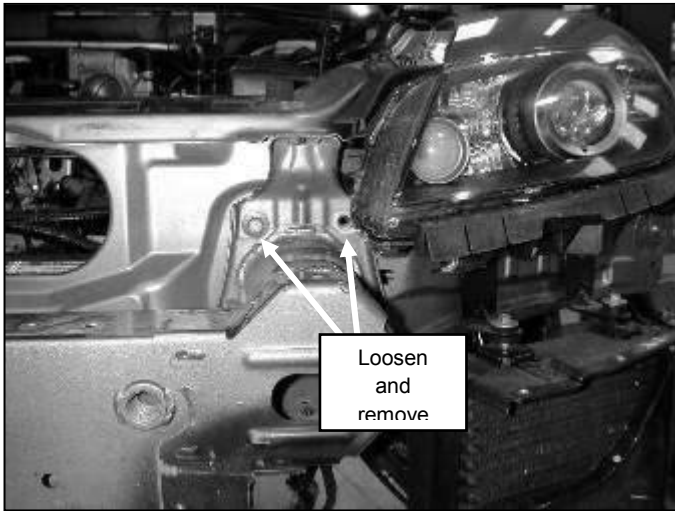
Af. Loosen and remove the push-in tabs. Remove liner.



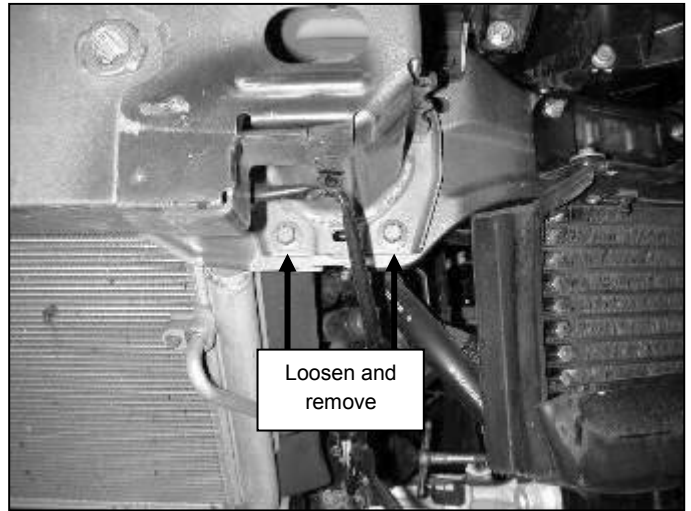
Ag. Loosen and remove the two upper mounting bolts for the front bumper support.



Ah. Loosen and remove the two lower mounting bolts.



Ai. Loosen and remove the two upper mounting bolts.



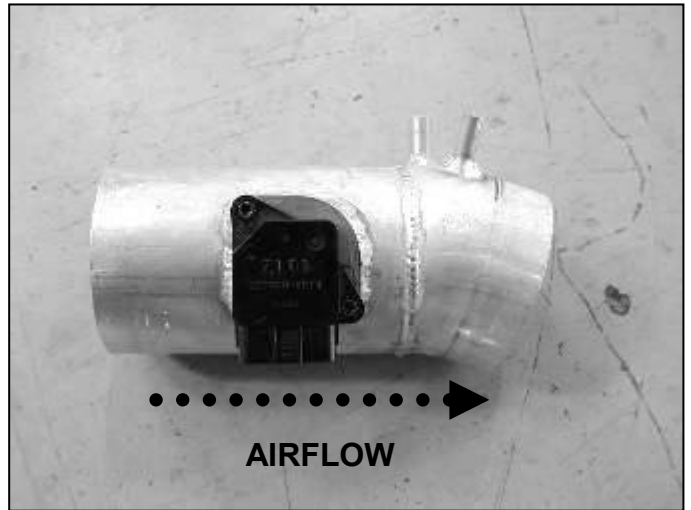
Aj. Loosen and remove the lower two mounting bolts, unplug the temperature sensor and remove the bumper support.

### 3. Installation of AEM® intake system.

- a. When installing the intake system, do not completely tighten the hose clamps or mounting hardware until instructed to do so.



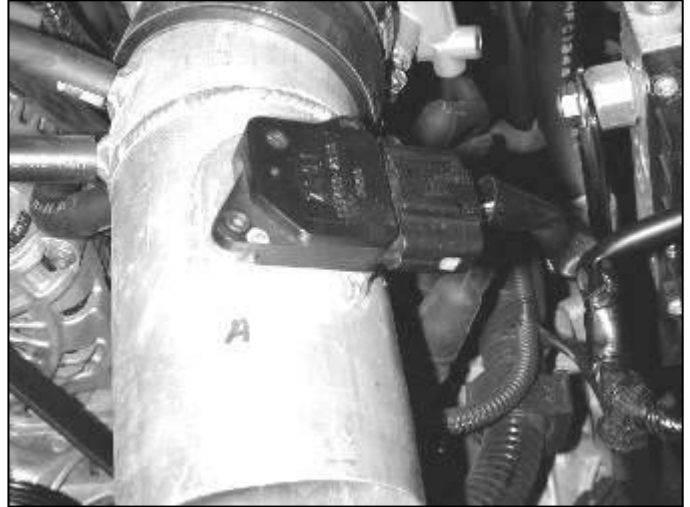
b. Attach the reducer coupler and secure with the provided #48 hose clamp.



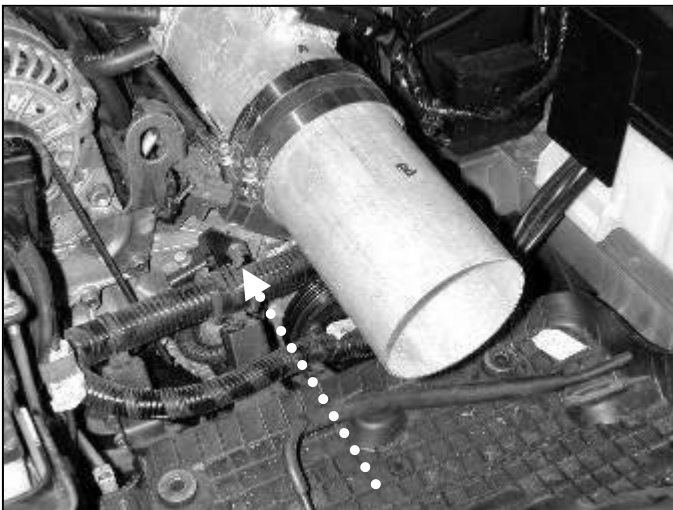
c. Install the MAF sensor into the upper inlet pipe. Secure with the provided hardware.  
**NOTE: Make note of the airflow direction, airflow is toward the breather nipples.**



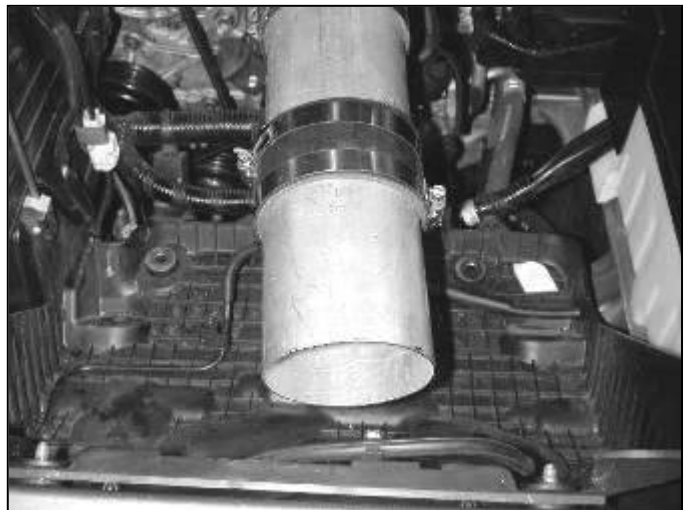
d. Attach the breather hoses that were removed during step 2d. On 2010 and later vehicles that are equipped with 2 hoses, use the provided vacuum cap to cap off the intake pipe nipple that is not in used.



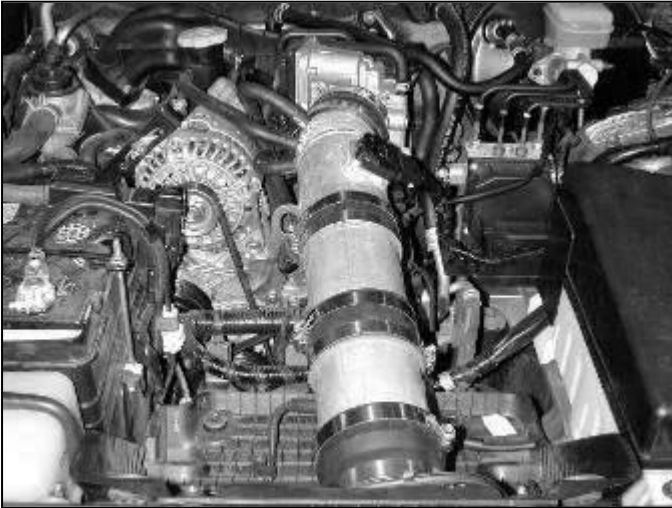
e. Plug in the MAF sensor harness connector to the MAF sensor.



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.



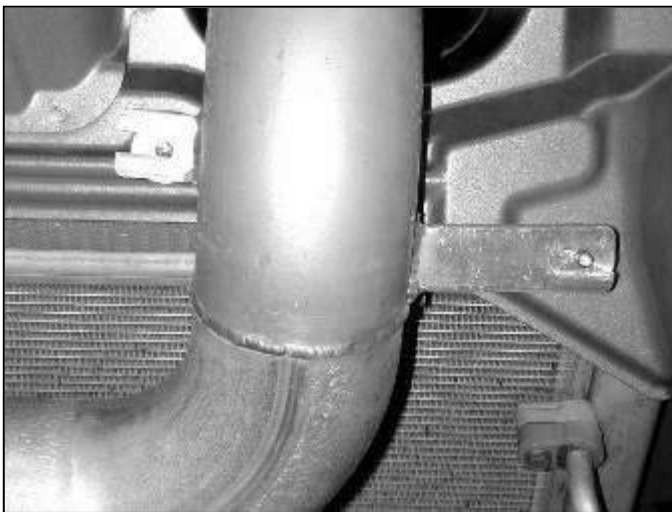
g. Attach the second screened coupler and secure. Insert the shorter 3.50" straight inlet pipe. This pipe should be 4.0" long.



h. Attach the 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 1-2070 with washer 1-3028. Once through, attach spacer 2-658. Do the same on the lower right side.



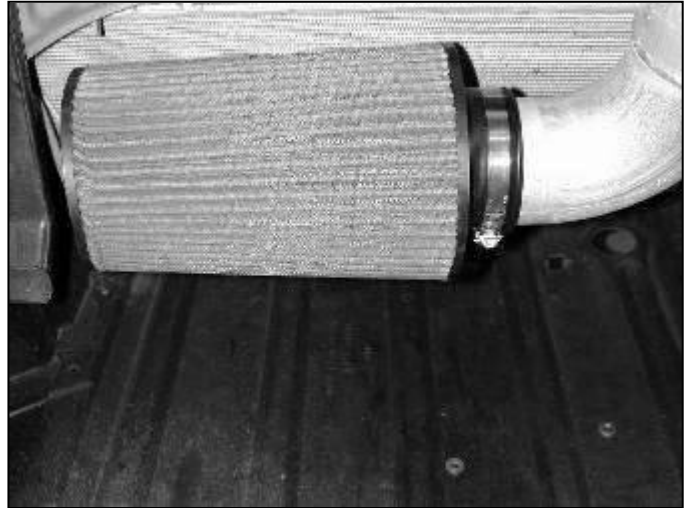
j. Insert the lower inlet pipe into the 3.25" opening of the reducer hump hose. Align both brackets with the new mounts from the prior step.



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



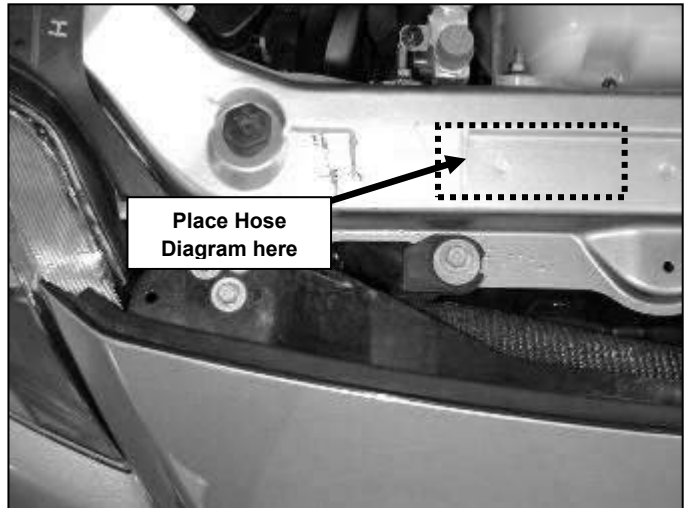
l. Repeat step 3k for the right side. Check for clearance.



m. Attach the air filter and secure. Reattach the bumper support. Install the supplied prefilter to protect the air filter from excess dust and water.  
**NOTE: Please be aware the prefilter is water repellent, not water proof. Depending on conditions and usage the water repellent treatment is good for 1 to 2 years. See the parts list to reorder a new prefilter if necessary.**



n. AEM® intake system installed.



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

#### 4. Reassemble Vehicle

- a. Re-assemble car by reversing disassemble instructions.
  - i. **Fender liners:** Install the fender liners, lower fender liner lower splash guard and any hardware that were removed in earlier steps.

**NOTE: Failure to install the fender liner will result in diminished performance and increase the potential for engine damage due to water ingestion in rainy conditions.**
  - ii. **Bumper:** Install bumper and any hardware that was removed. Plug in the corner lamps.
  - iii. **Wheel:** Install the both the driver and passenger side wheels using the factory torque specification (see owner's manual).
- b. **Air Temperature Sensor:** Plug in temperature sensor that was unplugged in step 2Aj.
- c. Position the inlet pipes for the best fitment. Be sure that the pipes or any other components do not contact any part of the vehicle. Tighten the rubber mount, all bolts, and hose clamps.
- d. Check for proper hood clearance. Re-adjust pipes if necessary and re-tighten them.
- e. Inspect the engine bay for any loose tools and check that all fasteners that were moved or removed are properly tightened.
- f. Reconnect negative battery terminals and start engine. Let the vehicle idle for 3 minutes. Perform a final inspection before driving the vehicle.

#### 5. CARB Sticker Placement

- a. The C.A.R.B. exemption sticker, (attached), must be visible under the hood so that an emissions inspector can see it when the vehicle is required to be tested for emissions. California requires testing every two years, other states may vary.

#### 6. Service and Maintenance

- a. AEM Induction Systems requires cleaning the intake system's air filter element every 100,000 miles. When used in dusty or off-road environments, our filters will require cleaning more often. We recommend that you visually inspect your filter once every 25,000 miles to determine if the screen is still visible. When the screen is no longer visible some place on the filter element, it is time to clean it. To clean, purchase our Dryflow Synthetic Air Filter Cleaner, part number 1-1000 and follow the easy instructions.
- b. Use window cleaner or a damp cloth to clean your powder coated AEM<sup>®</sup> intake tube.

**NOTE: DO NOT USE aluminum polish on powder coated AEM<sup>®</sup> intake tubes.**

For technical inquiries  
e-mail us at  
sales@aemintakes.com  
or  
call us at  
800.992.3000

## **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 powder coating if the finish has been cleaned with a hydrocarbon-based solvent. The powder coating 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 nontransferable. 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 (800) 992-3000 and our customer service department will assist you. A proof of purchase is required for all AEM warranty claims.

**Intake systems for vehicles listed are 50 state legal. See [AEMIntakes.com](http://AEMIntakes.com) for CARB status on each part for a specific vehicle.**