



Equipped with AEM® Dryflow™ Filter  
No Oil Required!

## **INSTALLATION INSTRUCTIONS**

### **PART NUMBER: 21-698C** (Gun Metal Grey Finish)

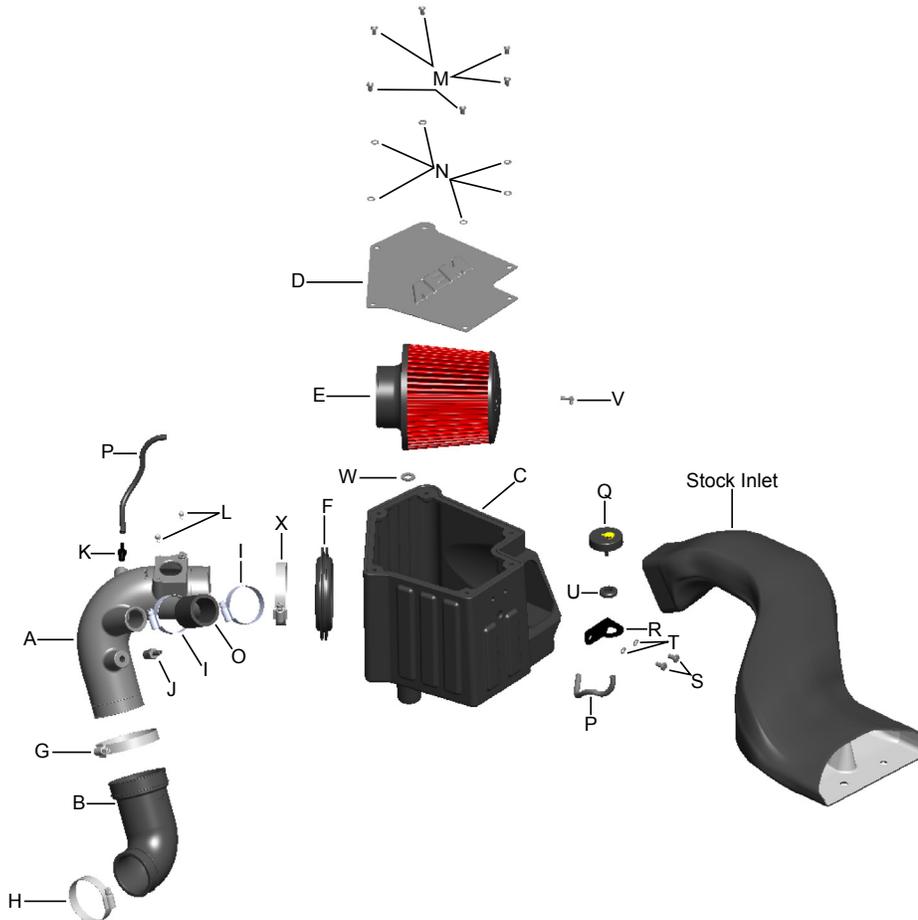
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2009-2014    MITSUBISHI    Lancer Ralliart    L4-2.0    C.A.R.B E.O. # D-670-21

**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
A	Inlet Tube	1	9-0395
B	Hose	1	5-1057
C	Air box	1	9-0393
D	Air box Lid	1	20-8515
E	Element Parts Kit 3" X 5" X/ .156" Hole	1	21-2031D-HK
F	Edge Trim, 15"	1	8-4015
G	Hose Clamp, 2.56-3.50"	1	103-BLO-4820N
H	1/2" Bndhose Clamp, 1.81"-2.75"	1	9436
I	Hose Clamp, 1.75	2	103-BLO-2820
J	Vent; Strt, 3/8" Hose, 1/4"NPT, Plas.	1	08047
K	Hose Mender; 1/8" Barbed NPT	1	087016
L	Bolt; Socket M4-.7 X 8mm	2	1-2105
M	Bolt; Button Head M6-1.0 X 10mm	6	1-112
N	Washer, #12 Nylon 6/6	6	1-3001
O	Hose; 1-7/16"ID X 2"L Coolant Hose	1	5-1055
P	Hose; 5/32"ID X 9"L	2	5-3009
Q	Filter Minder, 10"	1	35-80311
R	Bracket; Support Filter Minder, TB/PC	1	32-3017
S	Bolt; Hex M6-1 X 12mm	2	1-2065
T	Washer, M6 Split Lock Zinc	2	1-3025
U	Grommet, 1/2"	1	784634
V	Elbow, Plastic 5/32" 90 Degree	1	8-152
W	Washer, M10 X 20mm X 2mm	1	1-3022
X	1/2" Bndhose Clamp, 2.90"-3.75"	1	9452



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. Do not discard stock components after removal of the factory system.

## 2. Removal of stock system



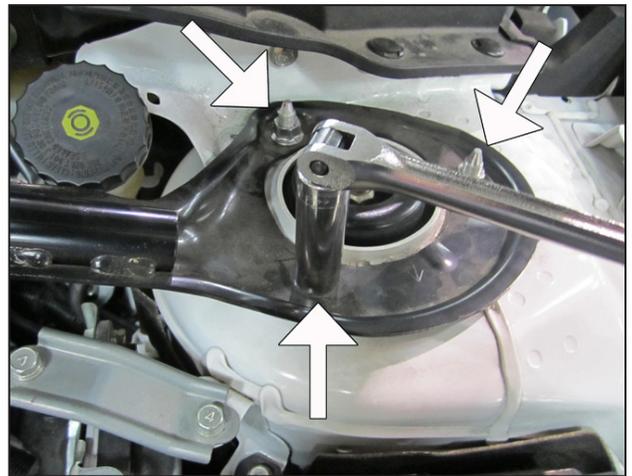
a. Remove the threaded retaining clips at the intake scoop inlet using a Philips screwdriver. You may need to pull the scoop to one side to provide a side load, or push on the side of the plastic screw as shown, forcing the screw threads to “catch” and climb out of the insert. Remove the intake scoop.



b. The vehicle's battery is located under the stock intake scoop. Remove the plastic retaining nuts and battery cover to access the battery.



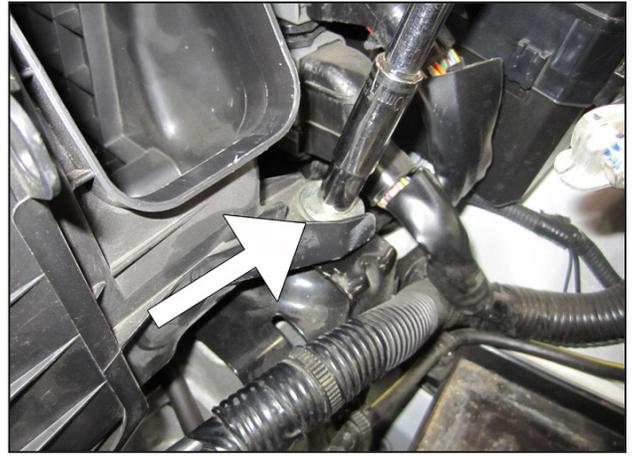
c. Disconnect the negative battery cable.



d. Remove the strut mount brace by removing the three 14mm nuts at each strut tower. Once all the retaining nuts have been removed, remove the strut brace from the engine bay and set it aside.



e. Unfasten the hose clamp securing the recirculation pipe to the intake tube, then disconnect the pipe from the intake tube. If needed, use a metal pick to break the seal between the pipe and the rubber bypass port.



f. Remove the washer and mounting bolt retaining the front of the stock air box.



g. Unfasten the 2 air box retaining clips and remove the panel air filter from the air box assembly.



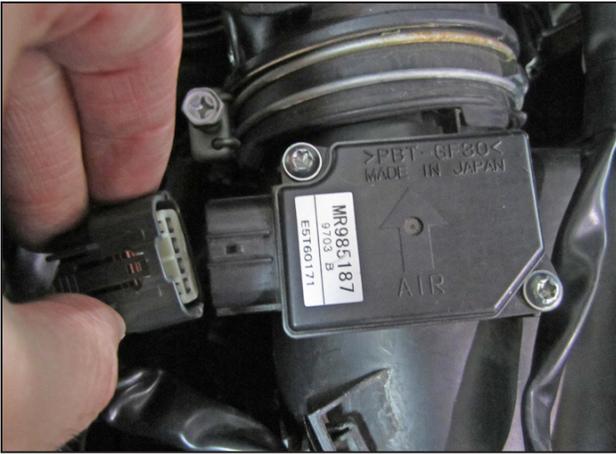
h. Remove the right half of the air box assembly by sliding it up and off of the two mounting studs.



i. Remove the 2 rubber isolator grommets from the bottom of the right half of the air box assembly. These will be reused during the installation of the AEM® intake system.



j. Unfasten the 3 plastic clips retaining the MAF wiring harness to the left half of the air box with a pair of pliers.



k. Disconnect the wiring harness connector from the MAF sensor.



l. Locate the hose clamp securing the air box outlet to the intake tube and unfasten.



m. Remove the 10mm nut that holds the turbocharger wastegate solenoid to its metal bracket on the air box. The nut will be reused during the installation of the AEM® intake system.



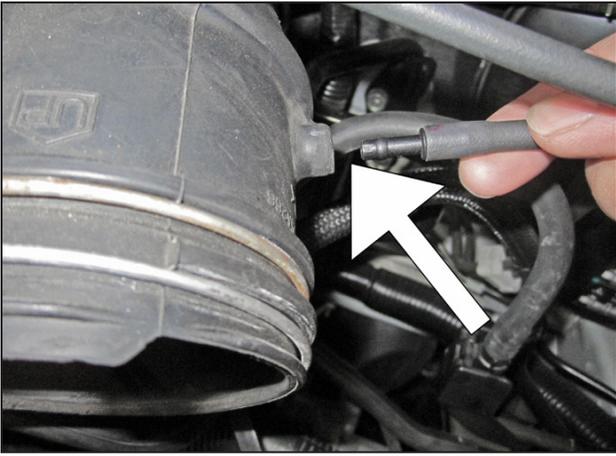
n. Disconnect the wastegate solenoid from its wiring harness. Disengage the long black solenoid hose from the 2 rubber retainers along the side of the intake tube, but leave connected to the solenoid. Set the solenoid aside in a safe area.



o. Carefully remove the left half of the stock air box.



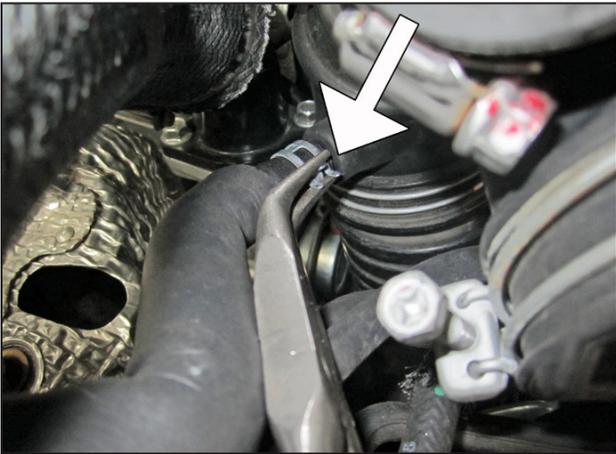
p. Remove the MAF sensor from the air box outlet tube. The MAF sensor will be reused in a later step during the installation of the AEM® intake system.



q. Locate the short black hose that runs from the turbo wastegate solenoid to the intake tube. Disconnect the short black hose from the turbo wastegate solenoid.



r. Completely remove the small black hose from the upper solenoid port.



s. Disconnect the breather hose from the intake tube.



t. Unfasten the middle hose clamp and remove the upper intake tube from the lower tube.



u. Unfasten the lower hose clamp at the turbo inlet and remove the lower intake tube from the turbocharger.



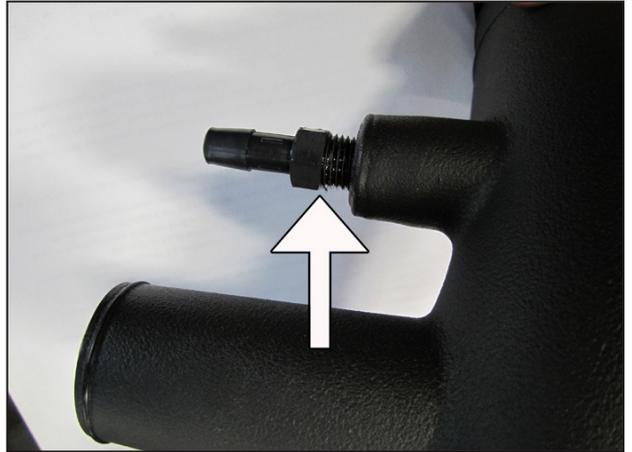
v. Locate the shift cable bracket on top of the transaxle case. Remove the specified 12mm bolt securing the shift cable bracket. This bolt will be reused in a later step during the installation of the AEM® intake system.

### 3. Installation of AEM® Intake System

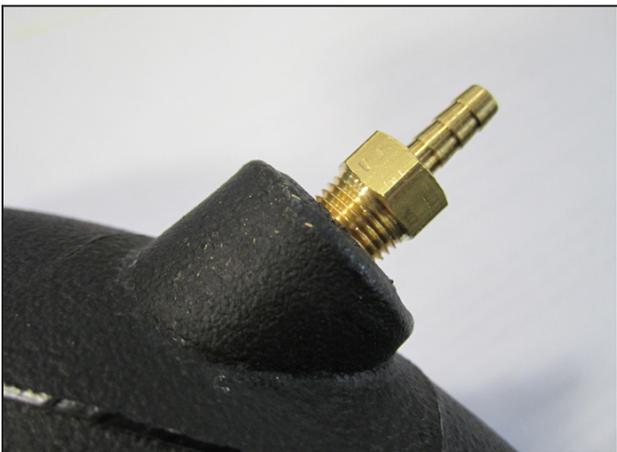
a. When installing the intake system, do not completely tighten the hose clamps or mounting hardware until instructed to do so.



b. Place the #36 hose clamp (9436) over the small end of the flexible elbow coupler (5-1057). Slide the #48 hose clamp (103-BLO-4820) over the large end of the elbow coupler.



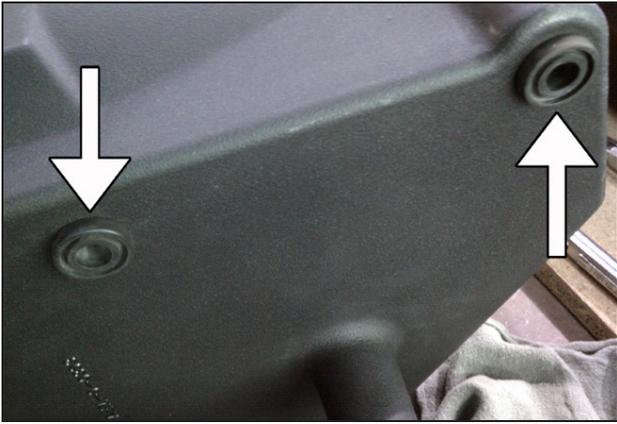
c. Install the 3/8" NPT barbed vent (08047) into the upper intake tube's (9-0395) boss and fully tighten."



d. Install the smaller NPT barbed vent (087016) into the upper intake tube's other boss and fully tighten.



e. Mount the stock MAF sensor onto the upper intake tube (9-0395) using the provided M4 Allen bolts.  
**NOTE: Ensure the MAF sensor is properly installed so the arrow indicating AIR FLOW is oriented as shown.**



f. Install the 2 rubber isolator grommets removed from the stock air box into the two large holes on the base of the AEM® air box (9-0393).



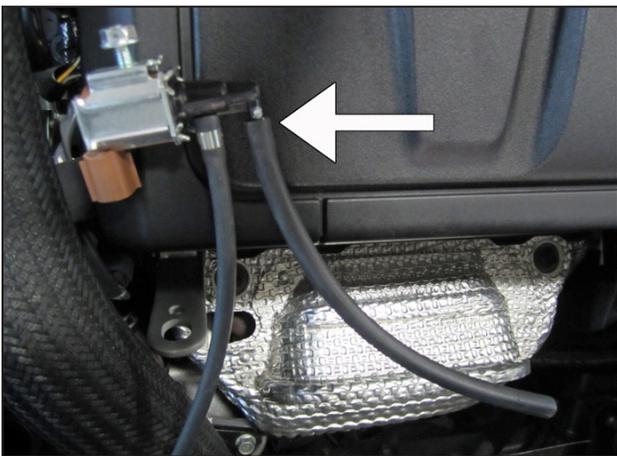
g. Install the edge trim (8-4015) around the large outlet in the air box as shown. Trim the edge trim if necessary.



h. Install the rubber grommet (784634) in the filter minder bracket (32-3017) as shown.



i. Insert the filter minder gauge onto the filter minder bracket (32-3017). Attach the filter gauge assembly onto the air box using the two M6 hex bolts (1-2065) and two split washers (1-3025) as shown.



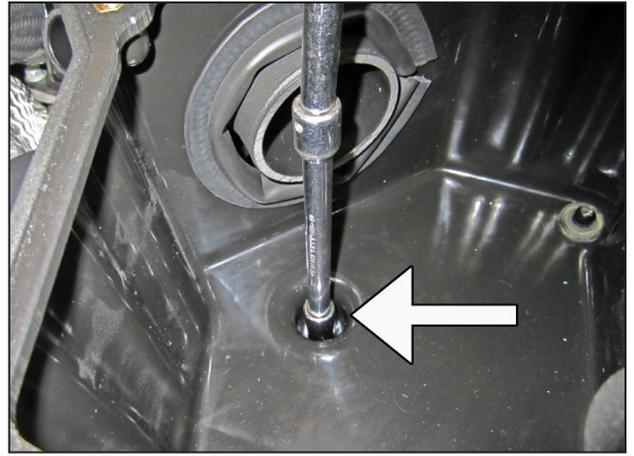
j. Install the supplied black hose onto the upper port of the wastegate solenoid as shown.



k. Install the elbow coupler (5-1057) to the turbocharger compressor inlet as shown. Tighten the smaller #36 hose clamp slightly, so the elbow coupler can still rotate on the compressor inlet. Use two 1/4" drive extensions and a drive u-joint to ease installation.



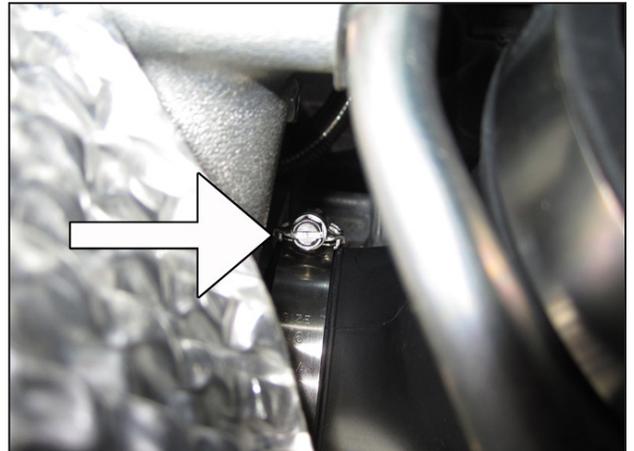
l. Install the upper intake tube onto the large end of the elbow coupler as shown. Tighten the upper #48 hose clamp, but not completely so the intake tube can rotate slightly.



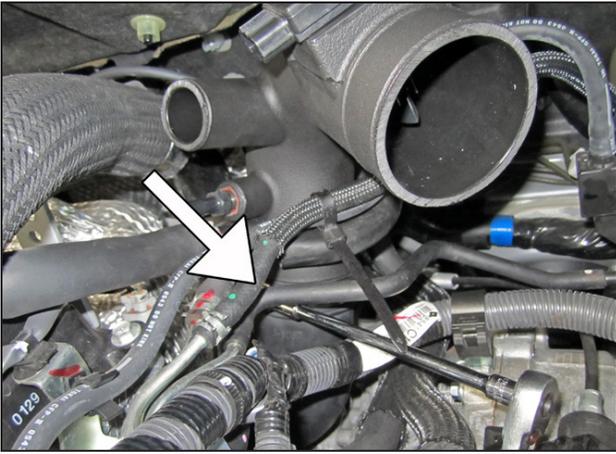
m. Install the AEM® air box, ensuring the 2 isolator grommets are mounted and fully seated on the mounting studs. Using the stock bolt removed in step 2v and a washer (1-3022), align the air box and secure to the shift cable bracket. Ensure the AEM® intake tube's inlet is centered in the air box outlet. Do not fully tighten!



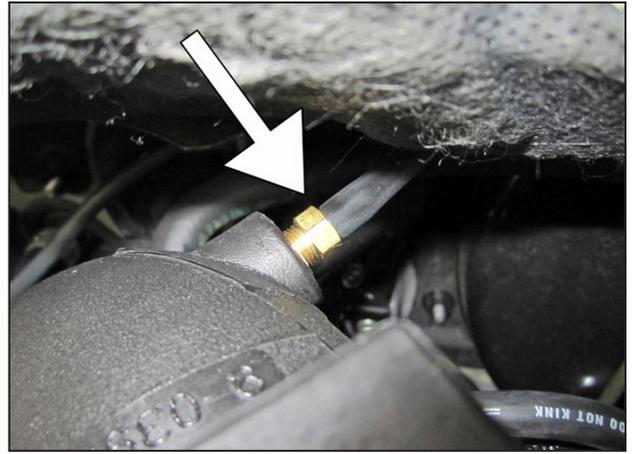
n. Align the intake tube by centering it inside the large air box outlet hole as shown. Once it is aligned, carefully remove the air box.



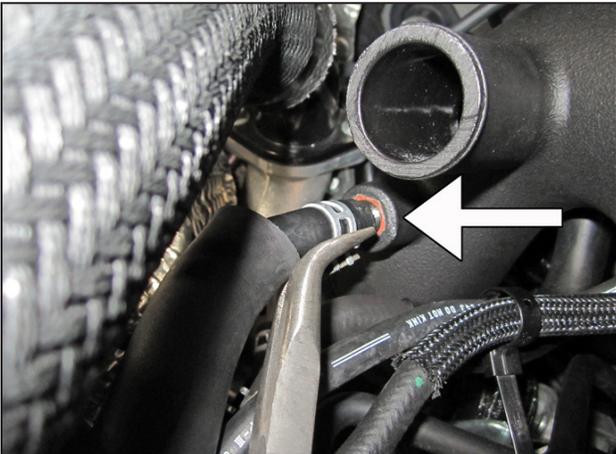
o. Completely tighten the lower #36 hose clamp securing the elbow coupler to the turbo inlet. Ensure the elbow coupler is fully seated on the turbo inlet.



p. Completely tighten the #48 hose clamp securing the upper intake tube to the elbow coupler. Ensure the upper intake tube is fully seated into the elbow coupler.



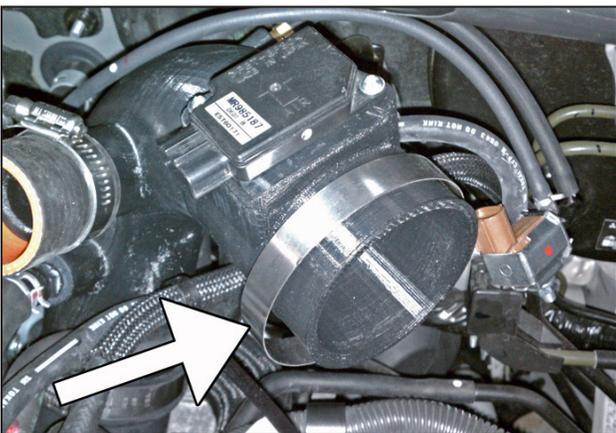
q. Install the loose end of the hose attached to the wastegate solenoid onto the smaller 1/8" barbed vent of the AEM® intake tube as shown. Trim the hose if necessary.



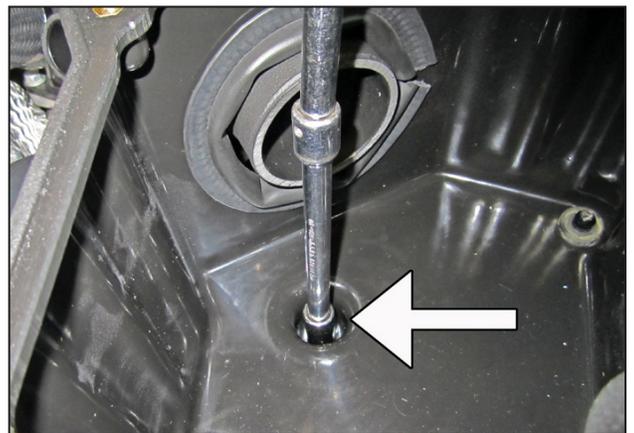
r. Install the valve cover breather hose onto the 1/4" barbed vent installed on the AEM® intake tube. Secure the valve cover breather hose with the stock hose clamp.



s. Install the silicone hose (5-1055) onto the AEM® intake tube. Attach the silicone hose about 1/3 of the way onto the turbo bypass port. Secure in place with a #28 hose clamp (103-BLO-2820).



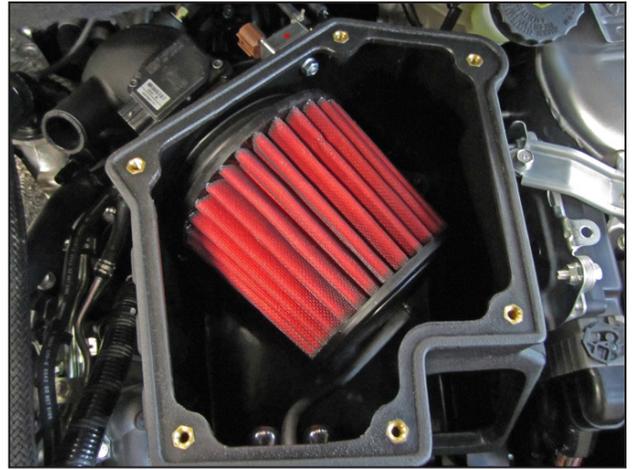
t. Place a #48 hose clamp (9452) onto the open inlet of the intake tube (9-0395) as shown.



u. Re-install the AEM® air box, following the installation procedure specified in Step 3m. Ensure the air box is properly mounted and aligned and secure to the shift cable bracket. Ensure the AEM® intake tube's inlet is centered in the air box outlet.



v. Install the provided elbow fitting (8-152) into the AEM® air filter's top (21-2031D-H). Install the provided hose (5-3009) onto the end of the elbow port as shown.



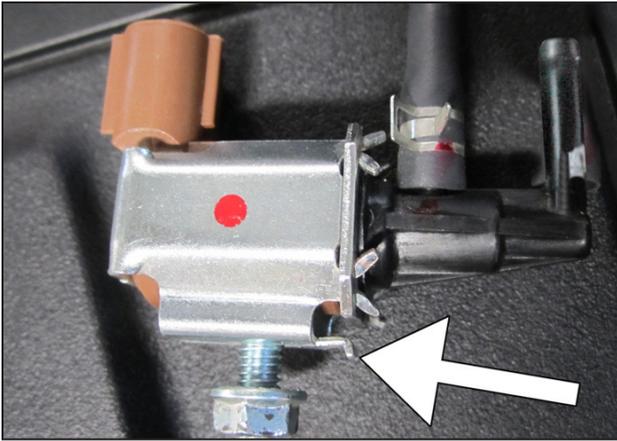
w. Install the AEM® air filter by pushing it through the edge trim and onto the intake tube's inlet. Ensure the air filter is properly seated onto the intake tube.



x. Slide the #52 hose clamp over the flange of the filter on the outside of the air box. Tighten the hose clamp on the outside of the air box as shown.



y. Locate the hose (5-3009) attached to the AEM® air filter and route the hose through the hole in the air box below the AEM® filter minder gauge. Connect the hose to the gauge's outlet. Trim any excess hose.



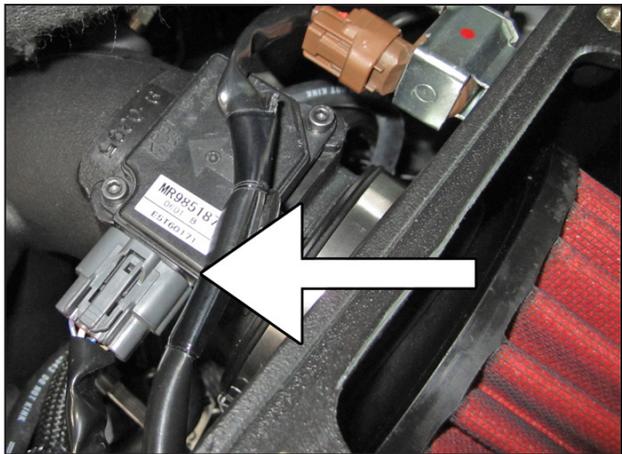
z. Make note of the small alignment tab at the base of the wastegate solenoid.



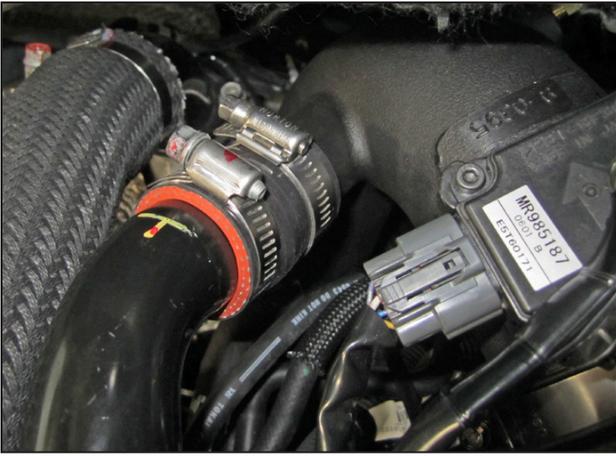
aa. Note the small alignment dimple next to the wastegate solenoid mounting hole on the AEM® air box. When the wastegate solenoid is mounted to the air box ensure the alignment tab (Pointed out in Step 3z) aligns in the dimple.



ab. Mount the wastegate solenoid to the hole on the back side of the AEM® air box using the stock 10mm nut. Align the solenoid's small tab with the dimple next to the mounting hole and fully tighten the nut to secure the solenoid to the air box.



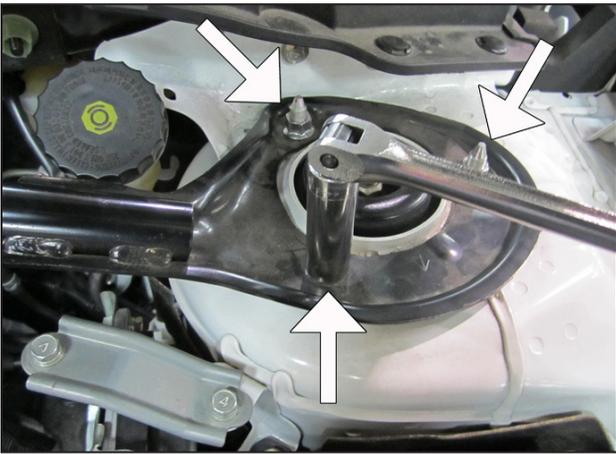
ac. Connect the stock wiring harness to the MAF sensor and the stock wiring harness to the wastegate solenoid.



ad. Connect the turbo wastegate bypass pipe to the silicone hose (5-1055) as shown and secure in place with a #28 hose clamp (103-BLO-2820).



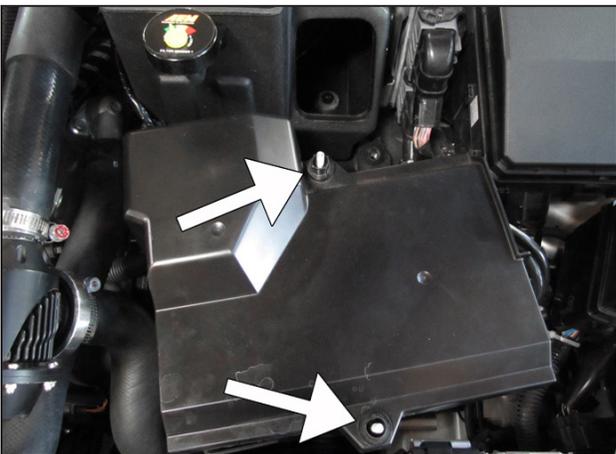
ae. Install the aluminum heat shield lid onto the air box top. Secure the heat shield lid in place using the 6 plastic washers (1-3001) and 6 button-head bolts (1-112). Install all the hardware before completely tightening. Once the heat shield lid is properly aligned, fully tightening the hardware by starting at the back of the air box and moving in a clockwise direction.



af. Install the strut brace, securing the 6 mounting nuts to their factory torque specification (33 +/- 5 lb-ft).



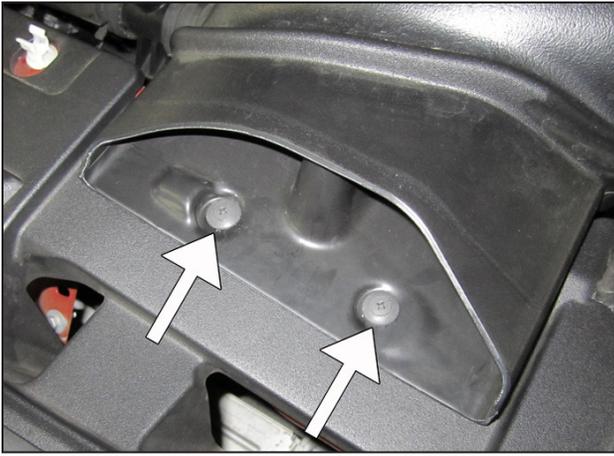
ag. Reconnect the negative battery cable to the battery.



ah. Replace the battery cover and retaining nuts removed in step 2b.



ai. Install the stock intake scoop into the matching inlet of the AEM® air box and over the battery cover.



aj. Re-install the plastic retaining clips to secure the inlet of the intake scoop.



ak. Ensure the needle on the AEM® filter minder gauge is set to the “Green” section on the indicator.



AEM® intake system installed

#### 4. Reassemble Vehicle

- a. 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.
- b. Check for proper hood clearance. Re-adjust pipes if necessary and re-tighten them.
- c. Inspect the engine bay for any loose tools and check that all fasteners that were moved or removed are properly tightened.
- d. Reconnect the negative battery terminal and start the 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 aluminum polish to clean your polished AEM® intake tube.
- c. Use window cleaner to clean your powder coated AEM® intake tube. (NOTE: DO NOT USE aluminum polish on powder coated AEM® 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.

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