



Equipped with AEM<sup>®</sup> Dryflow<sup>™</sup> Filter  
No Oil Required!

## **INSTALLATION INSTRUCTIONS**

**PART NUMBER:**

**21-486B (Blue Finish)**

**21-486C (Gun Metal Grey Finish)**

**21-486P (Vacuum Metalized Chrome-VMC)**

**21-486R (Red Finish)**

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2003

MAZDA Mazdaspeed Protege L4-2.0L C.A.R.B. E.O. # D-670-15

**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
Element Parts Kit 2.75 X 5" Dry Ele.	1	21-202DK
Lower Pipe	1	2-550
Upper Pipe	1	2-551
Hose, Adapter 2.50/2.75 X 2" Bl.	1	5-256
Hose, Silicone 2.75x2" Black	2	5-272
Hose; 1/2"ID X 18"L	1	5-5018
Mount, Rubber 5/8" X 6mm	2	1228598
Grommet, IAT	1	08064
Rubber Edge Trim 15"	1	8-3015
Connector, Plastic 3/4" 90 Deg.	2	8-139
Bracket	1	7-7209
Bolt, Hex/Flange M6-1 X 20	1	1-2038
Washer, 6mm Soft Mount	3	08160
Nut, M6 Hex Serrated	3	444.460.04
Hose Clamp, 3/4"	2	4093-5
Hose Clamp, 1 1/4" Narrow	6	08420
1/2" Bnd. Hose Clamp, 2.56"-3.50"	1	9448
1/2" Bnd. Hose Clamp, 2.15-3.00"	1	9440
1/2" Bnd. Hose Clamp, 2.31-3.25"	5	9444
Hose; 3/4"ID X 4"L	3	5-4004

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.

The AEM<sup>®</sup> 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.

## 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. Disconnect negative battery terminal.
- 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.

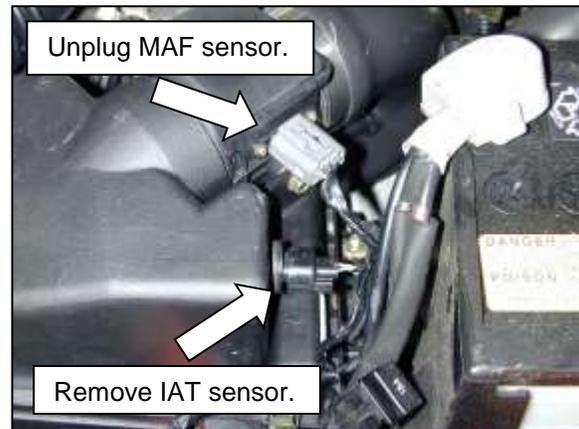
**NEVER WORK UNDER A VEHICLE WITHOUT USING JACK STANDS.**

- i. Remove the front driver wheel. Then remove the necessary hardware and inner fender liner.
- f. Do not discard stock components after removal of the factory system.

## 2. Removal of stock system



a. The stock air intake system.



b. Unplug the MAF sensor and remove the IAT sensor from the air box.



c. Unclip IAT and MAF sensor harness from the air box.



Set coolant reservoir aside.

d. Remove the radiator fluid overflow bottle and set aside in the engine bay. Do not disconnect any of the coolant lines. There should be plenty of slack in the hose.



Loosen and remove bolt.

e. Loosen and remove bolt.



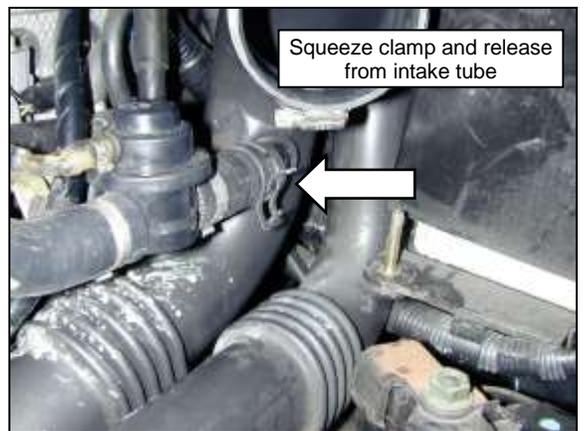
Loosen and remove nut.

f. Loosen and remove nut.



Loosen hose clamp

g. Loosen and remove hose clamp. Remove the air box assembly.



Squeeze clamp and release from intake tube

h. Squeeze clamp and release blow off valve hose from the specified intake tube.



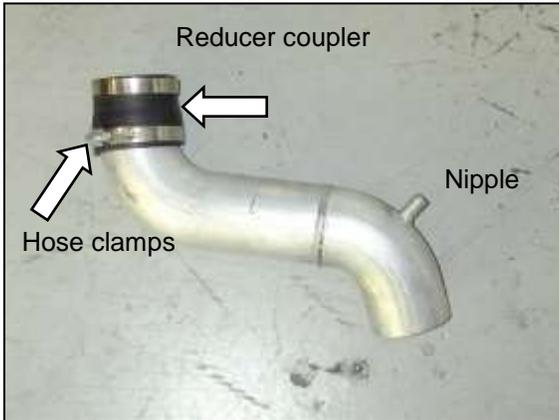
i. Remove valve cover breather hose. This hose will not be reused.



j. Loosen hose clamp and remove intake tubing from the turbo inlet.

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

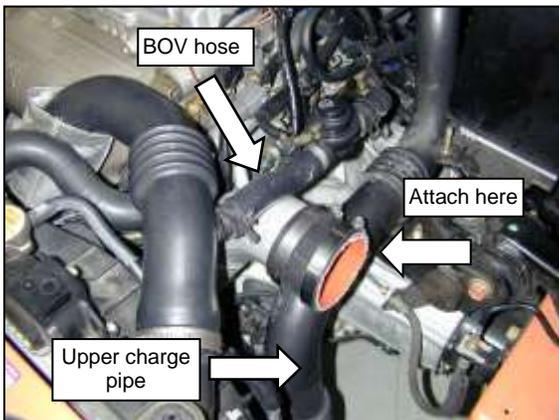
a. When installing the intake system, do not completely tighten the hose clamps or mounting hardware until instructed to do so.



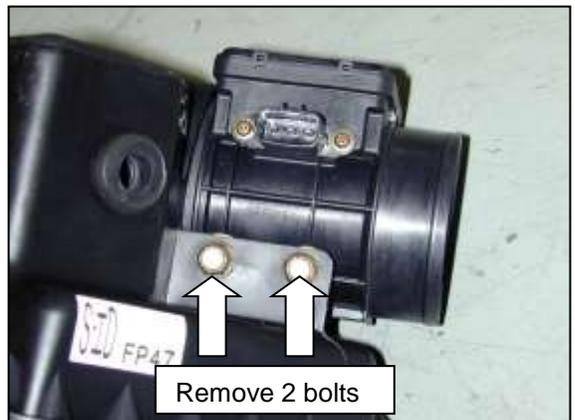
b. Assemble the turbo intake pipe as shown.



c. Attach the reducer coupler, hose clamps and inlet pipe to the turbo inlet. Make sure to clear the fan shroud. Use the 2.5-2.75" coupler.



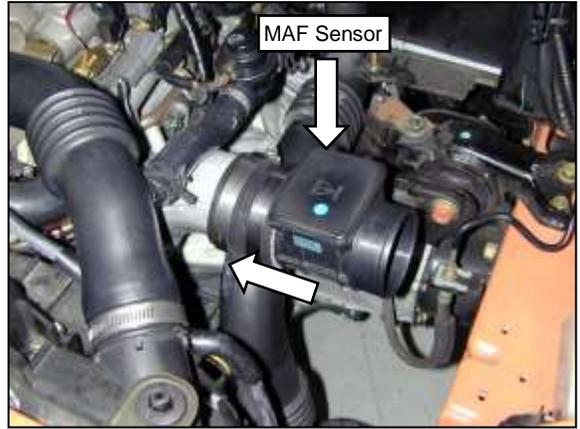
d. Attach coupler and hose clamps to the intake pipe. Make sure the pipe clears the upper charge pipe and BOV hose.



e. Remove the 2 bolts holding the MAF sensor. Carefully remove the MAF sensor from the air box.



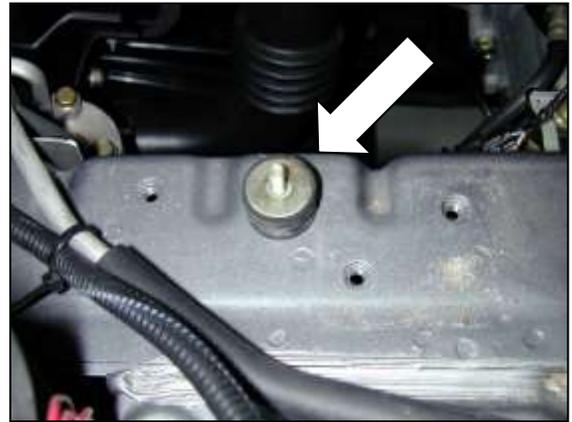
f. Remove the rubber gasket. This piece will not be reused.



g. Insert the MAF sensor into the coupler. Make sure the MAF sensor is pointing up and the plug for the harness is pointing towards the firewall.



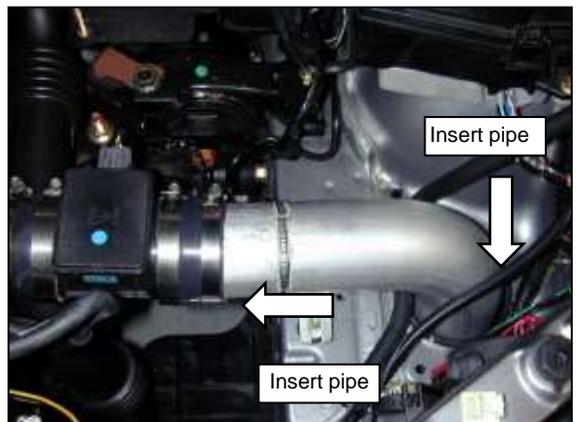
h. Attach the coupler and hose clamps.



i. Insert the rubber mount.  
**NOTE: Note the location of the hole.**



j. Attach rubber edge trim. Trim as necessary.



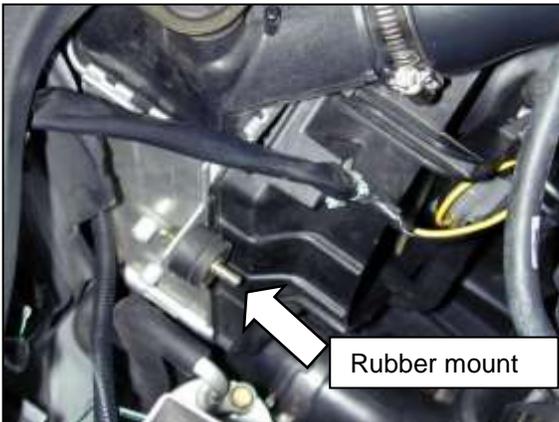
k. Insert the lower intake pipe into the lower cavity. Then insert the pipe into the coupler with the MAF Sensor. Align with the rubber mount.



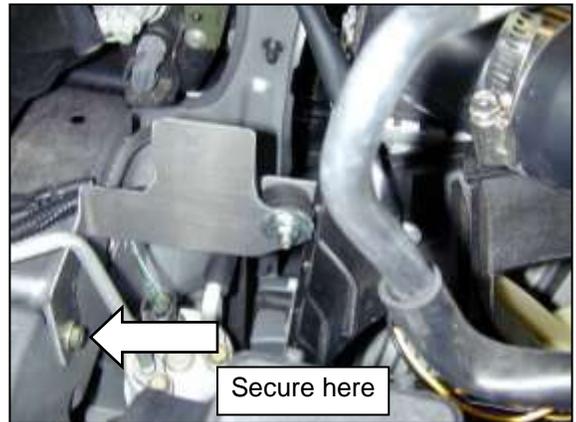
l. Attach the AEM air filter element onto the end of the inlet pipe. Make sure the air filter clears the body and splashguard. Secure the air filter's hose clamp.



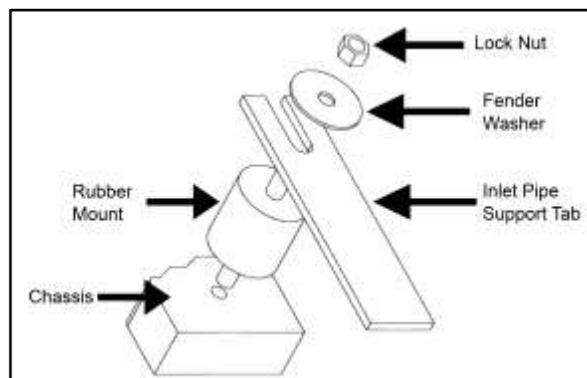
m. Secure inlet pipe at the bracket on the rubber mount.



n. Secure rubber mount to the radiator tab support.



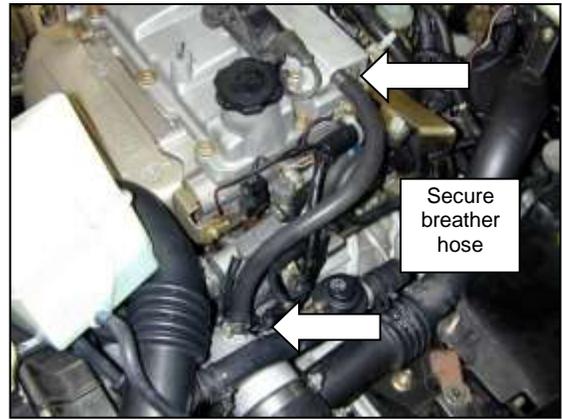
o. Secure the coolant reservoir-mounting bracket to the rubber mount and also to the frame.



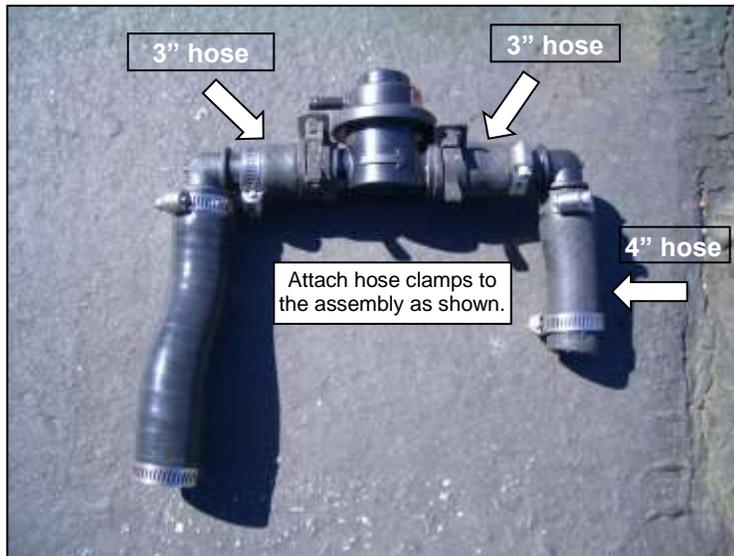
Proper rubber mount assembly installation.



p. Attach the coolant overflow reservoir to the new bracket.



q. Attach crank case breather hose and secure with hose clamps.



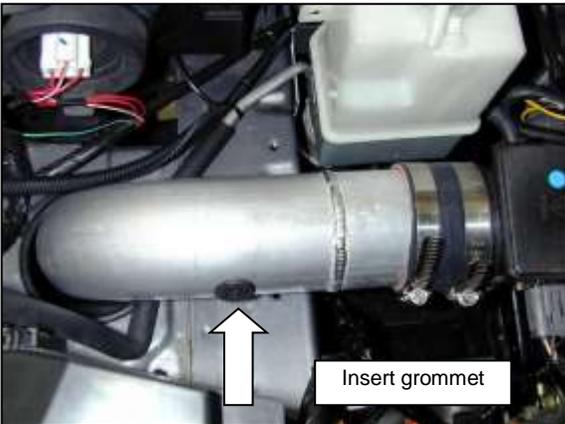
r. Assemble BOV return hose like above. The stock hose attaches on the same side as the nipple on the BOV. Attach the 3" hoses to the BOV. The stock spring clamps are used to at the BOV. Insert 90 degree elbows into each end of the 3" hoses. Secure with hose clamps. The stock hose attaches to the same side as the nipple on the BOV. On the opposite side attach the 4" hose and secure with hose clamps.



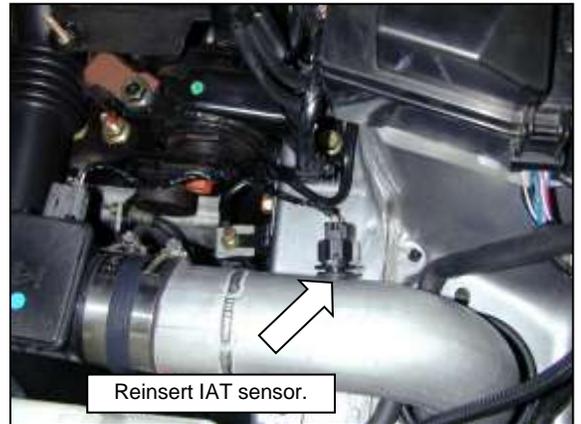
s. Attach the 4" end to the turbo intake pipe and secure with provided hose clamp.



t. Attach the connector end to the BOV hose return side. Secure with hose clamp.



u. Insert grommet for the IAT sensor.



v. Reinsert IAT sensor.



w. The BOV assembly should look like this.



x. Reinsert the coolant reservoir on the new bracket.

#### 4. Reassemble Vehicle

- a. **Fender liner:** Install the fender liner and any hardware that was removed earlier during step 1
- b. **Wheel:** Install the driver's side wheel using the factory torque specification (see owner's manual).
- 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. It is recommended that you service your AEM<sup>®</sup> 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<sup>®</sup> intake tube.
- c. Use window cleaner to clean your powder coated AEM<sup>®</sup> 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
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#### AEM Air Intake System Warranty Policy

AEM<sup>®</sup> 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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