



Equipped with AEM® Dryflow™ Filter
No Oil Required!

INSTALLATION INSTRUCTIONS

PART NUMBER:22-489

2004	MAZDA	Miata Mazdaspeed	L4-1.8L	C.A.R.B. E.O. # D-670
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*** NOTE: Legal in California only for racing vehicles which may never be used upon a highway**

PARTS LIST

Description	Qty.	Part Number
Air Filter; 2.75" X 5" DRYFLOW- 7/16" Hole	1	21-202D-H
Heat Shield	1	20-489
Short Pipe	1	2-4891
Charge Pipe	1	2-4892
Hose; 5/16ID X 13"L	1	5-2013
Hose; 3/4"ID X 11"L	1	5-4011
Elbow, 2.25-1.75 90 Deg	1	5-172
Hose, Adapter 2.25/2.75"x3" Blk.	1	5-227
Edge Trim, 12"	1	8-4012
Mount, Rubber 1" X 6mm	1	1228599
Zip Tie, 6 Long	1	1-113
Convuluted Slit, 1/4" X 4"l Hi-temp	1	3-2004
Spring Clamp, 1-1/16"	4	8-701
Edge Trim, 4"	1	8-4004
Hose; 3/4"ID X 6"L	1	5-4006
Hose; 3/4"ID X 3"L	1	5-4003
Connector, Plastic 3/4" Straight	1	8-134
Connector, Plastic 3/4" 90° Deg.	1	8-139
Bracket, Support MAF	1	32-3032
Bracket	1	32-3033
Washer, 6mm Soft Mount	1	08160
Nut, M6 Hex Serrated	2	444.460.04
Hose Clamp, 3/4"	2	4093-5
1/2" Bnd. Hose Clamp, 2.56"-3.50"	2	9448
Hose Clamp, 1 1/4" Narrow	3	08420
Hose Clamp, 1.75	1	103-BLO-2820
Hose Clamp, 2.25	2	9436
Rubber Edge Trim 14"	1	8-3014

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.

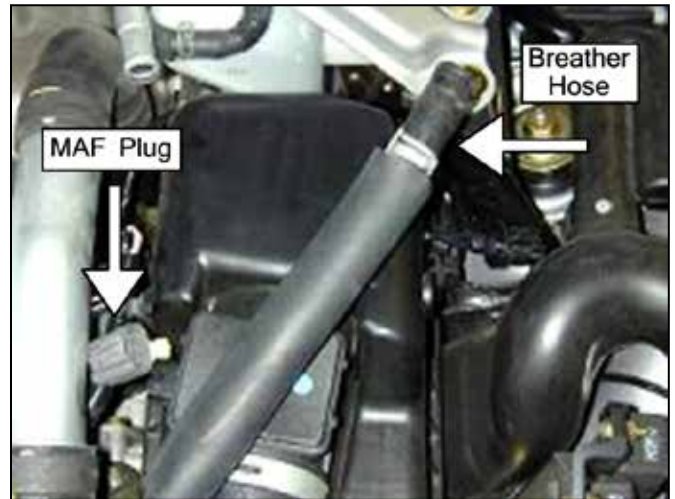
1. Preparing Vehicle

- Make sure vehicle is parked on level surface.
- Set parking brake.
- If engine has run in the past two hours, let it cool down.
- Disconnect negative battery terminal.
- Do not discard stock components after removal of the factory system.

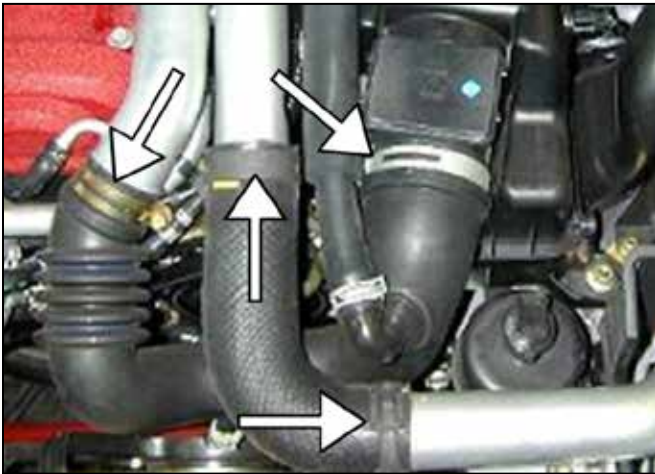
2. Removal of stock system



a. Factory air box system installed.



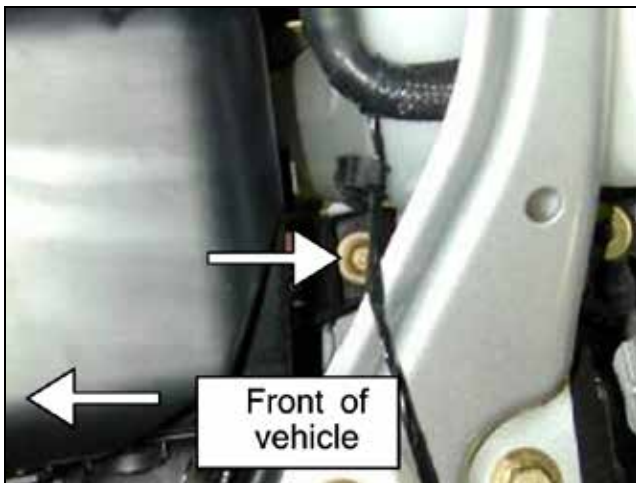
b. Unplug the MAF sensor. Disconnect the breather hose from the hard line.



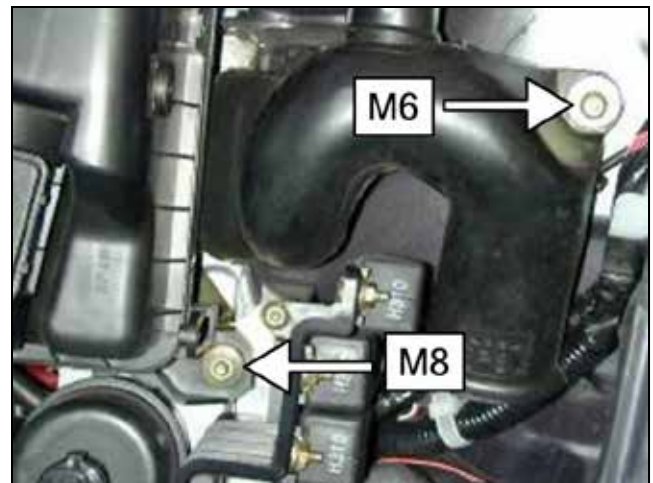
c. Squeeze the spring clamps on the elbow of the boost pipe and move them off. Slide them towards the elbow and leave them on it. Loosen the hose clamps on the inlet tube at the MAF and the hard pipe.



d. Remove the boost pipe elbow and the inlet tube. You will reuse the boost side elbow during the AEM® intake installation.



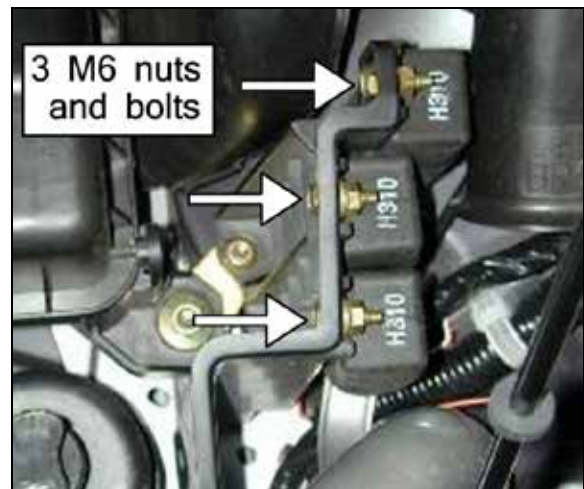
e. Remove the rear M8 bolt from the back of the air box.



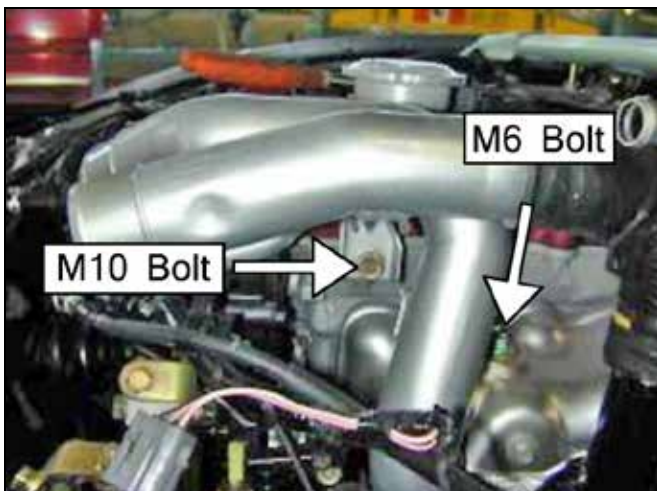
f. Remove the M8 nut and M6 bolt from the right side of air box. Remove IAT sensor from side of air box.



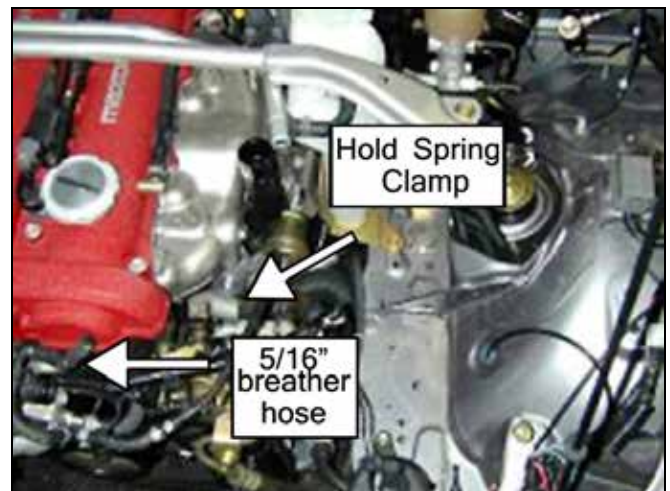
g. Pull up and remove air box from car.



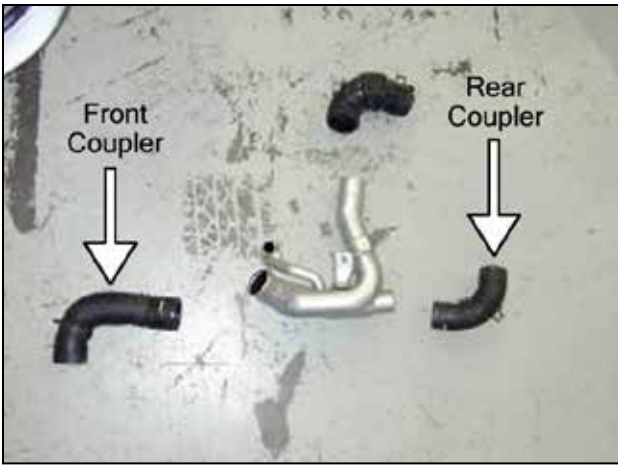
h. Unbolt the 3 relays from the stand. Keep the M6 nuts and bolts on the relays for later use during the AEM® intake system installation.



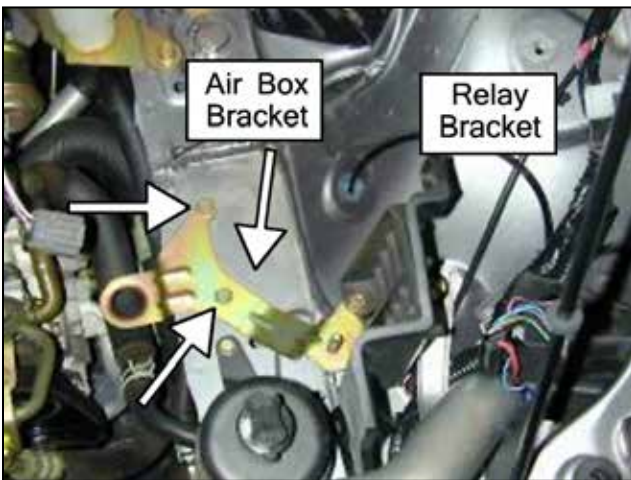
i. Remove the M10 bolt from the bracket holding the inlet tube to the cylinder head. Remove the M6 bolt from the bracket holding the inlet tube to the exhaust manifold. Replace this bolt in its original location after the assembly is removed.



j. While holding the spring clamp open at the turbo coupler, pull inlet and boost pipe assembly from the car. Remove the 5/16" x 3.5" breather hose from the VSV. It will not be reused.



k. This is the inlet and boost pipe with all stock couplers removed from vehicle. The front and rear couplers will be used on AEM® intake system.



l. Remove the 3 M6 bolts holding the air box and relay bracket assembly. Save the M6 bolts for use in step 3c.



m. Remove the 2 10mm bolts holding the MAF sensor to the air box. Save the 10mm bolts for later use. Carefully slide the MAF sensor out of the air box.

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.

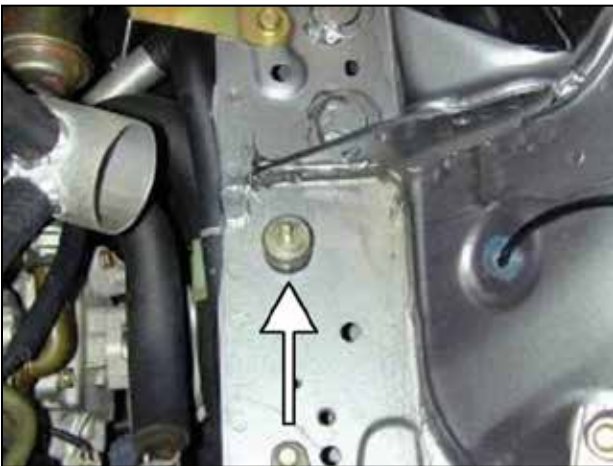


- b. Install the supplied 1.75" to 2.25" reducing elbow onto the turbo inlet with the inlet pipe and hose clamps as shown.



- c. Assemble the supplied MAF bracket onto the MAF sensor as shown with the 2 M6 x 10 bolts removed in step 2I. Install the supplied 2.25" to 2.75" reducing coupler and hose clamps onto MAF sensor assembly as shown.

NOTE: Ensure the MAF sensor is installed with the correct air flow direction.



- d. Install the supplied M6 rubber mount into the threaded hole as shown.



- e. Install the MAF assembly from step 3c onto inlet pipe. The MAF bracket will install on to the rubber mount. Secure using the supplied M6 Nylok nut. Re-connect the MAF wiring harness to the MAF adapter assembly.



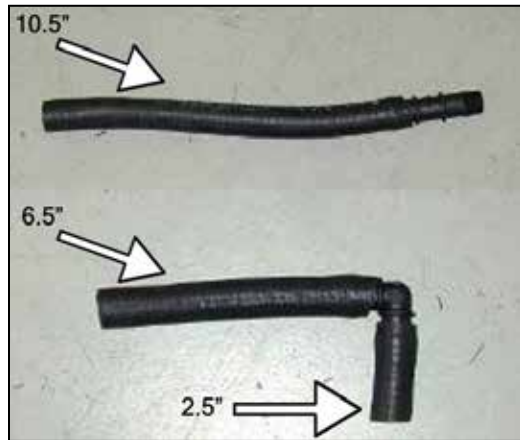
f. Cut the electrical tape holding the MAF sensor wires to the harness to free up additional length. BE CAREFUL AND ENSURE NO WIRES ARE CUT.



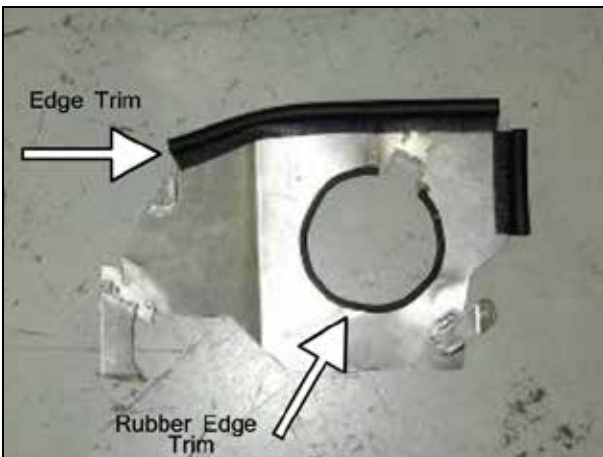
g. Remove the electrical tape as shown.



h. Install supplied slit loom to MAF wires as shown.



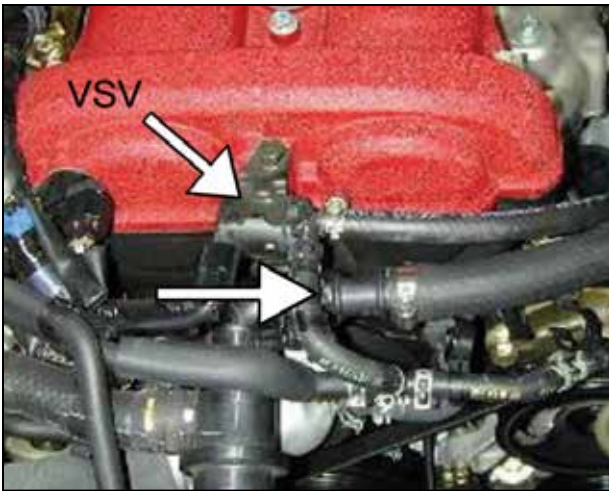
i. Prepare the supplied 3/4" hoses for installation as shown. Attach the 6" and 2.5" lengths to the 90° elbow barbed fitting. Attach the 10.5" length to the straight barbed fitting.



j. Install the supplied rubber edge trim to the inlet opening as shown. Install the supplied sponge rubber gasket to top and right side of the heat shield.



k. Install the supplied 3/4" and 5/16" hoses onto the inlet pipe as shown. Use the supplied spring clamps and screw clamps as shown.



l. Attach the 3/4" hose from the inlet pipe to the bypass valve using the stock spring clamp. Attach the 5/16" hose from the inlet pipe to the VSV using a supplied screw clamp as shown.



m. Install the supplied AEM® hot pipe using the front and rear stock elbow couplers removed in step 2j. Temporarily install the filter at this time. Check for clearance around the filter and tighten all hose clamps.



n. Remove the M6 bolt on the power steering reservoir bracket in preparation to install the AEM® heat shield. The M6 bolt will be reused in a later step.



o. Remove the air filter. Install the heat shield using the 2 M6 x 15 bolts that were removed in step 2M. Do not fully tighten the bolts yet. Route the IAT sensor harness through the inlet opening as shown. Attach the stock clip on the harness to the tab on the heat shield as shown. Adjust the clips as needed so the harness is not in tension.



p. Align the heat shield over the hole on the power steering bracket. Install the M6 bolt removed in step 3n as shown. Check heat shield for clearance and tighten all 3 M6 bolts.



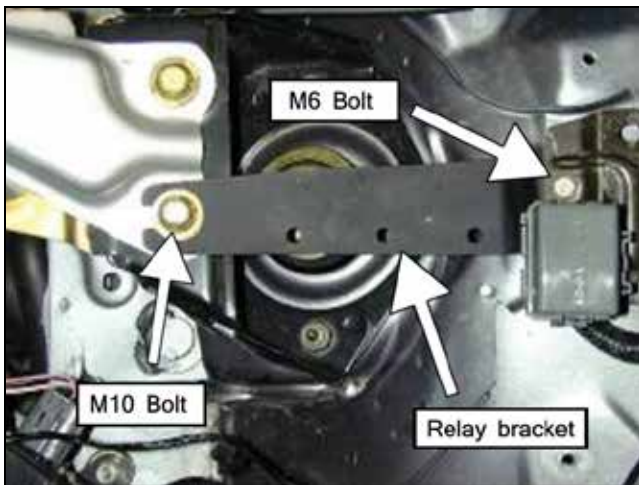
q. Install the air filter and tighten the hose clamp. Insert the IAT sensor into the hole in the end of the air filter. Attach the supplied 6" zip-tie to the IAT and relay harness as shown. Adjust the IAT harness so it does not contact the air filter.



r. Cut and remove the electrical tape on the relay harness to give it more length.



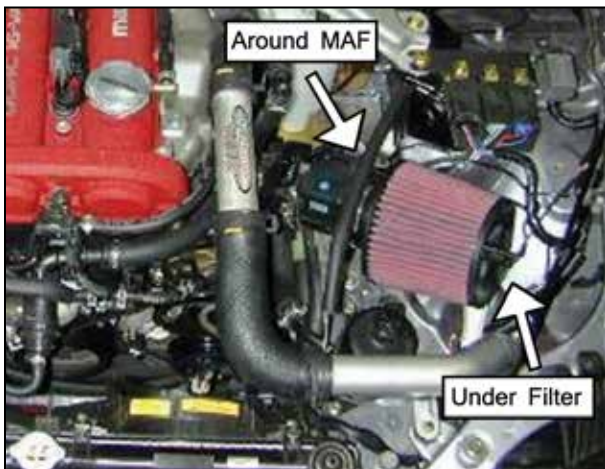
s. Pull the relays up towards strut tower.



t. Remove the M10 bolt on the strut tower. Loosen, but do not remove the M6 bolt on the diagnostics bracket. Install the supplied relay bracket by sliding it under the diagnostics bracket. Install the M10 bolt through the relay bracket into the strut tower.



u. Attach the relays to relay bracket using the stock M6 nuts and bolts from the removal in step 2h as shown.



v. Check the inlet system for clearance in the areas shown. Check for proper hood clearance. Re-adjust inlet pipe and clamps if necessary.



Factory air box system installed



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 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® Dryflow™ filter every 100,000 miles for optimum performance. Use AEM Dryflow cleaning kit part # 1-1000.
- 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.