



COLD AIR INTAKE SYSTEM

Installation Instructions for:
Part Number 21-488
2004 Mazda 3 s
2.3L 4cyl

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Instruction Part Number: 10-7028
2004 Mazda 3 s 3.0L C.A.R.B. E.O. #Pending

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** Cold Air System is the result of extensive development on a wide variety of cars. Each system is engineered for the particular application. The **AEM** Cold Air System differs from all others in several ways. We take the inlet air from outside of the engine compartment where the inlet air is considerably cooler than the hot under hood air. The cooler inlet air temperature translates to more power during the combustion process because cool air is denser than warm air. **AEM** has conducted extensive inlet air temperature studies and we have seen temperature reductions of up to 50 degrees by pulling air from outside of the engine compartment. The air mass flow to the engine is increased because of the increased airflow *and* reduced inlet temperature, which translates to more power. The **AEM** Cold Air Systems are **50 states Street Legal** (some model and years still pending) and come with complete instructions for ease of installation.

Our system is constructed of lightweight aluminum and then painted with a zirconia based powder coat for superior heat insulating characteristics. The aluminum will not crack in extended use like plastic and it is actually lighter than plastic. The tube diameter and length are matched for each engine to give power over a broad rpm range. Unlike the plastic systems that use a continually diverging cross section, we take advantage of the acoustical energy in the duct to promote cylinder filling during the intake valve-opening event.

Bill of Materials for: 21-488

Quantity	Part Number	Description
1	2-584	Intake Pipe
1	103-BLO-4420	#44 Hose Clamp
1	103-BLO-4020	#40 Hose Clamp
1	1228599	Rubber Mount 1" X 6MM
1	444.460.04	6mm Nylok Nut
1	559999	6mm Flat Washer
1	5-254	2.5/2.75 Hose Adapter
1	21-201	2.5x5" Air Filter
1	1-2014	Bolt,Hex 1/4-20 X 3/4
1	1-2074	Nut, Nylock 1/4-20
2	1-2028	Bolt, socket 8-32 x 1/2"
1	10-7028	Instructions
2	10-922S	AEM Silver Decal
1	10-400W	License Plate Frame
1	10-922E25	Emblem, CAS 2.5R
		Packaging Material

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

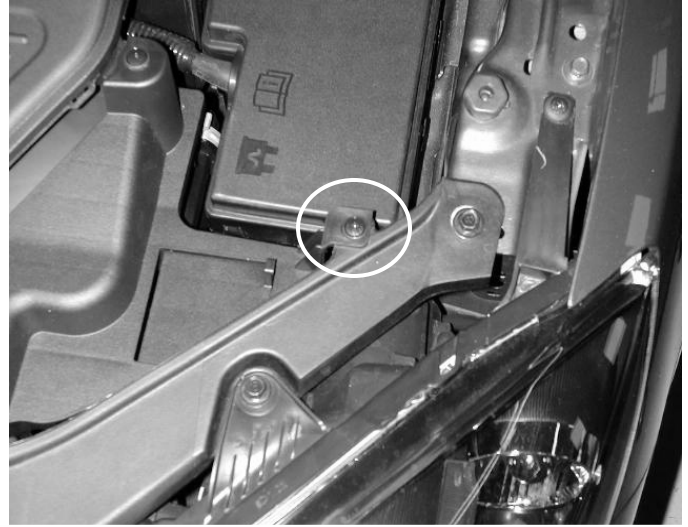
1) Getting started

- a) Make sure vehicle is parked on a level surface.
- b) Set parking brake.
- c) Disconnect both battery terminals.
- d) If engine has run within the past two hours let it cool down.
- e) Chock rear wheels, jack up front of vehicle and place on properly rated jack stands.
- f) Remove front driver side wheel.

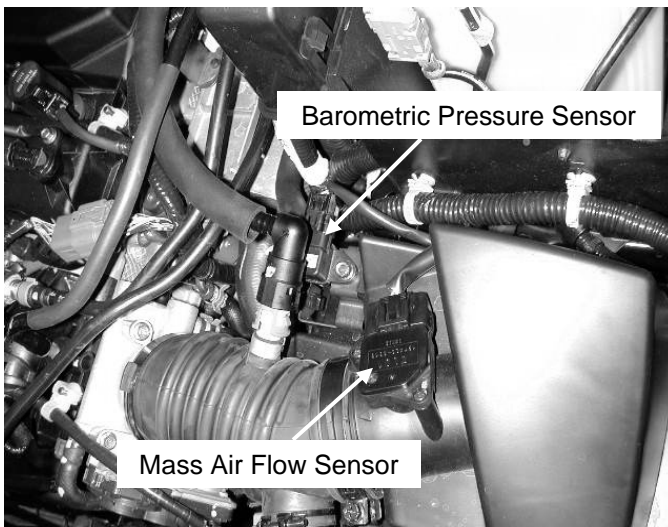
2) Removing the stock air inlet system



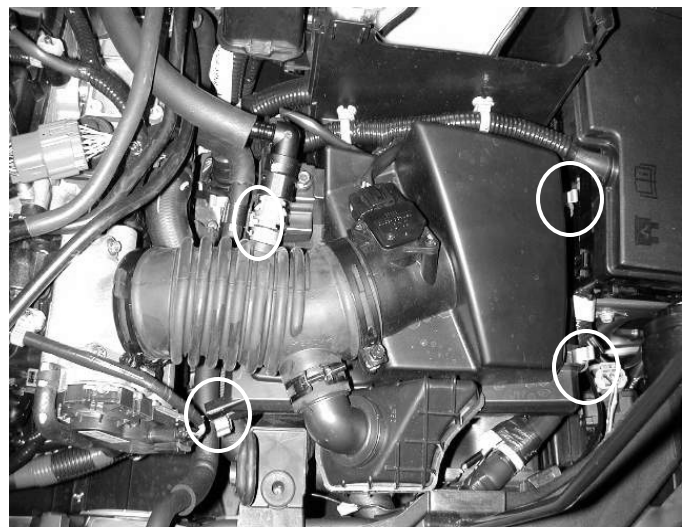
a) Stock intake system



b) Remove the plastic screw connector holding the battery cooling duct in place. Remove the battery box cover and remove the battery cooling duct.



c) Unplug the MAF Sensor and the BP sensor from the wiring harness. Remove the plastic breather hose by pinching the blue connector and pulling on the hose.



d) Unsnap the four metal retaining clips from the outer edge of the filter housing. Loosen the hose clamp securing the intake hose to the throttle body. Remove entire filter housing top.



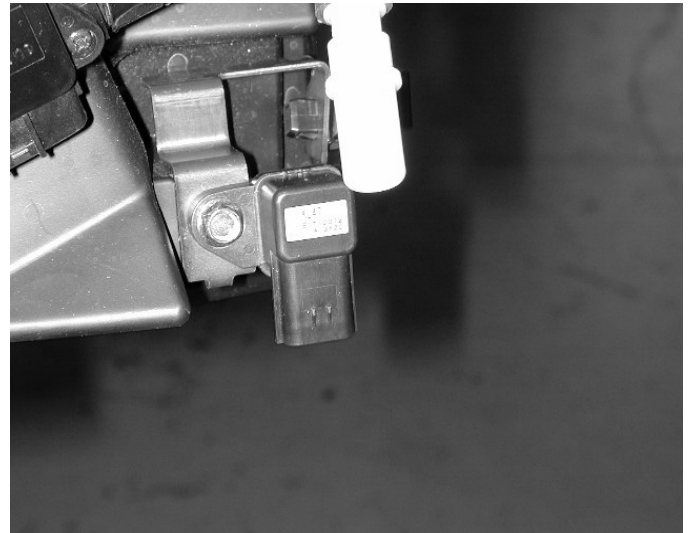
e) Carefully remove the blue plastic clip from the stock intake hose nipple. This can be done by gently prying the two tabs up and over the retaining ring with a small object such as a paperclip.



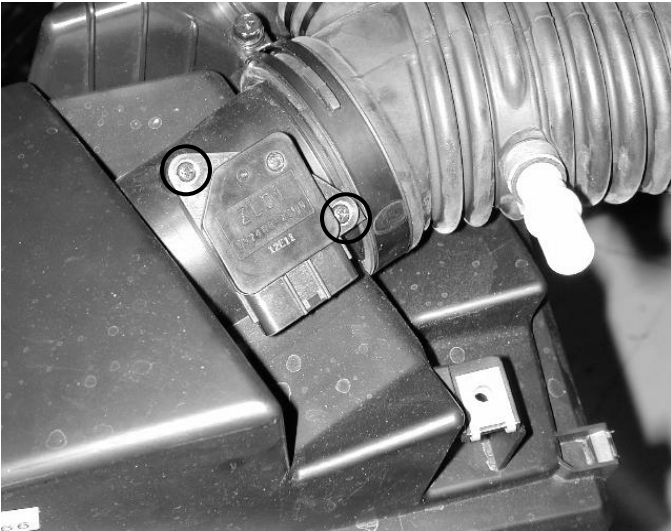
f) Remove the air filter from the lower air filter housing. Remove the rubber tie-down from the front of the housing mount by pulling up in the loop.



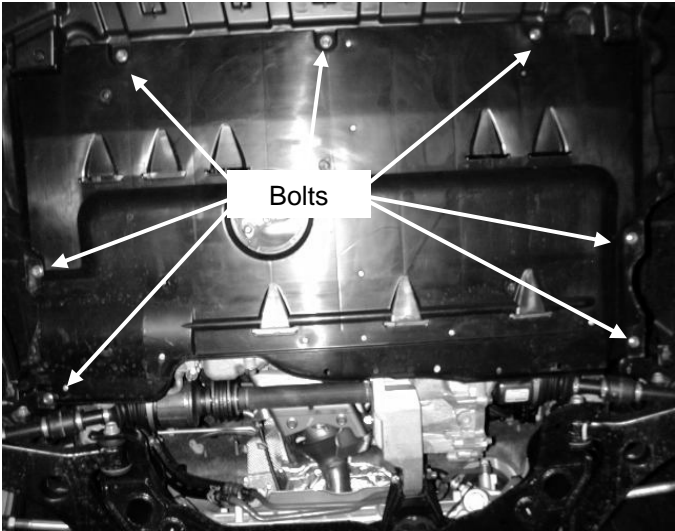
g) Lift up on the lower air filter housing to remove.



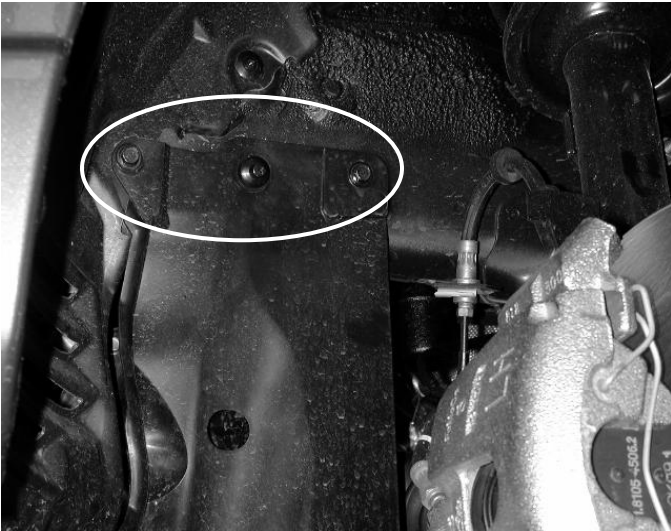
h) Remove the bolt holding the BP sensor to the upper intake air box removed earlier. Set the BP sensor aside for later installation.



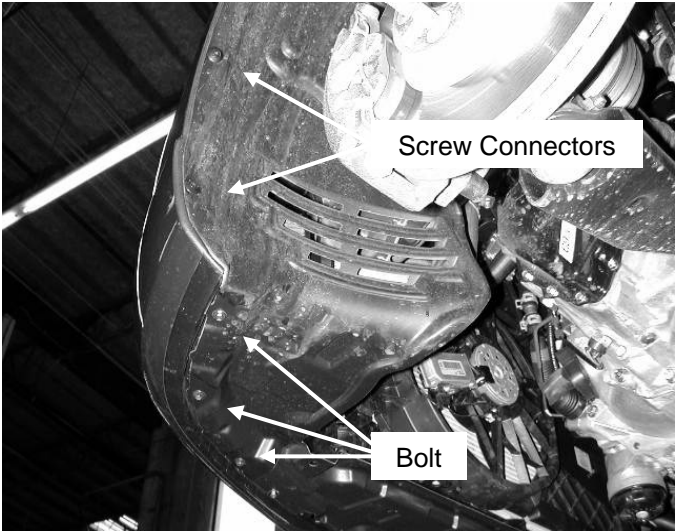
i) Remove the MAF Sensor from the filter-housing top by removing the two screws shown.



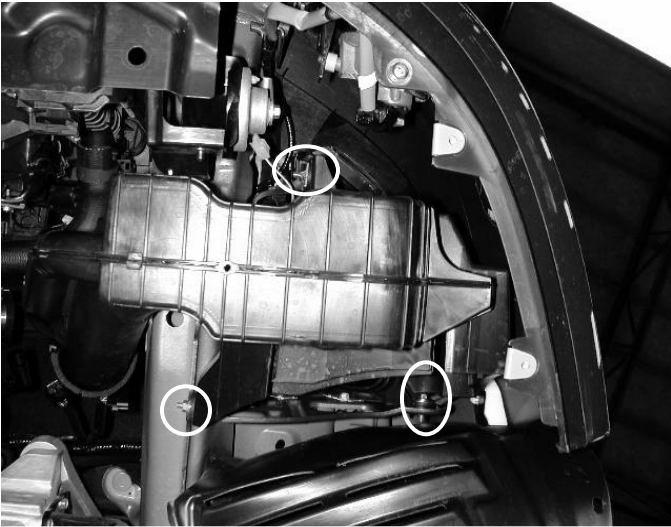
j) From underneath the car remove the seven bolts holding the splash shield in place and remove shield.



k) Remove the two bolts and the plastic screw connector holding the inner splash shield on and remove shield.



l) Remove the three bolts and the two plastic screw connectors holding the inner fender lining in place. Bend lining such that it allows access to the lower resonator box.



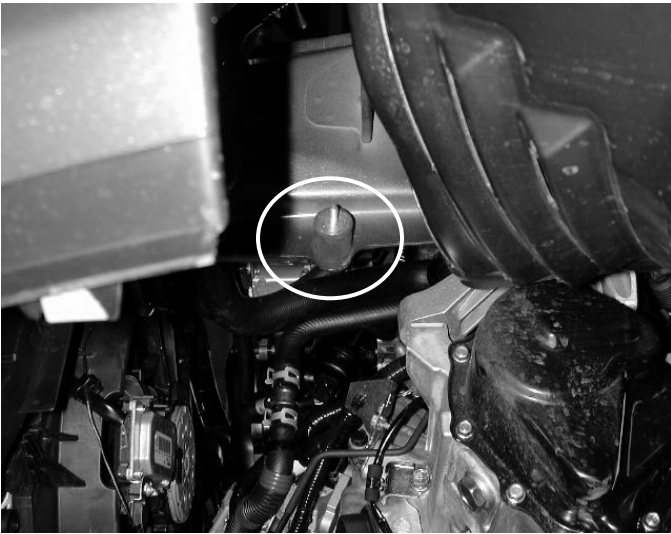
m) Remove the three bolts holding the lower resonator in behind the front bumper. Lower the resonator box out of the vehicle.



n) Stock intake system removed.

3) Installation of the *AEM* Cold Air Intake System

When installing the Cold Air Intake System, **DO NOT** completely tighten the hose clamps or mounting tab hardware until instructed to do so later in these instructions.



a) Install the supplied rubber mount where the stock resonator was mounted as shown.



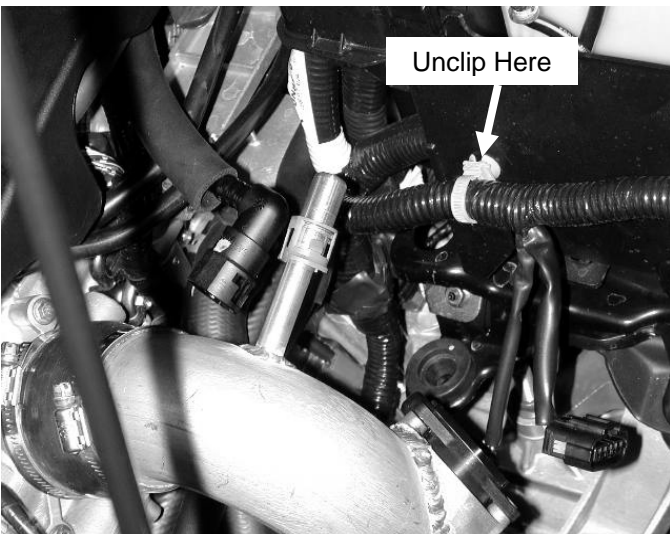
b) Install reducing coupler onto the throttle body using the supplied #44 and #40 hose clamps. The #44 is for the throttle body end and the #40 is for the intake pipe end.



c) Using the two supplied socket bolts, attach the MAF sensor to the pipe as shown. Also, using the supplied 1/4" bolt and nylock nut, attach the BP sensor to the intake pipe. **Note: If installing AEM Air Bypass Valve, measure exactly 1-3/4" from the bottom of the BP sensor mount and cut out a 1-5/8" section of pipe.**



d) Slide the previously removed blue retaining clip onto the long nipple attached to the intake pipe. The clip will snap over the retaining ring on the nipple once fully installed.



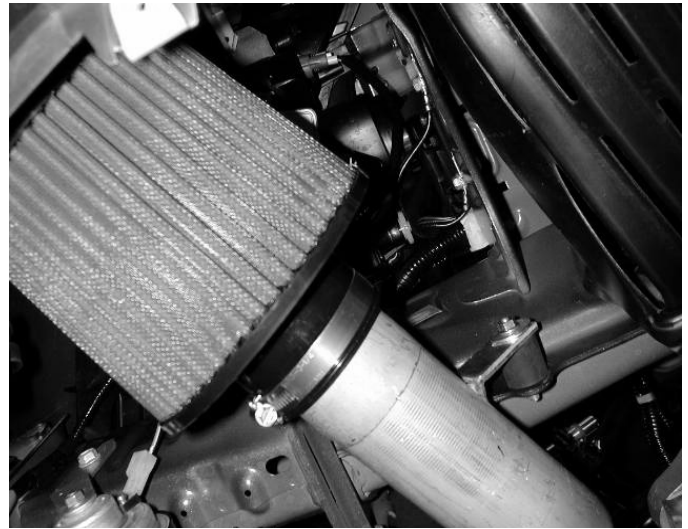
e) Slide pipe into reducing coupler on the throttle body. Plug in the MAF sensor harness into the MAF sensor installed on the intake pipe. **Note: If the MAF sensor harness is in tension, alleviate this by unclipping the main harness from the battery box (2 clips). This will prevent any damage to the wires in the harness.**



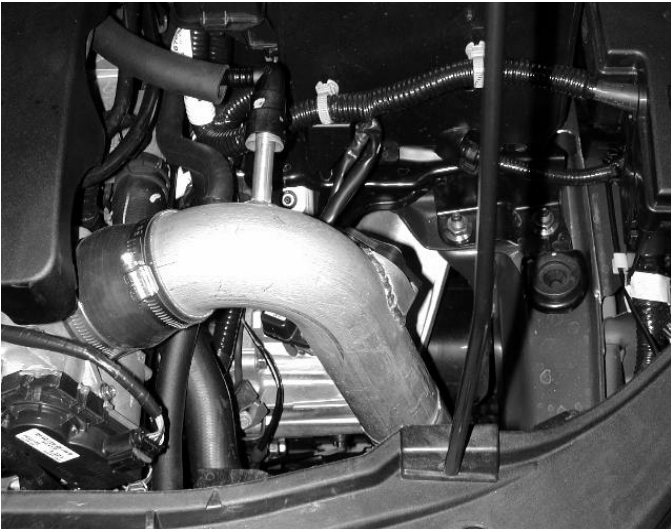
f) Attach breather hose to nipple by lining up the flat surfaces on the blue retaining clip and the breather hose fitting and gently sliding the hose onto the nipple.



g) Slide the intake pipe bracket over the rubber mount stud and secure using the supplied washer and nylock nut. Do not fully tighten the nut until proper adjustment has been checked.



h) Install the **AEM** filter on to the end of the inlet tube. Push the filter over the inlet pipe until the stop in the filter is reached and install one hose clamp to secure the filter onto the inlet pipe. Once fitment is checked, tighten the hose clamp.



i) Check that the filter is not touching any part of the vehicle. Position the **AEM** intake for best fitment. Be sure that the pipe or any other component is not in contact with any part of the vehicle. Tighten the hose clamps at the throttle body and silicone coupling. Tighten the nut on the mounting bracket. Re-adjust the pipe if necessary. Reinstall the inner fender liner fasteners and the passenger side wheel.



j) Reconnect the battery terminals and reinstall the battery cooling duct and battery box cover. **These items must be installed!** The supplied AEM badge can be placed on the battery cooling duct, however the supplied CARB Sticker needs to be placed in a visible location where it will avoid damage.

4) Reassemble the vehicle

- a) Inspect the engine bay for any loose tools and check that all fasteners that were moved or removed are properly tightened, including the wheel and fender liner.
- b) Start engine and perform a final inspection before driving the vehicle.

For Technical Inquiries
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