



COLD AIR INTAKE SYSTEM

Installation Instructions for:
Part Number 21-641
2006 Mazdaspeed 6 2.3L Turbo
Manual Transmission Only

ADVANCED ENGINE MANAGEMENT INC.
2205 126TH Street, Unit A Hawthorne, CA. 90250
Phone: (310) 484-2322 Fax: (310) 484-0152
www.aempower.com
Instruction Part Number: 10-7544
2006 Mazdaspeed 6 C.A.R.B. E.O. D-392-28
© Copyright 2009

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: 21-641

Quantity	Part Number	Description
1	2-710	Upper Intake Pipe
1	2-711	Lower Intake Pipe
1	9444	#44 Hose Clamp
3	9448	#48 Hose Clamp
1	559960	M8 Flat Washer
1	1228560	Mount,Rubber 1" X 8MM
1	444.460.08	Nut, 8mm
1	5-273-45	Hose,Adapter 2.75/3.00 X 3" 45
1	5-315	Hose,Silicone 3"x 1.5"
1	1-127	Zip Tie, 8" Tree Mount
1	21-203D	Air Filter, 3"x 5" Dry
2	1-2028	Bolt,Socket 8-32 X 1/2"
1	10-7544	Instructions
2	10-922S	Decal, Silver AEM

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

Note: This inlet pipe kit requires the removal and reinstallation of emissions related components. If you are not familiar with the installation and/or the operation of these components then please refer this installation to a qualified professional.

1) Getting started

- a) Make sure vehicle is parked on a level surface.
- b) Set parking brake.
- c) Remove the wheel on the driver's side of the vehicle
- d) Make sure you have the anti-theft code for the radio.
- e) Disconnect both positive and negative battery terminals.
- f) If engine has run within the past two hours let it cool down.

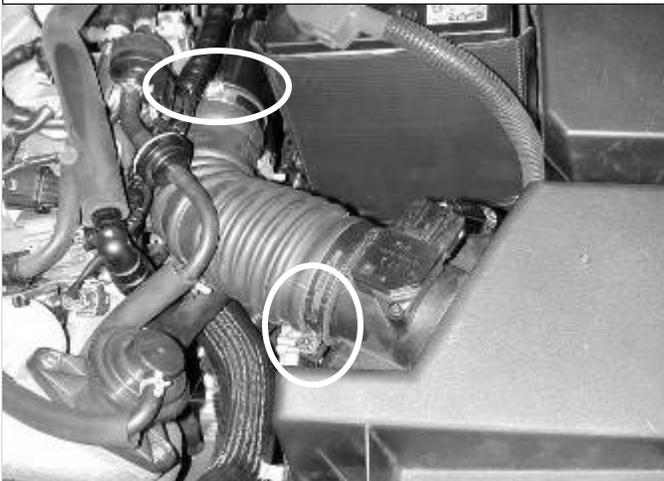
2) Removing the stock air inlet system



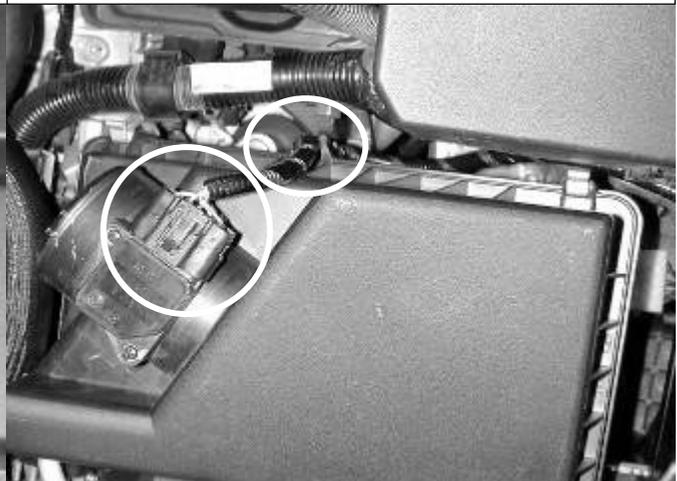
a) Before removing any of the O.E. components, **label each individual part so that no components become mixed up during the installation process.** Remove plastic intercooler cover by removing the 2 bolts securing it to the intake manifold.



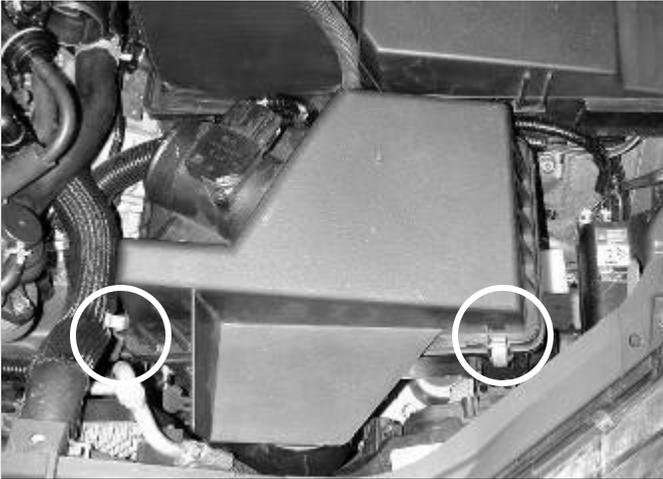
b) Disconnect the plastic breather hose from the inlet tube. This is done by squeezing the blue retaining clip and pulling on the breather hose.



c) Loosen the hose clamps securing the inlet hose to the stock air box and turbo inlet pipe. Remove the inlet hose.



d) Disconnect the MAF sensor wiring harness from the sensor and unclip it from the side of the air box.



e) Unclip the four metal retaining straps securing the air box lid to the lower air box housing. Remove the air box lid.



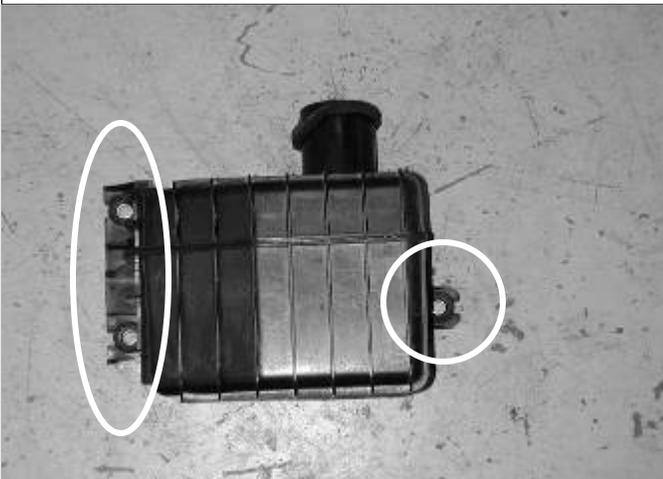
f) Remove the stock air filter. Next, pull up on the lower air box housing and remove it from the engine bay.



g) Remove the two bolts securing the lower air box mount to the vehicle chassis and remove the mount.



h) From underneath the vehicle, remove the 4 screws and two plastic connectors securing the inner fender liner to the bumper.



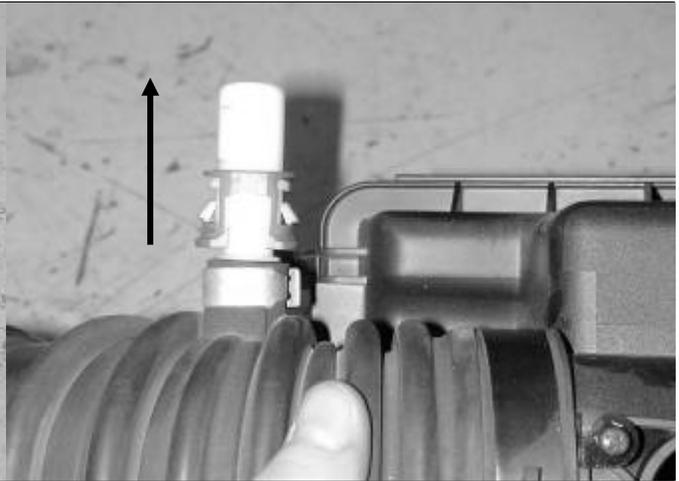
i) Remove the three nuts securing the lower resonator to the chassis and remove the resonator.



j) Stock system removed



k) Remove the two screws securing the MAF sensor to the air box lid. Be careful not to damage the sensor.



l) Remove the blue plastic breather hose clip from the breather nipple by prying up on the two small tabs.

3) Installing the **AEM CAS Intake**

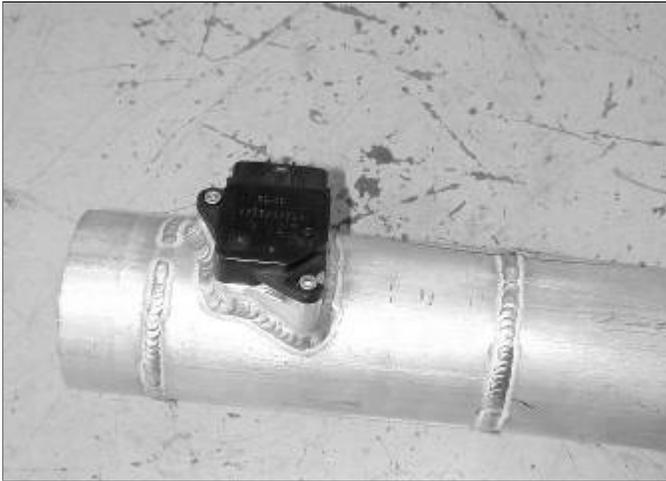
When installing the Cold Air Intake System, **DO NOT** completely tighten the hose clamps or mounting tab hardware until instructed to do so later in these instructions.



a) Install the 45 degree coupler onto the turbo inlet tube and secure using a #40 hose clamp.



b) Check to see that the inside of the **AEM CAS** pipes are clean and free from any foreign objects. Install the previously removed blue plastic breather hose retaining clip by carefully sliding it over the breather hose until it snaps into place.



c) Install the previously removed MAF sensor into the lower intake pipe using the two supplied Allen bolts.



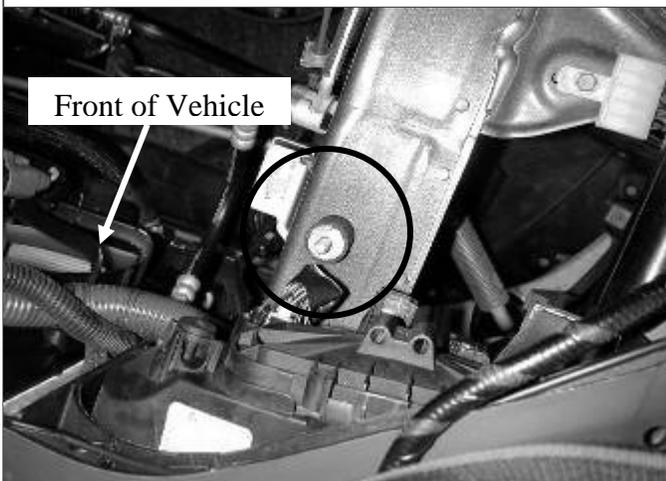
d) Slide upper inlet pipe into the previously installed coupler with the breather nipple angled towards the engine. Secure with a #48 hose clamp.



e) Attach the breather hose to the nipple on the upper pipe. The end of the breather hose will need to be rotated to fit properly.



f) Install the 3" coupler to the end of the upper inlet pipe. Secure the coupler with a #48 hose clamp.



g) Install the rubber mount into the engine bay where the lower air box mount was previously removed in step 2g. Use the front mount location.



h) Install the lower inlet pipe into the coupler attached to the upper inlet pipe and use a #48 hose clamp so secure. Align the intake mounting bracket with the rubber mount installed in previous step.



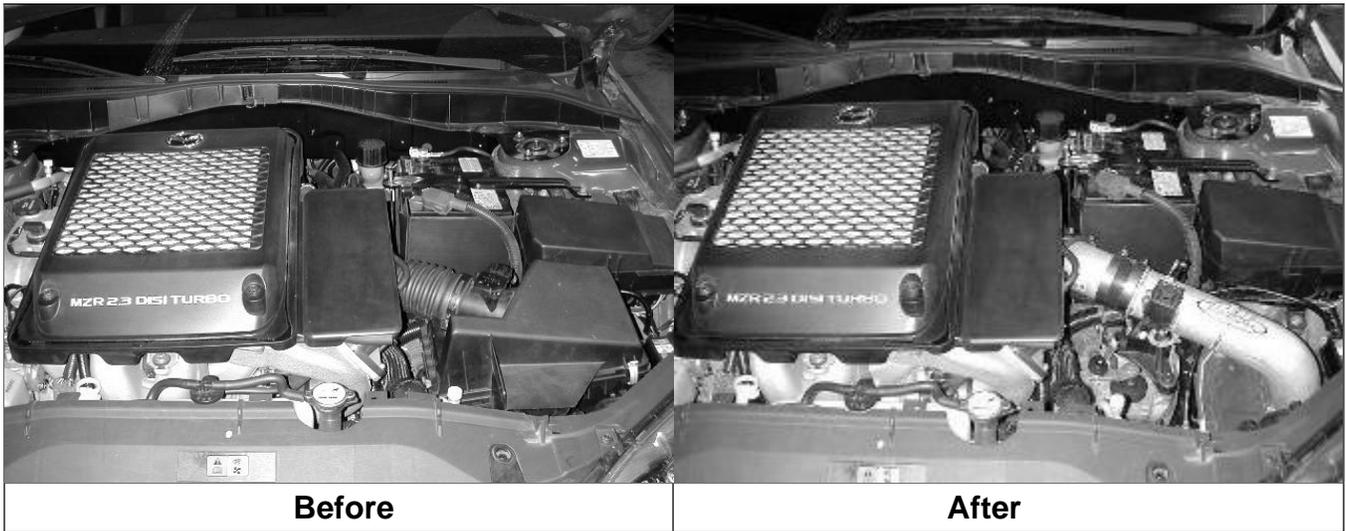
i) Secure the lower inlet pipe using the supplied M8 washer and nut.

j) 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.



k) Plug in the MAF sensor and secure the wiring harness using the supplied tree mount zip tie. Trim the excess plastic zip strap. Reinstall the plastic intercooler cover removed in step 2a.

l) 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 inlet tube and silicone coupler. Tighten the nut on the mounting bracket. Re-adjust the pipe if necessary. Reinstall the inner fender liner fasteners and the driver's side wheel.



Re-assemble the vehicle

- a) Inspect the engine bay for any loose tools and check that all fasteners that were moved or removed are properly tight.
- b) Reconnect the battery cables to the battery (always connect positive first).
- c) Start the vehicle and check for proper operation of all the components that were removed.

**For Technical Inquiries
E-Mail Us At
tech@aempower.com**