



COLD AIR SYSTEM

Installation Instructions for:
Part Number 21-567
2004-2005 Scion XB

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Instruction Part Number: 10-7024
2004 Scion XB C.A.R.B. E.O. #Pending
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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 underhood 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 models 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.

Our Dyno testing as well as **independent dyno tests** (see 7/97 Sport Compact Car Magazine) prove that the **AEM** Cold Air System produces as much as twice the power gain than any other system on the market.

Bill of Materials for: 21-567

Qty.	Part Number	Description
1	2-554	AEM Inlet Pipe
1	21-200	Air Filter, 2.25" & Clamp
1	1228599	Rubber Mount, M6
2	444.460.04	Nylock Nut, M6
2	559999	Fender Washer, M6
1	7-7202	Bracket, Rubber Mount
1	7-7201	Bracket, VSV Mount
2	1-2023	Socket Bolt, SS 8-32 x 5/16
14"	65004	Rubber Hose, 5/8"
1	7-7016	Nipple, 5/16" x 1.50"
1	4093-6	Hose Clamp, 1 1/16"
1	5-221	Coupler, 2.25" 10 Deg
2	103-BLO-3620	Hose Clamp, 2.25"
1	10-7024	Instructions
1	10-400W	License Plate Frame, White
2	10-922S	AEM Decal, Silver

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

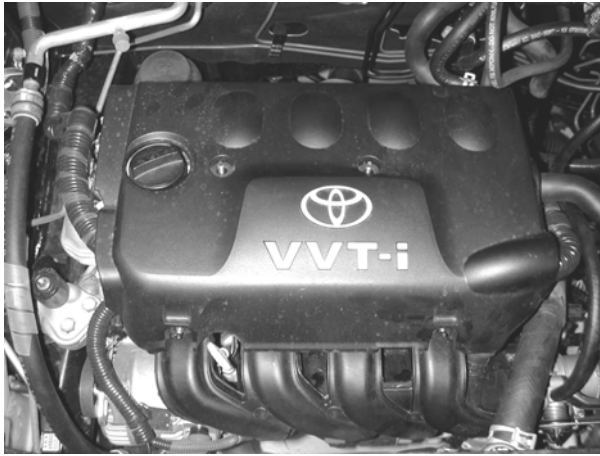
Note: This inlet pipe kit requires the removal and reinstallation of emissions related components. If you are not familiar with the installation and/or the operation of these components then please refer this installation to a qualified professional.

1) Getting started

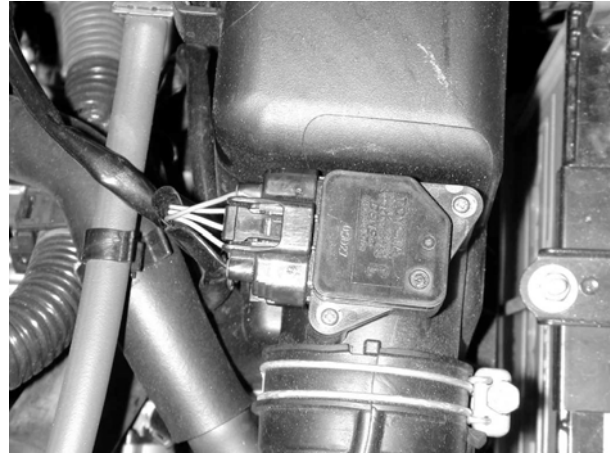
- a) Make sure vehicle is parked on a level surface.
- b) Set parking brake.
- c) Disconnect negative battery terminal.
- d) If engine has run within the past two hours let it cool down.
- e) Lift and support the front of the vehicle with properly rated jack stands.

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.



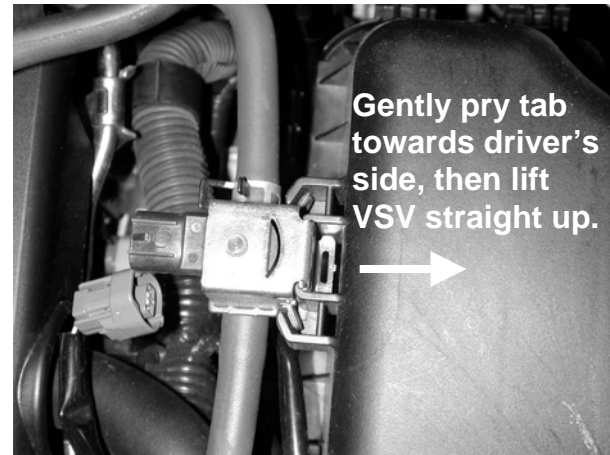
b) Remove the four nuts securing the plastic engine cover to the valve cover. Remove the plastic engine cover from the engine bay.



c) Disconnect the wire harness connected to the mass-air flow (MAF) sensor.



d) Release the wire harness from the air cleaner cover by squeezing the plastic clip from the top and bottom. **Carefully remove the plastic clip to allow the MAF and VSV connector harnesses to be routed separately.** Remove the breather hose from the vehicle by squeezing the spring clamps on both the intake tube and at the valve cover. Save the spring clamps for use later in the installation.



e) Remove the vacuum switching valve (VSV) from the air cleaner cover by gently prying the tab with a slotted screwdriver and then lifting straight up. Be careful not to over extend the vacuum hoses or wire harness going to the VSV. It is not necessary to disconnect the vacuum lines or wire harness.



f) Loosen the hose clamp at the throttle body. Release the two spring clips at the front edge of the air cleaner cover. Remove the air cleaner cover, intake tube, and MAF sensor from the engine compartment.



g) Loosen the three bolts that retain the lower air cleaner housing in the engine bay.



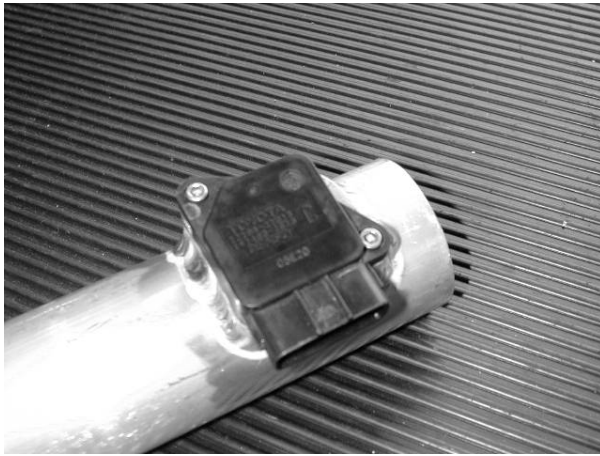
h) Remove the bolt retaining the lower intake air duct. This bolt and duct are located between the radiator support and the battery. Remove the lower air cleaner housing and lower intake air duct from the engine bay.



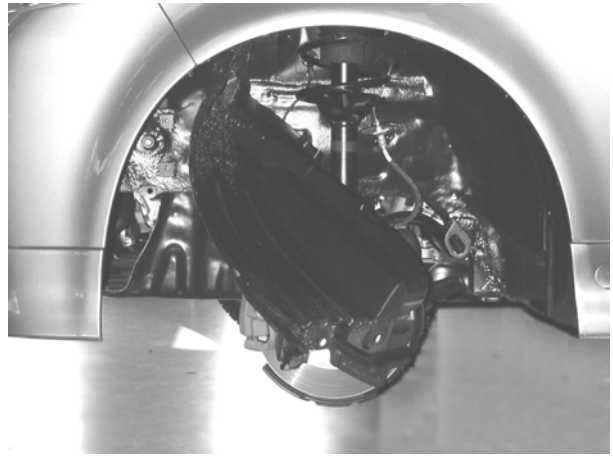
h) Remove the MAF sensor by loosening the two Phillips head screws. Save the screws for use if the vehicle is ever returned to stock condition. Handle the MAF sensor with care to avoid damage.

3) Installing the AEM Cold Air Intake

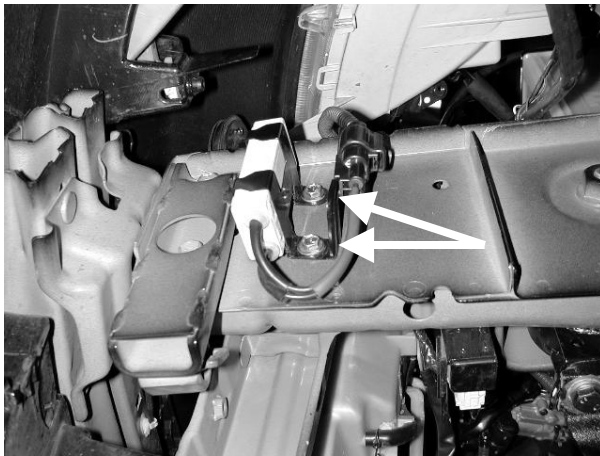
- a) When installing the Cold Air Intake System, DO NOT completely tighten the hose clamps or mounting tab hardware until instructed to do so later in these instructions.
- b) Check to see that the inside of the **AEM** inlet pipe and air filter are clean and free from any foreign objects and/or obstructions.



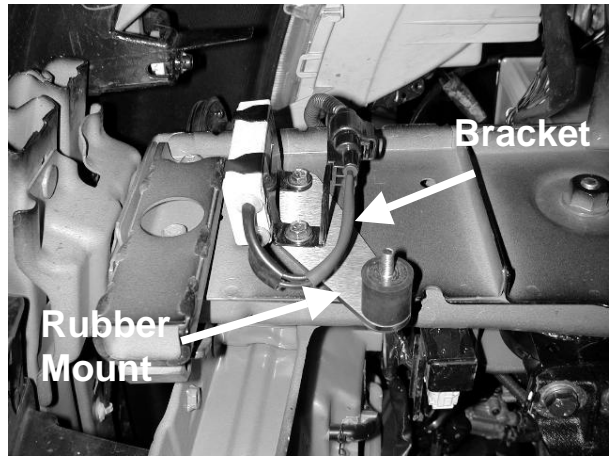
c) Install the MAF sensor into the **AEM** inlet pipe. Use the supplied 8-32 cap head screws. Use care to avoid damaging the o-ring.



d) Remove the bolts and plastic rivets that secure the fender liner. Pull the fender liner back to gain access to the area behind the front bumper.



e) Remove the two bolts securing the resistor ballast beneath the driver's side headlight.



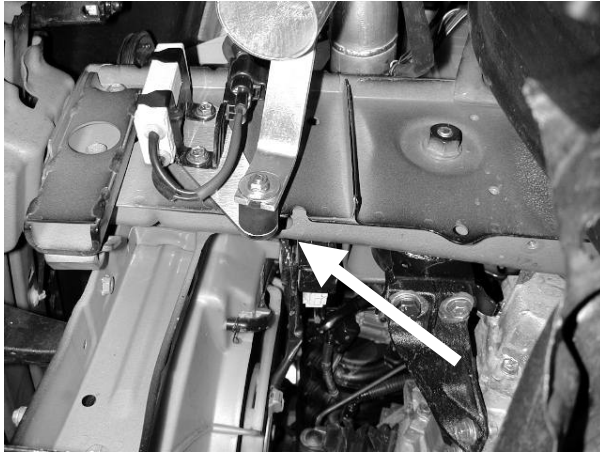
f) Install the supplied rubber mount bracket as shown and secure the resistor ballast using the original bolts. Install the supplied rubber mount using one fender washer and one lock nut.



g) **Loosely** install the coupler onto the throttle body using the two hose clamps. Orient the nipple so that it is pointed approximately 45° back towards the firewall. This will be adjusted later in the installation.



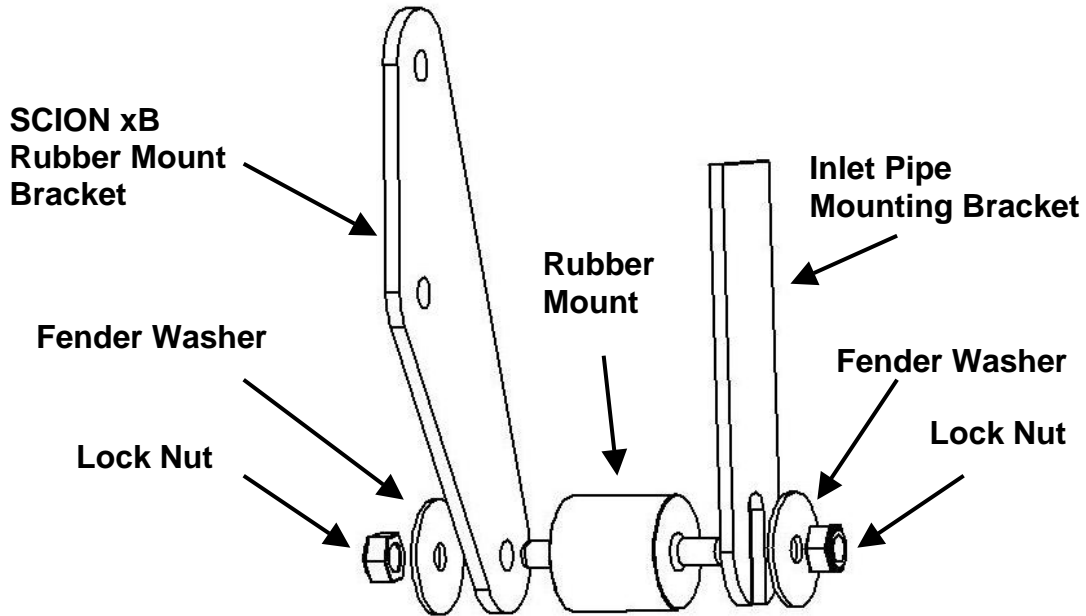
h) Install the **AEM** inlet pipe from underneath the vehicle. Insert the end near the MAF sensor into the coupler on the throttle body. The mounting bracket on the inlet pipe should line up with the rubber mount installed in step 3f.



i) **Loosely** secure the mounting bracket with the remaining fender washer and lock nut. Refer to the diagram below for proper rubber mount installation.

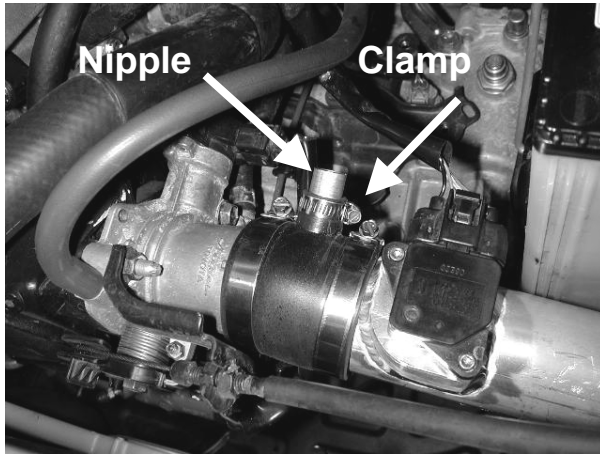


j) Install the AEM air filter on to the end of the inlet pipe.



- k) Adjust the inlet pipe and coupler for best fitment. Make sure the AEM intake system does not come into contact with the vehicle anywhere. Adjust coupler at throttle body to ensure that both the throttle body and the **AEM** inlet pipe are seated flush up to the lip inside the coupler. Tighten the hose clamps and lock nut on the rubber mount.
- l) Reinstall lower splashguard and plastic fender liner using the original factory hardware. Remove jack stands and lower vehicle.

Note: Failure to install the plastic splashguard and fender liner will result in diminished performance and increase the potential for engine damage due to water ingestion in rainy conditions.



n) Install the supplied vacuum nipple into the throttle body coupler. Secure the nipple with the supplied hose clamp.

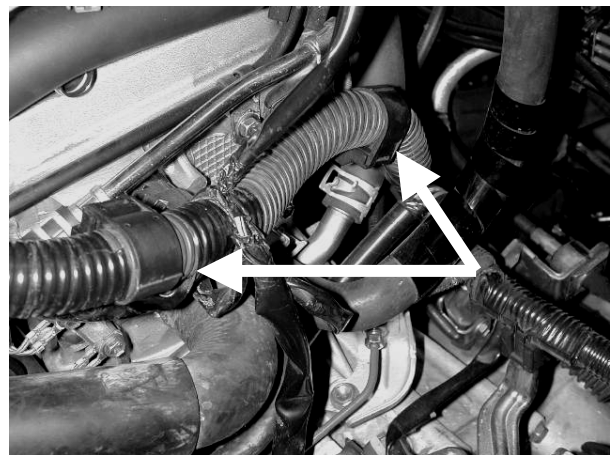


o) Install the supplied breather hose between the nipple on the throttle body coupler and the valve cover. Secure the hose with the original spring clamps.

Due to manufacturing variances, it is sometimes necessary to adjust the main engine wiring harness to allow the harness to reach the MAF sensor. If there is any tension on the MAF sensor wires at all, follow the instructions below. If there is a sufficient amount of slack in the harness, skip ahead to step 3s.



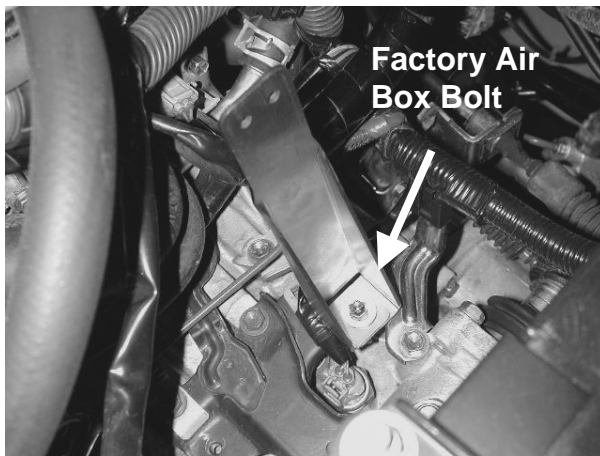
p) Gently pry back the plastic tab and remove the plastic clip on the wire harness from the metal bracket next to the valve cover. The clip will lift straight up off of the bracket.



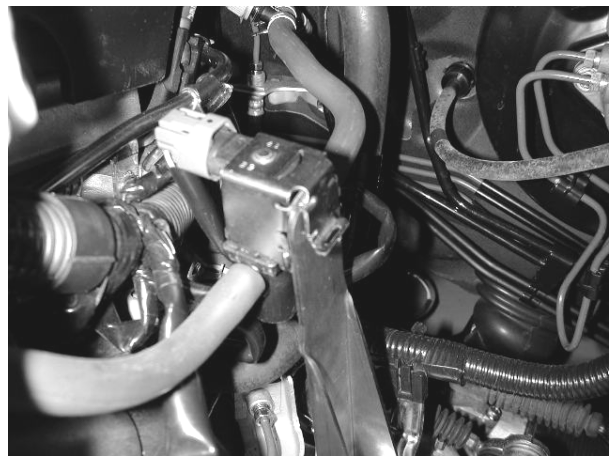
q) Repeat for the next plastic clip on the wire harness towards the firewall.



r) Place a small screwdriver in the slot of the clip and gently pry downwards. Split the housing of the clip open. Slide the clip down the wire harness a couple of convolutions to free up more harness towards the MAF sensor. Repeat for the second wire harness clip. Reinstall both clips to the bracket on the engine. Plug in the MAF sensor wire harness and make sure the wires are not stretched.

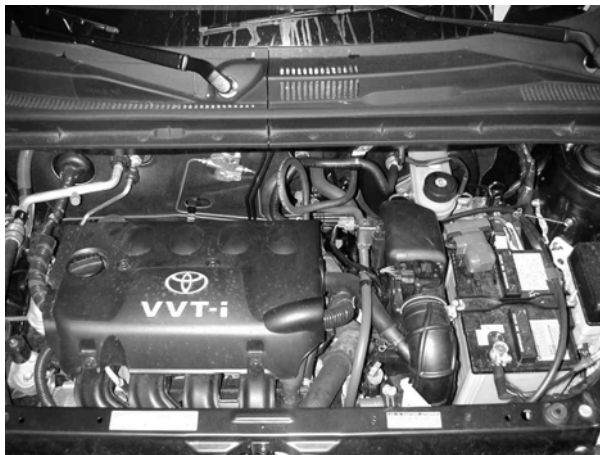


s) Install the VSV mounting bracket using one of the factory air box bolts as shown.

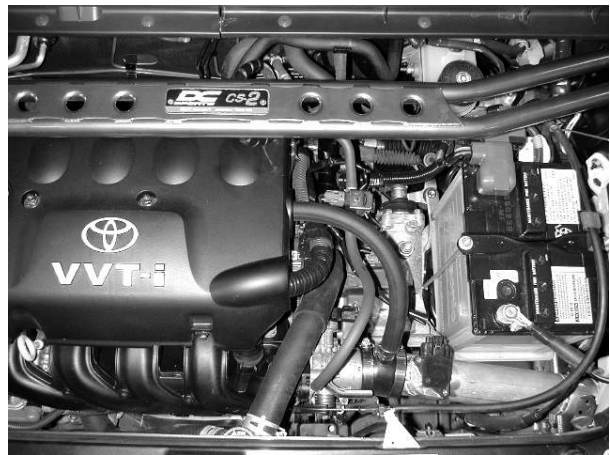


t) Clip the VSV on to the bracket. If the VSV does not clip on tightly, gently bend the tab on the VSV to increase the tension.

- u) Re-connect the negative battery cable.
- v) Start vehicle and check for proper operation of all the components that were removed.
 - a. Note: If vehicle was started without the VSV or the MAF sensor connected, the "Check Engine" light may come on. If this happens turn the engine off and disconnect the battery for one minute. Reconnect the battery and restart the engine.



Before



After

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