COLD AIR INTAKE SYSTEM

Installation Instructions for:
Part Number 21-438
2006 Mitsubishi Eclipse GT

ADVANCED ENGINE MANAGEMENT INC.
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Instruction Part Number: 10-7555
2006 Mitsubishi Eclipse GT 3.8L V6 C.A.R.B. E.O. #D-392-29
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.

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: 21-438

Quantity	Part Number	Description
1	2-360	Upper Intake Pipe
1	2-361	Lower Intake Pipe
4	103-BLO-4420	#44 Hose Clamp
1	5-275	2.75" Reinforced Coupler
1	1228599	Rubber Mount 1" X 6MM
1	444.460.04	6mm Nylok Nut
2	559999	6mm Flat Washer
1	21-2029D	2.75x9“ Dry Air Filter
1	1-3028	1/4" Washer
1	8-105	Vac Cap
1	1-113	6" Zip Tie
1	5-578	2.75" Hump Hose
1	559960	8mm Flat Washer
1	1-2066	Bolt, M8 x 25
1	1-2034	Bolt, M8 x 20
1	32-3039	Bolt on Bracket
1	1-2030	Bolt, M6 x 12
1	10-7555	Instructions

Read and understand these instructions <u>BEFORE</u> attempting to install this product.

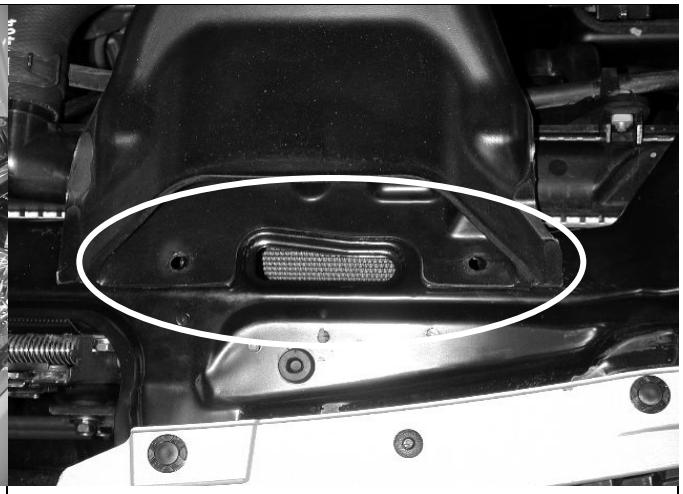
Note: This inlet pipe kit requires the removal and reinstallation of emissions related components. If you are not familiar with the installation and/or the operation of these components then please refer this installation to a qualified professional.

1) Getting started

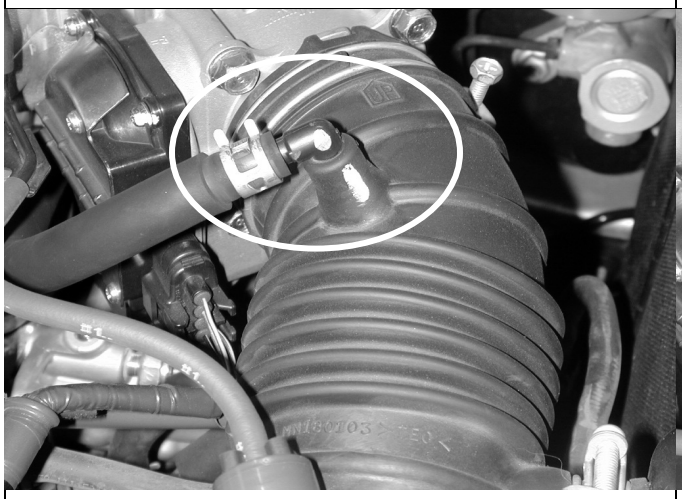
a) Make sure vehicle is parked on a level surface.
b) Set parking brake.
c) Make sure you have the anti-theft code for the radio.
d) Disconnect both positive and negative battery terminals.
e) If engine has run within the past two hours let it cool down.

2) Removing the stock air inlet system

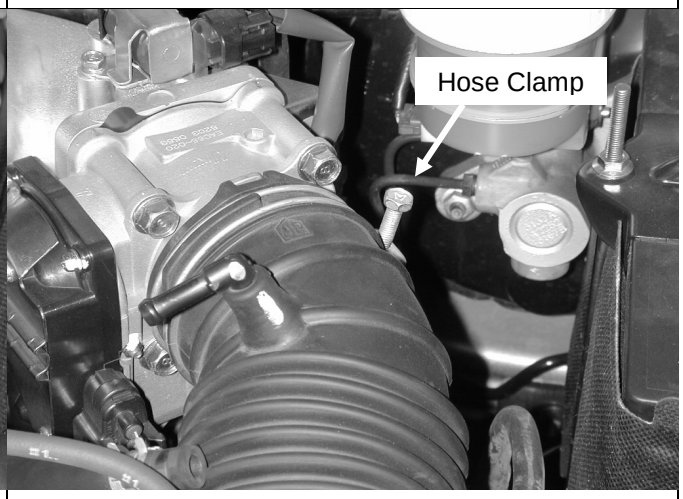
a) Before removing any of the O.E. components, **label each individual part so that no components become mixed up during the installation process**.



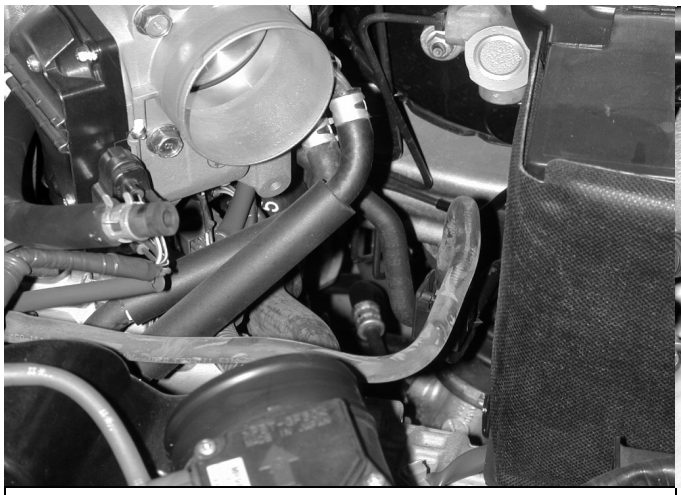
b) Remove 2 plastic rivets holding the intake duct to the radiator support.



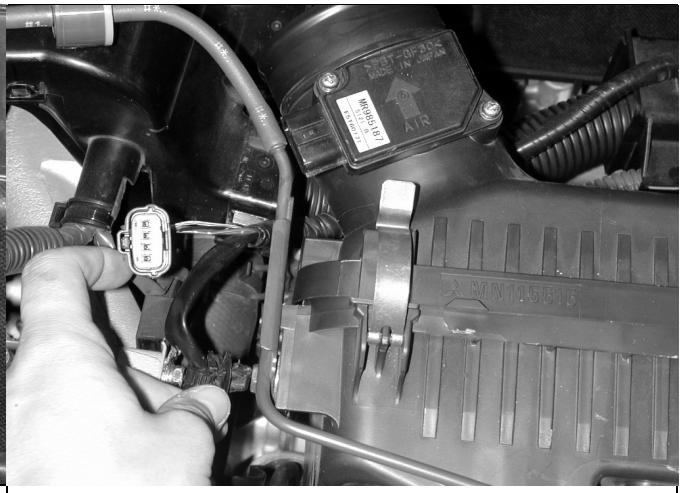
c) Remove the breather hose from inlet air hose by compressing the spring clamp and pulling it off.



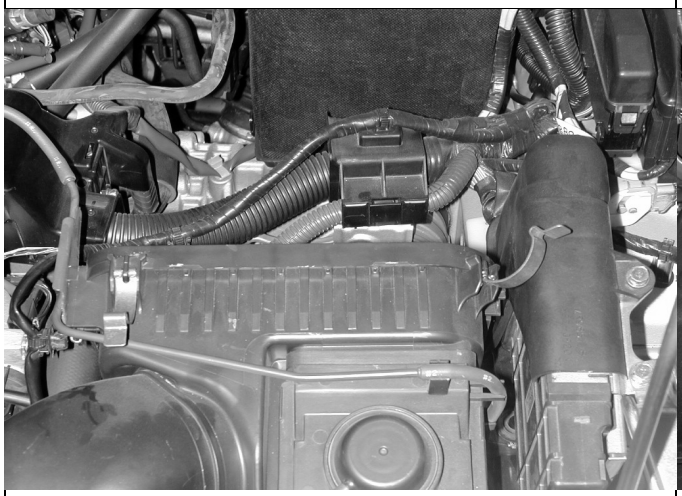
d) Loosen the hose clamp on the throttle body.



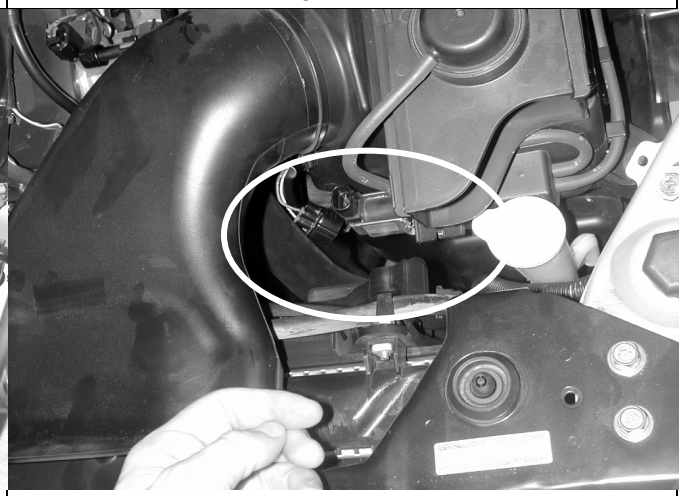
e) Loosen the hose clamp on the air filter houing and remove the air inlet tube and upper resonator.



f) Unclip the Mass Air Flow (MAF) sesnor wiring harness from the air filter housing. These clips can be removed undamaged from the harness using a small flat head screwdriver. Unplug the MAF sensor from the engine harness.

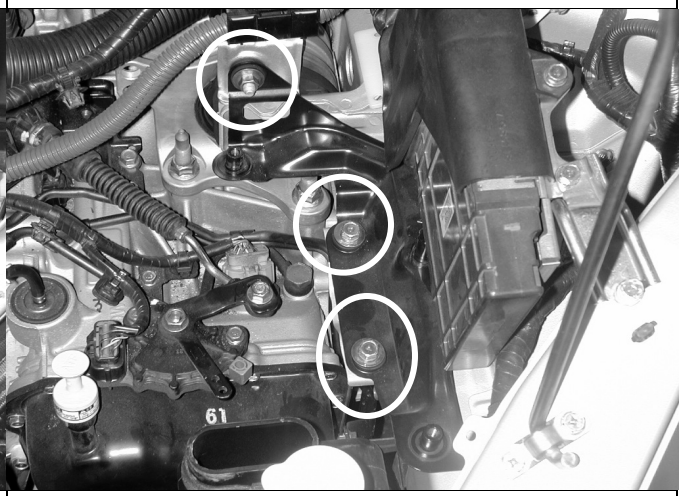


g) Unclip the air filter housing lid and remove the lid and the air filter.



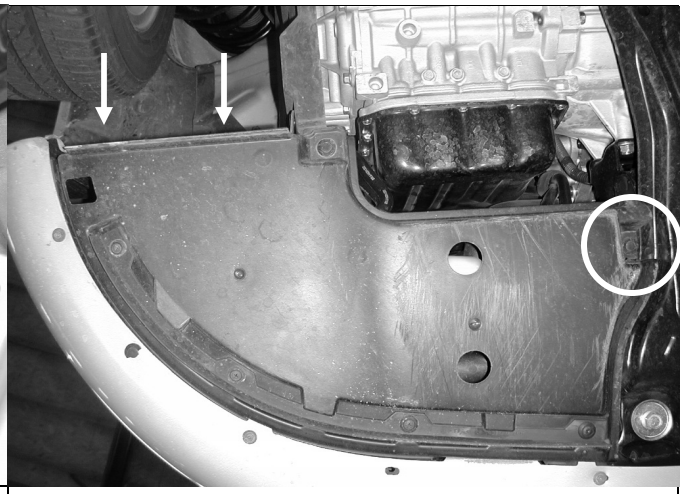
h) Unplug the bypass solenoid harness and vacuum hose. Unclip the harness from the air filter housing. Unplug the vacuum hose from the intake manifold and remove the bolt securing the line.

i) Loosen the three bolts securing the ECU to the chassis. Remove the two bolts secruing the air filter housing. Lift the housing out of the engine bay.



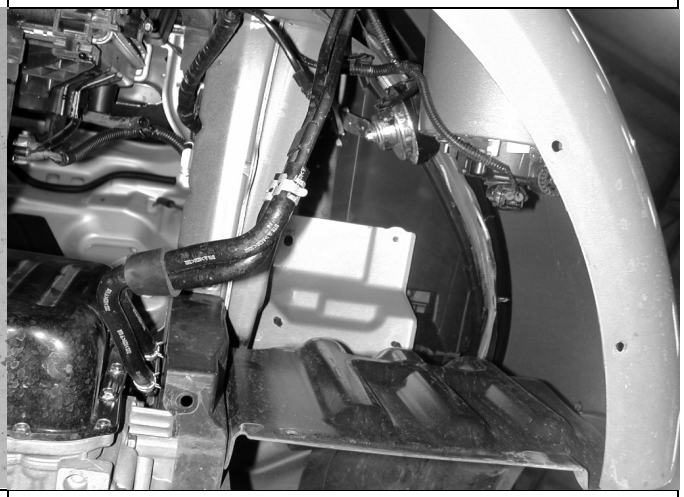
j) Remove the nut and two bolts secruing the air filter housing bracket to the chassis. Remove the bracket.

k) Locate the bolt securing the lower resonator in the engine compartment and remove it.

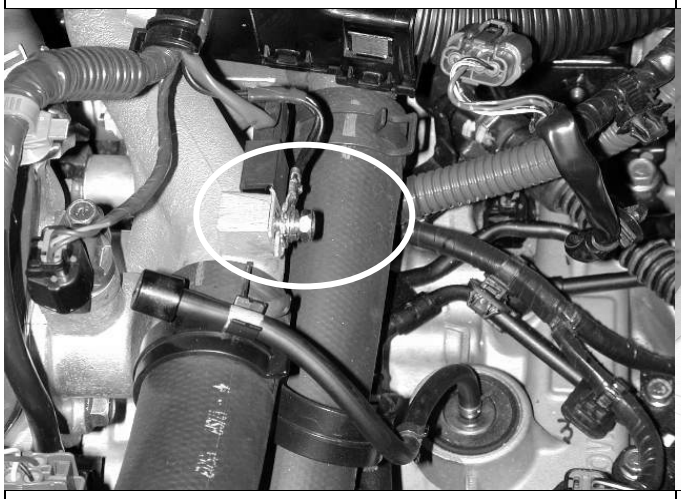


l) Remove the five screws and four plastic connectors securing the driver's side underbody splash shield to the chassis.

m) Unplug the radiator fan harness. Unhook the radiator overflow hose from the reservoir and remove the reservoir.



n) Remove the bolt securing the horn to the chassis and remove the horn. Remove the remaining two bolts securing the lower resonator to the chassis and remove the resonator.

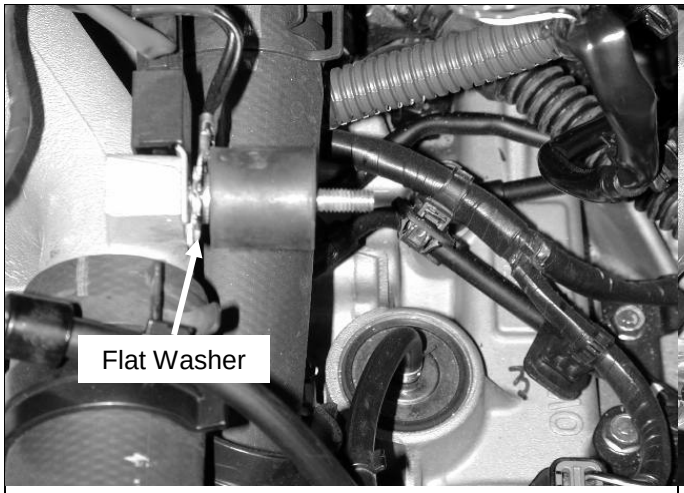


o) Remove the ground bolt on the aluminum coolant line as shown.

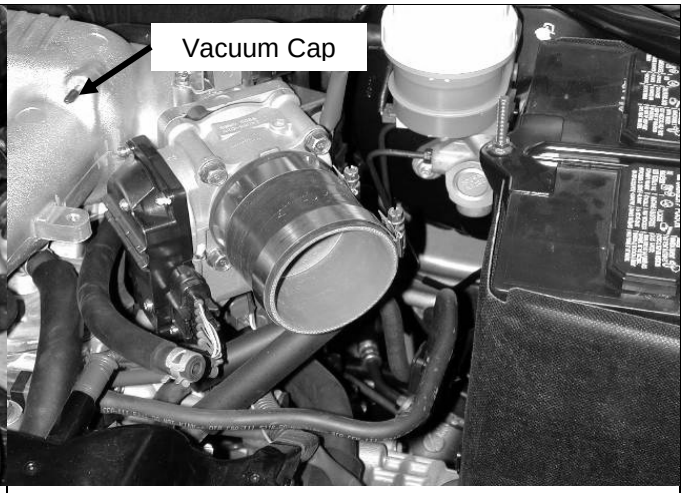
p) Remove the two bolts securing the MAF sensor to the air filter housing and remove the MAF sensor. **Be careful not to damage the sensor.**

3) Installing the *AEM* CAS Intake

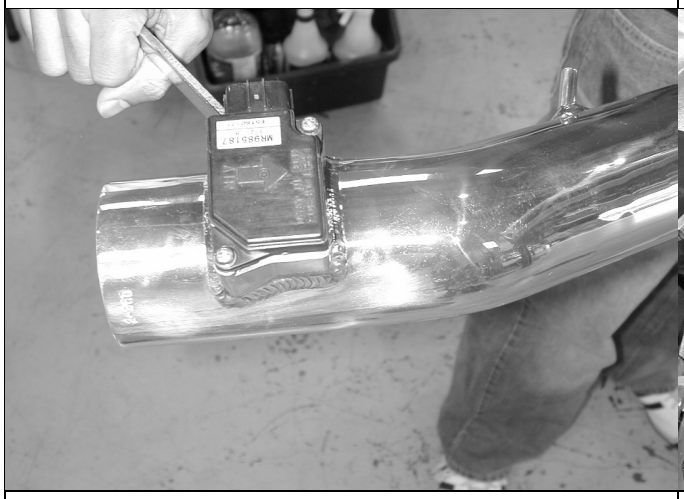
When installing the Cold Air Intake System, DO NOT completely tighten the hose clamps or mounting tab hardware until instructed to do so later in these instructions.



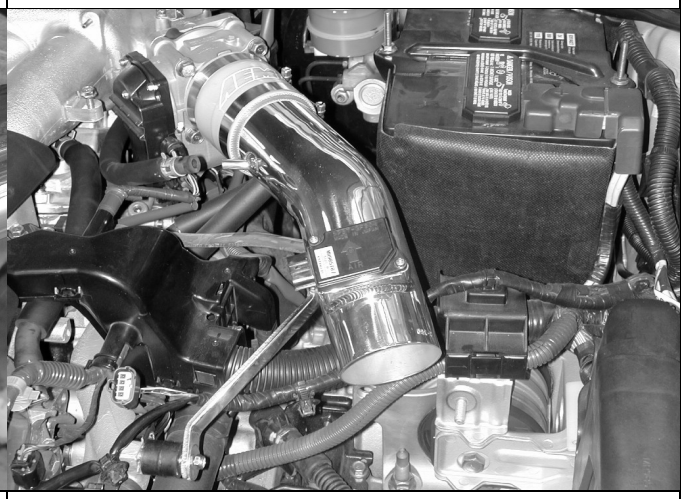
a) Install the supplied rubber mount where the bolt was removed in step 2o) using the ¼" flat washer as shown.



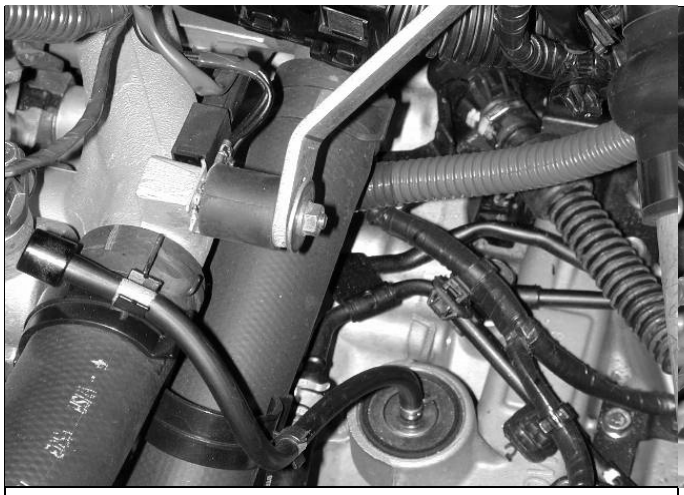
b) Install the 2.75" silicone coupler onto the throttle body and secure using a #44 hose clamp. Also, install the vacuum cap on the intake manifold nipple as indicated above.



c) Install the previously removed MAF sensor into the upper intake pipe using the two bolts removed in step 2p).



d) Check that the inside of the ***AEM*** intake pipe is free from debris. Install the intake pipe into the previously installed coupler as shown.



e) Align the intake mounting bracket with the previously installed rubber mount and secure using a 6mm flat washer and nylock nut.

f) Plug in the MAF sensor wiring harness. Secure the plug and extra wire for the bypass solenoid using a 6” zip tie.

g) Attach the stock breather hose using the original spring clamp. **Note: for short ram, simply install the filter now and skip to step 3.**

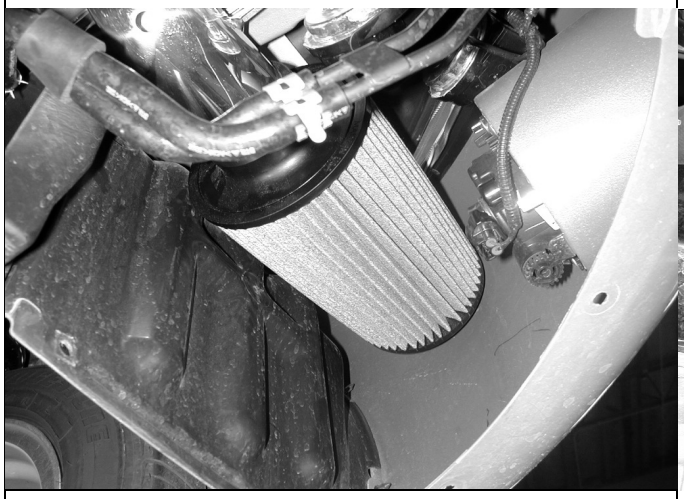
h) Install the lower pipe bolt on mounting bracket using the supplied M8 bolt and washer as shown. Leave this bracket fairly loose.

i) Install the supplied hump hose on to the end of the lower intake pipe. Secure using a #44 hose clamp.

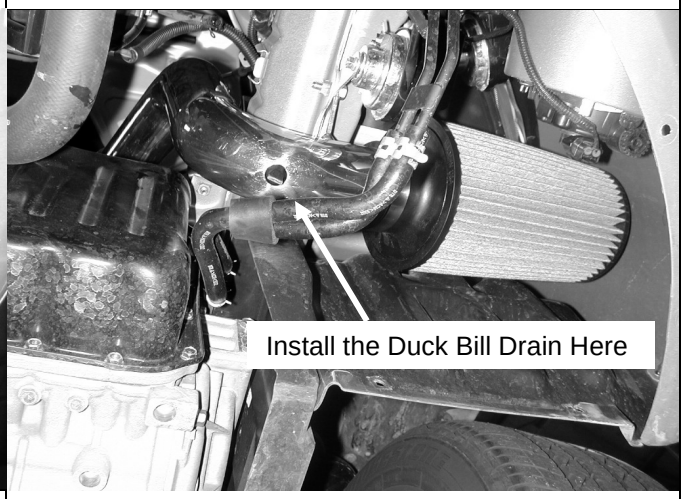
j) Slide the lower intake pipe in from the bottom and align the upper and lower pipes. Slide the hump hose over the end of the upper intake pipe and secure using a #44 hose clamp.

k) Align the fixed lower intake pipe bracket with the hole where the horn was previously removed. Install the supplied M8 bolt, washer, and horn.

l) Install the M6 bolt into the bracket installed in step 3h). Thread the bolt into the threaded bung on the lower intake pipe. Tighten the bolts loosened in step 2i).



m) 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.



n) Install the duck bill drain into the hole on the lower intake pipe. Reinstall the radiator fluid reservoir and plug in the fan wiring harness.

Before

After

Re-assemble the vehicle

a) Inspect the engine bay for any loose tools and check that all fasteners that were removed or loosened 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
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