



Equipped with AEM® Dryflow™ Filter  
No Oil Required!

## INSTALLATION INSTRUCTIONS

### PART NUMBER: 21-721C

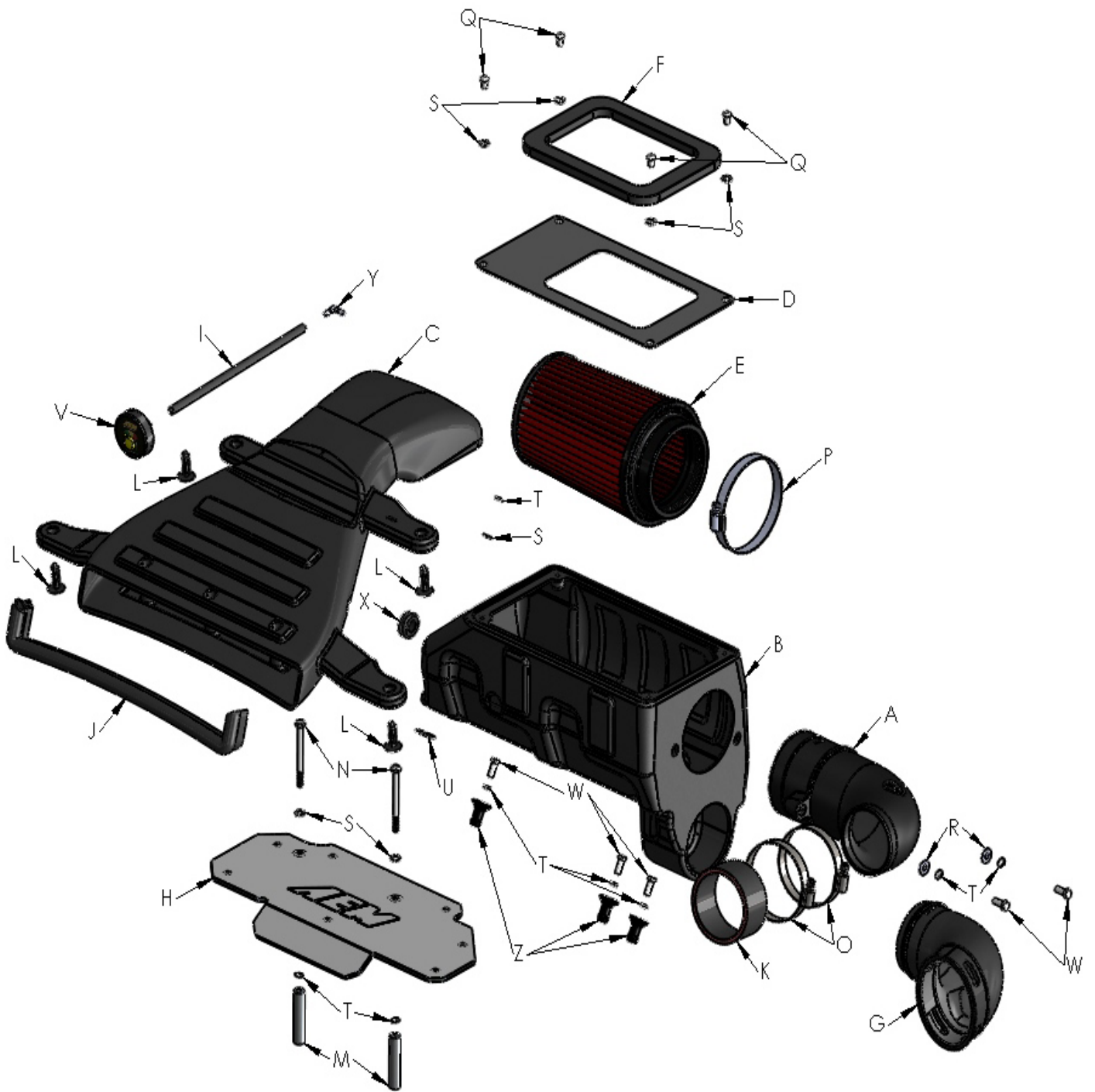
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2011-2013	MINI Cooper S	L4-1.6L	SEE NOTE*
2011-2013	MINI Clubman S	L4-1.6L	SEE NOTE*
2011-2013	MINI Cooper Works	L4-1.6L	SEE NOTE*
2013	MINI Cooper Works GP	L4-1.6L	SEE NOTE*

## PARTS LIST

	Description	Qty.	Part Number
A	Tube, Elbow, Intake 2011-13 Mini Cooper S	1	9-0438
B	Air Box, Intake, 2011-13 Mini Cooper S	1	9-0436
C	Hood Scoop, Mini Cooper S	1	9-0397-1
D	Heat Shield, Lid, Air Box	1	20-8517-1
E	Air Filter, 3.5" X 7" AEM® Dryflow w/hole	1	21-2037D-HK
F	Gasket, Window, Silicone Foam	1	5-1060-2
G	Coupler, Elbow, Air Box Lower, Mini Cooper S	1	5-1058
H	Heat Shield, Turbo, Mini Cooper S	1	20-8538
I	Hose, 5/32" I.D. X 9"L	1	5-3009
J	Gasket, EPDM Trim-Seal 16" L	1	8-6016
K	Hose; 2-3/4" ID X 1-1/2" Long, Reinforced	1	08179
L	Rivet, Push-in, Ribbed Shank, .281 Hole	4	8-174
M	Spacer, Heat Shield, Turbo, 2011-13 Mini Cooper S	2	7-260
N	Bolt; Hex M6-1.0 X 75mm Long	2	1-2086
O	Hose Clamp, #44 2.31-3.25"	2	9444
P	Hose Clamp, #56 3.15-4.00"	1	9456
Q	Bolt; Button Head M6-1.0 X 10mm	4	1-112
R	Washer, 1/4"ID X 5/8"OD - SAE	2	08275
S	Washer, M6 X 12mm OD Zinc	7	1-3018
T	Washer, M6 Split Lock Zinc	8	1-3025
U	Washer, Flat, M6-1.0 X 1.0 Dia.	1	08160
V	Filter Minder Gauge, 10" H2O	1	35-80311
W	Bolt; Hex M6-1.0 X 15mm	5	1-2030
X	Grommet, 1.05" OD X 0.5"ID, .188 Groove	1	784642
Y	Elbow, Plastic 5/32" 90 Degree	1	8-152
Z	Mount, Plastic Air box	3	8-186

# Kit Illustration



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.

The AEM® intake system is a performance product that can be used safely during mild weather conditions. During harsh and inclement weather conditions, you must return your vehicle to stock OEM airbox and intake tract configuration. Failure to follow these instructions will void your warranty.

## 1. Preparing Vehicle

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

## 2. Removal of stock intake system



a. Disconnect the harness from the MAF sensor.



b. Loosen the hose clamp behind the MAF sensor housing.



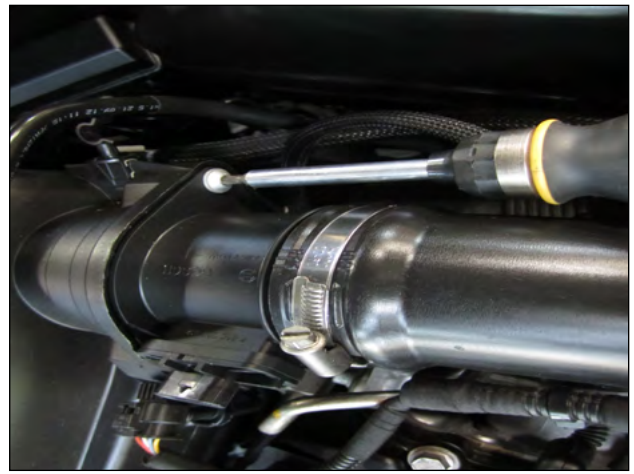
c. Loosen the hose clamp at the turbo inlet.



d. Disconnect the vacuum line port.



e. Unclip the plastic vacuum line from the airbox as shown.



f. Using a T27 Torx driver, remove the 2 screws retaining the MAF housing to the air box. Disconnect the MAF at the air box and pull up on the stock turbo inlet tube to rotate it upward.



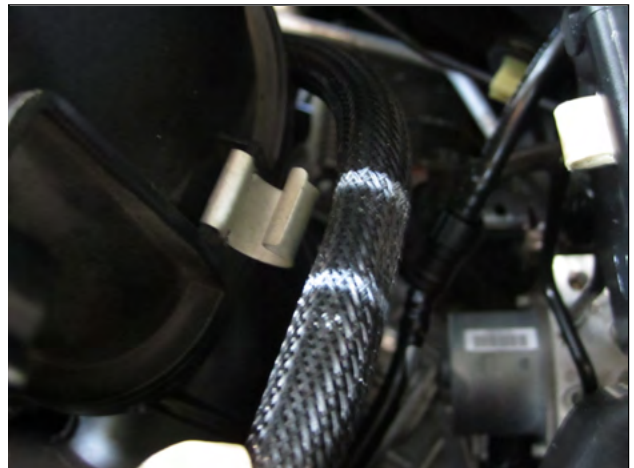
g. Remove the O-ring and remove the MAF housing from the stock turbo inlet tube. It will be re-installed in a later step. Do not remove the stock turbo inlet tube.



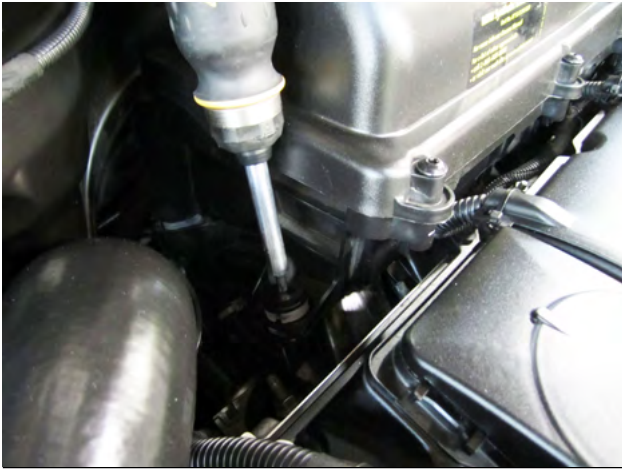
h. Underneath the turbo inlet tube, disconnect the stock outside air inlet duct from the lower elbow at the airbox. Squeeze it and pull to release the 4 locking tabs.



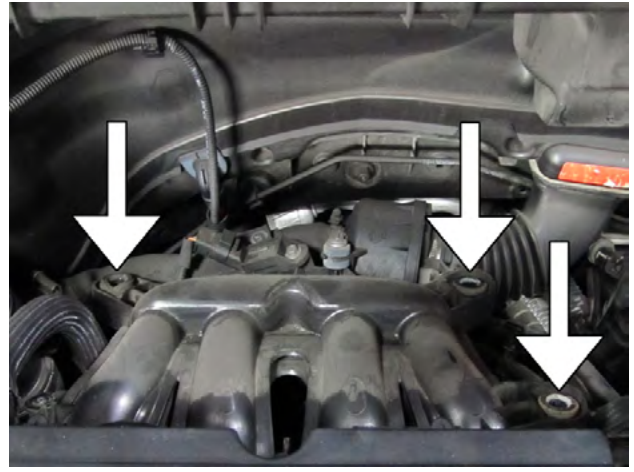
i. Disconnect the plastic vacuum line from the clip at the edge of the inlet elbow at the air box.



j. Disengage the harness from the 2 metal clips around the edge of the air box. One clip is hidden behind the air box toward the firewall.



k. Fully loosen the T20 Torx screw at the airbox mounting pedestal.



l. Lift and remove the stock airbox from the intake manifold. Be sure all 3 mounting grommets remain in the manifold.



m. Carefully remove the noise insulator shield from the valve cover by pulling up on the front edge.



n. Remove the long T20 Torx screw from the mounting pedestal and save it for your AEM® installation.

### 3. Installation of AEM® Cold Air Intake System

a. When installing the intake system, do not completely tighten the hose clamps or mounting hardware until instructed to do so.



a. Install the 3 plastic mounts (Z) onto the bottom of the AEM® air box (B) as shown using 3 of the M6 X 15MM hex bolts (W) and 3 split washers (T) inside the air box and tighten.



b. Install the rubber grommet (X) into the hole in the side pocket of the airbox as shown.



c. Install the elbow intake tube (A) into the air box and through the top hole in the side.



d. Loosely secure the intake elbow to the air box with 2 each of the 5/8" flat washers (R), split washers (T), and M6 X 15MM bolts (W) thru the 2 slots around the outlet hole. Do not fully tighten.



e. Install plastic elbow fitting (Y) into the top of your new AEM® Dryflow™ filter (E) as shown.



f. Install the 5/32" hose (I) onto the elbow fitting as shown.



g. Insert the free end of the hose thru the grommet inside the air box as shown.



h. Using the #56 hose clamp (P), mount the Dryflow™ filter onto the intake elbow and tighten.



i. Insert the AEM® Filter Minder gage (V) onto the end of the 5/32" hose, then fully seat the gage into the grommet. Use glass cleaner for lubrication if necessary.



j. Orient the gage as shown. Make sure the gage needle is aimed at the green (clean) sector.



k. Remove the waxed paper backing from the hi-temp silicone foam gasket (F) by pinching the gasket and peeling the paper. DO NOT USE A KNIFE.

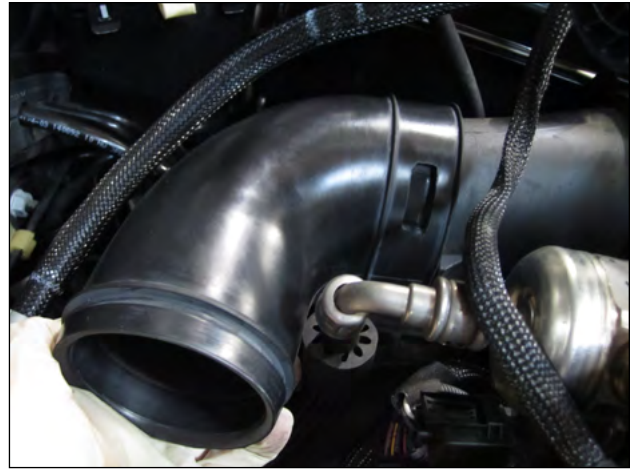


l. Place the air box heat shield lid (D) on a table with the p/n stamp facing DOWNWARD. Align the adhesive side of the gasket with the window cutout and press down to apply it. **NOTE: The adhesive must set for 24 HOURS BEFORE USE for best results.**





m. Mount the heat shield lid onto the airbox using 4 ea. M6 buttonhead bolts (Q) and small flat washers (S). Start all 4 bolts and then fully tighten them with a 4MM Allen wrench.



j. Mount the inlet elbow coupler (G) onto the stock fresh air inlet duct. Fully seat the coupler so the 4 plastic locking tabs lock into the 4 slots in the coupler.



n. Install the AEM® air box assembly onto the 3 mounting grommets as shown and fully seat.



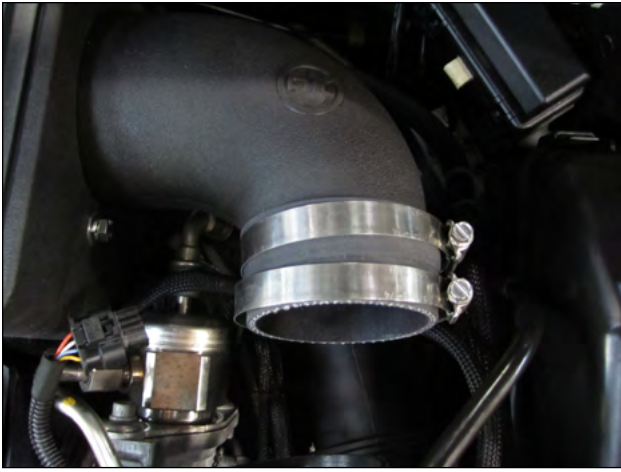
j. Insert and fully seat the intake elbow coupler into the lower inlet hole in the air box.



o. Insert the stock mounting bolt, a split washer (T), and a small flat washer (S) into the mounting pedestal. Then slip the large flat washer (U) under the pedestal and start the bolt.



p. Fully tighten the mounting bolt.



q. Install the short reinforced hose (K) and then loosely install two #44 hose clamps (O) onto the AEM® intake elbow as shown.



r. Re-install the MAF housing into the turbo inlet tube and then into the reinforced hose. The flange should face the hose. Orient the MAF sensor as shown.



s. Push down on the stock turbo inlet tube to rotate it down back to its original position.



t. First, tighten the hose clamp between the MAF housing and the stock turbo inlet tube.



u. Next, straighten the two #44 hose clamps as shown and then fully tighten.



v. Next, fully tighten the 2 bolts that were installed in step 3d to lock the intake elbow in place.



w. Finally, tighten the hose clamp on the turbo inlet tube at the compressor inlet.



x. Reconnect the brake vacuum line.



y. Re-route the O2 sensor harness and tuck it under the front radiator support as shown.



z. Mount 2 each of the M6 X 75mm long bolts (N) and small flat washers (S) thru the top of the AEM turbo heat shield. Then slide 2 split washers (T) and the 2 turbo heat shield spacers (M) onto the long bolts underneath the shield as shown.



aa. Thread the 2 long bolts into the M6 bosses at the edge of the cylinder head to mount the shield. **NOTE:** To mount additional racing valve cover heat shields to these same bosses, do not install the split washers in the previous step.



ab. Fully tighten the 2 long bolts. Make sure there is clearance between the shield and the turbo assembly beneath it. This shield will protect the AEM® scoop.

#### 4. Installation of the AEM® cold air inlet scoop

a. When installing the intake system, do not completely tighten the hose clamps or mounting hardware until instructed to do so.



a. Open the vehicle hood (bonnet). Loosen the screw clip retaining the stock hood inlet bezel and close the vehicle hood.



b. Carefully remove the screw clip retaining the stock hood inlet bezel and close the vehicle hood.



c. Applying tape around the bezel before removal to protect the hood's finish is recommended.



d. Carefully pull up at the rear center of the inlet bezel using small finger tips and a soft cloth to protect the finish. Then pull up on the remaining mounting tabs to remove the bezel assembly.



e. Place the bezel face down on a soft cloth or towel and remove the 4 small Phillips screws retaining the air restrictor grille. Remove the grille.



f. Re-install the now fully open bezel by hand. Open the hood and re-install the screw clip.



e. Cut slits in the edge trim seal (J) on one side of the clamp using a razor or wire cutters about 1-1/2" [~38mm] from each end. Cut through the rubber clamp only. Avoid cutting the metal clips inside the clamp.



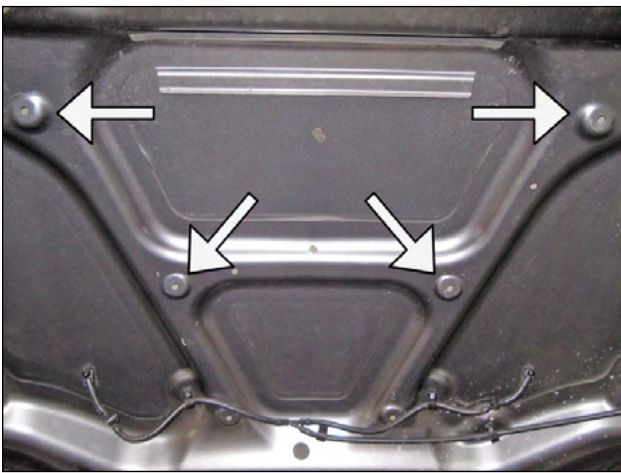
f. Install the edge trim bulb seal onto the lower edge of the AEM® cold air intake scoop. Overlap the slit ends to prevent binding around the 2 lower corners. Fully seat the trim with a rubber mallet or your hand.



g. Cut reliefs in the 2 bent corners of the bulb seal. This will allow the bulb seal to conform to the shape of the hood.



h. In most vehicles, you will need to disengage the washer fluid hose from the middle clip at the rear of the hood. Remove the clip and orient the check valve on the hose as shown.



i. If the hood has a thermal insulator, remove the 4 screw clips and remove the insulator. **NOTE:** For off-road applications, replace the 4 plastic push rivets in the next step with M10 X 20mm serrated flange hex bolts.



j. Mount the AEM® cold air intake scoop (C) onto the mounting holes using the 4 plastic push rivets (L). Make sure the rivets are fully seated. Tuck the edge trim as needed to complete the seal around the air inlet.



k. Complete AEM® 21-721C Cold Air Intake installed.  
**NOTE:** The top lip of the scoop inlet will be visible through the hood opening. This small gap allows cooling air flow over the scoop and venting after hot shutdown.



AEM® 21-721C Cold Air Intake shown with  
AEM 29-0005 Strut Tower Bar installed.  
See [www.aemintakes.com](http://www.aemintakes.com) for more details.

#### **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 any rubber mounts (if applicable), all bolts, and hose clamps.
- b. Check for proper hood clearance. Re-adjust components 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 the negative battery terminal and start the 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, if applicable, must be visible under the hood so that an emissions inspector can find 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. AEM Induction Systems requires cleaning the intake system's air filter element every 100,000 miles. When used in dusty or off-road environments, our filters will require cleaning more often. We recommend that you visually inspect your filter once every 25,000 miles to determine if the screen is still visible. When the screen is no longer visible some place on the filter element, it is time to clean it. To clean, purchase our AEM® Dryflow™ Synthetic Air Filter Cleaner part number 1-1000 and follow the easy instructions.
- b. Use window cleaner or a soft damp cloth to clean your powder coated AEM® tubes and parts.

**NOTE: DO NOT USE aluminum polish on powder coated AEM® intake tubes and parts.**