



Equipped with AEM® Dryflow™ Filter
No Oil Required!

INSTALLATION INSTRUCTIONS

PART NUMBER: 21-8110

2001-2004 FORD F150 Lightning V8-5.4L
2002-2003 FORD F150 Harley Davidson V8-5.4L

C.A.R.B. E.O. # D-392-27
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NOTE: Legal in California only for racing vehicles which may never be used upon a highway

PARTS LIST

Description	Qty.	Part Number
Air Filter Assy. 4.00 X 9" Dry Ele.	1	21-2059D
Heat Shield	1	20-8110
Inlet Pipe	1	2-81101
Hose; 3/4"ID X 29"L	1	5-4029
Hose; 5/8"ID X 25"L	1	5-7025
Mount, Rubber 1" X 8mm	1	1228560
Grommet, 1/2"	1	784634
Zip Tie, 6 Long	3	1-113
Zip Tie, 8" Tree Push-Mnt.	1	1-127
L-Key, T20	1	1-124
Stand, Aluminum	2	2-670
Convuluted Tubing, 1" X 6"L	1	3-1006
Rubber Edge Trim 17"	1	8-3017
Hose; 5/32"ID X 12"L	1	5-3012
Bolt, Hex 1/4-20 X 1 3/4	2	1-2072
Washer, 1/4 SAE Flat	2	1-3028
Washer, 8mm Soft Mount	2	559960
Washer, 6mm Soft Mount	2	559999
Nut, 1/4-20	2	1-2073
Nut, 1/4-20 Nylock	2	1-2074
Nut, M8 Hex Serrated	2	444.460.08
Hose Clamp, 4.00-5.00"	1	103-BLO-7220N
1/2" Bnd. Hose Clamp,3.56"-4.50"	2	9464
Hose Clamp, 1 1/16" Narrow	2	4093-6
Hose Clamp, 1 1/4" Narrow	2	4093-8
Hose, Adapter 4.50/4.00x5" Blk.	1	5-454

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.

1. Preparing Vehicle

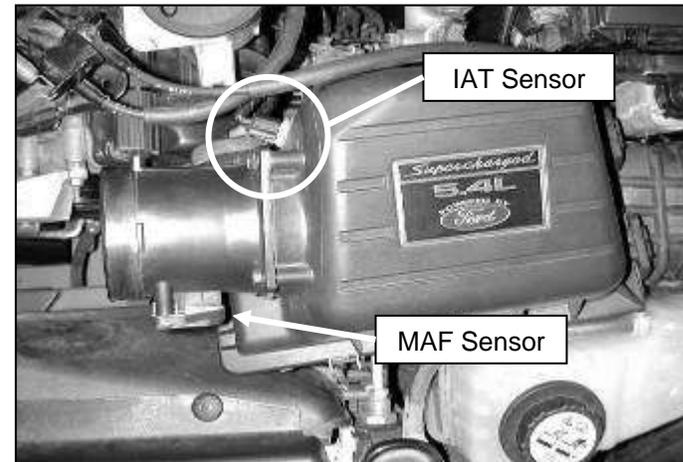
- a. Make sure vehicle is parked on level surface.
- b. Set parking brake.
- c. If engine has run in the past two hours, let it cool down.
- d. Disconnect negative battery terminal.
- e. Do not discard stock components after removal of the factory system.

2. Removal of stock system



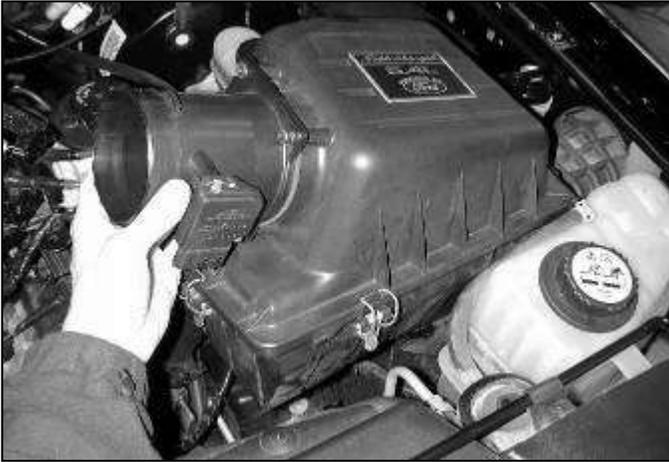
a. Make note of the air box system configuration. There is one breather hose, one vacuum hose, and one air control solenoid.

b. Loosen the hose clamps on the rubber elbow attached to the throttle body. Pull the two hard plastic lines out from the bottom of the elbow. Also, remove the small rubber elbow attached to the nipple between the two hard lines. Then, remove the elbow from the hard plastic hose it is connected to.

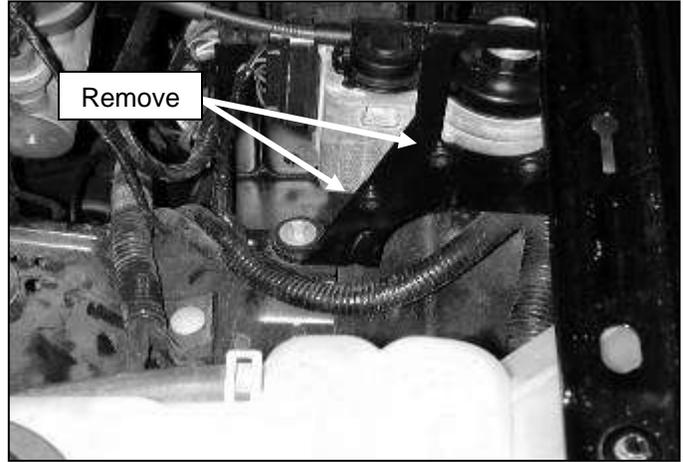


c. Remove the rubber coupler from the throttle body and air box.

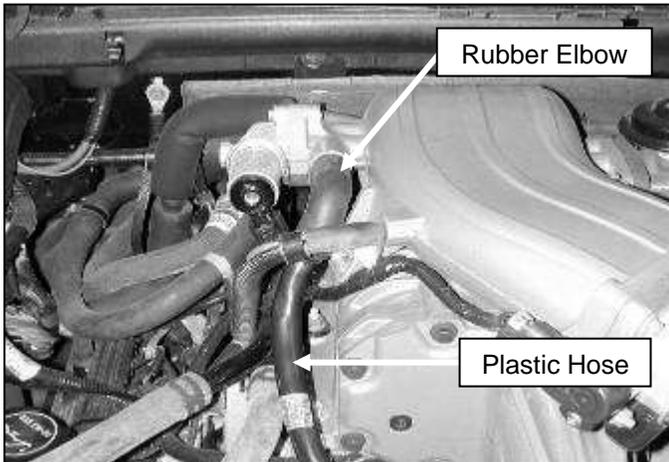
d. Unplug the MAF Sensor plug from the MAF Sensor. Remove the IAT sensor from the rear of the air box by gently rotating it.



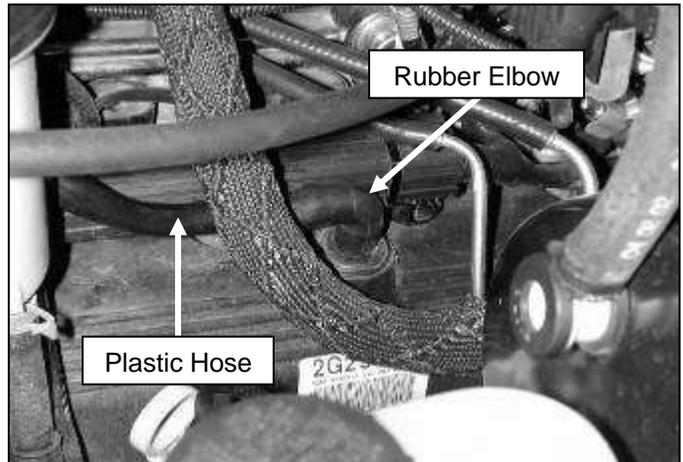
e. Remove the air box by gently lifting up on the inlet pipe of the box. The box is held in with two posts on the bottom of it.



f. Unscrew the two torx bolts attached to the cruise control module as shown. Do not discard these bolts as they will be reused.



g. Remove the plastic idle air control hose as well as the rubber elbow from the IAC solenoid.



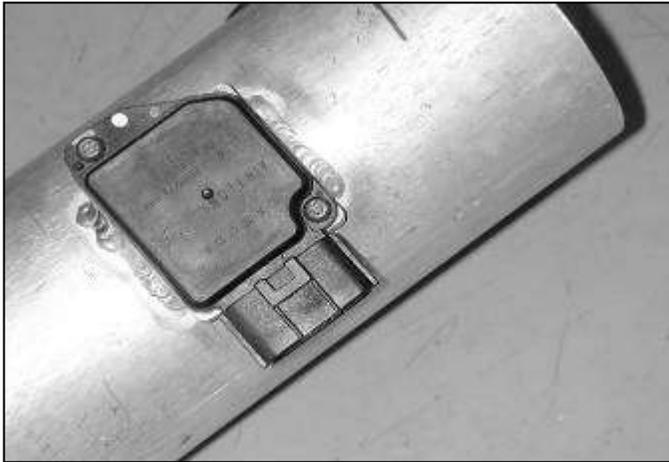
h. Remove the plastic valve cover breather hose along with the accompanying rubber elbow from the top of the driver side valve cover.



i. Unscrew the MAF sensor from the stock air filter housing using the provided Torx wrench. Be careful not to touch the MAF sensor if the vehicle has run in the last 15 minutes as it could be hot.

3. Installation of AEM[®] intake system.

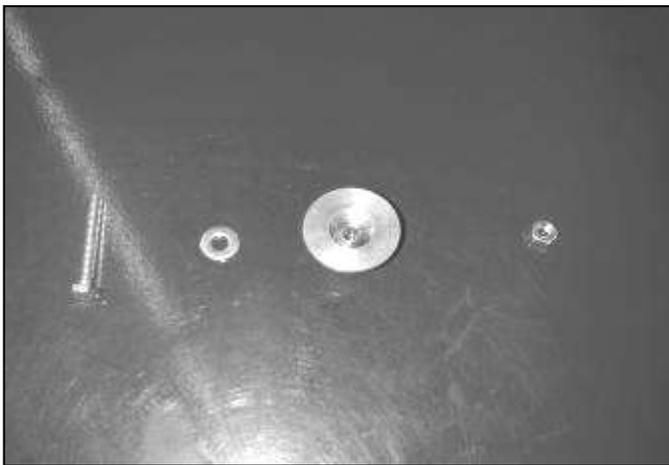
- a. When installing the intake system, do not completely tighten the hose clamps or mounting hardware until instructed to do so.



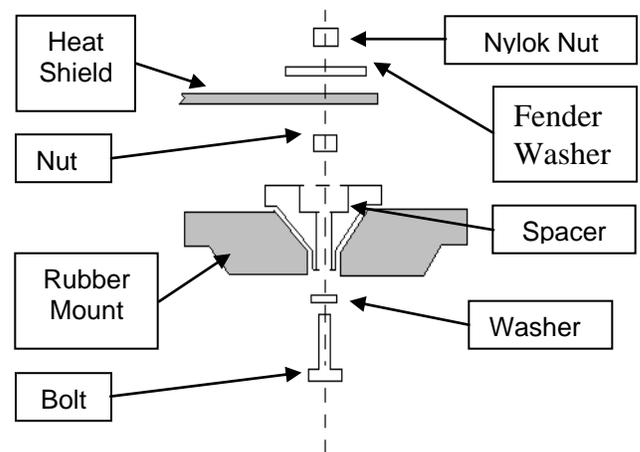
b. Using the stock MAF Torx bolts and the provided wrench install the MAF sensor into the AEM[®] intake pipe.



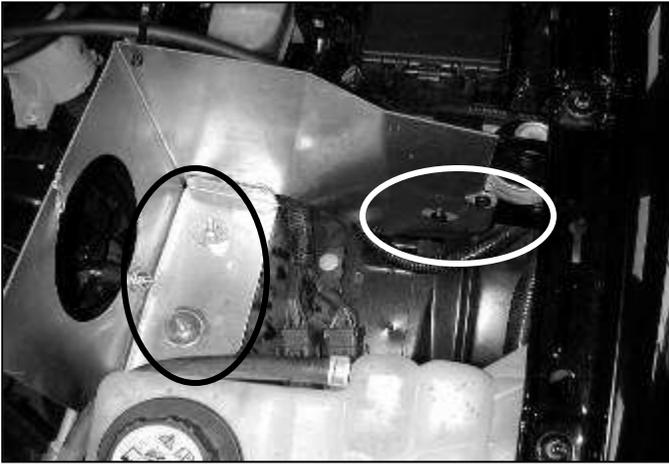
c. Install the rubber grommet into the hole in the pipe as shown.



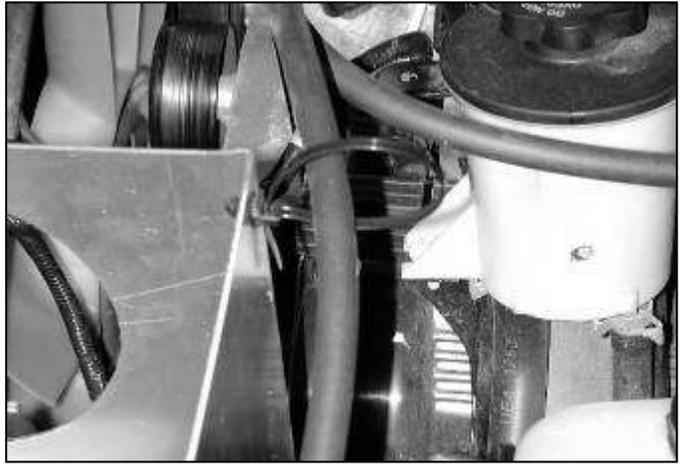
d. This hardware is used to create the heat shield mounts. 1 ¼-20 bolt, ¼" washer, heat shield spacer, and ¼-20 nut.



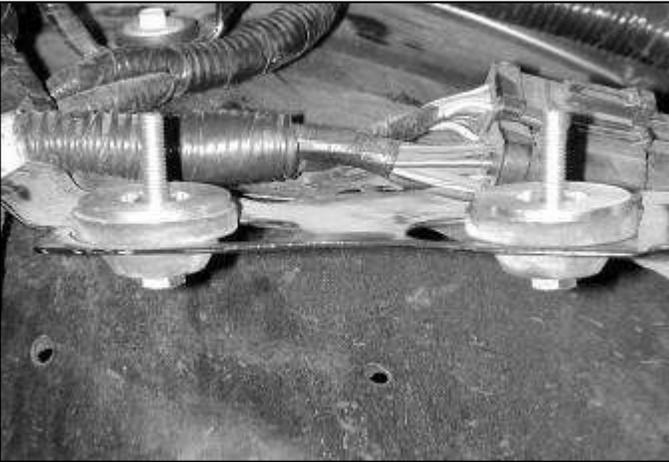
e. Use the diagram above as a reference for heat shield installation.



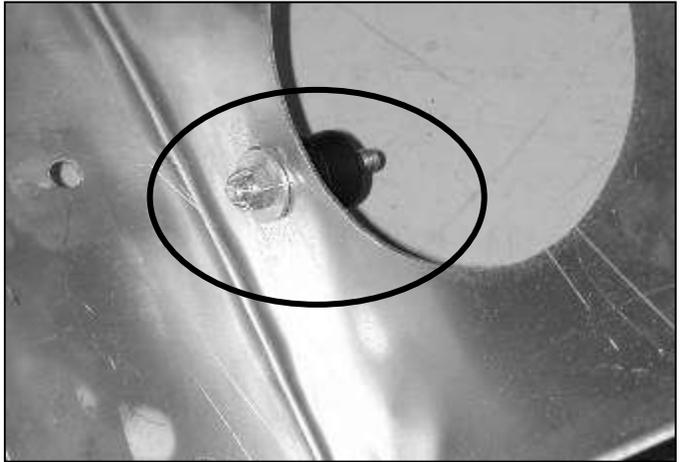
f. Insert the bolt and washer from underneath the rubber grommet. Insert the heat shield spacer and secure with the nut.



g. Install the supplied rubber mount onto heat shield as shown. Do not tighten rubber mount at this time. Attach rubber edge trim around intake hole and trim to fit.



h. Install the heat shield onto the bolts using the supplied fender washers, nylok nuts, and the two stock Torx bolts previously removed from the cruise control module. Adjust and secure firmly.



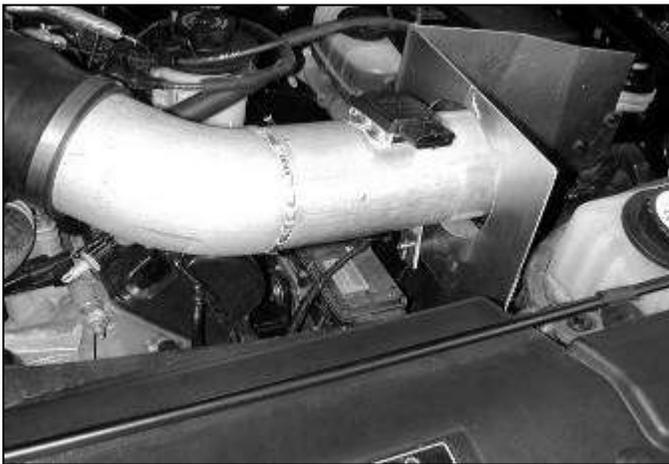
i. Use the supplied zip tie to attach the cruise control cable to the heat shield. Clip off the excess plastic.



j. Install the reducer coupler onto the throttle body using the supplied 4.5" hose clamp.



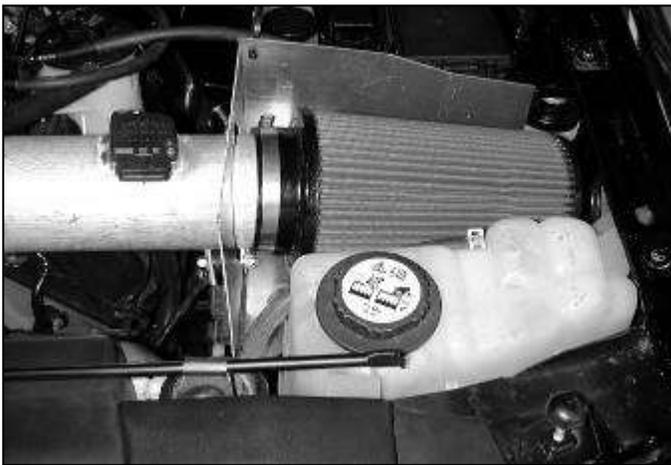
k. Attach the supplied 3/4" hose to the idle air control valve nipple and secure with a 1-1/16" hose clamp. Route the hose under the supercharger as shown. Use the supplied convoluted tubing to protect the hose from the radiator hose and the supercharger.



l. Install the AEM® intake pipe. Be sure to have the mounting bracket on the intake pipe facing down and use rags to prevent the heat shield from being scratched.



m. Guide the bracket on the intake pipe over the stud on the rubber mount. Once aligned, install the supplied washer and nylok nut onto the stud. Do not tighten until fitment is complete.



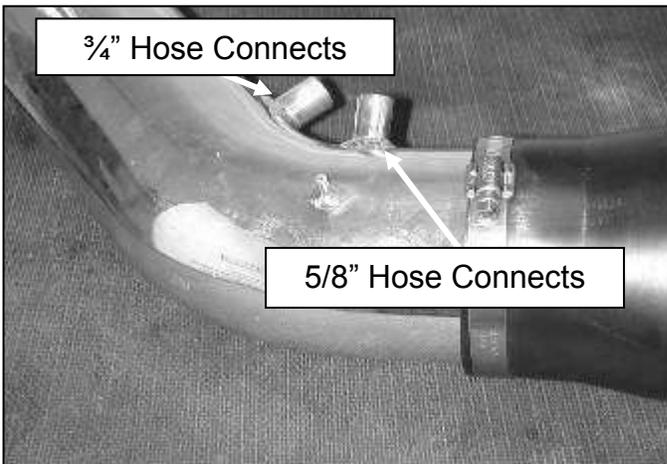
n. Install the AEM® air filter on to the end of the inlet tube. Push the filter over the inlet pipe until the stop in the filter is reached and install one hose clamp to secure the filter onto the inlet pipe. Once fitment is checked, tighten the hose clamp.



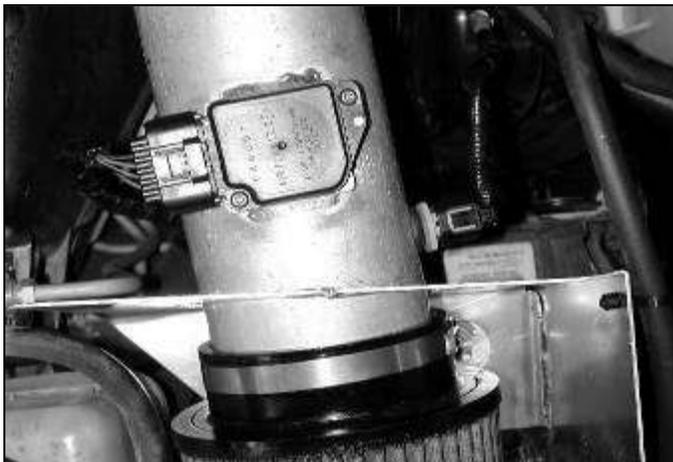
o. Install the supplied 5/8" breather hose between the intake pipe nipple and the driver side valve cover using two 1-1/16" hose clamps. Attach the idle air control hose to the 3/4" nipple using the remaining 1-1/16" hose clamp.



p. Close up view of pipe nipples. Connect the supplied 5/32" vacuum hose to the nipple shown and connect it to the exposed hard plastic breather hose disconnected in step 2b.



q. 5/8" breather hose nipple and 3/4" Idle air control nipple shown above.



r. Plug in the MAF sensor. Insert the IAT sensor into the previously installed grommet. Zip-tie wires to prevent them from rubbing. Attach the vacuum hose between the small nipple and the hard plastic line next to the manifold.



s. Check that the filter is not touching any part of the vehicle. Position the AEM® intake system 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 pipe if necessary.



Factory air box system installed



AEM® intake system installed

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 the rubber mount, all bolts, and hose clamps.
- b. Check for proper hood clearance. Re-adjust pipes 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 negative battery terminals and start 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, (attached), must be visible under the hood so that an emissions inspector can see 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. It is recommended that you service your AEM[®] Dryflow™ filter every 20,000 miles for optimum performance. Use AEM Dryflow cleaning kit part # 21-110.
- b. Use aluminum polish to clean your polished AEM[®] intake tube.
- c. Use window cleaner to clean your powder coated AEM[®] intake tube. **(NOTE: DO NOT USE aluminum polish on powder coated AEM intake tubes).**

For technical inquiries e-mail us at sales@aemintakes.com or call us at 800.992.3000

AEM Air Intake System Warranty Policy

AEM[®] warrants that its intake systems will last for the life of your vehicle. AEM will not honor this warranty due to mechanical damage (i.e. improper installation or fitment), damage from misuse, accidents or flying debris. AEM will not warrant its powder coating if the finish has been cleaned with a hydrocarbon-based solvent. The powder coating should only be cleaned with a mild soap and water solution. Proof of purchase of both the vehicle and AEM intake system is required for redemption of a warranty claim.

This warranty is limited to the repair or replacement of the AEM part. In no event shall this warranty exceed the original purchase price of the AEM part nor shall AEM be responsible for special, incidental or consequential damages or cost incurred due to the failure of this product. Warranty claims to AEM must be transportation prepaid and accompanied with dated proof of purchase. This warranty applies only to the original purchaser of product and is nontransferable. Improper use or installation, use for racing, accident, abuse, unauthorized repairs or alterations voids this warranty. AEM disclaims any liability for consequential damages due to breach of any written or implied warranty on all products manufactured by AEM. Warranty returns will only be accepted by AEM when accompanied by a valid Return Merchandise Authorization (RMA) number. Credit for defective products will be issued pending inspection. Product must be received by AEM within 30 days of the date RMA is issued.

If you have a warranty issue, please call (800) 992-3000 and our customer service department will assist you. A proof of purchase is required for all AEM warranty claims.