



Equipped with AEM® Dryflow™ Filter
No Oil Required!

INSTALLATION INSTRUCTIONS

PART NUMBER: 21-8117

2005-2008

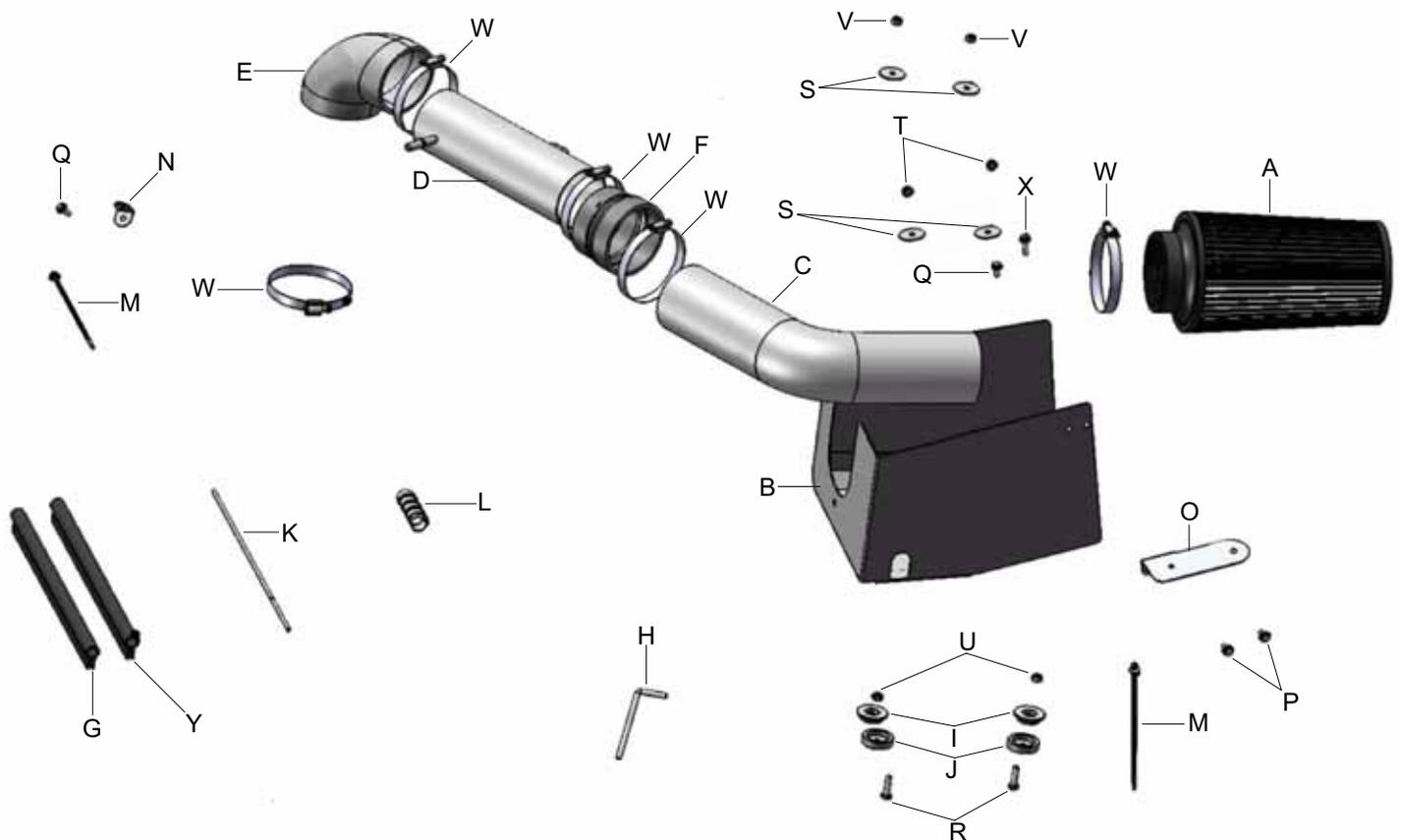
FORD F-150 V8-5.4L

C.A.R.B. E.O. # D-670

* **NOTE: Legal in California only for racing vehicles which may never be used upon a highway**

PARTS LIST

	Description	Qty.	Part Number
A	Air Filter Assy. 3.50 X 9" Dry Ele.	1	21-2049DK
B	Heat Shield	1	20-8106
C	Lower Pipe	1	2-81072
D	Upper Pipe	1	2-81171
E	Hose, Adapter 3.25/3.00 90 Deg.	1	5-3239
F	Hose, Adapter 3.50/3.25x2.50	1	5-352
G	Edge Trim, 15"	1	8-4015
H	Wrench; Torx T20 T/R, L-Key	1	69801
I	Spacer	2	2-691
J	Spacer	2	2-692
K	Rubber Edge Trim 15"	1	8-3015
L	Helical Bundling Wrap; 1/2" X 3"L	1	8-8003
M	Zip Tie, 8" Tree Push-Mnt.	2	1-127
N	Bracket	1	7-7717
O	Bracket, Heat Shield	1	32-3059
P	Bolt, Hex/Flange M6-1.0 X 12	2	1-2110
Q	Bolt, Hex/Flange M6-1 X 20	2	1-2038
R	Bolt, Hex 1/4-20 Unc. X 1"	2	1-2100
S	Washer, 1/4 X 1-1/4 Fender	4	1-3027
T	Nut, M6 Hex Serrated	2	444.460.04
U	Nut, 1/4-20	2	1-2073
V	Nut, 1/4-20 Nylock	2	1-2074
W	1/2" Bnd. Hose Clamp, 3.15"-4.00"	5	9456
X	Screw, Sheet Metal #12 X .5"	1	1-2085
Y	Edge Trim, 13"	1	8-4013



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. Factory air box system.



b. Locate the mass airflow sensor and the connector on the air box.



c. Release the locking mechanism on the connector.



d. Press the plastic clip on the connector down and pull the connector away from the sensor.



e. Connector disengaged from the sensor.



f. The PCV hose is located on the opposite side of the air box from the mass airflow sensor.



g. Release the green locking mechanism on the PCV hose connector.



h. Pull the PCV hose away from the air box.



i. Unclip the wire harness attached to the air box located on the lower left hand side of the air box.



j. Remove the two bolts located on the driver side of the air box.



k. Remove the two bolts securing the air box on the passenger side.



l. Remove the bolt securing the inlet duct.



m. Gently pull the inlet duct away from the fender.



n. Pull the inlet duct away from the air box and remove it from the vehicle.



o. Pull up on the air box and remove it from the vehicle.



p. Remove the mass airflow sensor from the air box using the supplied torx tool. Be sure to keep the sensor in a safe place, it will be used later.



q. Remove the bolt located on the driver side fender shown in the picture.



r. Stock air box system removed from the vehicle.

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. Install the mass air flow sensor into the straight upper inlet pipe. Use the two factory socket bolts to secure the sensor.



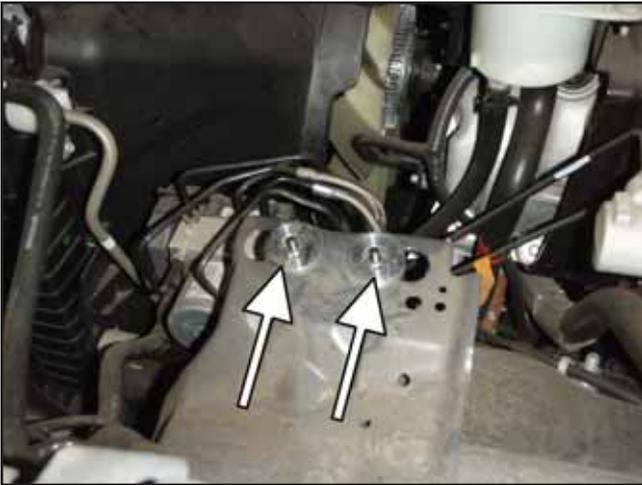
c. Install the small bracket (7-7717) secure it to the intake manifold threaded insert using the supplied m6 hex flange bolt.



d. Insert the tree mount zip tie into the hole in the bracket installed in step 3c.



e. Secure the wiring harness that was unclipped in step 2i. with the tree mount zip tie.



f. **2005-2006 Ford F-150 owners proceed to step i.** Install the two upper and lower heat shield spacers. The spacers sandwich the stock sheet metal bracket and are secured with the two supplied bolts, washers, and nuts (not the lock nuts).



g. Place the heat shield into the engine bay aligning the two holes located on the bottom face of the heat shield with the two bolts installed in step f. With a marker mark the location of the third hole with a maker.



h. Remove the heat shield and drill a 1/8 pilot hole where you made a mark on the fender.



i. Place the heat shield in the engine bay and screw in the supplied self tapping screw (2007-2008 Ford F-150) or m6 bolt (2005-2006 Ford F-150).



j. Secure the rest of the heat shield with the two supplied lock nuts and washers.



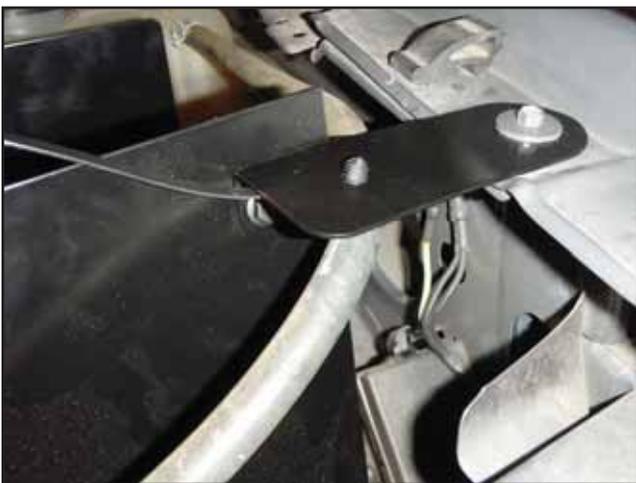
k. The heat shield bracket is fastened to the heat shield with the two m6 bolts and serrated nuts.



l. Align the bracket with the bolt hole in the fender. Re-use the bolt from step 2q.



m. Install the tree mount zip tie in the heat shield bracket hole with the zip tie facing downward.



n. Secure the hose running around the heat shield with the zip tie. Cut off excess zip tie when you have secured the hose.



o. Install the rubber edge trim on the pipe opening on the heat shield.



p. Install the rubber gasket on the top edges of the heat shield.



q. Install the 90 degree coupler on the throttle body as shown and loosely secure with a #56 hose clamp. Place another #56 hose clamp on the other side of the coupler loosely.



r. Insert the upper inlet pipe into the 90 degree coupler.



s. Connect the breather hose to the upper inlet pipe.



t. Slide the transition coupler on the end of the upper intake pipe and loosely secure it with a #56 hose clamp. Do not slide coupler on so far that the throttle body pipe makes a step.



u. Insert the lower intake pipe into the transition coupler and loosely secure it with a # 56 hose clamp.



v. Align the bracket with the hole exposed in step 2l and use the bolt removed in step 2l to secure the bracket.



w. Install the air filter on the end of the lower intake pipe and secure with the supplied #56 hose clamp.



x. Reconnect the mass airflow sensor harness that was disconnected in 2d. to the mass airflow sensor and lock it.



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.