



**SCAVENGER
SERIES ELITE HEADERS**

4099₉ Stainless Steel

Header Installation Instructions:

Part number: 814226

2004-2010 Ford F-150

5.4L 3V

ARB E.O. No. D-698

08/10/12



The product accompanying this document has been granted a California Air Resources Board (CARB) exemption, an "E.O." number, or is a direct or consolidated replacement part. It is 50-state legal, per the manufacturer's application guide.

Note: Installation of this product requires an adequate work space, general mechanic's tools, general mechanical "know how" and a reasonable level of experience. Most auto enthusiasts with these resources will have little difficulty installing these headers. However, you should carefully read these instructions before attempting to install these headers. If in doubt, consult a professional mechanic. (Better to do it now than to get stuck halfway through the installation.) This part is certified for use on Pollution Controlled Vehicles.

Check to make sure that you have received the proper parts for your installation. The header number will be stamped on the engine flange. If you are unsure you have received the proper parts call before you start work.

Be sure to work safe! Whenever you work under the vehicle be sure that it is located on level, solid ground and is supported by adequate safety stands. **Remember: hot asphalt will not support most jack stands!**

Many factors affect the installation of headers, some of which are; broken or aftermarket motor mounts, accidents that impact the configuration of the frame, and/or the installation of different engines or aftermarket cylinder heads.

Attention Customers breaking in new engines: Due to the extreme heat generated during the break-in process, the appearance of the ceramic coating may be altered in certain areas. The protection characteristics and thermal barrier properties of the coating is never compromised. It is recommended that a cast iron manifold or old set of headers be used for this process.

The purchaser is responsible for following all installation instructions and safety guidelines supplied with your new Flowmaster Performance Exhaust Product. Flowmaster Performance exhaust assumes no responsibility for damages resulting from improper operation, misuse, abuse, or lack of reasonable care, or any problems resulting from incompatibility with other manufacturer's products.

Flowmaster uses sealing beads on its headers. We have found that when installed correctly, the raised bead around each port increases the pressure exerted on the gasket directly adjacent to the port and effectively prevents leaking gaskets. It is normal for the flange to be raised off the cylinder head the thickness of the sealing bead. It is important when installing the header, to install all bolts loosely, and then tighten evenly to ensure the flat installation of the flange. The torque sequence from one flange to another will vary, but generally every bolt on a header should be first fit snug, starting from the inside of the flange working out, alternating from top to bottom so that the bolt connects the flange to the manifold to the point where they barely touch. Second, using the same inside-out pattern, tighten each bolt until finished. This method will help prevent leakage and will give the user the best possible performance out of their new set of headers.

- 1) Place the vehicle in a location where the floor is solid and flat, with adequate lighting. Do not attempt to work on a hot engine. Heat causes metal to expand and makes removal of fasteners difficult at best. **Disconnect the battery cables from the battery.** Raise the front of the vehicle to obtain adequate access to the bottom exhaust manifold flanges. Use large base jack stands to support the vehicle. Do not rely on the jack! Block the tires to prevent the vehicle from rolling off of the jack stands.
- 2) Spray WD-40 or some type of penetrating lubricant on all accessible exhaust manifold fasteners and fittings before attempting to remove them. Also spray the rubber hangers that support the exhaust system.
- 3) From underneath the vehicle, unbolt the factory exhaust system from the exhaust manifold collectors. Pry the exhaust system back ½” to gain workspace. Spraying the rubber exhaust hangers with WD-40 will allow the system to slide back much easier.
- 4) It will be necessary to remove the passenger side front tire and inner fender panel to gain access to the passenger side manifold. The inner fender panel is held in place by a combination of Phillips head screws, Hex head screws and “Christmas Tree” fasteners.
- 5) **Note on 4x4 Models:** You may have to unbolt the forward end of the front drive shaft from the front axle to allow installation of the driver’s side header.

Drivers Side Header

- 6) From underneath the truck, remove the nuts attaching the manifold to the head. Remove the engine oil dipstick being sure to note where it inserts into the block. Remove the manifold.
- 7) Remove the rearmost top manifold stud from the head.
- 8) Clean the head surface of any carbon deposits with a scraper or wire brush being careful not to gouge the head surface.
- 9) Slip the supplied head flange gasket over the studs and install the new Flowmaster header. Install the supplied bolt and washer into the rearmost top hole. Reuse the factory nuts on the remaining studs. Tighten the fasteners in an alternating sequence then reinstall the dipstick tube and dipstick.
- 10) Check to make sure that there is adequate clearance around all brake lines, A/C lines and wire looms, etc.

Passenger Side Header

- 11) With the passenger side front tire and inner fender removed, unbolt the starter. It will be necessary to remove the motor mount nut (under the frame) and raise the motor approximately 1”. Remove the nuts and studs attaching the manifold to the head. Remove the manifold.
- 12) Remove the studs from cylinder number 2, 3 and the top of cylinder number 1.
- 13) Clean the head surface of any carbon deposits with a scraper or wire brush being careful not to gouge the head surface.
- 14) Do not install the new gasket yet. It may get damaged. Install the new Flowmaster header over the frame from the top; it will go in with a little bit of patience.
- 15) Now install the supplied gasket after the header is in place to avoid gasket damage.

- 16) Reinstall the studs on cylinders 1 and 2.
- 17) Remove the bolts holding the motor mount in place to the engine. Install the supplied bolts and washers on cylinder 3.
- 18) Reuse the factory nuts on the remaining studs. Tighten the fasteners in an alternating sequence.
- 19) Reinstall the starter and resecure the motor mount. Lower the engine and tighten the lower mount bolts.
- 20) Apply a small amount of O2 sensor safe RTV silicone around the flares on the factory exhaust system and reconnect the factory exhaust system to the new headers using the supplied 2½" collector bolts.
- 21) Check to make sure that there is adequate clearance around all brake lines, A/C lines and wire looms, etc.
- 22) Reinstall the passenger side inner fender panel and tire.
- 23) Reconnect the battery and recheck all steps to verify everything has been done properly.
- 24) Start the engine and check for leaks. After test driving the vehicle shut the engine off and allow the engine to cool. Recheck the header bolts for correct tightness. Periodically check and retighten the header bolts.

Parts List

<u>Qty</u>	<u>Description</u>
(1)	Driver's Side Header Assembly.
(1)	Passenger Side Header Assembly
(2)	Header Flange Gaskets
(3)	8mm Header bolts w/lock washers
(4)	3/8" x 2.5" Collector Bolts with nuts
(1)	CARB Emissions Sticker
(1)	Flowmaster Decal