



SCAVENGER
SERIES ELITE HEADERS

409SS Stainless Steel

Header Installation Instructions:

Part Number: 814420

1991-1999 Jeep Wrangler

4.0L Engine

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.
- 3) Disconnect the exhaust pipe from the exhaust manifold.
- 4) Remove the air cleaner assembly.
- 5) Remove the serpentine belt.
- 6) Unbolt the power steering pump from the intake manifold.
- 7) Unplug the wiring harness from the fuel injectors.
- 8) Disconnect the various electrical connectors, O2 sensor, TPS, temp sender, etc. Unbolt the wire harness trough and swing it out of the way.
- 9) Disconnect the vacuum lines on the intake manifold.
- 10) Unbolt the fuel line bracket from the side of the intake manifold.

Note: Working with raw fuel is hazardous. Please use appropriate caution.

- 11) Using the proper tool, disconnect the fuel line from the fuel rail. Cover the end of the fuel line to insure against contamination and to minimize leakage. Note: This step is not necessary on all models, the fuel rail can be moved out of the way enough to allow installation of the header, please use your own discretion.
- 12) Remove bolts attaching the intake manifold to the cylinder head. Remove the manifold.
- 13) Remove the two nuts and one bolt attaching the exhaust manifold to the head. Remove the exhaust manifold.
- 14) Clean any carbon deposits from the head surface, be careful not to gouge the head surface.
- 15) Place the supplied gasket or a new factory gasket over the exhaust studs and dowel pins.
- 16) Install the new header using the factory nuts and bolt removed in step 12 above.
- 17) Pre-install the two lower center bolts. Leave the bolts loose enough to slip the intake manifold under the washers and over the dowel pins.
- 18) Install the remaining intake bolts. Tighten the intake manifold bolts to factory specs, using the proper torque sequence.
- 19) Reconnect all electrical connectors, vacuum lines and reattach the wire trough.

- 20) Reconnect the fuel line. Push and pull a couple of times to insure proper engagement. Reattach the fuel line bracket.
- 21) Reconnect the power steering pump and serpentine belt.
- 22) Reinstall the air cleaner assembly.
- 23) Reconnect the exhaust system to the header using the supplied hardware.
- 24) Reconnect the battery cables. Energize the ignition switch several times without starting the engine and check for fuel leaks.
- 25) Recheck all connections and fasteners!
- 26) Start the engine and let it warm up. Check for leaks. Shut the engine off and allow it to cool down. Check to make sure that all fasteners are tight.

Parts List

<u>Qty</u>	<u>Description</u>
(1)	Flowmaster Header Assembly
(1)	Head Flange Gasket
(2)	Collector bolts with nuts and lock washers
(1)	CARB Emissions Sticker
(1)	Flowmaster Decal