



**SCAVENGER
SERIES ELITE HEADERS**

409S Stainless Steel

Header Installation Instructions

Part Number: 814116

**64-72 Buick Skylark, Gran Sport & Wagons LS1/LS6
64-72 Chevrolet Chevelle, Passenger Cars & Wagons
LS1/LS6
64-72 Pontiac GTO & Le Mans, LS1/LS6**

09/10/12



WARNING: The product accompanying this document is legal only for off-highway use (except in California or states that have adopted California emission standards), racing use or for use on pre-emission-controlled motor vehicles/motor vehicle engines (pre-1966 domestic vehicles certified to California standards, pre-1968 domestic vehicles certified to federal standards and all pre-1968 foreign vehicles), 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.)

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. If you are not comfortable with welding operations, we recommend that you contact a professional exhaust system specialist to install your new headers.

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.

DISASSEMBLY

- 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 negative battery cable 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) Remove the bolts connecting the head pipes from the exhaust manifolds
- 4) Note the spark plug wire locations and remove them from the spark plugs. Use a twisting motion while pulling the spark plug wire off of the plugs. Do not pull on the wires!
- 5) Brush or blow off any debris which may have collected around the manifolds or spark plugs. This will help prevent foreign matter from entering the combustion chamber when the manifolds are removed.
- 6) Remove the spark plug wire looms, plugs and any other brackets attached to the manifolds.
- 7) Disconnect the O2 sensor wiring and then remove the O2 sensors.
- 8) Remove the oil dipstick and tube.
- 9) Remove both of the exhaust manifolds.
- 10) Remove the starter.
- 11) Replace the spark plugs finger tight so that no debris will get into the cylinders during the cleaning the head surface. We recommend the use of a gasket scraper, wire brush or sanding block to adequately clean the surface.
- 12) After cleaning has been completed, remove the spark plugs again.
- 13) Remove the oil filter.
- 14) Apply a THIN film of Ultra Copper Hi-Temp Sensor Safe Silicone Sealer to the header side of the header gaskets and stick the gaskets to the header flanges. Masking tape can be used to help hold the gaskets to the header.

ASSEMBLY

RIGHT SIDE:

- 1) Apply a THIN film of Ultra Copper Hi-Temp Sensor Safe Silicone Sealer to the engine side of the header gasket.
- 2) Apply anti-seize to all header bolts being used.
- 3) Starting from below, work the header and gasket up through the chassis and into position.
- 4) Start all header bolts. Then tighten all of the header bolts evenly (starting with the most restricted first) to 35 ft/lbs.

- 5) Reinstall the right side spark plug wires, wire looms, starter, dipstick tube and dipstick.
- 6) Using the hardware provided, install the Flowmaster Ball flange connector to the back of the header and determine the connection to the exhaust. Weld the exhaust system to the ball collector.
- 7) Reinstall the O2 sensor to the reducer and then reconnect the O2 sensor to the O2 harness with the supplied extension.

LEFT SIDE:

- 1) Apply a THIN film of Ultra Copper Hi-Temp Sensor Safe Silicone Sealer to the engine side of the header gasket.
- 2) Apply anti-seize to all header bolts being used.
- 3) Starting from below, work the header and gasket up through the chassis and into position.
- 4) Start all header bolts. Then tighten all of the header bolts evenly (starting with the most restricted first) to 35 ft/lbs.
- 5) Reinstall the oil filter.
- 6) Reinstall the left side spark plug wires, wire looms and any brackets.
- 7) Using the hardware provided, install the Flowmaster Ball flange connector to the back of the header and determine the connection to the exhaust. Weld the exhaust system to the ball collector.
- 8) Reinstall the O2 sensor to the reducer and then reconnect the O2 sensor to the O2 harness with the supplied extension.
- 9) Re-connect the negative battery cable.

START THE ENGINE

Start the engine and allow it to warm up to operating temperature. Check for any unusual noises or exhaust leaks. If everything is OK, stop the engine and tighten all bolts while the engine is still warm. **Note:** Recheck the header bolts periodically to make sure they have not loosened. Re-tighten after the first 500 miles and then again at 1000 miles.

IMPORTANT CHECK LIST

- **Be sure that all brake lines and fuel lines are clear of headers and/or connector pipes.**
- **All spark plug wires, battery cables or other electrical components should be clear of headers and/or connector pipes.**
- **If dipstick tube has been removed, make sure it is installed properly and that the dipstick has been replaced.**
- **Double check the tightness of all bolts including brackets and accessories.**

PARTS LIST

<u>Qty:</u>	<u>Description</u>
(1)	Drivers Side Header Assembly.
(1)	Passenger Side Header Assembly
(2)	Header Gaskets
(2)	3" to 2½" Header Reducer Tube W/O2 Sensor
(12)	M8-1.25x25MM Header Bolts
(4)	3/8"-16 x 2¼" Ball Collector bolts
(4)	3/8"-16 Hex Nuts
(16)	3/8" Lock Washers
(4)	3/8" Flat Washers
(2)	O2 Sensor Extension
(1)	Flowmaster Decal