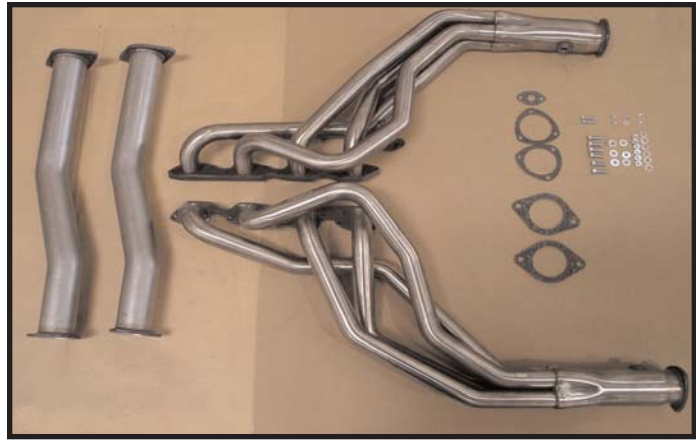


DOUG THORLEY HEADERS

BY SUMMIT INDUSTRIES

THY-312

CHEVROLET 8.1L VORTEC
01-04 "WORKHORSE CHASIS"
MOTORHOME



PARTS INCLUDED

- 1 - Right side header
- 1 - Left side header
- 1 - Right side connector pipe
- 1 - Left side connector pipe
- 2 - 2-Bolt flange gaskets (9021)
- 2 - 3-Bolt flange gaskets (9006)
- 1 - EGR flange gasket (9019)

HARDWARE INCLUDED

- 6 - 3/8"-16 x 1-1/4" Hex bolts
- 6 - 3/8"-16 Hex nuts
- 6 - 3/8" Split lock washers
- 6 - 3/8" Flat washers
- 2 - M8-1.25 x 30mm Double ended studs
- 2 - M8-1.25 Hex nuts

TOOLS REQUIRED

- Cut-off saw
- Sawzall
- 3/8", 7/16", 9/16", 1/2", 3/4", 7/8" Wrenches
- 8mm, 10mm, 13mm Wrenches
- 5/16", 7/16", 1/2", 9/16" Sockets
- 3/8", 7/16" Deep sockets
- 15mm Deep socket
- 5/8" Spark plug socket
- Ratchet and extensions
- Pliers
- Crescent wrench
- Torque wrench
- Rust penetrant

WARRANTY NOTES

- 1) The utmost care is taken at Thorley Headers to maintain the highest standards of quality. However, Thorley Headers cannot control the installation of the product. For this reason, the Thorley Headers warranty covers only the replacement of the components - not the labor for the installation.
- 2) The use of any type of "header wrapping" voids the warranty. Using any sort of wrapping material on the headers destroys the tubing's ability to dissipate heat, causing very rapid deterioration of the metal and the subsequent failure of the headers.
- 3) The chrome plating applied to all Thorley headers is a high-nickel chrome finish applied to retard corrosion. This is a "heat" chrome to preserve the metal. This finish is not "show chrome" intended for the sake of appearance. This high-nickel chrome turns colors and approaches black as it cooks into the metal. The brilliance of the chrome finish is not covered under the warranty. Contamination of the surface by foreign substances may produce other color patterns. This can be prevented by routine cleaning.

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WARRANTY NOTES

- 4) Retain all paperwork pertaining to the purchase of your Thorley product. Save your receipt!
Your limited warranty is not valid without a receipt of purchase.

LEGALITY NOTE

The installation of headers onto any vehicle must be performed in accordance with all governmental regulations that might pertain to the particular vehicle receiving the headers. Please call your Thorley Headers distributor if there are any questions regarding the legality of the installation. **The Executive Order ("E.O.") number for this part number is D-540-1.**

INSTALLATION NOTES

- 1) It is important that you read the entire instruction sheet before initiating any installation.
- 2) Thorley headers are designed to fit only factory installed engine and transmission combinations. We cannot guarantee that Thorley headers will fit in the case of "engine swaps" or "transmission swaps".
- 3) Due to restricted room in the engine compartment, your headers may come close to certain body and chassis components. This is normal for an installation of this type. However, a careful inspection must be completed to insure that the distances and placement are reasonable and logical, especially with regard to electrical, fuel, and brake components.
- 4) Because of the requirement to raise the engine to facilitate header installation, the engine mounts should be carefully inspected at that point of the installation. It is highly recommended that questionable or deteriorated engine mounts be replaced during the installation of the headers. In some cases, the engine mounts need to be loosened and repositioned to provide optimum header clearance from some components.
- 5) Because of car-to-car variations, Thorley Headers strongly recommends that these headers be installed by a competent exhaust shop that has welding and fabrication capabilities.

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INSTALLATION PROCEDURES

WARNING! - Do not rely on bumper jacks or chassis jacks for support during header installation. The subject vehicle should be raised and supported with jacking equipment and jackstands or ramps intended for undercarriage auto maintenance. It is extremely dangerous to work under an improperly raised and/or supported vehicle.

WARNING! - Make certain there is ample clearance around components such as brake lines, brake proportioning valves, fuel lines, hoses and pumps, and electrical components and wires. In some cases it may be necessary to relocate items that may be adversely affected by exhaust system heat.

NOTE: These procedures are documented on factory standard-equipped vehicles with original configuration compliance. Any modification of the subject vehicle may dictate modification to these procedures.

- 1) Disconnect the battery.
- 2) Raise the front of the vehicle approximately 24 inches and support it with jack stands or other suitable supports. (**WARNING!** - Do not rely on bumper jacks or chassis jacks for support during header installation. The subject vehicle should be raised and supported with jacking equipment and jackstands or ramps intended for undercarriage auto maintenance. It is extremely dangerous to work under an improperly raised and/or supported vehicle.)
- 3) Remove the front wheels.
- 4) Spray all exhaust system fasteners with rust penetrant and allow to soak to prevent the possible breakage of bolts. (Note: High-mileage vehicles may require soaking overnight and/or multiple doses of penetrant.)
- 5) Remove O2 sensors from both stock connector pipes on both sides.
- 6) Remove nuts from 2-bolt flange in front of the catalytic converter and save for new system. (Repeat for opposite side.)
- 7) Remove the fasteners from the front stock connector pipe to the stock manifold and remove connector pipe. (Repeat for opposite side.)
- 8) Note the spark plug wire locations and remove the wires from both sides.

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- 9) Disconnect the EGR from the passenger side manifold and carefully move out of the way.
- 10) Remove all nuts from the stock manifolds and save them for new headers.
- 11) Carefully remove both manifolds.
- 12) Clean all traces of carbon deposits from the cylinder head exhaust port surfaces.
- 13) Install the driver side header from under the vehicle using the stock nuts. Tighten to 35 ft/lbs.
- 14) Reinstall the driver side spark plugs.
- 15) Reinstall the O2 sensor into the collector of the new header.
- 16) Install the passenger side header from under the vehicle using the stock nuts. Tighten to 35 ft/lbs
- 17) Reinstall the passenger side spark plugs.
- 18) Install the supplied studs onto the EGR flange. Reinstall EGR onto the header using the supplied nuts.
- 19) Reinstall the O2 sensor into the collector of the new header.
- 20) Install new connector pipes using the stock hardware and supplied gasket for the rear 2-bolt flange.
- 21) Use the supplied 3/8"-16 hardware and gasket to connect the front of the pipe to the header collector.
- 22) Tighten all hardware securely and re-check everything.
- 23) Reconnect the battery. Start the engine and check for leaks.
- 24) Because the header bolts will initially stretch when hot, we recommend adhering to the following steps:
 - a) Retighten the header bolts to 35 ft/lbs after approximately twenty minutes of operation.
(Note: Remember the engine will be hot at this time. Protect yourself accordingly.)
 - b) Check and retighten the header bolts to 35 ft/lbs after the first month of operation.