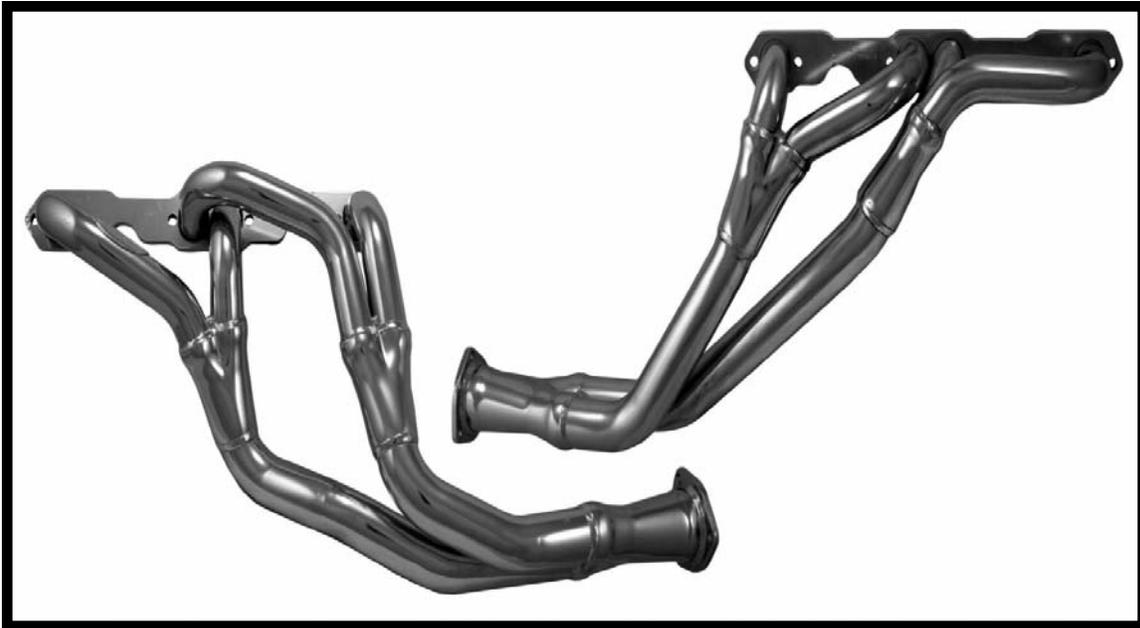


**CHEVROLET 283-400
67-69 CAMARO / Z-28**



PARTS INCLUDED

1)	Right side header	1
2)	Left side header	1
3)	Hot air pickup	1
4)	Reducers	2
5)	Header gaskets	2
6)	Conical gaskets	2

HARDWARE INCLUDED

1)	3/8"-16 x 1" Header bolts	12
2)	3/8"-16 x 1-3/4" Hex head bolts	6
3)	3/8"-16 Hex nuts	6
4)	3/8" Flat washers	6
5)	5/8" x 1" Spacer	1
6)	5/8" x 1-1/8" Spacer	1
7)	5/8" x 1-3/4" Spacer	1

THY-376Y1 / THY-376Y1-S

CHEVROLET 283-400
67-69 CAMARO / Z-28

TOOLS REQUIRED

1) Heating torch	9) Mig welder
2) Cut off saw	10) Sawzall
3) 3/8", 7/16", 9/16", 1/2", 3/4", 7/8" Wrenches	11) 10mm, 13mm Wrenches
4) 9/16" Line (flare nut) wrench	12) 5/16", 7/16", 1/2", 9/16" Sockets
5) 3/8", 7/16" Deep sockets	13) 15mm Deep socket
6) 5/8" Spark plug socket	14) Ratchet and extensions
7) Pliers	15) Crescent wrench
8) Torque wrench	16) 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.
- 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. This part number is considered a legal replacement part on vehicles that do not have a catalytic converter, as long as all original emission control devices are connected and functioning properly. As a result, **this part number does not require an Executive Order ("E.O.") number.**

THY-376Y1 / THY-376Y1-S

**CHEVROLET 283-400
67-69 CAMARO / Z-28**

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.

PRE-DISASSEMBLY NOTES

- 1) On vehicles with the alternator mounted on the driver side exhaust manifold, it may be necessary to purchase Thorley Alternator Bracket, P/N THY-B8504 from your Thorley Headers distributor (see Illustrations, Figure 1). If the header is equipped to retain the air injection manifold, the bracket may require modification as shown in Illustrations, Figure 2.
- 2) On vehicles with the alternator or generator mounted on the passenger side exhaust manifold, it may be necessary to purchase Thorley Alternator Bracket, P/N THY-B8503 from your Thorley Headers distributor (see Illustrations, Figure 3). If the header is equipped to retain the air injection manifold, the bracket may require modification as shown in Illustrations, Figure 4.
- 3) The spark plug wires can be routed either along the valve covers or below the headers, but they must have 90° boots and terminals at the spark plug ends.

THY-376Y1 / THY-376Y1-S

CHEVROLET 283-400
67-69 CAMARO / Z-28

PRE-DISASSEMBLY NOTES

- 4) The Chevrolet factory installed several different engine mount and crossmember bracket combinations on these vehicles. They are all different relative to their installed height and crossbolt length. If the engine sits in an unusual position in the vehicle you're working on, and/or the headers don't fit, please ensure that the mounts and/or brackets match up. Mismatched engine mounting components are the primary cause of installation problems with these headers.

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.

NOTE: All Thorley headers featuring air injection options are designed to accept the most readily available original equipment manufacturer's looms. Should your stock looms not match the fittings on the headers, or should you suspect that your original looms will not survive the re-installation onto the Thorley headers, your local GM parts department may be able to provide replacements using these part numbers:

THY-376Y1-S driver and passenger side - 330544.

- 1) Disconnect the battery.
- 2) Raise the vehicle at least 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.)

THY-376Y1 / THY-376Y1-S

**CHEVROLET 283-400
67-69 CAMARO / Z-28**

INSTALLATION PROCEDURES

- 3) Remove the spark plugs and dipstick tube. On some late model vehicles it may be necessary to unbolt the power steering. (Note: The stock power steering bracket bolt must be retained for use later in the installation.)
- 4) Disconnect the stock head pipes from the exhaust manifolds and push them aside.
- 5) Remove the stock exhaust manifolds.
- 6) Clean all traces of carbon deposits from the cylinder head exhaust port surfaces.
- 7) On manual transmission vehicles, unbolt the clutch cross shaft at the engine side only, leaving the frame side attached. Remove the spring clip where the cross shaft attaches to the through-the-firewall linkage. The clutch pedal must be fully depressed to easily access this clip.
- 8) On air injection-equipped vehicles, pre-install the air injection looms onto the headers with the headers clamped into a vise, and make any necessary adjustments to the looms.
- 9) Turn the steering to the "full right turn" position. If the vehicle is equipped with an automatic transmission, put the transmission in "low" gear. This will allow more working space with the headers in.
- 10) Place the passenger side header and supplied header gasket into the vehicle from above using the supplied 3/8"-16 x 1" header bolts. Do not fully tighten at this time.
- 11) Place the driver side header and supplied header gasket into position from below the vehicle using the supplied 3/8"-16 x 1" header bolts. Do not fully tighten at this time. (Note: On manual transmission vehicles, swing the cross shaft toward the rear of the vehicle when installing the header.)
- 12) Reinstall the oil dipstick tube.
- 13) With the hardware still loose, reinstall the spark plugs.
- 14) Starting in the center of the header flanges and working toward the ends, tighten all header bolts to 20-25 ft/lbs.

THY-376Y1 / THY-376Y1-S

**CHEVROLET 283-400
67-69 CAMARO / Z-28**

INSTALLATION PROCEDURES

- 15) Reinstall all removed accessories using the appropriate brackets (see Pre-Disassembly Notes).
- 16) On manual transmission vehicles, reinstall the cross shaft and associated linkage.
- 17) If the vehicle has 1987 or newer factory heads, or aftermarket heads with spark plug wire looms that fasten to the cylinder heads just above the stock exhaust manifold, reinstall the original spark plug wire looms using the supplied 3/8" x 1/2" spacers and 1/4"-20 x 1" hex head bolts. Place one or two of the supplied 1/4" flat washers at each end of the spacer to keep the bolt from bottoming out in the head.
- 18) Snap the steel flanged end of the supplied conical gaskets into the header collectors.
- 19) Attach the supplied reducers to the header collectors using the supplied collector gaskets, 3/8"-16 x 1-3/4" hex head bolts, nuts, and washers.
- 20) Cut the stock head pipes appropriately and weld them to the reducers.
- 21) Reconnect the battery. Start the engine and check for leaks.
- 22) Because the header bolts will initially stretch when hot, we recommend adhering to the following steps:
 - a) Retorque the header bolts to 20-25 ft/lbs after approximately 20 minutes of operation. (Note: Remember the engine will be hot at this time. Protect yourself accordingly.)
 - b) Check and retighten the header bolts to 20-25 ft/lbs after the first month of operation.

THY-376Y1 / THY-376Y1-S

CHEVROLET 283-400
67-69 CAMARO / Z-28

ILLUSTRATIONS

FIGURE 1

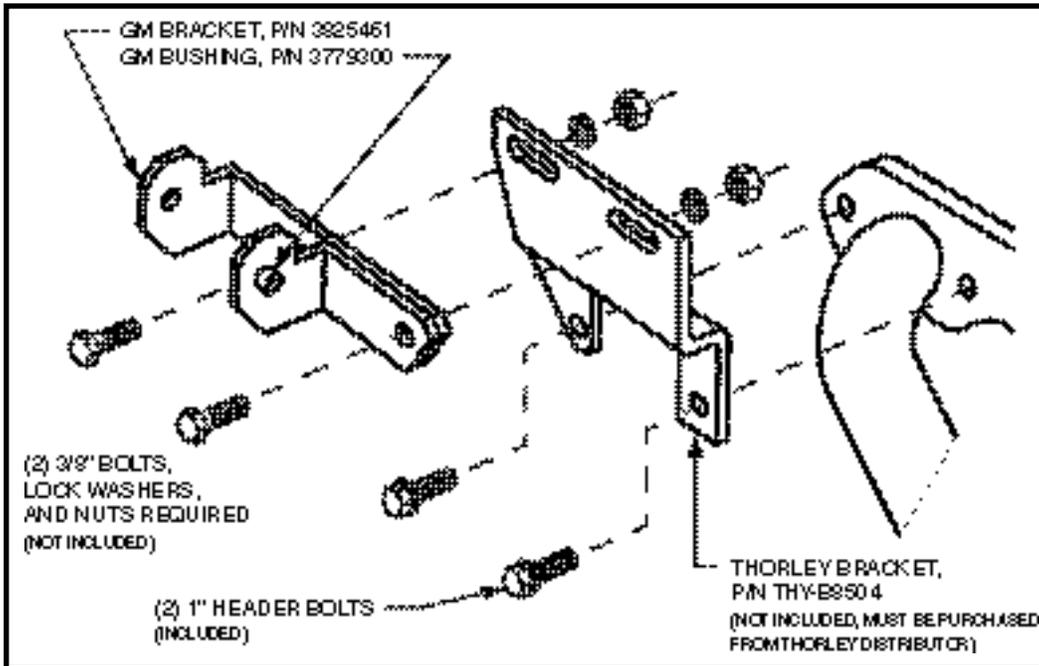
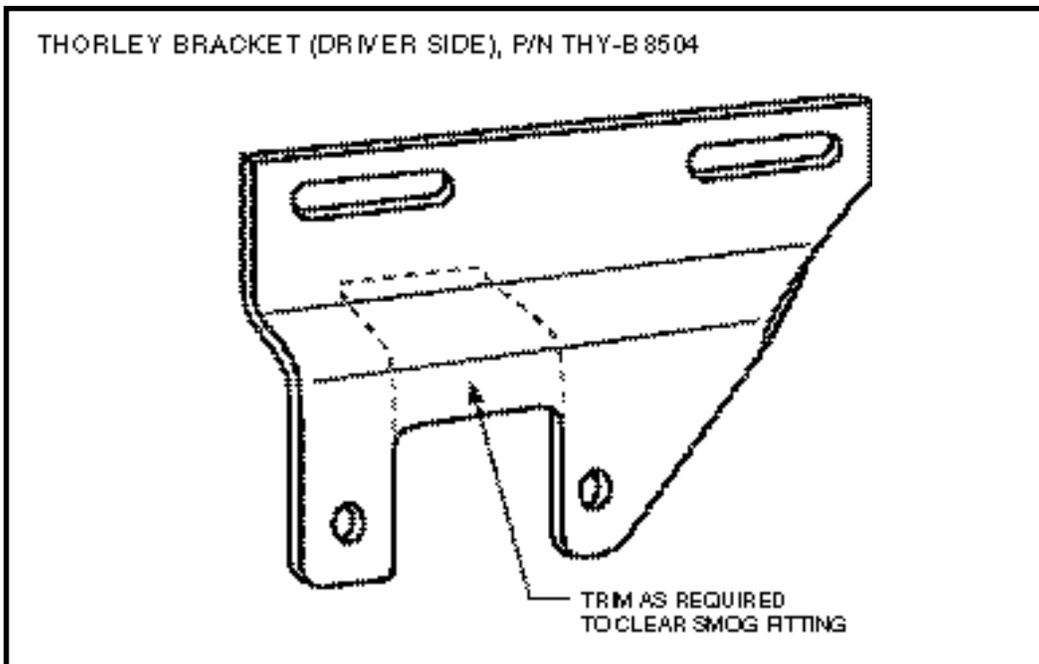


FIGURE 2



THY-376Y1 / THY-376Y1-S

CHEVROLET 283-400
67-69 CAMARO / Z-28

ILLUSTRATIONS

FIGURE 3

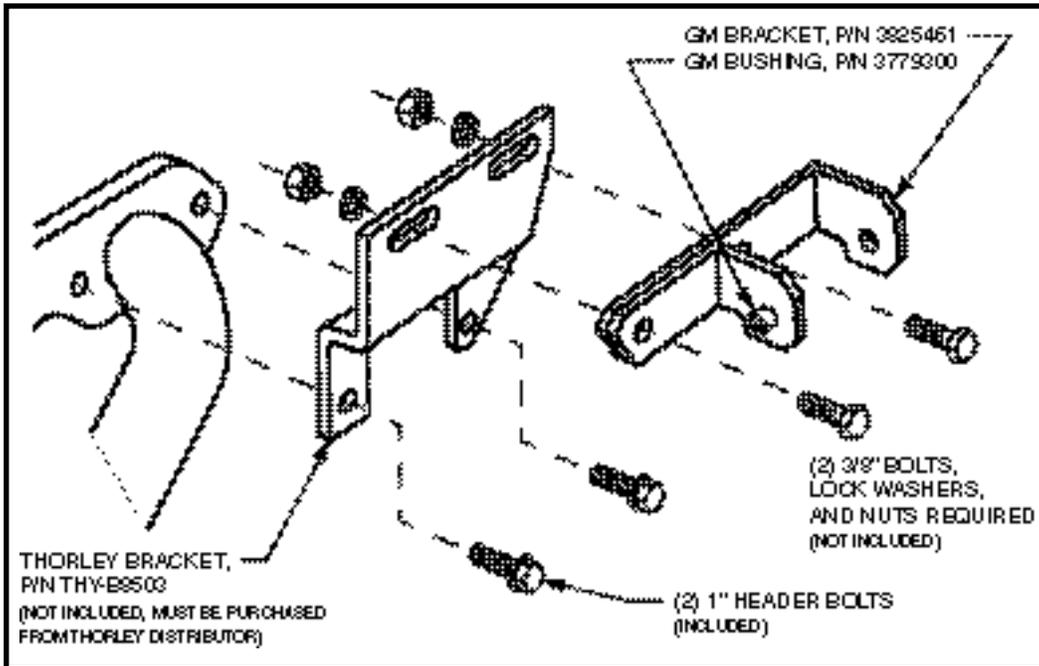


FIGURE 4

