

DOUG THORLEY HEADERS

BY SUMMIT INDUSTRIES

THY-221

2005-08 FORD F150
5.4L TRITON 2/4WD



PARTS INCLUDED

- 1 - Driver Side Header
- 1 - Passenger Side Header

HARDWARE INCLUDED

- 16 - M8 x 1.25 x 25mm Flanged Hex Head Bolts
- 16 - 5/16" Star Lock Washers
- 4 - M10-1.25 x 50mm Hex Head Bolts
- 4 - M10-1.25 Hex Nuts
- 8 - 10mm Flat Washers

TOOLS REQUIRED

- 10,12,13,17,22mm Wrenches (various lengths)
- 1/4" or 3/8" Ratchet and extensions
- 7/32", 5mm, 8mm, 13mm, 15mm Deep sockets
- 7/16" Sockets (one shallow, one deep)
- 5/8", 13/16" Thin-wall spark plug sockets
- Ratchet and extensions
- High-temp sensor-safe silicon sealer (rated at 600 degrees+)
- Rust penetrant
- Torque wrench

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. This part number is considered a legal replacement part on vehicles that have a catalytic converter, as long as all original emission control devices are connected and functioning properly. As a result, **the Executive Order (“E.O.”) number for this part is D-540-3.**

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.

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 Ford parts department may be able to provide replacements using these part numbers:

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INSTALLATION PROCEDURES

- 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.) With jack stands in place, remove both front tires.
- 3) Starting on the driver side, remove the air intake tube and air box.
- 4) Unscrew the O2 from the connector pipe and unplug the O2 from the top and remove the O2 sensor (Use caution when removing the O2, unplug first, twisting the wires could damage the O2)
- 5) Disconnect both of the connector pipes from the stock manifolds. Slide the Driver side connector pipe out towards the front of the truck and the Passenger side should be moved back as far as possible.
- 6) Remove the engine oil dipstick tube.
- 7) Undo the nuts and remove the manifold. Then remove the factory studs using 5mm socket. (Save the factory gasket as it will be reused with the new headers.
- 8) Prep the surface of the head by cleaning all carbon deposit using a Scotch Brite pad.
- 9) Install the factory gasket on the back two ports with two supplied bolts on top leaving enough room for the flange to slide under the bolt head.
- 10) Place the header on the block, then install the other factory gasket in the front. Install the rest of the supplied hardware. Then tighten down the header starting in the middle and work your way outward.

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- 11) Reinstall the engine oil dipstick tube.
- 12) On the passenger side, remove the starter.
- 13) Remove the passenger side inner fender well. (It maybe necessary to remove the Pass. side wheel). Be careful not to damage the ABS wire.
- 14) With the motor safely supported, undo the motor mount nuts and remove the plate.
- 15) Jack up the side of the motor approximately 2" from a safe location.
- 16) Remove all studs and nuts from the cylinder head. Then remove the manifold from the inner fender well.
- 17) Remove the heat shield assembly from the upper control arm mount.
- 18) Install the front of new header through the fender well then the back of the header. Let the header rest in the engine compartment.
- 19) Install the factory gasket keeping it in place with a bolt mounted in the top hole third from the front of the truck. Leave room for the header flange to slide under the bolt head.
- 20) Install the rest of the supplied 8mm hardware. Tighten down starting in the middle and working your way outward.
- 21) Safely and slowly lower the motor back down and reassemble the motor mount and plate.
- 22) Reinstall the factory connector pipes using the supplied 10mm bolts and hardware.
- 23) Reinstall all the O2 sensors back into the connector pipes and plug back in at the motor.
- 24) Reinstall the starter.
- 25) Reinstall the air intake tube and air box.
- 26) Double check all work, check all bolts to make sure everything is tightened and no wires are resting on the header.

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- 27) Reconnect battery and start the engine. After engine is started check for leaks.
- a) Retighten the header bolts to 35 ft/lbs after approximately twenty minutes 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.
 - c) Follow the “Relearning Process” as described in your Owner’s Manual.
- 28) If there are no leaks, reinstall the inner fender well securing the ABS wire appropriately.
(Reinstall wheel if it was removed).