

2005-09 TOYOTA 4RUNNER / LEXUS GX470
4.7L V8, 2WD/4WD (WELD-ON OUTLET)



LEGALITY NOTES

The installation of exhaust headers onto any vehicle must be performed in accordance with all governmental regulations that pertain to the particular vehicle receiving the headers. Please call your Doug Thorley Headers distributor if there are any questions regarding the legality of the installation.

The C.A.R.B. Executive Order ("E.O.") number for this part number is **PENDING** and in process. An E.O. number will be available prior to any smog testing required for this vehicle.

08-50-48345 REV. A

THY-563-SS-C

SHORTIE 4:1 HEADERS

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PARTS INCLUDED

Ref.	Part Number	Description	Qty
1)	00-901-02838	Driver Side Header Assembly	1
2)	00-901-02839	Passenger Side Header Assembly	1
3)	07-31-48285	Header Gasket (set of 2)	1

TOOLS REQUIRED

Ref.	Description	Ref.	Description
1)	3/8" Drive Ratchet and Extensions	5)	Welding Equipment
2)	7/8" Box wrench or O2 Sensor Socket	6)	Cut-off Wheel
3)	8mm, 10mm, 12mm, 14mm Sockets	7)	WD40 or equivalent
4)	8mm, 10mm, 12mm, 14mm Wrenches		

WARRANTY NOTES

- 1) The utmost care is taken at Doug Thorley Headers ("DTH") to maintain the highest standards of quality. However, DTH cannot control the installation of the product. For this reason the warranty covers only the replacement of the components, it does not cover labor for the installation.
- 2) The use of any type of "header wrapping" immediately 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 composition of the metal and the subsequent failure of the headers.
- 3) Any chrome plating applied to DTH header components is a high-nickel chrome finish applied to retard corrosion. This is a commercial quality "heat" chrome designed to protect the metal from the environment only. This finish is not "show chrome" and is not intended for the sake of appearance. This high-nickel chrome will turn colors and approach black as it cooks into the metal. The initial 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 DTH product. Save your receipt!
Your limited warranty is not valid without a receipt of purchase.

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INSTALLATION NOTES

- 1) It is important that you read the entire instruction sheet before beginning any installation.
- 2) 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 ensure that the distances and placement are reasonable and logical, especially with regard to electrical, fuel, and brake components.
- 3) Because of car-to-car variations, DTH strongly recommends that these headers be installed by an experienced installation shop that has welding and fabrication capabilities.

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.

INSTALLATION PROCEDURE

THIS IS A DIFFICULT INSTALLATION THAT REQUIRES CUTTING AND WELDING. IF YOU ARE NOT COMFORTABLE WITH THESE TYPES ACTIONS PLEASE TAKE YOUR VEHICLE TO A REPUTABLE SHOP FOR INSTALLATION.

OE MANIFOLD REMOVAL

- 1) Disconnect both battery terminals.
- 2) Unplug all four O2 sensors from the wiring harnesses. Completely remove the two primary catalytic O2 sensors from the exhaust system.

NOTE : Do not attempt to remove O2 sensors or hardware while the engine is hot. Doing this may result in thread damage.

INSTALLATION PROCEDURE

- 3) Remove the complete exhaust y-pipe assembly from the vehicle and set aside.
- 4) Remove the bolt securing the engine oil dip stick to the motor. Remove the dip stick.
- 5) Remove the four bolts securing the driver side exhaust manifold heat shield. Remove the heat shield.
- 6) Remove the four bolts securing the passenger side exhaust manifold heat shield. The heat shield cannot be removed yet, with the motor secured to the frame.
- 7) The motor must be raised approximately 2" in order to allow the removal of the heat shield. In order to do this remove the two passenger side motor mount bolts where the motor mount meets the frame. Using a vehicle jack or equivalent, position a small 2x4 piece of wood directly under the motor mount and carefully lift the motor until just enough clearance has been made to remove the heat shield. Remove the heat shield. Do not lower the motor at this time.
- 8) Remove the nuts securing the air injection rails to the driver and passenger factory manifolds.
- 9) Using a E6 Torx socket, carefully remove the studs from the flanges on the factory manifolds used to secure the air injection rails. Retain this hardware as it will be re-used.
- 10) Remove all factory exhaust manifold hardware. Remove both the passenger and driver side exhaust manifolds from the vehicle. Retain all hardware.
NOTE: The air injection rails are not flexible, however you may need to carefully pry the rail away from the manifolds in order to facilitate removal. If this is required, do so carefully.
- 11) Inspect the cylinder heads for debris or carbon build-up, and clean if necessary.

HEADER INSTALLATION PREPARATION

- 1) Sand the ceramic coating off of approximately 1/2" of the header outlets, to be welded to the catalytic convertors once positioned.
- 2) The catalytic convertor assemblies must be cut from the factory manifolds to be re-used. Using a cut-off wheel, trim about 1-5/8" of the catalytic heat shield from the inlet side of the catalytic convertors. (Fig. 1)



Fig. 1

INSTALLATION PROCEDURE

- 3) Using a band saw or hacksaw, cut the catalytic convertor from the factory manifold about 5/8" past the weld on the inlet side of the catalytic. When cut, the inlet opening to the catalytic should be about 2.6" in diameter. Clean and deburr both inside and outside of the cut on the catalytic convertor. (Fig. 2)

HEADER INSTALLATION

- 1) With the engine still raised, install the passenger side header and gasket to the motor and secure just enough using two original nuts to keep it from moving.
- 2) Lower the engine into the correct position on the frame.
- 3) Assemble the passenger side catalytic assembly to the y-pipe and exhaust system as you would for a permanent install.
- 4) Tack weld the catalytic assembly to the new header outlet enough that you can safely remove it from the vehicle to be fully welded.
- 5) Remove the y-pipe from the vehicle. Raise the motor back up to allow for removal of the header. Remove the passenger side header from the vehicle.
- 6) Fully weld the header to the catalytic assembly using stainless steel welding rod or wire. Allow time to cool, tape off the header and catalytic. Use high temperature silver paint to clean up the look of the weld if you desire. (Fig. 3)
- 7) Install two air injection rail studs to the threaded flange provided on the new headers. (Fig. 4)

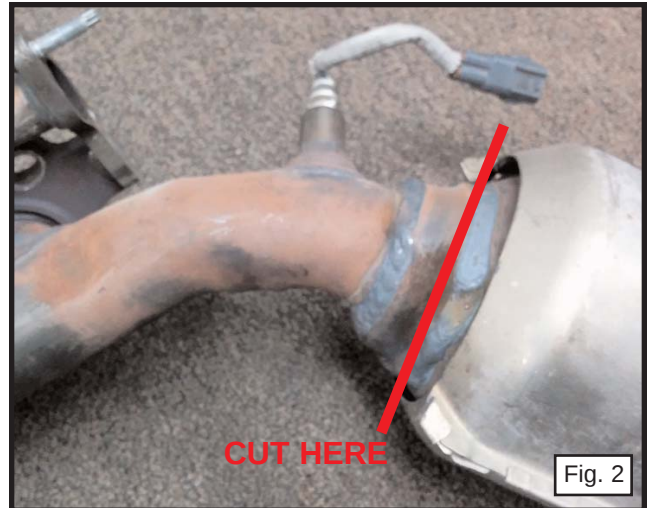


Fig. 2



Fig. 3



Fig. 4

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- 8) With the engine still raised, install the passenger side header and gasket to the motor. Secure the header to the motor using all original nuts, beginning from the center and working outward. Secure the air injection flange using the original nuts.
- 9) Mount the dip stick to the bracket provided on the header using the factory bolt.
- 10) Reinstall the O2 sensor and connect to the proper location on the wiring harness.
- 11) Lower the motor down and reinstall the two motor mount bolts. Tighten to factory specification.
- 12) The motor must be raised on the driver side approximately 2" in order to complete the driver side header installation. In order to do this remove the two driver side motor mount bolts where the motor mount meets the frame. Using a vehicle jack or equivalent, position a small 2x4 piece of wood directly under the motor mount and carefully lift the motor.
- 13) Repeat HEADER INSTALLATION Steps #1-14 in order to install the driver side header assembly.
- 14) Install the y-pipe assembly to the catalytic outlets and exhaust system.
- 15) Reconnect the secondary O2 sensors to the proper location on the wiring harness.
- 16) Reconnect the battery. Start the vehicle and check for any exhaust leaks.
- 17) Re-torque all hardware after approximately 30 minutes of operation.