

318-360 93-99 GRAND CHEROKEE (DODGE MAGNUM ENGINE)



PARTS INCLUDED

Ref.	Description	Qty
1)	Driver Side Header Assembly	1
2)	Passenger Side Header Assembly	1
3)	Connector Pipe Assembly	1
4)	Catalytic Converter Adapter	1
5)	Header Gaskets (set of 2)	1
6)	Collector Gaskets (set of 2)	1
7)	Cat Adapter Gasket	1
8)	EGR Feed Tube Gasket	1
9)	EGR Block-Off Plate	1
10)	5/16"-18X1" Header Bolts	14
11)	3/8"-16X1 1/4" Hex Head Bolts	9
12)	3/8"-16 Hex Nuts	11
13)	3/8" Flat Washers	9
14)	5/16"-18X1" Hex Head Bolts	2
15)	5/16" Flat Washers	2
16)	5/16"-18 Hex Nuts	2

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TOOLS REQUIRED

Ref.	Description	Ref.	Description
1)	Heating Torch	9)	3/8", 7/16" Deep Sockets
2)	Mig Welder	10)	15mm Deep Socket
3)	Cut-Off Saw	11)	5/8" Spark Plug Sockets
4)	Sawzall	12)	Ratchet and Extensions
5)	3/8", 7/16", 9/16", 1/2", 3/4", 3/4" Wrench	13)	Pilers
6)	10mm, 13mm, Wrenchs	14)	Crescent Wrench
7)	9/16" Line (flare nut) Wrench	15)	Torque Wrench
8)	5/16", 7/16", 1/2", 9/16" Sockets	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) 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.**

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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.

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.

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- 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) Disconnect the oxygen sensor at the plug and free up the wiring to the sensor. Remove and retain the oxygen sensor. (Note: Failure to disconnect the oxygen sensor wiring from the loom before removal can seriously damage the oxygen sensor.)
- 4) Cut the stock catalytic converter inlet pipe approximately eight inches in front of the forward-most exhaust hanger, just downstream of the oxygen sensor. (Note: This cut will leave you with more stock pipe length than required, allowing you to trim the stock pipe as necessary later in the installation.) Leave the catalytic converter hanging on its mounts.
- 5) Remove the stock connector pipe.
- 6) Place a suitable container under the oil filter to contain any spillage and remove the oil filter.7) Remove the air cleaner ducting.
- 8) Without removing the hoses, unbolt the air conditioning receiver/dryer and move it out of the way.
- 9) Label and remove the spark plug wires. Remove the spark plugs and the spark plug heat shields.
- 10) Remove the heat shields from the stock exhaust manifolds (if applicable) and disconnect the EGR feed tube from the passenger side exhaust manifold.
- 11) Remove the stock exhaust manifolds.
- 12) Remove the studs from the cylinder heads at the center ports. (Note: These studs will be replaced with header bolts. The headers cannot be installed with the studs in place.)

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- 13) Clean all traces of carbon deposits from the cylinder head exhaust port surfaces.
- 14) (Note: The use of high-temp sensor-safe silicon sealer between the header flange and header gasket is highly recommended.) Place the passenger side header and supplied header gasket into position from above the vehicle. Start two supplied 5/16"-18 x 1" header bolts and in any two bolt holes. Do not fully tighten the bolts at this time, allowing movement of the header during installation of the connector pipe assembly.
- 15) (Note: The use of high-temp sensor-safe silicon sealer between the header flange and header gasket is highly recommended.) Place the driver side header into position from below the vehicle. Start two supplied 5/16"-18 x 1" header bolts and in any two bolt holes, leaving them slightly loose as in Step 14.
- 16) Attach the new connector pipe assembly to the header collectors using the supplied collector gaskets, 3/8"-16 x 1-1/4" hex head bolts, nuts, and washers. Do not fully tighten at this time, allowing for slight movement of the connector pipe assembly.
- 17) Install supplied 5/16"-18 x 1" header bolts and in the remaining bolt holes on both headers and tighten them to factory specs.
- 18) Connect the EGR feed tube to the flange on the passenger side header using the supplied EGR gasket, and two supplied 5/16"-18 x 1" bolts, lock washers, and nuts.
- 19) Reinstall the spark plugs, spark plug heat shields, and spark plug wires. Swing the receiver/dryer back into position and tighten it securely.
- 20) Reinstall the air cleaner ducting.
- 21) Check the alignment of the connector pipe assembly. Put the supplied catalytic converter adapter into place and make a final cut to appropriate length on either the stock catalytic converter inlet pipe or the supplied catalytic converter adapter.
- 22) Tighten all connector pipe-to-header fasteners to factory specs.

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- 23) Attach the catalytic converter adapter to the connector pipe assembly using the supplied catalytic converter adapter gasket, 3/8"-16 x 1-1/4" hex head bolts, nuts, and washers. Tighten to factory specs. (See Illustrations, Figure 1 for a view of the assembled system.)
- 24) Weld the catalytic converter adapter to the catalytic converter inlet pipe.
- 25) Reinstall the oxygen sensor and reconnect the wiring.
- 26) Install the oil filter and check the engine oil level.
- 27) Reconnect the battery. Start the engine and check for leaks.
- 28) Because the header bolts will initially stretch when hot, we recommend adhering to the following steps:
 - a) Retorque the header bolts to factory specs after 20 minutes of operation. (Note: Remember the engine will be hot at this time. Protect yourself accordingly.)
 - b) Retorque the header bolts to factory specs after the first month of operation.

ILLUSTRATIONS

FIGURE 1

