

HEADER INSTALLATION INSTRUCTIONS

Part # D450

APPLICATION

1963-1966 Dodge Dart, Plymouth Barracuda, and Valiant

273-360 LA Motor

**** Please Read All Instructions before attempting installation! ****

PerTronix® thanks you for choosing **DOUG'S HEADERS**, the best fitting, highest quality header on the market. In order to realize the full potential of our good fit, please read and understand these instructions completely prior to starting work. CHECK TO MAKE SURE YOU RECEIVED THE PROPER PARTS FOR YOUR APPLICATION. THE HEADER NUMBER WILL BE STAMPED ON THE ENGINE FLANGE. IF YOU ARE UNSURE YOU HAVE RECEIVED THE PROPER PARTS CALL BEFORE YOU START WORK.

BE SURE TO WORK SAFE! WHENEVER YOU WORK UNDER THE VEHICLE BE SURE THAT IT IS LOCATED ON LEVEL, SOLID GROUND AND IS SUPPORTED BY ADEQUATE SAFETY STANDS!

REMEMBER: HOT ASPHALT WILL NOT SUPPORT MOST JACK STANDS!

Many factors affect the installation of headers, some of which are broken or aftermarket motor mounts, accidents that impact the configuration of the frame, and/or the installation of different engines or aftermarket cylinder heads. Most installations require some welding. If you are uncomfortable with welding operations, we recommend that you contact a professional exhaust system specialist to install your new headers.

Attention Customers breaking in new engines: Due to the extreme heat generated during the break-in process, the appearance of the ceramic coating may be altered in certain areas. The protection characteristics and thermal barrier properties of the coating is never compromised. It is recommended that a cast iron manifold or old set of headers be used for this process.

Notice: The coating of these headers can be marred or scratched during installation. If the header needs to be returned and is damaged, you will be charged for recoat.



WARNING: These headers are legal for Off Highway use (except in California or states that have adopted California emission standards) or Racing use (which may never be used on a Highway), or for use on pre emission controlled motor vehicles/motor vehicle engines (pre 1966 domestic vehicles certified to California standards, pre 1968 domestic vehicles certified to Federal standards and all pre 1968 Foreign vehicles) **Only**.

Note: It is recommended that you use the Mopar Mini Starter, Part# P5249644AC for added clearance and ease of installation. Required for 727 transmission

Note: The Original Bellhousing and Clutch in these cars for the 9.5" Clutch. Many have been upgraded to the Aluminum Bellhousing and 10.5" Clutch. If your car has been upgraded, a special clutch fork is required for this header to work. Please see explanation at the end of these instructions before beginning the installation.

Note: This is a multi piece header and a very tight installation. Please allow plenty of time and exercise patience when installing this header. It will be easier if you have a friend to help hold the headers during installation. The flanges for the slip tubes are not cut all the way at the factory to prevent damage to the header during shipping. You will need to cut the flanges the remaining portion before installing the headers.

DISASSEMBLY

1. Disconnect the negative battery cable from the battery.
2. If a car lift is not available, raise the vehicle 2 feet or higher and support it with adequate safety stands. Make sure the vehicle is on a flat solid surface and is stable.
3. Apply penetrating oil to all nuts and bolts to be removed.
4. Drain the radiator and save the anti-freeze.
5. Remove and mark all spark plug wires and then remove all spark plugs.
6. Cut head pipes off just before the transmission cross-member approximately three inches in front of the transmission mount. Loosen and remove all head pipe bolts.
7. It is easier to remove the factory exhaust manifolds if you lift the motor 3-4". To do this, you will have to remove the ¾" nut and washer located at the bottom of the K-member. Place a jack with a board between the jack and the oil pan to support the motor and lift the motor 3-4". It is best to do this by offsetting the jack and doing one side at a time. While the engine is still in the air, remove the old manifold from the top of the car. Set the engine back down and do the other side. You will have to lift the engine up again to install these headers.
8. We recommend removing all of the exhaust studs (with a stud removal tool) and chasing the threads with a tap. Do not force them. You may break a stud. If they won't come out, just leave them in. You can still install the headers with the studs in but the supplied bolts make for an easier installation.
9. Turn the wheels all the way to the right towards the passenger side. Remove the wire connections to the starter and remove the starter.
10. Remove the cotter key and nut from the idler arm on the passenger side of the car. You can do this from the top of the car by using a 2 foot long extension and a ¾" universal socket. Use a pickle fork and hammer to remove the idler arm from the frame being careful to not damage the idler arm. Pull the idler arm down as far as it will go.
11. It is much easier to install the driver's side header if you remove the torsion bar first. The header can be installed with the torsion bar in place but you will probably wish you removed it first.
12. Remove the oil filter and 90 degree adaptor from the motor.
13. Remove the gaskets and any gasket material or any carbon deposits that remain on the head surface. The use of a gasket removal agent will ease the removal of any gasket material. Use care not to get debris into ports or spark plug holes.
14. If you have left the two exhaust studs in the head, it will be necessary to notch the outside of the flanges to the bolt hole. Remember, it is only necessary to cut the outside holes on each of the two header flanges.

ASSEMBLY

1. Turn the wheels all the way to the left towards the driver's side. **We strongly recommend that you remove the driver's side torsion bar, it is possible to install the header without removing it, but you will wish you had!** Lift the motor 3-4" and starting on the Driver's side, slide the lower main section of the header from underneath the car. If you did not remove the torsion bar, you will have to spread the two pairs of tubes apart slightly to get around the torsion bar. Note: The two flanged tubes go on the inside of the torsion bar and the two slip connection tubes go on the outside of the torsion bar. You may have to twist and rotate this section up and down and side to side in order to get this by the torsion

- bar. Be careful not to bend the slip connections while doing this process. Once the header is in, let it set in that position and go onto the next step.
2. Turn the wheels all the way to the right, towards the passenger side. Be careful not to run the wheel into the header. Install the starter and tighten the bolts securely, but do not install the wires yet.
 3. From above slip the upper center section of the header into position. Make sure that one flange goes under the steering shaft. Do not bolt it up. Pull the center section of the header forward towards the front of the car and let it rest there.
 4. Apply Hi-Temp Sensor-Safe Silicone Sealer on the slip connection. From the top slip the #4 tube into the lower main section of the header (this is the tube closest to the firewall). Twisting the tube while inserting may make this process easier.
 5. Bolt the upper center section to the bottom of the header. To do this, apply a THIN film of Ultra Copper Hi-Temp Sensor-Safe Silicone Sealer on both sides of the two flange gaskets and insert them between the two flanges. To align the bolt holes, start one bolt from the bottom through the hole that has the nut welded on it. To get to this bolt use a 15" or longer 1/4" drive extension with a 9/16" universal socket. Do the same on the other flange but from the top. **Do not tighten.** These are difficult to get to, take your time and be patient.
 6. Start the rest of the nuts and bolts, making sure that you use lock washers.
 7. Lower the motor back into position and tighten the bolt on the driver's side.
 8. Slip the header gasket between the head and the flange. Start the four 5/16" header bolts with lock washers. **Do not tighten.** Tighten the lower two bolt flanges.
 9. Apply Hi-Temp Sensor-Safe Silicone Sealer on the front tube slip connection and insert it. Install the last two 5/16" header bolts and lock washers. If you left the two exhaust studs in, use the factory manifold washers and nuts on the two end studs. Tighten all bolts or studs evenly.
 10. Replace the starter wires, making sure they have adequate clearance around the header.
 11. Reinstall the torsion bar if removed. Re install the oil filter mount and filter. Check the oil!
 12. Check for clearances around shift cables, wires, brake lines, etc. *It will be necessary to move the front brake line away from the header tube as well as the proportioning valve.*
 13. Raise the passenger side of the motor 3-4". Remove the two slip tubes from the main header. With the idler arm pulled down and out of the way, install the main section of the header from underneath the car. Make sure that one slip connection is on the outside of the torsion bar.
 14. If you left the factory exhaust studs in, cut the two end flanges like the left side.
 15. Apply a generous portion of Ultra Copper Hi-Temp Sensor-Safe Silicone Sealer to the #4 (rear) tube slip connection and insert it into place.
 16. Lower the motor back into position and tighten the motor mount nuts.
 17. Slip the header gasket between the head and the flange. Start the four 5/16" header bolts and lock washers. Do not tighten.
 18. Reinstall the idler arm and tighten the 3/4" nut securely and insert a new cotter key.
 19. Apply Hi-Temp Silicone Sealer to the #1(front) tube slip connection and insert it into place, twisting as needed to seat it completely.
 20. Tighten all bolts and studs. Like the left side, use the factory exhaust nuts and washers on the two end studs.
 21. Check for clearances around shift cables, wires, brake lines, etc. It will be necessary to move the front brake line away from the header tube.
 22. Put the anti-freeze back in and replace the battery ground cable.

IMPORTANT CHECK LIST

- Be sure that all brake lines and fuel lines are clear of headers and/or connector pipes.
- All spark plug wires, battery cables, or other electrical components should be clear of headers and/or connector pipes.
- Double-check the tightness of all bolts including brackets and accessories.

START THE ENGINE

Start the engine and allow it to warm up to operating temperature. Check for any unusual noises or exhaust leaks. If everything is OK, stop the engine and tighten all bolts while the engine is still warm.

NOTE: Check the bolts periodically to make sure they have not loosened. Re-tighten after the first 500 miles and then again at 1000 miles.

PARTS LIST

<u>Qty</u>	<u>Description</u>
1	Left Side Header
1	Right Side Header
2	Header Gaskets
2	2 ½" Reducers
2	2 ½", 3 Bolt Collector Gaskets
2	1 5/8", 2 Bolt Gaskets
16	5/16"-18 X 1" Header Bolt
16	5/16" Lock-Washers
4	5/16"-18 Hex Nuts
6	3/8"-16 X 1 ¼" Hex Head Cap Screws
6	3/8"-16 Hex Nuts
6	3/8" Lock-Washers

SPECIAL INSTRUCTIONS FOR CARS WITH 10.5" CLUTCH:

Most conversions to the larger 10.5" clutch and corresponding bellhousing use a 12.5" long throw out bearing arm and pivot bracket from the later A Body cars. This arm will interfere with the installation of these headers and will need to be changed. This requires removal of the transmission. In order to properly position the fork for header clearance, Mopar Performance clutch fork #P4529452 or equivalent will need to be used. Additionally a special Fork Pivot Bracket, Bell Housing Ball Stud Bracket and "Torque Shaft" or "Z Bar" is also needed. These are available from Brewer's Performance (www.brewersperformance.com) or Mancini Racing (www.manciniracing.com). These parts are necessary to keep the geometry correct on the clutch fork.