

PATRIOT™

Exhaust Products

Corporate Office: PerTronix Inc. 440 E. Arrow Highway, San Dimas, California 91773 * Phone 909.599.5955 * FAX 909.599.6424 * www.patriotexhaust.com

HEADER INSTALLATION INSTRUCTIONS

H8301 & H8301-1

PONTIAC

70-79 Firebird, Trans Am & 64-75 GTO, LeMans, Grand Am



This product is Legal for use on 1974 Non-Catalyst equipped vehicles and is considered a "Replacement Part" per California Air Resources Board regulations, as long as ALL emissions sensitive components are retained, Including EGR, A.I.R., Heat Risers etc. Failure to retain any of these components , or use on 1975 or newer Catalyst equipped vehicles, would render this product Illegal for Street or Off Highway use and may only be used for Closed Course Competition.

PerTronix® thanks you for choosing **PATRIOT Exhaust Products**, the best value for the dollar of any brand in the industry. Please read and understand these instructions completely prior to starting work.

CHECK TO MAKE SURE YOU RECEIVED THE PROPER PARTS FOR YOUR APPLICATION. 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:

This product can expose you to chemicals including Lead, Nickel, Cadmium and Chromium which are known to the State of California to cause cancer and birth defects or other reproductive harm. **For more information go to**
www.P65Warnings.ca.gov

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. Remove and mark all spark plug wires and then remove all spark plugs.
NOTE: Grasp the spark plug boot, not the wire, and use a twisting motion while pulling the wire from the plug.
5. Disconnect the head pipes from the exhaust manifolds and remove the manifolds.
6. Replace the spark plugs finger tight so debris will not get into the cylinders during the cleaning operation.
7. Remove the starter, clutch linkage (if manual transmission).
 - a. Note: 1975 Le Mans: Remove and discard the stock solenoid heat shield.
 - b. Note: Late models require removal of shift linkage, steering lock-out device and chassis support rods.
8. Remove oil filter assembly from block.
 - a. Late Models: remove and discard chassis support rod.
9. Remove 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. We recommend the use of a sharp gasket scraper to remove the bulk of material and to finish the operation with a sanding block to provide a clean flat sealing surface.
10. After cleaning is complete remove the spark plugs again.

ASSEMBLY

1. Apply a **THIN** film of Ultra Copper Hi-Temp Sensor-Safe Silicone Sealer to each side of the header flange gaskets around each of the exhaust port openings and let set up for a couple of minutes.
2. Stick the gaskets onto the headers. Small pieces of masking tape can be used to help hold the gasket to the header.
3. Apply a small amount of anti-seize to the header bolts supplied with the headers.
4. Remove center bolt from left motor mount and jack up engine approximately 2-3". Note: Be sure to use a board between oil pan and jack.
 - a. Note: 1975 Le Mans: No need to raise engine for header installation.
5. Start the left header from below and work it up through the chassis into position over the exhaust ports. Start header bolts.
6. Lower engine and replace motor mount bolt.
 - a. Note: Early models may require adding spacers to raise motor mount 1/4" to 1/2" for added header clearance of cross member.
7. With the header loose, replace the clutch linkage (if removed).
8. Tighten all header bolts evenly to a final torque of approximately 35 ft. lbs.
 - a. Note: It may be necessary to relocate the brake block slightly for adequate header clearance.
 - b. Note: Some models may require removal or modification of the splash pan.
9. Replace the starter.
10. Note:
 - a. Late models: Modify and replace shift linkage and steering lock-out device as shown in Figures "A", "B" and "C". 1976 Trans Am: Discard lock-out rod, lock-out linkage must be secured in a position which will not lock steering wheel.
 - b. To retain heat to the carburetor, modify stock heat stove according to Figure "D" and reinstall.
 - c. Late models: Discard stock chassis support rod.
 - d. Check clearance between upper "A" arm and header (push down on front of the car several times). If header comes in contact with the "A" arm bolt, cut off top of bolt. If header comes in contact with upper "A" arm, then "A" arm must be marked and trimmed as necessary to insure adequate clearance.
 - e. If clutch linkage clearance is a problem, bend according to Figure "E". If further clearance is needed on early 'A' bodies, purchase Chevrolet Part No. 3920615 (Chevrolet clutch cross shaft) from your local Chevrolet dealer.

11. Remove center bolt from right motor mount and jack up engine approximately 3". Note: Be sure to use a board between oil pan and jack.
 - a. Note: 1975 Le Mans: No need to raise engine for header installation.
12. Start the right header from below and work it up through the chassis into position over the exhaust ports. Start header bolts.
 - a. Note: Cars equipped with automatic transmission may require cooler lines to be disconnected.
13. Lower engine and replace motor mount bolt.
 - a. Note: Early models may require adding spacers to raise motor mount 1/4" to 1/2" for added header clearance of crossmember.
14. Replace oil filter.
 - a. Note: On 1975 Le Mans it may be necessary to slightly dent either the R-4 header tube or the oil filter for adequate clearance.
15. Start all bolts and tighten evenly.
16. Note:
 - a. On models equipped with automatic transmission, reconnect the cooler lines and check for adequate clearance. Reroute as necessary.
 - b. For additional clearance from the oil gauge sending unit, install a 45° adapter.
 - c. Check clearance between upper "A" arm and header (push down on front of the car several times). If header comes in contact with the "A" arm bolt, cut off top of bolt. If header comes in contact with upper "A" arm, then "A" arm must be marked and trimmed as necessary to insure adequate clearance.
17. Tighten all the header bolts evenly to a final torque of approximately 35 ft. lbs.
18. Replace the spark plugs. When you install the spark plugs, apply a **small** amount of anti-seize to the threads.
19. Use the supplied reducers to connect the collectors to your stock exhaust system.
20. Connect the negative battery cable.
21. Check over the installation to make sure that all wires, lines, hoses. etc. are connected and have adequate clearance to protect them from the heat generated by the headers.

START THE ENGINE

Start the engine and allow it to warm up to operating temperature. Check for any unusual noises or exhaust leaks. If every thing 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.

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.
- If dipstick tube was removed, make sure it is installed properly and that the dipstick has been replaced.
- Double-check the tightness.

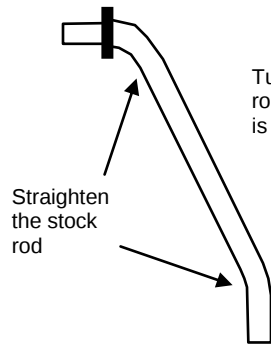
PARTS LIST

<u>Qty</u>	<u>Description</u>
1	Left side header
1	Right side header
2	Reducers
2	Header gaskets
2	3" flat gaskets
12	3/8"-16 x 3/4" header bolts
6	3/8"-16 x 1" hex head cap screws
6	3/8"-16 hex nuts

Figure A

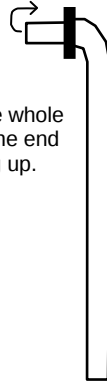
Step 1

STOCK



Step 2

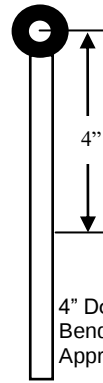
STRAIGHT ROD



Turn the whole rod so the end is facing up.

Step 3

END FACING UP

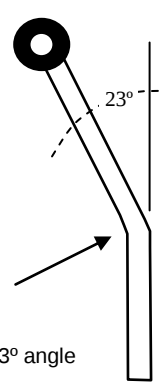


4"

4" Down Bend rod. Approx. 23° angle

Step 4

MODIFIED ROD



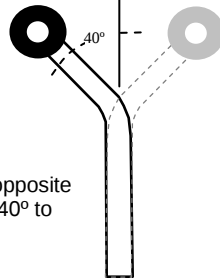
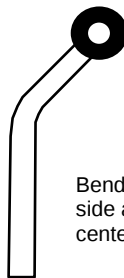
23°

1970 - 70 Firebirds

Figure B

STOCK ROD

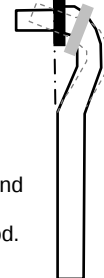
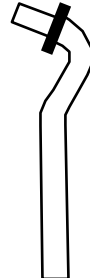
MODIFIED ROD



Bend rod to opposite side approx. 40° to center line.

STOCK ROD

MODIFIED ROD



Bend rod end parallel to length of rod.

1973 - 74 Models

Figure C

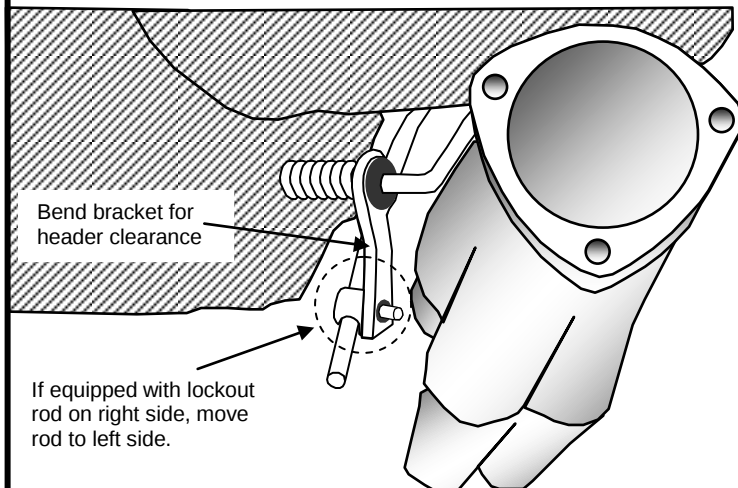


Figure D

HEAT STOVE
MODIFICATION

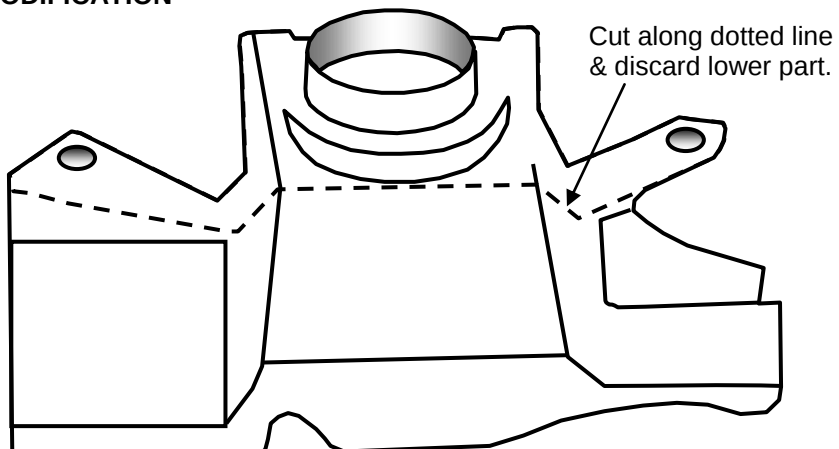


Figure E

Bend clutch cross shaft
to clear L-2 & L-4 tubes

