

HEADER INSTALLATION INSTRUCTIONS APPLICATION

**1973-1991 PICKUP, SUBURBAN, BLAZER, JIMMY (With/Without HEAT RISER)
PART NUMBERS: D3364Y-1, -2, -3, -4, & -6 (Also SP and DP Models of this series)**



The product accompanying this document has been granted a California Air Resources Board (CARB) exemption, an "E.O." number, or is a direct or consolidated replacement part. It is 50-state legal, when installed on the appropriate vehicles per the manufacturer's application guide.

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.

DISASSEMBLY

1. Disconnect the negative battery cable from the battery.
2. Remove the alternator bracket.
 - a. See Page 5, Figure 1. If your vehicle has this style alternator support bracket you will need to cut as shown prior to removal for ease of removal. Make the "FIRST CUT" in the vehicle with a Sawzall® (or equivalent). Remove the right hand portion and make the "SECOND CUT" with the bracket held securely in a vise.
3. 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.
4. Apply penetrating oil to all nuts and bolts to be removed.
5. Remove the air cleaner assembly and the engine oil dipstick and dipstick tube.

6. Note the location and arrangement of the spark plug wires and carefully remove them. Use a twisting motion while pulling away from the plug. **Pull the boot, not the wire.**
7. If applicable, remove the spark plug wire looms (leaving the wires in the looms) and secure the looms out of the way.
8. Remove the spark plugs.
9. If applicable, remove the A.I.R. harnesses (smog pump fittings) from the stock exhaust manifolds by disconnecting them at the junctions to the hoses.
10. If applicable, disconnect the oxygen sensor wiring at the harness end and remove the wiring from any tie-downs that may be present. Remove the oxygen sensor. (Note: Failure to disconnect the oxygen sensor wiring so that it is free to rotate with the oxygen sensor can seriously damage the oxygen sensor).
11. Remove the catalytic converter clamp and stock head pipes and connector pipe. (Note: The use of heat and/or force may be necessary to separate the system at this point. Do not cut this junction apart. It is illegal to modify the front of the catalytic converter).
12. Clean the head surface of any carbon deposits or other foreign material.

ASSEMBLY

1. If applicable, trial fit the A.I.R. harness onto the headers, removing them before installing the headers.
2. On some 1981 and later models, the air conditioning bracket may require modification as shown on Page 5, Figure 2.
3. Apply a **THIN** film of Ultra Copper Hi-Temp Sensor-Safe Silicone Sealer to the header side of one of the supplied gaskets and glue it to the driver side header. Masking tape can be used to help stick the gasket to the manifold.
4. Apply anti-seize to all header bolts being used.
5. Apply a **THIN** film of Ultra Copper Hi-Temp Sensor-Safe Silicone Sealer to the engine side of the gasket and install the driver side header from below the vehicle. Use the original bolt (NOT A SUPPLIED HEADER BOLT) in the front bolt hole. Use a supplied 3/8" lock-washer and the 1" spacer on this bolt as well. Install the supplied 3/8"-16 X 1 1/4" header bolts and 3/8" lock-washers in the remaining 5 bolt holes. Tighten to 35 ft/lbs.
6. Reinstall the driver side spark plugs.
7. Reinstall the alternator bracket and weld the two pieces back together where the "First Cut" was made (as shown on Page 5, Fig. 1).
8. Reinstall the driver side spark plug wiring harness looms using the four supplied 1/4" dia. x 3.4" long aluminum spacers, 1/4"-20 x 1 1/4" hex head cap screws and 1/4" lock-washers.
9. If applicable, reinstall the oxygen sensor into the fitting in the header. If no sensor, install the 18mm O² plug.
10. If applicable, reinstall the A.I.R. harness onto the driver side header and securely tighten the fittings. Reconnect the feed hose.
11. Apply a **THIN** film of Ultra Copper Hi-Temp Sensor-Safe Silicone Sealer to the header side of one of the supplied gaskets and glue it to the passenger side header. Masking tape can be used to help stick the gasket to the manifold.
12. Apply a **THIN** film of Ultra Copper Hi-Temp Sensor-Safe Silicone Sealer to the engine side of the gasket and install the passenger side header from below the vehicle using the supplied 3/8"-16 x 1 1/4" header bolts and 3/8" lock-washers. Tighten to 35 ft/lbs.
13. Reinstall the engine oil dipstick tube and dipstick.
14. Reinstall the passenger side spark plugs.

15. Reinstall the passenger side spark plug wiring harness looms (and if applicable, the dipstick tube support bracket). (Note: The dipstick tube may require slight, careful bending to conform to its new location. Allow at least 1/4" clearance between the dipstick and the header.
16. If applicable, reinstall the passenger side A.I.R. harness on the header, tighten securely, and reconnect the feed hose.
17. Reinstall all spark plug wiring.
18. Install the supplied catalytic converter adapter into the entrance of the catalytic converter, with the bolt hole clocking as shown on Page 6, Figure 3. Use a hammer and block of wood to drive the adapter in until it stops, then reinstall the factory clamp loosely.
19. Attach the supplied Y-pipe assembly to the header collectors and the catalytic converter adapter using the appropriately sized supplied collector gaskets, 3/8"-16 x 1 1/4" hex head cap screws, nuts and washers. Assemble loosely so that it can be properly aligned later in the assembly procedure.
20. If applicable, the supplied heat riser (replaces your original heat riser) should also be installed between the passenger side header collector and the Y-pipe assembly at this point, using another supplied 2 1/2" collector gasket and the 3, 3/8"-16 x 2 1/2" hex head cap screws (instead of the 1 1/4" hex head cap screws), nuts and lock-washers. (See Page 6, Figure 4 for an exploded view of the heat riser assembly).
21. Reattach the vacuum tube to the heat riser.
22. Check for proper alignment of the Y-pipe and tighten the bolts.
23. With the exhaust system aligned properly, tighten the catalytic converter adapter clamp.
24. If applicable, attach the supplied Hot Air Pickup Tube as shown on Page 6, Figure 4.
25. An example of a completed assembly is shown on Page 7, Figure 5.
26. Reinstall the air cleaner assembly.
27. Connect the negative battery 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.
- If dipstick tube was removed, make sure it is installed properly and that the dipstick has been replaced.
- Double-check the tightness of all bolts including brackets and accessories.
- Perform these checks again after the first 1000 miles.

START THE ENGINE

Start the engine and allow it to warm up to operating temperature.

Caution! Hot parts! Wear protective clothing as needed.

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.

PARTS / HARDWARE LIST

Qty. Description

1	Right side header
1	Left side header
1	Y-Pipe assy.
1	Connector Pipe
2	Header gaskets
1	O ² sensor plug, 18mm
1	3/8" Spacer, 1" long, mild steel
4	1/4" Spacer, 3/4" long, aluminum
4	1/4-20 x 1 1/4" Hex head cap screw
4	1/4" lock-washer
1	Hot air pickup
1	Worm gear hose clamp, Stainless, #24
12	3/8"-16 x 1 1/4" header bolt
21	3/8" Lock-washer
9	3/8" Hex nut
1	Cat. Conv. adapter: 2 1/2" in X 2 1/2" out X 4 1/2" long (None supplied w/D3364Y-3, -4, -6)
1	Cat. Conv. adapter: 3" in x 3" out x 4 1/2" long (None supplied w/D3364Y-1 & -2)
1	Vacuum heat riser (None supplied w/D3364Y-2, -3, -5)
3	3/8"-16 x 2 1/2" hex head cap screw (None supplied w/D3364Y-2, -3)
6	3/8"-16 x 1 1/4" hex head cap screw (9 supplied w/D3364Y-2, -3)
4	2 1/2" Collector gaskets (3 supplied w/D3364Y-2, -4 & -6) (2 supplied w/D3364Y-3)
1	3" Collector gasket (None supplied w/D3364Y-1 & -2)
1	Sticker (C.A.R.B., E.O., D-57-19)
1	Installation instruction sheet
1	Warranty statement sheet
1	Doug's merchandise card
1	Decal: DOUG'S HEADERS



WARNING

This label is required to aid in passing the California smog check program. This label must be installed in an underhood location that is readily visible.

TOOLS / LUBRICANTS / SEALERS REQUIRED LIST

Description

Heating torch
Mig welder
Cut-off saw
Sawzall® (or equivalent) w/metal cutting 6" blade
3/8", 7/16", 9/16", 1/2", 3/4", 7/8", 10mm and 13mm wrenches
9/16" Line wrench (flare nut)
5/16", 7/17", 1/2" and 9/16" sockets
3/8" & 7/16" and 15mm deep sockets
5/8" spark plug socket
Ratchet and extensions
Pliers and an adjustable jaw wrench
Torque wrench
Rust penetrant
High temp 700° F "sensor-safe" silicon sealer:

Figure 1

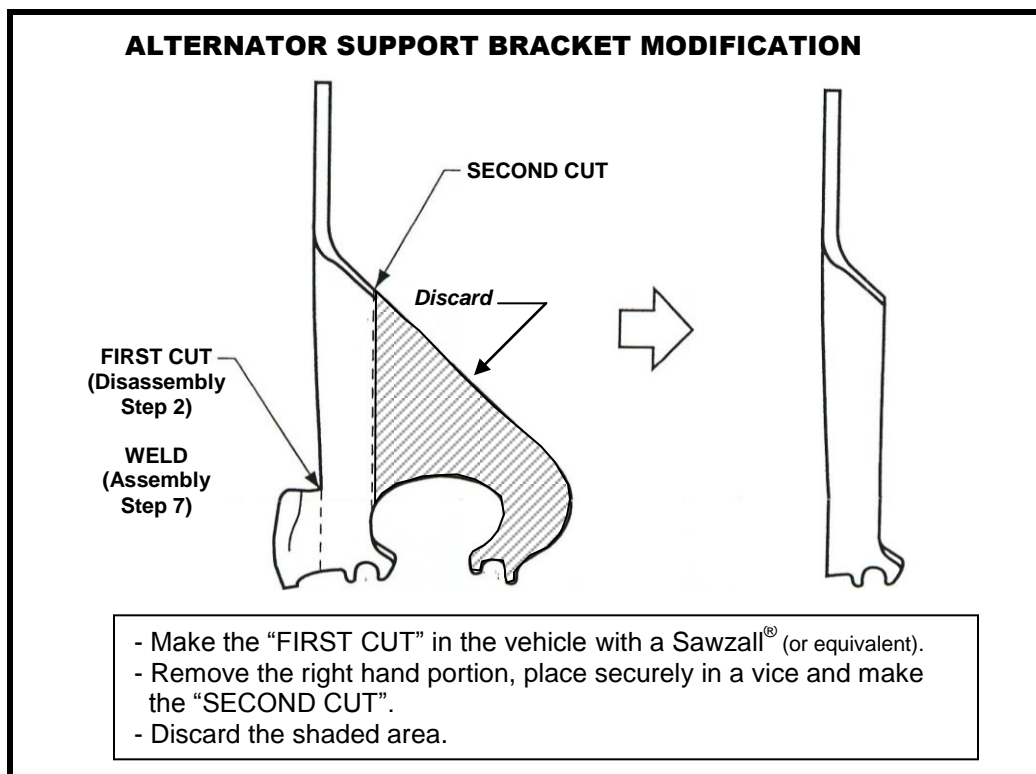


Figure 2

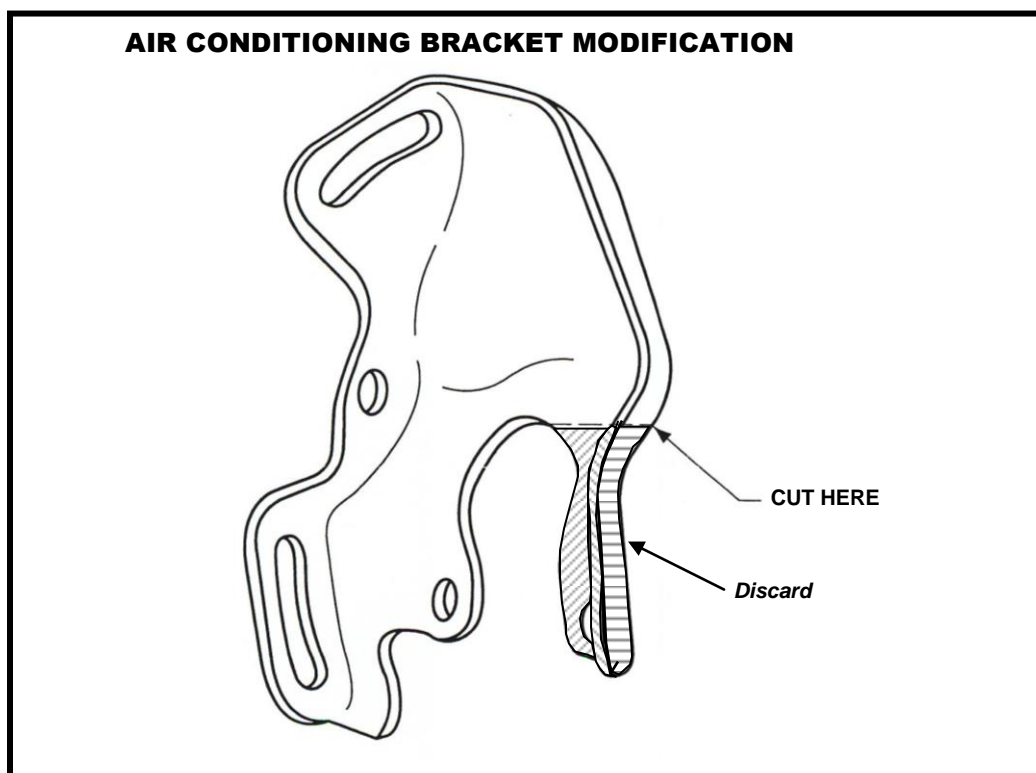


Figure 3

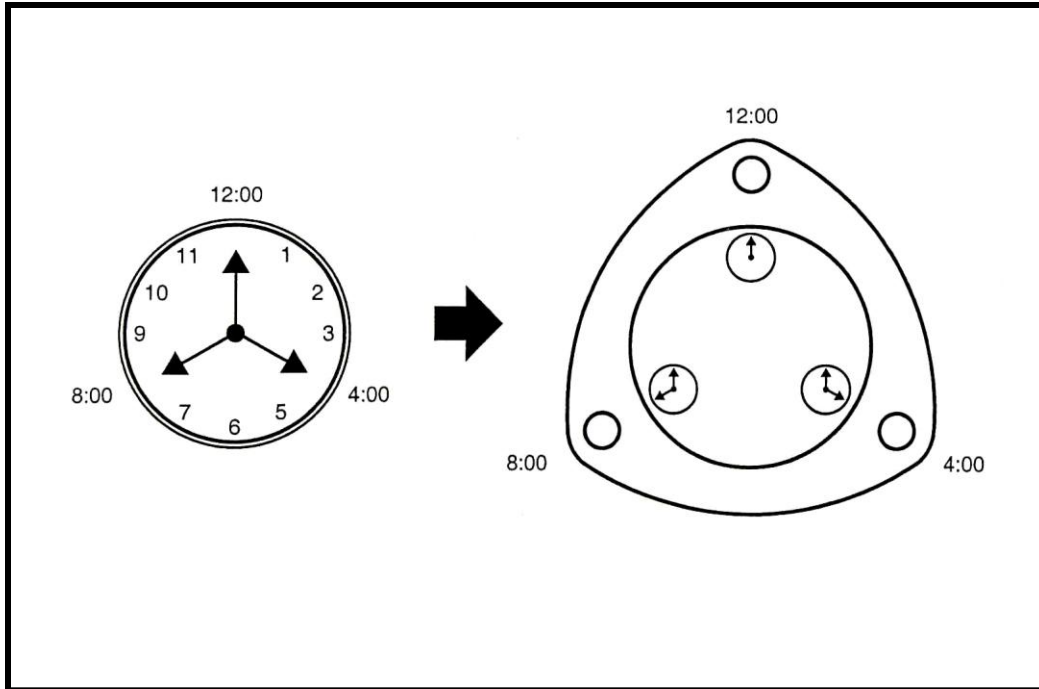


Figure 4

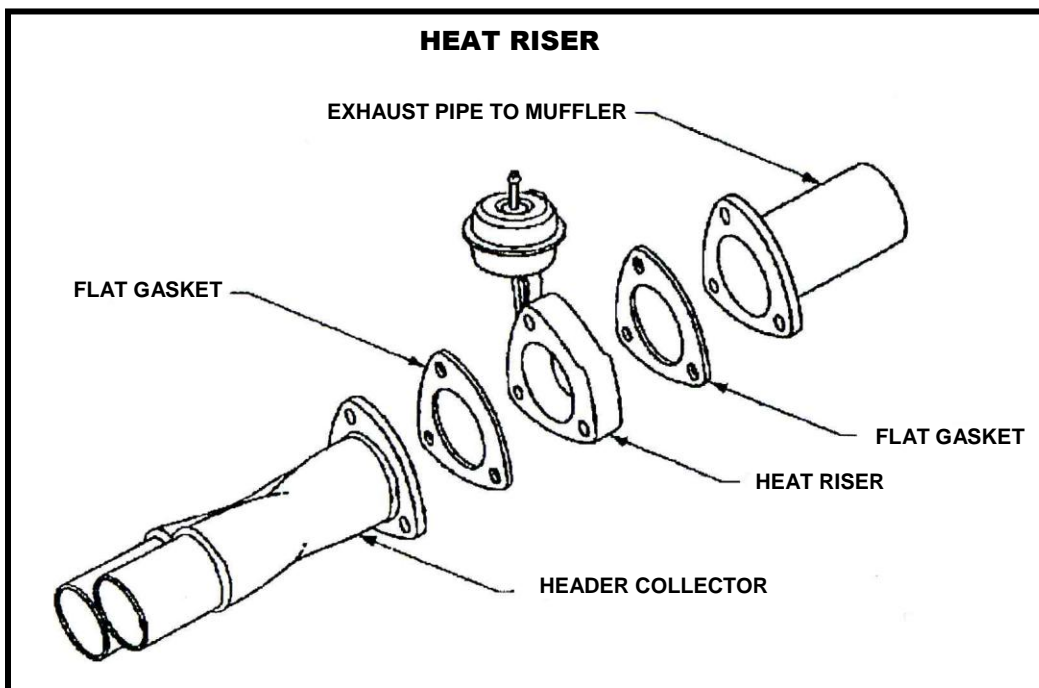


Figure 5

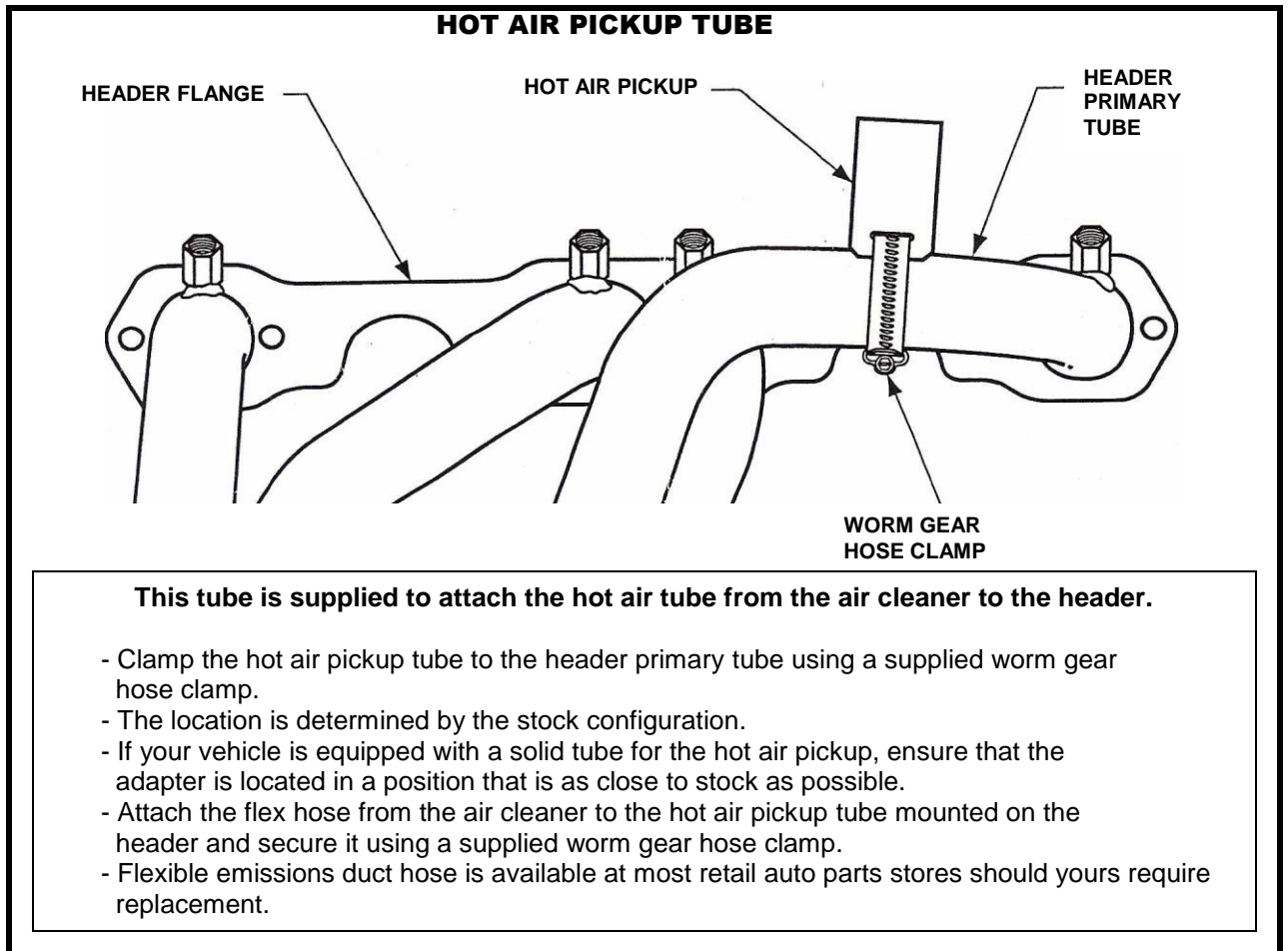
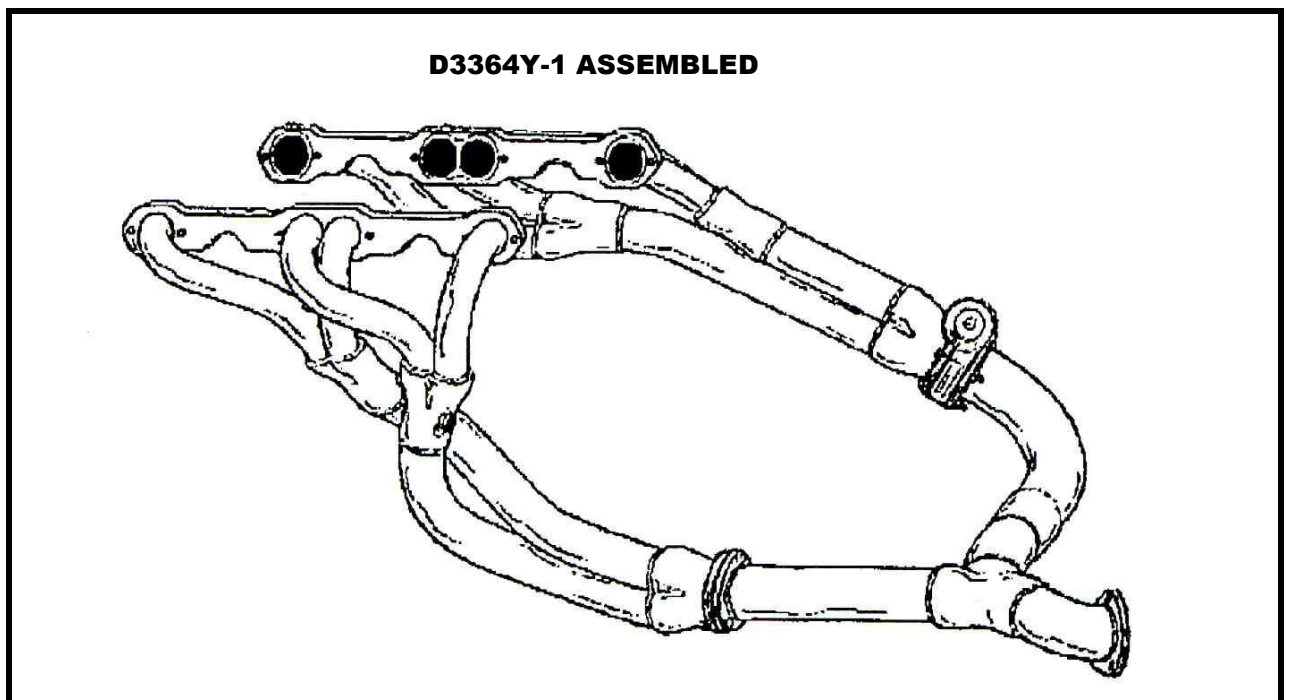


Figure 6



AIR INJECTION LOOM INFORMATION

Note: Should you require replacement of the stock air injection looms, your local GM parts department may be able to provide replacement air injection looms using these part numbers:

Dual AIR Pump		Single AIR Pump	
Driver side:	14102115	Driver side:	330544
Passenger side:	14102114	Passenger side:	330544

HEAT RISER INFORMATION

What is a heat riser?

The heat riser is a valve that closes off the exhaust on one bank of a V8's cylinders when the engine is cold. This routes the hot exhaust gases from the closed-off bank through the exhaust cross-over at the center of the intake manifold and out through the exhaust manifold on the "open" side. The exhaust heat helps the gasoline in the cold intake manifold reach evaporation temperature more quickly, eliminating "puddling" of raw gasoline in the intake manifold and making the vehicle much more driveable when it is cold. As the engine warms up, the valve opens, allowing the exhaust to flow out through both headers.

What is an "E.F.E. valve"?

"E.F.E." stands for Early Fuel Evaporation, and "E.F.E. valve" is often considered to be another name for the heat riser. Some vehicles, however, have what is referred to as an "E.F.E. system". An E.F.E. system might include both a heat riser in the exhaust manifold and a hot air pickup that draws the engine's intake air across one of the exhaust manifolds to preheat it during cold start conditions. Whatever combination your vehicle came equipped with in its stock configuration is what must be reinstalled and reconnected when headers are installed in order for your vehicle to be smog legal. If in doubt, consult your new-car dealership parts department or an authorized smog inspection/maintenance station.

What controls the operation of the heat riser?

There are two types of heat risers: mechanical and vacuum. The mechanical types use a bi-metallic strip which works like a heat-sensitive spring, opening the valve when it gets hot enough. The vacuum type uses a vacuum canister similar to the vacuum advance on an ignition distributor. Vacuum routed through a heat-sensitive switch (usually monitoring engine coolant temperature) pulls the valve closed when the engine is cold, and then allows it to open by shutting off the vacuum supply when normal operating temperature is reached.