

# Tech Help

## Exhaust Manifold ID & Restoration

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This article will help you identify and restore the correct exhaust manifolds for 1955-1957 V-8's. One of the main problems that 1957 owners encounter with exhaust manifolds is the rusting away of the inner tube in the right-side manifold. This inner tube forms a "heat chamber" for the heat choke tube. This article will explain how to replace the inner tube on the 1957 manifold, as well as how to restore any exhaust manifold.

In the chart at the bottom of this page are listed the casting numbers for the exhaust manifolds and the part numbers for the heat risers found on the right-side manifolds. (The 1957 F.I. engines did not have a heat riser, thus a "spacer" was substituted so that the same exhaust pipe could be used.)

The right-side 1955-1957 exhaust manifold has a plate which forms a "heat chamber" for the heat choke tube. (See Photo #2.)

What is somewhat interesting about the 1957 exhaust manifold is that the same casting number manifold was used on the right side of all 1957 V-8's, the F.I. engines as well as the others.

The fuel injection engines did not use a heat choke tube, thus the manifold was not drilled for the tube.

1. Before starting to restore a pair of exhaust manifolds, check the casting numbers to make sure you have the correct manifolds. (This will not be important if you do not need original exhaust manifolds.)
2. Carefully check the manifolds for cracks. Look around the ports and the studs for cracks which could make them unusable. (Cracks around the studs can sometimes be repaired.)
3. The 1957 exhaust manifold that we restored for this article had the hole welded shut. By carefully grinding this area, we were able to determine where the hole was located. We drilled the hole out by using a 19/64-inch bit and drill.
4. Many of the inner tubes rust away in the middle, leaving the remains of the tube in the upper and lower part of the exhaust manifold. The inner tube is flared at the bottom, so the lower piece must be driven down and out of the exhaust manifold. (Try using a flat-nosed punch to drive the inner tube out of the exhaust manifold.)
5. The size of the upper hole is 19/64 inches wide, and the size of the lower hole is 21/64 inches. You can use a drill and bit to clean out these holes to the proper size.
6. Check the exhaust manifold studs, do not replace any studs unless you have to. Many exhaust manifolds have been broken by people trying to replace studs. The studs on the right-side exhaust manifolds are longer than those on the left side because the heat riser is on the right side.
7. If you must replace a stud, work slowly and carefully. Use a solvent, such as Liquid Wrench. allow the solvent to soak into the manifold. You can try heating the exhaust manifold with a propane torch — not too much heat! Once you "break" the stud loose, work the stud back-and-forth. Slowly back the stud out of the manifold.
8. Use a 3/8-16 tap to clean out the threads in the exhaust manifold. Work slowly and use a cutting oil. You can break the manifold by running the tap into the manifold without stopping and backing up.
9. Bead blast or sandblast the exhaust manifolds.
10. If you are restoring a pair of 1957 exhaust manifolds, install a new inner tube into the right-side manifold. Shafer's Classic Reproductions makes a stainless steel inner tube. You can order this tube as Part #18-94 for \$4.25.
11. The new stainless steel inner tube is installed by sliding the tube through the lower hole in the manifold and then up into the upper hole and should be flush at the top (See Photo #2) when

properly installed. Use a hammer to drive the tube into position. If the tube does not have a tight fit, use a tapered punch to flare the lower end of the tube.

12. To coat the manifold, we suggest using Eastwood's High Temperature "Stainless Steel Coating." This is an excellent product that we have used for several years. Add just a little thinner to make it sprayable, crank up the air pressure to about 60 psi, and apply **one** good, thick coat.

13. Install new studs where required. We use stainless steel studs with brass nuts. At this point, you should have nicely-restored exhaust manifolds which are ready to bolt onto the engine.

Year	Engine	Carburetor	Exhaust Manifold Casting Number	Number of Studs	Heat Riser Part Number
1955	265	2 BC & 4 BC	3704791 (L) 3704792 (R)	2	3721509
1956	265	2 BC & 4 BC	3704791 (L) 3704792 (R)	2	3725981
Early 1956	265	2 x 4 BC	3725563 (L) 3725563 (R)	2	3725981
Later 1956	265	2 x 4 BC	3731557† (L) 3731558† (R)	3	3731396
Early 1957	265	2 BC	3733975 (L) 3733976‡ (R)	3	3734204
1957	283	2 BC & 4 BC	3733975 (L) 3733976‡ (R)	3	3734204
1957	283	2 x 4 BC	3733975 (L) 3733976‡ (R)	3	3734203
1957	283	F.I.	3733975 (L) 3733976★ (R)	3	3737631*

† ... Casting number in the middle of "ram's" horn.  
‡ ... Drilled for heat choke tube.  
★ ... Is not drilled. No heat choke tube.  
\* ... This is a spacer only.

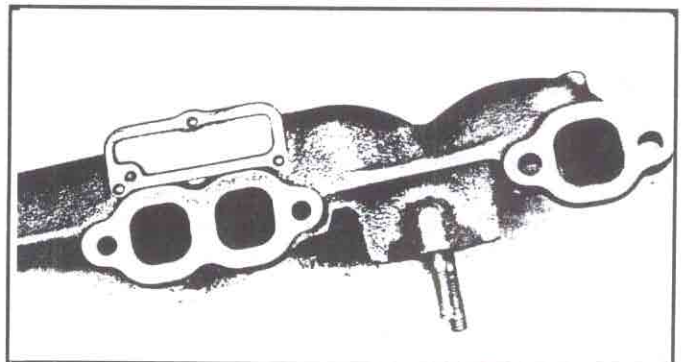


Photo #2

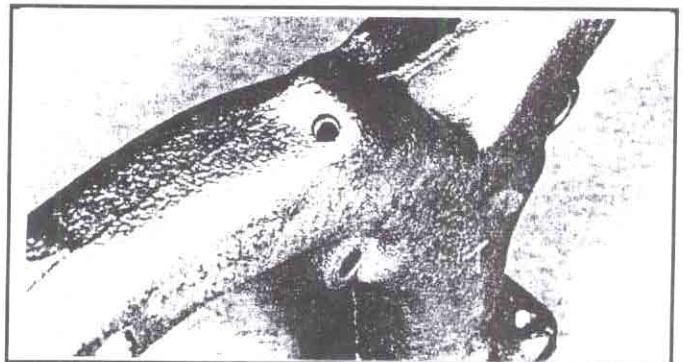


Photo #8