



WANTFOLDS ARE LOST FOAM CASTED

Through the use of precisely molded foam pieces a highly accurate model or pattern for the desired casting can be made.

Complex internal passageways are in the mold itself, not formed by cores.

> For marine manifolds, elbows and thermostat housings, an accurate cast is

crucial for the proper function of the engine part.

A Fully Tuned GLM Manifold will Reduce Back Pressure and Enhance Air Flow adding More Horsepower to your engine.

MODELS / DESCRIPTIONS	GLM NO. CAST IRON	DEALER PRICE
GM V6 w/ 3" Riser	No. 58221 - Cast Iron	Call for price
GM V6 w/ 4" Riser	No. 58222 - Cast Iron	Call for price
GM V8 S.B. w/ 3" Riser	No. 58231 - Cast Iron	Call for price
GM V8 S.B. w/ 4" Riser	No. 58232 - Cast Iron	Call for price
GM V8 B.B. w/ 3" Riser	No. 58241 - Cast Iron	Call for price
GM V8 B.B. w/ 4" Riser	No. 58242 - Cast Iron	Call for price
Ford V8 302/351 CID Carb.	No. 58490 - Cast Iron	Call for price
Ford V8 302/351 CID EFI	No. 58491 - Cast Iron	Call for price
Volvo GM V6 to 1993	No. 58640 - Cast Iron	Call for price
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OMC GM V8 S.B.	No. 58410 - Cast Iron	Call for price
OMC/Volvo GM V8 5.7L	No. 58430 - Cast Iron	Call for price

V6 & V8 MANIFOLD CONVERSION KITS

GM V6 4.3L 262 CID No. 58992 - Cast Iron Call for price

V8 Log Style to 4" Rise Manifold Conversion Kit GM V8 305/350 CID No. 58990 - Cast Iron Call for price

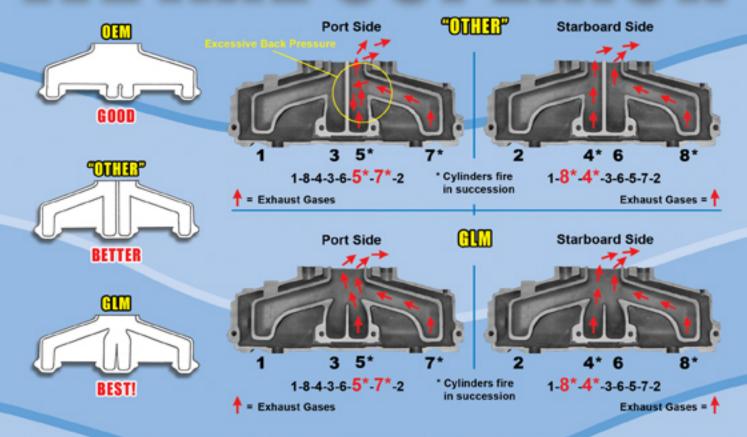
GLM NO. ALUMINUM DEALER PRICE

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THE SYSTEM EVALUATION

high performance aftermarket exhaust manifold can deliver a performance increase over a stock OEM exhaust manifold



If properly designed, it can achieve this by two ways: Separating Exhaust Gas Pulses and Lowering Back Pressure.

All V8 engines have a firing order that fires two cylinders within 90 degrees of each other on the same bank of cylinders. With a firing order of 1-8-4-3-6-5-7-2 we have #8 and #4 firing on the starboard side of the engine within 90 degrees of crankshaft rotation of each other. Of course, this also means that the exhaust gases for these cylinders immediately discharges into the exhaust manifold one after the other. It is at this point, when the two cylinders fill the manifold in immediate succession, that the exhaust manifold becomes overwhelmed with exhaust gases, creating excessive back pressure. In fact, these two cylinders on each bank firing in succession, not only create excessive back pressure in the manifold but all the way down the exhaust pipe. Excessive back pressure from an overwhelmed exhaust system will not only keep spent gases from leaving the cylinder head exhaust port, but in certain ports, exhaust gases from adjacent cylinders may find their way back in.

The solution is to isolate each exhaust gas pulse as much as possible for as long as possible in the exhaust manifold. There are aftermarket manifold manufacturers that go to great lengths to isolate each exhaust pulse the full length of the manifold and there are some that barely

Because the starboard side of the engine fires cylinders 4 & 8 in succession, there is a cylinder (#6) separating the two. Dividing this manifold into two different sections by grouping cylinder #2 and #4 in the front half of the manifold, and #6 and #8 into the back half of the manifold with a divider, works relatively well in isolating cylinders #4 and #8. On the port side of the engine, we have a problem. The cylinders that fire in succession, 5&7, are next to each other. Dividing the port manifold into a front half and back half groups cylinder 1&3 together (which is okay) but also groups cylinder 5&7 together (definitely not okay). This is exactly what we are trying to prevent. The correct way to build the port side manifold is to isolate the exhaust gases from cylinders 5&7 all the way to the manifold exit. This can not be done with a simple divider in the middle of the

Lowering back pressure in the exhaust manifold is a combination of isolating the exhaust pulses as discussed in the previous paragraph and simply making the exhaust system larger. Large passages in the exhaust manifolds, a large exit hole out of the manifold, a large exhaust pipe and large radius curves in the pipe wherever the exhaust gases have to change direction are the secrets to lowering backpressure."



In the 4" elbow, there are two extra exits at each side to increase water flushing to avoid engine treatment.

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KANSAS US Boatworks- Kansas City 913-342-0011 boatengine.com

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