

## Marine Exhaust Manifolds, Marine Manifolds, Marine Exhaust Manifold, Marine Aluminum Exhaust Manifolds

<https://www.perfprotech.com/blog/boat-and-engine-technical-tips/marine-exhaust-systems/center-rise-exhaust-tips>

### Center Rise Exhaust Tips

PPT offers Marine Exhaust Manifolds, Marine Manifolds, Marine Exhaust Manifold, Marine Aluminum Exhaust Manifolds

#### Center Riser Exhaust Manifold Plumbing Tips

##### PLUMBING:

The following plumbing tips cover center riser style manifolds. The diagram shows one side only, plumb the other side the same. The correct way to plumb manifolds varies between engine manufacturers. You should consult your engine manufacturer's service manual for the correct plumbing of your manifold. Generally speaking you should connect your water hoses such that the manifolds fills from the lowest point, and the cooling water then exits from the highest point (overboard through the riser, or through a fitting in the manifold). The purpose in this is so that air/steam can be purged out of the system in an upward manner and therefore prevent the collection of "manifold cracking" steam pockets. Below are several typical ways to plumb a center riser style manifold:

**"ONE HOSE" STYLE** — The water hose is connected to the manifold at its lowest point and water exits overboard through the riser. All other tapped holes are plugged. This type setup typically uses a 4 slot open gasket between the manifold and riser and is common with "cold" manifold style raw water cooling systems or the 1/2 style closed cooling systems.

[To read more about warm versus cold manifold systems, select this link.](#)

[To read more about 1/2 versus full closed cooling systems, select this link.](#)

If your product is equipped as shown in the illustration be sure that the small rectangular hole in the gasket is opposite the exhaust outlet end of the riser.

**"TWO HOSE" STYLE** — One water hose is connected to the manifold at its lowest point and one to the riser. In a "Warm" manifold style raw water cooling system the thermostatically controlled warm water enters and exits the manifold while the cold bypass/excess water exits through the riser. . [To read more about warm versus cold manifold systems, select this link.](#) . All water exits overboard through the riser. All other tapped holes are plugged. Use an open gasket between the manifold and the riser. Be sure that the small rectangular hole in the gasket is opposite the exhaust outlet end of the riser.

**"THREE HOSE" STYLE** — Re-circulating system, preheats water in the manifolds — Two water hoses are connected to the manifold and one to the riser. Water enters the lowest point on the manifold and exits the manifold through a hose at the highest point of the manifold (GM or Ford, see drawing). This water re-circulates through the engine to be distributed by the thermostat housing, to the risers and exits overboard. All other tapped holes are plugged. Use a block off gasket between the riser and the manifold.

**“THREE HOSE STYLE”** — “Warm” style full closed cooling or fresh water cooling, antifreeze in the engine and manifolds. [To read more about 1/2 versus full closed cooling systems, select this link.](#) . — Two water hoses are connected to the manifold and one to the riser. Anti-freeze enters the lowest point on the manifold and exits the manifold through a hose at the highest point of the manifold (GM or Ford, see drawing). Raw water enters the riser at the front and exits overboard. All other tapped holes are plugged. Use a block off gasket between the riser and the manifold. Spacer installation — Use an open gasket between the spacer and the riser. Be sure that the small rectangular hole in the gasket is opposite the exhaust outlet end of the riser. Use an open gasket between the manifold and the spacer. Be sure that the small rectangular hole in the gasket is opposite of the one installed at the riser. This allows for water to flow through from the manifold into the spacer and through the spacer into the riser.



