



**Q.** I realize most people like the new GPS systems for navigation. However, I also want a compass. How do I choose the right compass (besides getting one as a gift. Hint, hint!) and decide where to place it?

**A.** I agree. Many people opt for GPS navigation and neglect the old reliable compass navigation systems. The GPS can be simpler to use and often more accurate for the novice, but a good reliable compass is almost a necessity in my mind. I have had GPS screens fail, database corrupt and numerous other problems. While reliability is very high on the new electronics I always like a backup system, especially if I am going on a long trip with little service available.

Many companies manufacture compass units. One is ComNav Marine ([www.comnavmarine.com](http://www.comnavmarine.com)). They offer numerous models of compasses and autopilot systems that couple to the compass.

Their recommendations come from four basic questions;

**What kind of boat is the compass going to be used on?** Sailboats and powerboats have different damping characteristics and heeling angle limits. These differences require a different design in the compass to compensate for those limits.

**What size is the boat?** ComNav states that “the further the compass will be from the helmsman, the larger the compass you should have. If your boat is greater than 8 meters (approximately 26 feet), consider a 100 Series or larger capsule”. Lets note here that ComNav compass models are named for the apparent size of the compass card. For example, the compass card on a 70 Series compass has an apparent size of 70 mm (2 <sup>3</sup>/<sub>4</sub> ") while the 125 Series has an apparent size of 125 mm (4.9"). ComNav says "apparent" size since the dome and fluid inside the compass magnify the actual card size.



**Where will the compass be mounted?** Compass manufacturers do a very good job of designing compasses to be mounted in almost any location or position. Typical mounting styles include: bulkhead, flush-mount and bracket-mount.

The biggest mounting concerns are to make sure you can easily see the compass and to keep it away from things that could effect its operation (anything that creates magnetic fields or iron.)

**What kind of compensators do you need?** The more steel in the boat (steel hulls) the more important compensators will be. ComNav recommends the use of “compensators for all compass applications where the compass will be used for navigation”. They also offer a reminder that “the distance to the source of interference is more critical than the strength of it”.

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Dock Talk Q & A  
continued

**Q**. I live in an area that allows me to use my boat on a regular basis all year long, even though the weather gets cold and sometimes it snows and freezes. My boat may be in storage for a month or so before I use it. I have been told that I should add a fresh water system to eliminate the need to winterize.

**A**. I am assuming you have a smaller inboard or inboard-outboard. Yes, one thing that might make your winterizing easier, especially when you are winterizing on a regular basis, is to install a fresh water (fully closed) cooling system on the engine. But it won't eliminate the need to do some level of winterizing.

Most trailerable boats are built using a "raw" or open water cooling system. That means they take the sea or lake water and pump it through the engine for cooling. Raw systems are cheaper for the manufacturer to install but are also the reason that most engines and their components are corroded and ruined. The water that is pumped through the systems leaves contaminants, sediment and salt (saltwater). These contaminants increase the chance for damage. A raw water system should be flushed after every use and the complete engine and components filled with antifreeze any time the boat will be exposed to freezing temperatures.

Adding a fresh water cooling system will reduce the need for flushing the

system. The closed system is a lot like your automobile cooling system. There is a supply of water/antifreeze that is circulated through the engine and components.



There are basically two types of closed systems, the **full** and **half**. The full systems are most like an automobile system and will circulate antifreeze through the exhaust manifolds, engine block and heat exchanger.

The antifreeze mixture would not require changing or flushing after each use. The only precautions you would need to do would be making sure the mixture is appropriate for your temperature extremes, flushing and adding antifreeze to the lower unit and exhaust.

The half system will circulate the water/antifreeze through your engine block and heat exchanger which will protect it from freezing and corrosion. The lower unit, exhaust manifolds and exhaust will still need to be flushed and protected from corrosion and freezing.

Scott "Sky" Smith is freelance writer, columnist and the author of "Ultimate Boat Maintenance Projects" and "How To Buy A Single Engine Airplane" published by Motorbooks International, and the owner of an aviation and marine insurance agency. © Scott Sky Smith, 2004