KEVO'S BOATING TIPS

BY KEVIN O'LEARY

Trim Tabs

If you don't know the multiple purposes of trim tabs and how to operate them on a boat or yacht, don't feel bad… you're not alone. The fact is when I do boating instruction, trim tabs are right up there with GPS when it comes to the most intriguing mysteries my clients face in getting to know their new ride.

If your vessel has trim tabs, they were installed for good reason. Learning what they do and how to operate them is an important part of safely (and efficiently) operating your vessel.

Our 38-ft. motor yacht, *Her Way*, has not two but four of the biggest, baddest trim tabs I've ever seen. *Her Way* is a "semi-displacement" yacht. (Or it could be referred to as semi-planing.) Basically this means it won't fully "plane out."

Planing out is when the vessel rides (mostly) on top of the water. This reduces friction and allows for a fast ride. The faster you go, the more out of the water the boat will be (generally).

So What the Heck are Trim Tabs Anyway?

Trim tabs are those metal plates attached to each side of the keel at the stern of the vessel. They project further back than the stern. *Her Way* has two on the outside and two bigger ones on the inside. In the neutral position, they are a natural extension of the contours of the keel. When deployed, they go down to a maximum of about 30 degrees. You can set them in many positions between neutral and all the way down.

A good analogy is to compare trim tabs to flaps on an airplane. When an airplane pilot takes off, the flaps are in the down position. This makes the aircraft aerodynamically efficient at slow speeds. Also when the pilot slows for landing the flaps are deployed to make the craft more aerodynamically efficient as the craft slows and loses lift.

Trim tabs make the vessel hydro-dynamically efficient when going from slow speed to faster. Just as with an airplane, they need to be adjusted when speed increases, decreases or conditions change. Unlike an airplane, they don't need to be adjusted when going from being on plane to not on plane.

One of the issues many boaters have with trim tabs is that the vast majority of them don't have indicators to tell the driver what position they are in. Some of the newer, more expensive yachts have trim indicators, which are a series of red lights in a line. If one light is on, the tab is in the neutral position. If all 10 or so lights are on, the tab is in the down position. These systems are very useful in keeping the driver aware of what is going on with the trim tabs. They can be purchased and installed on existing trim tab systems.

Hydraulic and Electric Systems

There are two types of trim tab systems. One is hydraulic, the other electric. Hydraulic tabs move slower than electric ones and therefore affect the attitude of the vessel slower. (I prefer hydraulic types personally.) Some electric ones move so fast the vessel needs to be over-corrected because its attitude has changed too far. Some boat dealers feel electric tabs are better to learn on because they give instant gratification. In other words, just a short tap on the toggle switches results in a considerable change in the attitude of the vessel. The feeling is that it is easier to learn how to use them because they react faster.

Sometimes the hydraulic tabs don't even affect the vessel's attitude until a few seconds after you've released the toggles. This can result in a lack of understanding by the driver of what just happened and why.

Toggle Switches

Another issue with trim tabs is the toggle switches and how they are set up. Basically, you have two choices. You can toggle up or down. The problem is they seem (logically) to be backwards. You would think that if you toggled up, the bow would rise. If you toggle down, the bow would go down. The fact is they are set up opposite of this. In other words, when you press the "up" toggle, the bow goes down. When you press the "down" toggle, the bow goes up.

Since you can't see the tabs working, this seemingly backward logic freaks out many boaters to the point that they want nothing to do with those dang trim tabs. I can understand this. There is a lot going on and a lot to focus on when you are planing out a yacht or boat. Losing your focus of the task at hand could result in a dangerous situation.

What I tell my clients when instructing on the use of trim tabs is to picture both of the toggle switches as miniature boats. Then I ask them to picture looking down at the miniature boats from above. The "up" toggle becomes the bow and the "down" toggle becomes the stern. If you want the "bow" to go down, you press on the "bow" of the miniature boat. If you want the bow to go up, you press on the "stern" of the miniature boat. While I realize this sounds very juvenile, it is actually very effective for me in my instruction. Does anyone have a better idea? I'd love to hear it.

Reasons for Having Trim Tabs

Now that you know how to use them, let's talk about what they do to the boat and the main purposes of having them in the first place. There are three main purposes for trim tabs.

FIRST: And most important is they help get the vessel on plane faster. Just like an airplane, the trims need to be ALL THE WAY DOWN when you first plane out. This accomplishes two objectives: it reduces the time it takes to get on plane, thereby saving fuel and stress on the engines; and more importantly, the "blind time" is reduced. Blind time is the time you can't see the horizon while the vessel is getting on plane. This is critical. The more blind time, the higher the risk of collision. Reducing blind time is a very important safety issue.

When I'm instructing, I purposely set the tabs in the neutral position before planing out to demonstrate the difference in blind time. This really gets the point across. Some yachts take 15 or 20 seconds to plane out with trims in neutral. Would you want to drive "blind" for 15 or 20 seconds? NOT ME!

SECOND: Trim tabs assist the skipper in adjusting the vessel's attitude in different sea conditions. For instance, if you have a 20 mph wind on your starboard beam, the vessel will heel over to port. By manipulating the tabs, you can

correct the vessel's attitude to address wind and sea conditions.

THIRD: Trim tabs can adjust the vessel's attitude affected by onboard weight distribution. For instance, some yachts have a single seat at the helm and a sofa type of configuration on the other side. If you have five passengers sitting on the port side and one driving on the starboard side, the vessel will heel over to port. Manipulating the tabs can correct this situation.

Good Advice

A word of caution regarding trim tabs: if you are in a following sea, it is inadvisable to run with the tabs in the down position. The worst-case scenario is the vessel will nose dive into the water and potentially be swamped. More often the vessel will veer to port or starboard unexpectedly. Either situation is dangerous. DO NOT RUN IN A FOLLOWING SEA WITH TABS IN THE DOWN POSITION!

As always, feedback is appreciated. I can be reached at 925/890-8428 or Kevo@Yachtsman Magazine.com. Be safe and have fun boating.