



Aquatic Consulting Services

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Boating Tip #30: Raymarine Autopilot ST6001 Operation

The Raymarine Autopilot instrument is located _____.
It is also linked via the Seataalk network to the other Raymarine instruments onboard, so data can be displayed on the chartplotters by selecting the appropriate display screen.

The Autopilot instrument gathers information from the linear drive autopilot mechanism and allows you to engage or disengage the self-steering autopilot feature. The autopilot is attached to the rudder post by an independent tiller arm and separate from the primary steering system components (drive wheel, sheaves, quadrant, roller chain, wire rope steering cable, and fittings ...) located below the steering pedestal. You can access the autopilot mechanism by opening the _____.

An autopilot is similar to cruise control in a car. You can set a course, then the autopilot takes over steering the boat on long stretches in open water. It can reduce the tediousness of having to manually steer the boat for long periods, acts as an extra set of hands when sailing short handed, and can usually steer a more precise and accurate course than a human helmsman. In case of wheel steering system failure, the autopilot can be used to steer the boat like an emergency tiller.

The separate autopilot breaker on the electrical panel, as well as the sailing instruments breaker on the 12 volt panel must be on for the autopilot to work.

There are 6 small buttons below the display screen, labeled: “disp”, “track”, “-1”, “+1”, “-10”, “+10”, and 2 larger red buttons labeled “standby” and “auto”. By momentarily pressing the buttons, you can select the various options.

To enter the autopilot mode and engage the autopilot, press the red “auto” button. To disengage the autopilot, press the red “standby” button.

To make 1° changes in your heading to port, press the “-1” button. To make a 10° change in your heading to port, press the “-10” button. Similarly, to make changes to starboard, press the “+1” and “+10” buttons. To return to the previous locked heading, press the red “auto” button for 1 second. The display will read “Last hdg?”. Press the “auto” button again to accept the heading.

The autopilot can automatically tack the boat 100°. Press the “-1” and “-10” buttons simultaneously to autotack to port. Press the “+1” and “+10” buttons simultaneously to autotack to starboard.

The autopilot can gather information from the chartplotter and steer the boat to the next waypoint. While the autopilot is engaged, press the “track” button. The display will read “Next wpt?”. Press the “track” button again to accept the new heading. To exit the track mode, press either the red “standby” or “auto” buttons depending on which mode you want to enter.

To adjust the response level up or down, press the “-1” and “+1” buttons simultaneously. Then use the “-1” or the “+1” buttons to increase or decrease the level of response. The higher the response level, the more frequently adjustments will be made by the autopilot. Lower the response level when sailing in large swells.

To adjust the illumination level on the keypad and display, hold down the “disp” button for 1 second, then press repeatedly to cycle through the brightness levels. After 10 seconds, the display will return to the mode that was previously displayed.

The autopilot is calibrated to display our true course. By subtracting the magnetic variation (13° - 14° East in most of Southern California) from the true course, you will have the magnetic course. Compare the magnetic course to the compass course (on the magnetic compass). The difference is the deviation. Remember to add westerly and subtract easterly variation when uncorrecting from magnetic to compass (TVMDC+W), and vice versa when correcting from compass to magnetic (CDMVT+E). For example, if the true course displayed on the autopilot instrument is 270°, and the variation is 13° E, the magnetic course is $270 - 13 = 257^\circ$. If at the same time you are steering a compass course of 260°, the deviation is $257 - 260 = 3^\circ$ W.

Raymarine Autopilot ST 6001

