

TARGET/CRUISER COMPASS - VERY IMPORTANT – ADDENDUM TO MANUAL

Please note the following points have been changed from those in the manual:

CHANGING THE DAMPING

When the vessel is affected by rapid variations of heading in rough seas, a more heavily damped display can be selected instead of the normal lightly damped display. Press **ENTER** and **DOWN** together to switch between heavily and lightly damped modes. The display shows “L” (for Light damping), “A” (for Average damping), or “H” (for Heavy damping) for two seconds after the keys are released to indicate which mode has been selected. Successive presses of the two keys switches between the three damping settings.

SETTING THE DESIRED HEADING

Bring the Vessel to the desired heading, and press **ENTER** and **UP** together to log that heading. The display changes as shown on Figure 3. The logged heading is the heading shown when the **ENTER** and **UP** buttons are **FIRST** pressed.

The dead-ahead symbol indicates that the vessel’s heading is within the error setting.

HEADING ADJUSTMENT

It is important that the sensor is aligned with the vessel and reads North (0°) when the vessel is pointing North. This should be verified before doing any error corrections as described later. If the display does not correctly show the 0° heading, the sensor unit must be rotated slightly to bring it into alignment. Slacken the sensor unit’s mounting screws sufficiently to allow the unit to be turned, and rotate it until the display shows the known heading. Then re-tighten the sensor unit’s mounting screws to lock the compass calibration at that position.

COMPASS ERROR CORRECTIONS

In common with all magnetic compasses, the presence of magnetic objects in the vessel can distort the earth’s magnetic field nearby, and affect the accuracy of the detection of magnetic North, and the accuracy of readings at other points of the compass. The errors are known as compass deviations. However, compensation at these other points of the compass is seldom necessary if a good position for the sensor head has been chosen which has no field distortion by external magnetic objects.

These errors can be compensated automatically in the Target/Cruiser Compass if the vessel can be pointed accurately in particular directions by reference to known geographical features. Compensation is done by logging the actual readings when the vessel is correctly aligned at the principal directions 45° (North-East), 90° (East), 135° (South-East), and so on. The logging is done automatically, with the compensations calculated and permanently stored in the unit’s memory. In normal operation of the compass, corrections at intermediate angles are in proportion to the compensation values logged at the eight principal directions.

CLEARING THE COMPASS COMPENSATION VALUES

If it is desired to return all the compensation values to the factory defaults, put the unit into the Engineering mode as described in **SELECTING ENGINEERING MODE** above. Press **ENTER**, **UP**, and **DOWN** together (this three-key requirement is to ensure that the clear is not done by accident). The word “clr” is displayed for two seconds to indicate that all the factory compensation settings have been restored.

SETTING THE COMPASS COMPENSATION VALUES

It is important to decide before setting the compass compensation how the alignment of the vessel is to be achieved. If a hand bearing reference compass is to be used, set the unit to display Magnetic. If maps or chart references are to be used, set the unit to display True, and ensure that the magnetic variation is correctly set (see above). It is important that the correct magnetic variation is set *before* doing the compass setting, because the magnetic variation is always allowed for before the true heading is displayed.

Compass errors can be compensated as follows:

1. Put the unit into the Engineering mode as described in **SELECTING ENGINEERING MODE** above. Then put the unit into compensation mode by pressing **UP** and **DOWN** together. The first display is 45°, representing North-East. Bring the vessel to 45° bearing and wait at least 10 seconds for the sensor value to settle. Press **ENTER** to log the bearing. “At” is displayed to indicate that the value is logged.
2. Press **INC** again to move the indicated bearing to the next bearing, and repeat the process at each 45° step until the 315° bearing has been logged.
3. When all the errors have been logged, press **UP** and **DOWN** together to return to Engineering mode.
4. To exit Engineering press **ENTER**
5. As a final test, the vessel can be swung to confirm that the compass is operating satisfactorily with all errors correctly compensated.

Note that it is not necessary to do all the settings in sequence as described. If the error at a particular angle is known to be negligible, there is no need to align the vessel and log the compensation at that position. Additional corrections can be added at different visits if a convenient alignment is achieved.