

Calibrating A Log

A display unit that uses a paddle wheel or ultrasonic transducer to show speed, will sometimes need a calibration adjustment due to the variation of water flow between different boat designs. As these types of transducers measure speed through the water, care must be taken when calibrating the log because of the effects of tides and currents that can cause significant errors in the calculation.

The two most common methods of calibration are:-

1. Comparing the unit's speed with a GPS giving speed over ground. This must be done under conditions of slack tide and negligible currents. Dividing the GPS speed by the display unit speed and multiplying by 100 will give the percentage calibration required.
2. Measuring a known distance, twice in opposite directions (to cancel the effect of currents and tides), and comparing the measured distance on the display unit to the known distance. Again, dividing the known distance by the display unit measured distance and multiplying by 100 will give the percentage calibration required. For example, if the known distance was 5 miles and the measured distance was 4 miles, the calibration would be 5 divided by 4 (which equals 1.25) and then multiplying by 100 which gives 125% (25% increase).

The calculated calibration is set in the display unit which will then be applied to the measured speed to give the correct speed through the water.