



**CENTROID
PRODUCTS**

Calibrating Centroid Senders for the Yamaha bargraph

yama-cal.cdr

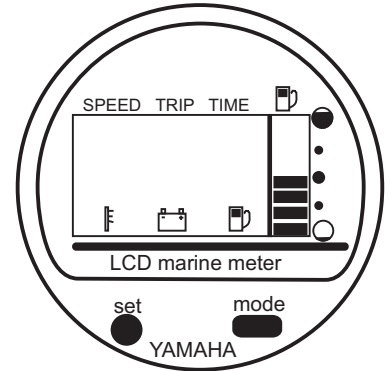
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Revisions (latest first):
2/10/09: update email address

1. OVERVIEW

The Yamaha Marine Meter has an 8-segment bargraph display to indicate fuel level. When the tank is 1/8 full or less, the fuel pump icon next to the bargraph flashes.

The bargraph display is heavily damped. This means it responds very slowly to the sender input, which makes it difficult to calibrate the Centroid sender by the normal techniques. Below is a special technique for the bargraph. It requires a digital voltmeter, such as can be found at Radio Shack.



2. 240/33 OHMS

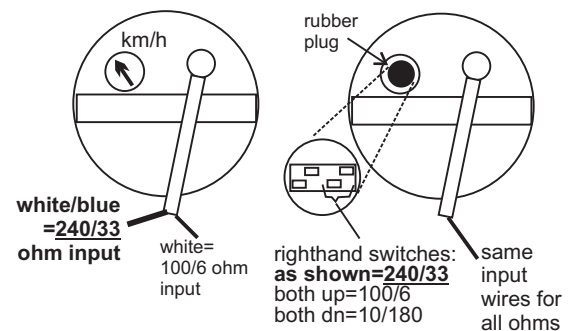
Centroid sells 240/33 ohm (Empty/Full) senders for Yamaha bargraph displays. The Yamaha can accept inputs of more than one ohms range. You should make sure that your display is set for 240/33 ohms. How this is done depends on which model display you have (see right):

--"KM/H" gauge:

On the gauge with the "KM/H" switch on back, wire the Centroid's Send wire to the white/blue wire rather than the white wire.

--"rubber plug" gauge On the gauge with a rubber plug instead of a switch, remove the plug to get access to the internal switches, and place the two righthand switches in the "down/up" positions as shown.

BACKS OF TWO DIFFERENT YAMAHA GAUGES



3. SETTING THE EMPTY

Typically the Empty adjustment on a Centroid sender is set and sealed with brown sealant at the factory. If it is sealed, and if you have not had to shorten the sender, you can jump to step 3.

a. Out of tank

The sender should be in an empty tank, or out of the tank (to simulate empty).

b. Voltmeter

Connect the black lead of the voltmeter to the Negative terminal of the sender. Connect the red lead of the voltmeter to the Send terminal of the sender. Select the 20VDC range (or just Volts DC if your meter has auto-ranging).

c. Both CW

Adjust both the Empty and Full adjustments of the sender completely Clockwise. They are single-turn adjustments so don't go past the stops.

d. Empty until voltage stops rising Adjust the Empty adjustment CCW until the voltage just stops rising. "Rock" the adjustment to make sure you are just at the adjustment point where the voltage stops rising, not beyond.

4. SETTING THE FULL

a. Full tank Put the sender in a full tank. (A fuel sender must be calibrated in fuel, not water).

b. To 0.65VDC

Adjust the Full adjustment CCW until the voltage gets up to 0.65VDC. Anywhere between 0.62 and 0.68VDC is acceptable.