TROUBLESHOOTING GUIDE FOR SENDING UNIT AND – OR GAUGE PROBLEMS

If you have recently replaced either your gauge or sending unit, and **the gauge works backwards,** you have probably hooked an American version gauge (which operates at 240 ohms @ empty, to 30 ohms @ full), with a European version sending unit (operates with 0 ohms @ empty, and 180 ohms @ full), or vice versa. The only solution for this problem is to replace either the gauge or the sender with a matching ohms unit.

If you have a **multi-tank-panel-gauge problem**, and the gauge / sender combination works in any of the other tank positions, your problem is the sending unit (to check the sending unit, see listing # 5, 6, &7), or the wiring to it.

GAUGE OPERATION CHECKS

1.) Make sure you have 12 Volts DC going to your **gauge** (red wire), and that your gauge is grounded (blue wire). Ref: Wiring diagram on web site www.wemausa.com, Click "GAUGE", and the one (1) light option, or the two (2) light option, listed under the UPWR, or UPFR.

2.) Note, the wiring for the **2 tank gauge panel** is identical to the single tank gauge set-up (listed above), with exception to the amount of black wires.

On the **single tank gauge**, there is 1 (one) black wire. This wire is spliced together with the sending unit black wire.

On the **two (2) tank gauge panel**, there are two (2) black wires, one (1) wire for each of the sending unit black wires.

Check all your solder connections on the panel switch. This is a three (3) position toggle switch. Ensure that there is a solid click to each of the 3 stations.

3.) On the back of **7 tank gauge panel** the wiring that comes out of the back of the gauge (4 wires - black, blue, red, & white with a red stripe) to the top of the PCB board, should not be tampered with.

The **Red wire** that comes out from the bottom of the PCB board (between the back side of the gauge panel, and bottom side of the PCB board) should go **to a 12 Volt DC** power source. VERIFY

The **Blue wire** (that comes out from the bottom of the PCB board, in the same area as the red), **should go to ground**. VERIFY
The 7 **tabs**, on the back of the panel **are for each one of your tanks**. The black wire from each individual sending unit should be hooked to one (1) of these tabs. It is not necessary to use all 7 tabs.

CHECK ALL THE TAB AND WIRE CONNECTIONS FOR PROPER CONTINUITY.

The 7 tank panel will operate properly with less than the full complement of tanks attached.

Check your **Rotating Power Switch** on the front of the 7 tank panel face. Check to see if the "lock screw" on the knobs are tight.

To turn on the "Power" to the 7 tank panel, turn the rotating switch clockwise, your LED light should light up. If it does not, you have no power to the gauge (or sender). The switch may be faulty, replace the entire panel.

4.) **To check the gauge operation / movement,** in all cases:

a. Make sure the "Power' to the gauge is not on.
b. Disconnect the black wire to the sending unit, at the gauge end. Note, you may have to cut the wire (you can always re-connect it later). Leave enough wire at the gauge end to work with. Do not cut it too short.
c. With the black wire disconnected, turn the 12 VDC power to the gauge "ON".
d. The gauge needle, will:
    1. On the American version gauge (240 – 30 ohms), stay at Empty. Ground the black wire (at the gauge end), and the needle will go to Full.
    2. On the European version gauge (0 – 180 ohms), go to Full. Ground the black wire (at the gauge end), and the needle will go to Empty.

IF THE ABOVE-MENTIONED TEST IS SUCCESSFUL, THERE IS NOTHING WRONG WITH THE GAUGE. IF NOT SUCCESSFUL, REPLACE THE GAUGE.

SENDING UNIT OPERATION CHECKS

5.) Check to see if you have **power** from the gauge, **to** the **sending unit** (black wire). The sending unit receives it's DC power from the gauge. The reading at the sending unit (black wire) will be less than the input voltage at the gauge (red wire).

6.) Check the **sending unit ground** (pink or blue wire). The pink or the blue wire (you will only have one. Either a pink, or a blue wire on your assembly) must be properly grounded to a common ground, or to the negative side of your battery.

7.) **To check the sending unit operation**, turn all the power to your gauge off, and disconnect the sender wires (black / pink, or black / blue), at the sending unit. Note, you may have to cut the wires. You can always re-connect them later.

a. **If you know the liquid level in your tank** (remember, if your tank is not rectangular, you are reading liquid level, not gallonage), put an ohmmeter on the 2 sender wires (now disconnected from ground and the gauge), and take a reading:
    1. For the standard American version sender (240 – 30 ohms) you will have 232 to 252 ohms @ Empty, and 28 to 36 ohms @ Full.
    2. For the standard European version sender (0 – 180 ohms), you will have 0 to 2 ohms @ Empty, and 171 to 192 ohms @ Full.
b. **If you do not know the liquid level in your tank,** you will need to remove the sending unit from the tank.

EXTREME CAUTION SHOULD BE EXERCISED WHEN DEALING WITH FUEL TANKS.

If you are at all unsure of your capabilities to perform this function safely, have a Marine Repair Facility, or Boat Dealership Service Dept. perform this function.

Refer to our web site at www.wemausa.com by clicking **SPEC** in the top or bottom menu. Next, click on the "**General Information for After Market Sending Unit Replacement**" listing for sender Removal and Replacement instructions.

CAUTION, the five (5) mounting screws will only line up one (1) way. Mark the lead hole with the tank. Our sending unit lead hole is 180 degrees from the wire exit (opposite).

Pattern Specifications are available on the web site @ www.wemausa.com. Click on **TANK SENSORS**. Under the title block of FUEL & WATER SENSORS, click (Bolt hole specs).

Once the sending unit is removed, slide the float up and down, and verify the above-mentioned readings with an Ohmmeter.

If you do not get the full scale of readings at Full and/or Empty (Ref; 7a., 1., & 2.**),** replace the sending unit

In all cases, feel free to contact us if you need further assistance, and / or information, and thank you for your interest in our products.