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Wolverine Fuel level Sensor Replacement Instructions

INS-0008

Old part:
70-2431



New part:
70-3673



70-3673-KIT Fuel level sensor retrofit kit

Installation Procedure:

1. DO NOT MOUNT THE NEW SENSOR ON THE TANK UNTIL IT HAS BEEN VERIFIED & CALIBRATED.
2. Verify that the sensor model number is TLL155-N-0500-73 before installation.
3. Remove the old sensor.
4. Cut the three wires of the harness at about 15” back from the old connector. Discard.
5. Strip back the wires about ¼”. Crimp the new harness butt splices onto the stripped wires, matching the wire colors. Tug on the wires to make sure the crimps are secure.
    a. Orange/Black (ground) [Black or Black/Red on some harnesses]
    b. Red (12V or 24V power)
    c. White (signal) [Blue or Black/white on some harnesses]
6. Apply heat to the butt splices to melt the glue and shrink to seal around the wires.
7. CALIBRATE the sensor.
8. AFTER CALIBRATION, mount the new fuel level sensor.
9. Slip the provided large piece of heat shrink over the sensor connection.
10. Apply heat to seal the connection.

If the old sensor model does NOT start with “TLL150” you will have to change settings on the Wolverine webvisu. You have the voltage version of the fuel level sensor and not the resistance version. Contact your dealer or Bazooka Farmstar for the process.

CALIBRATION

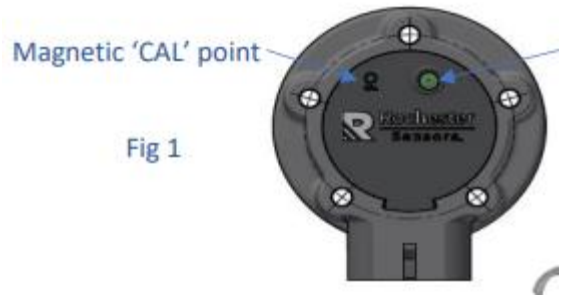


Fig 1

Video: https://www.youtube.com/watch?v=UwLaJhj7rTI

Or scan the QR code on the sticker on the side of the sensor.

Note: Magnets have two poles. If the sensor doesn't respond to one side of your magnet, flip the magnet over and use the other side.

Calibration procedure:

1. Plug the new sensor into the harness and turn on the Wolverine keyswitch power.
2. Hold the sensor **in air** to calibrate the empty point, the calibration LED will illuminate continuously after 8 seconds.
3. While the LED is on, hold a magnet flat and central to the "CAL" point on the sensor lid (see Fig 1) until the LED flashes quickly and turns off. **The empty point is now calibrated.**
4. Next, **unplug** the harness and **immerse** the sensor to the required full point in the fluid. **Do not** fully submerge the fuel level sensor, remember that there will be some stack-up from the tank bung that will never allow the sensor to be fully submerged.
5. **Plug** in the harness and the calibration LED will double-blink continuously, whilst double blinking, position the magnet flat and central to the "CAL" point on the sensor lid and the LED will turn off. **The full point is now calibrated.**
6. If the calibration LED turns off before applying the magnet, power down the sensor and repeat steps 3 & 4.
7. **Verify** the empty and full calibration by powering up the sensor and connecting the harness. Move the sensor up and down in the fluid between the calibrated empty and full points, the fuel level reading will increase or decrease depending on the fluid height. Check that the sensor outputs at full and empty are correct.

LED Status:

- Steady light after 8 seconds = Empty calibration mode initiated.
- Rapid 5-second flashing on magnet detection = Empty calibration in progress
- Double blink with no magnet present = Full calibration mode initiated
- Ceases to blink upon magnet detection = Full calibration successful.
- Ceases to blink with no magnet detection = Calibration procedure has timed out.

UPGRADING FROM THE OLD 2-WIRE SENSOR:

The original Wolverine design used a 2-wire fuel level sensor, which only had signal and ground. The new sensors need an additional power wire.

Connect:

Pin 1 / Red wire: 12V/24V

You will need to add a long red wire that then runs back up the harness to find another red wire to butt splice into. Any red wire in the harness will do.

Pin 2 / Orange/Black wire: 0V

Butt splice to existing Black/Red striped wire.

Pin 3 / Empty: No pin, empty

Pin 4 / White: Signal, 5V when not plugged into sensor

Butt splice to existing Black/White striped wire.

TROUBLESHOOTING

- A green light should briefly turn on when the sensor is first powered up.
- This sensor is a Resistance sensor, so the Voltages on pin 4 may be confusing. Ohm measurements with a meter are only valid if pin 4 is not connected to the Wolverine harness.
- Check wiring and voltages at the connector:

Pin 1 / Red wire:	12V/24V
Pin 2 / Orange/Black wire:	0V
Pin 3 / Empty:	No pin, empty
Pin 4 / White:	5V when not plugged into sensor

- If pin 4 is de-pinned or the wire is cut, you can measure resistance on your meter between pin 4 and pin 2 on the sensor while the other pins are powered from the harness. This does not work if pin 4 is connected to the boat harness!

Empty:	240 ohms
Full:	33 ohms

- Check the model number on the sensor to confirm that it is the correct sensor for this application - **(TLL155-N-0500-73)**
- If it shows anything else, it will not work for this application.