



ORDERS ONLY: 386-423-3574 TECH SUPPORT: help@centroidproducts.com or fax: 386-423-3709 website: centroidproducts.com

NOTE: PLEASE EITHER SCAN or send page photos (or fax-- third best) the filled-in test pages. It's much easier for me to follow than if you summarize results at the top of an email, and you're less likely to miss questions.

1. OVERVIEW

If the year of your coach is between 1993 and 2008, then you will have a Centroid Products fuel sender. Typically the senders are accessed via a sort of luggage-compartment door on the driver's side of the coach. You can remove a couple of screws under the rim of the coach to let you to swing up the door. However, some owners have reported needing to access the sender through an opening in the floor inside the coach. I've only seen one coach where the tank actually had to be removed to get the sender outdue to lack of clearance. The sender's head looks like a hockey puck and there are 4 electrical terminals on it.

2. TROUBLESHOOTING A FUEL READING

Our tech support is by fax or email only. I've found that following test procedures such as the one below provides effective troubleshooting data, whereas the telephone just makes for time-consuming confusion. If troubleshooting seems like more work than you feel it's worth, you can buy a sender as described in section 3. But it's generally worth the effort to do the short tests.

Your name _____ and email address _____

A photo of the sender's head will be a good attachment for you to provide_____

What model year is your coach? [2a]_____ and what model name? [2b]_____ (eg Dynasty, Cheetah, etc) and does your sender mount on the top, side-middle, or side-bottom of the tank? [2b2]_____

[2c] What is the fuel reading doing that you dont like? _____
It's important to be specific about what the gauge needle is doing, and when. For example, say "the needle points to E regardless of the fuel level" or "reads Full too long" rather than "doesnt work" or "no reading".

[2d] What is the current fraction (eg 1/2) of fuel in your tank? _____

[2e] Where is the gauge needle currently pointing (when power is on)? _____

[2f] Put the black lead of your voltmeter on the sender's NEG terminal. Use the red lead of your voltmeter to measure the other terminals. If a reading is *negative*, show a minus sign with it. You can make these measurement with accessory power on-- you dont need to run the engine.

<ALARM>
----LABEL----
<SEND> <POS>
<NEG>

Pos/Neg = _____vdc (expected: maybe +12.5vdc; ie battery voltage. If you get approximately 0.0vdc, the fuse supplying the sender and gauge on the dash is blown. Typically I've been told this is in a fuse compartment on the driver's outside of the coach, and is labeled something like "Fuel Gauge". If you get anything other than 12 volts between one side of the fuse and the other, the fuse is blown. Dont do the rest of this test until you've got battery voltage for Pos/Neg, since the sender wont work without it.

Send/Neg= _____vdc (expected: it depends what model of gauge your coach has, but a healthy voltage would be between maybe +0.3vdc and maybe +8vdc)

Alarm/Neg= _____vdc (expected: is the low-fuel alarm light on _____ and does your Alarm terminal have a wire on it _____? If yes to both questions, then about +0.7vdc. If not but there's a wire, then about the same as Pos/Neg. If there's no wire, then the Alarm voltage will be uncertain).

[2g] On the right side of the Alarm terminal there is typically a small, plastic Empty adjustment screw, and on the left side of the Alarm terminal there is typically a small, plastic Full adjustment screw. Typically undercoating (plus our sealing of the Empty adjustment) will keep you from being able to see these adjustments. But if you can see them, it's typically because someone has dug out and changed the adjustments. Do your adjustments appear to have been dug out? (ie can you see the crosspoints of the adjustments?) E_____ F_____.

[2h] With the power off, remove the Send wire from the sender. Turn on the power. What is the voltage from the disconnected Send wire to Neg?_____vdc (expected: depends on what model of gauge your coach has. This voltage will help me determine that. You can turn the power off and put the wire back on).

[2i] If it doesn't seem like too much trouble to take the sender out of the tank, there are useful measurements you can take with the sender out and wired, with power on. If you do this test, I suggest first that you

--label the wires from the above diagram, rotating the diagram if necessary to point it the same way your sender is pointing (ie match the shallow V of the Send/Neg/Pos terminals, below the label, to the V in the diagram)

--make a tick mark on the sender's head and tank so you get the sender back in the tank with the correct orientation.

[2i2] To make sure you have the wires back correctly after reconnecting the sender and turning on power, put the black lead of your voltmeter on the Neg terminal of the sender and record the Pos/Neg_____vdc and Send/Neg_____vdc readings as you did previously. Neither reading should be negative or you have a miswire.

[2i3] With the sender out of the tank and the power on, what is the reading on your fuel gauge?_____ (expected: ideally E)

[4i3] What is the voltage from the inner tube to the outer tube of the sender at the bottom of the sender?_____vdc (expected: between 4.2 and 4.8vdc for a CGF-... sender or between 2.35-2.75v for a CGFP-... sender. If you get lower than the expected range, there is likely to be an algae problem. If you get higher, there is likely to be an internal regulator problem with the electronics).

[2i4] You can reinstall the sender at this point.

[2j] Email me your results.

3. WHERE TO BUY A SENDER

Contact Mary at **386-423-3574** between **8a-2p** EST Mon/**THU** and she will direct you to a seller.

b) Senders bought through the seller will arrive precalibrated as normal. They will have the normal Centroid 2-year warranty based on their label date.

c) Please save your old sender. You could later use it temporarily to plug the tank hole should you need to send the new one back to Centroid for testing.