

Technical Bulletin

Subject: Basic inverter/charger test.

Products Involved: 20-1050CUL, 20-1050CUL-DC

Problem: Fully functional units are being returned to Vanner for servicing.

Solution: Use the following steps to perform a basic test on the inverter/charger (20-1050CUL; 20-1050CUL-DC) and will validate the need for a unit to be returned for service.

1. Verify DC Power.

Verify there is 12 volts DC to the inverter. DC voltages below 10 volts will not allow the inverter or charger to operate correctly or the unit will not turn on at all. There is a fuse located between the batteries and the inverter/charger.

2. ON/OFF switch.

Verify the unit ON/OFF switch is pressed in and in the on position.

3. Load Demand:

For testing purposes ensure that the Load Demand is in the OFF position. Most applications it is not practical to have this feature turned on.

4. Remote Control:

20-1050CUL-DC: Move switches four and five down "OFF" for the start-up test. Unplug the IFM1 Module from the inverter if so equipped.

20-1050CUL: Unplug the IFM1 Module from the inverter if so equipped.

The green inverter lamp should illuminate, the unit should turn on.

5. Verify AC Power.

Test and Reset the GFCI. Apply an AC load, such as a shop light or power tool to verify operation.

6. Apply shore power to the 20-1050CUL/Ambulance shoreline connection.

After shore power has been connected one of the Charger LEDs will light or flash. The inverter lamp will flash, indicating that the inverter is standing by. If not find the cable exiting the rear of the unit and plug the shore power, LEDs will flash.

7. Observe the inverter operation.

Remove the shore power connection. The unit will automatically switch to Inverter mode and operate the AC load using battery power. When shore power is restored, the unit examines the AC input for five seconds and then switches the loads back to run directly from AC/shore power.

8. Remote switches check.

Restore the dip switches to the original setting prior to step 4 and reinstall IFM1 cable. Turn on the Vehicle Module Disconnect Switch and the Inverter Remote Switch in the vehicle. If the inverter does not turn on check to see if 12 volts DC is present on the ignition wire to the inverter (20-1050CUL-DC) or pin one of the IFM1 module. Verify the Remote SW connection is a GND signal (20-1050CUL-DC).

If 12 volts is present on the ignition wire at the inverter (20-1050CUL-DC) and the unit does not turn on the unit will need to be sent in for evaluation.

If the IFM1 module is being used and the inverter does not turn on with 12 volts applied to pin of the IFM1 and the remote switch turned on, unplug the IFM1 cable to the inverter, if the inverter turns on the IFM1 module is defective and needs to be replaced. If the unit does not turn on the unit will need to be sent in for evaluation.

Frequently Asked Questions

1. Why am I getting no A/C Output from my inverter when the inverter LED is on solid?
Answer: Check to see if GFCI is tripped. Reset if necessary.
2. Why does my voltmeter read the inverter output to be low A/C voltage (90-100 volts)?
Answer: A/C output must be measured with a True RMS meter in order to read the voltage correctly. A low voltage reading is normal with a typical average reading meter.
3. Why is my inverter output only approx. 40VAC?
Answer: The inverter is in Load Demand. When the inverter has no load, it goes into load demand & only outputs approx. 40VAC. Plug a load in & inverter output will come up to 120VAC. To turn load demand off, move the load demand dip switch off (down).
4. Why are my batteries overcharging?
Answer: The high/low charger switch is in the low position, there is too much current draw on the batteries and the charger can't come out of bulk mode or cycling often from float to bulk. Change the battery charge rate from low to high. (dip switch three)



5. Can I use the IFM1 with the 20-1050CUL-DC?

Answer: Yes

6. Does it matter which modular connector I put the IFM1 cable in?

Answer: No.

7. Why won't my inverter turn on?

Things to check:

- 1) With no remote: Verify that switches 4 and 5 are down (closed).
- 2) Input DC cables must be connected to battery.

Contact Vanner at 1-800-227-6937 for additional support.