# SECTION 6: TROUBLESHOOTING

## 6.1 GENERAL INFORMATION

The information in this section has been compiled from field report data and factory observations. It lists common fault/ malfunctions, possible causes, and corrective actions in a table format.

Not all fault/malfunctions or abnormal conditions are addressed in this manual since they can be unique to a particular installation or operating condition. While it is intended to be comprehensive, operators and maintainers can encounter malfunctions or problems not listed in this section. Users should also be aware that these procedures are not exhaustive, and further troubleshooting may be required to correct the problem beyond what is contained in this manual.

It is good maintenance practice to apply the simplest solutions first after a problem has been identified. This can prevent extra down-time and unnecessary work. Careful visual inspections of the equipment can also be useful in this regard.

In addition to the troubleshooting section in this manual, assistance with diagnosing and overcoming a problem may be found in the engine, generator, controller (V-TEC Operation Manual for models utilizing the V-TEC speed controller), or the vehicle operation manuals.

**⚠ WARNING**

**DO NOT operate the compressor if there is a known unsafe condition.**

**⚠ WARNING**

**Before performing maintenance or replacing parts, relieve the entire system pressure by opening a service valve, which will vent all pressure into the atmosphere: remove all electrical power.**

**NOTE**

**If the vehicle's ECM/TCM are replaced or re-programmed, ensure the compressor programming is retained or reset in the vehicle's ECM/TCM to Vanair® specifications. For assistance, contact the Vanair Service Department.**

**NOTE**

**If inquiring to the Service Department, please have the machine serial number available for prompt service (refer to *Figure 6-1* for machine serial number location).**

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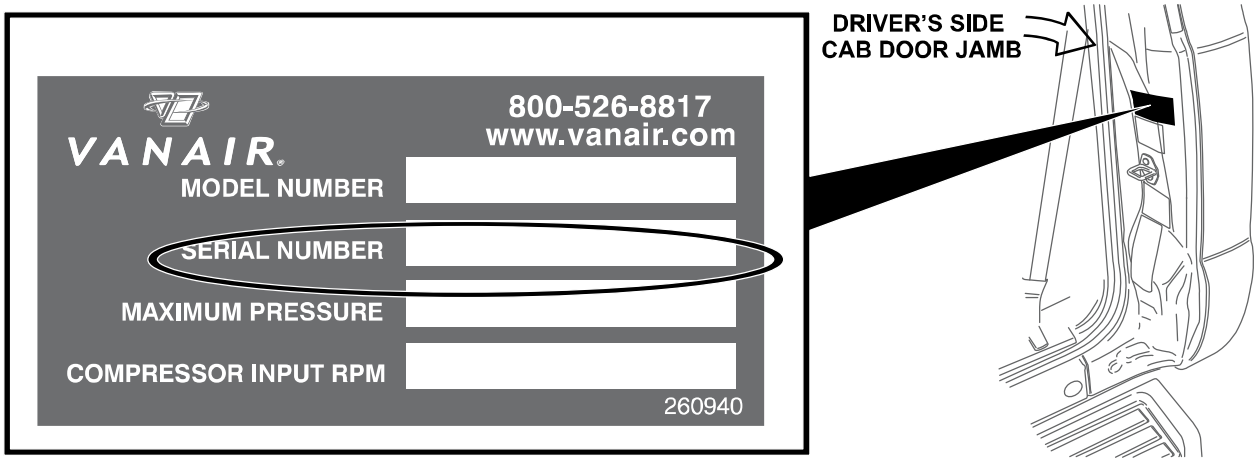


**NOTE:** For Genair control box serial plate / serial number location, refer to ***Figure W-1*** in the **Warranty Procedure Section**.

***Figure 6-1: Machine Package Serial Number Location***

## 6.2 TROUBLESHOOTING GUIDE

| Fault/Malfunction | Possible Cause | Corrective Action |
|---|---|---|
| | **GENERATOR** | |
| No AC generator output | Generator switch is in OFF position | Turn to ON position. |
| | Circuit breaker tripped or shut off | Replace/reset breakers. |
| | Faulty AC generator relay | Check; replace if necessary. |
| | GFCI button tripped | Reset button. |
| | AVR fuse blown | check; replace if necessary |
| | Engine RPM too slow | Bring engine speed up to proper RPM. |
| Low AC voltage | Engine speed too low for demand | Adjust speed control. Consult ***Adjusting the Engine Speed Section*** in the main manual, and the Engine Operation Manual. |
| | Weak, faulty or incorrect capacitor | Check; replace if necessary. |
| High AC voltage | Engine speed too high for demand | Adjust speed control (AVR). Adjust speed control. Consult ***Adjusting the Engine Speed Section*** in the main manual, and the Engine Operation Manual. |

***Table continued on next page***

# 6.2 TROUBLESHOOTING GUIDE

| Fault/Malfunction | Possible Cause | Corrective Action |
|---|---|---|
| **GENERATOR (CONTINUED)** | | |
| **Engine speed control will not come up on speed:** ***ELECTRONIC ENGINE*** | No Power at Interface Connector | Faulty pressure system – Check. |
| | | Loss of signal N.O. pressure switch. |
| | | False signal to N.C. pressure switch. |
| | | Loose connection – secure connection. |
| | | Faulty engine speed controller. |
| **Engine stays on one speed** | Faulty Pressure Switch | Check signal pressure. |
| | | Check pressure switch. |
| | | Replace pressure switch. |
| | Bad Wire Connection | Check all wire connections; secure where needed. |

## 6.3 TIPS FOR WORKING ON A VANAIR GENAIR GENERATOR

- When tracking down wiring problems, work backwards toward the power source, per wiring diagram. This will eliminate some possible questions.
- If working on the capacitor for the generator, take special care because a capacitor does store AC Power!
- An electrical system is only as good as its electrical connections. Insure proper contact and proper terminal usage when installing or repairing any electrical connections.

## 6.4 CHECKING RESISTANCE IN THE GENERATOR

This should only be necessary if no AC power is available to the distribution panel (control panel) and all other devices are okay (i.e. speeds, over speed switch, on/off switch, etc.).

## 6.5 CAPACITOR CHECK

### *6.5.1 METHOD VIA DIGITAL MULTIMETER*

1. Set the meter on Ohm range (Set it at lease 1000 Ohm = 1k).
2. Connect the meter leads to the capacitor terminals.
3. Digital meter will briefly show some numbers.
4. Display then returns to the OL (Open Line).
5. Disconnect the meter leads, and then repeat Step #2: Display should flash numbers again, as noted in Step #3. As long as the meter generates a ‘reading’, the capacitor is in good condition.

**NOTE**

**If there is no reading displayed after the meter leads have been connected to the capacitor terminals, then capacitor is dead, and needs to be replaced.**

### *6.5.2 METHOD VIA MULTIMETER IN THE CAPACITANCE SETTING*

**NOTE**

**This test can be performed if the multimeter used contains a capacitance meter.**

This method is good for small-sized capacitors.

1. Remove the capacitors from board or circuit.
2. Select “Capacitance” on the multimeter.
3. Connect the capacitor terminal to the multimeter leads.
4. If the reading is near to the actual value of the capacitor (i.e. the printed value on the Capacitor container box): the capacitor is in good condition. (Note that the reading may be less than the actual value of the capacitor (the printed value on the Capacitor container box).

**NOTE**

**However, if the reading shows a significantly lower capacitance or none at all, then capacitor is dead and should be changed.**

## 6.6 ELECTRICAL CHECK

**⚠ WARNING**

**Electric shock! Only trained qualified personnel should check inside the control panel with generator operating.**