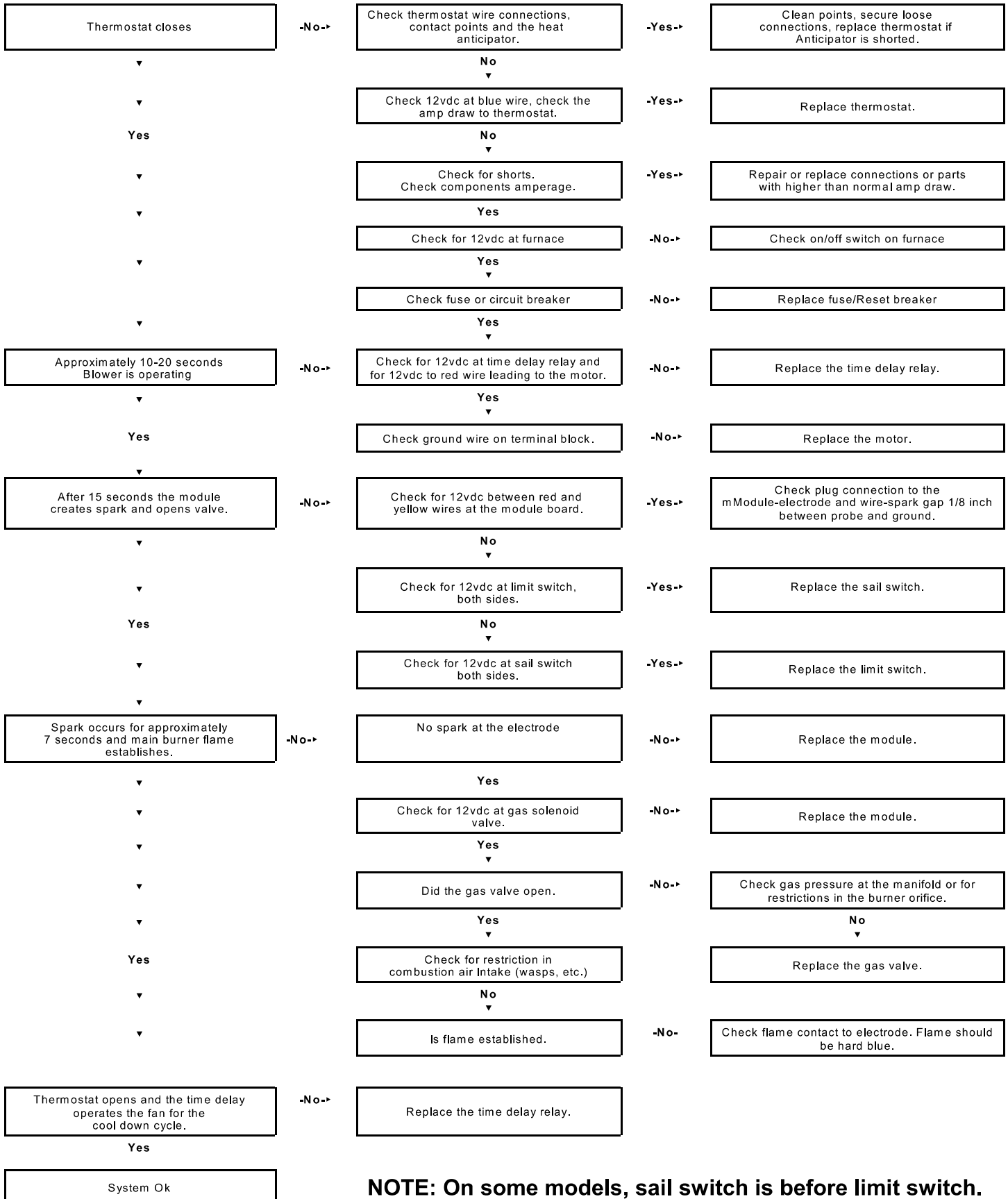


TROUBLE SHOOTING GUIDE

SUBURBAN RV FURNACES with TIME DELAY

12 VDC HEATING SECTION



NOTE: On some models, sail switch is before limit switch.

TROUBLE SHOOTING GUIDE

SUBURBAN RV FURNACE with FAN CONTROL MODULE BOARDS

12 VDC HEATING SECTION

<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Thermostat Closes</div> <div style="text-align: center;">▼</div> <div style="text-align: center;">▼</div> <div style="text-align: center;">Yes</div> <div style="text-align: center;">▼</div> <div style="text-align: center;">▼</div> <div style="text-align: center;">▼</div> <div style="text-align: center;">▼</div> <div style="text-align: center;">▼</div>	-No->	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Check thermostat wire connections, contact points and the heat anticipator.</div> <div style="text-align: center;">No</div> <div style="text-align: center;">▼</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Check 12vdc at blue wire, check the amp draw to thermostat.</div> <div style="text-align: center;">No</div> <div style="text-align: center;">▼</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Check for shorts. Check components amperage.</div> <div style="text-align: center;">Yes</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Check for 12vdc at furnace</div> <div style="text-align: center;">Yes</div> <div style="text-align: center;">▼</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Check fuse or circuit breaker</div> <div style="text-align: center;">Yes</div> <div style="text-align: center;">▼</div>	-Yes->	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Clean points, secure loose connections, replace thermostat if anticipator is shorted.</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Replace thermostat.</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Repair or replace connections or parts with higher than normal amp draw.</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Check on/off switch on furnace</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Replace fuse/Reset breaker.</div>
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Blower is operating at call for heat.</div> <div style="text-align: center;">▼</div> <div style="text-align: center;">Yes</div>	-No->	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Check for 12vdc at power terminal on module board and for 12vdc to red wire leading to the motor.</div> <div style="text-align: center;">Yes</div> <div style="text-align: center;">▼</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Check ground wire on terminal block.</div>	-No->	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Replace the module board after confirming motor operation.</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Replace the motor.</div>
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Motor is operating</div> <div style="text-align: center;">▼</div> <div style="text-align: center;">Yes</div>	-No->	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Reset thermostat. Motor operating. Check for 12 vdc at blue wire on molex edge connector.</div>	-Yes->	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Verify voltage thru limit and sail switch to module board. If circuit remains open for 30 seconds, module board will go into lockout and shut down motor. Reset thermostat. Replace defective part.</div>
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">After 15 seconds the module creates spark and opens valve.</div> <div style="text-align: center;">▼</div> <div style="text-align: center;">▼</div> <div style="text-align: center;">Yes</div> <div style="text-align: center;">▼</div> <div style="text-align: center;">▼</div>	-No->	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Check for 12vdc between red and yellow wires at the module board.</div> <div style="text-align: center;">No</div> <div style="text-align: center;">▼</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Check for 12vdc at limit switch, both sides.</div> <div style="text-align: center;">No</div> <div style="text-align: center;">▼</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Check for 12vdc at sail switch both sides.</div>	-Yes->	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Check plug connection to the module-electrode and wire-spark gap 1/8 inch between probe and ground.</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Replace the sail switch.</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Replace the limit switch.</div>
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Spark occurs for approximately 7 seconds and main burner flame establishes.</div> <div style="text-align: center;">▼</div> <div style="text-align: center;">▼</div> <div style="text-align: center;">▼</div> <div style="text-align: center;">▼</div> <div style="text-align: center;">▼</div> <div style="text-align: center;">▼</div> <div style="text-align: center;">Yes</div> <div style="text-align: center;">▼</div> <div style="text-align: center;">▼</div>	-No->	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">No spark at the electrode</div> <div style="text-align: center;">Yes</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Check for 12vdc at gas solenoid valve.</div> <div style="text-align: center;">Yes</div> <div style="text-align: center;">▼</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Did the gas valve open.</div> <div style="text-align: center;">Yes</div> <div style="text-align: center;">▼</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Check for restriction in combustion air Intake (wasps, etc.)</div> <div style="text-align: center;">No</div> <div style="text-align: center;">▼</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Is flame established.</div>	-No->	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Replace the module.</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Replace the module.</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Check gas pressure at the manifold or for restrictions in the burner orifice.</div> <div style="text-align: center;">No</div> <div style="text-align: center;">▼</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Replace the gas valve.</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Check flame contact to electrode. Flame should be hard blue.</div>
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Thermostat opens and the module board operates the fan for the cool down cycle.</div> <div style="text-align: center;">▼</div> <div style="text-align: center;">Yes</div>	-No->	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Replace the module board</div>		
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">System Ok</div>				

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Over the years of running a mobile RV repair service, having a dedicated place to access service manuals for all the different appliances and components found on RVs was something that I always had a desire to create.

I hope this resource makes your RV repairs easier, as it has mine, but please be careful and follow proper safety practices when attempting to repair your own RV.

If in doubt, please consult with a professional RV technician!



DARREN KOEPP - OWNER, MY RV WORKS, INC.

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