

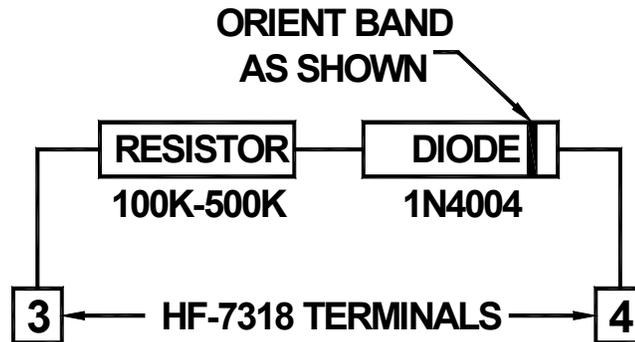
A new burner control board was introduced into the Silver King heaters for the 2002 production year. The new board operates in a similar manner as the PL-100 utilizing flame rectification to prove that a flame exists in the burner. This supplement information must be substituted for the PL-100 instructions in the present operator's manual.

Test Fire Heater

1. Turn on power and fuel to the fan and heater. Set the controlling thermostat to call for heat.
2. Start fan and move heater switch to the "ON" position.
 - The "FAN ON" indicator on the HF-7318 board should now be lit.
 - If light is not on, confirm 120V at HF-7318 terminals 19 and 20. If no power exists, check for power at the fuse in the middle of the control box. Make needed repairs (open fuse, burner hi-limit, heater switch, or neutral) to restore power to terminals 19 and 20.
 - If power exists at 19 and 20, be sure the circuit between terminals 17 and 18 is closed.
3. With the "FAN ON" indicator lit, the troubleshooting lights 1 through 5 should be on at the end of a 20 second purge cycle. The "IGNITOR ON" indicator will now light.
4. Heater should ignite, and "FLAME PRESENT" indicator should be lit. If heater does not light, follow the troubleshooting lights on the new wiring schematic decal and correct faults. Be aware that light #1 relates to the fuse on the board, **not** the fuse in the middle of the control box. If the fuse in the middle of the box is blown, no lights will indicate on the HF-7318 board.
5. Cycle the controlling thermostat to insure the heater responds. If the unit is hi-lo fire, the #6 light will indicate during high fire.
6. Heater is now ready for normal operation. Set the desired temperature on the thermostat and check fuel pressure settings.

SERVICE NOTE:

If board consistently goes into lock-out, a couple other tests can be performed. Measure the voltage at the flame rod test points indicated on the schematic. These are small round insulators with wire loops on the top of them. With flame present at the flame rod, 2-4vdc should be measured at the test points. If the voltage measurement is below this level, try adjusting the flame rod to improve the signal. A resistor and diode can also be used to confirm the HF-7318 board operation, isolating the problem to the flame rod. Use a resistor with an ohm range from 100K to 500K. A 1N4004 diode is used in series with the resistor (any 4000 series diode can be substituted if this specific value is not available). With the power off, disconnect the flame rod leads from the board, and connect the resistor to HF-7318 terminal # 3.

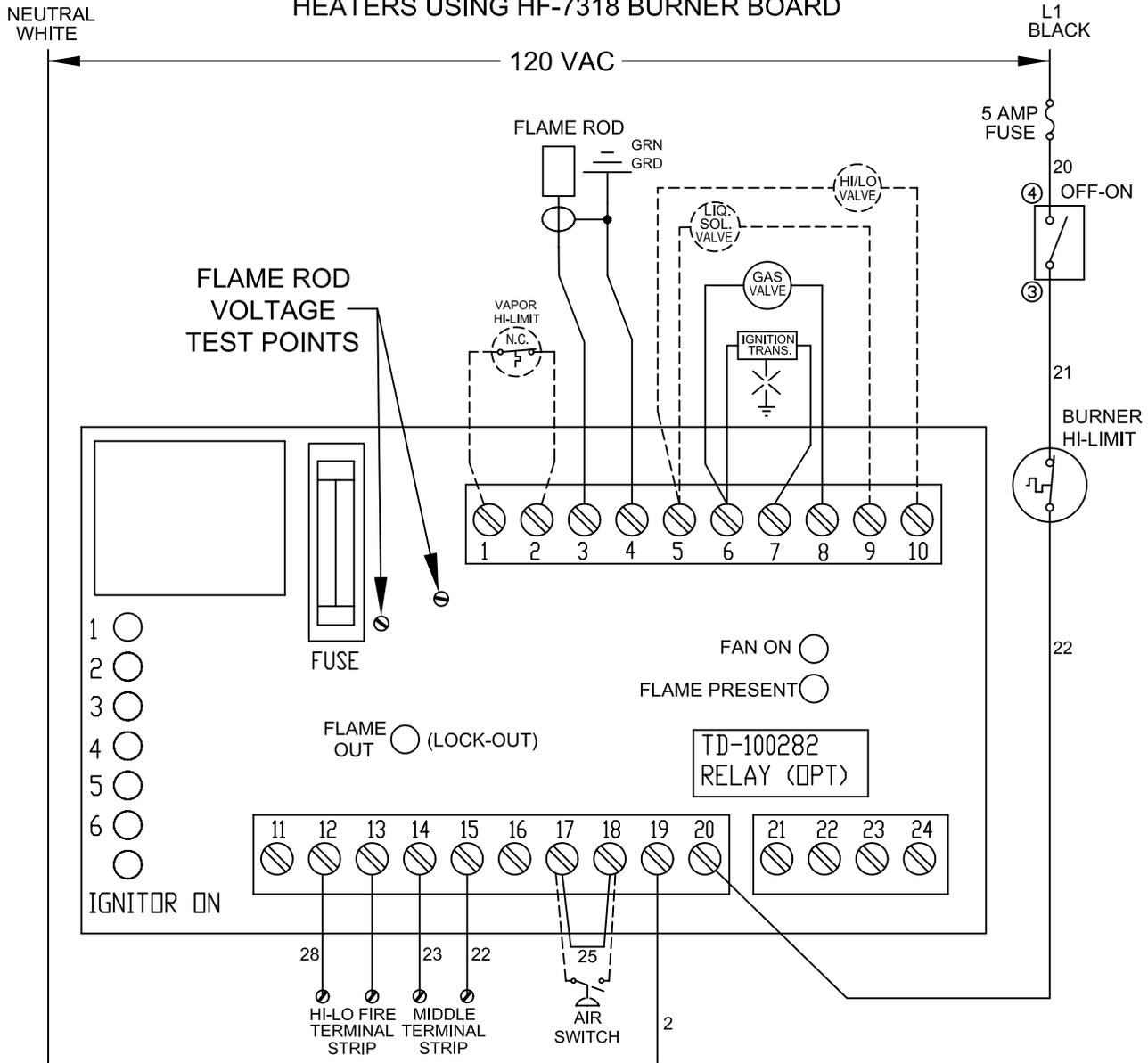


⚠ CAUTION 120 VOLT POTENTIAL AT FLAME ROD
TERMINALS 3 & 4!

Restart fan and heater. Wait until the HF-7318 board begins the ignition cycle. Once ignition has occurred, touch the diode lead to HF-7318 terminal # 4 with a pair of **insulated** needle nosed pliers. If the “FLAME PRESENT” light comes on, then the problem is in the flame rod or the cable assembly. If the light does not come on, the board is defective and must be replaced.

REVISED SCHEMATIC FOR FFI SILVER KING
HEATERS USING HF-7318 BURNER BOARD

DC - 1656



○ INDICATES "OFF"

● INDICATES "ON"

WAIT FOR 20 SECOND PURGE TO ALLOW ALL LIGHTS TO CYCLE
TROUBLESHOOT AFTER THE PURGE CYCLE IS COMPLETE

INDICATION	POSSIBLE CAUSE	POSSIBLE SOLUTION
○ ○ ○ ○ ○ ○ 1 2 3 4 5 6	Defective ON/OFF Switch	Replace Switch
○ ○ ○ ○ ○ ○ 1 2 3 4 5 6	Burner Hi-Limit	Reset or Replace Hi-Limit
○ ○ ○ ○ ○ ○ 1 2 3 4 5 6	Blown Fuse - Power From Fan	Determine Short & Replace Fuse
● ○ ○ ○ ○ ○ 1 2 3 4 5 6	Blown Fuse on Burner Board	Determine Short & Replace Fuse
○ ○ ○ ○ ○ ○ 1 2 3 4 5 6	Flame Rod (Flame Present Light ON)	Clean or Replace Flame Rod
● ● ○ ○ ○ ○ 1 2 3 4 5 6	Defective HF-7318 Burner Board	Replace Board
○ ○ ○ ○ ○ ○ 1 2 3 4 5 6	Air Switch (Fan On Light is OFF)	Circuit at 17 & 18 Must Be Closed
○ ○ ○ ○ ○ ○ 1 2 3 4 5 6	LOCK-OUT (Flame Out Light is ON)	Check Flame Rod & Ignitor Location
● ● ● ○ ○ ○ 1 2 3 4 5 6	Vaporizer Hi-Limit is Open	Adjust Vaporizer or Replace Hi-Limit
● ● ● ● ○ ○ 1 2 3 4 5 6	Humidistat/Thermostat	Set to Call for Heat or Replace Control
● ● ● ● ● ○ 1 2 3 4 5 6	Ignitor Plug	Clean or Replace Ignitor Plug
○ ○ ○ ○ ○ ○ 1 2 3 4 5 6	No Fuel Pressure Indicated	Check Manual Valves & Fuel Supply
○ ○ ○ ○ ○ ○ 1 2 3 4 5 6	Defective Solenoid Valve	Replace Coil or Valve Assembly