

# Rinnai

## LOCKOUT CHECK LIST

### RHFE-1001FA, RHFE-1001FA/VA, AND RHFE-551FA

1. Check gas pressure at manifold, pressure should be:  
 9.4" W.C. for RHFE 551 FA on propane.  
 3.5" W.C. for RHFE 551 FA on natural.  
 10.5" W.C. for RHFE 1001 FA/VA on propane  
 3.8" W.C. for RHFE 1001FA/VA on natural
2. Check air shutters adjustment:  
 RHFE 551 FA set for propane should have seven notches showing on adjustment rod.  
 RHFE 551 FA for natural should have two notches showing on adjustment rod  
 RHFE 1001 FA/VA set for propane should have no notches showing on rod.  
 RHFE 1001 FA/VA set for natural should have 5 notches showing on the back two burners and 3 notches showing on the front right burner.
3. Ensure unit has the proper size orifices in it:  
 Orifice sizes for the RHFE 551 FA on propane should be 1.00mm (0.039")  
 Orifice sizes for the RHFE 551 FA on natural should be 1.70mm (0.067")  
 Orifice sizes for the RHFE 1001 FA/VA on propane should be 1.05mm (0.041") on the back two burners and 1.15mm (0.045") on the front right burner.  
 Orifices sizes for the RHFE 1001FA/VA on natural should be 1.9mm (0.074") on the back two burners and 1.80 mm(0.071") on the right front burner.
4. On the RHFE 551 FA's ONLY, ensure the proper size bypass restrictor screw is in place:  
 Propane restrictor screw size is 1.15mm.  
 Natural restrictor screw size is 3.55mm.
5. Inspect wall vent to ensure it is not clogged or restricted in any way. For proper inspection of combustion chamber air way, vent MUST be removed from wall.
6. Remove all flame rods and electrodes and inspect for cracks and/or carbon buildup. Clean flame rods and electrode with some type sandpaper. Also check electrode for proper gap setting (0.12" - 0.16").
7. Check all wire connections for loose or broken pins or connectors. Disconnect electrical power before performing this task.
8. Check resistance on all three gas valve solenoids. Unplug each coil before checking resistance. Set your meter on the 2K scale, you should read somewhere between 1000 to 1800 ohms across each coil. Power unit back up and set your meter to read 100 VDC scale, cycle unit and check voltage to each coil. You should read 90VDC at each coil. If unit goes to lockout before you have time to read all coils, you may have to cycle it two or three times.

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9. Check voltage on the (4) pin or (6) pin connector located on the front of the PC board. See below for proper voltages and wire colors per unit.

\_\_\_All RHFE 551 FA's Have a four pin connector with two yellow wires and two white wires. Set meter to read 220 VAC, then insert meter leads into connector. Across the two yellow wires you should read 220 VAC, and 15 VAC across the two white wires.

\_\_\_All RHFE 1001 FA's have a four pin connector with two yellow wires and two white wires. Set meter to read 220 VAC, then insert meter leads into connector. Across the two yellow wires you should read 220 VAC, and 15 VAC across the two white wires.

\_\_\_All RHFE 1001FA/VA's have a six pin connector with two yellow wires, two white wires, and two red wires. Set meter to read 220 VAC, Then insert meter leads into connector. Across the two yellow wires you should read 220 VAC, across the two white wires 15 VAC, and 100 VAC across the two red wires.

- Ensure the air pressure switch is functioning properly. Ohm out the micro-switch located on the pressure switch. Continuity will be read on meter when closed position.
- Ensure the vent system does not exceed fifteen feet total run, not exceeding 8 feet vertically, with no more than two bent elbows.
- Check slide thermostat, set your meter to the 200K ohm scale. By reading across the white and black wires, you should have and ohm range from 0 to 30 ohms from low to high on the RHFE 1001 units. One the RHFE 551 FA units read from red to red wires you should read 30 ohms from low to 0 ohms on high.
- Check thermistor operation by inserting meter leads into each end of thermistor plug. Disconnect yellow to yellow from PCB, set your meter on the 200K scale. Your should be able to apply heat to the thermistor bulb and see resistances decrease. Place some ice on thermistor bulb and resistances should increase.

Check current on all flame rods:

\_\_\_RHFE 551 FA only has one flame rod. On the low burner this current should be 1to 2 micro amps and on high, current should be 5 to 6 micro amps.

\_\_\_RHFE 1001 FA and RHFE 1001FA/VA uses only one flame rod on low fire. This is the front flame rod nest to the electrode. Current on this rod should be 1 to 2 micro amps on start up. There are three total flame rods on these units, and on high 5 to 6micro amps should be measured.

**YOU MUST ENSURE UNIT IS GROUNDED !!**