S8 FURNACE TROUBLESHOOTING GUIDE:

The following pages include troubleshooting flowcharts in reference for the 1 Stage S8B1, S8X1 and 2 Stage S8X2 families of furnaces only. The information contained is for reference only and does not cover all scenarios or problems that may be encountered. ONLY qualified technicians should attempt to install, troubleshoot, or repair this appliance. Failure to follow all cautions and /or warnings could result in personal or property damage, including death.

Error Codes

E01 – Internal failure; Replace IFC board

E2.1 – Retries Exceeded (flame never sensed): 3 unsuccessful tries for ignition within a single call for heat. Lockout period is for one hour. Turn off all gas appliances. Turn off electrical power to furnace. Measure gas pressure at gas valve.

E2.2 – Recycles Exceeded (loss of flame after being sensed): = 10 recycles within a single call for heat. Lockout period is for one Hour. Flame is sensed and then lost. Possible Causes: dirty sensor, dirty burners, poor grounding, sensor location, wire connections

E2.3 – 1st Stage Gas Valve energized when it should not be (10 times): 24VAC not sensed on MVL 10 times. Replace IFC.

E3.1 – Shorted Pressure Switch, 1st Stage: : Verify pressure switch wiring and tube routing are correct. Measure voltage across pressure switch. If not 24 volts, replace pressure switch. If 24 volts does exist, replace IFC

E3.2 – Open Pressure Switch, 1st Stage: An error has occurred with the PS1 indicating that the pressure switch is open when it should be closed. In most cases, the pressure switch is not the problem. Verify pressure switch wiring and tube routing are correct.

PS1 Open errors can occasionally happen when wind gusts occur. **NOTE**: S8X2 only: the IFC will attempt to close both PS1 and PS2 and operate on 2nd stage during such an event

E3.3 – Shorted Pressure Switch, 2nd Stage: Cycle power to the furnace OFF and then ON. . Measure voltage across pressure switch. If not 24 volts, replace pressure switch. If 24 volts does exist, replace IFC

E3.4 – Open Pressure Switch, 2nd Stage: Cycle power to the furnace and call for 2 stage heat. 1 stage sequence must be functional before 2 stage can become active. Insure the inter-stage delay is not in process when W1 - W2 signals are applied simultaneously. Is ~120VAC measured from BK to WH on the inducer motor? If Yes, replace inducer assembly. If No, replace IFC.

E04 – Open Thermal Limit: Limit switches are safety devices that will open when an abnormal high temperature has been sensed. REMOVE ALL JUMPER WIRING TO SWITCHES! Under no circumstances, shall these switches be jumpered when not troubleshooting. Verify filters and blower wheels are clean. See Service Facts.

E05 – Flame Detected, should not be present.: Turn off electrical and gas supply to the furnace. Remove gas valve and inspect for moisture or debris on the inlet side. Check for gas leaks. Is there a drip leg? If yes, replace gas valve.

E6.1 – Reversed Polarity (High Voltage): Connect voltmeter between Common and green earth ground. Is there 120 volts? If Yes, disconnect power and reverse power leads. If No, check neutral and ground and be sure furnace is on a dedicated circuit.

E6.2 – Faulty Ground: Incoming or chassis ground connection is not sensed. Check/correct all ground connections within furnace for continuity.

E6.3 – Igniter Circuit: Igniter Relay Fault – The control board has sensed that the igniter relay has stuck closed; igniter Fault – the control board has sensed that the igniter circuit is open or shorted. Disconnect electrical power to furnace. Check wiring, check igniter resistance. If not within 37 to 70 ohms, replace.

E07 – 1st Stage Gas Valve (MVL) energized when it should not be: Turn thermostat to OFF. Is there 24v between the Red lead at gas valve and chassis ground? If Yes, correct wiring. If No, replace IFC.

E08 – Flame Current Low, operation allowed: The flame sense current is less than 0.5 micro-amp DC Make a call for heating. Once flame has been established, set meter to DC volts and measure across flame sense pads labeled FP. Is flame current measured less than 0.5 micro-amp DC? If No, flame sensor is good. If Yes, check location of flame sensor and if correct, replace flame sensor.

E11 – See Service Facts

E12 – Open fuse. Is 24 VAC measured across the fuse terminals? If Yes, replace fuse and check operation for proper amp draw. If No, be sure fuse is seated properly. If it is, replace IFC board.