TROUBLE SHOOTING CHART for qualified service technician- MAIN BURNER

SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
Flame too large	1. Defective operator section of gas valve. 2. Burner orifice too large. 3. If installed above 2,000 ft.	1. Replace complete valve. 2. Check with local gas company for proper orifice size and replace. 3. Refer to orifice chart, Page 3.
Flame pops back	1. Too much primary air.	1. Adjust air shutter. (See Page 12).
Noisy Flame	1. Too much primary air. 2. Noisy pilot. 3. Burr in orifice (if it whistles or resonates). 4. Excessibe gas input.	1. Adjust air shutter. (See Page 12). 2. Reduce pilot gas with adjusting screw on combination gas control valve. 3. Remove burr or replace orifice (Do not enlarge orifices). 4. See “Flame Too Large” above.
Yellow tip flame (some yellow tipping on L.P. gas is permissible)	1. Too little primary air. 2. Clogged main burner ports. 3. Clogged draft hood. 4. Linted up air shutter.	1. Adjust air shutter. (See Page 12). 2. Clean main burner ports. (Do not enlarge ports). 3. Clean draft hood. 4. Check for dust or lint at air mixer opening and around the shutter. Clean as necessary.
Floating Flame	1. Blocked venting. 2. Insufficient primary air.	1. Clean flue passageways to remove blockage. 2. Adjust air shutter to increase primary air supply. (See Page 12).
Gas Odor	1. Gas leak. 2. Chimney or flue obstruction. 3. Drafts around appliance.	1. Shut off gas service immediately. Check piping. Call gas company. (See Page 1). 2. Clean flue. 3. Eliminate drafts.
Delayed Ignition	1. Pilot flame too small. 2. Burner ports clogged near pilot. 3. Low gas pressure. 4. Pilot decreases in size when main burners come on. 5. Air shutter open too far. 6. Drafts around appliance. 7. Bad venting.	1. Check pilot orifice, increase pilot gas flow if necessary by adjusting inlet pressure. 2. Clean burner ports (Do not enlarge ports). 3. Check gas supply pressure. 4. Supply piping is inadequately sized. Consult local gas utility or competent installer. 5. Close air shutter to proper setting as outlined in these instructions (slight yellow tipping is allowable on L.P. Gas). (See Page 12). 6. Eliminate drafts. 7. See “Venting”.
Failure to Ignite	1. Main gas off. 2. Defective gas valve.	1. Open all manual gas valves. 2. Replace gas valve.
Condensation of water vapor	1. Improper venting.	1. See “Venting”.
Burner won’t turn off	1. Defective or sticking automatic valve. 2. Excessive gas pressure (The supply gas pressure must not exceed 1/2 psi or 14” water column).	1. Clean or replace valve. 2. To correct this situation contact the utility supplying the gas.
Incorrect gas input	1. Gas input not checked. 2. Clogged orifice.	1. Re-check gas input. 2. Check orifice for clogging. If clogged, clean out the hole carefully with a smooth wood toothpick. (Do not in any way enlarge or distort it).
Not enough heat	1. Appliance undersized. 2. Temperature dial set too low. (Bulb type valves). 3. Incorrect supply pressure.	1. This is especially true when a dwelling or room is enlarged. Have the heat loss calculated and compare to the appliance output (70% of input). Your gas company or installer can supply you with this information. If appliance is undersized, replace with correct size unit. 2. Raise setting of Temperature Dial. See “Lighting and Shutting Down Instructions”. 3. Check supply pressure as outlined above.
Too much heat	1. Temperature dial set too high. 2. Combination control valve sticks open.	1. Lower setting of temperature dial. See “Lighting and Shutting Down Instructions”. 2. Replace combination control valve.

TROUBLE SHOOTING CHART - AUTOMATIC PILOT & VALVE

SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
Burner won't turn on	1. Pilot flame too large or too small.	1. Re-adjust pilot flame using adjustment on combination control valve.
	2. Dirt in pilot orifice.	2. Clean pilot orifice with air or solvent, do not ream.
	3. Defective automatic pilot section in combination control valve.	3. Replace entire combination control valve.
	4. Defective pilot generator.	4. Replace pilot generator.
	5. Defective combination control valve.	5. Replace valve.
	6. Manual reset blocked flue switch tripped.	6. Reset switch, see Page 6 and blocked flue section below.

TROUBLE SHOOTING CHART - BLOCKED FLUE SWITCH (FOR QUALIFIED SERVICE TECHNICIAN)

POSSIBLE CAUSES	CORRECTIVE ACTION
1. Blockage in vent pipe	A. Check vent pipe for blockage, such as bird nest, wasp nest, twigs, leaves, etc. B. Check inside the bottom of the vent pipe to make sure the top of the draft diverter did not rip the inner liner causing it to block part of the vent opening. C. Check that no insulation from the header plate got caught on top of the draft diverter when the heater was inserted into the wall. D. Check that the vent cap is properly installed, not shoved too far down on the vent pipe.
2. Burner is overfiring	A. Check the manifold pressure. B. Check the rate, NOTE: This appliance was orificed for elevations up to 2,000 feet. When installed at higher elevations refer to orifice chart in controls section of instructions for proper orifice size and re-orifice accordingly.
3. Improper vent system	3. Correct vent system.
A. Vent too short	A. The vent should terminate a minimum of 12 feet above the floor. See Figure 2. Also, the top of the vent must be at least 2 foot above any obstacle within a 10 foot radius, including the roof. See Figure A.
B. Restriction in vent system caused by offsets	B. All type "B" vents shall extend in a generally vertical direction with offsets not exceeding 45 degrees, except that a vent system having not more than one 60 degree offset may be allowed. Any angle greater than 45 degrees from the vertical is considered horizontal. The total horizontal run of a vent plus the horizontal vent connector shall be not greater than 75 percent of the vertical height of the vent. Any offsets used should be as far above the drafthood as possible to allow a venting action to begin before any restriction is encountered.
C. Incorrect vent pipe	C. Use listed BW type vent pipe. Do not use tansite or any other type of ceramic pipe for venting. Do not use single wall pipe. When venting into a masonry chimney the chimney must be properly lined and sized for this gas furnace. The use of type B or flexible chimney liner is recommended.
4. Incorrect header plate location	4. The header plate must be 65-3/4" above the floor plate. See rough-in instructions.
5. Vent pipe not down on the header plate securely	5. Use a base plate (obtained from the vent pipe manufacturer) on top of our header plate. This will lock the vent pipe down and prevent the draft diverter from shoving it up.
6. Loose connections on the vent safety wiring harness	6. Check the connection on both the switch and the gas valve. Tighten if necessary.

DO NOT BYPASS THE BLOCKED FLUE SWITCH
To do so could expose the consumer to property damage, personal injury or possible death.