

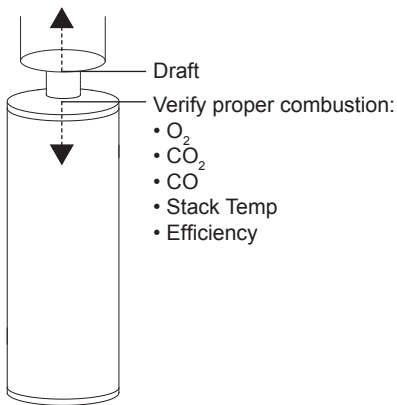


# Combustion Reference Sheet

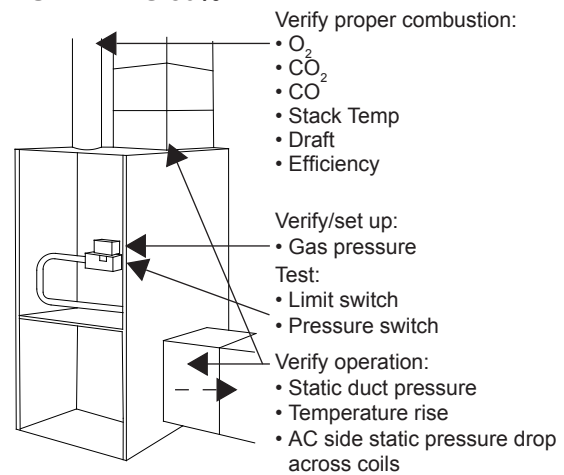
## GAS FIRED POWER BURNERS

Oxygen (O <sub>2</sub> )	3 to 6%
Carbon Monoxide (CO)	< 100 ppm
Carbon Dioxide (CO <sub>2</sub> )	8.0% - 11.0%
Stack Temp	275 to 500°F (135 to 260°C)
Stack Draft	-0.02 to -0.04 inWC (-4.98 to -9.96 Pa) OR manufacturer's specifications
Overfire Draft	-0.02 inWC (-4.98 Pa)

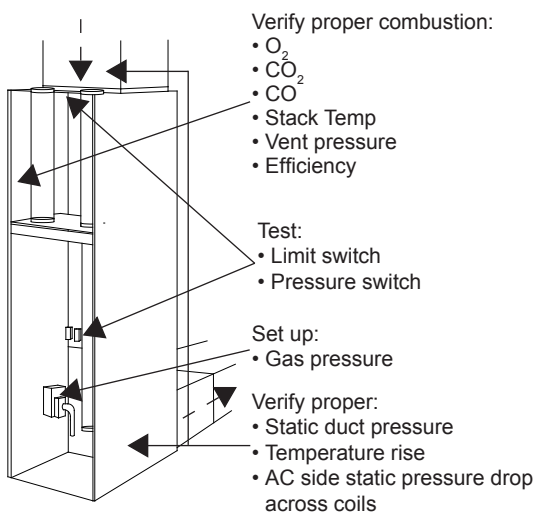
### WATER HEATER



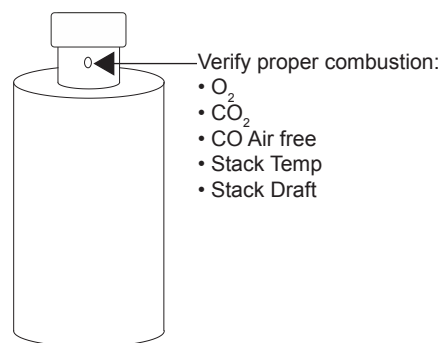
### FURNACES 80%



### NATURAL GAS AND PROPANE



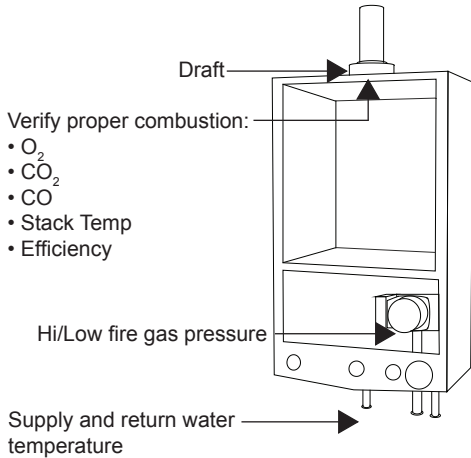
### BOILER



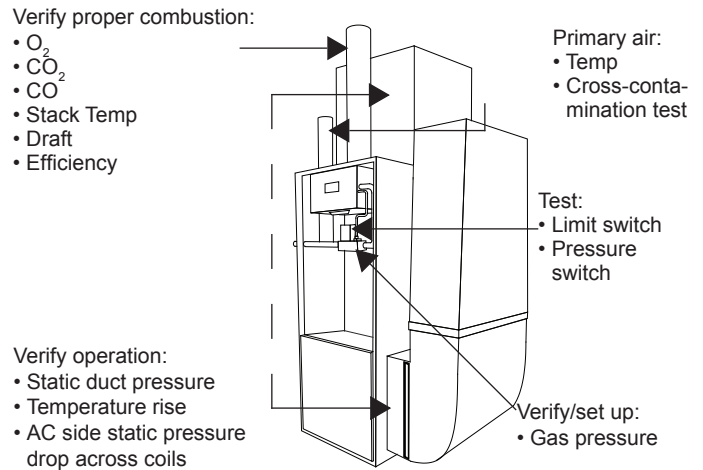
## HIGH EFFICIENCY GAS FIRED 90+ POWER BURNERS

Oxygen (O <sub>2</sub> )	5 to 7%
Carbon Monoxide (CO)	< 100 ppm
Carbon Dioxide (CO <sub>2</sub> )	7.0% - 9.0%
Stack Temp	125°F (52°C)
Stack Draft	-0.02 to -0.08 inWC (-4.98 to -19.9 Pa) OR manufacturer's specifications

## HIGH EFFICIENCY, SEALED INSTANT WATER HEATER



## HIGH EFFICIENCY CONDENSING FURNACES (90%)



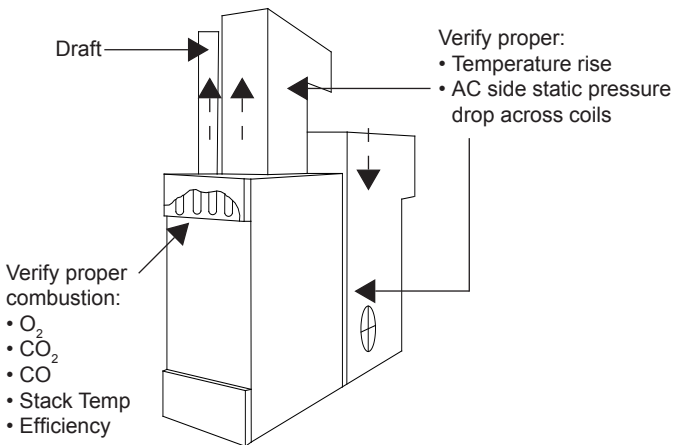
## ATMOSPHERIC GAS FIRED BURNERS

Oxygen (O <sub>2</sub> )	7 to 9%
Carbon Monoxide (CO)	< 100 ppm
Carbon Dioxide (CO <sub>2</sub> )	6.0% - 8.0%
Stack Temp	325 to 600°F (162 to 315°C)
Stack Draft	-0.02 to -0.04 inWC (-4.98 to -9.96 Pa) OR manufacturer's specifications
Overfire Draft	-0.02 inWC (-4.98 Pa)

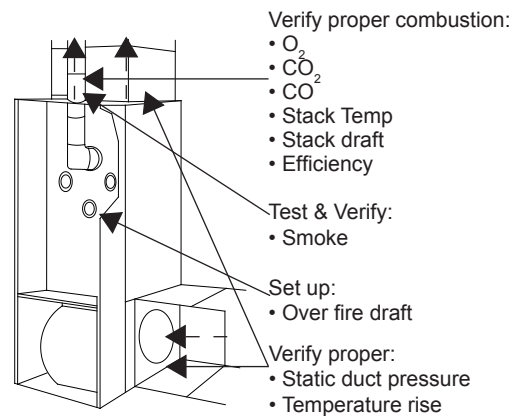
## OIL FIRED POWER BURNERS (#2 FUEL OIL)

Oxygen (O <sub>2</sub> )	4 to 7%
Carbon Monoxide (CO)	< 100 ppm
Carbon Dioxide (CO <sub>2</sub> )	10.0% - 13.0%
Stack Temp	325 to 600°F (162 to 315°C)
Stack Draft	-0.02 to -0.04 inWC (-4.98 to -9.96 Pa) OR manufacturer's specifications
Overfire Draft	-0.02 inWC (-4.98 Pa)
Smoke	0 (or manufacturer's specifications)

## ATMOSPHERIC FURNACE



## OIL FURNACES\*



\* Test smoke prior to using analyzer

### Heat Exchanger Test

1. Insert probe in flue
2. Turn the blower on
3. Monitor the O<sub>2</sub> and Excess Air readings. If there is a change, this could indicate a cracked heat exchanger, requiring further evaluation

