BURNER ADJUSTMENTS

Total Flame Capacity

On each air/gas mixer is an air control valve, which can be rotated to provide control of the flame. Fully opened, clockwise rotation provides full air to the burner. Likewise, counter clockwise rotation will provide minimal air, and therefor a lower flame size.

Air/Gas Mixture

Above the air butterfly valve and to the side of the mixer body, there is a gas cock. A cap covers the gas proportioning screw. By removing the cap, and then by turning the screw in (CW) or out (CCW) the ratio of gas to air can be adjusted. The proper setting is achieved when the flame sits on the burner surface, without gaps and "blow offs." When proper mixture is obtained, the cap should be replaced. Due to the use of a zero gas regulator, the burner mixture ratio will now stay the same regardless of the setting of the air valve.

Spark 'N Sense™ Ignition

The Spark 'N Sense™ module contains an output connection for both high voltage and flame sensing. Make sure this wire does not run with any other electrical cables to avoid noise. The ignition electrode must have a 1/8" gap to spark across, and is usually at the feed end of the burner. The sensor electrode will need at least 1/2" of electrode tip fully immersed in the flame, without being close enough to short circuit to ground.

Troubleshooting

If the burner fails to light, there is usually either too much or too little gas available. First check that there is air coming out of the burner. If the air comes through the mixer, then you need to check if the gas is being induced or not. Too much gas usually will result in a flame, but the flame will be very long and weak, the spark monitoring will not be able to sense it, and unit will shut off again. If the gas is too lean, the burner will just refuse to light at all. It is very important to check the gas proportioning screw (under the cover) of the gas cocks. Normal you start with the screw backed out from the fully closed position about 4 or 5 turns and adjust from there. If a burner lights and then fails at approximately 10 seconds, this is an indication that the sensor failed to read the flame. If failure occurs later (after a few minutes), the problem may been traced to two possibilities. First, the electrode tip has moved when it heated up (it is normal for it to glow red), causing it to contact ground, and thus shutting off the burner. By the time you get back to it, it may look as if nothing is wrong, so after noticing a few failures, watch that burner continuously until it goes into failure. Second, the burner may fail due to the oven having reached temperature, and thus the burners move to low fire. At this point the flame may no longer contact the flame rod. Generally, the minimum firing rate needs to be turned up, as extremely low mixture pressures which worked with continuous ignition are now too low. If this higher minimal flow causes the temperature to override the setpoint, then you need to use fewer burners.