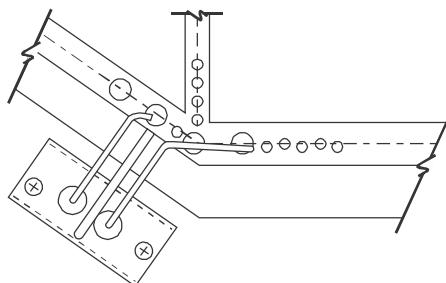




Spark Igniter Applications with Flame Rectification Sensing

Application

This document is intended to aid the appliance engineer or authorized service contractor in an Intermittent Pilot Ignition (IPI) or Direct Spark Ignition (DSI) application. Spark igniters are manufactured with a variety of tips and mounting configurations.



DC2/DC3 Spark/Sensor Assembly (DSI)

Figure 1: Mounting Position Example

Good Practice Rules

The following are good practice rules for governing the location of the igniter assembly:

- Locate the igniter assembly in a position that has a fixed relation to the main burner.
- Locate the igniter assembly in such a position that it does not receive the full force of igniting puffs from the main burner.
- Locate the igniter assembly in a position that will allow ready removal for cleaning.

2. Ensure the main burner flames do not impinge on any part of the igniter assembly, except the electrodes.
3. Ensure the igniter assembly will ignite the main burner under various pressure and voltage conditions if the main valve is energized.
4. Ensure the burner remains lit and the igniter assembly does not cycle the valve:
 - when the main burner is ignited from a cold start
 - when the main burner is ignited with the appliance at the maximum temperature conditions of operation
 - with normal variation in air adjustments of the main burner
 - with rapid Off and On operation of the main burner with the combustion chamber cold
 - with rapid Off and On operation of the main burner with the combustion chamber hot
 - with continued operation of the main burner
5. To ensure proper operation, the igniter assembly must produce a satisfactory microampereage.

Note: When an igniter is to be applied to an appliance already in the field, obtain the appliance manufacturer's recommendations for the correct pilot specification and location dimensions for the particular model appliance.

After Installation

When the igniter assembly has been installed, carefully make the following observations and tests:

1. Ensure the pilot gas readily ignites and that the flame is sensed, for example: the main valve is energized (pilot application). Ensure main burner gas readily ignites and is sensed, for example: the main valve is energized prior to lockout (DSI application).

Flame Sensor Output Test

When the DSI assembly is applied properly, the flame sensor will produce a microampereage. Minimum operating microampereage must be obtained to give trouble free performance. Check with your ignition manufacturer for proper microamp reading.