Frymaster®
A WELBILT Company

DEAN

Service Bulletin

Bulletin 2000-27-ABD **Page 1 of 2** **Date: 06/29/2000**

This bulletin supersedes Service Bulletin 2000-23-ABD, which is hereby cancelled. Remove Bulletin 2000-23-ABD from your active file and discard.

SUBJECT: Troubleshooting Frymaster Millivolt Systems

When troubleshooting millivolt systems on Frymaster equipment, before performing diagnostic checks on either the Robertshaw or Honeywell system:

A. Inspect all wires and component leads for damage (heat, oil, moisture, etc.). On capillary tube-type thermostats, check for resistance on the thermostat lead wires. If resistance is found, solder the connectors to the wires or replace the wires.

B. Clean and verify that all wire connections and gas valve terminal connections are tight.

C. Check the length of the pilot flame (it should be about 1 ½-inches (38 mm) long) and verify that it contacts the top one third of the thermopile. Clean the pilot orifice and adjust the pilot strength if needed.

D. Measure thermopile output with no load (i.e., with the thermopile disconnected from the gas valve). Measurements must be made with a multimeter having a 0-1000 DC millivolt (MV) range. Light the pilot and have someone hold the gas cock knob in the depressed position. If the thermopile is a single lead (coaxial) type, measure from the lead's end contact to its screw-in threads. If the thermopile has two leads, measure across the end terminals. The reading should be within the range of 500-800 millivolts. If not, replace the thermopile.

Perform the appropriate system check as described on the following page.

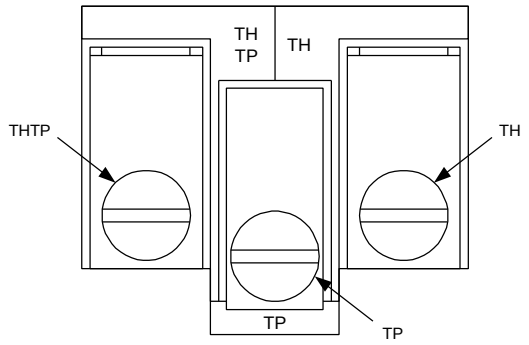
Frymaster L.L.C., 8700 Line Avenue, P.O. Box 51000, Shreveport, LA 71135-1000
Shipping Address: 8700 Line Avenue, Shreveport, LA ZIP 71106
TEL 318-865-1711 FAX 318-219-7135 24-Hour SERVICE HOTLINE 800-551-8633
WebSite - http://www.frymaster.com/service
E-mail - service@frymaster.com

ROBERTSHAW-UNITROL 7000 SYSTEM CHECK

1. **Complete System Check**
   With thermostat contacts closed and gas cock dial in the "ON" position, main burner should ignite. If the reading is more than 100MV, replace the gas valve.

2. **System Resistance Check**
   With thermostat contacts closed and main burner "ON", measure the millivolt reading between the THTP and TH terminals. The reading should be less than 80MV. If not, recheck thermostat leads and connections. Replace with new or heavier gauge wires if necessary. If the reading is still greater than 80MV, replace the thermostat.

3. **Automatic Pilot Dropout Check**
   With the thermostat contacts open, hold the gas cock knob depressed with the pilot lit until the maximum millivolt output is observed between the THTP and TP terminals. Then extinguish the pilot and observe the meter. The sound of the pilot magnet dropping should be audible. This dropout should occur between 120MV and 30MV. If it occurs outside these limits, change the gas valve.



Millivolt Operator
Terminal Panel
(Robertshaw)

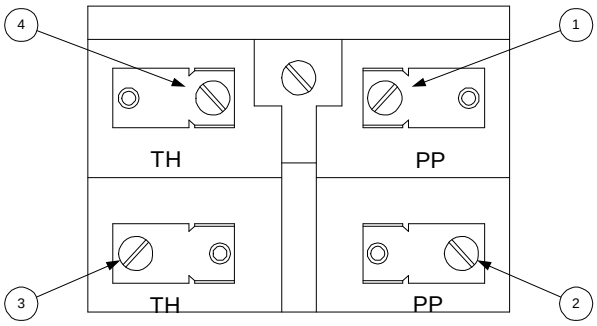
Test	Meter Setting	Meter Leads On Terminals			Acceptable 99 Results
1	MV	TP	&	TH	<100MV
2	MV	THTP	&	TH	<80MV
3	MV	THTP	&	TP	30-120MV

HONEYWELL SYSTEM CHECK

1. **Complete System Check**
   With thermostat contacts closed and gas cock dial in the "ON" position, main burner should ignite. If not, measure across terminals 2 and 3 as indicated in the diagram. If the reading is more than 180MV, replace the gas valve.

2. **System Resistance Check**
   With thermostat contacts closed and main burner "ON", measure the millivolt reading between terminals 1 and 3 as indicated in the diagram. The reading should be 220MV or less. If not, recheck thermostat leads and connections. Replace with new or heavier gauge wires if necessary. If the reading is still greater than 220MV, replace the thermostat.

3. **Automatic Pilot Dropout Check**
   With the thermostat contacts open, hold the gas cock knob depressed with the pilot lit until the maximum millivolt output is observed between terminals 1 and 2. Then extinguish the pilot and observe the meter. The sound of the pilot magnet dropping should be audible. This dropout should occur between 110MV and 36MV. If it occurs outside these limits, change the gas valve.



Millivolt Operator
Terminal Panel
(Honeywell)

Test	Meter Setting	Meter Leads On Terminals			Acceptable Results
1	MV	2	&	3	<180MV
2	MV	1	&	3	<220MV
3	MV	1	&	2	36-110MV

Frymaster L.L.C., 8700 Line Avenue, P.O. Box 51000, Shreveport, LA 71135-1000
Shipping Address: 8700 Line Avenue, Shreveport, LA ZIP 71106
TEL 318-865-1711 FAX 318-219-7135 24-Hour SERVICE HOTLINE 800-551-8633
WebSite - http://www.frymaster.com/service
E-mail - service@frymaster.com