

GAS POT MICRO-THERM CONTROL

Note: This thermostat is designed to operate with manufactured gas, which has a pressure of 3 to 5 inches of water. With natural or "bottled" gases, which run to greater pressures, a regulator (Part No. F-7964) should be used to reduce the pressure to the normal operating range.

Two separate thermostats provide individual control of crucible temperature and mouthpiece temperature. The thermostat barrel located at the side of the pot jacket controls the crucible heater only and is calibrated to operate at 550° F. The thermostat barrel attached to the base below the left side of the keyboard controls both the throat and mouthpiece burners and is calibrated at 490° F.

CAUTION: The bulbs of thermostats must not be inserted into the pot or above the mouthpiece until the complete assembly has been exposed to room temperature (70° F.) for at least one hour. Do not insert in over-heated pot (over 600° F.).

The table B (Fig. 3) shows approximate settings for the two thermostats. Starting from a closed position, open the number of dial graduations indicated in the table for the gas to be used. For example, using commercial manufactured gas of 537 B.T.U. value, the crucible thermostat may be set by opening the dial shaft 24 graduations; the mouthpiece thermostat would be set by opening 15 graduations. The thermostats are calibrated at the factory for commercial manufactured gas and a minimum of adjustment should be necessary.

To calibrate the crucible thermostat, place a glass thermometer in pot, loosen dial set screw 93 and shaft set screw 95 (Fig 1). Then turn operating shaft 94 to the left or counter-clockwise, to raise the temperature and to the right or clockwise to lower.

When thermometer reaches 550° F. adjust shaft 94 by turning to the right or clockwise until main burner flame is cut down to a pilot flame. Permit pot to idle for at least 15 minutes, to make sure the 550° will not be exceeded in idling periods. Line up the 550° graduation mark on the dial 89 with one on casting and then lock dial in position with lock screws 93 and 95.

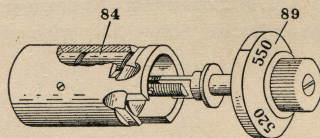
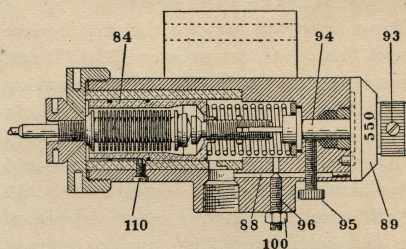


Fig. 1

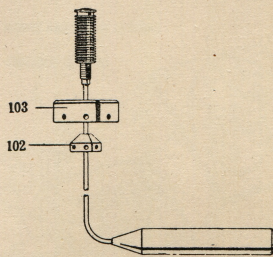


Fig. 2

The pilot light can be adjusted by first loosening lock nut 100, then turning the pilot light regulating screw 96 to the right or clockwise to reduce the flame, or to the left or counter-clockwise to increase the flame. This will regulate the amount of gas flowing through the pilot light by-pass 88.

Precisely the same procedure may be followed in setting the mouthpiece thermostat, except that the temperature of the mouthpiece can be determined by rubbing a slug slowly across the mouthpiece below the lock-up area. With pot idling, when the mouthpiece temperature is 490° F. the corner of the slug melts. Follow the same sequence of operations on the corresponding parts of the

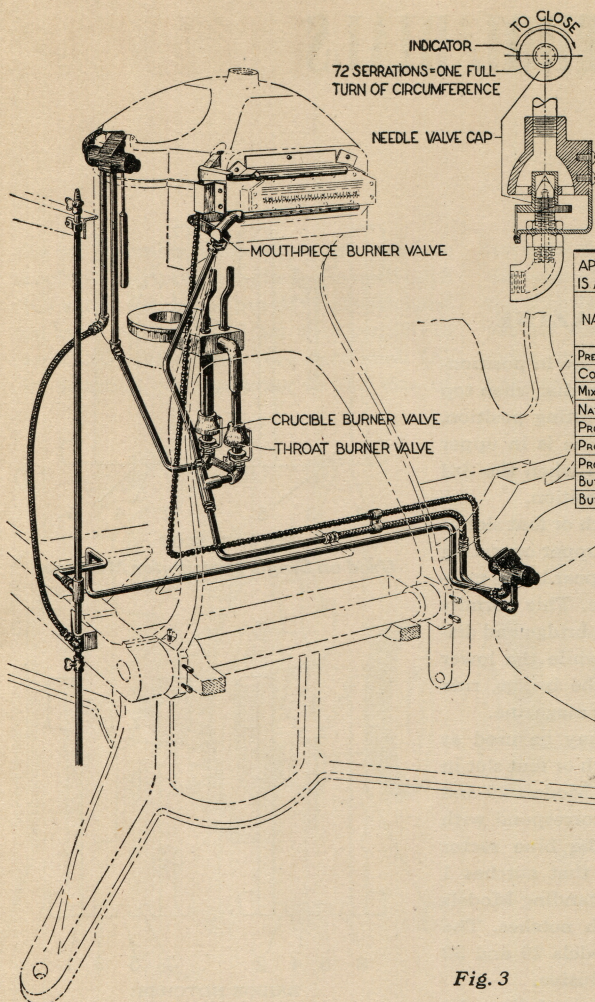
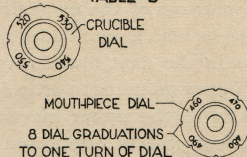


TABLE A

APPROXIMATE NEEDLE VALVE SETTING WHEN POT IS AT 550" & GAS LINE HAS 5" WATER PRESSURE

NAME OF GAS	B.T.U.	NUMBER OF SERRATIONS FROM A CLOSED POSITION	
		CRUCIBLE	MOUTHPIECE THROAT
PREPARED MFG.	460	216	57
COMM. MFG.	537	216	57
MIXED	800	58	31
NATURAL	1000	58	28
PROPANE AIR	1500	33	16
PROPANE AIR	2000	33	16
PROPANE	2519	33	16
BUTANE AIR	2900	33	16
BUTANE	3200	28	16

TABLE B



FROM CLOSED POSITION APPROX. THERMOSTAT SETTING

NAME OF GAS	B.T.U.	DIAL GRADUATIONS	
		CRUCIBLE	MOUTHPIECE
PREPARED MFG.	460	550'-24	490'-15
COMM. MFG.	537	550'-24	490'-15
MIXED	800	550'-16½	490'-15
NATURAL	1000	550'-14	490'-15
PROPANE AIR	1500	550'-15	490'-15
PROPANE AIR	2000	550'-15	490'-15
PROPANE	2519	550'-15	490'-15
BUTANE AIR	2900	550'-15	490'-15
BUTANE	3200	550'-15	490'-15

Fig. 3

mouthpiece thermostat already described for setting the crucible thermostat.

GAS BURNER VALVE ADJUSTMENT

Three needle valves with simple, positive adjustment are provided for the crucible, throat, and mouthpiece burners. A cross-section of the valve is shown at the top of Fig. 3. A serrated brass dial or knob permits ready adjustment for any type of gas. The table A (Fig. 3) shows settings from closed position of the three valves in accordance with the gas in use. The dials have 72 serrations about their circumference. For example, with commercial manufactured gas,

the crucible valve should be opened three complete turns or 216 serrations; the mouthpiece, 57; and the throat, 46 serrations.

To replace a damaged expansion bellows, shown in Fig. 2, first turn the gas flame down, using the main supply cock. Remove the expansion bellows guard, loosen bellows retaining nut 102 before loosening enclosing nut 103, then remove expansion tube assembly and replace with new one. Tighten enclosing nut 103 and then tighten bellows retaining nut 102. To clean, go through same procedure with the addition of removing piston by loosening set screw 110, Fig. 1. Clean thoroughly and wipe piston 84 with dry graphite before assembling.