

Eclipse Low Pressure Proportional Mixers

1.0 ASSEMBLY

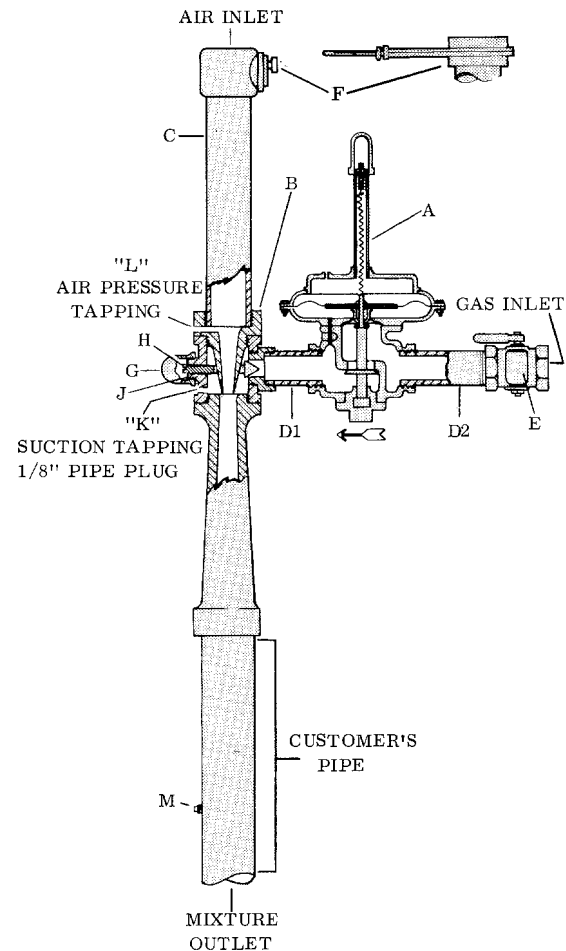
- 1.1 These mixers are shipped partially disassembled. Connect the gas governor "A" to the injecting tee "B" by using the nipple "D1" which is supplied with the mixer. The direction of gas flow through the governor is shown by arrows cast on body. Nipples "D1", "D2" and "C", gas cock "E" and air valve "F" are also supplied when the complete mixer (Assembly LPBG) is purchased.

2.0 INSTALLATION

- 2.1 Zero Governor must be installed in horizontal line with valve stem in upright vertical position.
- 2.2 Connect air supply (4 oz. to 4 lbs.) at "F".
- 2.3 Connect the gas supply to "E". Inlet pressure must be between 4" w.c. and 1 psig in order to assure maximum capacity and prevent damage to the governor. DO NOT allow the drilled hole in the pipe plug located on top of the governor to become plugged.
- 2.4 Connect mixture outlet to burner manifold using at least the same size pipe as outlet.
- 2.5 Use a union in inlet lines so that equipment may be removed without removing piping.
- 2.6 If pilots are used, supply a separate line and regulator for the pilots. The pilot gas should be connected ahead of all governors, regulators, and automatic valves in the main gas line. Refer Figure 2.
- 2.7 If it is desired to throttle or modulate the burner from high to low automatically, this may be accomplished by putting an air control valve ahead of the air valve "F". (See Bulletin M-150 and M-200 for Eclipse Air Control Valves.) **IMPORTANT:** When connecting the mixture outlet to the burners, eliminate bends wherever possible. By so doing you will conserve pressure. Do NOT install cocks, valves or restriction at any point between mixer and burners.

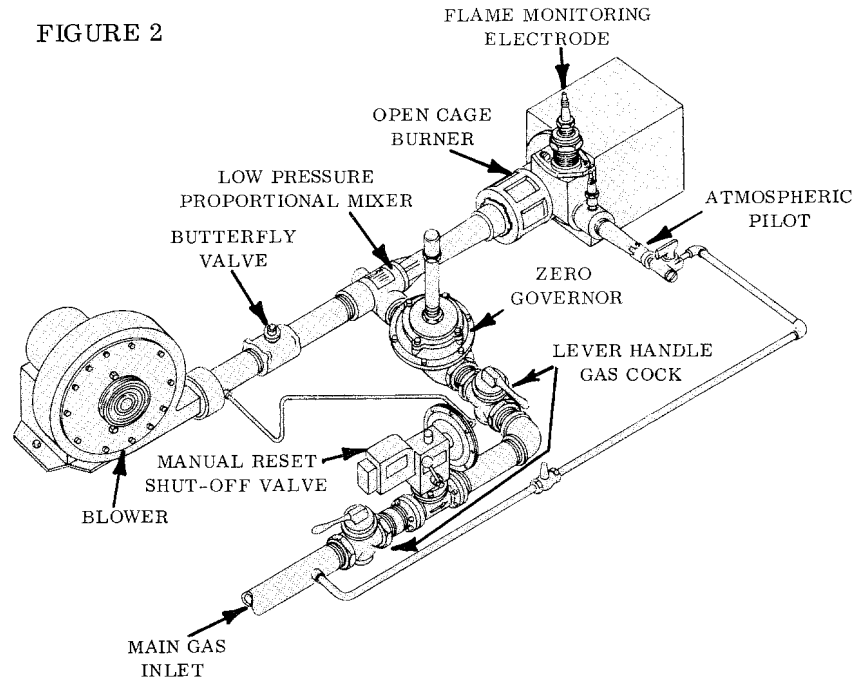
3.0 OPERATION AND ADJUSTMENT

- 3.1 Close gas cock "E", remove cap "G", loosen locknut "J" and turn screw "H" clockwise until it lightly contacts its seat. Start the blower and open air valve "F" until the pressure at "M" is .5" w.c. Start pilot(s), open gas cock "E" fully, and turn screw "H" counter-clockwise until the burner(s) lights. Slowly open the air valve until the air flow reaches its maximum. Check the flame and adjust "H" until the desired flame is achieved. Turn down slowly to a minimum of .25" w.c. (at "M") and check for proper flame. Tighten locknut "J" and replace cap "G".



- 3.2 CONTROL OF THE FLAME : The flame can now be turned up or down by manipulating valve "F" in the air line or by means of an automatic air control valve. When an automatic valve is used in series with a blast gate, the blast gate must be fully open to achieve maximum capacity. The air/gas ratio will remain correct over a wide range of turndown. If valve "F" is shut down too far, the low mixture pressure developed may allow flame propagation through the burners in the mixture line. If this occurs, shut gas valve "E" and open "F" to completely purge the line. Then light as in 3.1.
- 3.3 TO SHUT OFF -- IMPORTANT: Close the gas cock "E" at the inlet of the zero governor, then shut down the air supply. Do not shut down the blower when the gas cock "E" is open as this will cause the burners to backfire.

FIGURE 2



SINGLE BURNER INSTALLATION--MANUAL CONTROL. After initial adjustment of proportional mixer, burner is controlled by manual butterfly valve. Automatic control can be provided by replacing the manual air valve with a temperature control valve (Bull. M-200) or motorized butterfly valve (Bull. M-150).

4.0 INSTALLATION AND ADJUSTMENT OF IMPULSE LINE WITH BLEED FITTING

4.1 Under certain piping conditions or system arrangements, it may be impossible to create sufficient suction to draw the gas through the zero governor. In this case, an air impulse line with bleed fitting may be installed on the mixer as shown in Figure 3. Bleed fittings are available from the factory. The factory should be consulted to determine the proper "impulse line" application for the total system.

- 4.1.1 Install pressure gauges at "S" and "L".
- 4.1.2 Remove bleed fitting cap "U" and with burners on high fire, adjust pin "V" so that air pressure at "L" is approximately 1" w.c. less than gas pressure at "S". **IMPORTANT:** The air pressure at "L" should never be greater than the gas pressure at "S". This pressure at "S" may vary with the amount of equipment making a demand on the gas supply. Adjustment, therefore, should be made on the basis of the lowest gas pressure which will be available at "S", which would be during the peak gas demand.
- 4.1.3 Tighten locknut "W" to hold adjusting pin "V" in the adjusted position and replace cap "U".
- 4.1.4 Make final adjustment of air/gas ratio with adjusting pin "K".

FIGURE 3

