Information Guide 654
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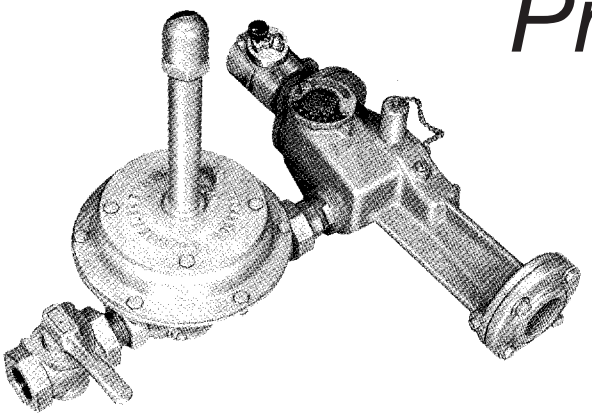
Eclipse VariSet Proportional Mixers



Eclipse Vari-Set Proportional Mixers are used to mix low pressure air (2 osig to 4 psig) and any commercially available fuel gas at low pressure (4" w.c. to 16 osig) and deliver the mixture under pressure to open or sealed premix type gas burners.

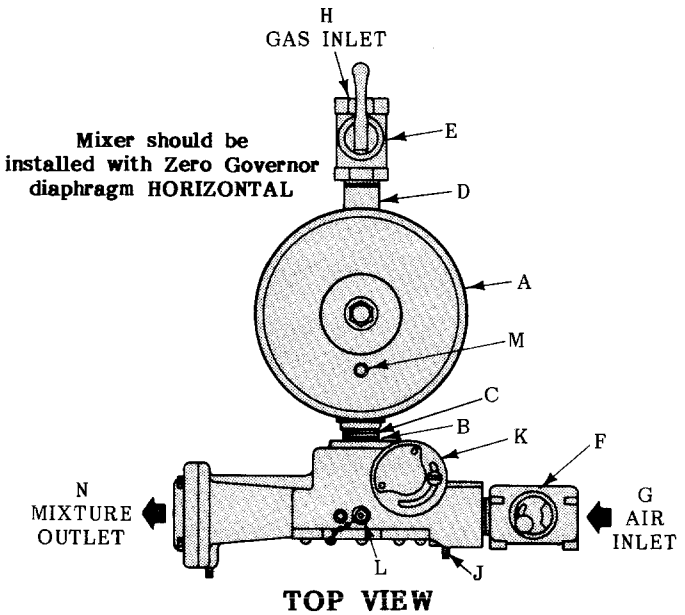
1.0 ASSEMBLY

1.1 These mixers are shipped partially disassembled. Connect the gas governor "A" to the mixer at point "B" by using the nipple "C" which is supplied with the mixer. The gas governor "A" must be connected so that gas flow through the governor is in the direction indicated by the arrow on the governor body. Nipple "D", gas cock "E", and butterfly valve "F" are supplied with mixer when VSBG assembly is purchased. This accessory equipment will vary, depending on assembly purchased - See Bulletin L-310.

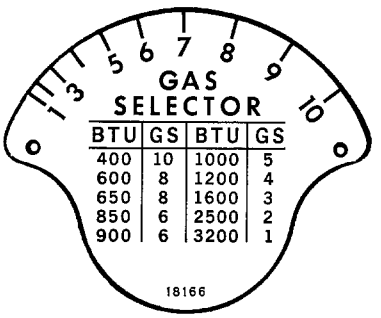
2.0 INSTALLATION

2.1 Connect supply of air (4 oz. to 4 lbs.) at inlet "G".

2.2 Connect the gas supply at inlet "H". Inlet gas pressure should be 4" to 15" w.c. on 1/2" and 3/4" zero governors (424, 434 and 535 Vari-Set Mixers), and 4" to 27" w.c. on 1" and larger zero governors. **Zero governor must be installed so that the diaphragm is**



TOP VIEW



CLOSE-UP OF "K," GAS SELECTOR

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horizontal. 1/2" and 3/4" zero governors (424, 434 and 535 Vari-Set Mixers) should be mounted with valve stem pointing DOWN; 1" and larger governors, with valve stem pointing UP. The mixer proper may be installed in any desired position.

2.3 If either a pressure or suction exists in the furnace, it must be compensated for by cross loading the upper chamber of the zero governor to the furnace. Tap "M" is provided for this purpose.

2.4 Connect outlet "N" to burner manifold using pipe at least as large as "N". IMPORTANT: In connecting "N" to the burners, eliminate elbows wherever possible in order to conserve mixture pressure.

2.5 Use a union in lines "H" and "G" so that mixer may be removed if desired without removing piping.

3.0 OPERATION AND ADJUSTMENT

3.1 INITIAL LIGHT-OFF: Start the blower, and with pressure gauge installed at "J", open air control valve "F" until gauge reads approximately 2" w.c.

3.2 Remove cap and turn ratio adjusting screw "L" counter-clockwise until fully opened.

3.3 Set gas selector index "K" to correct dial setting for the type of gas being used and lock in position.

3.4 Light pilots or apply torch at the burners and then open gas cock "E".

3.5 Turn ratio adjusting screw "L" clockwise until burners light.

3.6 Adjust ratio adjusting screw "L" until desired flame is obtained. The screw is turned clockwise to reduce air flow and increase gas flow, thus producing a richer mixture. By turning the screw counter-clockwise, air flow is increased and gas flow reduced, resulting in a leaner mixture. When adjustment is completed, lock "L" in position and replace cap.

3.7 It may be necessary to readjust the gas selector index "K" slightly if ratio adjusting screw "L" does not give adequate adjustment. Counter-clockwise adjustment of "K" richens mixture; clockwise adjustment leans mixture.

3.8 CONTROL OF BURNER INPUT: The input can now be turned up or down by simply controlling the air valve "F" in the air line. Automatic temperature control can be achieved by replacing valve "F" with an automatic temperature control valve. The air/gas ratio will remain constant over a wide range of turndown.

3.9 TO SHUT OFF: Shut off gas supply by closing the gas cock "E".

3.10 Shut down air supply.

NOTE: Never reverse steps 3.9 and 3.10 or the burner may backfire.