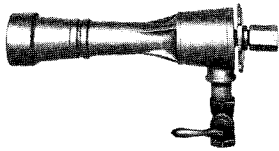
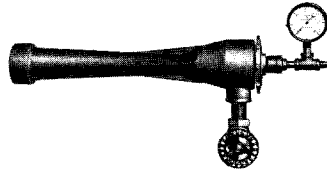


LOW PRESSURE INJECTORS

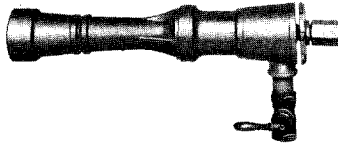
HIGH PRESSURE INJECTORS



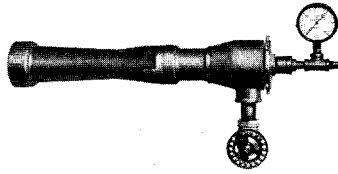
Single Stage



Single Stage



Compound



Compound

Atmospheric injectors can provide an air/gas mixture to any type of atmospheric burner.

Two series of injectors are available; "Low Pressure," for use with gases up to 28" w.c. and "High Pressure," for gases from 1 psig to 30 psig. Both High and Low Pressure Injectors are available as either "Single Stage" or "Compound" units. Single Stage Injectors are designed for use with lower Btu gases, (up to 1200 Btu for Low Pressure Injectors and up to 1100 Btu for High Pressure Injectors). Compound Injectors employ an additional sleeve which assists in entrainment for higher Btu gases.

1.0 INSTALLATION

- 1.1 Use pipe fittings and gas valves which correspond to the inlet and outlet size of the injector. DO NOT undersize or oversize piping, fittings or valves.
- 1.2 Install so that injector has a clean, dust free, air supply.
- 1.3 A tight shut-off gas valve must be installed in the gas line upstream of the needle valve on each "High Pressure" injector.
- 1.4 If no gas cock is ordered with "Low Pressure" injectors, one must be installed in the gas line of each injector.
- 1.5 Do not place any valves between the mixture outlet and the burner.
- 1.6 If pilots are used, the pilot gas line should be connected upstream of the gas cock or needle valve. Use separate supply lines for pilots in multiple burner installations.

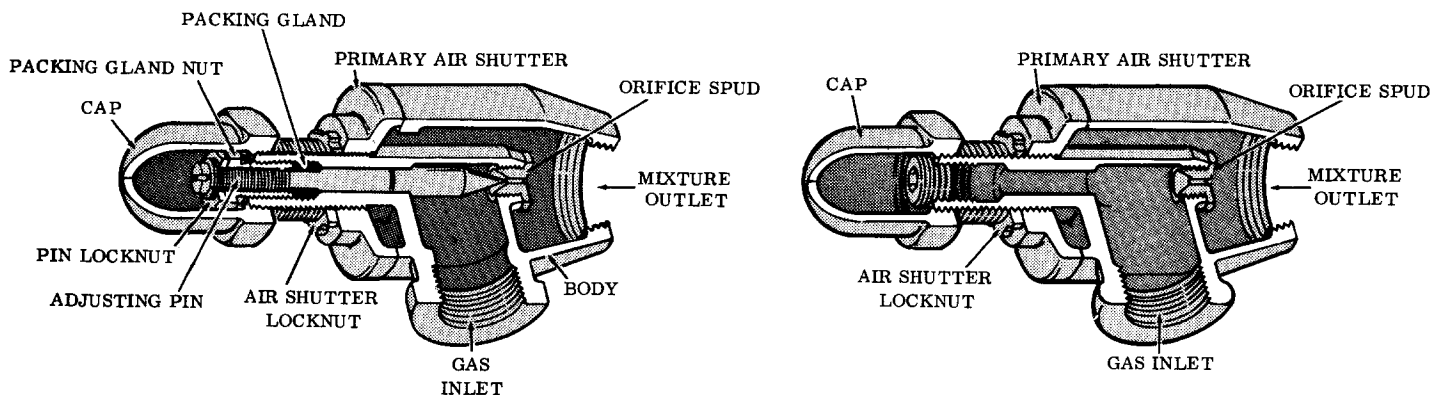
2.0 INITIAL INJECTOR ADJUSTMENT (See Figure 1)

- 2.1 Close primary air shutter.
- 2.2 Apply lighting torch to burner.
- 2.3 Open gas cock.
- 2.4 When air has been bled from gas line, burner will burn with a yellow flame.
- 2.5 Open the air shutter until the base of the flame is blue and ends of flame are slightly reddish or orange in color. No yellow flames should be present if correctly adjusted.
- 2.6 Lock air shutter in place by means of locknut.
- 2.7 On "Low Pressure," "Single Stage" and "Compound" injectors, the amount of gas can be adjusted by removing cap from the injector and turning the adjusting screw clockwise to decrease the amount of gas and counterclockwise to increase the amount of gas.
- 2.8 On "High Pressure," "Single Stage" and "Compound" injectors, the amount of gas can be adjusted with the optional needle valve. Gas flow can be decreased by turning the valve clockwise and increased by turning the valve counterclockwise.

## Low Pressure

FIGURE 1

## High Pressure



- 2.9 The amount of gas required will be dictated by load requirements. It may be necessary to run equipment for some time to determine proper settings.
- 2.10 When proper gas flow has been established, lock adjusting screw with locknut and replace cap ("Low Pressure" injectors). On "High Pressure" injectors, the packing will hold the needle valve in position.
- 2.11 Repeat 2.5 and 2.6 if necessary.
- 2.12 It should now be possible to turn flame from high to low by using the gas cock. Turn down to about one third of maximum can be expected if gas is in the pressure range recommended for the injector.
- 2.13 If pilots are used, it will be possible to run the main burner on an "off-on" cycle by using a solenoid or motor valve in the gas line, or "high-low" cycle by using an adjustable bypass around the gas shut-off cock.

### 3.0 START UP & SHUT DOWN

#### 3.1 Start Up

- 3.1.1 Once initial adjustments have been made, lighting the burner is done as follows:
  - a. Light torch on pilots.
  - b. Apply torch to main burner.
  - c. Open gas cock in gas inlet line.
  - d. Burner will light, and, if properly adjusted, should not require further attention.

#### 3.2 Shut Down

- 3.2.1 Turn cock in inlet gas line off.
- 3.2.2 Turn pilots (if used) off.

### 4.0 MAINTENANCE

- 4.1 If the space between the primary air shutter and the mixer body becomes clogged, it can be cleaned by removing the cap, locknut and air shutter. NOTE: If compressed air is used to blow out dirt, put the air in from mixture outlet end of the mixer or from the burner itself.
- 4.2 Some types of gas contain oily, tar-like products which may deposit on the gas orifice. By removing the gas adjusting screw ("Low Pressure" injectors) or the pipe plug ("High Pressure" injectors) the orifice can be cleaned with a small brush or pipe cleaner.
- 4.3 If the orifice cannot be cleaned, it should be replaced as follows:
  - 4.3.1 Shut off and disconnect inlet gas line.
  - 4.3.2 Remove injector head from the venturi sleeve.
  - 4.3.3 Remove orifice spud using a socket wrench.
  - 4.3.4 Replace spud in injector head, replace injector head onto venturi sleeve, reconnect inlet gas line.



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