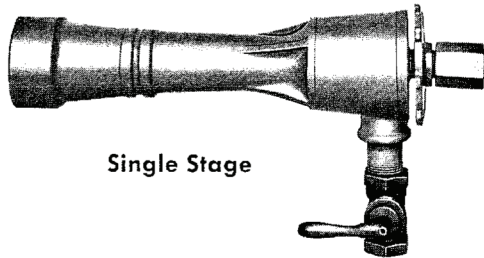
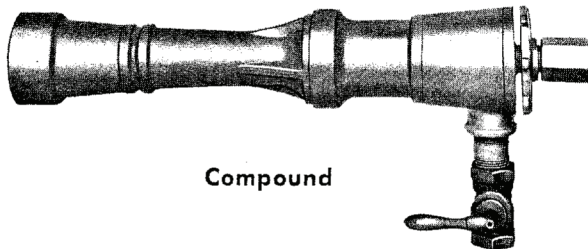


# Eclipse Atmospheric Injectors

## LOW PRESSURE INJECTORS

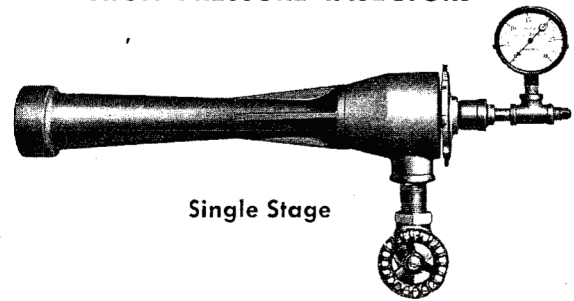


Single Stage

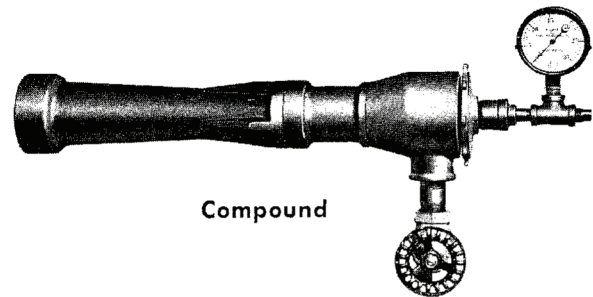


Compound

## HIGH PRESSURE INJECTORS



Single Stage



Compound

Eclipse Atmospheric Injectors are simple, low cost, adjustable mixers designed to provide an air/gas mixture to one or more burners. Atmospheric injectors use the kinetic energy of a stream of gas to entrain part or all of the air required for combustion.

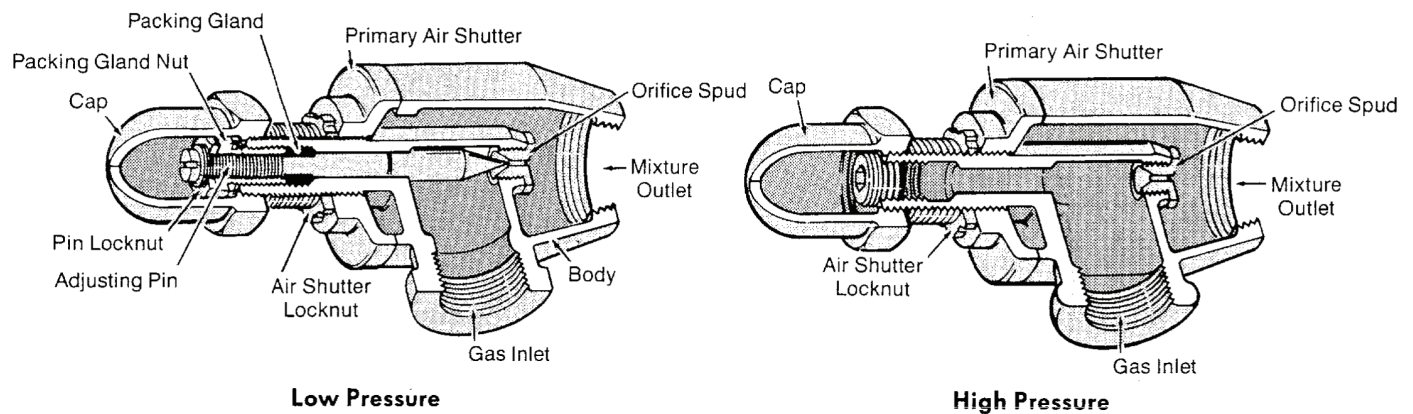
Two series of injectors are available; Low Pressure, for use with gases up to 28" w.c. and High Pressure, for gases from 1 psig to 30 psig. Both are available as either Single Stage or Compound units depending on the type of gas used. Compound Injectors employ an additional sleeve which assists in entrainment for higher Btu gases.

### Installation

1. Use pipe fittings and gas valves which correspond to the inlet and outlet size of the injector. DO NOT undersize or oversize the piping, fittings or valves.
2. Install injectors so that they have a clean, dust-free air supply.
3. A tight shut-off gas valve must be installed in the gas line upstream of the needle valve on each High Pressure injector.
4. If no gas cock is ordered with Low Pressure injectors, one must be installed in the gas line of each injector.
5. Do not place any valves between the mixture outlet and the burner.
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.

## **Initial Injector Adjustment (See Figure 1)**

1. Close the primary air shutter.
2. Apply a lighting torch to the burner.
3. Open the gas cock.
4. When air has been bled from the gas line, the burner will burn with a yellow flame.
5. Open the air shutter until the base of the flame is blue and the ends of the flame are slightly reddish or orange in color. No yellow flames should be present if correctly adjusted.
6. Lock air shutter in place by means of a locknut.
7. On Low Pressure Injectors, the amount of gas can be adjusted by removing the cap from the injector and turning the adjusting screw clockwise to decrease the amount of gas and counterclockwise to increase the amount of gas.
8. On High Pressure 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.



9. The amount of gas required will be dictated by the load requirements. It may be necessary to run the equipment for some time to determine the proper settings.
10. When proper gas flow has been established, lock the adjusting screw with the locknut and replace the cap (Low Pressure injectors). On High Pressure injectors, the packing will hold the needle valve in position.
11. Repeat 2.5 and 2.6 if necessary.
12. It should now be possible to turn the flame from high to low by using the gas cock. Turn down of about one third of the maximum input can be expected if gas is in the pressure range recommended for the injector.
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.

## **Start Up and Shut Down**

### **Start Up**

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

### **Shut Down**

1. Turn the cock in the inlet gas line off.
2. Turn the pilots (if used) off.

## **Maintenance**

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 the mixture outlet end of the mixer or from the burner itself.
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.
3. If the orifice cannot be cleaned, it should be replaced as follows:
  - a. Shut off and disconnect the inlet gas line.
  - b. Remove the injector head from the venturi sleeve.
  - c. Remove the orifice spud using a socket wrench.
  - d. Replace the spud in the injector head, reattach the injector head to the venturi sleeve, reconnect the inlet gas line.

