

INSTALLATION INFORMATION

Part No. 21844

BECKETT CLEAN CUT FUEL UNIT

Part No. 21844

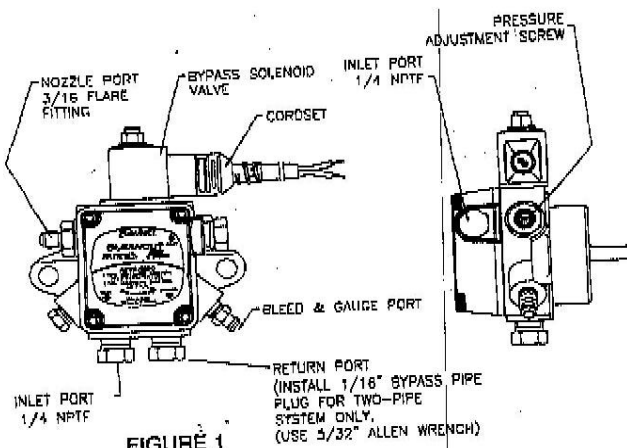


FIGURE 1

CAUTION: This Equipment must be installed, adjusted and started only by a qualified service technician. — an individual or agency, licensed and experienced with all codes and ordinances, who is responsible for the installation and adjustment of the equipment. The installation must comply with all local codes and ordinances and with the National Fire Protection Standard for Liquid Fuel Equipment, NFPA 31 (or CSA B139-M91).

CAUTION: This pump must be used with a control system that provides a valve on delay (pre-purge).

IMPORTANT INFORMATION Long or oversized inlet lines may require the pump to operate dry during initial bleeding period. In such cases, the priming may be assisted by injecting fuel oil in the pump gearset. Under lift conditions, lines and fittings must be air tight. To assure this, "Pipe Dope" may be applied to both the used and unused inlet and both return fittings. **DO NOT USE TEFLON TAPE!! DO NOT USE COMPRESSION FITTINGS!!**

MOUNTING POSITION Beckett CleanCut fuel unit may be mounted in any position (except upside-down during single pipe installation).

VACUUM CHECK A Vacuum Gage may be installed in either of the 1/4" NPT inlet ports. The Beckett CleanCut pump should be used where the vacuum does not exceed 6" hg. single pipe and 12" hg. two pipe. Remember, running vacuum is the total of all pressure drops (ΔP) in the system from tank to inlet of pump.

PRESSURE CHECK When a pressure check is made use either the BLEED PORT OR NOZZLE PORT.

CUTOFF CHECK To check cutoff pressure, dead head a pressure gage in nozzle port. Run burner for short period of time. Shut burner off. The pressure will drop and hold above zero.

•CAUTION•

Operating pressure must not exceed 3 P.S.I.

To install a CleanCut fuel unit on chassis with existing shutter tab see Figure 2 and follow these steps:

Remove existing fuel unit and solenoid valves, if applicable, and appropriately dispose of them.

Note the air setting of the shutter, then remove the air shutter, set the shutter aside to be reinstalled.

Remove the shutter tab by using a pair of side cutter pliers and file sharp edges flush with burner surface. This will permit the shutter to be locked securely.

Install the air shutter using one screw located above the shutter tab that was removed. Adjust the shutter to the original air setting and tighten screw securely.

Notice. Do not install the top shutter screw, it will interfere with the solenoid on the fuel unit.

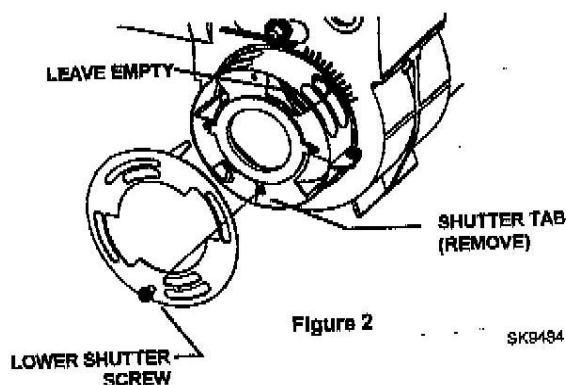


Figure 2

SK9484

To install a CleanCut fuel unit on a housing with two upper mounting screw holes, make sure the upper screw is installed in the hole closest to the front of the burner (air tube side). See Figure 3.

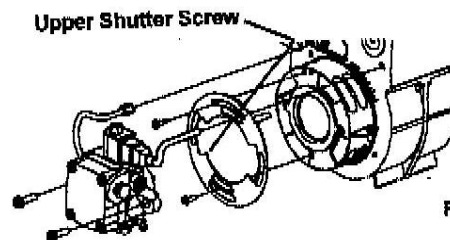


Figure 3

SK9485

Other Mounting Installations: The CleanCut Pump with a standard cord set or a PD Timer can be installed on the following burners: Carlin EZ-1, Wayne 'M', Wayne 'E', Wayne 'HS', Ducane 'DM', Aero, Ducane 'DR'. 5/16" diameter hole will have to be drilled into the housing through the wire cavity. (A 3/32" hole will block the air shutter screw. Allow

System Installation Requirements

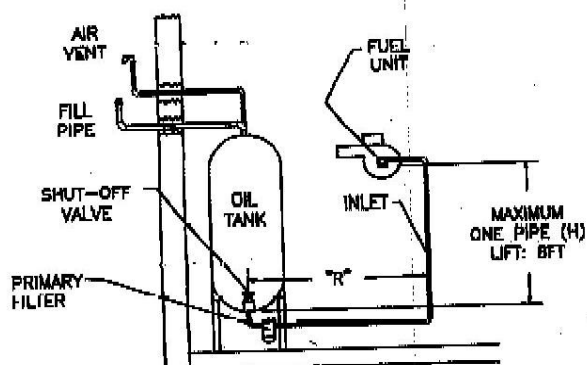
ONE-PIPE SYSTEM (FIGURE 4)

DO NOT INSTALL BY-PASS PLUG! Connect inlet line to pump inlet. Start burner. Arrange primary burner control for continuous operation during purging. Open bleed valve 1 turn CCW. Bleed unit until all air bubbles disappear.

Notice: Hurried bleeding will impair efficient operation of unit.

Tighten bleed Valve securely. (Figure 4)

$$L = H + R$$



The Beckett CleanCut fuel unit may be installed with Gravity Feed or Lift.

The maximum allowable lift is 8 ft. (See figure 4).

IMPORTANT: One pipe installations must be absolutely air tight or leaks or loss of prime may result. Bleed line and fuel unit completely. Bleed for 15 seconds after last air is seen from bleed / gauge port to be certain lines are air free.

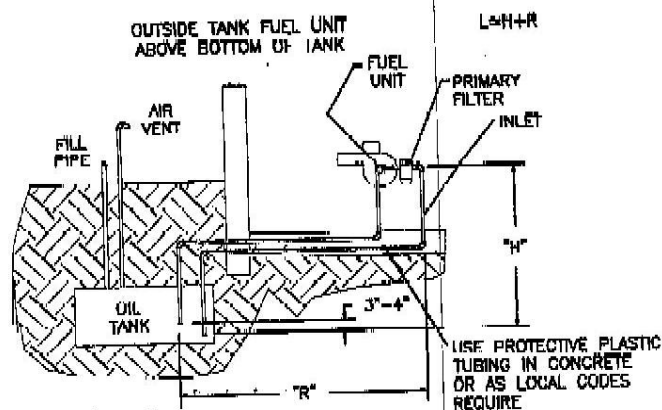


Figure 5

TWO-PIPE SYSTEM (FIGURE 5)

REMOVE 1/16" PIPE BYPASS PLUG FROM PLASTIC BAG ATTACHED TO UNIT. Remove 1/4" plug from return port. Insert by-pass plug (See figure 1). Attach return and inlet lines. Start burner - Air bleeding is automatic. Opening air bleed valve will allow a faster bleed if desired. Return line must terminate 3-4" above supply line inlet (See figure 5). Failure to do this may introduce air into the system and could result in the loss of prime.

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L = line Length in Feet H = Head in Feet Q = Firing rate in GPH

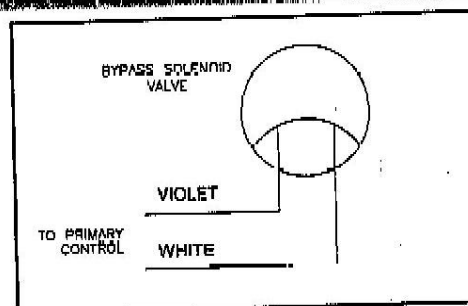
$$\frac{3}{8}" \text{ Line } L = \frac{6.75H}{.0086Q} \quad \frac{1}{2}" \text{ Line } L = \frac{6.75H}{.00218Q}$$

If tank is above pump, change - to +. Fittings, valves and filters will reduce total length allowed.

TWO-PIPE MAXIMUM LINE LENGTH

(H + R)

| Lift "H" Figure 3 | 3450 RPM 3/8" OD Tubing 4 GPH | 1/2" OD Tubing 4 GPH |
|----------------------|--|----------------------------|
| 0' | 84' | 100' |
| 2' | 73' | 100' |
| 4' | 63' | 100' |
| 6' | 52' | 100' |
| 8' | 42' | 100' |
| 10' | 31' | 100' |
| 12' | 21' | 83' |
| 14' | — | 41' |



SOLENOID WIRING (FIGURE 6)

DISCONNECT POWER SUPPLY BEFORE WIRING TO PREVENT ELECTRICAL SHOCK OR EQUIPMENT DAMAGE. Lead wires on these devices are long enough to reach the junction box on most burner installations. Note: check the burner manufacturer's installation sheets for correct solenoid wiring. (See Figure 6). All electrical work should be done according to local and national codes. (Solenoid 115V, 0.1A, 60 HZ)

Replacement Parts

| Item | RWB# |
|-------------------|--------|
| Strainer / gasket | 51843U |
| Valve Stem | 21877U |
| Valve Coils: | |
| 115VAC | 21755U |
| 220/240 VAC | 21756U |
| 12 VDC/ 24VAC | 21754U |

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