



IMPORTANT INFORMATION:

INSTALLATION: This product is not compatible with fuel blends containing more than 5% biodiesel. This product must be installed, adjusted and started only by a qualified and licensed technician and done so in accordance with all appropriate local and national codes and ordinances, such as National Fire Protection Standard for Liquid Fuel Equipment, NFPA 31, CSA B139-M91, etc.

▲WARNING: Inlet and Return Line Pressures
MUST NOT EXCEED 10 PSI (boost and burner pumps!), or seal damage can result! NFPA 31 further limits them to 3 PSI MAX.

▲WARNING: Check Valves with Fuel Oil Heating Equipment
For a boost pump or a burner pump (used with or w/o a boost pump), do not use a check valve in the inlet line of a 1-pipe system, or in the return line of a 2-pipe system. Check valve flow restriction in a return line can elevate pressures and damage fuel unit seals. Dangerous thermal expansion of oil trapped by an inlet line check valve can create extreme pressures that damage fuel unit seals, fittings, filters, gages and other components. A properly installed vacuum safety valve, such as Suntec PRV-38, having accumulator effect and pressure relief to tank is acceptable in the inlet line.

GENERAL INFORMATION:

1. A Suntec Boost Pump, used with a Pressure Switch, provides a simple low cost means to supply No. 2 & Lighter Fuel Oil to one or more remote heaters. Locate the boost pump close to the supply tank for low cost plumbing and wiring, and for good performance; the boost pump should PUSH the oil to the heaters, not PULL it! Only low voltage wiring is needed between each burner and the boost pump motor relay.
2. Boost Pumps are available with or without the drive motor. Standard 10-20 psi models will push oil up 35 feet. Higher pressure models will push the oil to higher elevations.

GENERAL INFORMATION:

PUMP: Most boost pumps have a 10-20 psi pressure range. See the chart for details.

BRACKET: The rugged grey casting is precisely machined to align the pump and a standard 48M burner motor.

ADAPTER PLATE: Allows use of a 48N frame motor.

MOTOR: Standard 2 lug, 115-1-60 motor; see details in chart.

COUPLING: Direct drive, flexible, oil resistant coupling for long life and quiet operation.

PRESSURE SWITCH:

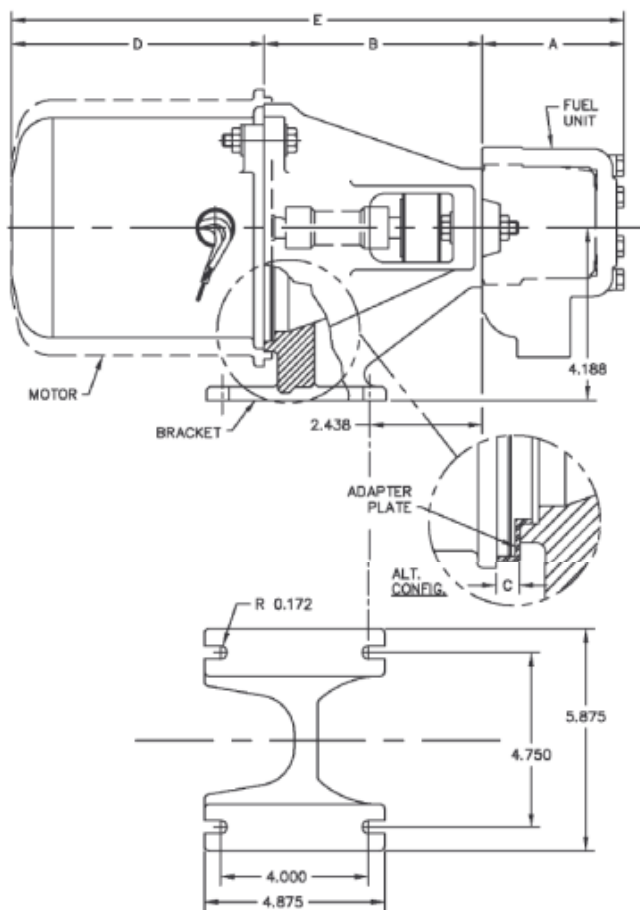
Suntec P/N 128117 can be used with a low voltage relay to control the boost pump motor. The normally open 40VA pressure switch has a 1/8 NPTF male thread to fit in the burner pump gage port, and a 35-75 psi adjustable close pressure (factory set at 50 psi). One is needed for each burner. See separate instructions with switch.

1-PIPE BOOST PUMP HOOK-UP - NO RETURN LINE:

1-PIPE is not commonly used with boost pumps, EXCEPT see "USED OIL" if appropriate! See pump installation literature for plumbing instructions and inlet line sizing. See "PRESSURE SIDE" section of this literature for discharge line sizing.

2-PIPE BOOST PUMP HOOK-UP - INLET AND RETURN LINE:

This self-priming hook-up is most common for boost pumps, EXCEPT see "USED OIL" if appropriate! See pump installation literature for plumbing instructions and inlet line sizing. See "PRESSURE SIDE" section for discharge line sizing.



| BOOST PUMP MODEL NO. | FUEL UNIT MODEL NO. | MOTOR* P/N | PRESSURE (PSI) | MIN*** DELIVERY (GPH) | "A" FUEL UNIT LENGTH (IN.) | "B" BRACKET 134444 LENGTH (IN.) | "C" ADAPTER PLATE 134462 LENGTH (IN.) | "D" MOTOR LENGTH (IN.) | "E" OVERALL LENGTH, REF. (IN.) |
|----------------------|---------------------|------------|----------------|-----------------------|----------------------------|---------------------------------|---------------------------------------|------------------------|--------------------------------|
| BA-7116M | A2VA-7116 | 134481 | 100-200 | 3*** | 2,250 | 5,312 | **** | 5,500 | 13,062 |
| BB-1016M | B2TA-8260 | 134471 | 100-200 | 15*** | 2,750 | 5,312 | 0,313 | 5,875 | 14,250 |
| BB-1020M | B2VA-8241 | 134481 | 10-20 | 20*** | 2,750 | 5,312 | **** | 5,500 | 13,562 |
| BB-1220M | B2TA-8245 | 134471 | 200-300 | 16*** | 2,750 | 5,312 | 0,313 | 5,875 | 14,250 |
| BJ-1030M | J4PA-E1000G | 134481 | 10-20 | 60*** | 3,500 | 5,312 | **** | 5,500 | 14,312 |
| BJ-1070M | J6PA-E1000G | 134471 | 10-20 | 90*** | 3,500 | 5,312 | 0,313 | 5,875 | 15,000 |
| BJ-1132M | J4NB-A1000G | 132013 | 20-40 | 26*** | 3,500 | 5,312 | 0,313 | 5,375 | 14,500 |
| Bx-xxxxR | ***** | ** | ***** | ***** | ***** | ***** | ***** | ** | ** |

* - MOTOR 132013: 1725 RPM, 1/6 HP. ** - MOTOR NOT INCLUDED. **** - NO ADAPTER PLATE REQUIRED.
 - MOTOR 134471: 3450 RPM, 1/4 HP. *** - RATING AT MAX. PRESSURE; SEE PUMP ***** - SAME AS FOR Bx-xxxxM MODEL.
 - MOTOR 134481: 3450 RPM, 1/7 HP. DECAL OR MFR. FOR OTHER RATINGS.

PRESSURE SIDE:

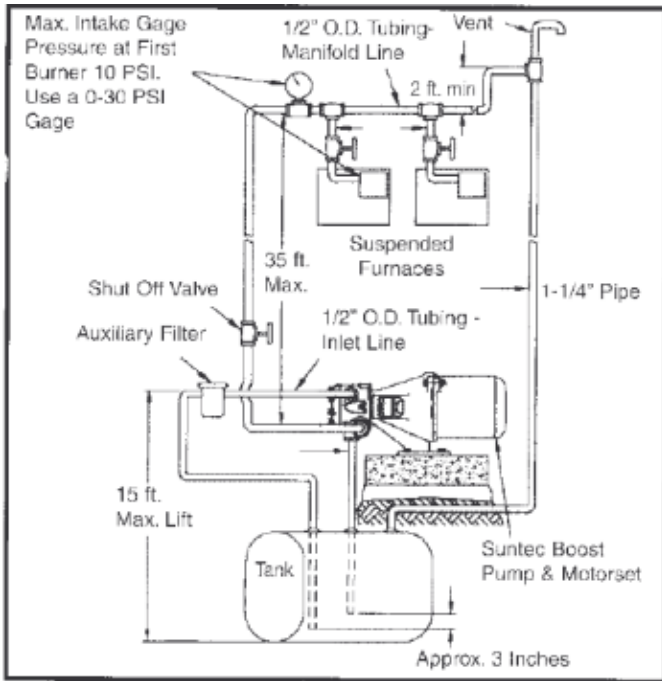
Following are some options for plumbing the discharge or manifold side of the boost pump.

LOOP SYSTEM:

See the schematic. A slight positive pressure meeting all codes is maintained in the manifold line by the use of a two foot riser after the last heater in the system.

1. The manifold line is placed above the burners.
2. Max. Inlet & Return Line Pressure: See **WARNING** enclosed!
3. Maximum Manifold Line Length (10-20 psi pump spring):

| Boost Pump | 1/2" Tube | 1/2" Pipe | 3/4" Pipe |
|------------|-----------|-----------|-----------|
| BB-1020 | 300' | 500' | 2500' |
| BJ-1030 | 175' | 300' | 1800' |
| BJ-1070 | 50' | 100' | 600' |



Loop System Installation

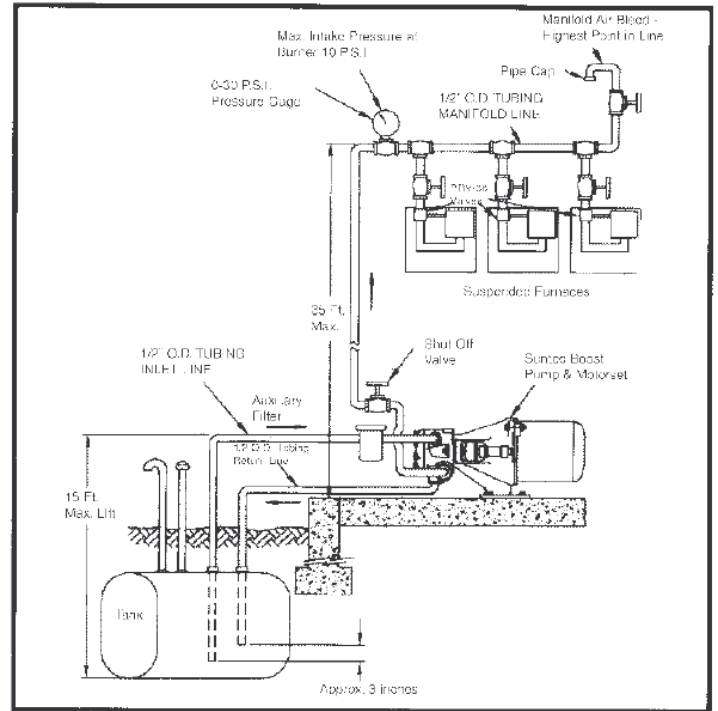
AUXILIARY TANK:

See the schematic. This installation is a form of the loop system and is subject to the same installation requirements. Additionally, it is necessary to comply with local ordinances governing auxiliary tanks. The auxiliary tank acts as an accumulator, eliminating line surges between the boost pump and the burners.

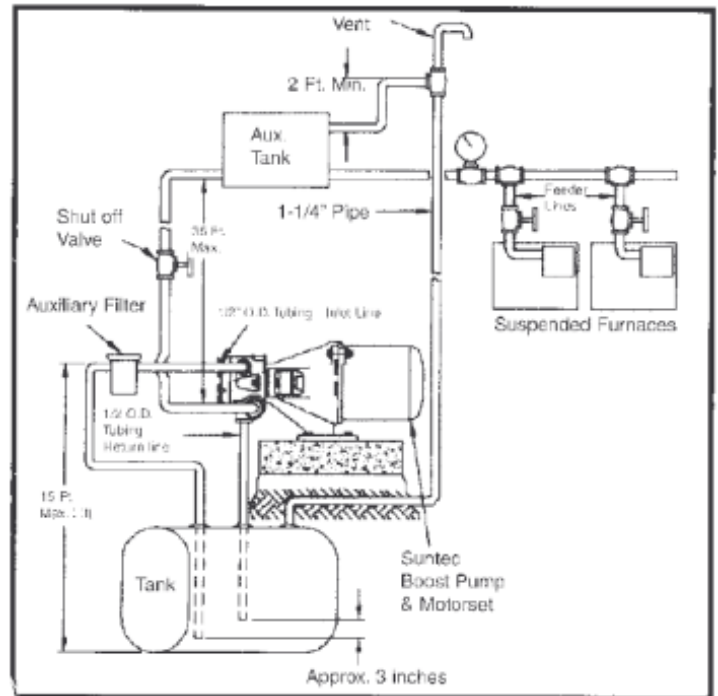
PRESSURIZED SYSTEM:

See the schematic. This installation can be used where space precludes using the loop system.

1. Max. Inlet and Return Line Pressure: See **WARNING** enclosed!
2. Each remote heater must use a PRV-38 oil safety valve in its inlet side between the heater and the manifold line.
3. Maximum Manifold Line Length: same as for Loop system.
4. Never use check valves! See **WARNING** enclosed.



Pressurized System Installation



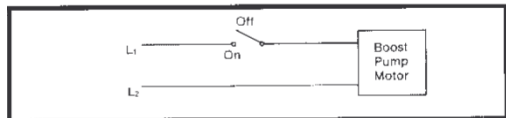
Auxiliary Tank Installation

USED OIL:

- A. **Model BJ-1132M** is for transferring used oils up to 1000 cSt. For 1000-1500 cSt oils, **BJ-1132R** must be used with a ¼ HP, 1725 RPM motor procured separately.
- B. **Oil Viscosity** – 1500 cSt maximum. Use strip heaters, etc. to heat the oil as needed. Multi-weight oils such as 10W-30W should be maintained at 32 degF minimum. Straight weight oils such as 40W, 50W, 90W and heavier gear lubes should be maintained at 50 degF minimum.
- C. **Plumbing:** 2-pipe installations are not recommended for used oil. However, if 2-pipe is necessary, a 10 psi relief from the return line to the inlet line must be installed within 2' of the pump, as return line pressures above 10 psi will cause premature shaft seal failure!
- D. **Inlet Line:**
1. Filtration – 50x50 mesh strainer minimum.
 2. Lift/Vacuum – 10'/20" Hg maximum.
 3. Line Size & Length:
 - a. ¾" ID – 30' horizontal run maximum.
 - b. 1" ID – 90' horizontal maximum.
- E. **Discharge Line:** ½" or larger.

WIRING INSTRUCTIONS:

- A. **CONSTANT OPERATION:** See the schematic showing a simple ON/OFF voltage switch in the power line.



Wiring for Constant Operation

- B. **INTERMITTENT OPERATION:** See "PRESSURE SWITCH".

START-UP AND SERVICING:

A. START-UP:

1. Start the boost pump manually. Prime the inlet and open the bleeder valve as needed.
2. With the remote heaters off, set the boost pump so the pressure into the first burner pump is as specified in the "IMPORTANT INFORMATION" section.
3. Run the boost pump several minutes to pressurize the system. Then loosen the pipe cap and bleed air from the manifold line. Re-tighten the cap.
4. Bleed air from the first burner pump by loosening an unused inlet plug. Progress downstream, bleeding each of the other burner pumps.

B. SERVICE:

1. Periodically check for fuel tank water to prevent boost pump corrosion.
2. At least annually, change the strainer in the boost pump and the burner pumps, and change the external filter element.
3. Periodically check all electrical connections.
4. Never let the manifold pressure exceed the setting specified in the "IMPORTANT INFORMATION" section.

TROUBLESHOOTING:

- A. **Boost Pump doesn't run:** Check electrical connections and power supply. Check for discharge and return line blockages.
- B. **Boost Pump runs, but doesn't supply oil:** Measure the inlet vacuum. If high, check the inlet line, filter and valves for blockages. Ensure the bypass plug is properly installed. Ensure the inlet line has no air leaks.
- C. **Boost Pump supplies oil, but burners do not fire:** Check to be sure boost pump capacity exceeds burner requirement. Check to be sure boost pump pressure rating exceeds the head requirement. In a loop system, check to be sure oil is passing through the stand pipe or riser.
- D. **Burner pump seal leaks:** Recheck the burner pump inlet pressure as specified in "START-UP".