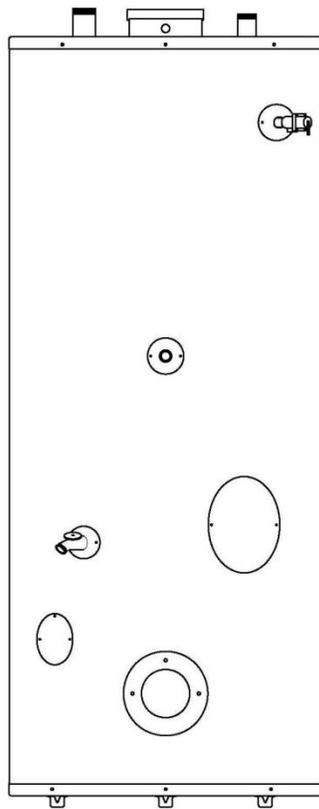




# *Oil-Fired Water Heater*



## **INSTALLATION MANUAL**

**NOTICE:** *HTP reserves the right to make product changes or updates without notice and will not be held liable for typographical errors in literature.*

## SPECIAL ATTENTION BOXES

The following defined terms are used throughout this manual to bring attention to the presence of hazards of various risk levels or to important product information.

### DANGER

**DANGER** indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

### WARNING

**WARNING** indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

### CAUTION

**CAUTION** indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

### CAUTION

**CAUTION** used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

## FOREWORD

This manual is intended to be used in conjunction with other literature provided with the heater. This includes power burner and related control information. It is important that this manual, and additional publications such as the Oil Burner manual and the Control manual, be reviewed in their entirety before beginning any work.

Installation should be made in accordance with the regulations of the local code authorities and utility companies that pertain to this type of water heating equipment.

**MAKE SURE** the fuel on which the heater will operate is the same as that specified on the heater model and rating plate.

**NOTE TO CONSUMER: PLEASE KEEP ALL INSTRUCTIONS FOR FUTURE REFERENCE.**

## FOR THE INSTALLER

### **WARNING**

Installation or service of this water heater must be performed by licensed professionals where plumbing, air supply, venting, oil burner license and electrical work are required.

Valves that reduce point-of-use temperature by mixing cold and hot water, as well as inexpensive devices that attach to faucets and limit hot water temperatures, are available. These valves or devices may be required in your area. Check local code requirements.

The installer should be guided by instructions furnished with the heater, local codes and utility company requirements. Preference should be given to codes and requirements where they differ from the heater furnished instructions.

Additional publications which should guide the installer include:

The latest version of the National Fuel Gas Code, ANSI Z223.1, from American Gas Association Laboratories, 8501 East Pleasant Valley Road, Cleveland, OH 44131.

In Canada – CGA No. B149 (latest version), from Canadian Gas Association Laboratories, 55 Scarsdale Road, Don Mills, Ontario, Canada M3B 2R3.

Code for the installation of Heat Producing Appliances (latest version), from American Insurance Association, 85 John Street, New York, NY 11038.

The latest version of the National Electrical Code, NFPA No. 70.

In Canada, refer to Canadian Electrical Code C 22.1, from Canadian Standards Association, 5060 Spectrum Way, Suite 100, Mississauga, Ontario, Canada L4W 5N6.

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## **PART 1: GENERAL SAFETY INFORMATION**

### **A. PRECAUTIONS**

DO NOT USE THIS APPLIANCE IF ANY PART HAS BEEN UNDERWATER. Immediately call a qualified service technician. Replace any part of the control system or oil control that has been under water.

#### **WARNING**

If the heater is exposed to the following, do not operate until all corrective steps have been made by a qualified serviceman.

1. FIRE
2. DAMAGE
3. FIRING WITHOUT WATER
4. SOOTING
5. SUBMERSION IN WATER

#### **CAUTION**

The heater must be protected from freezing downdrafts during shutdown periods.

### **B. CHEMICAL VAPOR CORROSION**

#### **WARNING**

Corrosion of the flueways and vent system may occur if combustion air contains certain chemical vapors which break down into acids at high temperature. Such corrosion may result in failure of burner and risk of asphyxiation.

Examples of potentially corrosive materials include: Spray can propellants, cleaning solvents, refrigerator and air conditioning refrigerants, swimming pool chemicals, calcium and sodium chloride (water softener salt), waxes, and process chemicals. Do not store products of this sort near the heater.

Also, air which is brought in contact with the heater should not contain any corrosive chemicals. If necessary, uncontaminated air should be obtained from remote or outside sources.

**NOTE: DAMAGE TO THE WATER HEATER CAUSED BY EXPOSURE TO CORROSIVE VAPORS IS NOT COVERED BY WARRANTY.** (Refer to the limited warranty for complete terms and conditions).

**C. IMPROPER COMBUSTION****⚠ CAUTION**

Do not obstruct the flow of combustion and ventilating air. Adequate air must be provided for safe operation.

**⚠ WARNING**

Attic and/or exhaust fans operating on the premises with a water heater can result in carbon monoxide poisoning and death. Operating these fans can produce a down draft in the area of the water heater, preventing exhaust from escaping through the chimney or vent pipe.

The venting of the water heater should be inspected by a qualified service technician at the time of installation, and periodically thereafter, to ensure a down-draft condition does not exist.

**D. EXTENDED NON-USE PERIODS****⚠ WARNING**

Hydrogen gas can be produced in a hot water system served that has not been used for a long period of time (generally two weeks or more). **HYDROGEN GAS IS EXTREMELY FLAMMABLE.**

To reduce risk of injury under these conditions, it is recommended to open a hot water faucet at a convenient sink for several minutes before using any electrical appliance connected to the hot water system. **THERE MUST BE NO SMOKING OR FLAME NEAR THE OPEN FAUCET.** If hydrogen is present, there will probably be an unusual sound, such as air escaping through the pipe as water begins to flow.

**E. INSULATION BLANKETS**

Insulation blankets available for external use on gas water heaters are not approved for use on your HTP Oil-Fired Water Heater. The purpose of an insulation blanket is to reduce standby heat loss encountered with storage tank water heaters. Your water heater meets or exceeds the ASHRAE/IES 90.1b standby heat loss standards, making an insulation blanket unnecessary.

**⚠ WARNING**

Application of an insulation blanket will **VOID THE WARRANTY** for this water heater. Furthermore, an insulation blanket may interfere with the operation of this water heater, possibly resulting in property damage, injury, or death.

**PART 2: SPECIFICATIONS**

MODEL	STORAGE CAP. (GAL.)	FLUE	WATER CONNECT.	DRAIN CONNECT.	HEIGHT/DIA.	SHIP WEIGHT	D.O.E. ENERGY
OFT-30	30	6"	¾"	INSTALLED	51", 22"	171 LBS.	0.576
OFT-50	50	6"	¾"	INSTALLED	59", 24"	226.5 LBS.	N/A
OFT-70	70	6"	¾"	INSTALLED	66", 26"	356 LBS.	N/A

**Table 1**

## PART 3: LOCATING THE HEATER

When installing the heater, consideration must be given to proper location. Locate in an area with adequate air supply, as close to the stack or chimney and as centralized to the piping system as possible.

### CAUTION

This unit must be installed on a non-combustible surface.

### WARNING

There is a risk in using fuel burning appliances, such as oil water heaters, in rooms, garages, or other areas where gasoline, other flammable liquids, or engine driven equipment or vehicles are stored, operated, or repaired. Flammable vapors are heavy and travel along the floor. These vapors may be ignited by the heater ignition system or burner flames, causing fire or explosion.

Some local codes permit operation of oil appliances in these areas if installed 18 inches or more above the floor. This may reduce the risk of ignition.

In these circumstances, the heater must be located or protected so it is not subject to physical damage by a moving vehicle.

### WARNING

Flammable items, pressurized containers, or any other potentially hazardous articles must never be placed on or adjacent to the heater. Open containers of flammable material must be stored or used in the same room with the heater.

### CAUTION

NOTE: The heater must not be located in an area where it will be subject to freezing.

### WARNING

Locate heater near a floor drain, where leakage from the tank or connections will not result in damage to the adjacent area or to lower floors of the structure.

When such locations cannot be avoided, a suitable metal drain pan, adequately drained, should be installed under the heater. Such pans should be fabricated with sides at least 2" deep, with length and width at least 2" greater than the diameter of the heater, and must be piped to a drain. The pan must not restrict combustion air flow.

## PART 4: INSTALLATION INSTRUCTIONS

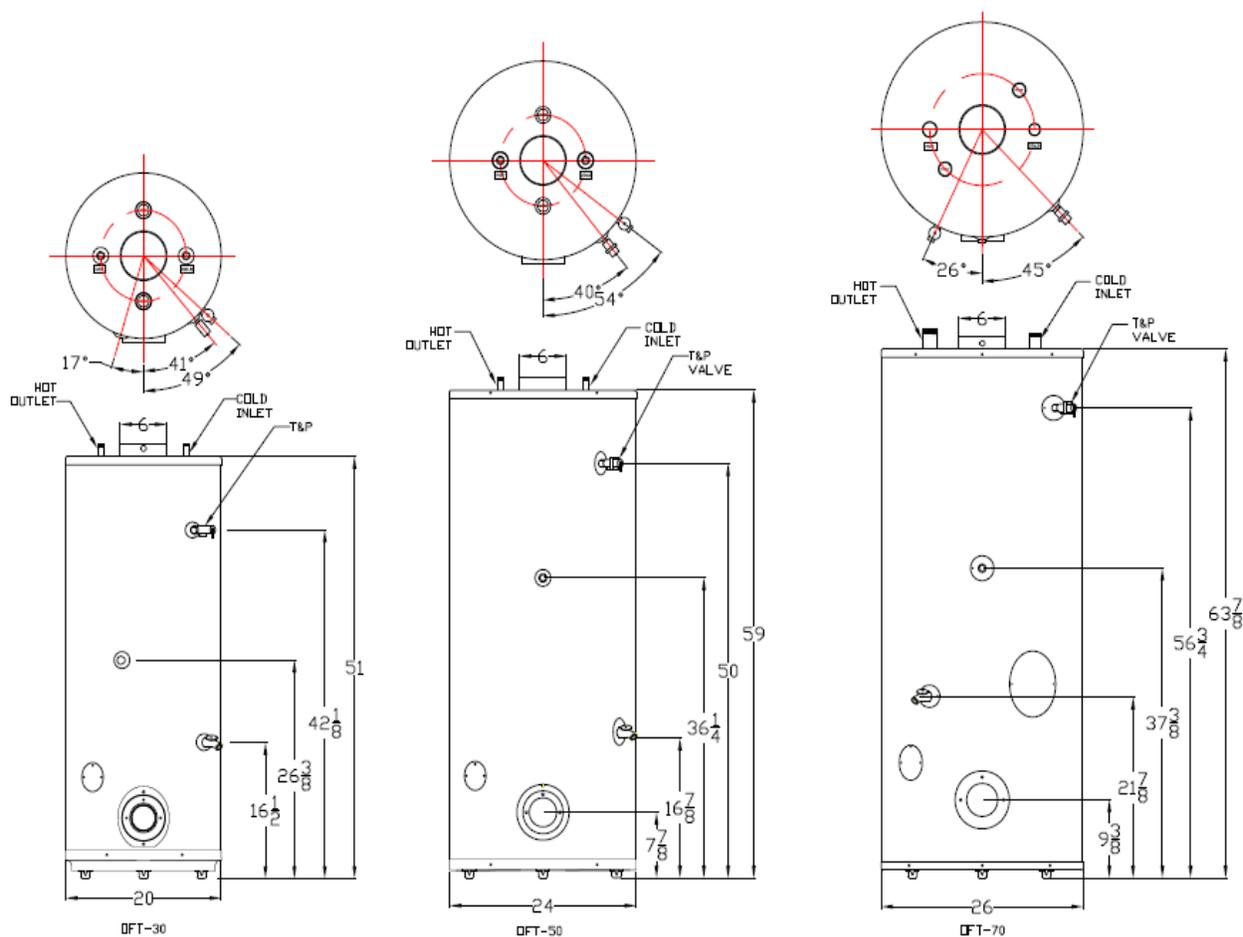


Figure 1 – Installation Instructions

**NOTE:** Diagrams shown with preferred burner dimensions. Other burners may not go with the tank.

## PART 5: LEVELING AND CLEARANCES

### A. LEVELING

The heater must be installed level. If it is necessary to adjust the heater, use metal shims under the channel-type skid base.

### B. CLEARANCES

Provide ample clearance on all sides for installation, adjustment, and replacement of burner, control components and other serviceable parts, such as the relief valve, power burner, thermostat, and/or drain valve.

**NOTE:** Minimum clearance to combustible construction is: Sides, 6", Back, 6", Front, 24".

**NOTE:** If a chimney connector is used, the minimum clearance from the top of the unit to the connector is 18".

## PART 6: AIR REQUIREMENTS

### **⚠ WARNING**

For safe operation, an ample supply of air must be provided for proper combustion and ventilation in accordance with Section 5.3 of the National Fuel Gas Code, NFPA-54/ANSI Z223.1 or applicable provisions of local building codes. An insufficient supply of air will result in a yellow, luminous burner flame, causing sooting of the heat exchanger and creating a risk of asphyxiation.

#### **A. UNCONFINED SPACE**

In buildings of conventional frame, brick or stone construction, unconfined spaces may provide adequate air for combustion.

If the unconfined space is within a building of tight construction (buildings using the following: weather stripping, heavy insulation, caulking, vapor barrier, etc.), air for combustion and ventilation must be obtained from outdoors or spaces freely communicating with the outdoors. The installation instructions for confined spaces in tightly constructed buildings must be followed to ensure adequate air supply.

#### **B. CONFINED SPACE**

When drawing combustion and dilution air from inside a conventionally constructed building to a confined space, this space must be provided with two permanent openings, ONE IN OR WITHIN 12 INCHES OF THE TOP ENCLOSURE AND ONE IN OR WITHIN 12 INCHES OF THE BOTTOM ENCLOSURE. Each opening shall have a free air area of at least one square inch per 1000 BTU/hr of the total input of all appliances in the enclosure, but not less than 100 square inches.

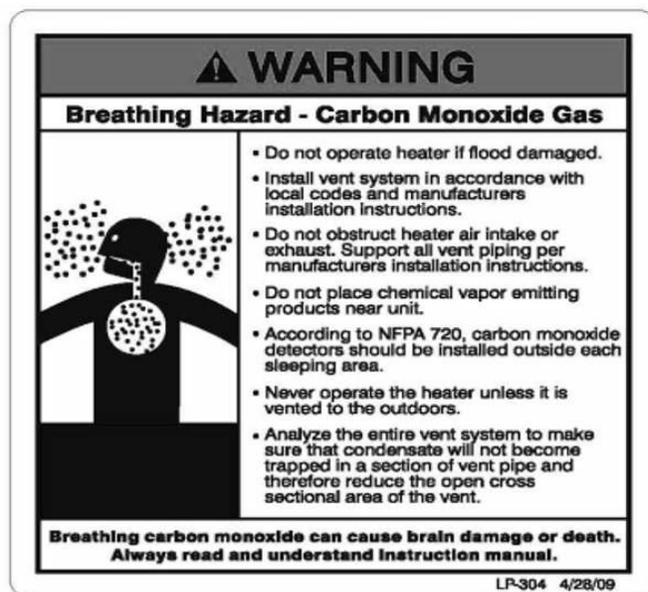


Figure 2 – CO Warning Label

If the confined space is within a building of tight construction, air for combustion, ventilation and draft dilution must be obtained from outdoors. When directly venting with the outdoors or venting with the outdoors through vertical ducts, two permanent openings, located in the aforementioned manner, must be provided. Each opening must have a free area of not less than one square inch per 4000 Btu/hr of the total input of all appliances in the enclosure. If horizontal ducts are used, each opening shall have a free area of not less than one square inch per 2000 Btu/hr of the total input of all appliances in the enclosure.

In the absence of local codes, refer to the National Fire Protection Standard for Oil Burning Equipment NFPA No. 31 (latest edition).

Where an exhaust fan is installed in the same room with the boiler, sufficient openings for air must be provided in the walls.

**UNDERSIZED OPENINGS WILL CAUSE AIR TO BE DRAWN INTO THE ROOM THROUGH THE CHIMNEY OR OTHER UNDESIRABLE OPENINGS, CAUSING POOR COMBUSTION. SOOTING MAY RESULT WITH AN INCREASED RISK OF ASPHYXIATION.**

## PART 7: THERMAL EXPANSION (CLOSED SYSTEMS)

Thermal expansion occurs in any hot water system when system water is heated or “recovered” during periods of non-use.

If the system is operated in an “open” condition, such as being connected directly to the city main, the volume of expanded water generated during recovery periods can be dissipated back through the “open” connection to the city main so pressure cannot increase.

However, once a back flow preventer is installed to isolate system water from the public supply, or a pressure reducing valve is installed to protect a water meter, or any device preventing flow back into the cold water supply is installed, the “open” condition becomes “closed”. During non-use periods, water expands and pressure increases until a relief valve opens, releasing hot water.

A relief valve opening on pressure releases small amounts of water. A valve relieving on temperature releases large amounts of water.

Since water is not compressible, some provision must be made for THERMAL EXPANSION to protect the system from excessive pressures. HTP recommends installing a properly and adequately sized expansion tank to meet the expanding volume of water.

Service problems or parts failure due to excessive pressure ARE NOT covered under warranty. The temperature and pressure relief valve supplied with the water heater IS NOT considered to be protection against thermal expansion.

Your water supplier or local plumbing inspector should be contacted on how to control thermal expansion.

## PART 8: VENTING

The connection from the water heater vent to the stack must be made as direct as possible and of the same diameter as the vent outlet. The recommended slope of any horizontal breaching is at least 1/2" rise per linear foot. A barometrically operated draft regulator (barometric damper) shall be installed in the vent connector at a location just above the water heater.

### CAUTION

The stack must extend at least three feet above the highest point of the roof to insure proper venting. The stack should be provided with a weather cap of approved design.

### CAUTION

Provisions shall be made to prevent contact of the vent pipe with combustible materials in accordance with all codes and regulations.

### CAUTION

A separate vent for each appliance is strongly recommended. Separate vents are required for installation and application of multiple power vents. If combined venting of multiple appliances is necessary, or if an unusual situation arises, consult the National Fire Protection Standard for Oil Burning Equipment NFPA No.31, or in Canada CSA B139.

## **⚠ WARNING**

The instructions in this section on venting must be followed to avoid choked combustion or recirculation of flue gases. Such conditions cause sooting or risks of fire and asphyxiation.

Heater must be protected from freezing downdrafts during shutdown periods.

Remove all soot or other obstructions which will retard free draft from chimney.

Venting materials used for this category 1 appliance must be in accordance with the National Fuel Gas Code and all state and local requirements.

NOTE: A NEGATIVE DRAFT MUST BE MAINTAINED IN VENT PIPING (-0.02 to -0.06 inches water column).

### **A. VENT CONNECTOR**

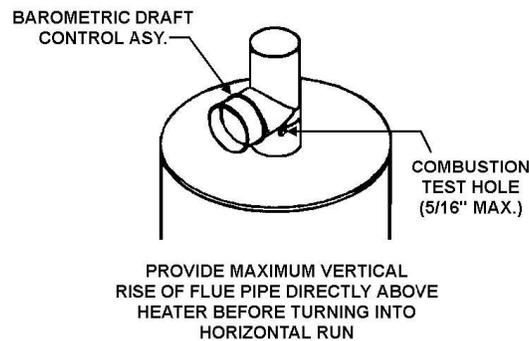
The chimney vent connector diameter should be the same size as the heater flue outlet.

A minimum rise of 1/2" per foot of horizontal connector length must be maintained between the heater and chimney opening. The connector length should be kept as short as possible.

### **B. BAROMETRIC DRAFT CONTROL ASSEMBLY**

A double-acting barometric draft control assembly is necessary for this unit. The installer may choose the direction of the outlet to the draft control assembly. This assembly must be fitted to the jacket cover such that it is plumb and level to the ground. Fasten the draft control assembly to the top cover using sheet metal screws at three or more locations, as required.

Refer to the instructions provided with the barometric damper for installation requirements.



**Figure 3 – Barometric Draft Control Assembly**

Dampers or other obstructions must not be installed between the heater and the barometric draft control assembly.

Vent connections must be made to an adequate stack or chimney. Refer to the [National Fuel Gas Code](#) or to the vent pipe manufacturer's gas vent and chimney sizing table to properly design and size the venting system.

## PART 9: ELECTRICAL CONNECTIONS

This water heater is normally wired for 120 volts and shall be electrically grounded in accordance with local codes, or in the absence of local codes, with the National Electrical Code, ANSI/NFPA No. 70 (latest edition).

This water heater must be connected to a grounded, metal, permanent wiring system, or an equipment grounding conductor must be run with the circuit conductors and connected to the equipment grounding terminal or lead on the water heater. If any of the original wiring must be replaced, replacement shall be with 105 degree C wire or equivalent.

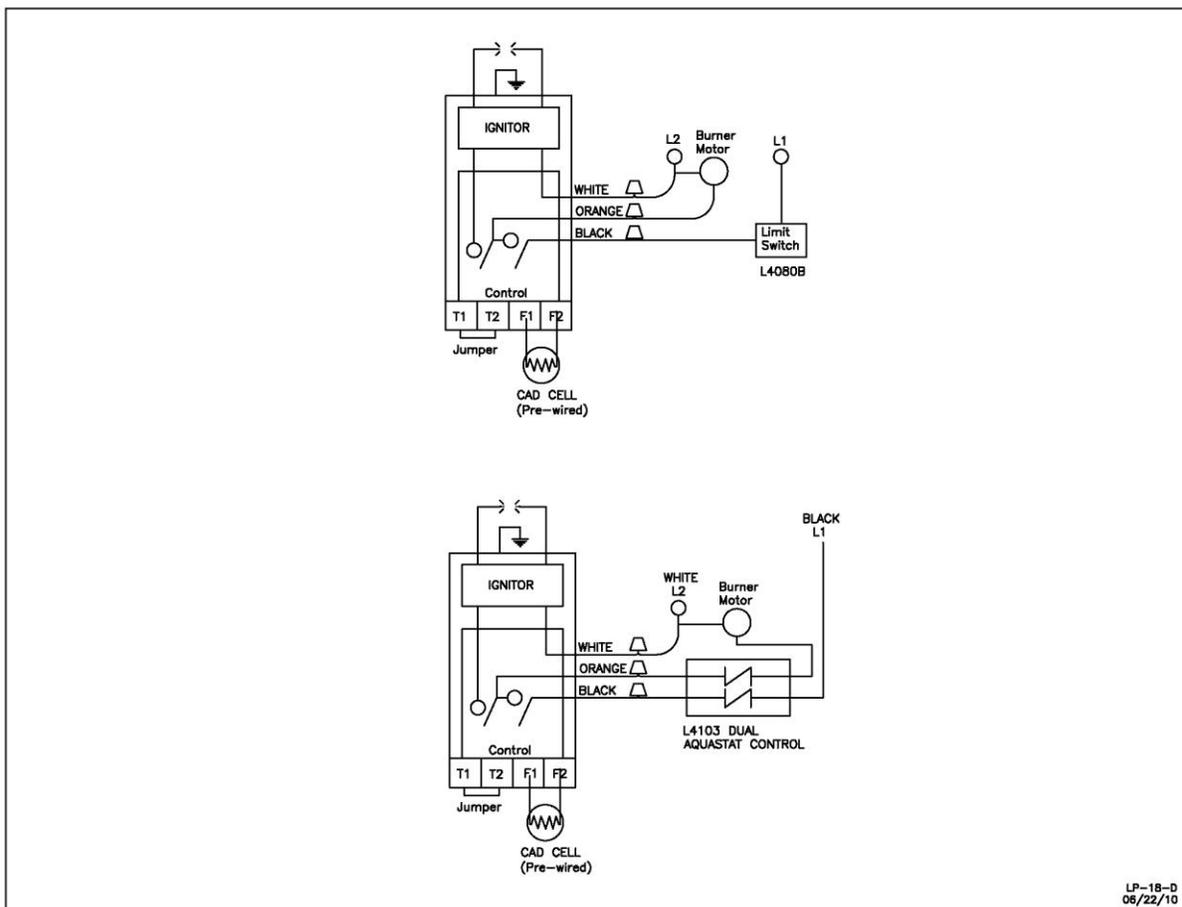


Figure 4 – Wiring Diagrams

## PART 10: WATER CONNECTIONS

If sweat fittings are to be used, **DO NOT** apply heat to the nipples on top of the water heater. Sweat the tubing to the adapter before fitting the adapter to water connections.

**DO NOT** apply heat to nipples containing a plastic insert. Heat traps may have been provided in the inlet and outlet nipples. **DO NOT ATTEMPT** to remove the plastic inserts.

## **⚠ WARNING**

For protection against excessive temperature and pressure, install temperature and pressure protective equipment required by local codes. This equipment must be certified by a nationally recognized testing laboratory that maintains periodic inspection of production of listed equipment or materials to meet the requirements for Relief Valves and Automatic Gas Shut-Off Devices for Hot Water Supply Systems, ANSI Z21.22.

The temperature and pressure relief valve (T&P valve) must be marked with a maximum set pressure not to exceed the maximum working pressure of the water heater. The T&P valve must also have an hourly rated temperature steam BTU discharge capacity not less than the hourly rating of the water heater.

Install the T&P valve into the opening provided and marked for this purpose on the water heater.

Next, install a drainpipe in the valve opening. This drainpipe should terminate near the floor drain or a similarly suitable drainage location, so that any discharge will exit within 6 inches above or at any distance below the structural floor, and will not contact any live electrical part. It is recommended that a minimum clearance of 3" be provided on the side of the water heater for servicing and maintenance of the T&P valve.

NOTE: Do not subject the discharge opening to blocking or freezing or reduce its size under any circumstances.

## **PART 11: OIL LINE CONNECTIONS**

### **A. SINGLE LINE SYSTEM**

NOTE: NOT RECOMMENDED WHEN IT IS NECESSARY TO LIFT THE OIL.

This type of installation is used where the oil storage tank is above the burner and a gravity oil feed is permitted. The oil outlet and line should draw from the bottom of the tank. This line should have a gradual slope of approximately 1/12" per linear foot or more downward to a point directly below where it is connected to the burner. A shut-off valve should be installed in the line.

### **B. TWO LINE SYSTEM**

If oil storage is buried, or if a suction line is long, it is recommended that a two-stage fuel unit with two lines (suction and return) be installed.

**Note:** For Suntec (Sunstrand) fuel units, insert the bypass plug through the return port and turn tight. For Webster pumps, by-pass plugs come installed.

### **C. SUCTION LINE**

It is recommended that extra heavy wall copper tubing be used for this line. If standard wrought iron pipe is used it should be scale free and not smaller than 5/8" OD. Copper tubing should be installed to connect the pipe to the fuel unit. Where tubing is used, one complete loop should connect the pipe to the fuel unit. Also, one complete tubing loop should be made immediately below the fitting connecting it to the oil pump in order to reduce transmission of noise and prevent strain on the burner.

When the top of the oil storage tank is below the level of the fuel unit, high points or air pockets in the suction line must be avoided. A 5/8" OD ball check valve should be installed to prevent the return of the

oil to the oil storage tank during the burner off cycle period. Do not run suction or return line overhead, as this greatly increases the possibility of air pockets, oil leaks, siphoning and transmission of noise.

When the top of the oil storage tank is above the fuel unit and a gravity feed is not permitted, the suction line should run to a point above the tank where an approved anti-siphon valve and a 5/8" OD gate valve shall be installed inside. No ball check valve is required, but a union between the gate valve and the strainer should be installed to facilitate removal of the strainer for occasional cleaning.

#### **D. RETURN LINE**

The return line should be the same size as a suction line and run as directly as possible from the return opening in the fuel unit to the oil storage tank. The return line should extend into the oil storage tank to the same depth as the suction line.

#### **E. PRESSURE TEST FOR BURIED OIL LINES**

It is important that buried oil lines be thoroughly tested for leaks before being covered.

#### **F. MISCELLANEOUS INFORMATION**

If suction and return lines are less than 30 feet in length, use at least 1/2" OD tubing. When the oil line is 30 feet or over, 5/8" OD tubing is recommended.

Where basement oil storage tanks or tanks installed above the burner are used, and/or when the oil flows by gravity to the oil pump, a single-stage fuel unit with a single oil line to the pump may be used. Avoid as many connections as possible in the suction line. Make all connections tight by using good pipe joint compound for oil on all pipe threads. To minimize the possibility of air leaks, tighten packing gland on any valve installed in the suction line. Also, be sure to tighten the oil filter cover, as filter gaskets often shrink. Check for kinks in the oil lines as well as for possible air pockets and loose connections.

A water trap can be installed at the oil storage tank outlet to prevent water from entering the burner. There are a number of fuel oil additives on the market that hold water in suspension and allow it to pass through the burner. These additives can be added to the oil storage tank. Consult a local fuel oil dealer for information concerning the use of these additives.

## **PART 12: PRIMING THE FUEL UNITS**

### **CAUTION**

**DO NOT USE GASOLINE, CRANKCASE DRAININGS, OR ANY OIL CONTAINING GASOLINE.**

#### **A. SINGLE LINE SYSTEM**

Locate the air bleed valve on the fuel unit (pump). Place a container underneath the air bleed valve. Open the valve one quarter of a turn in the counter-clockwise direction. Turn the thermostat on the water heater to a setting that is high enough to allow the burner to operate. Turn on the power supply to the burner.

Let at least one pint of oil flow into the container after the air is pumped out of the fuel unit. While running under these conditions, the pressure valve in the pump will not open, and there will be no flame. Close the air bleed valve after a pint of oil has flowed into the container. The burner should begin burning once the air bleed valve is closed.

## **B. TWO LINE SYSTEM**

Install the pressure gauge and turn burner on. The system will vent itself through the return line and flame will appear as soon as air has been eliminated.

In the event a lot of air is present in the oil, making it appear milky or frothy, flame is not sighted within 4 minutes, or the primary control locks out, reference the included Beckett Technical Information Bulletin, page 4, under the heading "Priming the Pump".

## **PART 13: STARTING THE HEATER**

### **A. FILLING THE HEATER WITH WATER**

Fill the heater with water. Open a hot water faucet to allow any trapped air to escape.

#### **CAUTION**

NEVER OPERATE THE WATER HEATER WITHOUT FIRST BEING CERTAIN IT IS FILLED WITH WATER.

This water heater can deliver scalding water temperatures from any faucet in the system. Be careful when using hot water to avoid scalding injury.

Certain appliances, such as dishwashers and automatic clothes washers, require increased water temperatures. By setting this water heater to a higher water temperature setting, you may create greater potential for a scalding injury. To protect against injury, install an anti-scalding tempering valve in the water system. This valve will reduce water temperature by mixing cold and hot water in branch water lines. Such valves are available from your local plumbing supplier.

Consumer: Please consult your water heater installer concerning this matter.

### **B. TO PUT THE HEATER IN OPERATION**

Install a pressure gauge. Set all the controls to the normal starting position. Turn on the electric power switch to the oil fired water heater. The burner should start, ignite and burn. The flame can then be observed through the peep site hole.

### **C. USING INSTRUMENTS TO ADJUST THE FLAME**

Once you have obtained a flame, the oil pressure should be checked and adjusted to the normal operating pressure of 100 psi. The air inlet can then be adjusted so that the flame is a clean yellow with slightly smoky tips. **IT IS MANDATORY** that the installer use combustion test instruments when adjusting a flame.

When the burner has run twenty minutes or more it may be necessary to readjust the air inlet in order to obtain the proper fire with a hot combustion chamber. Adjust the air inlet on the burner for the minimum amount of air for clean combustion while the combustion chamber is hot. We suggest 9 1/2% to 11% CO<sub>2</sub> with a smoke reading no darker than 1 on the Bachrach Scale.

**KEEP THE CO<sub>2</sub> LEVEL AS LOW AS POSSIBLE. THIS KEEPS THE COMBUSTION SYSTEM CLEAN.**

After final adjustment, tighten lock screws on the air inlet, let unit cool and restart burner to be sure burner operates on a cold start. Remove the pressure gauge and install pipe plug.

### **D. DRAFT**

Adjust the draft regulator so that there is -.01" to -.04" draft over the fire, maximum. Take readings and adjust air so that a minimum of 9 1/2% CO<sub>2</sub> is obtained with a smoke reading between 0 and 1.

Draft reading in the stack should be -.02" to -.05". High Draft may be caused by over firing or too much excess air.

**DO NOT OPERATE** the burner if there is back draft caused by down draft. Back pressure (back draft or down draft) may also be caused by the chimney termination being lower in elevation than surrounding objects, such as buildings, hills, trees, rooftops, etc. Back pressure may be caused by an exhaust fan in the building. Correct this situation before operating the burner.

### **E. NOZZLE (OIL INPUT) VARIATIONS**

Fuel oils vary greatly. Because of this, nozzles will not always deliver the gallons per hour or angle of spray indicated on the nozzle. In addition, it has been found that in certain areas, due to local conditions, nozzles other than those furnished as original equipment offer better performance due to the type of oil being delivered. Oil service personnel will carry several nozzles of different manufacture, angles and spray types in order to obtain the most suitable performance for the particular application.

## **PART 14: IMPORTANT INSTALLATION AND MAINTENANCE REMINDERS**

### **A. INSTALLATION**

1. Install all electrical work in strict accordance with local codes and ordinances.
2. All unions must be of the ground seat type.
3. When the tank is below the burner, a check valve must be installed in the suction line to prevent oil from returning to the storage tank when unit is not in operation.
4. Bleed the pump and make sure oil is clear of air bubbles. If frothy, check lines for air leaks at fittings. Check the oil filter gaskets and make sure filter cartridge is clean.
5. Set the draft to a range of -.02" to -.05".
6. See that the smoke pipe enters the chimney far enough to be tight and not so far as to reduce flue area. It should end flush with the inside of the chimney.
7. There must be at least -.01" draft over the fire.
8. Make certain there is no backpressure such as down draft or back draft.
9. There must be sufficient air in heater room for proper combustion at all times.
10. Explain the operation of the burner to the owner.
11. Show owner how to operate controls and main cutout switch.
12. Hang burner-operating instructions as supplied with burner in prominent place near installation.

### **B. MAINTENANCE**

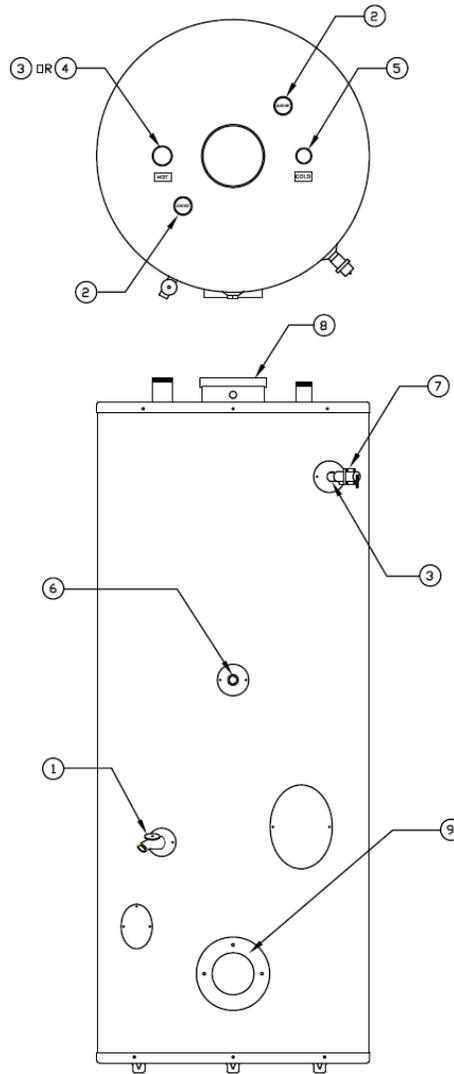
1. Make sure that the flue and venting system is checked at least once a year by a plumbing professional or the oil supplier's service technicians.
2. The tank should be inspected every six months for LIME AND SEDIMENT accumulations. If lime or sediment is present, remove by scraping or with chemical lime remover.

3. When inspecting the tank for lime, also check the condition of the anode rods. When either rod has eroded to about a third of its diameter, it should be replaced.
4. Open the relief valve at least once annually to make sure it is not stuck. **CAUTION: RELEASED WATER MAY BE HOT!**

 **WARNING**

Do not attempt to start the burner when excess oil has accumulated, when the unit is full of vapor, or when the combustion chamber is hot.

## PART 15: REPLACEMENT PARTS



ITEM #	DESCRIPTION	DFT-30	DFT-50	DFT-70
1	DRAIN VALVE	6040P-556	6040P-557	6040P-557
2	FLEXIBLE MAGNESIUM ANODE ROD	6040P-561	6040P-562	6040P-563
3	3/4" x 3" PLASTIC LINED NIPPLE	6040P-564	6040P-564	6040P-564
4	1" x 3" PLASTIC LINED NIPPLE	N/A	6040P-565	6040P-565
5	DIP TUBE	6040P-566	6040P-567	6040P-568
6	IMMERSION WELL	6040P-569	6040P-569	6040P-569
7	T&P VALVE	6040P-570	6040P-571	6040P-571
8	CENTER BAFFLE PLATES	6040P-573	6040P-573	6040P-573
9	BURNER ASSEMBLY w/SINGLE LIMIT CONTROL	6040P-553	6040P-554	6040P-555
10	BURNER ASSEMBLY w/DUAL LIMIT CONTROL	6040P-574	6040P-575	6040P-576

LP-340-B  
08/11/10

Figure 5