INSTALLATION & OPERATION MANUAL
FOR
TOYOSTOVE KEROSENE LIFTER PUMP
MODEL OL-A-1

FOR USE WITH ALL FF VENTED HEATERS

TOYOSTOVE®

IMPORTANT
READ THIS MANUAL CAREFULLY BEFORE
ATTEMPTING INSTALLATION OF LIFTER.

KEEP THIS MANUAL IN SAFE PLACE FOR FUTURE REFERENCE.
### SPECIFICATIONS

<table>
<thead>
<tr>
<th><strong>PUMP TYPE</strong></th>
<th><strong>suction</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VERTICAL LIFT</strong></td>
<td>16.4ft (5m)</td>
</tr>
<tr>
<td><strong>HORIZONTAL RUN</strong></td>
<td>50ft</td>
</tr>
<tr>
<td><strong>RATING</strong></td>
<td>1.2gal/hr (4.5L/hr) at 16.4ft</td>
</tr>
<tr>
<td><strong>FUELING CAPACITY</strong></td>
<td>One or more units</td>
</tr>
<tr>
<td><strong>INLET LINE SIZE</strong></td>
<td>3.8&quot; O.D.</td>
</tr>
<tr>
<td><strong>ELECTRICAL RATING</strong></td>
<td>A/C 115V 60Hz</td>
</tr>
<tr>
<td><strong>CONSUMPTION</strong></td>
<td>17.5w</td>
</tr>
<tr>
<td><strong>SUMP TANK CAPACITY</strong></td>
<td>0.09gal (368ml)</td>
</tr>
<tr>
<td><strong>OPERATING TEMP</strong></td>
<td>5°F-104°F</td>
</tr>
<tr>
<td><strong>DIMENSIONS</strong></td>
<td>Width: 5'</td>
</tr>
<tr>
<td></td>
<td>Depth: 4'</td>
</tr>
<tr>
<td></td>
<td>Height: 8'</td>
</tr>
<tr>
<td><strong>WEIGHT</strong></td>
<td>6.61lbs (3.0Kg)</td>
</tr>
<tr>
<td><strong>FUEL TYPE</strong></td>
<td>WATER-CLEAR NO. 1-K KEROSENE</td>
</tr>
</tbody>
</table>

### CAUTION

- For use indoors only. Electrical components are not waterproof.
- Use only A/C 115V 60Hz
- Use only WATER-CLEAR NO. 1-K KEROSENE

<table>
<thead>
<tr>
<th><strong>STANDARD TOOLS</strong></th>
<th><strong>APPLICATION</strong></th>
<th><strong>SPECIAL TOOLS</strong></th>
<th><strong>APPLICATION</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Screw Driver</td>
<td>Mounting Unit to Wall</td>
<td>Flaring Tool</td>
<td>Preparing Ends of Tubing</td>
</tr>
<tr>
<td>Adjustable Wrench</td>
<td>Adjusting Pipe Fittings</td>
<td>Electric Drill</td>
<td>Drilling Mounting and Tubing Holes</td>
</tr>
<tr>
<td>Tubing cutter</td>
<td></td>
<td>Teflon Tape</td>
<td>Pipe Joint Sealer</td>
</tr>
</tbody>
</table>
NOTES

- Turn off power switch when not in use.
- If pump should stop operating, push priming start switch. The pump should start operating. If not, consult "Troubleshooting" (Page 9).
- While the pump is being primed it may make an abnormally loud noise. However, this loud noise should stop within 5 minutes. If not, see operation Page 7 Sec 2.

INSTALLATION

CAUTION

CHECK YOUR LOCAL CODES AND ORDINANCES BEFORE INSTALLING YOUR KEROSENE LIFTER PUMP. IN SOME AREAS, INSTALLATION BY A LICENSED PLUMBER OR FUEL TECHNICIAN MAY BE REQUIRED. WE RECOMMEND PROFESSIONAL INSTALLATION.

- Kerosene lifter pump is designed to be mounted on the wall in an indoor location. It must be located above the level of the fuel tank.
- 3/8-inch O.D. soft copper tubing must be used for all lines to and from the lifter.
- Sealant must be used on all threaded fittings, including those at the fuel tank. I.E. Teflon Tape.

1. INSTALLATION

Once the location of the heater is selected, holding the lifter to the wall, mark general location of pump and ensure one feet clearance above heater to allow for fuel line. Using the keyhole opening of mounting plate as template, mark the screw positions insuring the location of the screws in a wall stud.

2. INSTALL FUEL SUPPLY LINE

Locate pump on mounting screws to determine length of fuel pipe allowing for a gentle bend to connections of pump. Using pipe cutter, remove surplus pipe and make 25° bends to inlet of pump flare end of pipe and clean. Apply teflon tape to union attach pipe.

NOTE: ALL JOINTS IN THE SUCTION LINE MUST BE ABSOLUTELY TIGHT. THE SLIGHTEST AIR LEAK WILL CAUSE THE LIFTER TO LOSE ITS PRIME.

3. INSTALL OUTLET LINE

Place flare nut on tubing and flare end of tube, apply teflon tape to outlet union and attach fitting. Repeat procedure at other end of pipe and attach to fusible link valve at rear of heater.
ELECTRICAL INSTALLATION

If local codes or ordinances require your kerosene lifter pump to be wired directly to your home electrical system, the unit should be installed by a licensed electrician according to the directions below.

1. Mount the lifter and install fuel lines as described in steps 1 through 3 of the owner's manual.

2. Turn off the the home circuit breaker.

3. Remove splice box cover by loosening the screw and pulling the cover.

4. Disconnect power cord wires, including ground, from screw terminals of the splice box.

5. Loosen the two screws on the cable clamp and pull the power cord out of the clamp and through the power cord hole at the bottom of the box.

6. Remove the rubber grommet from the power cord hole and discard it.

7. Insert metal raceway up through the power cord hole. Secure with the proper locknut. Allow 13 inches of wire to protrude from the (bottom) end of the raceway.

8. Run wires through the cable clamp hole at the splice box and attach as illustrated on page 10.
CAUTION

Unless the intake line is airtight, the lifter will not operate.

- The lifter must be installed within 6 feet of an AC wall outlet. Extension cords must NOT be used.
- The vertical line from the fuel tank to the lifter must be NO MORE than 17 feet.
- The maximum allowable horizontal line length from the tank to the lifter is 50 feet.
- The lifter must be installed a MINIMUM of 16 inches and MAXIMUM of 8 1/2 feet above the floor level.
- If the vertical line from the pump to the heater exceeds 8 1/2 feet, a pressure reducer must be used at the fusible link valve on the back of the heater. The inlet pressure to the heater must not exceed 2.5 psi.
- The lifter may be installed in adjacent room and tubing run to the heater system. In this application, tubing must pitch down.
- "T" or "Y" valves may be used on the line from the lifter to the heater to accommodate additional heating systems.
- A shut-off valve, filter and check valve should be installed at the tank.

NOTE

See your dealer for recommended parts for tank installation.
OPTIONAL INSTALLATIONS

KEROSENE LIFTER/ GRAVITY FEED HOOK-UP KIT

KEROSENE LIFTER/GRAVITY FEED HOOK-UP KIT

GRAVITY FEED HOOK-UP KIT
1. After attaching the inlet and outlet lines, take the kerosene strainer tank out by turning it counterclockwise and fill it with kerosene (about 1 tablespoon).

2. Plug the power cord in and turn the power switch on. Push priming start switch on about 5 minutes until the pump stops making an exaggerated noise. The pump will start immediately. Until the kerosene begins to pass through the pump, there will be an exaggerated noise. Do not worry, this is normal and should stop within 5 minutes when the kerosene begins to feed into the tank of your "KEROSENE LIFTER PUMP".

3. Be sure to open the valve at the heater. When the kerosene level reaches the upper level switch, the pump will stop automatically. When the kerosene reaches the lower level switch (due to consumption) the pump will start automatically. By removing the top cover of the "KEROSENE LIFTER PUMP", you can confirm the flow of kerosene in the copper pipe mounted inside of the tank. Also be sure to check that there is no kerosene leakage from the inlet and outlet lines.

4. If the kerosene has a long distance to travel (via the inlet line), it takes a long time to clear air from the line, if the kerosene is not feeding into the pump within 5 minutes, please repeat steps 1 & 2 after turning the machine off.

*Restarting the KEROSENE LIFTER PUMP (Electrical Reset)*

1. Push priming start switch, the pump should start immediately.

2. If pump stop again, there is no oil in the tank, push priming start switch until pump stops.
MAINTENANCE

CLEAN THE STRAINER BY FOLLOWING THESE STEPS

1. Shut off the outlet line by turning shut-off valve at heater clockwise.
2. Remove the kerosene strainer tank by turning it counterclockwise.
3. Remove the strainer using a coin or screwdriver, turning it counterclockwise.
4. Clean strainer in kerosene, then reassemble.

DANGER

TO STORE THE KEROSENE LIFTER PUMP WHEN NOT IN SERVICE

1. Turn power switch off and remove the power cord from outlet.
2. Shut off the outlet line by turning shut-off valve at heater clockwise.
3. Do not leave kerosene in the tank of lifter or fuel line.
1. The pump does not work when the power switch and priming start switch are on, right after installation:
   A. Priming start switch:
      To restart the pump at any time, push the priming start switch.
   B. Bad power source:
      1) Check the voltage of the power supply.
      2) Check if the plug is securely connected.
   C. Check the float switch:
      Check the two float switch floats by moving them up and down by hand.
   D. Blown fuse:
      Check the fuse box and replace as necessary. (1A fuse)
   E. Malfunctioning electrical parts:
      Check each electric connection. Refer to diagram or call your servicing dealer.

2. The pump does not work when the power switch and priming start switch are on:
   A. Kerosene is above the upper level switch:
      Keep using your heater as usual and kerosene level will come down gradually. When kerosene level reaches the upper level switch, push the priming start switch. (This is not a structural problem.)
   B. The upper safety switch is activated even though the kerosene level is not above upper level switch:
      Take the top cover off and check the float switch (upper level switch) which is located in the tank. If anything is blocking the float, clear it away.
   C. Malfunctioning electric parts:
      Refer to wiring diagram or call your servicing dealer.

3. Lifter does not work when switch is on and pump is running:
   A. Empty storage tank:
      Refill the storage tank.
   B. Leaking inlet line:
      Check all seals.
   C. Too much distance (vertically & horizontally) between the storage tank and the "KEROSENE LIFTER PUMP":
      Correct installation distances to conform to recommended measurements.
   D. Inlet line clogged:
      Take out the strainer element and clean it.
   E. Check the valve:
      Ensure valve at heater is operating.
LIMITED WARRANTY

TOYOTOMI AMERICA INC. ("TOYOTOMI") warrants each product and any parts thereof sold by it to be free from defects in materials or workmanship under normal use and service for TWELVE (12) MONTHS from the date of delivery to the original purchaser at retail subject to the following terms and conditions:

WHAT IS COVERED: Product or any parts thereof which are defective in materials or workmanship.

WHAT IS NOT COVERED:

(1) This warranty does not extend to any defect due to the negligence of others; failure to install, operate or maintain unit in accordance with installation instructions (operating and maintenance instructions are furnished with each new unit); unreasonable use; accidents; alteration; use of unauthorized or non-standardized Toyotomi parts and accessories; electrical malfunctions, i.e., as resulting from large power surges, short circuit, etc.; incorrect installation; use of any fuel other than that specified in owners manuals; or repair by anyone other than a service facility specified by Toyotomi.

(2) This warranty does not cover normal wear and tear of items such as but not limited to; wicks, batteries, igniter coils, siphons, cutting blades, hoses, cables, burner mats and accessories.

WHO IS COVERED: The original purchaser at retail.

WHAT WE WILL DO: TOYOTOMI will either repair or replace, at its option, all defective parts free of charge that are covered by this limited warranty on a carry-in basis, to your nearest authorized dealer or distributor of TOYOTOMI.

WHAT YOU MUST DO FOR WARRANTY SERVICE: You must return the defective Product or part to any authorized dealer or distributor of TOYOTOMI with this LIMITED WARRANTY and a copy of your bill of sale or credit card charge receipt or other document evidencing the date of the Product’s delivery. If service is not available locally, please contact our CUSTOMER RELATIONS DEPARTMENT at:

TOYOTOMI AMERICA INC
604 Federal Road, Brookfield, CT 06804 (203) 775-1909

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No one other than TOYOTOMI has authority to extend or modify the terms of this Limited Warranty in any manner whatsoever.

Some states do not allow the exclusion or limitation of incidental or consequential damages or limitations on how long an implied warranty lasts, so these limitations or exclusions may not apply to you. This Limited Warranty gives you specific legal rights and you may also have other rights which vary from state to state.

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TOYOTOMI AMERICA INC.
P.O. Box 176, Brookfield, CT 06804-0176

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