These instructions should be read thoroughly before attempting installation. Set up, installation and Performance Check should be performed by a qualified service technician. The Manufacturer, Southbend (1100 Old Honeycutt Rd., Fuquay-Varina, North Carolina 27526), informs you that unless the installation instructions for the above described Southbend product are followed and performed by a qualified service technician, (a person experienced in and knowledgeable concerning the installation of commercial gas and/or electrical cooking equipment) then the terms and conditions of the Manufacturer’s Limited Warranty will be rendered void and no warranty of any kind shall apply.

If the equipment has been changed, altered, modified or repaired by other than a qualified service technician during or after the 12-month limited warranty period, then the manufacturer shall not be liable for any incidental or consequential damages to any person or to any property which may result from the use of the equipment thereafter. Some States do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion thereto may not apply to you.

In the event you have any question concerning the installation, use, care, or service of the product, write Customer Service Department, Southbend Corporation, 1100 Old Honeycutt Rd., Fuquay-Varina, North Carolina 27526.
INSTALLATION AND OPERATION MANUAL
SELF-GENERATING STEAM JACKETED TILTING FLOOR MOUNTED KETTLES

MODELS: ELT-20
ELT-30
ELT-40
ELT-60
ELT-80

southbend
A MIDDLEBY COMPANY
## INSTALLATION AND SERVICE CONNECTIONS

<table>
<thead>
<tr>
<th>Model</th>
<th>Capacity</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>K</th>
<th>L</th>
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<tr>
<td>ELT-20</td>
<td>20 U.S. gal.</td>
<td>inches</td>
<td>21</td>
<td>18</td>
<td>38</td>
<td>36</td>
<td>15</td>
<td>18</td>
<td>14</td>
<td>19-1/2</td>
<td>14</td>
<td>18</td>
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<tr>
<td></td>
<td>76 liter</td>
<td>mm</td>
<td>533</td>
<td>457</td>
<td>965</td>
<td>914</td>
<td>381</td>
<td>457</td>
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<td>495</td>
<td>356</td>
<td>457</td>
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<td>inches</td>
<td>24</td>
<td>20</td>
<td>38</td>
<td>39</td>
<td>16-1/2</td>
<td>19</td>
<td>12-3/8</td>
<td>22</td>
<td>15-1/2</td>
<td>16</td>
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<tr>
<td></td>
<td>114 liter</td>
<td>mm</td>
<td>670</td>
<td>508</td>
<td>965</td>
<td>990</td>
<td>419</td>
<td>483</td>
<td>374</td>
<td>559</td>
<td>394</td>
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<td>38</td>
<td>41</td>
<td>17-1/2</td>
<td>23</td>
<td>10</td>
<td>22-1/2</td>
<td>16-3/4</td>
<td>13-1/2</td>
</tr>
<tr>
<td></td>
<td>152 liter</td>
<td>mm</td>
<td>660</td>
<td>572</td>
<td>965</td>
<td>1041</td>
<td>445</td>
<td>584</td>
<td>254</td>
<td>572</td>
<td>425</td>
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<tr>
<td>ELT-60</td>
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<td>inches</td>
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<td>42</td>
<td>44-1/2</td>
<td>19-1/8</td>
<td>24</td>
<td>11</td>
<td>25 635</td>
<td>18-1/2</td>
<td>14</td>
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<tr>
<td></td>
<td>227 liter</td>
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<td>660</td>
<td>7067</td>
<td>7730</td>
<td>486</td>
<td>670</td>
<td>280</td>
<td>470</td>
<td>356</td>
<td></td>
</tr>
<tr>
<td></td>
<td>303 liter</td>
<td>mm</td>
<td>838</td>
<td>771</td>
<td>1143</td>
<td>7279</td>
<td>530</td>
<td>686</td>
<td>327</td>
<td>648</td>
<td>508</td>
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</table>

As continued product improvement is a policy of Crown, specifications are subject to change without notice.
It is recommended that this manual be read thoroughly and that all instructions be followed carefully. This manual should be retained for future reference.

**DO NOT ATTEMPT TO OPERATE THIS UNIT IN THE EVENT OF A POWER FAILURE**

**ADEQUATE CLEARANCES MUST BE MAINTAINED FOR SAFE AND PROPER OPERATION**

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INSTALLATION INSTRUCTIONS

SELF-GENERATING STEAM JACKETED TILTING FLOOR MOUNTED KETTLES

a) Select a location to provide drainage directly below the tangent Draw-Off. Allow sufficient rear clearance from wall for kettle cover to lift upright freely and completely without obstructions.

b) Mark hole locations through flanged adjustable feet on ELT models. Remove kettle.

c) On hole locations marked, drill holes and insert expansion shields to accommodate 5/16" size lag bolts.

d) Reposition kettle. Level kettle by making necessary adjustments on flanged feet.

e) Bolt down kettle and seal with Silastic or other equivalent sealing compound. Sealant must be applied not only to bolt heads but also around flanges or pedestal base making contact with floor surface to fulfill NSF requirements. Wipe off excess sealant immediately.

f) A Control Box with power supply equivalent to Electrical Rating of kettle should be located conveniently nearby.

g) A water-proof electrical connection for power supply to rear of control housing must be provided.

h) Ground kettle to terminal provided inside control housing.

i) Turn power ON and check for proper operation.
INTRODUCTION

SELF-GENERATING STEAM JACKETED TILTING FLOOR MOUNTED KETTLES

DESCRIPTION

All electrically power kettles described and referred to in this Manual are pressure vessels of a double-wall stainless steel construction forming a sealed jacket (chamber) enveloping the lower two thirds of the kettle bowl surface.

The kettle bowl is the container for the food product which ideally should be a liquid or semi-liquid consistency to achieve complete contact with the bowl surface and thus fully absorb the heat transmitted through that surface from the pressurized steam generated in the kettle jacket.

The jacket is intended to function as a self contained sealed chamber with a permanent solution of water and anti-freeze sufficient not only to immerse and thereby protect replaceable electric heating elements but also provide the steam source during the steam generating process.

The heating elements are thermostatically dial controlled to provide precise temperatures throughout the range from slow simmer to rolling boil.

All tilting kettles are intended to be permanently floor mounted on legs with adjustable flanged feet.

A sealed stainless steel tilt mechanism shall permit the kettle to tilt forward a full 90 degrees for complete emptying. The tilting mechanism shall be self locking for positive stop action.

CAPACITIES

All models are suffixed with either -20, -30, -40, -60 or -80 to indicate the capacity of that kettle in US gallons. Thus an ELT-40 indicates a two thirds jacketed electrically powered steam kettle mounted on legs with a capacity of 40 gallons (US). If the letter F is added to the suffix, this then indicates that the kettle is full jacketed as averse to two thirds jacketed. Thus an ELT-30F indicates a full jacketed electrically powered steam kettle mounted on a pedestal with a capacity of 30 gallons.

FUNCTIONING MODE

All electrically powered self steam generating kettles consist of a jacket containing a permanent solution of water and anti-freeze sufficient to completely immerse and protect replaceable electric heating elements.
To minimize tampering, the Safety Valve is plumbed towards the rear of the kettle jacket. Should any component malfunction and cause the pressure in the jacket to reach the rated pressure of the kettle, this protective device will open automatically and release excessive pressurized steam.

When the Power Switch is turned ON and the Temperature Control (Thermostat). Knob dialed, simultaneously TEMPERATURE pilot light will glow and contactors will close to allow power to elements and steam generation will commence and continue until the water contained in the jacket reaches the thermostatic temperature, manually pre-selected, at which point the Temperature (thermostat) Control will de-energize and open the contactors cutting of power to heating elements and TEMPERATURE pilot light will go off. When the temperature of the water in the jacket drops slightly, the cycle will repeat itself thus making it possible to maintain any selected precise cooking mode temperature.

The temperature required for the cooking process to function adequately must be greater than the boiling point of the liquid food product, viz. water. Further, the higher the temperature, the greater the steam pressure attained in the jacket and consequently the quicker the cooking process. For example, steam pressurized at 30 p.s.i. attains a temperature of 274 degrees fahrenheit.

since air is an unsuitable media through which heat may be transferred, it has been removed from the kettle jacket during testing at Crown. The Pressure Gauge should indicate vacuum in the jacket of approximately 20-25 inches HG when the kettle is cold or has been inoperative for sometime. The kettle jacket is intended to function at all times as a completely sealed self contained chamber and it is especially advisable not to trip the safety relief valve during inoperative periods since this will break the vacuum seal and allow air to enter the kettle jacket.

It should be noted that Temperature Controls (thermostats) used on these particular kettles have an ultimate high limit temperature and this setting will prevent the heating elements from ever generating steam pressure to reach or exceed the rated working pressure of these kettles. Further should the Temperature Control fail, an unlikely condition, and consequently the circuit to the heating elements remain energized, the Safety Valve will blow and release steam (i.e. water) from the self contained sealed kettle jacket and consequently lower the water level in the jacket (but still maintain elements in an immersed condition), whence the Safety Probe sensing depletion of the water level in the kettle jacket will not only activate the LOW WATER level indicator pilot light but also signal the Liquid Level Control to switch off power and de-energize the circuit to the heating elements (preventing element burn outs) until the water level is adequately replenished.
**OPERATING INSTRUCTIONS**

**SELF-GENERATING STEAM JACKETED TILTING FLOOR MOUNTED KETTLES**

---

**a)** Check kettle Pressure Gauge that reading indicates 20-25 vacuum for a cold kettle. If vacuum is insufficient, Air Venting Instructions must be followed. If equipped with Draw Off Valve ensure Valve is closed.

**b)** Place Kettle Power Switch in ON position.

**c)** Preheat kettle by turning Thermostat Knob to ‘8’ and wait until Temperature pilot light goes off.

   **NOTE:** Food products with milk or egg base should be placed into cold kettle and then the cooking operation begun. Avoid sudden contact of these food products to hot kettle bowl surface since caking/adhering will occur.

**d)** Place food product into kettle bowl. Close kettle cover.

**e)** Adjust Thermostat Knob to temperature cooking mode. Setting of 6-7 will provide simmer and 8-10 low to rolling boil.

**f)** Turn both kettle Power Switch and Thermostat Knob OFF when cooking has been completed.

**g)** Remove food product by tilting kettle slowly to avoid spillage or by lading product out. If unit equipped with Draw Off Valve liquid product may be removed by opening valve and pouring into suitable container.
CLEANING INSTRUCTIONS

CLEANING PROCEDURE

Your kettle should be cleaned immediately after each use to prevent food residue from drying and adhering to kettle bowl and valve surfaces.

a) Turn power supply OFF to kettle.

b) Rinse inside of Kettle thoroughly. Drain kettle by tilting or if equipped with drain valve, open valve and remove all food particles. Close drain valve.

c) Using nylon brush, clean kettle with a mild detergent and warm water rinse. Never use steel wool or scouring powder as they will scratch stainless steel. Food adhering excessively to bowl surface may be loosened by allowing water to soak in a bowl at a low temperature setting.

d) Unit equipped with Draw Off Valve.

By hand, turn large hex nut on Draw-Off Valve counter clockwise until completely disengaged from thread. Grasp Valve knob and pull out valve steam and disc slowly. Avoid contact of Valve disc with hard surfaces since damage to disc may occur and result in valve leakage. Wash the valve stem, disc and handles. Insert nylon brush with detergent into interior of valve body and tangent draw-off tube and brush vigorously.

e) Replace valve stem assembly and engage hex nut fully by hand. Flush kettle with clean warm water and leave Valve open when kettle is not in use.

f) Wipe down exterior of kettle with clean damp cloth.

WARNING

It is NOT RECOMMENDED to use cleaning agents that are corrosive.

Use of cleaning agents that contain chloride, acids or salts are corrosive and may cause pitting and corrosion when used over a period of time; this will reduce the life of the appliance.

Should pitting or corrosion occur this is not covered by warranty.

Follow the recommended cleaning instructions. Use a mild detergent, warm water and rinse thoroughly.

NEVER SPRAY WATER INTO ELECTRIC CONTROLS
TROUBLESHOOTING

SELF-GENERATING STEAM JACKETED TILTING
FLOOR MOUNTED KETTLE

No general maintenance is required other than adhering to the Cleaning Procedure instructions.

LOW WATER LEVEL

Proper water level must be maintained within the jacket for the kettle to operate. Depletion of water may occur from excessive opening of, or leakage through the safety relief valve.

If water is below required operating level, either initially at start-up or during use, the kettle will automatically shut off, refuse to operate and the LOW WATER signal light will come on.

In order for the kettle to operate, the following procedure must be followed:

a) Trip the safety relief valve lever to relieve all pressure from the kettle jacket.

b) At exterior rear of kettle jacket remove nut from Air Vent.

c) Insert funnel into Air Vent opening and slowly add the indicated amount of clean water for:

<table>
<thead>
<tr>
<th>Model</th>
<th>Water Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELT-20</td>
<td>140 ozs.</td>
</tr>
<tr>
<td>ELT-30</td>
<td>150 ozs.</td>
</tr>
<tr>
<td>ELT-40</td>
<td>220 ozs.</td>
</tr>
<tr>
<td>ELT-60</td>
<td>250 ozs.</td>
</tr>
<tr>
<td>ELT-80</td>
<td>330 ozs.</td>
</tr>
</tbody>
</table>

d) Replace Air Vent nut.

e) Follow Air Venting Instructions below.

f) Continue normal Operating Procedure of kettle.
TROUBLESHOOTING

SELF-GENERATING STEAM JACKETED TILTING FLOOR MOUNTED KETTLES

EXTREMELY SLOW COOKING TIME

If the cooking time is abnormally slow then the difficulty may be due to air being present in the kettle jacket. To remove air, follow AIR VENTING INSTRUCTIONS. If this problem persists the kettle will not reach and maintain Pressure Gauge zone of 20-25 Vacuum when cold, then assume that a slow leak may be responsible in the jacket. Check all fitting connections to jacket and also element gasket. Tighten or replace if necessary.

Slow cooking time may be due to a burnt out heating element. Test elements and if defective replace complete element assembly.

KETTLE WILL NOT OPERATE WHEN TURNED ON

Kettle will not operate if water level is inadequate in jacket. Follow LOW WATER LEVEL instructions.

Initially, when Thermostat knob is dialed and TEMPERATURE indicator light does not come on, then it may be assumed that malfunction is due to either a defective Thermostat Knob is dialed fully (i.e. setting of 10'), then eventually the kettle should reach its maximum temperature (280 F) in the jacket and a corresponding pressure reading of approximately 40 psi should be evident on the Pressure Gauge (on kettles rated at 50 psi).

Finally, when the kettle is turned ON and Thermostat Knob dialed, check that the Contactors are being energized and power is being made available to the heating elements. Replace defective Contactor(s).

DRAW-OFF VALVE LEAKS

If leak occurs through the valve stem, replace the "0" ring. If the leak can be attributed to faulty sealing occurring between the stem disc and valve seat, then quite often this problem can be corrected by cleaning off the dried on food residue with an extremely fine emery cloth or rubber vulcanized stem piece has been damaged and must be replaced.
AIR VENTING INSTRUCTIONS

Periodically check Pressure Gauge when the kettle is cold. Reading should be in (green) VACUUM zone between 20 to 25, otherwise air is present and efficient heating will not occur.

To remove air, set Thermostat Knob at 8 and heat empty kettle until TEMPERATURE pilot light goes off.

Open Air Vent nut one full turn for 10 seconds to exhaust air from kettle jacket. Close Air Vent nut.