



southbend

A MIDDLEBY COMPANY

OWNER'S MANUAL

**INSTALLATION USER'S
GUIDE SERVICE
PARTS**

TILTING & STATIONARY DIRECT STEAM KETTLES

**MODELS: KTLD, KTPD
KSLD, KSPD**

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.

**TILTING & STATIONARY
DIRECT STEAM KETTLES
(Manual Section SK)**

Congratulations! You have just purchased one of the finest pieces of heavy-duty, commercial cooking equipment on the market today.

You will find that your new equipment, like all Southbend equipment, has been designed and manufactured to some of the toughest standards in the industry — those of Southbend Corporation. Each piece of Southbend equipment has been carefully engineered and designs have been verified through laboratory test? and Field installations in some of the more strenuous commercial cooking applications. With proper care and field maintenance, you will experience years of reliable, trouble-free operation from your Southbend equipment. To get the best results, it's important that you read this manual carefully.

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Retain this manual for future reference.

INTENDED FOR COMMERCIAL USE ONLY. NOT FOR HOUSEHOLD USE.

WARNING - WARRANTY WILL BE VOID IF

- A. SERVICE WORK IS PERFORMED BY OTHER THAN A QUALIFIED TECHNICIAN.**
- B. OTHER THAN GENUINE SOUTHBEND REPLACEMENT PARTS ARE INSTALLED.**

FOR YOUR SAFETY

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.

KEEP AREA AROUND APPLIANCES FREE AND CLEAR FROM COMBUSTIBLES.



1100 Old Honeycutt Road
Fuquay-Varina, NC 27526
(919) 552-9161
PAX (919) 552-9798
(800) 348-2558

INSTALLATION



GENERAL:

THE UNIT WHEN INSTALLED MUST BE ELECTRICALLY GROUNDED AND COMPLY WITH LOCAL CODES, OR IN THE ABSENCE OF LOCAL CODES, WITH THE NATIONAL ELECTRICAL CODE ANSE NFPA 70-1984.

CANADIAN INSTALLATION MUST COMPLY WITH CAN1-B149 INSTALLATION CODE FOR GAS BURNING APPLIANCES AND EQUIPMENT AND CSA STANDARD C22.1-CANADIAN ELECTRICAL CODE PART 1.

THE INSTALLATION OF STEAM PIPING FROM THE SOURCE OF SUPPLY TO THE SERVICE INLET OF THE APPLIANCE MUST BE INSTALLED BY QUALIFIED INSTALLATION PERSONNEL EXPERIENCED IN SUCH WORK. THE INSTALLATION MUST COMPLY WITH ALL REQUIREMENTS OF STATE AND LOCAL AUTHORITIES HAVING JURISDICTION.

EXHAUST FANS AND CANOPIES: Canopies are set over ranges, ovens, kettles, etc., for ventilation purposes. It is recommended that a canopy extend 6" past appliance and be located 6' 6" from the floor. Filters should be installed at an angle of 45° or more with the horizontal. This position prevents the dripping of grease and facilitates collecting the run-off grease in a drip pan, usually installed with the filter. A strong exhaust fan tends to create a vacuum in the room and may interfere with performance. Makeup air openings approximately equal to the fan area will relieve such vacuum. In case of unsatisfactory performance on any appliance, check with the exhaust fan in the "OFF" position.

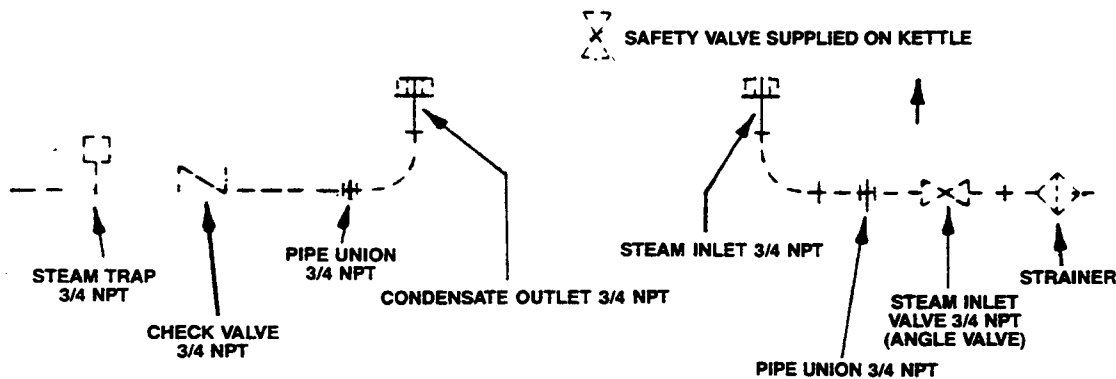
WALL EXHAUST FAN: The exhaust fan should be installed at least 2 feet above the vent opening at the top of the unit.

CLEARANCES: Adequate clearance must be provided in aisle and at the side and back. Adequate clearances for air openings, as well as for serviceability, must also be provided.

TO INSTALL:

1. Uncrate carefully. Report any hidden freight damage to the freight company immediately.
2. Set the unit in place.
3. Be certain to leave adequate clearances for cleaning, maintenance and service.

RECOMMENDED PIPING CONNECTIONS:



NOTE: Recommended Piping connections

Piping & Accessories Furnished By Customer
Maximum Steam Pressure 50 psi
Minimum Flow Rate 20 lbs. Dry Steam Per Hour

CAUTION

**IF YOUR STEAM SUPPLY PRESSURE IS GREATER THAN 50 PSI, A PRESSURE REDUCING VALVE MUST BE INSTALLED UPSTREAM OF THE SAFETY VALVE.
A SAFETY VALVE MUST BE INSTALLED SET TO RELIEVE AT 50 PSI OR LESS.**



INSTALLATION

GENERAL:

Recommended pipe connections, piping and accessories are furnished by the customer. The maximum steam pressure is 50 psi and the minimum flow rate is 15 lbs. of dry steam per hour.

WARNING:

THESE PROCEDURES MUST BE FOLLOWED BY QUALIFIED PERSONNEL OR WARRANTY WILL BE VOIDED.

TO INSTALL - Models KTPD and KSPD:

1. Secure the angle frame, supplied inside the stand, to the floor with appropriate bolts. Use a mastic sealer between angle and floor in order to insure water tightness.
2. Install the kettle over angle frame and level by using a spirit level on the top rim and trim the edges of the stand, when needed.
3. Secure base to angle frame.
4. Connect steam line (supply steam valve) and the condensation line.
5. Install a suitable steam trap in the condensation (return) line close to the unit.
6. Install a pressure-reducing valve in the steam supply line if the steam supply pressure is greater than the working pressure stamped on the kettle.

TO INSTALL - Models KTLD and KSLD:

1. Level the kettle by using the three adjustable bullet feet.
2. Connect steam line (supply steam valve) and the condensation line.
3. Install a suitable steam trap in the condensation (return) line close to the unit.
4. Install a pressure-reducing valve in the steam supply line if the steam supply pressure is greater than the working pressure stamped on the unit.

ALL MODELS (KTLD, KTPD, KSLD, KSPD):

1. Place the kettle in the desired location. Be sure to leave enough space around the kettle for tilting, cleaning and service. Check that the drain lip of the kettle will empty into a proper waste drain.
2. Install controls and piping as recommended. The safety valve must be set to relieve at 50 psi or less.

CAUTION: *IF YOUR STEAM SUPPLY PRESSURE IS GREATER THAN 50 PSI, A PRESSURE REDUCING VALVE MUST BE INSTALLED UPSTREAM OF THE SAFETY VALVE.*

NOTE: NEVER REMOVE LEAD SEAL ON SAFETY VALVE. NEVER CLOSE SAFETY VALVE OUTLET.

NOTE: IT IS RECOMMENDED TO INSTALL A STRAINER ON THE STEAM INLET BEFORE THE VALVE.

PERFORMANCE CHECK:

The following items should be checked before or within the first 30 days of operation by a qualified service technician.

1. Check hinge and lid assembly if applicable.
2. Check tilt mechanism if applicable.
3. Draw-off valve — check operation if applicable.
4. Advise user on cleaning procedures.

TILTING AND STATIONARY DIRECT STEAM KETTLES USER'S GUIDE LIMITED WARRANTY

USER'S GUIDE

Southbend warrants that the equipment, as supplied by the factory to the original purchasers, is free from defects in materials and workmanship. Should any part thereof become defective as a result of normal use within the period and limits defined below, then at the option of Southbend such parts will be repaired or replaced by Southbend or its Authorized Service Agency. This warranty is subject to the following conditions:

If upon inspection by Southbend or its Authorized Service Agency it is determined that this equipment has not been used in an appropriate manner, has been modified, has not been properly maintained, or has been subject to misuse or misapplication, neglect, abuse, accident, damage during transit or delivery, fire, flood, riot or Act of God, then this warranty shall be void.

Specifically excluded under this warranty are claims relating to installation: examples are improper utility connections and improper utilities supply. Claims relating to normal care and maintenance are also excluded; examples are calibration of controls, and adjustments to pilots and burners.

Equipment failure caused by inadequate water quality is not covered under the warranty. WATER QUALITY must not exceed the following limits; Total Dissolved Solids (TDS) - 60 PPM (Parts Per Million), Hardness - 2 Grains or 35 PPM, PH Factor - 7.0 to 7.5. Water pressure 30 PSI minimum, 60 PSI Maximum. Boiler maintenance is the responsibility of the owner and is not covered by warranty.

This equipment is intended for commercial use only. Warranty is void if equipment is installed in other than commercial application.

Repairs under this warranty are to be performed only by a Southbend Authorized Service Agency. Southbend can not be responsible for charges incurred from other than Authorized Southbend Agencies.

THIS WARRANTY MUST BE SHOWN TO AN AUTHORIZED SERVICE AGENCY WHEN REQUESTING IN-WARRANTY SERVICE WORK. THE AUTHORIZED SERVICE AGENCY MAY AT HIS OPTION REQUIRE PROOF OF PURCHASE DATE.

This warranty does not cover services performed at overtime or premium labor rates nor does Southbend assume any liability for extended delays in replacing or repairing any items in the equipment beyond the control of Southbend. "Southbend shall not be liable for consequential or special damages of any nature that may arise in connection with such product or part." Should service be required at times which normally involve overtime or premium labor rates, the owner shall be charged for the difference between normal service rates and such premium rates.

In all circumstances, a maximum of one hundred miles in travel and two and one half hours (2.5) travel time shall be allowable. In all cases the closest Southbend Authorized Agency must be used.

The actual warranty time periods and exceptions are as follows:

This warranty only covers product shipped into the 48 Contiguous United States and Hawaii, one year labor, one year parts effective from the date of original purchase. There will be no labor coverage for equipment located on any island not connected by roadway to the mainland.

Exceptions to standard warranty, effective within above limitations:

- Glass Windows, Door Gaskets, Rubber Seals, Light Bulbs. Ceramic Bricks,
- Sight Glasses, Cathodic Descalers or Anodes 90 days material and labor.
- Stainless Steel Fry Pot 4 years extended material warranty on fry pot only - No labor.
- Stainless Steel Open Top Burners 4 years extended material warranty on burners only - No labor.
- Pressure Steam Boiler Shell Prorated 4 years extended warranty on boiler shell only - No labor.

(Boiler shells which have not been properly maintained will not be covered by warranty.)

In all cases parts covered by a five year warranty will be shipped FOB the factory after the first year.

Our warranty on all replacement parts which are replaced in the field by our Authorized Service Agencies will be limited to three months on labor, six months on materials (parts) effective from the date of installation. See LIMITED WARRANTY - REPLACEMENT PARTS for conditions and limitations.

If the equipment has been changed, altered, modified, or repaired by other than a qualified service technician during or after the one year limited warranty period, then the manufacturer shall not be liable for any damages to any person or to any property which may result from the use of the equipment thereafter.

"THE FOREGOING WARRANTY IS IN LIEU OF ANY AND ALL OTHER WARRANTIES EXPRESSED OR IMPLIED INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS, AND CONSTITUTES THE ENTIRE LIABILITY OF SOUTHBEND. IN NO EVENT DOES THE LIMITED WARRANTY EXTEND BEYOND THE DURATION OF ONE YEAR FROM THE EFFECTIVE DATE OF SAID WARRANTY."

SOUTHBEND - Effective February 1, 1990



OPERATION

THEORY OF OPERATION:

The steam-jacketed kettle is in many ways the perfect commercial cooking device. It is a study in efficiency and simplicity.

The principle that makes the steam kettle operate is the law of thermodynamics. It states that the temperature of steam rises in direct proportion to the pressure. In a steam kettle, cooking temperature is not controlled by energy input, but by pressure.

If the steam held in the jacket is at zero pounds per square inch (psi), the cooking temperature will be 212°F. The temperature can be increased by increasing the pressure. At 50 pounds per square inch, the temperature is 298° F. This is the secret of the efficiency of the steam kettle.

OPERATION:

1. Turn steam inlet valve wide open.
2. Operate kettle by using steam pressures from approximately 15 lbs. up to 40 lbs.
3. Preheat kettle before adding product.
4. After product has come to a boil, turn steam inlet valve down. By adjusting the steam inlet valve, either a rolling or a simmer boil can be maintained.
5. The pressure relief valve is located at the rear of the unit. This area should be kept clear and should not be in an area where operators will normally stand. The elbow on the relief valve should be turned toward the floor. A maximum 3 foot, 3/4 " -diameter pipe may be used to extend to the floor, but must not be piped directly to a drain. It must vent to the atmosphere.



MAINTENANCE

Following daily and periodic maintenance procedures will enhance long life for your equipment Climatic conditions — salt air — may require more thorough and frequent cleaning or the life of the equipment could be adversely affected.

DAILY: Wash exposed cleanable areas.

Your Southbend steam jacketed kettle must be thoroughly cleaned at least once daily.

NOTE: Certain foods containing salt, vinegar, or tomato base additives cause the inner surface of the kettle to pit. The kettle should be thoroughly cleaned after each use when these types of food additives are used.

TO CLEAN: Add about one gallon of warm water to the kettle. Using a mild detergent, thoroughly wash the inside food contact surface. Drain and flush with clean water to remove any trace of detergent or soap. Dry thoroughly and buff with dry cloth to bring out the luster of the stainless steel.

To remove grease and food splatter or condensed vapors that have baked on the equipment, apply cleanser to a damp cloth or sponge and rub cleanser on the metal in the direction of the polishing lines on the metal. Rubbing cleanser as gently as possible in the direction of polished lines will not mar the finish of the stainless steel. NEVER RUB WITH A CIRCULAR MOTION. Soil and burnt deposits which do not respond to the above procedure can usually be removed by rubbing on the surface with SCOTCH-BRITE scouring pads or STAINLESS scouring pads. DO NOT USE ORDINARY STEEL WOOL, as any particles left on the surface will rust and further spoil the appearance of the finish. NEVER USE A WIRE BRUSH, STEEL SCOURING PADS (EXCEPT STAINLESS),

MAINTENANCE



SCRAPER, FILE OR OTHER STEEL TOOLS. Surfaces which are marred collect dirt more rapidly and become more difficult to clean. Marring also increases the possibility of corrosive attack. Refinishing may then be required.

CAUTION: *DO NOT USE VINEGAR OR ANY CORROSIVE CLEANER.*

All food contact surfaces must be thoroughly drained and flushed prior to cooking in the kettle.

NOTE: Dismantle sanitary valve periodically to clean the draw-off and the valve itself.

STAINLESS STEEL: To remove normal dirt, grease or product residue from stainless steel, use ordinary soap and water (with or without detergent) applied with a sponge or cloth. Dry thoroughly with a clean cloth. Never use vinegar or any corrosive cleaner.

To remove grease and food splatter or condensed vapors that have baked on the equipment, apply cleanser to a damp cloth or sponge and rub cleanser on the metal in the direction of the polishing lines on the metal. Rubbing cleanser as gently as possible in the direction of the polished lines will not mar the finish of the stainless steel. NEVER RUB WITH A CIRCULAR MOTION. Soil and burnt deposits which do not respond to the above procedure can usually be removed by rubbing the surface with SCOTCH-BRITE scouring pads or STAINLESS scouring pads. DO NOT USE ORDINARY STEEL WOOL as any particles left on the surface will rust and further spoil the appearance of the finish. NEVER USE A WIRE BRUSH, STEEL SCOURING PADS (EXCEPT STAINLESS), SCRAPER, FILE OR OTHER STEEL TOOLS. Surfaces which are marred collect dirt more rapidly and become more difficult to clean. Marring also increases the possibility of corrosive attack. Refinishing may then be required.

TO REMOVE HEAT TINT: Darkened areas sometimes appear on stainless steel surfaces where the area has been subjected to excessive heat. These darkened areas are caused by a thickening of the protective surface of the stainless steel and are not harmful. Heat tint can normally be removed by the foregoing, but tint which does not respond to this procedure calls for a vigorous scouring in the direction of the polish lines using SCOTCH-BRITE scouring pads or a STAINLESS scouring pad in combination with a powdered cleanser. Heat tint action may be lessened by not applying or by reducing heat to equipment during slack periods.

All food contact surfaces must be thoroughly drained and flushed prior to cooking in the kettle.

CONTROL PANEL: The textured control panel should be cleaned with warm water and mild soap. Never use an abrasive cloth or steel wool. Never use cleaning solvents with a hydrocarbon base.

VENT SYSTEM: At least twice a year the unit venting system should be examined and cleaned.

END USER TIPS:

For easier cleaning add cold water to the kettle immediately after removing contents.

When preparing foods containing vinegar or tomatoes, or those which have a high salt content, clean the kettle immediately after using to prevent pitting.

Do not use salt to clean the kettle. This will scratch the surface.

If using saltwater to cook shellfish, be sure to rinse and wash the kettle thoroughly.

Bring milk and egg products slowly up to temperature in a cold kettle to prevent product adhering to the sides.

When planning actual cooking capacity, allow room at top for stirring without spilling.

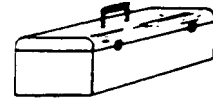
When preparing milk-based products do not preheat the kettle. This will prevent the milk from sticking to the sides.

When preparing puddings from a mix, place the powder in a cold kettle, add a small amount of the liquid, and stir to form a thin paste. Turn on the kettle and add the remainder of the liquid. Continue as per recipe instructions.

When browning meat bring the kettle up to temperature before adding. This seals the juices in the meat.

TILTING AND STATIONARY DIRECT STEAM KETTLES SERVICE

SERVICE



SERVICE

WARNING:

ADJUSTMENTS AND SERVICE WORK MAY BE PERFORMED ONLY BY A QUALIFIED TECHNICIAN WHO IS EXPERIENCED IN, AND KNOWLEDGEABLE WITH, THE OPERATION OF COMMERCIAL STEAM COOKING EQUIPMENT. HOWEVER, TO ASSURE YOUR CONFIDENCE, CONTACT YOUR AUTHORIZED SERVICE AGENCY FOR RELIABLE SERVICE, DEPENDABLE ADVICE OR OTHER ASSISTANCES, AND FOR GENUINE FACTORY PARTS.

TROUBLE SHOOTING GUIDE:

SYMPTOM	POSSIBLE CAUSE	CORRECTION
No heat.	No steam.	Check boiler to see if it is on. Check that steam inlet valve is on.
Slow heat up.	Wet steam. Steam trap defective.	Insulate steam piping to kettle. Install steam separator. Check for foreign matter in seat of trap.
Steam escapes from pressure relief valve.	Too high steam pressure. Foreign matter under seat.	Install pressure reducing valve. Sharply release valve several times to dislodge material. If this fails, replace entire valve.

TILTING AND STATIONARY DIRECT STEAM KETTLES PARTS



WARNING:
INSTALLATION OF OTHER THAN GENUINE SOUTHBEND PARTS WILL VOID THE WARRANTY ON THIS EQUIPMENT.

The serial plate is located on the rear of the units, approximately 1/2" from the top.

Replacement parts may be ordered either through a Southbend Authorized Parts Distributor or a Southbend Authorized Service Agency.

When ordering parts please supply the Model Number, Serial Number, Part Number, Description, and Finish.

For parts not listed consult a Southbend Authorized Parts Distributor or Southbend Authorized Service Agency. If necessary, please consult Southbend Parts Department for assistance.

MODELS: KTLD & KTPD — Tilting Kettles

PART NO.	DESCRIPTION	USAGE	
		KTLD	KTPD
PP-694	CHROME SAFETY VALVE - 50 PSI (1167456)	1	1
PP-610	CHROME PETCOCK (6600366)	1	1
PM-012	BULLET FOOT - 2" (6600363)	3	-
PM-051	RUBBER "O" RING FOR TRUNNION SUPPORT (6600347)	4	4

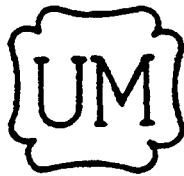
MODELS: KSLD & KSPD - Stationary Kettles

PART NO.	DESCRIPTION	USAGE	
		KSLD	KSPD
PP-610	CHROME PETCOCK (6600366)	1	1
PP-694	CHROME SAFETY VALVE - 50 PSI (1167456)	1	1
PM-100	BRUSH FOR 2" DRAWOFF (6600659)	1	1
1-0188-2	STRAINER FOR 2" DRAWOFF (1167528)	1	1
1-0210	HOOK FOR KETTLE PLUG (6600320)	1	1
PP-641	DRAWOFF VALVE - 2" (6600277)	1	1
PP-705	STEM (1167743)	-	-
PP-645	HANDLE (1167652, 6600288)	—	-
PP-706	BONNET	-	-
PP-649	RUBBER "O" RING FOR VALVE (6600268)	1	1
PM-012	BULLET FOOT - 2" (6600363)	3	-

PARTS

TILTING AND STATIONARY DIRECT STEAM KETTLES

A product with the Southbend name incorporates the best in durability and low maintenance. We all recognize however, that replacement parts and occasional professional service may be necessary to extend the useful life of this unit. When service is needed, contact a Southbend Authorized Service Agency, or your dealer. To avoid confusion, always refer to the model number, serial number, and type of your unit.



southbend

A MIDDLEBY COMPANY

PART NUMBER A44-00009

1100 Old Honeycutt Road
Fuquay-Varina, NC 27526
(919) 552-9161
FAX (919) 552-9798
(800) 348-2558

FAX (919) 552 9798

Litho in U.S.A.