



Maintenance Procedures & Parts Lists

Electric Table Top Kettles

For units built after April 2010

KET-3-T
KET-6-T
KET-12-T
KET-20-T
TKET-3-T
TKET-6-T
TKET-12-T



For your future reference.

Model # _____

Serial # _____

Model # & Serial #.



Read the manual thoroughly.

**Improper installation, operation or
maintenance can cause property
damage, injury or death.**

 **Cleveland**

1333 East 179th St., Cleveland, Ohio, U.S.A. 44110
Ph: 216.481.4900 Fx: 216.481.3782
www.clevelandrange.com

*This manual is to be used in conjunction with the
“Operators Manual”. See “Operators Manual” for
safety warnings, correct operation, installation
and preventative maintenance.*

 **Manitowoc**

STATEMENT OF RESPONSIBILITIES / DÉCLARATION DES RESPONSABILITÉS / DECLARACIÓN DE RESPONSABILIDADES

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Au cours de tout entretien d'un appareil Cleveland Range, tous les services publics (gaz, électricité, eau et vapeur) doivent être FERMÉS au niveau de l'appareil et le dispositif de fonctionnement doit être verrouillé suivant les pratiques approuvées de l'OSHA.

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Cleveland Range, LLC, declina toda responsabilidad en caso de cualquier fallecimiento, lesiones, daños al equipo o daños a la propiedad resultantes de la utilización, del uso indebido o de la falta de utilización de la información provista en este documento.

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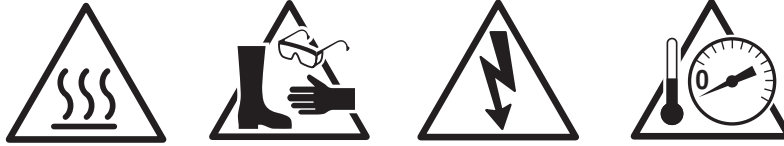
Los Representantes de Servicio calificados y autorizados de Cleveland Range, LLC tienen la obligación de seguir los procedimientos estándar de seguridad de la industria; los cuales incluyen pero no se limitan a los reglamentos de la OSHA (La Administración de la Seguridad y Salud Ocupacionales), los procedimientos de desconexión, cierre y etiquetado relativos a todos los servicios públicos incluyendo el suministro de vapor y los procedimientos de desconexión, cierre y etiquetado para los equipos y/o aparatos que funcionan a base de gas, electricidad o vapor.

Cuando se esté dando servicio o mantenimiento a un aparato de Cleveland Range, todos los servicios públicos (gas, electricidad, agua y vapor) deben estar APAGADOS para el equipo en cuestión y se debe seguir el procedimiento de cierre de operaciones de acuerdo con las prácticas aprobadas por la OSHA.

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TROUBLESHOOTING AND MAINTENANCE PROCEDURES

The following trouble shooting guide and maintenance procedures are meant to be used by Qualified Service Technician



ANY REPAIRS TO THE PRESSURE VESSEL MUST BE DONE BY A CERTIFIED PRESSURE VESSEL REPAIR SHOP AND ALL REPAIR METHODS AND MATERIALS MUST BE APPROVED BY THE MANUFACTURER.

For periodic maintenance recommendations see “Operators Manual”.

Extreme caution must be taken if unit is electrically energized for testing.

Remove power from the unit while servicing.

DIAGNOSTIC GUIDE

This section contains servicing information intended for use by Authorized Service Personnel.

NOTE 1: If Fault Isolation Procedure is required, be sure to start at step #1.

NOTE 2: On table type kettles the entire control mounting panel may be removed from kettle control housing for easier troubleshooting and parts replacement.

A/ Problem: Kettle is not heating at all. (Kettle must be on and temperature control set.)

Possible Causes

- | | | |
|-----------------------------|---|---------------------------------------|
| 1. No incoming power. | 6. Defective safety thermostat. | 10. Defective thermistor. |
| 2. Kettle is tilted. | 7. Defective contactor/s. | 11. Defective 240/16 VAC transformer. |
| 3. Low water condition. | 8. Defective potentiometer (temperature control). | 12. Defective control box. |
| 4. Defective ON/OFF switch. | 9. Defective low water level probe. | 13. Defective elements. |
| 5. Defective 12 VDC relay. | | |

Fault Isolation Procedure

Step Test

1. Is there proper incoming voltage at terminal block?
Yes - Go to step #2.
No - Correct external power supply problem.
2. Is the red LED illuminated?
Yes - Follow Reservoir Fill Procedure. If this does not correct the problem, go to Problem D.
No - Go to step #3.
3. Is the green LED illuminated?
Yes - Go to step #4.
No - Go to step #7.
4. Do both contactors energize?
Yes - Check contactor contacts for pitting. Voltage across contactor terminals while in a closed position indicates a poor contact. Replace contactor/s as necessary. Check elements for short at ground or an open circuit. If element/s are defective contact the factory. Elements are not field replaceable.
No - Go to step #5.
5. Measure continuity across safety thermostat. Is it an open circuit?
Yes - Replace defective safety thermostat.
No - Go to step #6.

6. Is there 120 VAC present across the coils of the contactors?
Yes - Replace defective contactor/s.
No - Go to step #7.
7. Remove wire from low water level probe and ground it to the body of the kettle. Do the contactors now energize?
Yes - Clean or replace defective low water level probe. Replace defective red LED.
No - Go to step #8.
8. Is there 16 VAC present at output of 16 VAC transformer?
Yes - Go to step #9.
No - Replace defective 240/16 VAC transformer.
9. Measure continuity of ON/OFF switch/ temperature control. Is it operating properly?
Yes - Go to step #10.
No - Replace defective ON/OFF switch/temperature control.
10. Unplug control box and measure the resistance across potentiometer. Is it approximately 0 ohms at maximum setting and 50,000 ohms at minimum?
Yes - Go to step #11.
No - Replace defective potentiometer (ON/OFF switch/temperature control)
11. Remove edge connector from control box. While kettle is cold or thermistor is removed and allowed to cool, measure the resistance between edge connector's pins #2 and #7. Is it approximately 100,00 ohms?
Yes - Spray contact cleaner on control box terminals and edge connector. Try box again, if the problem still exists, replace defective control box.
No - Replace defective thermistor.

B/ Problem: Kettle heats too slowly or not hot enough. (Note: normal max. operating pressure with an empty kettle is 30-35 psi.)

Possible Causes

- | | |
|---|---------------------------|
| 1. Air in jacket requires venting. | 5. Defective contactor/s. |
| 2. Defective safety thermostat. | 6. Defective control box. |
| 3. Defective potentiometer (temperature control). | 7. Defective elements/s. |
| 4. Defective thermistor. | |

Fault Isolation Procedure

Step Test

1. In a cold state, does the pressure gauge read in the green zone?
Yes - Go to step #2.
No - There is air present in the jacket of the kettle. Follow Kettle Venting Procedure. If constant venting is required, there is a leak that should be corrected.
2. Do the contactors shut off too early? (before reaching normal maximum operating pressure.)
Yes - Go to step #3.
No - Check contactor contacts for pitting. Voltage across terminal of contactor while energized signifies a poor contact. Replace contactor/s as necessary. Check elements for short to ground or open circuit. If elements are defective, contact the factory. Elements are not field replaceable.
3. Does the green LED remain illuminated after the contactors shut off?
Yes - Replace defective safety thermostat.
No - Go to step #4.
4. Unplug control box and measure the resistance across potentiometer (temperature control). Is it approximately 0 ohms at maximum and 50,000 ohms at minimum setting?
Yes - Go to step #5.
No - Replace defective thermistor.
5. Remove kettle thermistor and allow to cool. Remove edge connector from control box. Test resistance across edge connector's pins #2 and #7. Is it approximately 100,000 ohms?
Yes - Go to step #6.
No - Replace defective thermistor
6. Turn the potentiometer on the control box clockwise to increase the maximum operating temperature. Does the kettle now achieve maximum operating pressure of 30-35 psi in an empty kettle?
Yes - Kettle is operating correctly.
No - Spray contact cleaner on control terminals and edge connector. Try box again. If problem still exists, replace defective control box.

C/ Problem: Kettle is overheating.

Possible Causes

1. Defective thermistor
2. Defective potentiometer (temperature control).
3. Defective 12 VDC relay.
4. Defective control box.

Fault Isolation Procedure

- | Step | Test |
|-------------|---|
| 1. | Does the green LED turn off even though the contactors remain energized?
Yes - Replace defective 12 VDC relay.
No - Go to step #2. |
| 2. | Unplug the control box and measure the resistance across the potentiometer (temperature control), Is the resistance approximately 0 ohms at maximum and 50,000 ohms at minimum setting?
Yes - Go to step #3.
No - Replace defective thermistor. |
| 3. | Remove kettle thermistor and allow to cool Remove edge connector from control box. Test resistance across edge connector's pins #2 and #7. Is it approximately 100,000 ohms?
Yes - Go to step #4.
No - Replace defective thermistor. |
| 4. | Turn the potentiometer (temperature control) on the control box counter-clockwise to decrease the maximum operating temperature. does the kettle continue to overheat?
Yes - Spray contact cleaner on control box terminal and edge connector. Try box again. If problem still exists, replace defective control box.
No - Kettle is operating correctly. |

D/ Problem: Red LED remains illuminated even though water has been added.

Possible Causes

1. Defective low water level probe
2. Defective control box.

Fault Isolation Procedure

- | Step | Test |
|-------------|--|
| 1. | Remove wire from low water level probe and ground the wire to the body of the kettle. Does the red LED turn off?
Yes - Replace or clean defective low water level probe.
No - Spray contact cleaner on control box terminals and edge connector. Try box again. If problem still exist, replace defective control box. |

SAFETY INSPECTION CHECKLIST



NOTE: The following instructions are intended for use by qualified service personnel.

Regular inspection and maintenance of units is essential to obtain trouble free and safe operation of equipment. **The following steps should be completed IN SEQUENCE every year or more frequently, if unit is in a high volume facility.**

A/ KETTLE PREPARATION

1. Disconnect main power at fused disconnect switch.
2. Kettle should be cold. If necessary add water to kettle pot to cool unit.
3. The pressure gauge should now show a vacuum and have no indication of leakage. If gauge looks damaged replace gauge.
4. Gauge must be showing a vacuum prior to proceeding. If not check for leaks, and repair kettle prior to proceeding. Refer to REFERENCE SECTION (KETTLE VENTING INSTRUCTIONS).



Photo of Pressure Gauge in Vacuum.

B/ MECHANICAL CHECKS

1. Inspect controls, replace damaged seals, switches, LED's etc..
2. Remove the console cover and check that the seal is not cracked or split. Replace seal, screws, missing or worn nylon anchor nuts. **Leave cover off.**
3. Remove the kettle bottom cover and check that the seal is not cracked or split. **Leave cover off.**

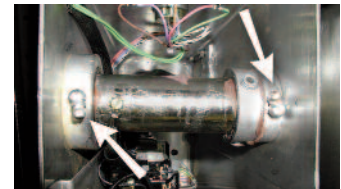


Photo of Grease Nipples.

4A. FOR UNITS WITH TILT HANDLE -

- A. Check handle for tightness. If loose apply lock tight and reinstall. Check handle knob is on end of handle and firmly tightened. If missing replace, if loose apply lock tight and reinstall.
- B. Check that kettle tilts smoothly and there is no excessive wear in the trunnion bearings. Add grease to nipples as required or for older units without grease nipples refer to REFERENCE SECTION (BEARING LUBRICATION PROCEDURE).

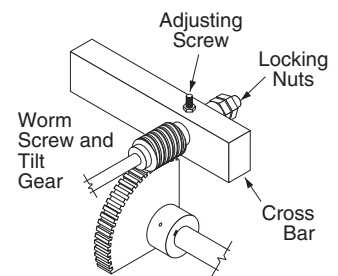


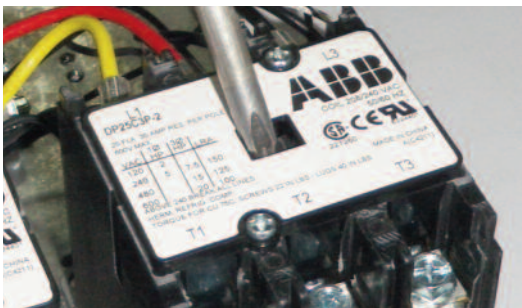
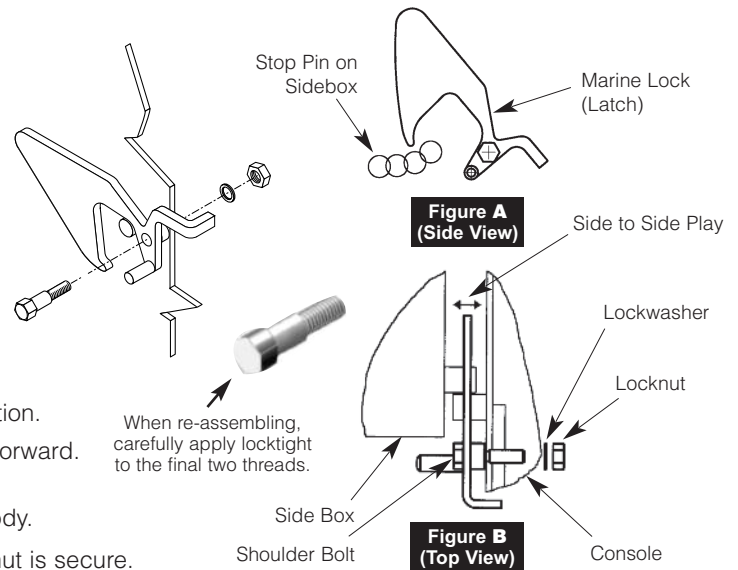
Illustration inverted for clarity.

4B. FOR UNITS WITH TILT CRANK -

- A. Check that the kettle tilts smoothly. If there is excess play adjust the worm to gear clearance with Locking Nuts or Adjusting Screw as required.
- B. Check that there is no excessive wear in the trunnion bearings.
- C. Apply grease to gear teeth.

C/ MARINE LOCK TEST

1. Check that lock mechanism is not bent or damaged.
2. Check that lock clears stop pin on side box without rubbing when kettle is tilted (Figure A).
3. Check side to side play. Lock should remain fully over stop pin when pushed to it's maximum side to side play (Figure B).
4. Check that the kettle when pushed fully upright forces the lock to a closed position. To check this:
 - A/** Hold the latch firmly in the unlocked position while tilting the kettle back to an upright position.
 - B/** The kettle sidebox will force the lock into a new position.
 - C/** Hold the lock in this position and try to tilt the kettle forward. The latch should prevent the kettle from tilting.
5. Check shoulder bolt is firmly seated against console body.
6. Check on inside of console box that shoulder bolt locknut is secure.

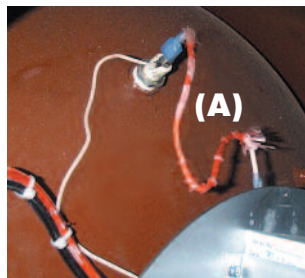
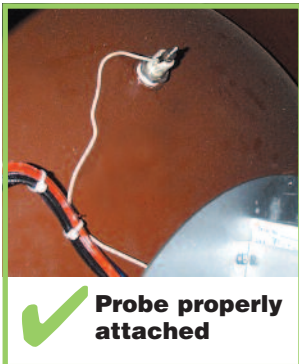


D/ CONTACTOR TEST

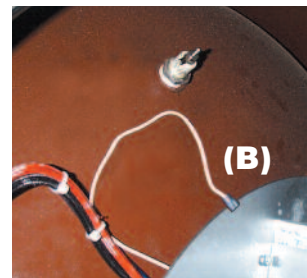
1. Remove power to unit.
2. Remove nut holding component mounting plate to console.
3. Pull plate out and place on top of console. (Depending on how the installer wired the kettle you may have to remove the supply wire and reconnect).
4. Physically push in on contacts of each contactor to check for free movement. Replace contactor(s) if required.

E/ LOW WATER LEVEL PROBE:

Installation Check:



X Probe bypassed by running (A) an additional wire



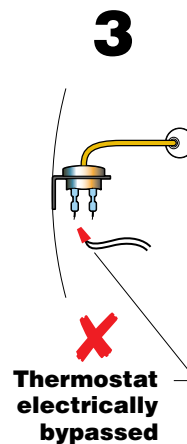
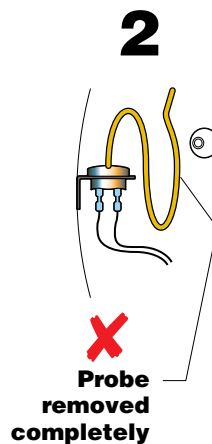
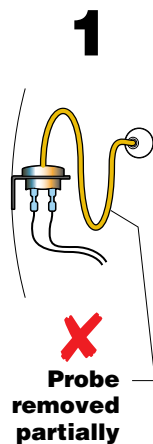
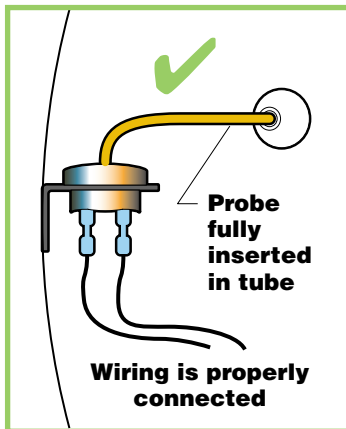
X Probe bypassed by (B) grounding the connecting wire

Functional Test:

1. Turn main power on at fused disconnect switch.
2. Turn kettle on and set temperature to maximum.
3. Green light will come on and contactors close.
4. Tilt kettle over. After approximately a five-second delay the red light will come on, green light go off and the contactors will disengage.
5. Turn kettle upright. Green light will come back on and contactors reengage.
6. Turn kettle off
7. If unit does not function as above, make required repairs.
8. Disconnect main power at fused disconnect switch.

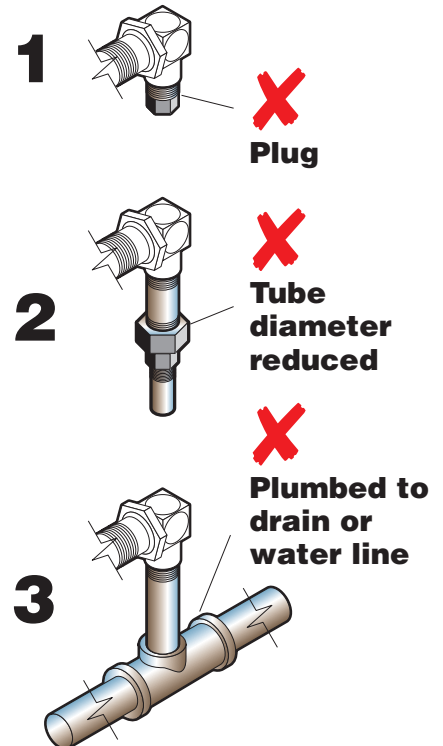
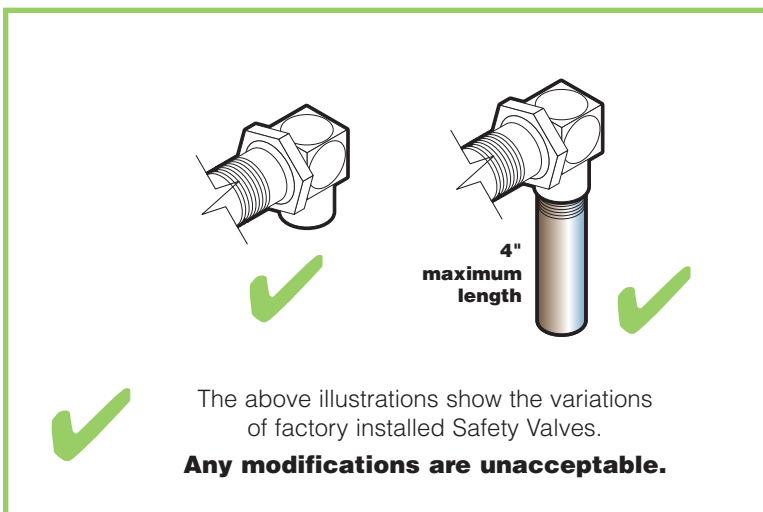
F/ SAFETY THERMOSTAT INSTALLATION CHECK:

Incorrect Installations



- 1** Safety thermostat probe is not completely inserted into tubing (except KET-3-T that has a small loop).
- 2** Safety thermostat probe is removed from tubing.
- 3** Safety thermostat electrical connection is bypassed.

G/ SAFETY VALVE INSTALLATION CHECK:



Incorrect Installations

- 1** Safety valve has plug threaded into the discharge opening preventing any steam from escaping.
- 2** Safety valve's tube diameter has been reduced.
- 3** Safety valve is plumbed to a drain or water line creating back pressure and reducing flow.

Physical Checks

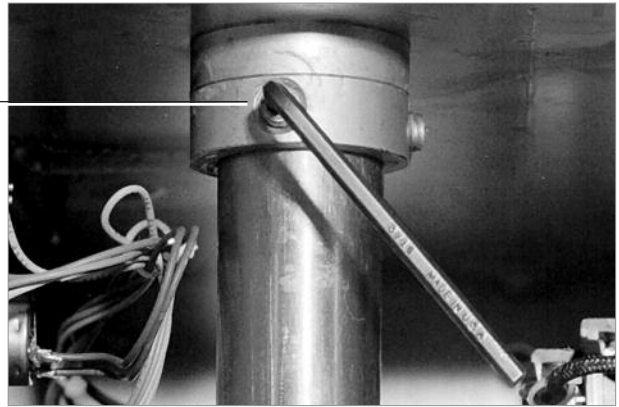
- 1.** Check that the PSI rating on the valve matches MAWP (maximum allowable working pressure) on the plate welded to the kettle.
- 2.** Check that the Safety Valve has a "UV" stamp.
- 3.** Check that the valve is not damaged in any way.

If any of the above criteria is not met, replace valve.

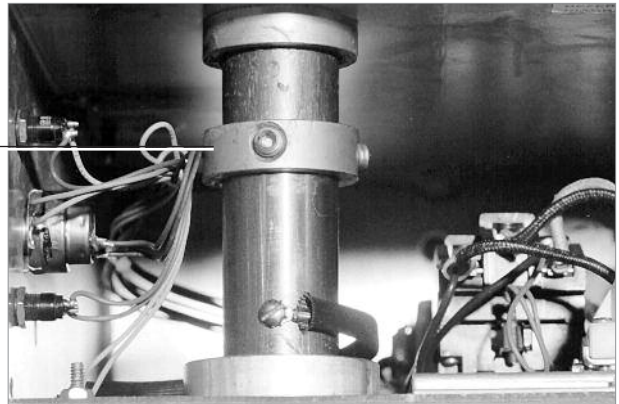
BEARING LUBRICATING PROCEDURE

1. Remove console cover.

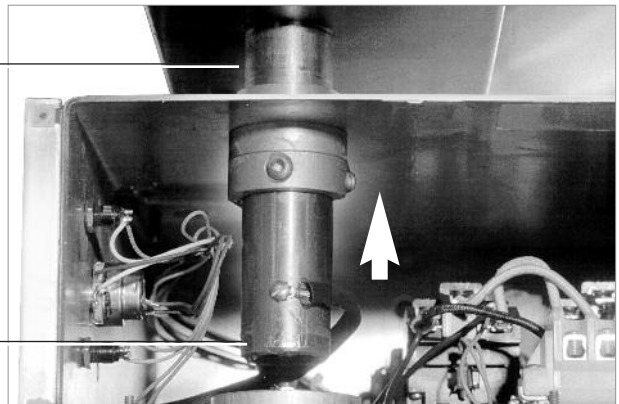
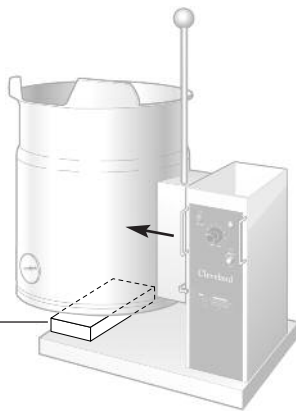
2. Loosen two Allen screws on locking ring.



3. Pull locking ring to center of trunnion.

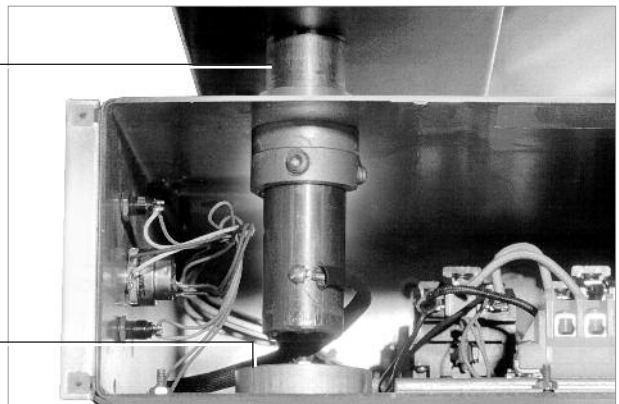


4. Pull kettle two inches away from console and rest on support block.



5. Clean newly exposed sections of trunnion.

6. Grease trunnion between kettle and console.



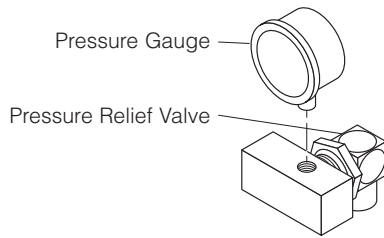
7. Repack outer needle bearing.

8. Push kettle back in place.

10. Reinstall trunnion and lock collar.

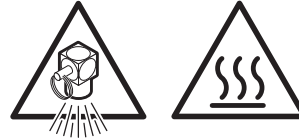
11. Replace console cover.

CALIBRATING PROCEDURE

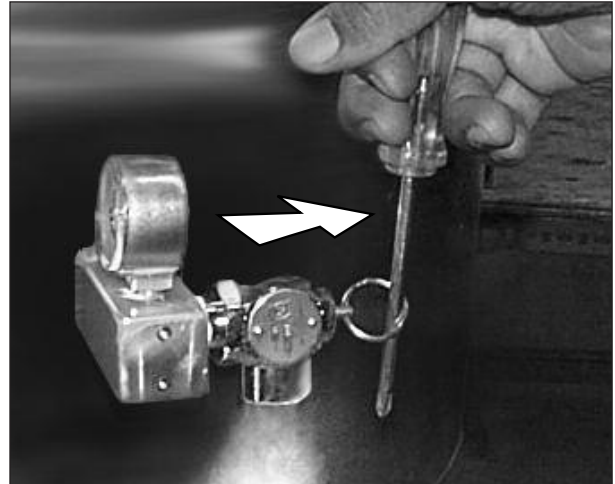


1. Kettle must be empty when this procedure is executed.
2. Insure the unit has a vacuum before you begin calibrating procedures. If unit requires venting refer to KETTLE VENTING INSTRUCTIONS.
3. Set On-Off Switch/Temperature Control to "10" (Max.).
4. Allow the unit to cycle twice.
5. Check temperature of the inner kettle surface with a digital surface thermometer.
6. Temperature should be between 260° F and 265° F.
7. Using a screw driver adjust temperature by turning the potentiometer on the black box. Turn very little. Turn clockwise to INCREASES and counter-clockwise to DECREASE temperature.
8. Allow the unit to cycle twice.
9. Check temperature of the inner kettle surface with a digital surface thermometer.
10. Repeat steps 5. through 9. until unit is calibrated.).

PRESSURE RELIEF VALVE PERIODIC TESTING PROCEDURE



1. With the kettle empty, set On-Off Switch/Temperature Control to "10" (Max.). Allow the kettle to heat until the unit cycles off.
2. Switch On-Off Switch/Temperature Control to "0" (Off) and disconnect main power at fused disconnect switch.



3. Stand to the side of the pressure relief valve discharge tube and pull valve open for a maximum of one second. Repeat test three to four times. Each time the mechanism should move freely and be accompanied by a rapid escape of steam.

If valve appears to be sticking replace pressure relief valve.

If foreign material is discharged then drain kettle and replace pressure relief valve.

KETTLE JACKET CLEANOUT AND PASSIVATION PROCEDURES

The following procedure should be performed at least once every three years to prevent possible corrosion and ensure the optimum life of the kettle.



DANGER:

Rust inhibitor can be dangerous. read label and follow safety instructions.



WARNING:

Improper refilling of kettle jacket will result in irreversible damage to unit.

RUST INHIBITOR

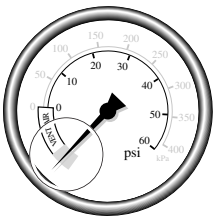
Use a "radiator rust inhibitor" that can be purchased at your local automotive centre. It should not contain any anti-freeze and preferably no lubricant.

To ensure satisfactory mixing follow the manufacturer's instructions.

SPRING WATER REQUIREMENTS

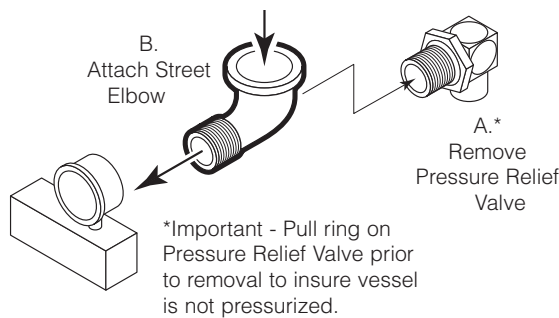
Kettle Capacity	When Red "Low Water Light" comes on, add Spring Water
3 gallon	50 ounces
6 gallon	70 ounces
12 gallon	120 ounces
20 gallon	1 gallon

DISPOSAL - Follow all Federal, State and local codes when disposing of product.



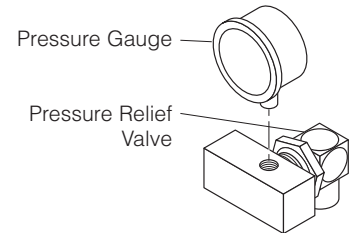
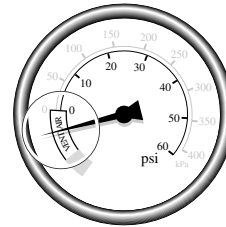
1. Ensure kettle is at room temperature and pressure gauge showing zero or less pressure.
2. Shut off power to the kettle at the fused disconnect switch.

C. Fill Unit via Street Elbow



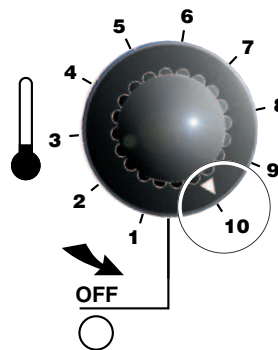
3. Pull Pressure Relief Valve (A) open to insure vessel is not pressurized.
4. Remove Pressure Relief Valve (A).
5. Replace Pressure Relief Valve (A) with Street Elbow (B).
6. Add Spring Water (C) through the Street Elbow (B), using a funnel if necessary. Refer to Spring Water Requirements chart for the proper amount required.
7. Apply a thread sealant (i.e. Teflon tape) to the Pressure Relief Valve's (A) thread and replace.
8. Restore power to unit at the fused disconnect switch.
9. The kettle must now be vented. (Refer to the Kettle Venting Instructions).

KETTLE VENTING INSTRUCTIONS



The following venting procedure should be followed when the Vacuum/Pressure Gauge needle is in the "VENT AIR" zone:

NOTE: Check for and eliminate leaks prior to venting (See REPAIRING LEAKS IN STEAM JACKETED KETTLE FITTINGS).

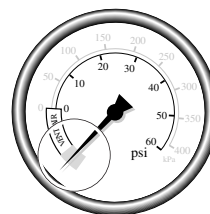


1. Set On-Off Switch/Temperature Control to "10" (Max.). Heat the empty kettle until unit cycles off.



2. Vent kettle by pulling safety valve ring 8-10 times in short 2-3 second blasts with a 5 second interval between pulls.

NOTE: If unit cycles ON, stop venting and wait for kettle to cycle OFF before continuing.



3. Turn kettle OFF. Add cold water to kettle until its surface temperature is below 100°F. The pressure gauge needle should be in the green zone, indicating a vacuum in the kettle's jacket.

VACUUM LEAKS

If unit will not hold a vacuum the most likely cause is a leak at one of the fittings.

Often, the easiest way to eliminate a leak is reseal the suspect areas.

1. Water Level Probe

Remove, clean threads, apply teflon thread sealant and reinstall.

2. Pressure Relief Valve

A/ Inspect for signs of leaks. Replace if required.

B/ Remove, clean threads, apply teflon thread sealant and reinstall.

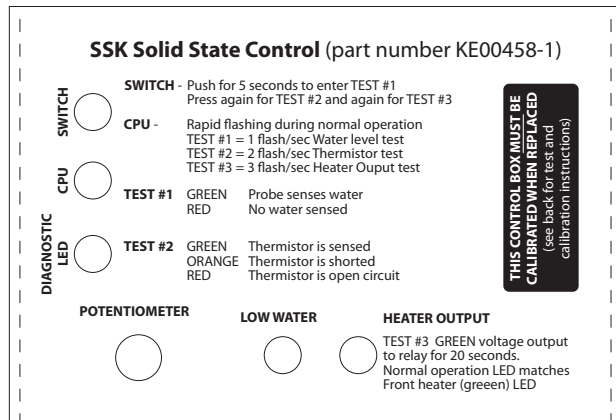
3. Pressure Gauge

A/ Inspect face of gauge. If it contains moisture on the inside of face replace.

B/ Remove, clean threads, apply teflon thread sealant and reinstall.

If leak persists replace all three components at same time.

SSK SOLID STATE CONTROL TEST INSTRUCTIONS



1. If required remove board from holding bracket for better access.
2. Turn unit on and set to 10 (maximum).
3. Push and hold the SWITCH button for approximately 5 seconds until the CPU starts to flash 1 flash/second. You are now in TEST #1. Output to 12v relay is disabled. With kettle upright the DIAGNOSTIC LED should be green, with kettle tilted it should be red.
4. Push SWITCH button. The CPU starts to flash 2 flash/second. You are now in TEST #2. Check the DIAGNOSTIC LED for indication of the temperature probe status.
5. Push SWITCH button. The CPU starts to flash 3 flash/second. You are now in TEST #3. The HEATER OUTPUT LED should light for 20 seconds and power to the relay should energize the 12v relay for the heat source.

After 20 seconds test mode is exited and unit reverts to normal operation.

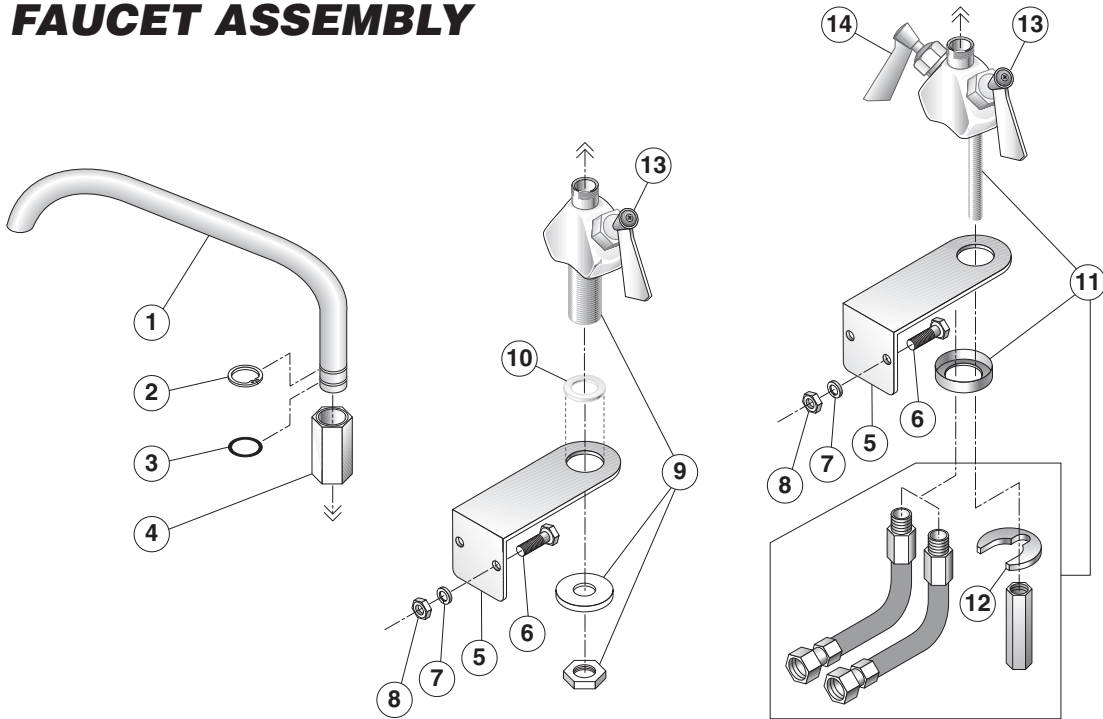
SERVICE PARTS

WARRANTY

Our Company supports a worldwide network of Maintenance and Repair Centers. Contact your nearest Maintenance and Repair Centre for replacement parts, service, or information regarding the proper maintenance and repair of your cooking equipment

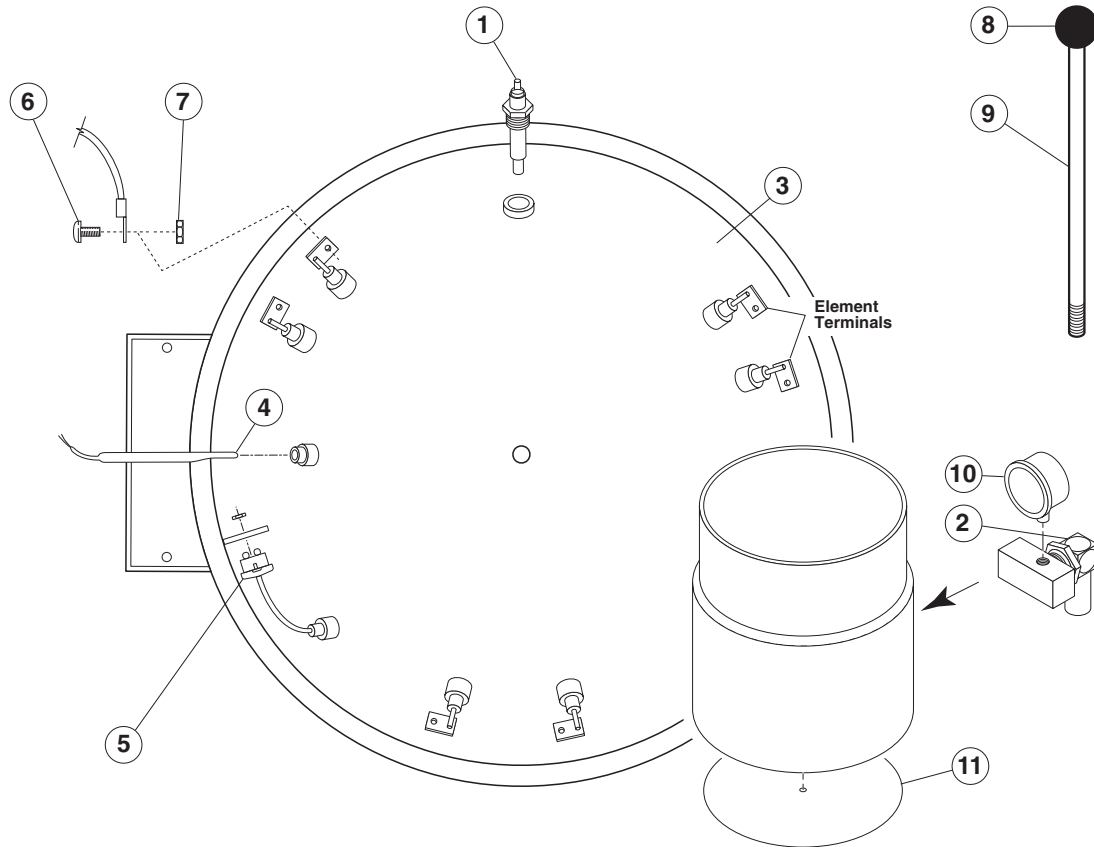
In order to preserve the various agency safety certification (UL, NSF, ASME/Ntl. Bd., etc.), only factory-supplied replacement parts should be used. The use of other than factory supplied replacement parts will void warranty.

FAUCET ASSEMBLY



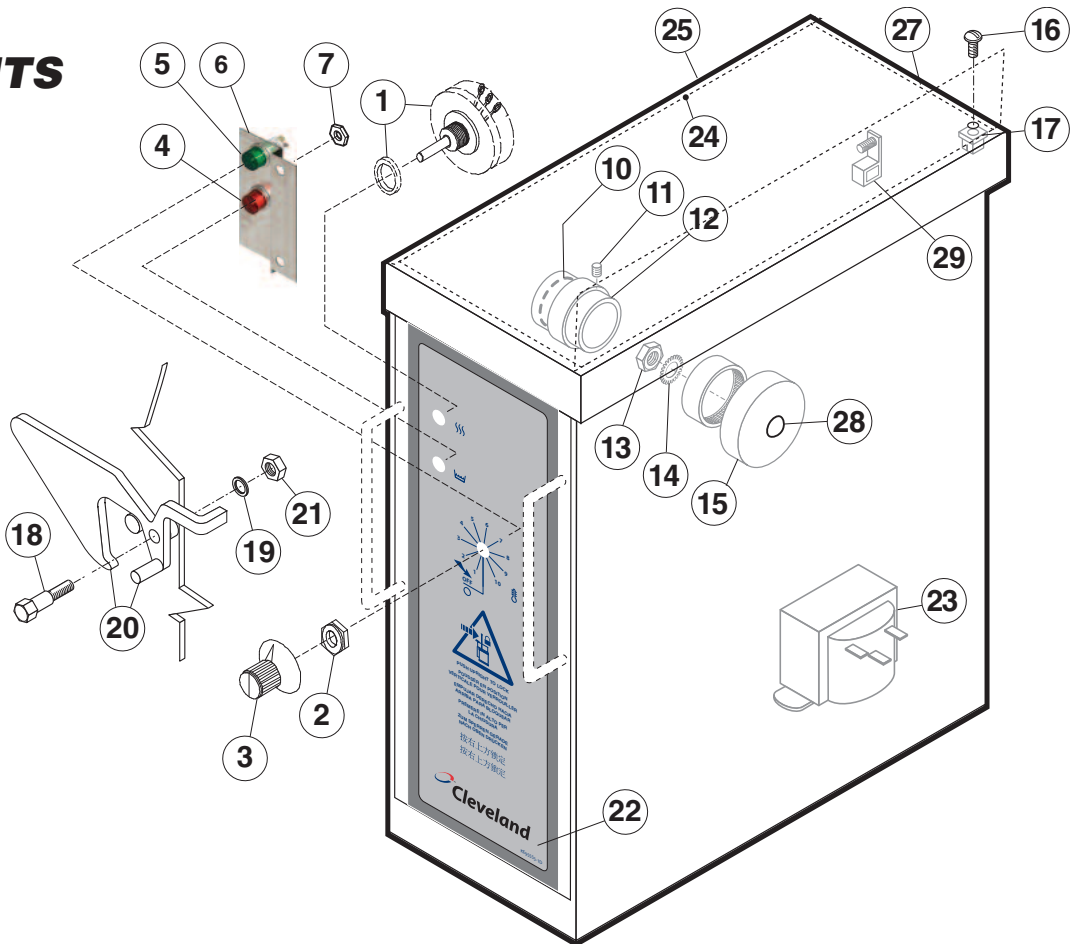
ITEM #	PART #	DESCRIPTION	QTY.
	SPK2	SINGLE PANTRY FAUCET for <u>KET20T</u> & <u>MKET12/20T</u> (includes items 1-10)	
	DPK2	DOUBLE PANTRY FAUCET for <u>KET20T</u> & <u>MKET12/20T</u> (includes items 1-8 & 11)	
	SPK9	SINGLE PANTRY FAUCET for <u>KET3/6/12T</u> (includes items 1-10)	
	DPK9	DOUBLE PANTRY FAUCET for <u>KET3/6/12T</u> (includes items 1-8 & 11)	
1.	KE50825-2	3/4" SPOUT for - <u>SPK2</u> & <u>DPK2</u> .....	.1
	KE50825-9	3/4" SPOUT for - <u>SPK9</u> & <u>DPK9</u> .....	.1
2.	FA95007-10	RETAINING RING .....	.1
3.	FA05002-19	"O" RING .....	.1
4.	KE51736	LONG FAUCET NUT .....	.1
5.	KE54159	FAUCET MOUNTING BRACKET .....	.1
	KE02071-1	PRISON FAUCET MOUNTING BRACKET .....	.1
6.	FA11258	HEX CAP SCREW .....	.2
7.	FA31029	LOCK WASHER .....	.2
8.	FA210028	HEX NUT .....	.2
9.	KE51401	SINGLE PANTRY BODY (c/w item 13) .....	.1
10.	KE50335	ADAPTER WASHER .....	.1
11.	KE51403	DOUBLE PANTRY BODY (c/w item 13 & 14) .....	.1
12.	SE50447	REPLACEMENT HORSESHOE WASHER .....	.1
13.	SE50021	REPLACEMENT STEM ASSEMBLY, COLD WATER .....	.1
14.	SE50020	REPLACEMENT STEM ASSEMBLY, HOT WATER .....	.1

KETTLE BOTTOM & SIDE



ITEM NO.	PART NO.	DESCRIPTION	QTY.
1.	KE50556-1	Probe, Low Water	1
2.	KE54941-6	Safety Valve, 50 PSI, 1/2" (North America)	1
	KE54941-31	Safety Valve, 50 PSI, 1/2", (Europe)	1
3.	KE55425-1	Bottom Cover Gasket, 3 gallon kettle	1
	KE55425-2	Bottom Cover Gasket, 6 gallon kettle	1
	KE55425-3	Bottom Cover Gasket, 12 gallon kettle	1
	KE55425-4	Bottom Cover Gasket, 20 gallon kettle	1
4.	KE00515	Thermistor Assembly	1
5.	KE55069-5	Safety Thermostat (140° C)	1
6.	FA11145	Screw	2-12
7.	FA21007	Nut	2-12
8.	KE50151-E	Knob	1
9.	KE54670-1	Handle, 3 & 6 gallon kettle	1
	KE54670-2	Handle, 12 gallon kettle	1
	KE54670-3	Handle, 20 gallon kettle	1
10.	KE50429-5	Pressure Gauge	1
11.	KE52041	Bottom Cover, 3 gallon kettle	1
	KE603864-1	Bottom Cover, 6 gallon kettle	1
	KE603864-2	Bottom Cover, 12 gallon kettle	1
	KE603864-3	Bottom Cover, 20 gallon kettle	1
	KE54811	Bottom Cover, 12 gallon kettle, 380-480V	1

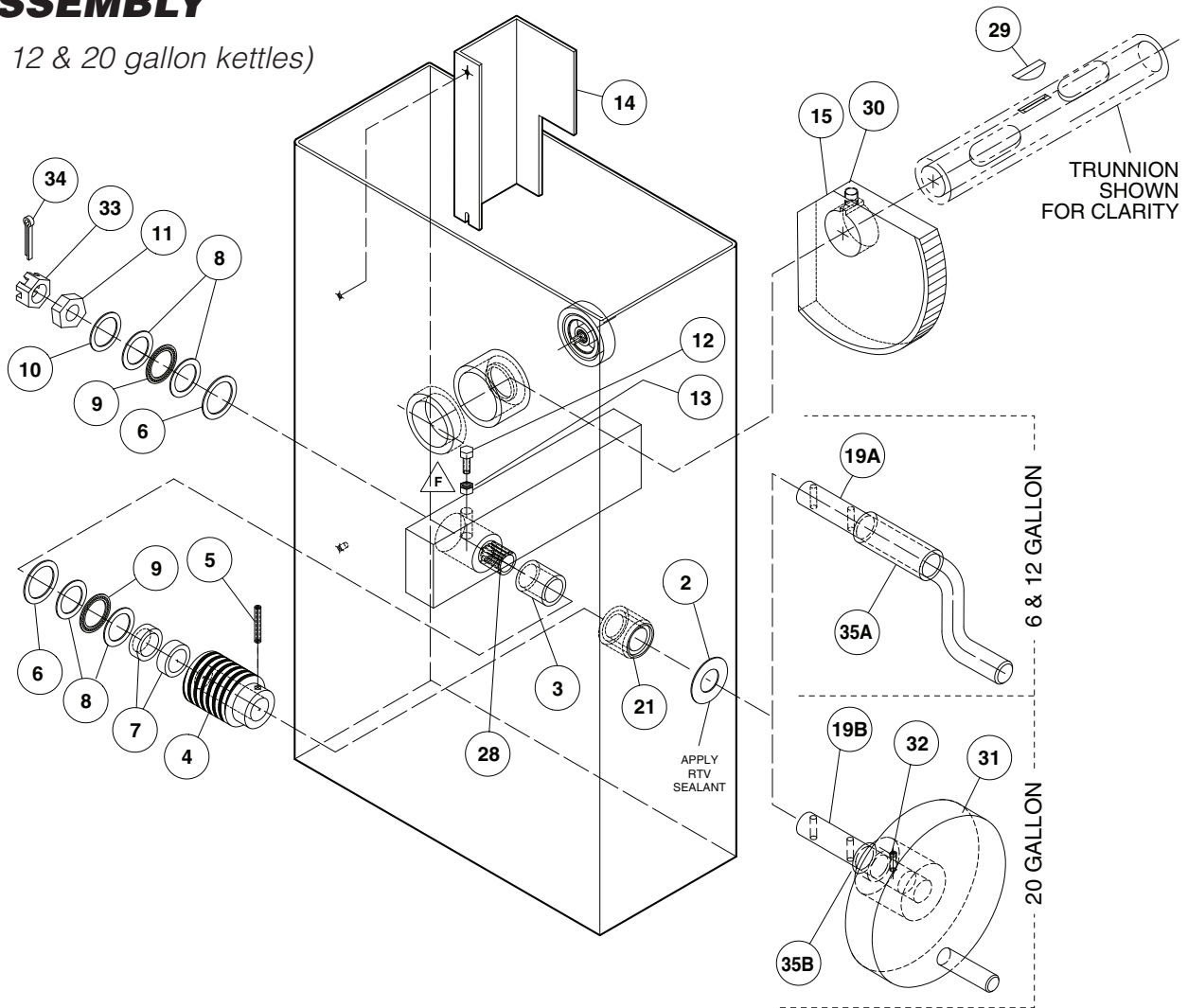
CONSOLE COMPONENTS & MARINE LOCK



ITEM NO.	PART NO.	DESCRIPTION	QTY.
			Single / Twin
1.	SE00114	Potentiometer with ON/OFF Switch, c/w Item #2	1/2
2.	KE51005	Rubber Boot	1/2
3.	KE50569-1	Knob, Potentiometer	1/2
4.	KE55486-2	Indicator Light, Red	1/2
5.	KE55486-3	Indicator Light, Green	1/2
6.	KE603634	Bracket, Light	2/4
7.	FA21006	#10-24, Hex Nut, S.S.	4/8
10.	FA05002-20	"O" Ring	1/2
11.	FA19184	Allen Screw, #10	2/4
12.	SK50047-2	Collar, Trunnion Lock, KET, TKET	1/2
	SK50047-3	Collar, Trunnion Lock, TGB	1/2
13.	FA21024	Hex Nut, 5/16-18	1/2
14.	FA32027	Lockwasher	1/2
15.	KE01833	Bearing, KET-3-T, KET-20-T, TGB	1/2
	KE01834	Bearing, KET-6-T, KET-12-T, TGB	1/2
16.	FA95031	Screw	4
17.	FA95074	Nylon Anchor Nut	4
18.	FA15019-1	Hex Socket Shoulder Bolt	1/2
19.	FA31029	Split Lockwasher	1/2
20.	KE02078-1	Latch, Left Hand, KET	1
	KE02078-2	Latch, Right Hand, TKET	1
21.	FA21008	Hex Nut, 1/4-20	1/2
22.	KE95555-1	Label (KET-3-T, KET-6-T, KET-12-T, KET-20-T)	1
	KE95555-12	Label (KET-6-TGB, KET-12-TGB, KET-20-TGB)	1
	KE95555-3	Label (TKET-3-T)	1
	KE95555-4	Label (TKET-6-T, TKET-12-T)	1
23.	KE53838-11	Transformer, 380 to 415v	1
	KE53838-12	Transformer, 440 to 480v	1
24.	KE54846-1	Cover Gasket, KET- 3/6/12/20-T, TKET-3-T	1
	KE54846-2	Cover Gasket, TKET-6/12-T	1
25.	KE003688-1	Console Cover, (KET-3-T, KET-6-T, KET-12-T, KET-20-T)	1
	KE003688-2	Console Cover, (TKET-6-T, TKET-12-T)	1
28.	FA95073	Carriage Bolt	1
29.	KE50473	Ground Lug	1/2

TILTING GEARBOX ASSEMBLY

(6, 12 & 20 gallon kettles)

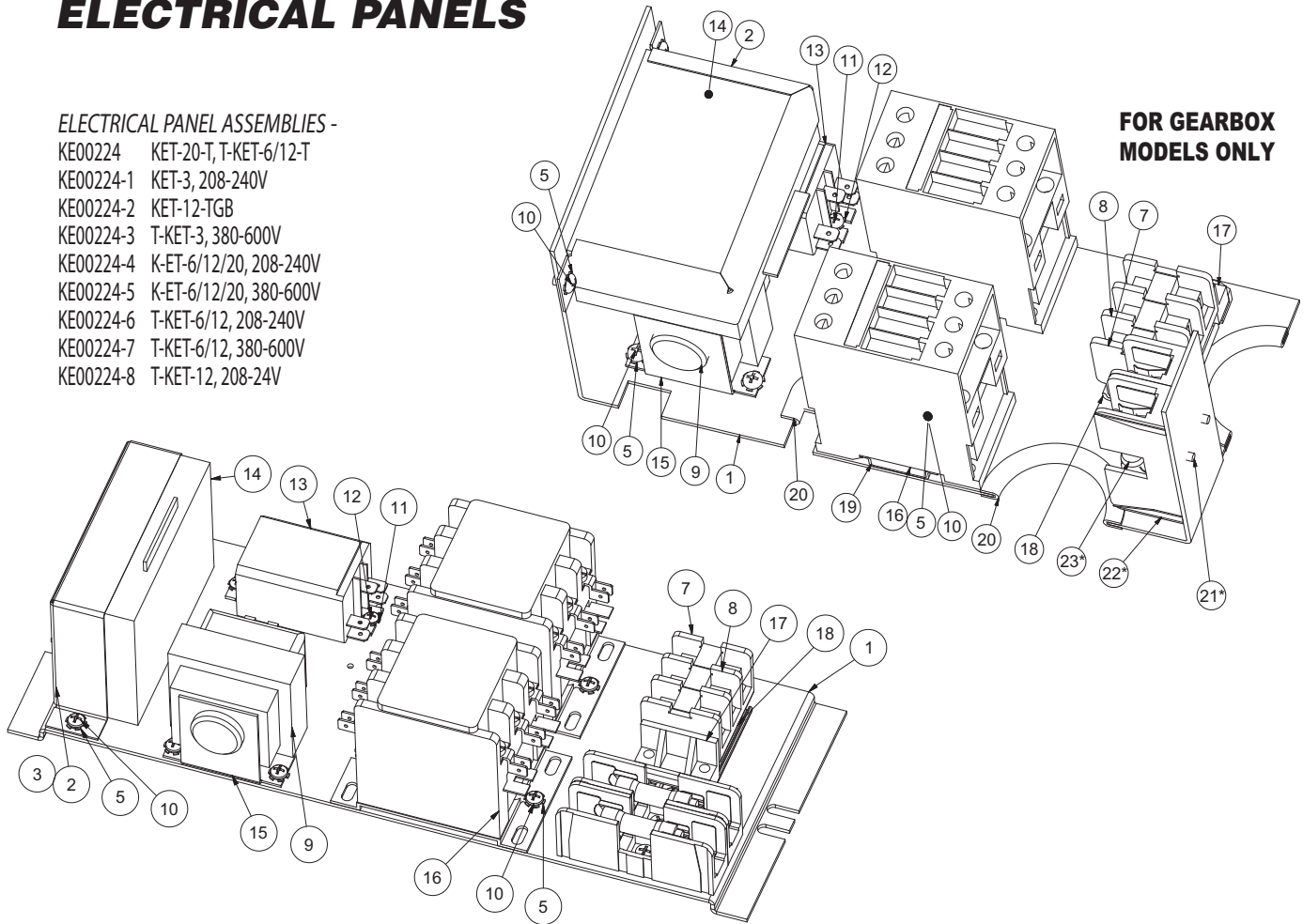


ITEM NO.	PART NO.	DESCRIPTION	QTY.
2.	KE54738-3	WASHER S.S. (SHAFT HOLE COVER)	1
3.	KE51738	BEARING SLEEVE FOR GEAR BOX	1
4.	KE50315	WORM GEAR	1
5.	FA95005	TENSION PIN	1
6.	KE51891	WASHER 1 1/2" O.D. X 13/16" I.D.	2
7.	KE52193-1	THRUST BEARING SPACER	2
8.	KE52192	THRUST WASHER	4
9.	KE52191	THRUST BEARING	2
10.	FA30088	TILT SHAFT WASHER	1
11.	FA95008	LOCK NUT 3/4-16	1
12.	FA19177	SET SCREW 5/16-24 X 1"	1
13.	FA20047	JAM HEX NUT 5/16-24	1
14.	KE54927	SUPPLY WIRE PROTECTION GUARD	1
15.	KE00151-2	SEGMENT GEAR	1
19A.	KE50306-2	TILT SHAFT (3, 6 & 12 GALLON)	1
19B.	KE50375	TILT SHAFT (20 GALLON)	1
21.	KE02057-1	TILT SHAFT BEARING ASSEMBLY	1
28.	KE50245	BEARING FOR GEARBOXES	1
29.	FA95083	WOODRUFF KEY #808	1
30.	FA19500-4	SET SCREW, 1/4-28 X 3/4	2
31.	KE00508	HANDWHEEL ASSEMBLY	1
32.	FA19505	SET SCREW 3/8-24 X 3/8	1
33.	KE55431	NUT, SLOTTED	1
34.	KE55432	COTTER PIN, 3/32 X 1 3/4	1
35A.	KE55433-1	SPACER, SAFETY (6 & 12 GALLON)	1
35B.	KE55433-2	SPACER, SAFETY (20 GALLON)	1

ELECTRICAL PANELS

ELECTRICAL PANEL ASSEMBLIES -

- KE00224 KET-20-T, T-KET-6/12-T
- KE00224-1 KET-3, 208-240V
- KE00224-2 KET-12-TGB
- KE00224-3 T-KET-3, 380-600V
- KE00224-4 K-ET-6/12/20, 208-240V
- KE00224-5 K-ET-6/12/20, 380-600V
- KE00224-6 T-KET-6/12, 208-240V
- KE00224-7 T-KET-6/12, 380-600V
- KE00224-8 T-KET-12, 208-24V



ITEM	PART #	DESCRIPTION	QTY
1	KE50343-1	COMPONENT PLATE	1
2	KE50303-2	ELECTRONIC BOX HOLDER	1
3	KE52548	ELECTRONIC BOX BRACKET (NOT SHOWN)	1
5	FA32005	TOOTH LOCK WASHER (PLATED) #8	10
6	FA10231	BINDING HEAD SCREW #6-32 x 1/4"LG (HIGH VOLTAGE)	2
7	SK50054-1	TERMINAL BLOCK; END SECTION	1
8	SK50055-1	TERMINAL BLOCK	3
9	KE53838-21	TRANSFORMER; 240P/16S 60HZ	1
10	FA10237	BINDING HEAD SCREW #8-32 x 1/4"LG	10
11	FA10135	BINDING HEAD SCREW #6-32 x 1/2"LG	2
12	FA32004	TOOTH LOCKWASHER (PLATED) #6	2
13	KE50753-7	RELAY	1
14	KE00458-1	ELECTRIC CONTROL BOX	1
15	KE53444	BRACKET TRANSFORMER	1
16	KE603902-2	CONTACTOR	2
17	SK50054-2	TERMINAL BLOCK; END ANCHOR	1
18	KE54761-1	TERMINAL BLOCK MTG. RAIL	1
19	KE51139-1	FUSE HOLDER 380-400V (HIGH VOLTAGE)	2
20	KE52936-1	FUSE 380-600V (HIGH VOLTAGE)	2

NOTE:

Component configuration may vary according to model but part numbers remain the same.

FOR GEARBOX MODELS ONLY

ITEM	QTY	PART NO.	DESCRIPTION
1	1	KE50343-17	COMPONENT PLATE
2	1	KE50303-2	ELECTRONIC BOX HOLDER
5	8	FA32005	TOOTH LOCKWASHER (PLATED) #8
7	1	SK50054-1	TERMINAL BLOCK; END SECTION
8	3	SK50055-1	TERMINAL BLOCK
9	1	KE53838-21	TRANSFORMER;240/16S 60HZ
10	8	FA10237	BINDING HEAD SCREW #8-32 x 1/4"LG
11	2	FA10131	BINDING HEAD SCREW #6-32 x 1/4"LG
12	2	FA32004	TOOTH LOCKWASHER (PLATED) #6
13	1	KE50753-7	RELAY; SPDT/10A/12VDC
14	1	KE00458-1	ELECTRIC CONTROL BOX - SOLID STATE
15	1	KE53444	BRACKET, TRANSFORMER
16	2	KE603902-9	CONTACTOR
17	1	SK50054-2	TERMINAL BLOCK; END ANCHOR
18	1	KE54761-1	TERMINAL BLOCK MTG. RAIL
19	1	KE55288-3	MOUNTING RAIL
20	9 in	RB01850	RUBBER GASKET
			* HIGH VOLTAGE OPTION (380-600V)
21	2	FA10231	BINDING HEAD SCREW #6-32 x 1/4"LG
22	2	KE51139-1	FUSE HOLDER
23	2	KE52936-1	FUSE

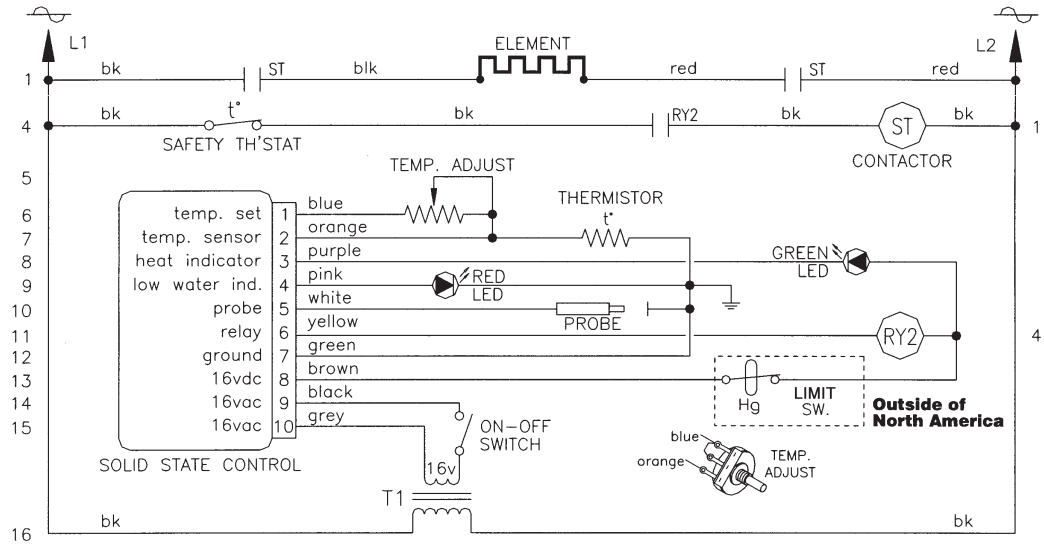
* HIGH VOLTAGE (380-600 V) OPTION PARTS

WIRING DIAGRAM

3 Gallon Kettles

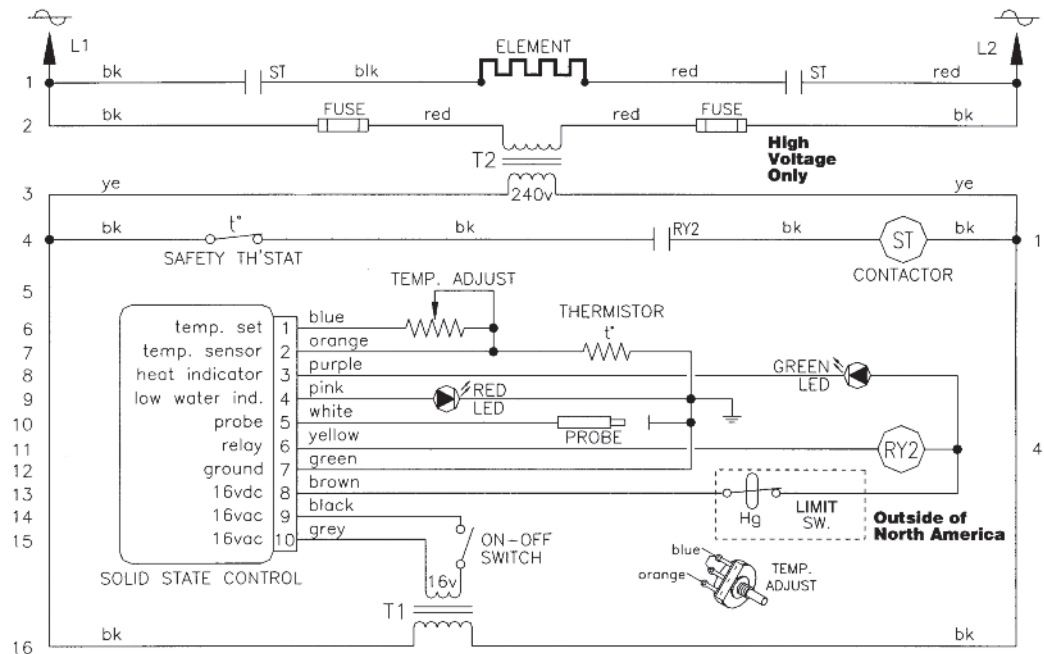
200-240v

Single Phase Only



380-480v

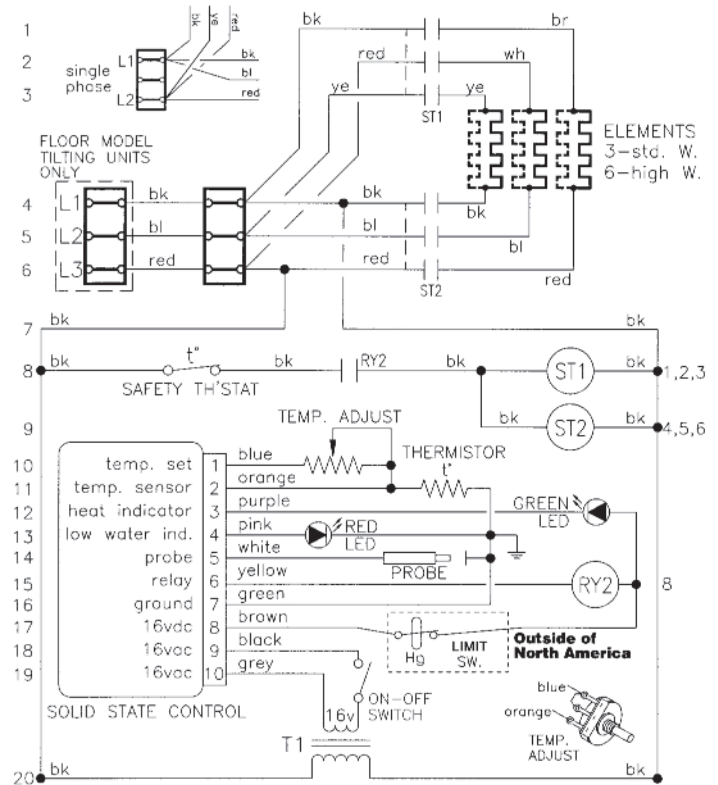
Single Phase Only



WIRING DIAGRAM

6-20 Gallon

200-240v



380-600v

