

Statement of Responsibilities

This document is for use by experienced and trained Qualified Cleveland Range, LLC Authorized Service Representatives who are familiar with both the safety procedures, and equipment they service.

Cleveland Range, LLC assumes no liability for any death, injury, equipment damage, or property damage resulting from use of, improper use of, or failure to use the information contained in this document.

Cleveland Range, LLC has made every effort to provide accurate information in this document, but cannot guarantee that this document does not contain unintentional errors and omissions.

The information in this document may be subject to technical and technological changes, revisions, or updates.

Cleveland Range, LLC assumes no liability or responsibility regarding errata, changes, revisions, or updates.

Qualified Cleveland Range, LLC Authorized Service Representatives are obligated to follow industry standard safety procedures, including, but not limited to, OSHA regulations, and disconnect / lock out / tag out procedures for all utilities including steam, and disconnect / lock out / tag out procedures for gas, electric, and steam powered equipment and / or appliances

All utilities (gas, electric, water and steam) should be turned OFF to the equipment and locked out of operation according to OSHA approved practices during any servicing of Cleveland Range equipment

Qualified Cleveland Range, LLC Authorized Service Representatives are obligated to maintain up-to-date knowledge, skills, materials and equipment.



Steam Jacketed Kettles

LEG TYPE, GAS-FIRED

TILTING

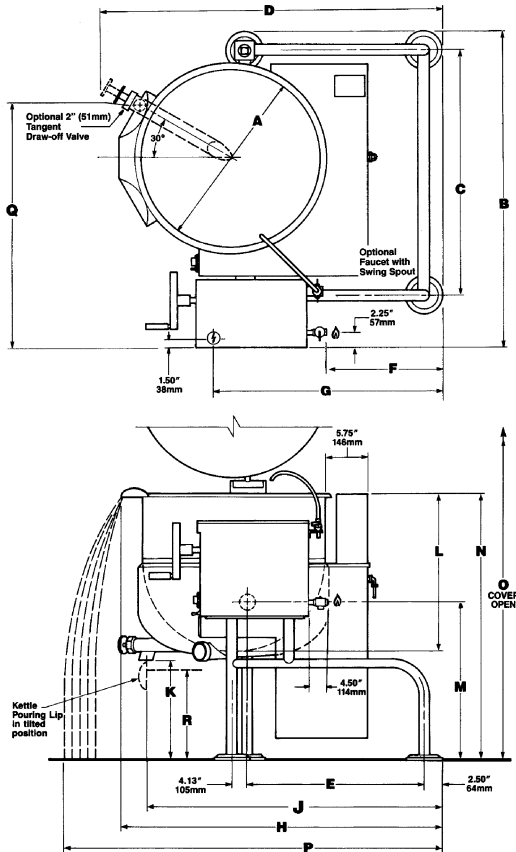
40, 60, OR 80 GALLONS
(150, 225 or 300 LITERS)

2/3 STEAM JACKETED

MODELS: KGL-40-T KGL-80-T
 KGL-60-T

ITEM NUMBER _____

JOB NAME / NUMBER _____



Shown with optional Spring-Assisted Cover and 2" Tangent Draw-Off Valve

SHORT FORM SPECIFICATION

Shall be CLEVELAND, Gas-Fired Tilting Kettle, Model KGL-____ T; ____ gallons, 2/3 Steam Jacketed, Power Burner Heating System, Insulated Heat Exchanger, 50 psi Steam Jacket Rating. Infinite Variable Temperature Control, L.E.D. indicators for Heat Cycle and Low Water Warning, Automatic Ignition System.

KETTLE SIZE		A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R
GALS.	LITERS	INCHES	INCHES	INCHES	INCHES	INCHES	INCHES	INCHES	INCHES	INCHES	INCHES	INCHES	INCHES	INCHES	INCHES	INCHES	INCHES	INCHES
40	151	26.00 660	45.75 1162	35.75 908	44.50 1130	19.00 483	9.00 229	24.00 610	42.25 1073	38.00 965	15.75 400	22.50 572	23.37 594	40.50 1029	69.75 1772	51.50 1308	35.00 889	9.50 241
60	227	29.50 749	49.38 1254	39.38 1000	48.00 1219	22.00 559	11.75 298	27.00 686	46.50 1181	41.50 1054	15.50 394	26.00 660	24.50 622	43.50 1105	73.50 1867	68.00 1727	37.00 940	9.0 229
80	303	33.00 838	53.00 1346	43.00 1092	51.00 1296	25.00 635	14.75 375	30.00 762	51.00 1296	44.50 1130	13.75 349	28.00 711	25.00 635	44.75 1137	82.00 2083	74.50 1892	39.00 991	9.75 248

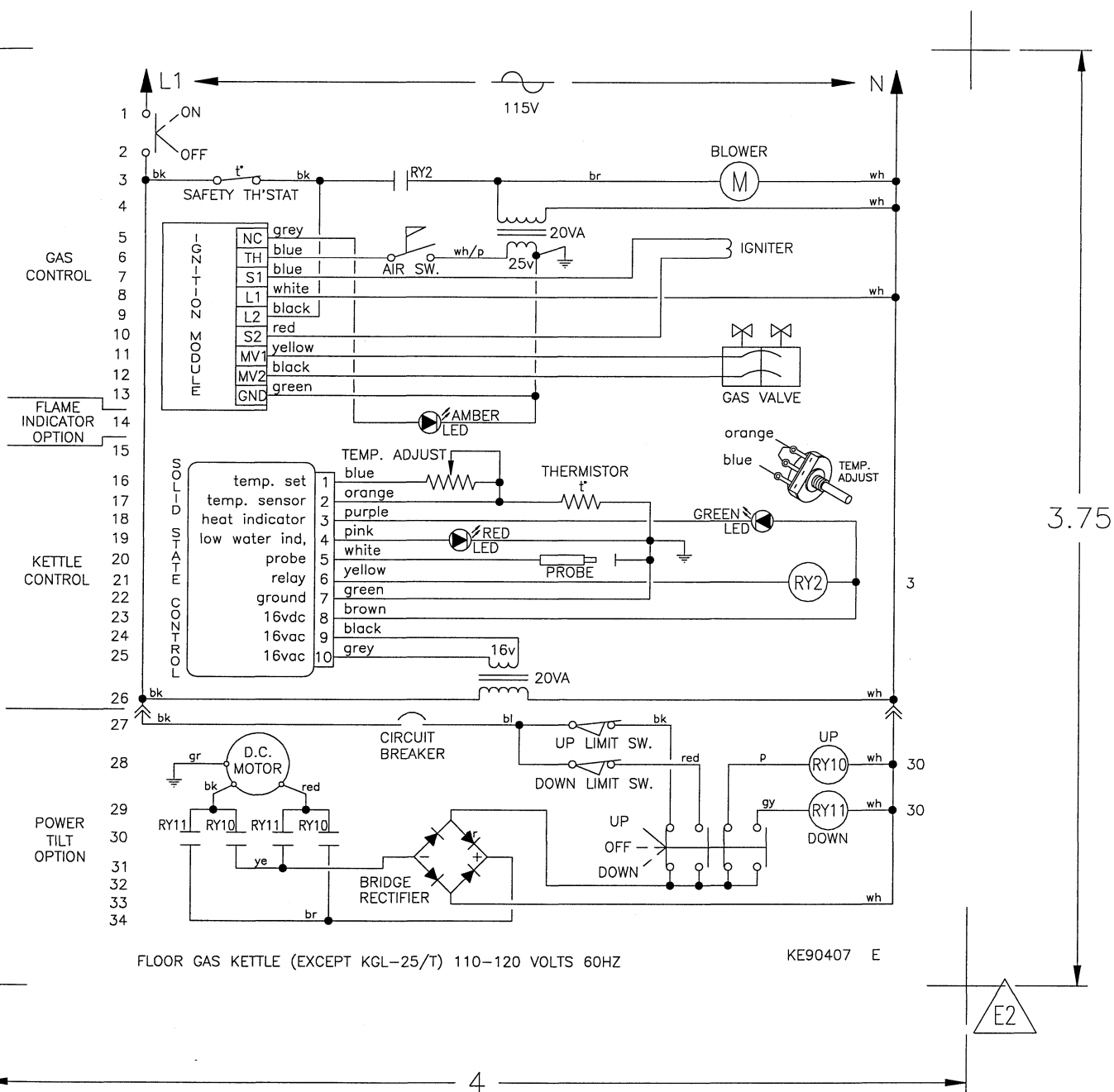
GAS			ELECTRIC	WATER	CLEARANCE
NATURAL	PROPANE	B.T.U. RATING	120V-1 Phase, 60 Hz, 10 amps	1/2" dia. Soft Copper Tubing (each) When ordered with optional faucet.	RIGHT = 0" LEFT = 0" REAR = 0" Allow 6.00" space minimum from rear and sides when located near combustible walls.
Piping: 1/2" N.P.T.	Piping: 1/2" N.P.T.	40 gal. 140,000			
Supply pressure: 4.00" W.C. minimum	Supply pressure: 11.00" W.C. minimum	60 gal. 190,000			
14.00" W.C. maximum	14.00" W.C. maximum	80 gal. 190,000			
Manufacturer must be notified if unit will be operated above 2,000 ft. altitude.					

Cleveland Range reserves right of design improvement or modification, as warranted.

CLEVELAND RANGE KGL 40+ SEQUENCE OF OPERATIONS

1. To turn the unit on, turn the switch to the on position.
 - 115 VAC is sent to primary side of the 120vac/16vac transformer.
 - 115 VAC is sent to the normally closed high limit.
 - From the high limit 115 VAC is sent to the normally open contacts of the 12VDC relay and the L1 and L2 terminals of the ignition module.
2. From the secondary of the transformer 16VAC is sent to the controller.
 - 12 VDC is sent to the red LED (low water indicator light) from terminal 4 of the controller.
 - If the water probe is grounded through water the LED will go off.
 - If the water probe is not grounded the LED will remain on and the unit will not heat.
 - If the resistance of the thermistor is higher than the setting of the potentiometer(the unit is calling for heat) then 16VDC is sent to the coil of the relay and the green LED (heat indicator light)
 - The 12VDC relay will close until the unit reaches temperature
3. With the contacts of the relay closed, 120VAC is sent to the blower and primary coil of the 120VAC/24VAC transformer.
 - From the secondary of the 24VAC transformer 24 VAC is sent to the normally open contacts of the air switch.
 - When the air from the blower closes the air switch, 24VAC is sent to the Th terminal of the ignition module.
4. With both 120VAC (at L1 and L2) and 24VAC (at Gnd and Th) to the ignition module then 120VAC will be sent to the surface igniter.
5. After the ignition module has been energized for 24 seconds the module will send 24VAC to the gas valve.
 - The gas will touch the hot igniter and ignite within 4 seconds. If the module does not detect flame in 4 seconds, 24 VAC is removed from the gas valve. Module then locks out.
 - The kettle will build pressure until the controller is satisfied by the thermistor at the setting of the potentiometer.
 - The controller will then turn off the heat circuit until the temperature of the kettle is below the setting.

E1	MATERIAL CHANGES FOR IN HOUSE PRODUCTION	20/04/2001
E2	DIMENTIONAL CHNGES FOR IN HOUSE PRODUCTION	20/04/2001



KGL-100, KGL-40-T, KGL-60-T, KGL-80-T

AGRAM (KGL / KGL-T)
(115V)

REV. No.	REV. DATE	DESCRIPTION	DRAWING No.	REVISION
E	07/12/2001	3785	KE90407	E
D	01/19/2000	3291		
C	09/24/1999	2717	SCALE NONE	
B	10/08/1996	ECN 2437	ISSUE DATE 07/12/2001	
A	01/03/1991	RELEASED	DRAWN BY KYM	

**PROBLEM:
KGL
Kettle Won't Heat**

Kettle Won't Heat

Add water to jacket of Kettle.

Does red light come on when unit is first turned on?

Does red light go off shortly after unit is turned on?

Replace the thermister.

Replace controller.

Is 16 VAC at the secondary side of the transformer?

Is 16 VAC measured across Pins 9 and 10 on the controller?

With the potentiometer set at 10, is 12 VDC at the coil of the relay?

Is the resistance of the thermister 100,000 ohms +10% at room temperature?

Is the potentiometer resistance 50,000 ohms at low and 0 ohms at high?

Replace the on/off switch (toggle or rotary).

Is there Power to the primary of the transformer?

Replace the relay.

Does the relay pull in?

Replace the potentiometer.

Replace the transformer.

Supply power to the kettle.

Replace blower.

Does the blower turn?

With the high limit temporarily bypassed, is power at the blower?

Replace the high limit.

Is there 24 VAC at the secondary of the ignition transformer?

Does the blower turn?

Is there power to the ignition transformer?

Replace the wire to the blower.

Is there 120 VAC to the igniter?

Is there 24 VAC to the igniton module?

Is there power to the ignition transformer?

Replace the DC relay.

Replace the air switch.

Replace ignition module.

Does the ignitor glow?

Replace the ignitor.

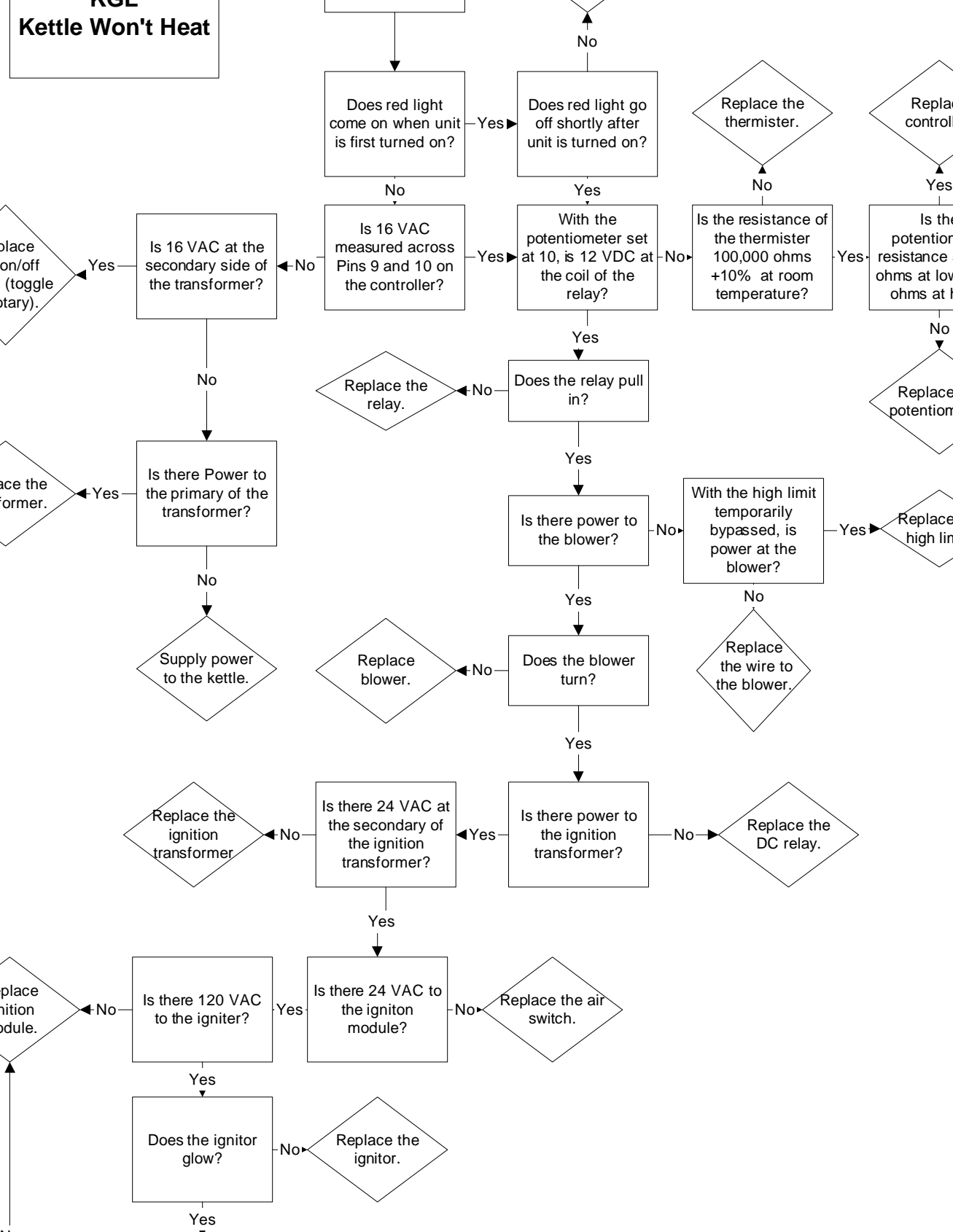
Does the gas valve get 24 VAC 20 sec. after the ignitor is energized?

Does the gas valve open?

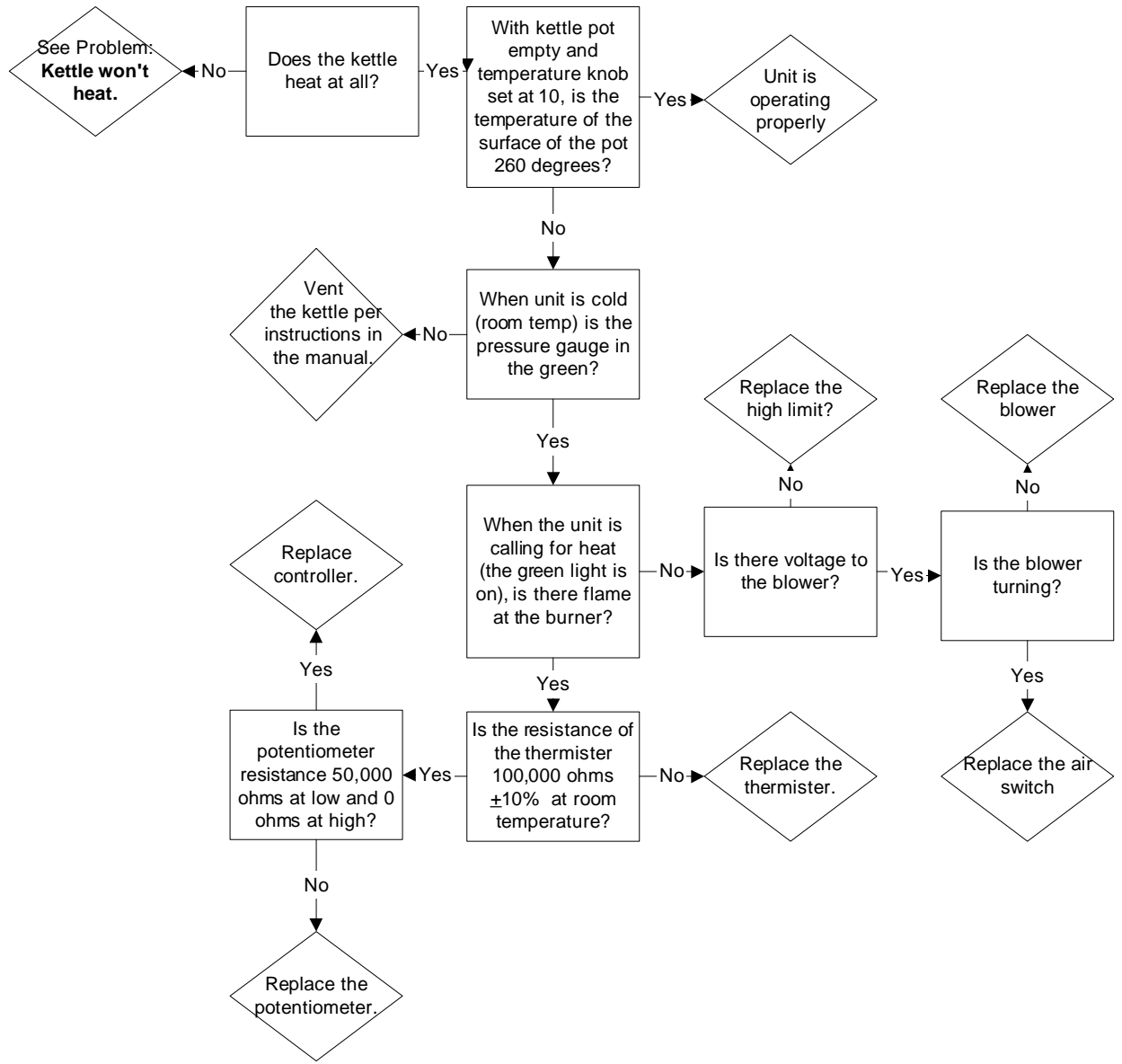
Replace gas valve

Replace the on/off switch (toggle or rotary).

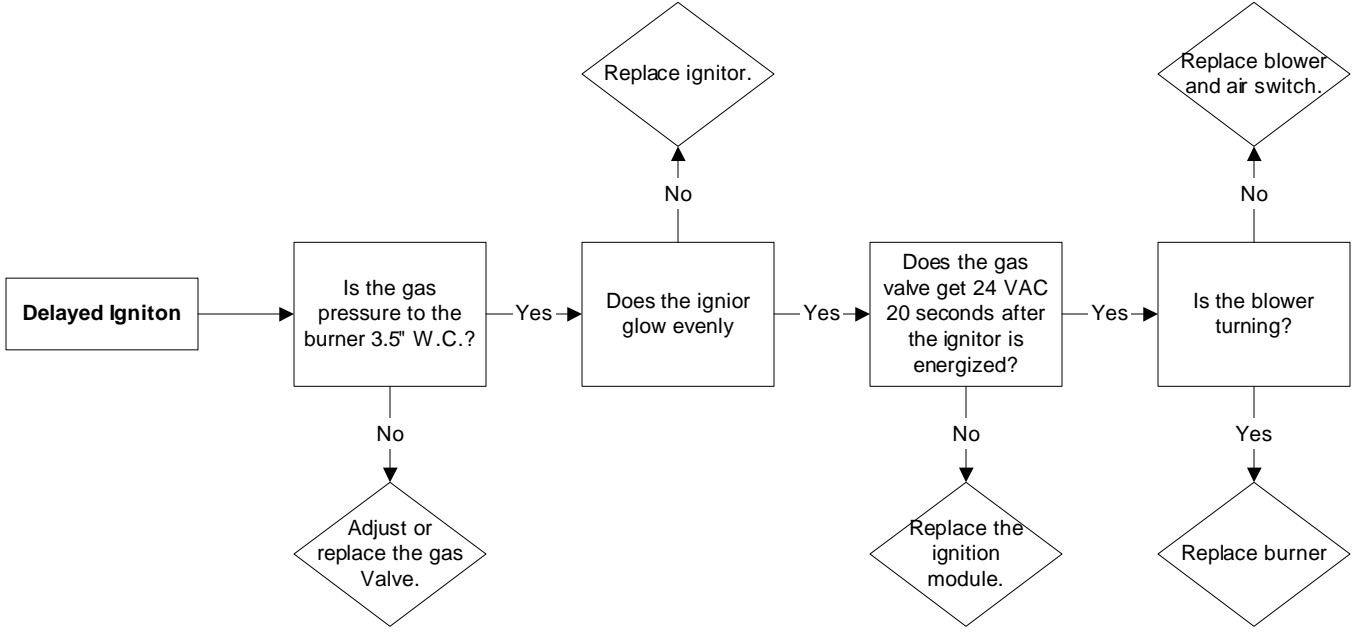
Replace the transformer.



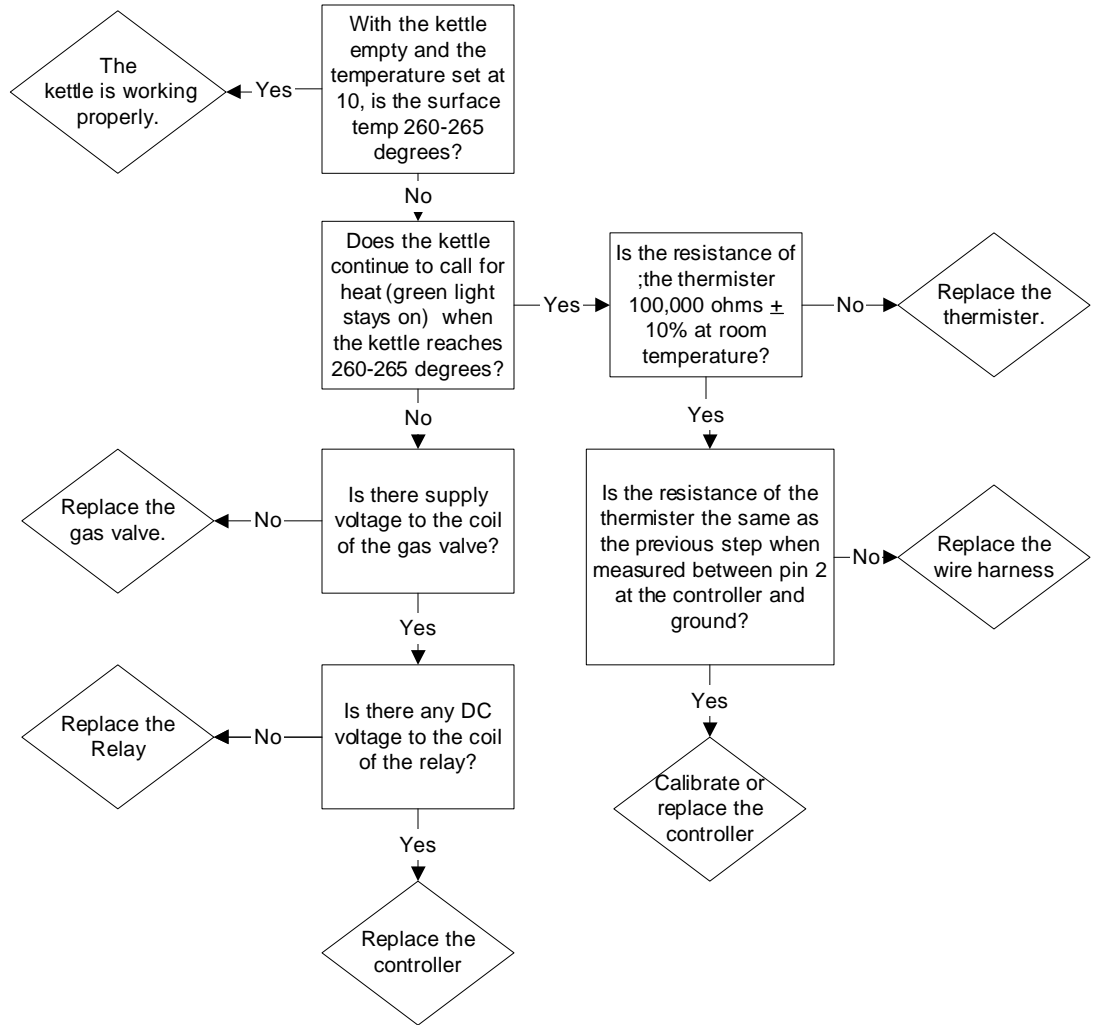
**PROBLEM:
KGL
Kettle Not
Hot Enough**



PROBLEM: KGL Kettle Has Delayed Ignition



**PROBLEM:
KGL Kettle
Gets Too
Hot**



PROBLEM: Red Add Water LED Stays On

