

# **Lang**<sup>TM</sup>

A Division of Star Mfg. Int'l, Inc.



## **Installation, Operation, Maintenance, & Troubleshooting**

Electric Marine & Cruise Line Range

**Model:  
CLR36SG-440V  
CLR36SH-440V**

**THIS MANUAL MUST BE RETAINED FOR FUTURE REFERENCE. READ, UNDERSTAND AND FOLLOW THE INSTRUCTIONS AND WARNINGS CONTAINED IN THIS MANUAL.**

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

**WARNING: IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, INJURY OR DEATH. READ THE INSTALLATION, OPERATING AND MAINTENANCE INSTRUCTIONS THOROUGHLY BEFORE INSTALLING OR SERVICING THIS EQUIPMENT.**

**NOTICE: THIS EQUIPMENT IS APPROVED FOR INSTALLATION ONLY ON VESSELS GREATER THAN 65 FEET IN LENGTH, IN ACCORDANCE WITH USCG REGULATIONS IN TITLE 46 CFR 110-113. ANY WIRING USED IN THE INSTALLATION OF THIS APPLIANCE MUST BE STRANDED COPPER.**

<b>Model #:</b>	<b>Purchased From:</b>
<b>Serial #:</b>	<b>Location:</b>
<b>Date Purchased:</b>	<b>Date Installed:</b>
<b>Purchase Order #:</b>	<b>For Service, Call:</b>

# TABLE OF CONTENTS

<b><u>CHAPTER</u></b>	<b><u>PAGE</u></b>
1. TABLE OF CONTENTS .....	3
2. READ FIRST .....	4
3. UNPACKING.....	6
4. INSTALLATION .....	7
5. INITIAL START-UP.....	8
6. OPERATION.....	9
7. CLEANING & MAINTENANCE PROCEDURES.....	10
8. TROUBLESHOOTING .....	11
9. PARTS LISTS .....	13
10. WIRING DIAGRAMS .....	15
11. WARRANTY .....	19

**CAUTION:** THE RANGE WEIGHS 600 LBS. (272.16 KILOGRAMS). FOR SAFE HANDLING, INSTALLER SHOULD OBTAIN HELP AS NEEDED, OR EMPLOY APPROPRIATE MATERIALS HANDLING EQUIPMENT (SUCH AS A FORKLIFT, DOLLY, OR PALLET JACK) TO REMOVE THE UNIT FROM THE SKID AND MOVE IT TO THE PLACE OF INSTALLATION.



**CAUTION:** ANY STAND, COUNTER OR OTHER DEVICE ON WHICH RANGE WILL BE LOCATED MUST BE DESIGNED TO SUPPORT THE WEIGHT OF THE RANGE (600 LBS.).



**CAUTION:** SHIPPING STRAPS ARE UNDER TENSION AND CAN SNAP BACK WHEN CUT.



**DANGER:** THIS APPLIANCE MUST BE GROUNDED AT THE TERMINAL PROVIDED. FAILURE TO GROUND THE APPLIANCE COULD RESULT IN ELECTROCUTION AND DEATH.



**WARNING:** INSTALLATION OF THE UNIT MUST BE DONE BY PERSONNEL QUALIFIED TO WORK WITH ELECTRICITY. IMPROPER INSTALLATION CAN CAUSE INJURY TO PERSONNEL AND/OR DAMAGE TO EQUIPMENT. UNIT MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES.



**NOTICE:** The data plate is located behind the access cover to the right of the oven door. The range voltage, wattage, serial number, wire size, and clearance specifications are on the data plate. This information should be carefully read and understood before proceeding with the installation.



**NOTICE:** The installation of any components such as a vent hood, grease extractors, fire extinguisher systems, must conform to their applicable National, State and locally recognized installation standards.



**CAUTION:** ALWAYS KEEP THE AREA NEAR THE APPLIANCE FREE FROM COMBUSTIBLE MATERIALS.



**CAUTION:** KEEP FLOOR IN FRONT OF EQUIPMENT CLEAN AND DRY. IF SPILLS OCCUR, CLEAN IMMEDIATELY, TO AVOID THE DANGER OF SLIPS OR FALLS.



**WARNING:** KEEP WATER AND SOLUTIONS OUT OF CONTROLS. NEVER SPRAY OR HOSE CONTROL CONSOLE, ELECTRICAL CONNECTIONS, ETC.



**CAUTION:** MOST CLEANERS ARE HARMFUL TO THE SKIN, EYES, MUCOUS MEMBRANES AND CLOTHING. PRECAUTIONS SHOULD BE TAKEN TO WEAR RUBBER GLOVES, GOGGLES OR FACE SHIELD AND PROTECTIVE CLOTHING. CAREFULLY READ THE WARNING AND FOLLOW THE DIRECTIONS ON THE LABEL OF THE CLEANER TO BE USED.



**NOTICE:** Service on this, or any other, LANG appliance must be performed by qualified personnel only. Consult your authorized service station directory or call the factory at 1-800-807-9054, or WWW.STAR-MFG.COM for the service agent nearest you.



**WARNING:** BOTH HIGH AND LOW VOLTAGES ARE PRESENT INSIDE THIS APPLIANCE WHEN THE UNIT IS PLUGGED/WIRED INTO A LIVE RECEPTACLE. BEFORE REPLACING ANY PARTS, DISCONNECT THE UNIT FROM THE ELECTRIC POWER SUPPLY.



**CAUTION:** USE OF ANY REPLACEMENT PARTS OTHER THAN THOSE SUPPLIED BY LANG OR THEIR AUTHORIZED DISTRIBUTORS CAN CAUSE BODILY INJURY TO THE OPERATOR AND DAMAGE TO THE EQUIPMENT AND WILL VOID ALL WARRANTIES.



# UNPACKING

## **3.1 Receiving the Range**

Upon receipt, check for freight damage, both visible and concealed. Visible damage should be noted on the freight bill at the time of delivery and signed by the carrier's agent. Concealed loss or damage means loss or damage, which does not become apparent until the merchandise has been unpacked. If concealed loss or damage is discovered upon unpacking, make a written request for inspection by the carrier's agent within 15 days of delivery. All packing material should be kept for inspection. Do not return damaged merchandise to Lang Manufacturing Company. File your claim with the carrier.

## **3.2 Location**

Prior to un-crating, move the range as near its intended location as practical. The crating will help protect the unit from the physical damage normally associated with moving it through hallways and doorways.

## **3.3 Un-crating**

The range will arrive completely assembled inside a wood frame covered by cardboard box and strapped to a skid. **Remove the cardboard cover, cut the straps and remove the wood frame.**

**CAUTION: RANGE WEIGHS 600 LBS (272.16 kilograms). FOR SAFE HANDLING, INSTALLER SHOULD OBTAIN HELP AS NEEDED, OR EMPLOY APPROPRIATE MATERIALS HANDLING EQUIPMENT (SUCH AS A FORKLIFT, DOLLY, OR PALLET JACK) TO REMOVE THE UNIT FROM THE SKID AND MOVE IT TO THE PLACE OF INSTALLATION.**



**CAUTION: ANY STAND, COUNTER OR OTHER DEVICE ON WHICH RANGE WILL BE LOCATED MUST BE DESIGNED TO SUPPORT THE WEIGHT OF THE RANGE (600 LBS.).**



**CAUTION: SHIPPING STRAPS ARE UNDER TENSION AND CAN SNAP BACK WHEN CUT.**



Remove range from skid and place in intended location.

# INSTALLATION

**DANGER:** THIS APPLIANCE MUST BE GROUNDED AT THE TERMINAL PROVIDED. FAILURE TO GROUND THE APPLIANCE COULD RESULT IN ELECTROCUTION AND DEATH.



**WARNING:** INSTALLATION OF THE UNIT MUST BE DONE BY PERSONNEL QUALIFIED TO WORK WITH ELECTRICITY. IMPROPER INSTALLATION CAN CAUSE INJURY TO PERSONNEL AND/OR DAMAGE TO EQUIPMENT. UNIT MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES.



**NOTICE:** The data plate is located behind the access cover to the right of the oven door. The range voltage, wattage, serial number, wire size, and clearance specifications are on the data plate. This information should be carefully read and understood before proceeding with the installation.



**NOTICE:** The installation of any components such as a vent hood, grease extractors, fire extinguisher systems, must conform to their applicable National, State and locally recognized installation standards.



## **4.1 Electrical Connection with an Overhead Switch Box**

Electrical connection must be accomplished with 3 separate connections on remote switch box, and 2 connections on the range. Connection #1 is for incoming power. Connection #2 is for wires connecting switch box to range. Connection #3 is for probe wires only. The probe wires must be connected from the range to the switch box with a shielded cable. Grounded at one end only, running in a separate conduit. Connections for the range are made on the terminal block located behind an access panel to the right of the oven door. Recommend conduit be hooked into the bottom front, below the terminal block, or at the right back of the unit behind the terminal block.

## **4.2 Overhead Switch Box**

The overhead switch box can be mounted anywhere above the range. The electrical service connection can be made anywhere on the body of the switch box.

## **4.3 Electrical Connection without an Overhead Switch Box**

Electrical connection must be made by the terminal block located behind an access panel to the right of the oven door. Recommend conduit be hooked in to the bottom front, below the terminal block, or at the right back of the unit behind the terminal block.

## **4.4 Range Voltage**

This Lang range is designed to operate at the voltage specified on the nameplate.

# INITIAL START UP

## 5.1 PRE-POWER ON

### Initial Start-up

Before the initial use of the range, the oven must be thoroughly allowed to dry itself out. This is done by setting the thermostat to 350°F (176°C). Allow the range oven to heat until all vapor and condensation has been eliminated. For best results allow the oven to thoroughly dry out. Allow 8 to 12 hours for this process. Clean top plates thoroughly. Apply salad oil. Turn each plate thermostat to a low position and allow plate to heat for three hours.

**NOTICE:** Somewhere along the rising temperature curve between 200°F and 300°F (93°C and 148°C) a moderate amount of smoke may issue from in and around the Range. The smoke may be repeated somewhere around 350°F (176°C). Preservation oils and oil accumulated during manufacturing may be coming off as smoke in these temperature ranges. Do not be alarmed.





# OPERATION

**CAUTION:** ALWAYS KEEP THE AREA NEAR THE APPLIANCE FREE FROM COMBUSTIBLE MATERIALS.

**CAUTION:** KEEP FLOOR IN FRONT OF EQUIPMENT CLEAN AND DRY. IF SPILLS OCCUR, CLEAN IMMEDIATELY, TO AVOID THE DANGER OF SLIPS OR FALLS.



## **6.1 Range Controls with a Overhead Switch Box**

For griddle tops, turn the thermostat dial to the desired temperature setting. The power switch, located on the control box on the right of the switch box, energizes the control circuits. When this switch is on, the “power” pilot lamp will be illuminated. This control is located to the left of the power switch, the left most knob is the left side of the griddle, and the right one is the right side of the griddle. The “heat” pilot lamp will illuminate indicating power is applied to the heating elements.

For hot tops the controls are, from left to right, left front, left rear, right front, right rear, oven temperature, and oven power. The oven power pilot lamp will illuminate indicating power is applied to the circuit board controlling the oven elements.

## **6.2 Range Controls without an Overhead Switch Box**

For griddle tops, the controls are located to the right of the oven door. There are three knobs. The top left controls the left side of the griddle, the top right controls the right side of the griddle. The bottom knob controls the temperature of the oven.

For hot tops, the controls are located to the right of the oven door. There are five knobs. The top left controls the front left of the hot top, the top right controls the front right of the hot top, the middle left controls the back left, and the middle right controls the back right of the hot top. The bottom knob controls the temperature of the oven.

## **6.3 Oven Controls**

The oven must be thoroughly preheated before satisfactory baking can be done. The oven will not bake uniformly if not sufficiently preheated. After preheating let the oven cycle 2 or 3 times to ensure complete heating of the entire oven cavity.

The “Roasting and Baking” oven is equipped with a removable rack. For baking pies, bread, or for roasting operations, the rack may be placed directly on the metal deck and the pans placed on the rack. For baking cakes or pastries the rack should be located in the lower position provided by the rack supports at the sides of the range and the pans placed on the rack in this lower position.

**NOTE:** Always place the pans symmetrically on the rack for best results. Keep the oven door closed as much as possible. Excessive door opening will cool the front section of the oven and products placed near the front are likely to bake slower. It is desirable to keep the front edge of the pans at least several inches back from the inside of the door (when closed). Do not permit air from a window or fan to blow into the oven; it will cause uneven heating.

# MAINTENANCE & CLEANING

## 7.1 Daily Cleaning

**WARNING:** KEEP WATER AND SOLUTIONS OUT OF CONTROLS. NEVER SPRAY OR HOSE CONTROL CONSOLE, ELECTRICAL CONNECTIONS, ETC.



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Empty grease drawers daily or when they are 1/3 full. They are easily removed for washing.

Clean exterior of the range with hot water and a mild detergent to maintain a gleaming appearance.

Keep the griddle plate surface clean. After each cooking load, scrape the griddle surface to remove any carbonized grease.

## 7.2 Weekly or as Required

The range should be thoroughly cleaned at least once a week in addition to the normal daily cleaning to insure against the accumulation of foreign material. Keep the inside of the oven and metal deck clean, particularly around door opening, door edges and at bottom of door opening so that the door may close tightly.

# TROUBLESHOOTING

## 9.1 Symptoms

What follows is a chart of Symptoms and Possible Causes to aid in diagnosing faults with the oven.

Refer to the Symptoms column to locate the type of failure then to the Possible Cause for the items to be checked.

To test for a possible cause, refer to the TEST section and locate the Possible Cause then refer to test to identify test procedures.

<b>SYMPTOM</b>	<b>POSSIBLE CAUSE</b>
Indicator is not lit.	<ul style="list-style-type: none"><li>• No power to unit</li><li>• Failed switch</li><li>• Failed pilot light</li></ul>
Range will not heat	<ul style="list-style-type: none"><li>• Failed element</li><li>• Switch is not ON</li><li>• Failed contactor</li><li>• Failed thermostat/circuit board</li><li>• Failed transformer</li><li>• Open in wiring between switch box and range</li><li>• Open in terminal block</li></ul>
Product burning	<ul style="list-style-type: none"><li>• Product is cooked too long</li><li>• Failed thermostat/circuit board</li><li>• Failed contactor</li></ul>
Product under done	<ul style="list-style-type: none"><li>• Failed temperature sensor</li><li>• Failed circuit board/thermostat</li><li>• Failed temperature selector</li></ul>

# TROUBLESHOOTING CONT'D

## 9.2 TESTS

### NOTICE:

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### WARNING:

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If an item on the list is followed by an asterisk (\*), the work should be done by a factory authorized service representative.

Possible Cause	TEST
Product is cooked too long	<ul style="list-style-type: none"> <li>• No test available, operational condition</li> </ul>
Failed thermostat	<ul style="list-style-type: none"> <li>• Check poles on thermostat for continuity</li> </ul>
Failed element	<ul style="list-style-type: none"> <li>• Remove the wires and check for continuity across the element</li> </ul>
Failed heat contactor	<ul style="list-style-type: none"> <li>• Remove the wires from the contactor coil and check for continuity across the contactor coil connection</li> <li>• Ensure the contactor moveable points move freely up and down</li> <li>• Check for 24 volts at the contactor coil when the computer is running*</li> </ul>
Failed temperature sensor	<ul style="list-style-type: none"> <li>• Check resistance of sensor for accuracy</li> </ul>
Failed pilot light	<ul style="list-style-type: none"> <li>• Check light for resistance</li> </ul>
Failed transformer	<ul style="list-style-type: none"> <li>• Check coils on transformer for correct resistance</li> </ul>

### CAUTION:

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# PARTS LIST

## CLR36R-S WITH OVERHEAD SWITCH BOX

Part Number	Description
2N-11045-06	ELMNT, CLR 440V TOP 1500W
2N-11045-07	ELMNT, CLR 440V 4500W BTM
2N-11045-08	ELMNT T/P 440V O/S 1650WT
2N-11045-09	ELMNT T/P 440V I/S 1850WT
OB-30304-06	OBS SWT ROT 3HT 240/480V
2E-30304-22	SWTCB175-450oFW/41100-13
2E-30304-30	SWT ROT-2 POSITION
2E-30304-31	CNTCTBLOCK NO FR 30304-30
2E-30500-01	TRM STRP 2 POLE 30A 300V
2E-30500-04	TRM STRP 10 POLE 30A 600V
2E-30500-11	TRM BLOCK 2 PLE LG 175AMP
2E-30701-04	CONTC 2POLE 30A 24VAC
2E-31400-15	XFRMR 480/24VAC
2J-31601-07	PILOT LT 28V 6 LEAD WHT
OB-40101-18	OBS CIRBD SELEC TEMP
2E-41100-08	SENSOR ECCO/GCCO TEMP
2E-41100-17	TEMP PROBE SEL LG GRIDDLE
2B-50200-81	RACK CLR HEAVY DUTY
2B-50200-82	RACK SLIDE CLR HEAVY DUTY
P9-50403-22-1	PLT HT 3/4X31X27.625CHROM
OB-50403-24	OBS PLT GRID 1 X 31
2P-51002-01	SPRING COMPRESSION TYPE
2R-70701-28	KNB BLK 1/4BUSH2SETSCW@90
2K-70801-07	SPACER SUPPORT 1/2LG
2A-72500-13	LEG 5-1/2W/ROUND ADJ TOE

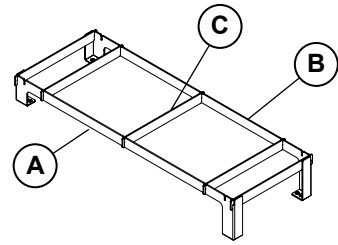
## PARTS LIST

### CLR36-S WITHOUT OVERHEAD SWITCH BOX

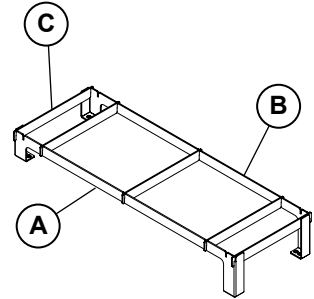
Part Number	Description
2N-11045-06	ELMNT, CLR 440V TOP 1500W
2N-11045-07	ELMNT, CLR 440V 4500W BTM
2N-11045-08	ELMNT T/P 440V O/S 1650WT
2N-11045-09	ELMNT T/P 440V I/S 1850WT
OB-30304-06	OBS SWT ROT 3HT 240/480V
2T-30402-08	STAT ADJ 450o 72 C/T
2E-30500-11	TRM BLOCK 2 PLE LG 175AMP
2E-31400-15	XFRMR 480/24VAC
2J-31601-07	PILOT LT 28V 6 LEAD WHT
2B-50200-81	RACK CLR HEAVY DUTY
2B-50200-82	RACK SLIDE CLR HEAVY DUTY
P9-50403-22-1	PLT HT 3/4X31X27.625CHROM
OB-50403-24	OBS PLT GRID 1 X 31
2P-51002-01	SPRING COMPRESSION TYPE
2A-72500-13	LEG 5-1/2W/ROUND ADJ TOE

## Lang Manufacturing Searail Assembly

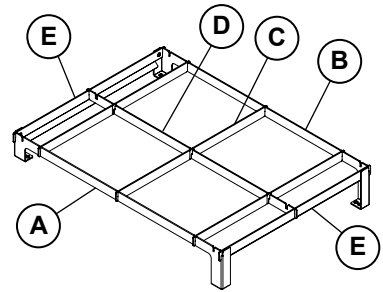
Part No.	Qty	Description
		<b>50302-297-1 SEARAIL ASSY 1' {RF&amp;500} SK</b>
A	50302-305	1 SEARAIL LH SIDE {ADD,RF & 500}
B	50302-306	1 SEARAIL RH SIDE {ADD,RF & 500}
C	50302-317	5 SEARAIL SIDE TO SIDE 12"
	20109-04	8 SCREW THD MS SS 10-32X 3/8



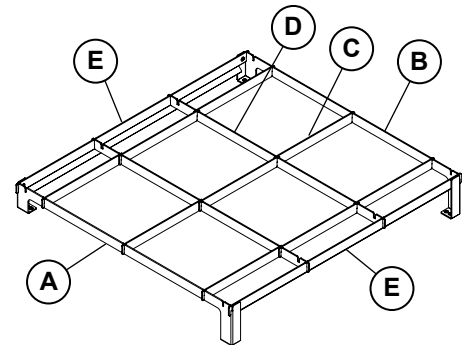
Part No.	Qty	Description
		<b>50302-303-1 SEARAIL ASSY 1' {ADD} SK</b>
A	50302-305	1 SEARAIL LH SIDE {ADD,RF & 500}
B	50302-306	1 SEARAIL RH SIDE {ADD,RF & 500}
C	50302-318	5 SEARAIL SIDE TO SIDE ADD
	20109-04	8 SCREW THD MS SS 10-32X 3/8



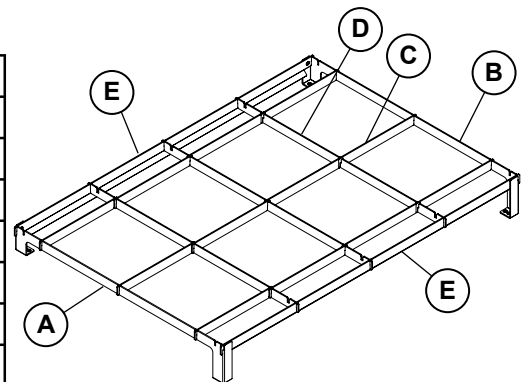
Part No.	Qty	Description
		<b>50302-298-1 SEARAIL ASSY 2' {RF&amp;500} SK</b>
A	50302-305	1 SEARAIL LH SIDE {ADD,RF & 500}
B	50302-306	1 SEARAIL RH SIDE {ADD,RF & 500}
C	50302-317	6 SEARAIL SIDE TO SIDE 12"
D	50302-315	1 SEARAIL FR TO BK {ADD,RF,500}
E	50302-311	2 SEARAIL FR & RR 2'
	20109-04	10 SCREW THD MS SS 10-32X 3/8
	20301-34	2 NUT HEX ACORN 10-32 S/S



Part No.	Qty	Description
		<b>50302-301-1 SEARAIL ASSY 3' (RF&amp;500) SK</b>
A	50302-305	1 SEARAIL LH SIDE {ADD,RF & 500}
B	50302-306	1 SEARAIL RH SIDE {ADD,RF & 500}
C	50302-317	9 SEARAIL SIDE TO SIDE 12"
D	50302-315	2 SEARAIL FR TO BK {ADD,RF,500}
E	50302-310	2 SEARAIL FR & RR 3'
	20109-04	10 SCREW THD MS SS 10-32X 3/8
	20301-34	2 NUT HEX ACORN 10-32 S/S

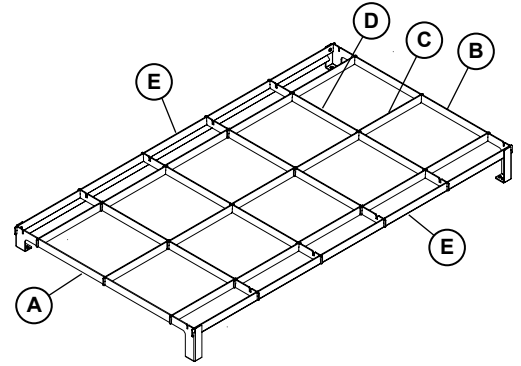


Part No.	Qty	Description
		<b>50302-299-1 SEARAIL ASSY 4' {500} SK</b>
A	50302-305	1 SEARAIL LH SIDE {ADD,RF & 500}
B	50302-306	1 SEARAIL RH SIDE {ADD,RF & 500}
C	50302-317	12 SEARAIL SIDE TO SIDE 12"
D	50302-315	3 SEARAIL FR TO BK {ADD,RF,500}
E	50302-312	2 SEARAIL FR & RR 4'
	20109-04	10 SCREW THD MS SS 10-32X 3/8
	20301-34	2 NUT HEX ACORN 10-32 S/S

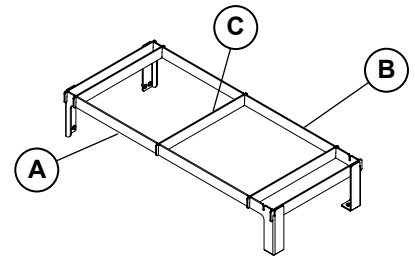


## Lang Manufacturing Searail Assembly continued

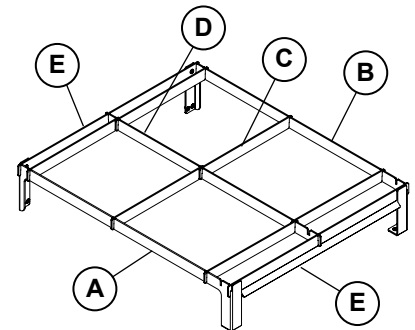
Part No.	Qty	Description
<b>50302-300-1</b>		<b>SEARAIL ASSY 5' {500} SK</b>
A	50302-305	1 SEARAIL LH SIDE {ADD,RF & 500}
B	50302-306	1 SEARAIL RH SIDE {ADD,RF & 500}
C	50302-317	15 SEARAIL SIDE TO SIDE 12"
D	50302-315	4 SEARAIL FR TO BK {ADD,RF,500}
E	50302-309	2 SEARAIL FR & RR 5"
	20109-04	10 SCREW THD MS SS 10-32X 3/8
	20301-34	2 NUT HEX ACORN 10-32 S/S



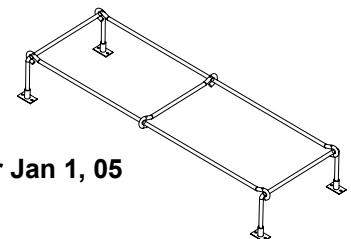
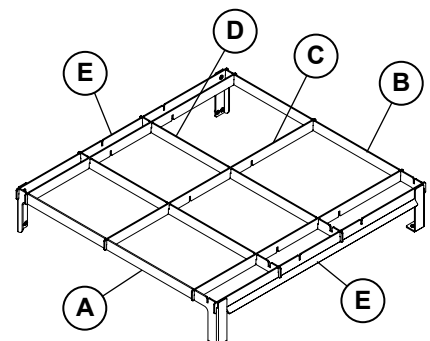
Part No.	Qty	Description
<b>50302-304-1</b>		<b>SEARAIL ASSY 1' RT30 SK</b>
A	50302-307	1 SEARAIL LH SIDE RT30
B	50302-308	1 SEARAIL RH SIDE RT30
C	50302-317	5 SEARAIL SIDE TO SIDE 12"
	20109-04	6 SCREW THD MS SS 10-32X 3/8



Part No.	Qty	Description
<b>50302-302-1</b>		<b>SEARAIL ASSY 2' RT30/32 SK</b>
A	50302-307	1 SEARAIL LH SIDE RT30
B	50302-308	1 SEARAIL RH SIDE RT30
C	50302-317	6 SEARAIL SIDE TO SIDE 12"
D	50302-316	1 SEARAIL FR TO BK RT30
E	50302-311	2 SEARAIL FR & RR 2"
	20109-04	6 SCREW THD MS SS 10-32X 3/8
	20301-34	2 NUT HEX ACORN 10-32 S/S



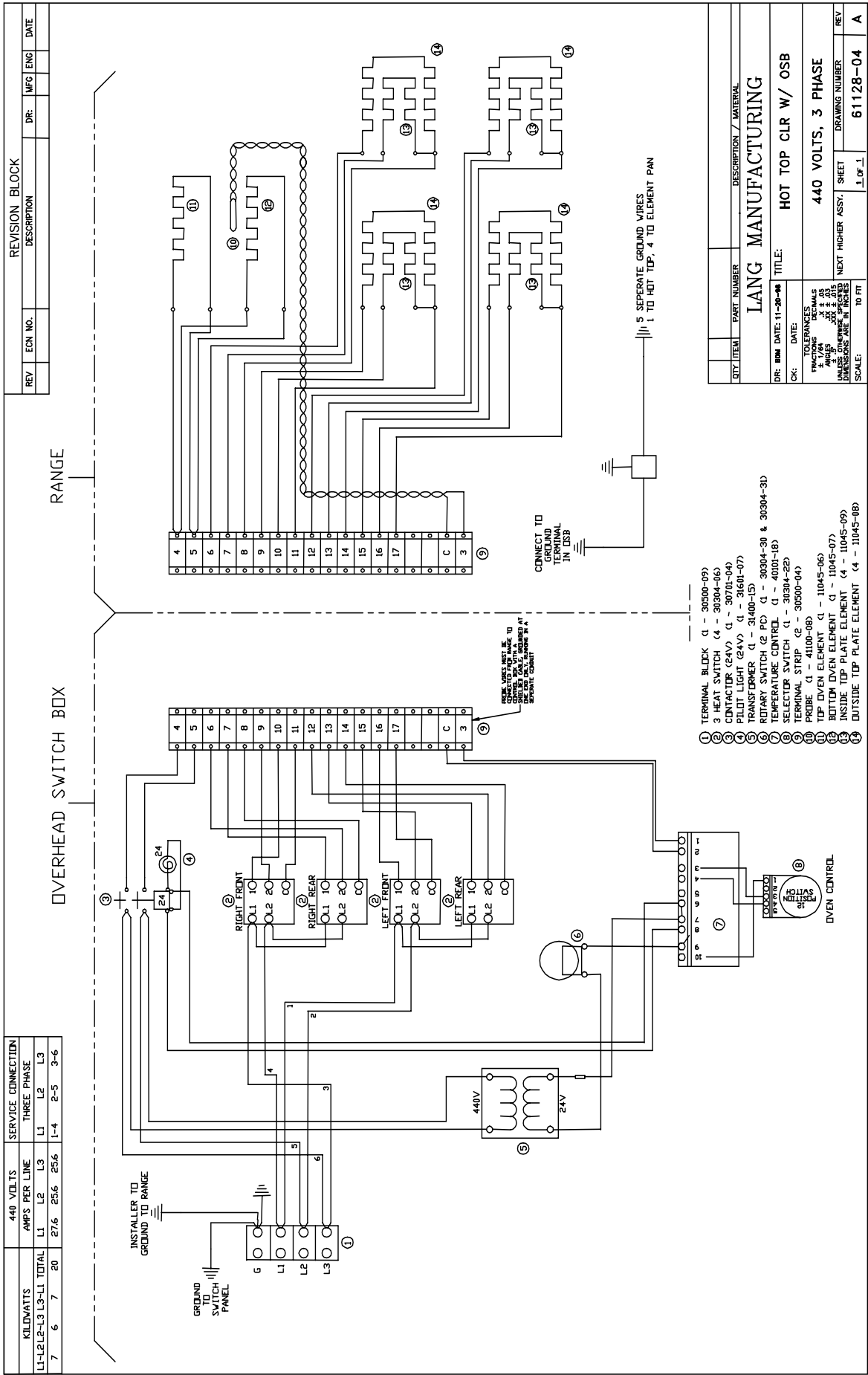
Part No.	Qty	Description
<b>50302-295-1</b>		<b>SEARAIL ASSY RT30 DBL W/GRD SK</b>
A	50302-307	1 SEARAIL LH SIDE RT30
B	50302-308	1 SEARAIL RH SIDE RT30
C	50302-314	3 SEARAIL SUPPORT RT30 W/GRIDDLE
D	50302-316	2 SEARAIL FR TO BK RT30
E	50302-313	2 SEARAIL FR&RR RT30 W/GRIDDLE
	20109-04	8 SCREW THD MS SS 10-32X 3/8
	20301-34	2 NUT HEX ACORN 10-32 S/S



Discontinued after Jan 1, 05



# WIRING DIAGRAM



REVISION BLOCK			
REV	ECN NO.	DR.	DATE

REV	DESCRIPTION	DR.	DATE

KILOWATTS		440 VOLTS		SERVICE CONNECTION		
L1-L2	L2-L3	L3-L1	TOTAL	L1	L2	L3
7	6	7	20	27/6	25/6	25/6
				1-4	2-5	3-6

QTY	ITEM	PART NUMBER	DESCRIPTION / MATERIAL

**LANG MANUFACTURING**

DR. DATE: 11-20-98  
 TITLE: HOT TOP CLR W/ OSB  
 440 VOLTS, 3 PHASE

SCALE: 1 OF 1

DRAWING NUMBER: 61128-04

- ① TERMINAL BLOCK (1 - 30500-09)
- ② HEAT SWITCH (4 - 30304-06)
- ③ CONTACTOR (24V) (1 - 30701-04)
- ④ PILOT LIGHT (24V) (1 - 31601-07)
- ⑤ TRANSFORMER (1 - 31400-15)
- ⑥ ROTARY SWITCH (2 PC) (1 - 30304-30 & 30304-31)
- ⑦ TEMPERATURE CONTROL (1 - 40101-18)
- ⑧ SELECTOR SWITCH (1 - 30304-22)
- ⑨ TERMINAL STRIP (2 - 30500-04)
- ⑩ PROBE (1 - 41100-08)
- ⑪ TOP OVEN ELEMENT (1 - 11045-06)
- ⑫ BOTTOM OVEN ELEMENT (1 - 11045-07)
- ⑬ INSIDE TOP PLATE ELEMENT (4 - 11045-09)
- ⑭ OUTSIDE TOP PLATE ELEMENT (4 - 11045-08)

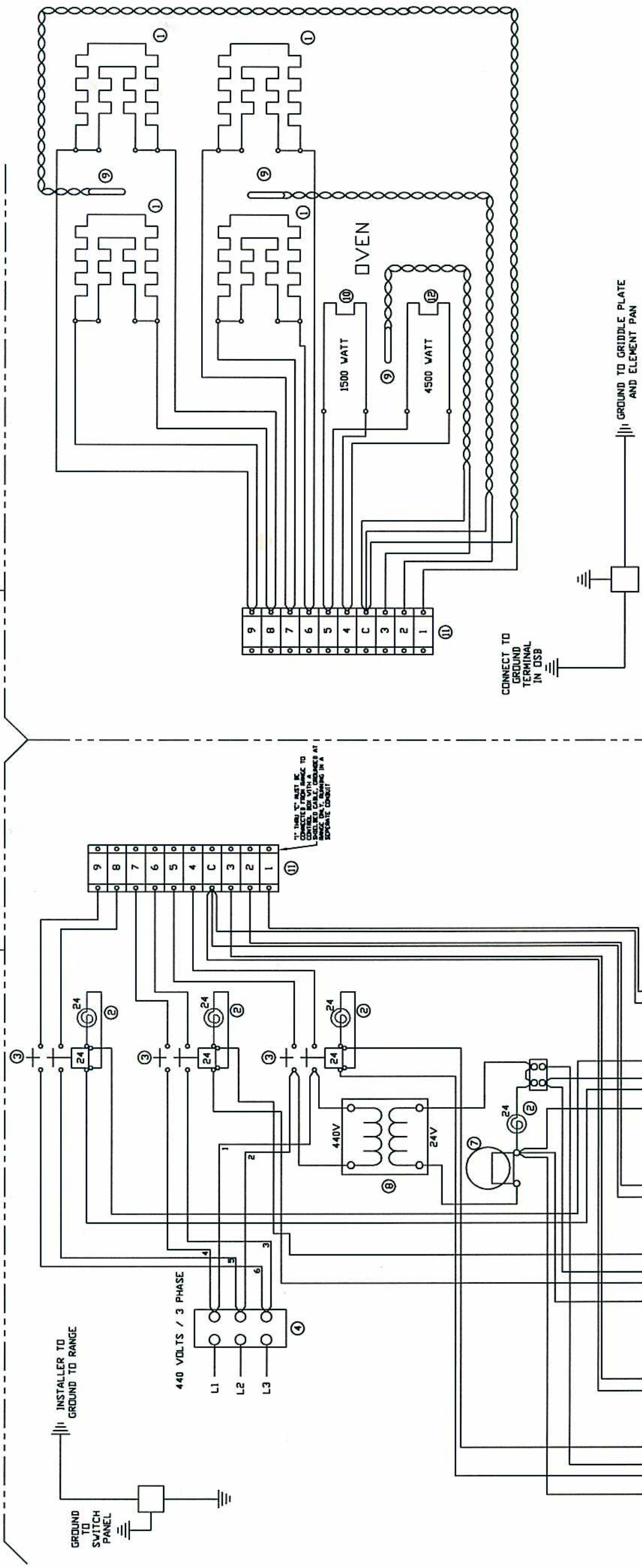
REVISION BLOCK

REV	ECN NO.	DESCRIPTION	DR:	MFG	ENG	DATE
D		ADDED HOT TOP	DLG			09-11-02

KILLOWATTS		440 VOLTS		SERVICE CONNECTION		
		AMPS PER LINE		THREE PHASE		
L1-L2	L2-L3	L3-L1	TOTAL	L1	L2	L3
7	6	7	20	27.6	25.6	25.6
				1-4	2	3

OVERHEAD SWITCH BOX

RANGE



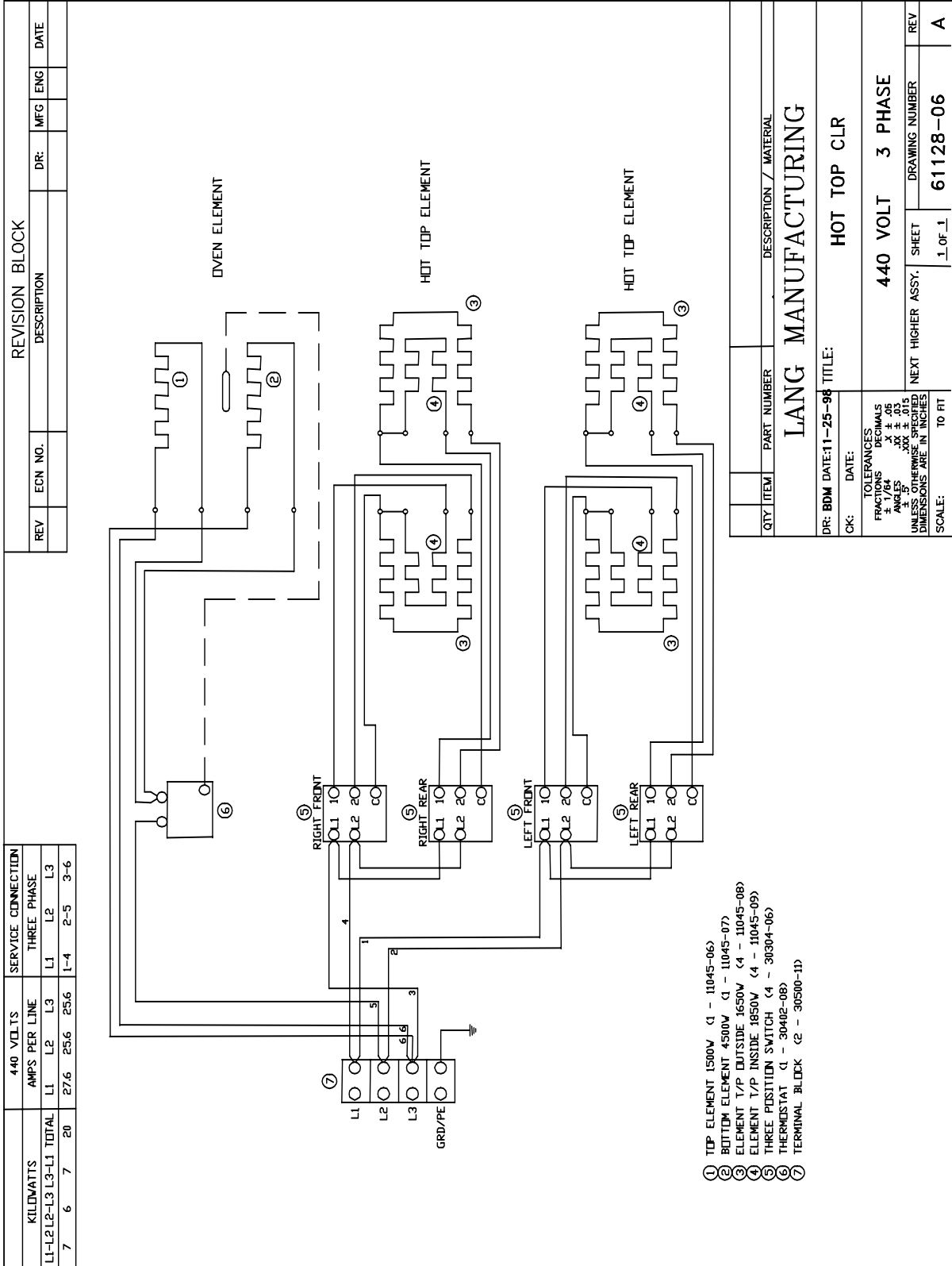
- ① TOP PLATE ELEMENTS (4 - 11045-08 OUTSIDE/4 - 11045-09 INSIDE)
- ② 24 VOLT PILOT LAMP (4 - 31601-07)
- ③ CONTACTOR (24 VOLT COIL) (3 - 30701-04)
- ④ TERMINAL BLOCK (1 - 30500-09)
- ⑤ TEMPERATURE CONTROL BOARD (3 - 40101-18)
- ⑥ 12 POSITION SWITCH (3 - 30304-22) - GRIDDLE & OVEN
- ⑦ 12 POSITION SWITCH (2 - 30304-34) - HOT TOPS
- ⑧ ROTARY SWITCH (2 PC) (1 - 30304-30/1 - 30304-31)
- ⑨ TRANSFORMER (1 - 31400-15 480/24V)
- ⑩ PROBE (2 - 41100-17/1 - 41100-08) - GRIDDLE & OVEN
- ⑪ PROBE (2 - 41100-20/1 - 41100-08) - HOT TOPS & OVEN
- ⑫ OVEN ELEMENT (TOP) (1 - 11045-06)
- ⑬ TERMINAL STRIP (2 - 30500-04)
- ⑭ OVEN ELEMENT (BOTTOM) (1 - 11045-07)

QTY	ITEM	PART NUMBER	DESCRIPTION / MATERIAL
<b>LANG MANUFACTURING</b>			
DR: 80M DATE: 11-2-98 TITLE: SELECTRONIC CLR W/ OSB			
CK: DATE:			
TOLERANCES			
FRACTIONS DECIMALS			
± 1/64 ± .005			
± 1/32 ± .010			
± 1/16 ± .015			
UNLESS OTHERWISE SPECIFIED			
DIMENSIONS ARE IN INCHES			
SCALE:	TO FIT	SHEET	REV
		1 OF 1	D
		DRAWING NUMBER	61128-05
		NEXT HIGHER ASSY.	

CONNECT TO GROUND TERMINAL IN OSB

GROUND TO GRIDDLE PLATE AND ELEMENT PAN

# WIRING DIAGRAM



KILLOWATTS		440 VOLTS		SERVICE CONNECTION	
L1-L2	L2-L3	L3-L1	TOTAL	THREE PHASE	
6	7	20		L1	L2
27.6	25.6	25.6	78.8	L1	L2
1-4	2-5	3-6		L1	L2

REVISION BLOCK			
REV	ECN NO.	DESCRIPTION	DATE

QTY	ITEM	PART NUMBER	DESCRIPTION / MATERIAL
<b>LANG MANUFACTURING</b>			
DR: BDM DATE: 11-25-98 TITLE: HOT TOP CLR			
CK: DATE:			
TOLERANCES UNLESS OTHERWISE SPECIFIED			
DIMENSIONS ARE IN INCHES			
SCALE: TO FIT			
NEXT HIGHER ASSY:		DRAWING NUMBER	
440 VOLT 3 PHASE		61128-06	
SHEET 1 OF 1		REV A	

- ① TOP ELEMENT 1500V (1 - 11045-06)
- ② BOTTOM ELEMENT 4500V (1 - 11045-07)
- ③ ELEMENT TYP OUTSIDE 1650W (4 - 11045-08)
- ④ ELEMENT TYP INSIDE 1850W (4 - 11045-09)
- ⑤ THREE POSITION SWITCH (4 - 30304-06)
- ⑥ THERMISTAT (1 - 30402-08)
- ⑦ TERMINAL BLOCK (2 - 30500-11)

# WIRING DIAGRAM

