SECTION 4. TROUBLESHOOTING

4-1. INTRODUCTION

This section provides troubleshooting information in the form of an easy to read table.

If a problem occurs during the first operation of a new fryer, recheck the installation per the Installation Section of this manual.

Before troubleshooting, always recheck the operation procedures per Section 3 of this manual.

4-2. TROUBLESHOOTING

To isolate a malfunction, proceed as follows:

1. Clearly define the problem (or symptom) and when it occurs.
2. Locate the problem in the Troubleshooting table.
3. Review all possible causes. Then, one-at-a-time work through the list of corrections until the problem is solved.
4. Refer to the maintenance procedures in the Maintenance Section to safely and properly make the checkout and repair needed.

WARNING

If maintenance procedures are not followed correctly, injuries and/or property damage could result.

Problem	Cause	Correction
	COOKING SECTION	
Product Color Not Correct:		
A. Too Dark	• Temperature too high.	• Check temperature setting in the program mode. See section on programming. • Remove and replace defective probe.
	• Shortening too old.	• Change shortening.
	• Shortening too dark.	• Filter shortening. • Change shortening.
	• Breading product too far in advance.	• Bread product closer to actual frying period.
	• Wrong cook button pushed.	• Be sure to select the correct product to be cooked.
B. Too Light	• Temperature too low.	• Check temperature setting. • Remove and replace defective probe.
	• Fryer incorrect preheat.	• Allow proper preheat time.
	• Slow fryer heat-up/ recovery.	• Refer to heating elements in the maintenance section.
	• Wrong cook button pushed.	• Be sure to select the correct product to be cooked.
C. Product Greasy	• Shortening old.	• Replace shortening.
	• Temperature too low.	• Check temperature setting. • Temperature not recovered when product was dropped in cookpot. • Remove and replace defective probe.
	• Wrong cook button pushed.	• Be sure to select the correct product to be cooked.
	• Cookpot overloaded.	• Reduce cooking load.
	• Product not removed from cookpot immediately after depressurization.	• Remove product immediately after depressurization of the cookpot.

Problem	Cause	Correction
	COOKING SECTION (Continued)	
B. Too Light	• Temperature too low.	• Check temperature setting. • Remove and replace defective probe.
	• Fryer incorrect preheat.	• Allow proper preheat time.
	• Slow fryer heat-up/ recovery.	• Refer to heating elements in the maintenance section.
	• Wrong cook button pushed.	• Be sure to select the correct amount of product to be cooked.
C. Product Greasy	• Shortening old.	• Replace shortening.
	• Temperature too low.	• Check temperature setting. • Temperature not recovered when product was dropped in cookpot. • Remove and replace defective probe.
	• Cookpot overloaded.	• Reduce cooking load.
	• Product not removed from cookpot immediately after end of cycle.	• Remove product immediately after end of cycle.
D. Spotted Product	• Improper separation of the product.	• Load product into basket properly.
	• Breading not uniform on the product.	• Sift breading regularly. • Separate product during breading.
	• Burned breading particles on product.	• Filter the shortening more frequently.
	• Product sticking together.	• Separate product prior to pressure cooking.

Problem	Cause	Correction
	COOKING SECTION (Continued)	
E. Dryness of Product	• Moisture loss prior to cooking.	• Use fresh products.
	• Overcooking the product.	• Reduce cooking time. • Reduce cooking temperature.
	• Low operating pressure.	• Check pressure gauge reading, check for pressure leaks.
	• Wrong cook button pushed.	• Be sure to select the correct product to be cooked.
Product Flavor (Taste): A. Salty Taste	• Breading mixture is too salty.	• Sift breading after each use. • Incorrect breading mixture. • Discard old breading.
	• Incorrect choice of breading.	• Use breading designed for the desired product.
B. Burned Taste	• Burned shortening flavor.	• Replace shortening.
	• Cookpot not properly cleaned.	• Drain and clean cookpot.
C. Bland Taste	• Raw product not fresh.	• Use fresh raw products.
	• Breading mixture incorrect for product (spice content too low).	• Use breading designed for desired product.
	• Cooking temperature too high (spice flavors lost).	• Check temperature.

Problem	Cause	Correction
	COOKING SECTION (Continued)	
D. Rancid Taste	• Shortening too old.	• Replace shortening, and follow recommended care and use of shortening.
	• Non compatible products cooked within the same shortening.	• Replace shortening. • Use compatible products, and follow recommended care and use of shortening.
	• Infrequent filtering.	• Replace shortening, and follow recommended care and use of shortening.
	• Raw product not fresh.	• Use fresh product.
General: A. Meat Separation From Bone	• Incorrect meat cut.	• Use correct meat cutting procedures.
	• Overcooking.	• Check cooking time.
	• Product not fresh.	• Use fresh product.
B. Bone Color Not Proper	• Using frozen product (black bone).	• Use fresh product.
	• Improper processing of product (black bone).	• Use proper processing procedure for product.
	• Product not thoroughly cooked (red bone).	• Check cooking time. • Check cooking temperature.
C. Breading Falls Off	• Incorrect breading procedures.	• Use correct breading procedure.
	• Product partially frozen.	• Thoroughly thaw the product, before breading.
D. Product Sticking Together	• Product breaded too long prior to cooking.	• Refer to breading and frying instructions.
	• Improper loading procedure.	• Properly load product per loading procedures.
	• Wrong cook button pushed.	• Be sure to select the correct product to be cooked.

Problem	Cause	Correction
	POWER SECTION	
With switch in POWER position, the fryer is completely inoperative (NO POWER)	• Open circuit.	• Check to see that unit is plugged in. • Check the breaker or fuse at supply box. • Check control panel fuses (electric model only). • Check voltage at wall receptacle. • Check MAIN POWER switch. Replace if defective. • Check cord and plug.
	LID/PRESSURE SECTION	
Pressure will not exhaust at end of cooking cycle.	• Exhaust line from solenoid valve to condensation tank clogged.	• Turn unit off and allow fryer to cool to release pressure from cookpot; clean all pressure lines, exhaust stacks, and condensation tank.
	• Solenoid valve clogged.	• Check and clean solenoid valve per Maintenance Section on Solenoid Valve.
Operating pressure too high	• Dead weight clogged.	• Turn unit off and allow fryer to cool to release pressure from cookpot; remove dead weight and clean.

Problem	Cause	Correction
LID/PRESSURE SECTION (Continued)		
 DO NOT OPERATE UNIT IF HIGH PRESSURE CONDITIONS EXIST, SEVERE INJURIES AND BURNS WILL RESULT. Place the Power/Pump switch in the "OFF" position immediately. Release the pressure by allowing unit to cool. The pressure will then drop. Do not resume use of unit until cause of high pressure has been found and corrected.	• Exhaust line to stack clogged	• Clean exhaust line to stack.
Pressure does not build	• Not enough product in fryer or product not fresh.	• Place proper quantity of fresh product within cookpot to generate steam.
	• Metal shipping spacer not removed from dead weight.	• Remove shipping spacer. See Unpacking Section.
	• Lid open or not latched.	• Close and latch lid.
	• Solenoid valve leaking or not closing.	• Check or clean solenoid valve per maintenance section on the solenoid valve.
	• Dead weight valve leaking.	• Repair per maintenance section on operating valve.
	• Pressure not programmed.	• Check programming.
	• Lid gasket leaking.	• Reverse gasket or lid needs adjusted. See Sections 5-10 & 5-13.

Problem	Cause	Correction
	LID/PRESSURE SECTION (Continued)	
	• Safety relief valve leaking.	• Check and replace if necessary per maintenance section on the relief valve.
	• Pressure pad broken or crushed.	• Replace pressure pads.
Lid won't move up or down	• Cable on Counterweight loose or broken Counterweight Cable.	• Put cable on Counterweight per section on
	• Check operation of counterweight carriage in rear of cooker.	• Make proper adjustments.
	HEATING OF SHORTENING SECTION	
Shortening will not heat	• Blown fuse or tripped circuit breaker at supply box or control panel.	• Reset breaker or replace fuse.
	• Blown fuse at control panel.	• Check fuse per Maintenance Section on fuses
	• Faulty Cook/Pump switch.	• Check Cook/Pump switch per Maintenance Section on Cook/Pump switch.
	• Faulty Cord and Plug.	• Check cord and plug and power at wall receptacle.
	• Faulty contactor.	• Check contactor per Maintenance Section on contactors.
	• Faulty Drain Switch.	• Check drain switch per Maintenance Section on Drain Switches.
	• Faulty PC board.	• Remove and replace control panel.
	• Faulty high limit control switch.	• Check high limit control switch per Maintenance Section on High Limits.

Problem	Cause	Correction
HEATING OF SHORTENING SECTION (Continued)		
Heating of shortening too slow (Electric Model)	• Low or improper voltage.	• Use a meter and check the receptacle against data plate.
	• Weak or burnt out element(s).	• Check heating element(s) per Maintenance Section on Heating Elements.
	• Points in contactor bad.	• Check contactor per Maintenance Section on Contactors.
	• Wire(s) loose.	• Tighten.
	• Burnt or charred wire connection.	• Replace wire and clean connectors.
Shortening overheating (Electric Model)	• Check shortening temperature.	• Check temperature setting in the program mode.
	• Check contactor for not opening.	• Check faulty contactor per Maintenance Section on Contactors.
	• Faulty PC Board.	• Remove and replace control panel.
	• Faulty probe.	• Remove and replace probe.
SHORTENING FOAMING/DRAINING SECTION		
Foaming or boiling over of shortening	• Water in shortening.	• At end of cooking cycle, drain shortening and clean cookpot. Add fresh shortening.
	• Condensation line stopped up.	• Remove and clean condensation line.
	• Improper or bad shortening.	• Use recommended shortening.
	• Improper filtering.	• Refer to the procedure covering filtering the shortening.

Problem	Cause	Correction
SHORTENING FOAMING/DRAINING SECTION (Continued)		
	• Cold zone full of cracklings.	• Filter shortening.
	• Improper rinsing after cleaning the fryer.	• Clean and neutralize the cookpot. Rinse with vinegar to remove the alkaline, then rinse with hot water and dry cookpot.
	• Too much stirring.	• Only stir on initial heat-up.
Shortening will not drain from cookpot	• Drain valve clogged with crumbs.	• Open valve - push cleaning brush through drain opening from inside of cookpot.
	• Drain valve will not open by pulling the knob.	• Replace cotter pins in valve coupling.
Shortening leaking through drain valve.	• Obstruction in drain.	• Remove obstruction.
	• Faulty drain valve.	• Replace drain valve.

CONTROL PANEL SECTION

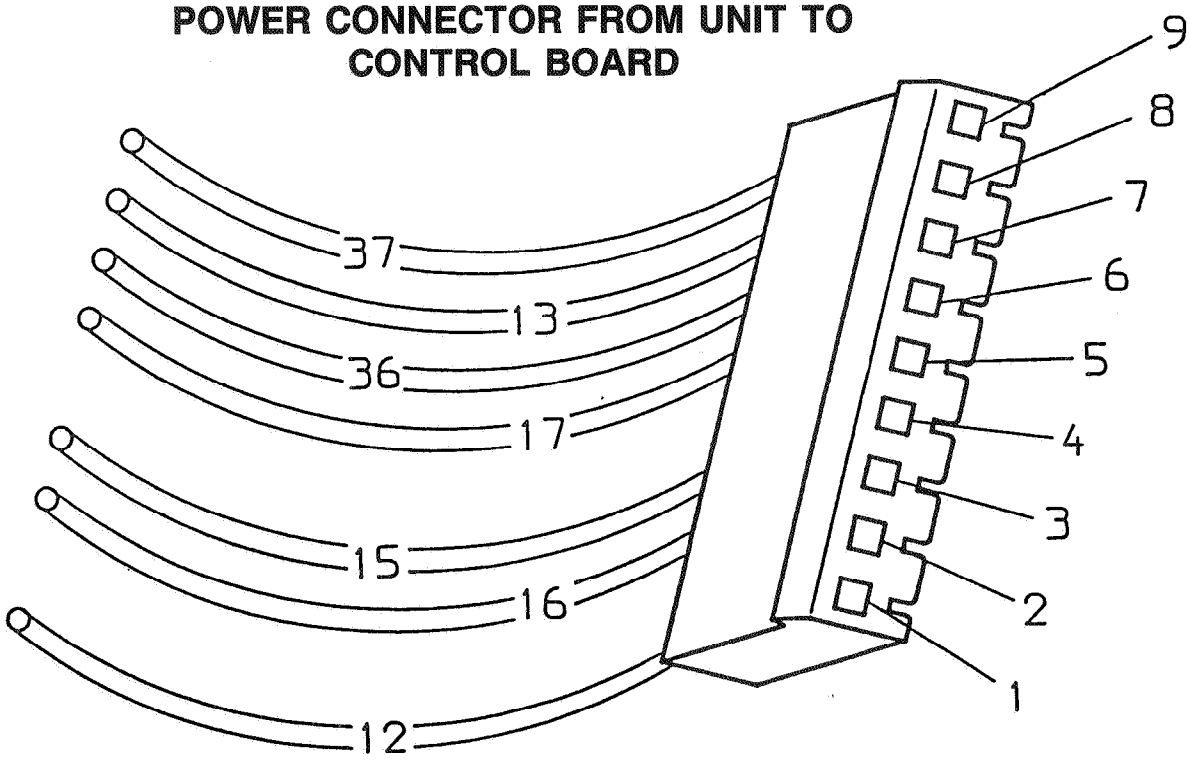
WARNING

The following guide requires voltage to be present when troubleshooting the control. When the guide refers to connecting pins on the power connection, unplug the power connector from the board and refer to the attached illustration. These are numbered 1 through 9. Using a strand of #16 gauge wire, connect the pins as numbered in the troubleshooting guide. Extreme caution must be taken when connecting these pins to avoid control board damage or electrical shock.

Problem	Correction
With switch in COOK position, the fryer is completely inoperative (no power switch light).	• Check to see if unit has voltage. • Check fuses. • Defective power switch.
With switch in COOK position, the fryer is completely inoperative (power switch light on, pump works).	• Check voltage on pins 1 and 7 on the power connector, 10 VAC. • If voltage is present, check fuse on control board. • If fuse is defective, replace fuse.
Control operative - all lights on - primary contactor engages - no heat or pressure.	• Drain valve open. • Defective drain switch.
Control operative - all lights on - no heat or pressure - primary contactor does NOT engage.	• Check 5 amp fuse located on heat shroud - fuse OK. • Check voltage from center of fuse to ground - 208/240 VAC. • Defective transformer.
Control operative - all lights on - has pressure - no heat.	• Connect pins 4 and 6 on the power connector. • If contactor engages - replace control board • If contactor does not engage, replace contactor.
Control operative - all lights on - heat on - no pressure - pressure light OFF.	• Connect pins 3 and 6 on the power connector. • If solenoid engages - defective control board. • If solenoid does not engage - defective solenoid coil - 208/240 VAC.
Control operative - all lights on - heat on - no pressure - pressure light ON.	• Check programming

CONTROL PANEL SECTION (Continued)	
Problem	**Correction**
Error message E-5 display reads HI.	• Cool shortening down. • Read display temperature - if display temperature reads HI, unplug power connector from control board. If secondary contactor stays engaged, change contactor - if secondary contactor disengages, change control board. If shortening temperature reads normal - defective thermal sensor - replace.
Error message E-6.	• Defective thermal sensor. • Replace thermal sensor.
Error message E-10.	• Reset manual high limit thermostat.
Error message E-41.	• Depress timer switch. • Control must be completely reprogrammed.

POWER CONNECTOR FROM UNIT TO CONTROL BOARD



NOTE

If the power connector is making poor contact onto the board, an error message could be read, or it might disable other components. When removing connector, look down into power connector to see if the ramp connectors, inside the power connector, are not flat. If so, they can be removed from the power connector, and bent back into proper position.