

## SECTION 1. TROUBLESHOOTING

### 1-1. 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.

### 1-2. SAFETY

Where information is of particular importance or safety related, the words DANGER, WARNING, CAUTION, and NOTICE are used. Their usage is described below.



SAFETY ALERT SYMBOL is used with DANGER, WARNING, or CAUTION which indicates a personal injury type hazard.



NOTICE is used to highlight especially important information.



*CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.*



*CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.*



**WARNING** indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



**DANGER INDICATES AN IMMINENTLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, WILL RESULT IN DEATH OR SERIOUS INJURY.**

### **1-3. 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.



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

Problem	Cause	Correction
<b>COOKING SECTION</b>		
Product color not correct: A. Too dark	<ul style="list-style-type: none"> <li>• Temperature too high</li> <li>• Faulty temperature probe</li> <li>• Shortening too old</li> <li>• Shortening too dark</li> <li>• Breeding product too far in advance</li> </ul>	<ul style="list-style-type: none"> <li>• Check temperature setting in the program mode; see Programming Section in Operator's Manual</li> <li>• Remove and replace temperature probe</li> <li>• Change shortening</li> <li>• Filter shortening</li> <li>• Change shortening</li> <li>• Bread product closer to actual frying period</li> </ul>
B. Too light	<ul style="list-style-type: none"> <li>• Temperature too low</li> <li>• Fryer incorrect preheat</li> <li>• Slow fryer heat-up/recovery</li> <li>• Wrong cook button pushed.</li> </ul>	<ul style="list-style-type: none"> <li>• Check temperature setting</li> <li>• Remove and replace temperature probe</li> <li>• Allow proper preheat time</li> <li>• Faulty element</li> <li>• Be sure to select the correct product to be cooked</li> </ul>
C. Product greasy	<ul style="list-style-type: none"> <li>• Shortening old</li> <li>• Temperature too low</li> <li>• Faulty temperature probe</li> <li>• Frypot overloaded</li> <li>• Product not removed from frypot immediately after end of cycle</li> </ul>	<ul style="list-style-type: none"> <li>• Replace shortening</li> <li>• Check temperature setting</li> <li>• Temperature not recovered when product was dropped in frypot</li> <li>• Remove and replace defective temperature probe</li> <li>• Reduce cooking load</li> <li>• Remove product from frypot immediately after end of cycle</li> </ul>

Problem	Cause	Correction
<b>COOKING SECTION (Continued)</b>		
D. Spotted product	<ul style="list-style-type: none"> <li>• Improper separation of the product</li> <li>• Breeding not uniform on the product</li> <li>• Burned breeding particles on product</li> <li>• Product sticking together</li> </ul>	<ul style="list-style-type: none"> <li>• Load product into racks properly</li> <li>• Sift breeding regularly</li> <li>• Separate product during breeding</li> <li>• Filter the shortening more frequently</li> <li>• Separate product prior to pressure cooking</li> </ul>
E. Dryness of product	<ul style="list-style-type: none"> <li>• Moisture loss prior to cooking</li> <li>• Overcooking the product</li> <li>• Wrong cook button pushed</li> </ul>	<ul style="list-style-type: none"> <li>• Use fresh products</li> <li>• Reduce cooking time</li> <li>• Reduce cooking temperature</li> <li>• Be sure to select the correct product to be cooked</li> </ul>
Product flavor (taste):		
A. Salty taste	<ul style="list-style-type: none"> <li>• Breeding mixture is too salty</li> <li>• Incorrect choice of breeding</li> </ul>	<ul style="list-style-type: none"> <li>• Sift breeding after each use</li> <li>• Incorrect breeding mixture</li> <li>• Discard old breeding</li> <li>• Use breeding designed for the desired product</li> </ul>
B. Burned taste	<ul style="list-style-type: none"> <li>• Burned shortening favor</li> <li>• Frypot not properly cleaned</li> </ul>	<ul style="list-style-type: none"> <li>• Replace shortening</li> <li>• Drain and clean frypot</li> </ul>
C. Bland taste	<ul style="list-style-type: none"> <li>• Raw product not fresh</li> <li>• Breeding mixture incorrect for product (spice content too low)</li> <li>• Cooking temperature too high (spice flavors lost)</li> </ul>	<ul style="list-style-type: none"> <li>• Use fresh raw product</li> <li>• Use breeding designed for desired product</li> <li>• Check temperature</li> </ul>

<b>Problem</b>	<b>Cause</b>	<b>Correction</b>
<b>COOKING SECTION (Continued)</b>		
D. Rancid taste	<ul style="list-style-type: none"> <li>• Shortening too old</li> <li>• Infrequent filtering</li> <li>• Non-compatible products cooked within the same</li> <li>• Raw product not fresh</li> </ul>	<ul style="list-style-type: none"> <li>• Replace shortening, and follow recommended care and use of shortening</li> <li>• Replace shortening and follow recommended care and use of shortening</li> <li>• Replace shortening</li> <li>• Use compatible products, shortening, - and follow recommended care and use of shortening</li> <li>• Use fresh product</li> </ul>
General:		
A. Meat separation from bone	<ul style="list-style-type: none"> <li>• Incorrect meat cut procedures</li> <li>• Overcooking</li> <li>• Product not fresh</li> </ul>	<ul style="list-style-type: none"> <li>• Use correct meat cutting</li> <li>• Check cooking time</li> <li>• Use fresh product</li> </ul>
B. Bone color not proper	<ul style="list-style-type: none"> <li>• Using frozen product (black bone)</li> <li>• Improper processing of product (black bone)</li> <li>• Product not thoroughly cooked (red bone)</li> </ul>	<ul style="list-style-type: none"> <li>• Use fresh product</li> <li>• Use proper processing procedure for product</li> <li>• Check cooking time</li> <li>• Check cooking temperature</li> </ul>
C. Breading falls off	<ul style="list-style-type: none"> <li>• Incorrect breading procedures</li> <li>• Product partially frozen</li> </ul>	<ul style="list-style-type: none"> <li>• Use correct breading procedure</li> <li>• Thoroughly thaw the product, before breading</li> </ul>
D. Product sticking together	<ul style="list-style-type: none"> <li>• Product breaded too long prior to cooking</li> <li>• Improper loading procedure</li> <li>• Wrong cook button pushed</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to breading and frying instructions</li> <li>• Properly load product per loading procedures</li> <li>• Be sure to select the correct product to be cooked</li> </ul>

<b>Problem</b>	<b>Cause</b>	<b>Correction</b>
<b>POWER SECTION</b>		
With switch in POWER position, the fryer is completely inoperative (NO POWER)	<ul style="list-style-type: none"> <li>• Open circuit</li> </ul>	<ul style="list-style-type: none"> <li>• Check to see that unit is plugged in</li> <li>• Check the breaker or fuse at supply box</li> <li>• Check voltage at wall receptacle</li> <li>• Check MAIN POWER switch; replace if defective</li> <li>• Check cord and plug</li> <li>• Check 15 amp fuses</li> </ul>
<b>HEATING OF SHORTENING SECTION</b>		
Shortening will not heat	<ul style="list-style-type: none"> <li>• Blown fuse or tripped</li> <li>• Blown fuse in PC board</li> <li>• Faulty POWER/PUMP switch.</li> <li>• Faulty cord and plug</li> <li>• Faulty drain switch</li> <li>• Faulty PC Board</li> <li>• Faulty high limit control switch</li> <li>• Drain valve open</li> <li>• Possible faulty temperature probe</li> <li>• Faulty contactor</li> </ul>	<ul style="list-style-type: none"> <li>• Reset breaker or replace fuse circuit breaker at supply box or control panel</li> <li>• Replace glass fuse in board</li> <li>• Check POWER/PUMP switch per maintenance section on the POWER/PUMP switch</li> <li>• Check cord and plug</li> <li>• Check power at receptacle</li> <li>• Check drain switch per maintenance section on drain switches</li> <li>• Remove and replace control panel</li> <li>• Check high limit control switch per maintenance section on the high limit</li> <li>• Close drain valve</li> <li>• Replace temperature probe</li> <li>• Check contactor per maintenance section on contactors</li> </ul>

Problem	Cause	Correction
<b>HEATING OF SHORTENING SECTION (Continued)</b>		
Heating of shortening too slow	<ul style="list-style-type: none"> <li>• Low or improper voltage</li> <li>• Weak or burnt out element(s)</li> <li>• Points in contactor bad</li> <li>• Wire(s) loose</li> <li>• Burnt or charred wire connection</li> </ul>	<ul style="list-style-type: none"> <li>• Use a meter and check the receptacle against data plate</li> <li>• Check heating element(s) per Heating Elements Section</li> <li>• Check contactor per Heating Contactors Section</li> <li>• Tighten</li> <li>• Replace wire and clean connectors</li> </ul>
Shortening overheating	<ul style="list-style-type: none"> <li>• Programming wrong</li> <li>• Faulty PC board</li> <li>• Faulty temperature probe</li> <li>• Check contactor for not opening</li> </ul>	<ul style="list-style-type: none"> <li>• Check temperature setting in the program mode</li> <li>• Remove and replace control panel</li> <li>• Remove and replace temperature probe</li> <li>• Check faulty contactor per Heating Contactors Section</li> </ul>

Problem	Cause	Correction
<b>SHORTENING FOAMING/DRAINING SECTION</b>		
Foaming or boiling over of shortening	<ul style="list-style-type: none"> <li>• Water in shortening</li> <li>• Condensation line stopped up</li> <li>• Improper or bad shortening</li> <li>• Improper filtering</li> <li>• Cold zone full of cracklings</li> <li>• Improper rinsing after cleaning the fryer</li> </ul>	<ul style="list-style-type: none"> <li>• At end of a Cook Cycle, drain shortening and clean frypot; add fresh shortening</li> <li>• Remove and clean condensation line</li> <li>• Use recommended shortening</li> <li>• Refer to the procedure covering filtering the shortening</li> <li>• Filter shortening</li> <li>• Clean and neutralize the frypot; rinse with vinegar to remove the alkaline, then rinse with hot water and dry frypot</li> </ul>
Shortening will not drain from frypot	<ul style="list-style-type: none"> <li>• Drain valve clogged with crumbs</li> </ul>	<ul style="list-style-type: none"> <li>• Open valve - push cleaning rod through drain opening from inside of frypot</li> </ul>
Shortening leaking through drain valve	<ul style="list-style-type: none"> <li>• Obstruction in drain</li> <li>• Faulty drain valve</li> </ul>	<ul style="list-style-type: none"> <li>• Remove obstruction</li> <li>• Replace drain valve</li> </ul>



# **1-4. ERROR CODE TABLE**

In the event of a control system failure, the digital display shows an error message. These messages are coded: “E4”, “E5”, “E6”, “E10”, “E15”, “E41”, “E46”, “E47”, “E48”, “E70B” and “E92”. An alarm sounds when an error code is displayed, and to silence this alarm, press any button.

<b><u>DISPLAY</u></b>	<b><u>CAUSE</u></b>	<b><u>PANEL BOARD CORRECTION</u></b>
“E-4”	Control board overheating	Turn switch to OFF position, then turn switch back ON; if display shows “E-4”, the control board is getting too hot; check the louvers on each side of the unit for obstructions; check cooling fan, if present
“E-5”	Shortening overheating	Turn switch to OFF position, then turn switch back to ON; if display shows “E-5”, the heating circuits and temperature probe should be checked
“E-6 A”	Temperature probe open	Turn switch to OFF position, then turn switch back to ON; if display shows “E-6”, have the temperature probe checked
“E-6 B”	Temperature probe shorted	Turn switch to OFF position, then turn switch back to ON; if display shows “E-6” have the temperature probe checked
“E-10”	High limit	Reset the high limit by manually pushing up on the reset button; if high limit does not reset, high limit must be replaced
“E-15”	Drain switch	Close drain, using the drain valve handle; if display still failure shows “E-15”, have the drain microswitch checked

# **1-4. ERROR CODE TABLE** **(Continued)**

DISPLAY	CAUSE	PANEL BOARD CORRECTION
“E-41”, “E-46”	Programming Failure	Turn switch to OFF, then back to ON, if display shows any of the error codes, try to reinitialize the control; if error code persists, have the control board replaced
“E-47”	Analog converter chip or 12 volt supply failure	Turn switch to OFF, then back to ON, if “E-47” persists, have the I/O board, or the PC board replaced; if speaker tones are quiet, probably I/O board failure
“E-48”	Input system error	Have PC board replaced
“E-70 B”	Faulty power switch, or switch wiring; faulty I/O board	Have power switch checked, along with its wiring; have Input/Output board replaced if necessary
“E-92”	24 VAC fuse on I/O board open	Have components, in 24-volt circuit (I.E., hi limit, drain switch) checked for shorts