VT SERIES VERTICAL TOASTER
SERVICE MANUAL

This equipment chapter is to be inserted in the Equipment Manual

MANUFACTURED
EXCLUSIVELY FOR
McDONALD'S®
BY FRYMASTER, L.L.C.
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1 (800) 24 FRYER

Return to Non-Fryers Cover

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Printed in the United States | Service Hotline 1-800-24-FRYER | 819-5682 09/01

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

DO NOT OPERATE OR SERVICE THE VERTICAL TOASTER WITHOUT FIRST READING THIS MANUAL

DO NOT OPERATE THE VERTICAL TOASTER UNLESS IT HAS BEEN PROPERLY INSTALLED AND CHECKED.

DO NOT OPERATE THE VERTICAL TOASTER UNLESS ALL COVERS AND ACCESS PANELS ARE IN PLACE AND PROPERLY SECURED.

DO NOT ATTEMPT TO REPAIR OR REPLACE ANY COMPONENT OF THE VERTICAL TOASTER UNLESS ALL POWER TO THE UNIT HAS BEEN DISCONNECTED.

USE CAUTION WHEN SETTING UP, OPERATING, OR CLEANING THE VERTICAL TOASTER TO AVOID CONTACT WITH HEATED SURFACES.

HAZARD COMMUNICATION STANDARD (HCS) – THE PROCEDURES IN THIS MANUAL INCLUDE THE USE OF CHEMICAL PRODUCTS. THESE CHEMICAL PRODUCTS WILL BE PRINTED IN BOLD FACE, FOLLOWED BY THE ABBREVIATION (HCS) IN THE TEXT PORTION OF THE PROCEDURE. SEE THE HAZARD COMMUNICATION STANDARD (HCS) MANUAL FOR THE APPROPRIATE MATERIAL SAFETY DATA SHEET(S) (MSDS).

1. WARRANTY STATEMENT

The Frymaster Corporation makes the following limited warranties to the original purchaser only for this equipment and replacement parts:

1.1 WARRANTY PROVISIONS – VERTICAL TOASTER

A. The Frymaster Corporation warrants all components against defects in material and workmanship for a period of 1 year.

B. All parts, with the exception of belts, are warranted for 1 year after installation date of toaster. (Belts are consumable items.)

C. If any parts become defective during the first year after installation date, Frymaster will also pay straight-time labor costs to replace the part, plus up to 100 miles/160 km of travel (50 miles/80 km each way).

1.2 PARTS RETURN

All defective in-warranty parts must be returned to a Frymaster Factory Authorized Service Center within 60 days for credit. After 60 days, no credit will be allowed.

1.3 WARRANTY EXCLUSIONS

This warranty does not cover equipment that has been damaged due to misuse, abuse, alteration, or accident such as:

- improper or unauthorized repair;
- failure to follow proper installation instructions and/or scheduled maintenance procedures as prescribed in your MRC cards;
- improper maintenance;
- damage in shipment;
- abnormal use;
- removal, alteration, or obliteration of the rating plate.

This warranty also does not cover:

- transportation or travel over 100 miles/160 km (50 miles/80 km each way), or travel time over two (2) hours.
- overtime or holiday charges;
- consequential damages (the cost of repairing or replacing other property which is damaged); loss of time, profits, use or any other incidental damages of any kind.

There are no implied warranties of merchantability or fitness for any particular use or purpose.

For international warranty, the above procedures apply, except that the customer is responsible for freight and duty charges.

2. PARTS ORDERING AND SERVICE INFORMATION

Return to Cover

Parts orders may be placed directly with your local Frymaster Factory Authorized Service Center (FASC)/Distributor. A list of Frymaster FASCs was included with the unit when shipped from the factory. If you do not have access to this list, contact the Frymaster Service Department at 1-800-24-FRYER or 1-318-865-1711.

To speed up your order, the following information is required:

Model Number _____
Serial Number _____
Voltage _____
Part Number _____
Quantity Needed _____

Service may be obtained by contacting your local FASC or Distributor. Service information may be obtained by calling the Frymaster Service Department. The following information will be needed in order to assist you quickly and efficiently.

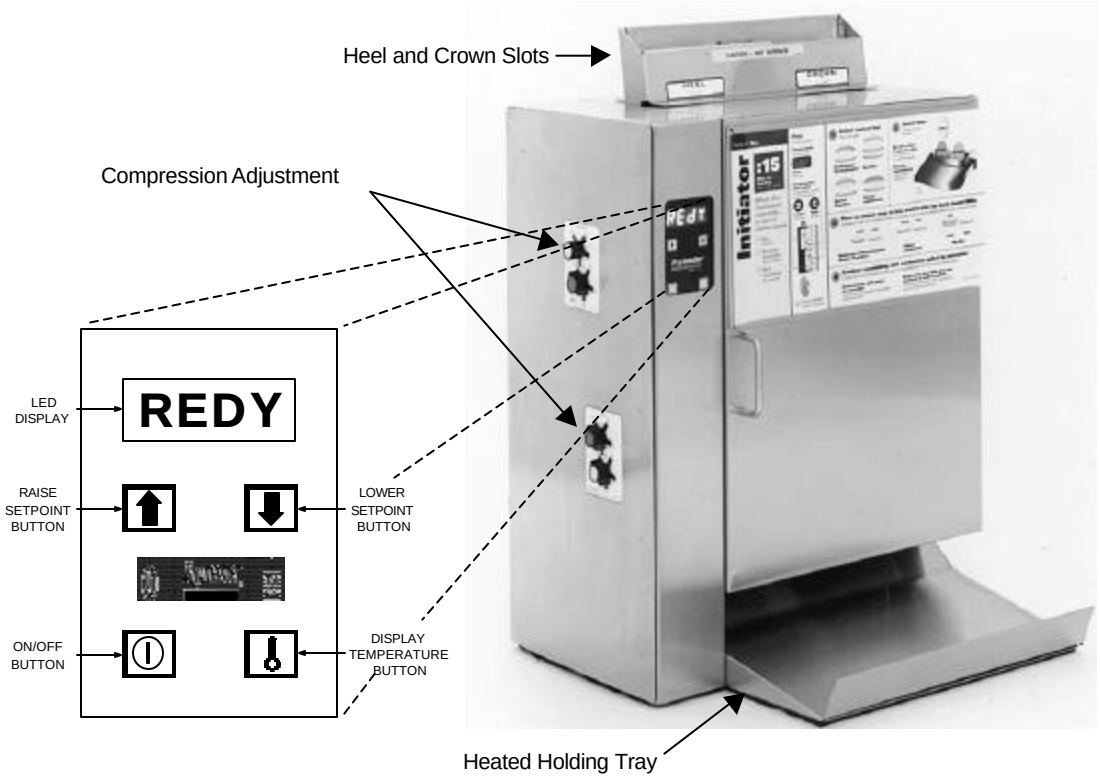
Model Number _____
Serial Number _____
Nature of Problem _____

_____

_____

_____

Also include any other information which may be helpful in solving your service problem.



3. VERTICAL TOASTER OPERATIONAL DESCRIPTION

The Vertical Toaster is designed to produce fresh, uniformly toasted buns on an "as needed" basis.

The countertop-mounted unit consists of a cabinet, a computer, a heating element and a pair of conveyor assemblies.

When the unit is turned on, an electrical heating element (called a *platen*) is energized. The platen heats up to a programmed temperature referred to as the *setpoint*. At the same time, both conveyor assemblies are activated. When a bun is placed into one of the slots at the top of the cabinet, the conveyor belts gently carry it through the unit, with the cut face of the bun passing over the heated platen. As the bun passes over the platen, it is toasted. At the end of the process, the bun is deposited onto a heated holding tray that keeps it warm until it is used in a sandwich.

The computer allows the operator to adjust the setpoint to obtain desired toasting characteristics. Compression adjustment knobs also allow the operator to adjust the compression of heels and crowns as they pass through the toaster.

4. INSTALLATION/SETUP

Upon arrival, inspect the toaster for concealed damage. Immediately report any damage to the delivering freight company. Claims must be filed within 15 days after receipt of the unit.

Power Requirements:

ALL ELECTRICALLY OPERATED APPLIANCES MUST BE ELECTRICALLY GROUNDED IN ACCORDANCE WITH LOCAL CODES, OR IN THE ABSENCE OF LOCAL CODES, WITH THE NATIONAL ELECTRICAL CODE (ANSI/NFPA NO. 70-1990) OR THE CORRESPONDING NATIONAL CODE OF THE COUNTRY IN WHICH INSTALLED.

THIS APPLIANCE IS EQUIPPED WITH A GROUNDING PLUG FOR YOUR PROTECTION AGAINST SHOCK HAZARD AND MUST BE PLUGGED INTO A PROPERLY GROUNDED RECEPTACLE. DO NOT CUT OR REMOVE THE GROUNDING PRONG FROM THIS PLUG!

- Voltage: 208VAC or 240VAC depending on model ordered*
- Frequency: 60 Hz (other than European Union [CE] models) or 50 Hz (European Union models)
- Phase: Single
- Service: 30 Amp

* *Units can be configured for either 208VAC or 240VAC by connecting the wiring to the appropriate taps on the transformer and drive motor.*

Setup:

Setup of the toaster consists of unpacking the unit, placing it on a sturdy table or countertop adjacent to a properly grounded AC outlet (208V or 240V, depending on model ordered), and plugging it in.

The unit is shipped with a programmed setpoint of 540°F (282°C), crown compression knobs set to **E**, and heel compression knobs set to **5**. It is recommended that these knobs be set to **C** and **3** for initial operation.

5. OPERATION

1. Press the ON/OFF ⏻ button. The word **LOW** will appear in the green LED display window. The unit will take about 10 minutes to reach operating temperature, at which time the display will change to **REDY**, indicating the toaster is ready for use.

2. Load buns into the appropriate slots (Heel or Crown) one at a time, with the cut faces toward the rear of the unit. It will take about 11 seconds for the unit to toast the buns and transfer them to the heated holding tray.

3. Adjust the setpoint and bun compression as necessary to achieve desired toasting.

6. VIEWING AND ADJUSTING THE SETPOINT

To view the platen temperature, press the button once. The temperature in degrees Fahrenheit will appear in the green LED display window. To view the current setpoint, press the button twice. The setpoint in degrees Fahrenheit will be displayed in the green LED display window. To toggle the display to Celsius, unplug the unit, then press and hold the button as the unit is plugged back in.

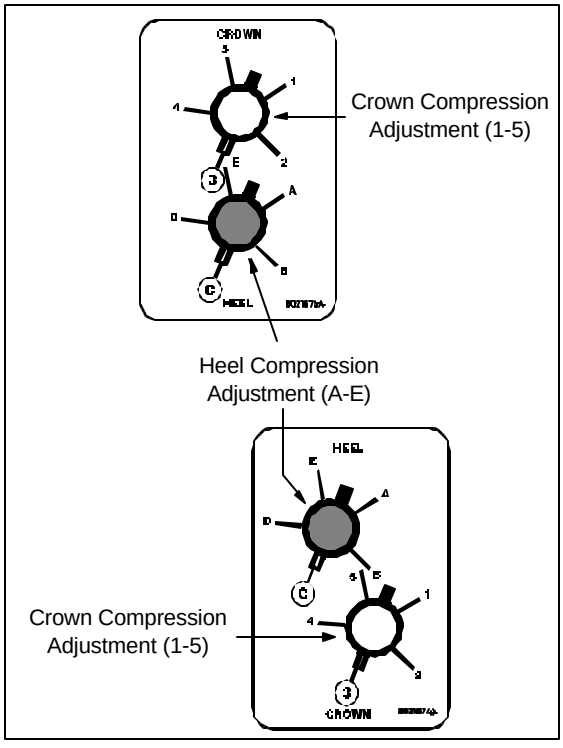
To change the setpoint:

1. Turn the unit OFF (press the button). Enter the setpoint programming mode by pressing the , , , buttons in that order. The current setpoint will appear in the LED display. To increase the setpoint, press the button; to decrease it, press the button.

2. When the desired setpoint is displayed, press the button once. Press the ON/OFF button. If the platen is within 20°F (11°C) of the setpoint, the display will show **REDY**. Otherwise, the display will show **LOW** or **HIGH** until the platen is within 20°F (11°C) of the setpoint, at which time the setpoint will change to **REDY**.

7. ADJUSTING BUN COMPRESSION

1. There are two pairs of compression adjustment knobs (one pair numbered 1-5, the other lettered A-E), as shown in the accompanying illustration. Both knobs in each pair must be set to the same position.



2. Settings A and 1 cause the greatest bun compression (that is, the thinnest bun after toasting).

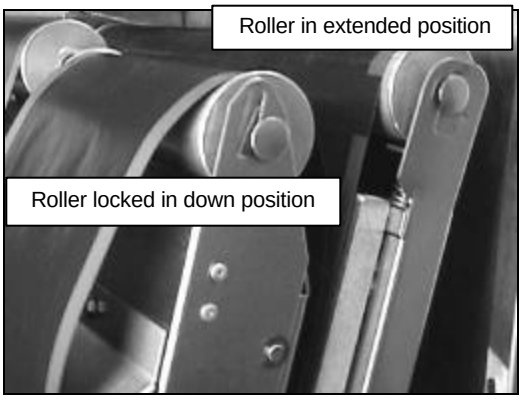
8. CHANGING BELTS

1. Turn the unit off (press the ON/OFF ⏻ button) then unplug it. If the unit has been in operation, allow it to cool for about 1½ hours. **TIP:** Change belts in the morning, prior to turning the toaster on.

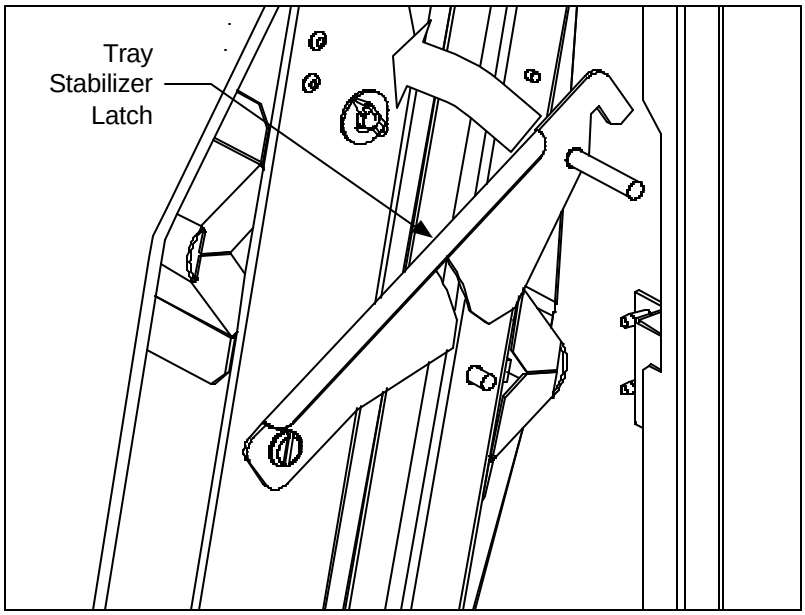
2. Remove the bun feeder, then remove the cover by lifting it straight up until it is clear of its retaining brackets.

3. Set the bun compression knobs to positions **E** and **5**.

4. Press down on the top roller and move it to the rear to lock it in the retracted (down) position. (NOTE: Each side of the roller must be locked down.)



5. Rotate the tray stabilizer latch upward to unlatch it.



6. Slip the old belt off the rollers and slip the new belt on. When the replacement belt has been properly positioned between the raised edges of its rollers, rotate the tray stabilizer latch to the latched position.

7. Press down and forward on the top roller to unlock it and allow it to extend.

8. Replace the cover, being careful as it is lowered over the cover interlock switch. Return the bun compression knobs to their previous settings.

9. OPERATOR TROUBLESHOOTING

PROBLEM	PROBABLE CAUSES	CORRECTIVE ACTION
Bun conveyors do not start when ON/OFF button is pressed.	A. Cover not properly installed.	A. Make sure cover is correctly positioned so that the cover interlock switch is depressed.
	B. Toaster not plugged in.	B. Plug toaster in.
	C. Store circuit breaker tripped.	C. Reset circuit breaker.
	D. Failed cover interlock switch, failed high limit, failed motor, or failed controller.	D. Call FASC.
Toasting is consistently too dark or too light.	A. Improper setpoint programmed.	A. If toasting is too dark, lower the setpoint and/or compression setting until desired toasting is achieved. If toasting is too light, increase setpoint and/or compression setting until desired toasting is achieved.
Bun compression is incorrect.	A. Compression knobs set at different settings.	A. Make sure both knobs in each pair of knobs are at the same setting.
	B. Compression knobs on an improper setting for desired compression.	B. Adjust the compression knobs to achieve desired compression. Moving them to a lower setting will increase compression. Moving them to a higher setting will decrease compression. Make sure both pairs of knobs are on the same setting.
Buns are toasting inconsistently.	A. Compression knobs set at different settings.	A. Make sure both knobs in each pair of knobs are at the same setting.
	B. Belt slippage.	B. Shut down and clean unit, paying particular attention to grooves in rollers and condition of belts.
	C. Incorrect belt speed, faulty platen heater, or faulty controller.	C. Call FASC.

10. SERVICE INFORMATION

10.1 INTRODUCTION

Vertical toasters manufactured for use in the European Community (CE) and those manufactured for use elsewhere are identical in most respects, but there are some important differences. The paragraphs that follow summarize the differences and provide a list of the parts that are unique to each model.

The most significant differences are in the electronic components. Units built for non-CE markets have a 60 Hz motor; those built for the CE market have a 50 Hz motor. CE and non-CE units also use different transformers, and CE units have a line filter built into the electrical power supply system. The line filter and cover are attached to the rear of the cabinet.

Because of the difference in the power cycle frequency (50 Hz vs. 60 Hz), CE units are equipped with 16-tooth drive sprockets. Non-CE units have 19-tooth drive sprockets. The smaller drive sprockets on the CE units maintain the correct belt speed even though the RPM of the 50 Hz motor is slightly slower than that of the 60 Hz motor.

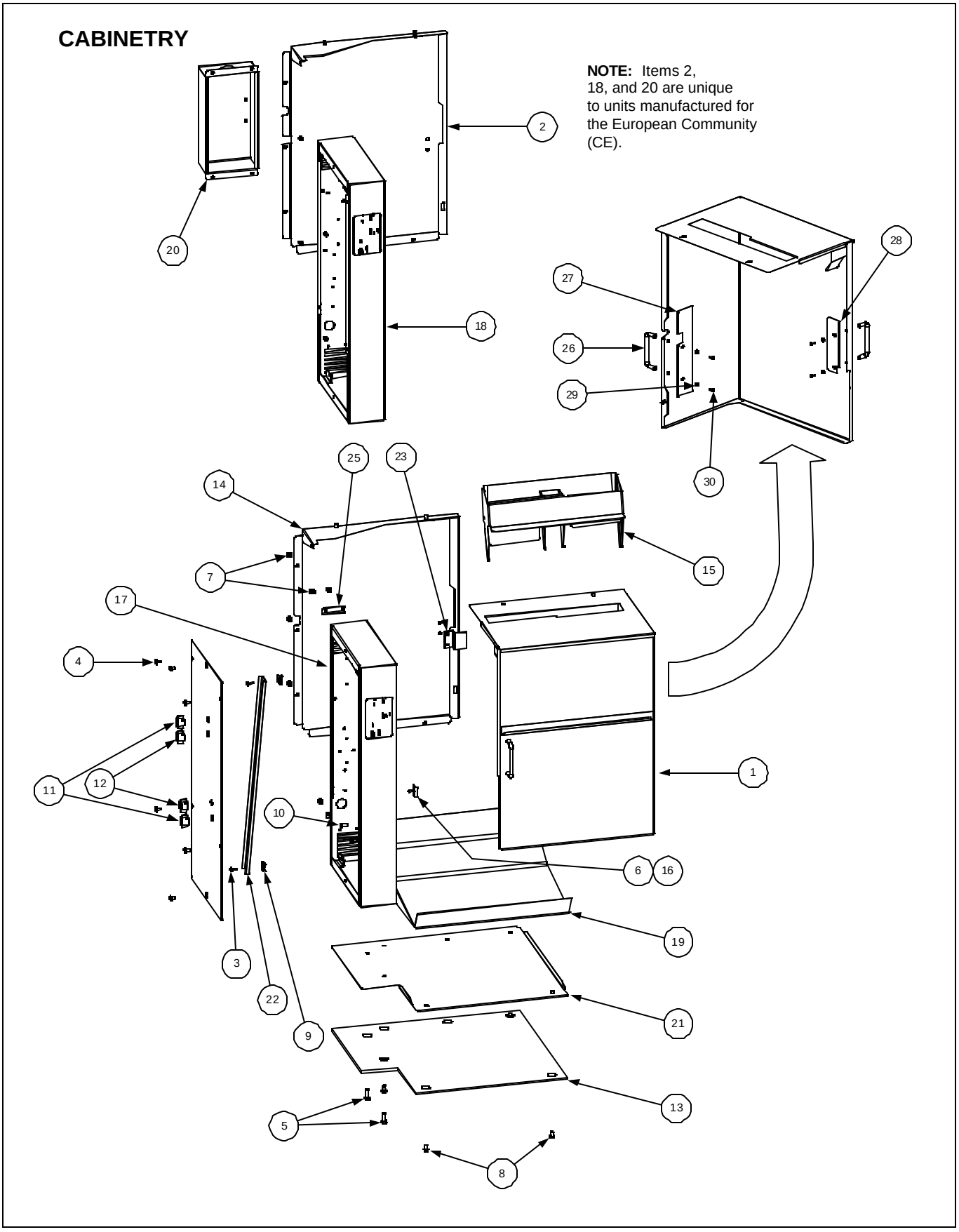
In addition to the CE line filter and cover, CE units have a different cabinet back and component housing than Non-CE units to accommodate the filter and cover.

The table below identifies the components that are unique to each configuration.

Components Unique to CE Units		**Components Unique to Non-CE Units**	
P/N	**Description**	**P/N**	**Description**
807-2191	Transformer (208-240V/12V)	807-0979	Transformer (208-240V/12V)
807-0910	Transformer Fuse, 250V/3A	N/A	Not used.
106-0773	Transformer Bracket Assembly	N/A	Not used.
807-3472	Line Filter	N/A	Not used.
824-0896	Line Filter Cover	N/A	Not used.
106-0783	Saia Motor (50 Hz)	106-0112	Saia Motor (60 Hz)
810-1865	16-Tooth Drive Sprocket	810-1728	19-Tooth Drive Sprocket
823-3196	Component Housing	823-3054	Component Housing
106-0786	Cabinet Back	823-2758	Cabinet Back

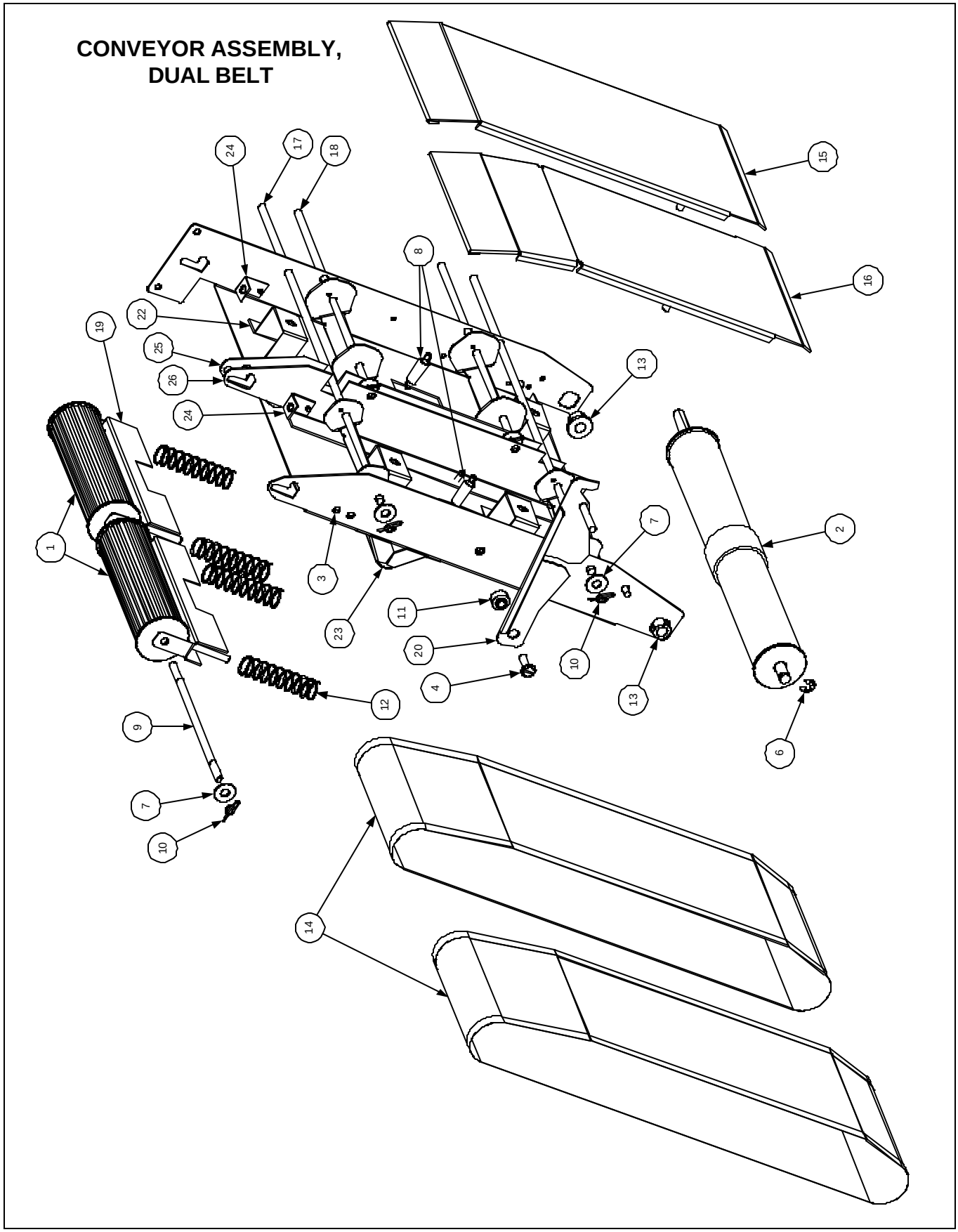
The illustrations in the parts list that follows also identify the CE and Non-CE components.

10.2 PARTS LIST



ITEM	PART #	COMPONENT
1	823-3139	Cover (does not include handles and stiffeners)
2	106-0786	Back Panel Assembly (used on CE units)
3	8090104	Screw, 8-32 x ½-inch Slotted Truss Head
4	809-0117	Screw, 10-32 x ? -inch Slotted Truss Head
5	809-0131	Screw, ¼-20 x ¾-inch Hex Head
6	809-0256	Nut, 10-32 Keps Hex
7	809-0412	Screw, #10 x ½-inch Hex Head
8	809-0434	Screw, #10 x ? -inch Hex Washer Head
9	809-0448	Clip, Tinnerman
10	809-0449	Screw, #10 x ½-inch Philips Truss Head
11	810-1662	Knob, Compression Adjustment (Silver)
12	810-1692	Knob, Compression Adjustment (Blue)
13	816-0406	Seal, Toaster Base
14	823-2758	Back Panel (used on non-CE units)
15	823-2793	Guide, Toast (Feeding Chute)
16	823-2812	Guide, Toaster Cover
17	823-3054	Housing, Component (used on non-CE units)
18	823-3196	Housing, Component (used on CE units)
19	824-0767	Pan, Toaster Dump
20	824-0896	Cover, Line Filter (used on CE units)
21	900-8436	Bottom, Toaster
22	900-8583	Brace, Component Housing
23	910-8584	Bracket, Tray Stabilizer Latch Support
24	910-8602	Cover, Component Housing
25	910-8625	Rail, Toaster Drip
26	810-1683	Handle, Cover
27	910-9458	Bracket, Cover Side Reinforcement
28	210-1232	Bracket, Cover Front Reinforcement
29	809-0184	Washer, #10 Lock
30	809-0107	Screw, 8-32 x ? -inch Round Slotted Head

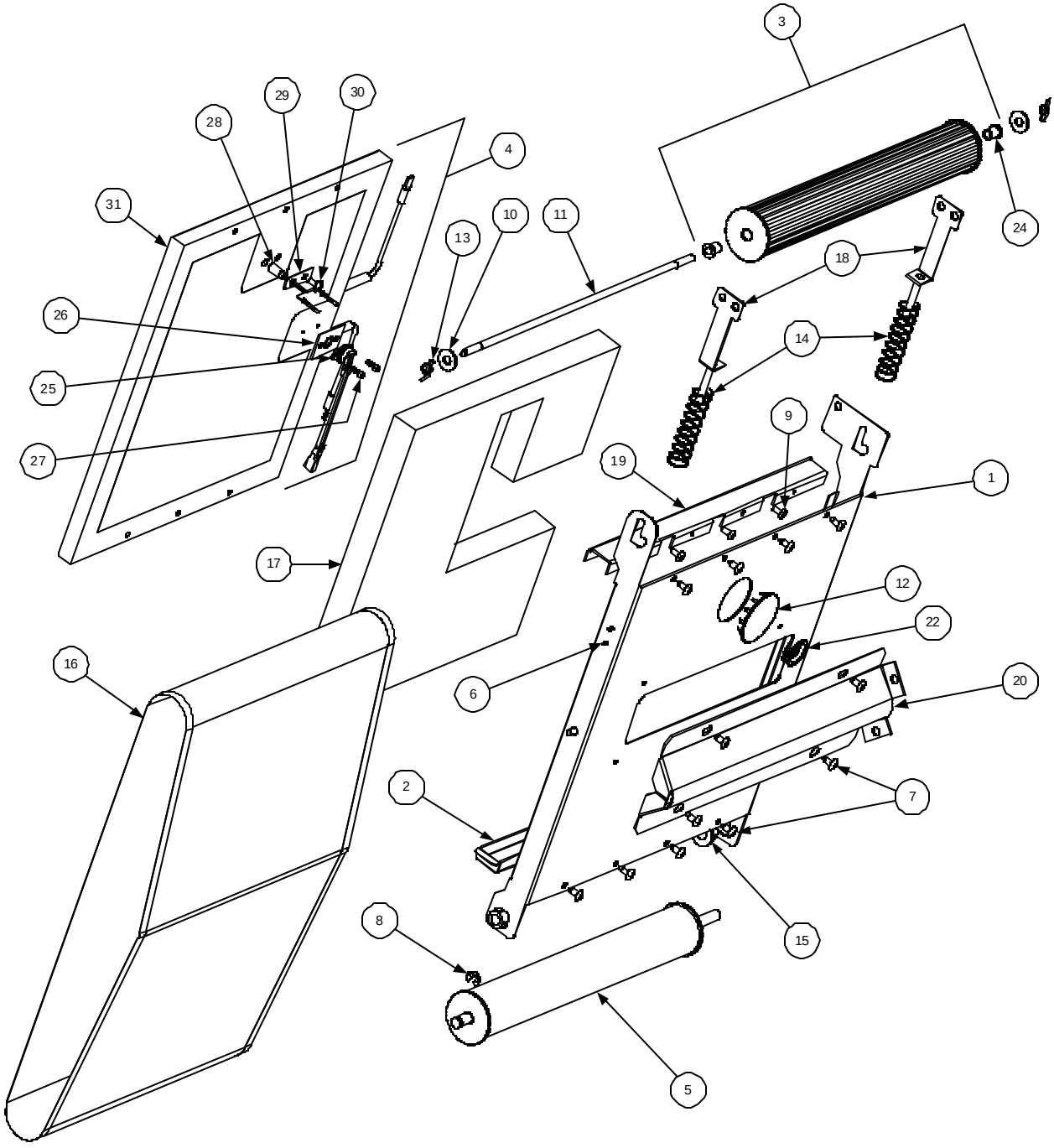
CONVEYOR ASSEMBLY, DUAL BELT



ITEM	PART #	COMPONENT
1	806-9200	Roller Assembly, Dual Belt Idler
2	806-9318	Roller Assembly, Dual Belt Drive
3	809-0083	Rivet, 1/8-inch Diameter Aluminum Pop
4	809-0132	Screw, ¼-20 x ¾-inch Slotted Pan Head
5*	809-0412	Screw, #10 x ½-inch Hex Head
6	809-0647	E-Ring
7	809-0745	Washer, ¼-inch Flat
8	810-1672	Spring, Compression Plate
9	810-1718	Shaft, Short Dual Belt Roller
10	810-1776	Pin, VT Cotter
11	810-1802	Bushing, Tray Stabilizer Latch Support
12	810-1818	Spring, 3.00-inch Long, 4.6 Lbs./Inch
13	812-1402	Bushing
14	816-0389	Belt, Dual Conveyor
15	823-2719	Plate Assembly, VT Right Pressure
16	823-2720	Plate Assembly, VT Left Pressure
17	823-2722	Cam Assembly, VT Long
18	823-2723	Cam Assembly, VT Short
19	823-2798	Cover Assembly, VT Spring
20	823-2838	Latch Assembly, VT Tray
21	823-2860	Tray Assembly, Dual Belt
22	900-8155	Bracket, Guide Rod
23	910-8524	Brace, Dual Belt Tray
24	910-8512	Bracket, Spring Guide Receiver
25	911-8517	Divider, Dual Belt Tray Left
26	912-8517	Divider, Dual Belt Tray Right

* Item 5 is obscured by Item 22. Item 5 secures Item 22 to Item 21.

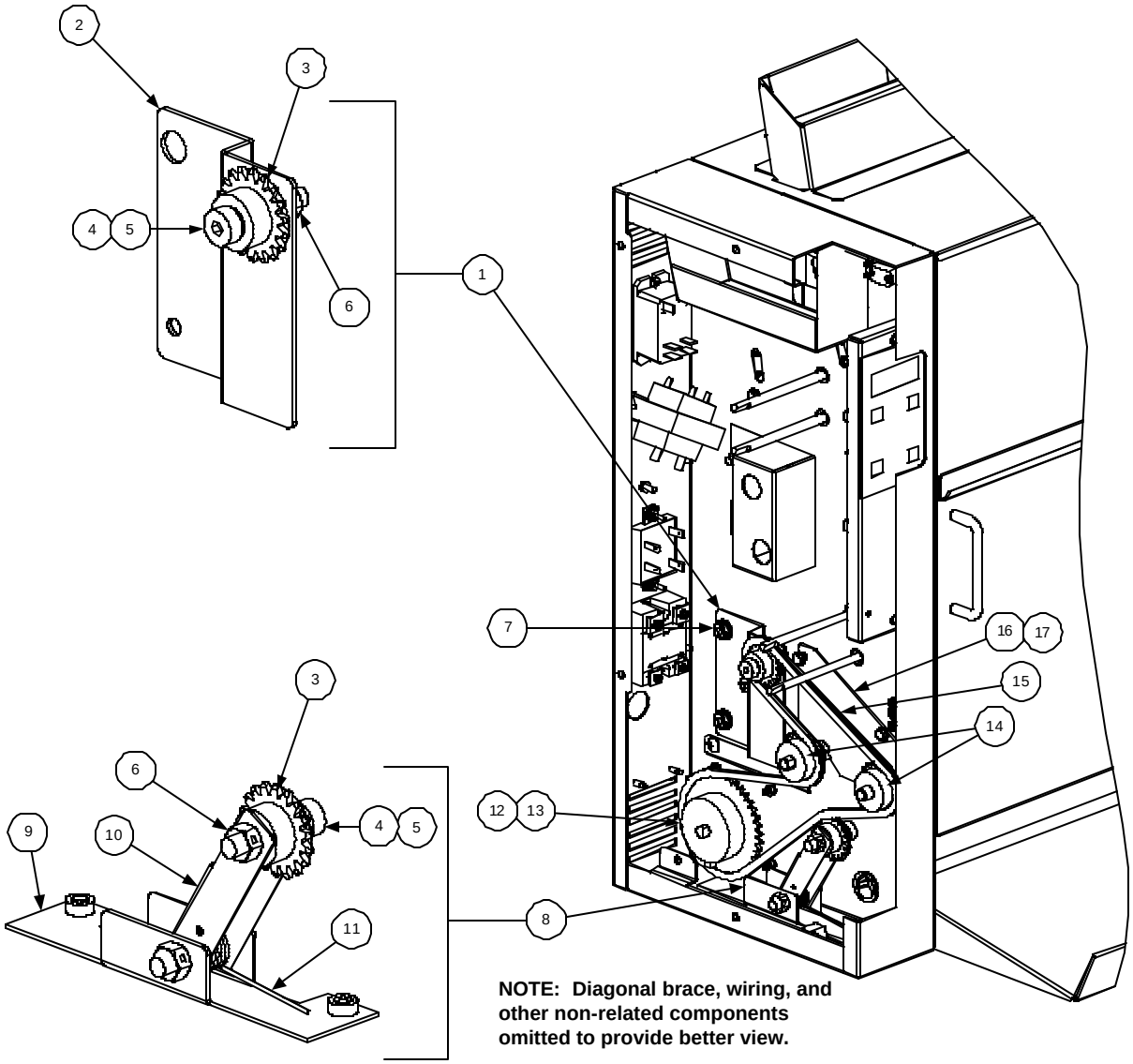
CONVEYOR ASSEMBLY, TOASTING



ITEM	PART #	COMPONENT
1	106-0538	Tray with Grommet, VT Platen
2	210-0318	Crumb Shield, Toasting Conveyor
3	806-9195	Roller Assembly, VT Drive
4	806-9196	Platen Assembly, VT
5	812-2017	Roller, Smooth Belt
6	809-0083	Rivet, Aluminum 1/8-inch Diameter Pop
7	809-0266	Screw, #10 x ½-inch Philips Truss Head
8	809-0647	E-Ring
9	809-0650	Screw, 10-32 x ? -inch Button Socket Head
10	809-0745	Washer, ¼-inch Flat
11	810-1721	Shaft, Long Roller
12	810-1736	Plug, 1.75-inch Stainless Button
13	810-1776	Pin, VT Cotter
14	810-1818	Spring, 3-inches Long, 4.6 Lbs./Inch
15	812-1402	Bushing, Roller
16	816-0379	Belt, Toasting
17	816-0403	Insulation, Platen
18	823-2726	Slide Assembly, Belt Tension
19	910-8246	Guide, Crumb Shield
20	910-8254	Brace, VT Platen Tray
21*	910-8512	Bracket, Slide Assembly Receiver
22	810-1722	Grommet, .5-inch I.D. x 1.05-inch O.D. (Integral component of Item 1)
23	810-2013	Roller, VT Drive (Integral component of Item 3)
24	810-1810	Bushing, Teflon (Integral component of Item 3)
25	807-3037	Thermostat, High-Limit (Integral component of Item 4)
26	910-8637	Spacer, High-Limit Thermostat (Integral component of Item 4)
27	809-0729	Capscrew, 6-32 x ¼-inch Socket Head (Integral component of Item 4)
28	807-3247	Probe, Heater (Integral component of Item 4)
29	910-8757	Retainer, Heater Probe (Integral component of Item 4)
30	809-0117	Screw, 10-32 x ? -inch Slotted Truss Head (Integral component of Item 4)
31	810-1658	Platen, 3500W (Integral component of Item 4)

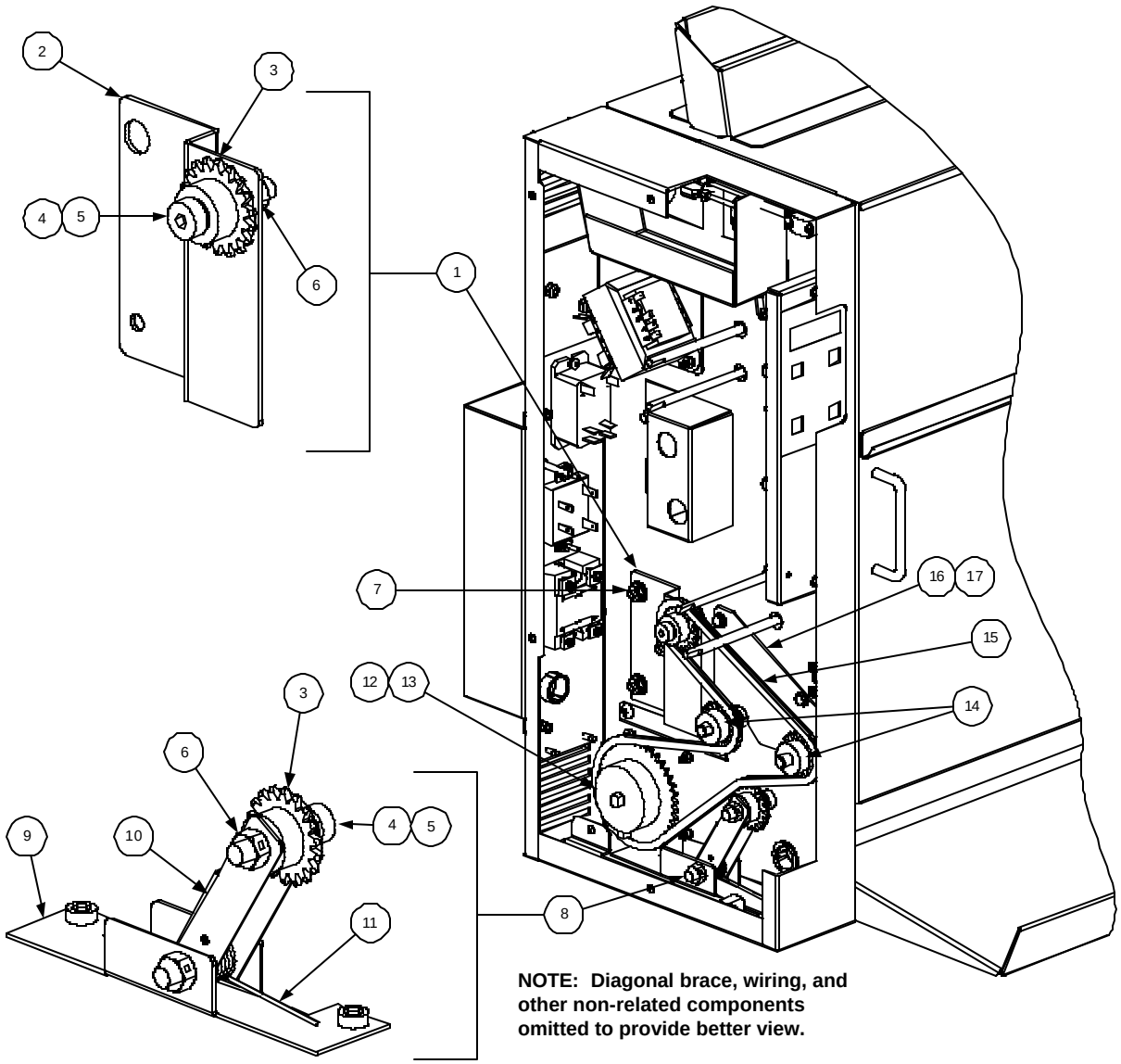
* Obscured by Item 1. See Item 24 on Page 12 for illustration.

DRIVE TRAIN COMPONENTS (OTHER THAN EUROPEAN UNION)



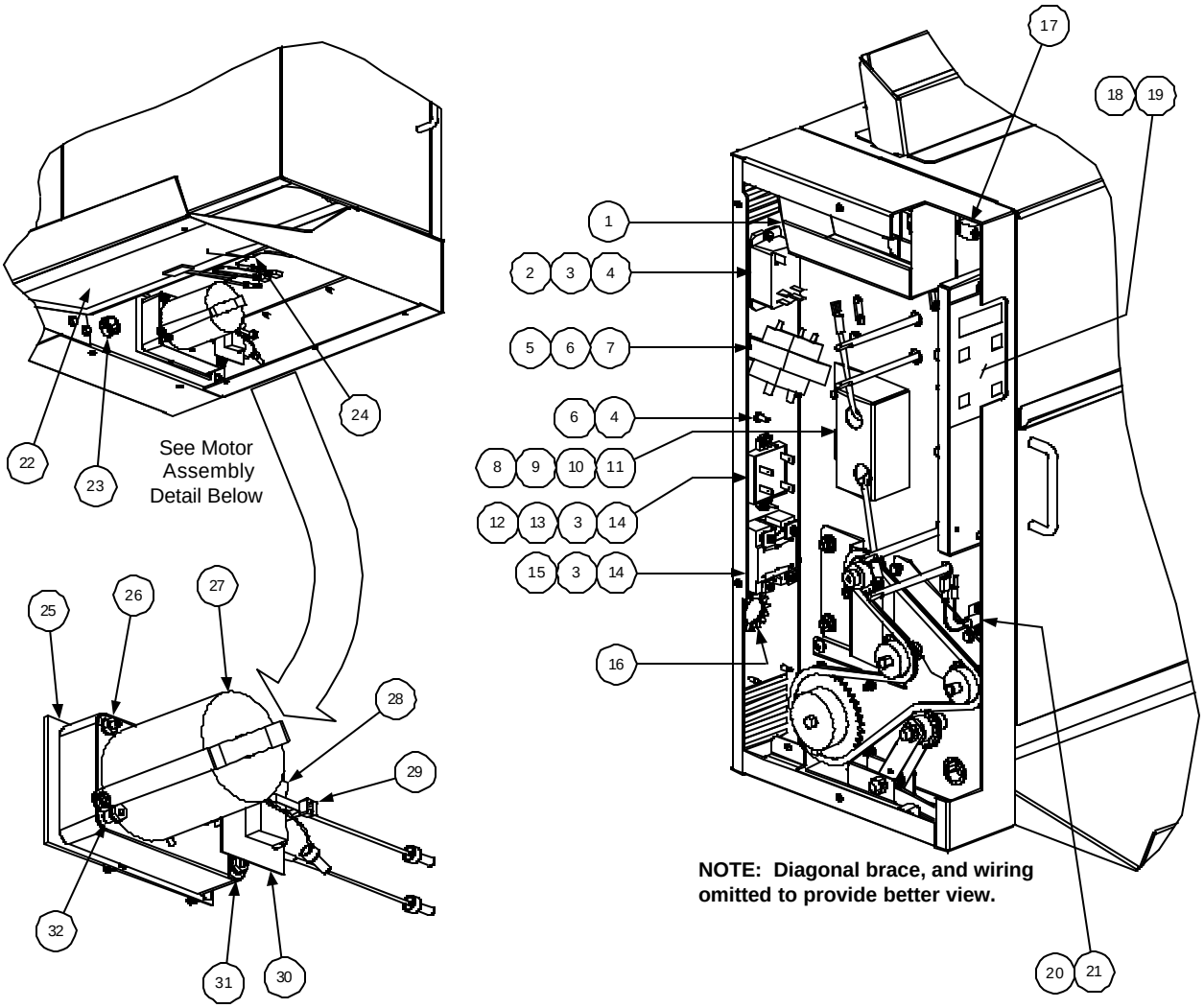
ITEM	PART #	COMPONENT
1	106-0527	Bracket Assembly, VT Upper Idler
2	200-0768	Bracket, VT Idler Tensioner
3	810-1690	Sprocket w/Bushing, Idler
4	809-0632	Screw, ? -inch x 1-inch Shoulder Socket Head
5	809-0792	Washer, .382-inch I.D. x .507-inch O.D. Teflon
6	809-0794	Locknut, 5/16-18
7	809-0417	Nut, ¼-20 Serrated Flange
8	106-0444	Tensioner Assembly, VT Belt
9	106-0462	Bracket, VT Tensioner
10	200-0159	Arm, VT Tensioner
11	812-1457	Spring, VT Tensioner
12	810-1629	Sprocket, 3.2-inch 40-Tooth
13	809-0730	Screw, ¼-20 Square Head Set
14	810-1728	Sprocket, 19-Tooth
15	810-1979	Chain, VT Drive
16	200-0239	Brace, VT Bushing
17	809-0412	Screw, #10 x ½-inch Hex Head

DRIVE TRAIN COMPONENTS (EUROPEAN UNION [CE])

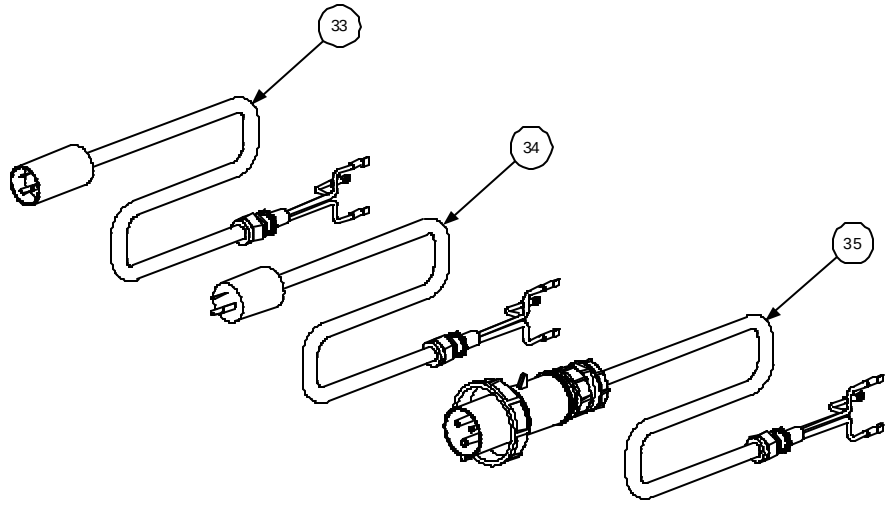


ITEM	PART #	COMPONENT
1	106-0527	Bracket Assembly, VT Upper Idler
2	200-0768	Bracket, VT Idler Tensioner
3	810-1690	Sprocket w/Bushing, Idler
4	809-0632	Screw, ? -inch x 1-inch Shoulder Socket Head
5	809-0792	Washer, .382-inch I.D. x .507-inch O.D. Teflon
6	809-0794	Locknut, 5/16-18
7	809-0417	Nut, ¼-20 Serrated Flange
8	106-0444	Tensioner Assembly, VT Belt
9	106-0462	Bracket, VT Tensioner
10	200-0159	Arm, VT Tensioner
11	812-1457	Spring, VT Tensioner
12	810-1629	Sprocket, 3.2-inch 40-Tooth
13	809-0730	Screw, ¼-20 Square Head Set
14	810-1865	Sprocket, 16-Tooth
15	810-1979	Chain, VT Drive
16	200-0239	Brace, VT Bushing
17	809-0412	Screw, #10 x ½-inch Hex Head

ELECTRONIC COMPONENTS (OTHER THAN EUROPEAN UNION)



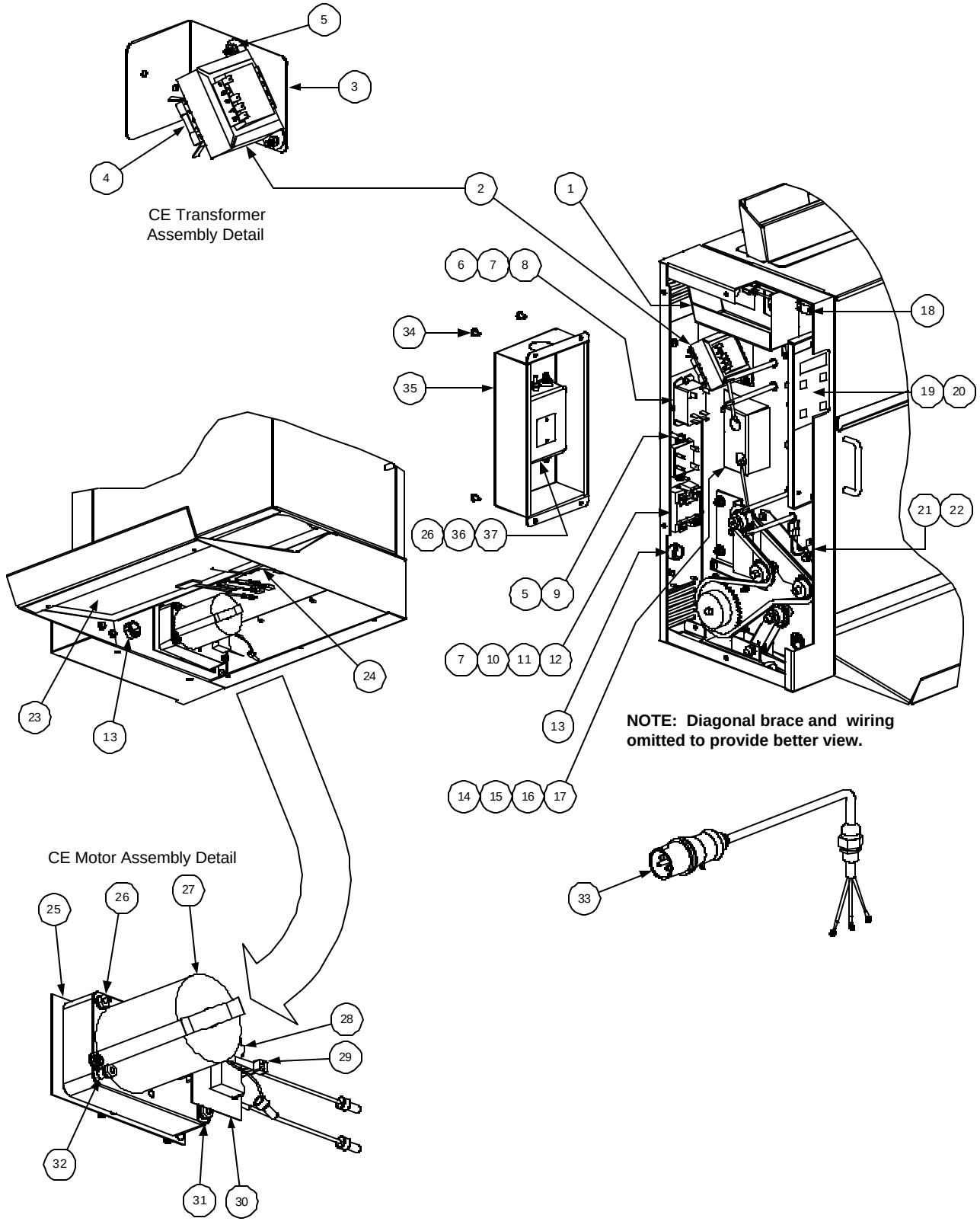
NOTE: Diagonal brace, and wiring omitted to provide better view.



Service Hotline
1-800-24-FRYER

ITEM	PART #	COMPONENT
1	200-1719	Tray, Crumb
2	807-3021	Relay, 30A 12VDC DPST NO
3	809-0702	Screw, 4-40 x ? -inch Philips Head
4	809-0237	Nut, 4-40 Keps Hex
5	807-0979	Transformer, 208-240VAC/24VAC, 50/60 Hz, 43VA
6	809-0104	Screw, 8-32 x ½-inch Slotted Truss Head
7	809-0417	Nut, ¼-20 Serrated Flange
8	900-8867	Cover, Terminal
9	809-0132	Screw, ¼-20 x ¾-inch Slotted Pan Head
10	809-0059	Nut, ¼-20 Grip Hex
11	810-1722	Grommet, .5 ID x 1.05 OD
12	807-3213	Relay, Solid State 5A 3/16 Control Terminals
13	809-0354	Screw, 4-40 x ¾-inch Slotted Round Head
14	809-0185	Washer, #10 SAE Flat
15	807-2751	Relay, Solid State 40A 280V SPST NO
16	809-0582	Washer, ½-inch NPT Lock
17	807-3064	Switch, Cover Interlock
18	806-9296	Computer Assembly, VT
19	809-0256	Nut, 10-32 Keps Hex
20	807-3196	Heater, 240V 165W Cartridge
21	809-0410	Screw, #8 x ½-inch Drill Point Philips Shoulder Head
22	806-9579	Heater Assembly, VT Tray
23	810-0045	Bushing, .875 Dia. Hole x 11/16-inch
24	807-3132	Probe, VT Tray Heater
25	106-0071	Bracket, Motor Mounting
26	809-0250	Nut, 6-32 Keps Hex
27	807-3342	Motor, 200-240VAC, 50/60 Hz
28	106-0282	Capacitor Assembly, 50/60 Hz VT Motor
29	814-0015	Tie-Wrap
30	816-0217	Insulation, Paper
31	200-0071	Retainer, VT Capacitor
32	809-0349	Spacer, 4 mm x 6 mm Aluminum
33	807-3198	Cordset, Hooded Twist-Lock
34	807-3243	Cordset, Standard Twist-Lock
35	807-3242	Cordset, Pin and Sleeve

ELECTRONIC COMPONENTS (EUROPEAN UNION [CE])



ITEM	PART #	COMPONENT
1	200-0179	Tray, VT Crumb
2	807-2191	Transformer, 208-240V/12V
3	106-0773	Bracket, Transformer
4	807-0910	Fuse, 250V 3A
5	809-0247	Nut, 8-32 Keps Hex
6	809-0702	Screw, 4-40 x ? -inch Philips Head
7	809-0237	Nut, 4-40 Keps Hex
8	807-3021	Relay, 30A 12VDC DPST-NO
9	809-0112	Screw, 8-32 x 1¼-inch Slotted Truss Head
10	809-0185	Washer, #10 SAE Flat
11	809-0354	Screw, 4-40 x ¾-inch Slotted Round Head
12	807-3213	Relay, Solid State 5 Amp with 3/16-inch Terminals
13	810-0045	Bushing, .875-inch Dia. 11/16-inch Hole
14	810-1722	Grommet, .5-inch I.D. x 1.05-inch O.D. Toaster
15	809-0132	Screw, ¼-20 x ¾-inch Slotted Pan Head
16	809-0059	Nut, ¼-20 Grip Hex
17	900-8867	Cover, VT Terminal
18	807-3064	Switch, Cover Interlock
19	806-9296	Computer Assembly, VT
20	809-0256	Nut, 10-32 Keps Hex
21	807-3196	Heater, 240V 165W Cartridge
22	809-0410	Screw, #8 x ½-inch Philips Drill-Point Sheet Metal
23	806-9579	Heater Assembly, VT Tray
24	807-3132	Probe, VT Tray Heater
25	106-0071	Bracket, Motor Mounting
26	809-0250	Nut, 6-32 Keps Hex
27	807-3342	Gear Motor, 200-240V 50/60 Hz
28	106-0283	Capacitor Assembly, 50 Hz VT Motor
29	814-0015	Ty-wrap
30	816-0495	Insulation, Paper
31	200-0071	Retainer, VT Capacitor
32	809-0349	Spacer, 4 mm x 6 mm Aluminum
33	807-3529	Cordset, VT CE
34	809-0117	Screw, 10-32 x ? -inch Slotted Truss Head
35	824-0896	Cover, Power Line Filter
36	807-3472	Filter, Power Line
37	809-0095	Screw, 6-32 x ? -inch Slotted Truss Head

10.3 SERVICE PROCEDURES

NOTE: Unless power is necessary for troubleshooting, turn the unit off and unplug it whenever performing service on this equipment.

Accessing the Electronics (See illustration on Page 8)

1. Loosen the setscrews securing the bun compression knobs to their shafts and remove the knobs.

2. Remove the screws in the edge of the component housing cover. On some early production units, it may be necessary to rotate the top outward and disengage the tabs on the cover from the slots in the bottom edge of the component housing.

Accessing the Motor and Tray Heater (See illustrations on Pages 8, 16, and 18)

Carefully lay the unit on its back and remove the seven screws that secure the bottom cover in place.

Removing the Conveyor Assemblies (See illustrations on Pages 14 and 16)

1. Turn off and unplug the unit.

2. Remove the bun feeder then remove the cover by lifting it straight up until it is clear of its retainers.

3. Rotate the bun compression knobs to positions **5** and **E**.

4. Press down and rearward on the top roller(s) of the conveyor assembly to be removed to lock it/them in the down position.

5. Rotate the tray stabilizer latch upward, then remove the belt(s). Return the tray stabilizer latch to the latched position.

6. Loosen the setscrews in the bun compression knobs and remove the knobs.

7. Remove the screws in the edge of the component housing cover. On some early production units, it may be necessary to rotate the top outward and disengage the tabs on the cover from the slots in the bottom edge of the component housing.

8. Release the tension on the chain by pressing down on the chain tensioner arm. Remove the chain from the sprockets. **NOTE:** The diagonal brace may be removed to facilitate access.

9. **To remove the dual-belt conveyor assembly:**

    a. Loosen the setscrew in the forward-most drive sprocket and remove the sprocket.

    b. Remove the four hex-head screws securing the conveyor assembly from the inside of the component housing (the four screws closest to the front of the unit).

    c. Remove the two hex-head screws securing the top of the conveyor assembly from the outside (conveyor side) of the component housing.

    d. Loosen but do not remove the final two nuts and bolts securing the conveyor assembly to the component housing. Rotate the tray stabilizer latch upward. While supporting the conveyor assembly, remove the nuts and bolts to free the assembly.

    e. Reinstall the conveyor assembly by reversing the steps performed.

10. **To remove the toasting conveyor assembly:**

    a. Loosen the setscrew in the second drive sprocket from the front and remove the sprocket.

    b. Detach the platen and probe wiring from the relay, high-limit, and 12-pin connector.

    c. Remove the three hex-head screws securing the assembly from the inside of the component housing (the three screws closest to the rear with ground wires attached). Mark the wires to facilitate reassembly.

    d. Remove the hex-head screws around the edge of the rear cover. On some early production units it may be necessary to remove a final hex-head screw securing the rear cover to the side of the component housing. Rotate the tray stabilizer latch upward and remove the rear cover.

    e. Remove the hex-head screw securing the top of the conveyor assembly from the outside (conveyor side) of the component housing.

    f. Loosen but do not remove the final two nuts and bolts securing the conveyor assembly to the component housing. While supporting the conveyor assembly, remove the nuts and bolts to free the assembly.

    g. Reinstall the conveyor assembly by reversing the steps performed.

Replacing the High-Limit Thermostat or Heater Probe (See illustrations on Pages 8 and 12)

1. Turn off and unplug the unit.

2. Remove the bun feeder then remove the cover by lifting straight up until it is clear of its retainers.

3. Remove the hex-head screws from around the edge of the rear cover. On some early production units it may be necessary to remove a final hex-head screw securing the rear cover to the side of the component housing. Rotate the tray stabilizer latch upward and remove the rear cover.

4. To replace the high-limit thermostat, remove the platen tray brace to expose the thermostat and remove the screws securing it in place.

5. To replace the heater probe, remove the plug over the probe to expose the component. Remove the screw securing the probe retainer and remove the probe.

6. Replace the failed component. Reassemble by reversing the steps performed.

Replacing the Tray Heater/Tray Heater Probe (See illustrations on Pages 8, 16, and 18)

1. Turn off and unplug the unit.

2. Loosen the setscrews in the bun compression knobs and remove the knobs.

3. Remove the screws in the edge of the component housing cover. On some early production units it may be necessary to rotate the top outward and disengage the tabs on the cover from the slots in the bottom edge of the component housing.

4. Disconnect the failed component's wiring, then carefully lay the unit on its back and remove the screws that secure the bottom cover in place. Remove the cover.

5. To replace the probe, peel back the heater to expose and remove the probe. To replace the heater, peel it completely off.

6. Reverse the steps performed to reassemble unit.

Replacing the Dual Belt Conveyor Cartridge Heater (See illustrations on Pages 8, 16, and 18)

1. Turn off and unplug the unit.

2. Loosen the setscrews in the bun compression knobs and remove the knobs.

3. Remove the screws in the edge of the component housing cover. On some early production units it may be necessary to rotate the top outward and disengage the tabs on the cover from the slots in the bottom edge of the component housing.

4. Disconnect the heater leads. Remove the hex-head screw securing the heater in place and remove the heater.

5. Reverse steps 1-4 to reassemble the unit.

Replacing the Transformer or Relays (See illustrations on Pages 8, 16, and 18)

1. Turn off and unplug the unit.

2. Loosen the setscrews in the bun compression knobs and remove the knobs.

3. Remove the screws in the edge of the component housing cover. On some early production units it may be necessary to rotate the top outward and disengage the tabs on the cover from the slots in the bottom edge of the component housing.

4. Hold the replacement component next to the component to be replaced and, one at a time, disconnect the wires from the failed component and connect them to the replacement component.

5. Remove the screws and/or nuts securing the failed component to the component housing and install the replacement.

6. Reverse steps 1-3 to reassemble the unit.

10.4 TECHNICIAN TROUBLESHOOTING

Return to Cover

PROBLEM	PROBABLE CAUSES	CORRECTIVE ACTION
Display remains blank when unit turned on.	A. Failed transformer.	A. Check for line voltage on the primary (line) side of transformer and 12VAC on secondary (load) side of transformer. If line voltage is present but secondary voltage is not 12VAC, the transformer has failed.
	B. Failed computer.	B. Check continuity between right terminal of secondary (load) side of transformer and Pin 9 of the 12-pin connector when the cover interlock switch is closed. If resistance is zero, replace the computer.
	C. Failed cover interlock switch or failed high limit.	C. Check continuity between switch terminals when the switch is closed. If resistance is infinite, replace switch. If resistance is zero, replace high limit.
Computer display is on, but motor is not running	A. Failed motor.	A. If platen is heating, replace motor.
	B. Broken/loose wire between computer and latch relay or failed latch relay.	B. Check for 12VDC on Pins 6 & 7 of computer. If present and wiring is intact, replace latch relay. If not present, replace computer.
Motor is running at wrong speed (i.e. average time for three individual buns to pass through toaster is NOT between 9 and 13 seconds).	A. Toaster improperly configured for power supply.	A. Check data plate for voltage rating, and verify that power supply and toaster match.
Platen heats, but unit does not reach setpoint.	A. Improper power-supply.	A. Verify that the power supply is 20 amp single-phase 208 or 240VAC (depending upon model).
	B. Failed temperature probe.	B. Use a temperature-measuring device to determine actual platen temperature. If measured temperature is within 10 degrees of the temperature displayed on the computer and the probe resistance at pins 3 and 5 of the 12-pin connector ***does not*** correspond to the appropriate value in the probe resistance chart on Pages 20 and 21, replace the probe.
	C. Failed computer.	C. Use a temperature-measuring device to determine actual platen temperature. If measured temperature is within 10 degrees of the temperature displayed on the computer and probe resistance at pins 3 and 5 of 12-pin connector corresponds to the value in the probe resistance chart on Pages 20 and 21, replace the computer.

PROBLEM	PROBABLE CAUSES	CORRECTIVE ACTION
Platen does not heat, but computer display is on.	A. Failed computer.	A. Check for 12VDC on computer pins 6 & 7. If NOT present AND motor is running, replace computer. Check for 5VDC on terminals 3 & 4 of main heater relay and pins 1 and 6 of computer. If NOT present at either point AND motor is running, replace computer.
	B. Broken/loose wire between computer and latch relay, or failed latch relay.	B. Check for 12VDC on computer pins 6 & 7. If present and wiring is intact, replace latch relay.
	C. Failed main heater probe.	C. Determine temperature of platen then measure main heater probe resistance at pins 3 & 5 of 12-pin connector. If the probe resistance is NOT approximately equal to the corresponding resistance in the chart on Pages 20 and 21, replace the probe.
	D. Broken/loose wire between computer and main heater relay, or failed main heater relay.	D. Check for 5VDC on terminals 3 & 4 of main heater relay AND on computer pins 1 & 6. If present on pins 1 & 6, but NOT on terminals 3 & 4, and wiring is intact, replace the main heater relay.
	E. Failed platen.	E. Check for 5VDC on terminals 3 & 4 of main heater relay and for line voltage on terminal 2 of main heater relay and terminal 4 of latch relay. If expected voltage is present at all three points, replace the platen.
Tray heater does not heat, but computer display is on.	A. Failed computer.	A. Check for 12VDC on computer pins 6 & 7. If NOT present AND motor is running, replace computer. Check for 5VDC on terminals 3 & 4 of main heater relay and pins 2 and 6 of computer. If NOT present at either point AND motor is running, replace computer.
	B. Broken/loose wire between computer and latch relay, or failed latch relay.	B. Check for 12VDC on computer pins 6 & 7. If present and wiring is intact, replace latch relay.
	C. Failed tray heater probe.	C. Determine temperature of tray heater then measure tray heater probe resistance at pin 4 of 12-pin connector and ground. If the probe resistance is NOT approximately equal to the corresponding resistance in the chart on Pages 20 and 21, replace the probe.
	D. Broken/loose wire between computer and tray heater relay, or failed tray heater relay.	D. Check for 5VDC on terminals 3 & 4 of tray heater relay AND on computer pins 2 & 6. If present on pins 2 & 6, but NOT on terminals 3 & 4, and wiring is intact, replace the tray heater relay.
	E. Failed tray heater.	E. Check for 5VDC on terminals 3 & 4 of main heater relay and for line voltage on terminal 2 of tray heater relay and terminal 4 of latch relay. If expected voltage is present at all three points, replace the tray heater.

10.5 PROBE RESISTANCE CHART

Probe Resistance Chart

(Page 1 of 2)

For use with McDonald's Vertical Toasters only.

F	OHMS	C	F	OHMS	C	F	OHMS	C	F	OHMS	C	F	OHMS	C
32	1000	0	83	1107	28	134	1214	57	185	1320	85	236	1424	113
33	1002	1	84	1110	29	135	1216	57	186	1322	86	237	1426	114
34	1004	1	85	1112	29	136	1218	58	187	1324	86	238	1428	114
35	1006	2	86	1114	30	137	1220	58	188	1326	87	239	1430	115
36	1008	2	87	1116	31	138	1222	59	189	1328	87	240	1432	116
37	1011	3	88	1118	31	139	1224	59	190	1330	88	241	1434	116
38	1013	3	89	1120	32	140	1226	60	191	1332	88	242	1436	117
39	1015	4	90	1122	32	141	1229	61	192	1334	89	243	1438	117
40	1017	4	91	1124	33	142	1231	61	193	1336	89	244	1440	118
41	1019	5	92	1126	33	143	1233	62	194	1338	90	245	1442	118
42	1021	6	93	1128	34	144	1235	62	195	1340	91	246	1444	119
43	1023	6	94	1131	34	145	1237	63	196	1342	91	247	1447	119
44	1025	7	95	1133	35	146	1239	63	197	1344	92	248	1449	120
45	1030	7	96	1135	36	147	1241	64	198	1346	92	249	1451	121
46	1032	8	97	1137	36	148	1243	64	199	1348	93	250	1453	121
47	1034	8	98	1139	37	149	1245	65	200	1350	93	251	1455	122
48	1036	9	99	1141	37	150	1247	66	201	1352	94	252	1457	122
49	1038	9	100	1143	38	151	1249	66	202	1354	94	253	1459	123
50	1040	10	101	1145	38	152	1251	67	203	1357	95	254	1461	123
51	1042	11	102	1147	39	153	1253	67	204	1359	96	255	1463	124
52	1044	11	103	1149	39	154	1255	68	205	1361	96	256	1465	124
53	1046	12	104	1151	40	155	1258	68	206	1363	97	257	1467	125
54	1049	12	105	1154	41	156	1260	69	207	1365	97	258	1469	126
55	1051	13	106	1156	41	157	1262	69	208	1367	98	259	1471	126
56	1053	13	107	1158	42	158	1264	70	209	1369	98	260	1473	127
57	1055	14	108	1160	42	159	1266	71	210	1371	99	261	1475	127
58	1057	14	109	1162	43	160	1268	71	211	1373	99	262	1477	128
59	1059	15	110	1164	43	161	1270	72	212	1375	100	263	1479	128
60	1061	16	111	1166	44	162	1272	72	213	1377	101	264	1481	129
61	1063	16	112	1168	44	163	1274	73	214	1379	101	265	1483	129
62	1065	17	113	1170	45	164	1276	73	215	1381	102	266	1485	130
63	1067	17	114	1172	46	165	1278	74	216	1383	102	267	1487	131
64	1068	18	115	1174	46	166	1280	74	217	1385	103	268	1489	131
65	1070	18	116	1176	47	167	1282	75	218	1387	103	269	1491	132
66	1072	19	117	1179	47	168	1284	76	219	1389	104	270	1493	132
67	1074	19	118	1181	48	169	1287	76	220	1391	104	271	1495	133
68	1076	20	119	1183	48	170	1289	77	221	1393	105	272	1497	133
69	1078	21	120	1185	49	171	1291	77	222	1395	106	273	1499	134
70	1080	21	121	1187	49	172	1293	78	223	1398	106	274	1501	134
71	1082	22	122	1189	50	173	1295	78	224	1400	107	275	1503	135
72	1084	22	123	1191	51	174	1297	79	225	1402	107	276	1505	136
73	1086	23	124	1193	51	175	1299	79	226	1404	108	277	1507	136
74	1089	23	125	1195	52	176	1301	80	227	1406	108	278	1509	137
75	1091	24	126	1197	52	177	1303	81	228	1408	109	279	1512	137
76	1093	24	127	1199	53	178	1305	81	229	1410	109	280	1514	138
77	1095	25	128	1201	53	179	1307	82	230	1412	110	281	1516	138
78	1097	26	129	1204	54	180	1309	82	231	1414	111	282	1518	139
79	1099	26	130	1206	54	181	1311	83	232	1416	111	283	1520	139
80	1101	27	131	1208	55	182	1313	83	233	1418	112	284	1522	140
81	1103	27	132	1210	56	183	1315	84	234	1420	112	285	1524	141
82	1105	28	133	1212	56	184	1317	84	235	1422	113	286	1526	141

Probe Resistance Chart

(Page 2 of 2)

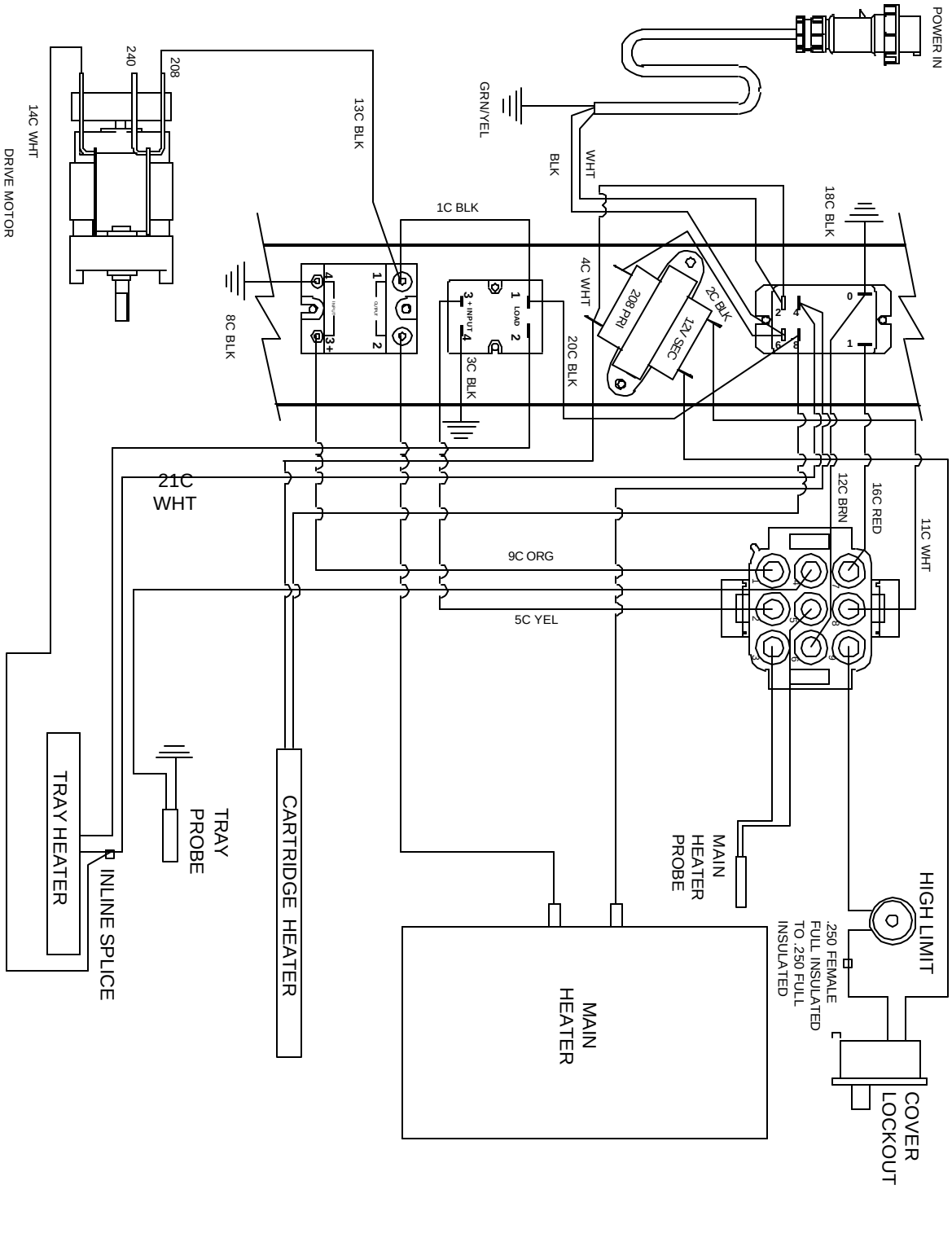
For use with McDonald's Vertical Toasters only.

F	OHMS	C	F	OHMS	C	F	OHMS	C	F	OHMS	C	F	OHMS	C
287	1528	142	338	1630	170	389	1732	198	440	1833	227	491	1932	255
288	1530	142	339	1632	171	390	1734	199	441	1835	227	492	1934	256
289	1532	143	340	1634	171	391	1736	199	442	1837	228	493	1936	256
290	1534	143	341	1636	172	392	1738	200	443	1839	228	494	1938	257
291	1536	144	342	1638	172	393	1740	201	444	1841	229	495	1940	257
292	1538	144	343	1640	173	394	1742	201	445	1843	229	496	1942	258
293	1540	145	344	1642	173	395	1744	202	446	1845	230	497	1944	258
294	1542	146	345	1644	174	396	1746	202	447	1846	231	498	1946	259
295	1544	146	346	1646	174	397	1748	203	448	1848	231	499	1948	259
296	1546	147	347	1648	175	398	1750	203	449	1850	232	500	1950	260
297	1548	147	348	1650	176	399	1752	204	450	1852	232	501	1952	261
298	1550	148	349	1652	176	400	1754	204	451	1854	233	502	1954	261
299	1552	148	350	1654	177	401	1756	205	452	1856	233	503	1956	262
300	1554	149	351	1656	177	402	1758	206	453	1858	234	504	1958	262
301	1556	149	352	1658	178	403	1760	206	454	1860	234	505	1960	263
302	1558	150	353	1660	178	404	1762	207	455	1862	235	506	1962	263
303	1560	151	354	1662	179	405	1764	207	456	1864	236	507	1964	264
304	1562	151	355	1664	179	406	1766	208	457	1866	236	508	1965	264
305	1564	152	356	1666	180	407	1768	208	458	1868	237	509	1967	265
306	1566	152	357	1668	181	408	1770	209	459	1870	237	510	1969	266
307	1568	153	358	1670	181	409	1772	209	460	1872	238	511	1971	266
308	1570	153	359	1672	182	410	1774	210	461	1874	238	512	1973	267
309	1572	154	360	1674	182	411	1776	211	462	1876	239	513	1975	267
310	1574	154	361	1676	183	412	1778	211	463	1878	239	514	1977	268
311	1576	155	362	1678	183	413	1780	212	464	1880	240	515	1979	268
312	1578	156	363	1680	184	414	1781	212	465	1882	241	516	1981	269
313	1580	156	364	1682	184	415	1783	213	466	1884	241	517	1983	269
314	1582	157	365	1684	185	416	1785	213	467	1886	242	518	1985	270
315	1584	157	366	1686	186	417	1787	214	468	1888	242	519	1987	271
316	1586	158	367	1688	186	418	1789	214	469	1890	243	520	1989	271
317	1588	158	368	1690	187	419	1791	215	470	1892	243	521	1991	272
318	1590	159	369	1692	187	420	1793	216	471	1893	244	522	1993	272
319	1592	159	370	1694	188	421	1795	216	472	1895	244	523	1995	273
320	1594	160	371	1696	188	422	1797	217	473	1897	245	524	1996	273
321	1596	161	372	1698	189	423	1799	217	474	1899	246	525	1998	274
322	1598	161	373	1700	189	424	1801	218	475	1901	246	526	2000	274
323	1600	162	374	1702	190	425	1803	218	476	1903	247	527	2002	275
324	1602	162	375	1704	191	426	1805	219	477	1905	247	528	2004	276
325	1604	163	376	1706	191	427	1807	219	478	1907	248	529	2006	276
326	1606	163	377	1708	192	428	1809	220	479	1909	248	530	2008	277
327	1608	164	378	1710	192	429	1811	221	480	1911	249	531	2010	277
328	1610	164	379	1712	193	430	1813	221	481	1913	249	532	2012	278
329	1612	165	380	1714	193	431	1815	222	482	1915	250	533	2014	278
330	1614	166	381	1716	194	432	1817	222	483	1917	251	534	2016	279
331	1616	166	382	1718	194	433	1819	223	484	1919	251	535	2018	279
332	1618	167	383	1720	195	434	1821	223	485	1921	252	536	2020	280
333	1620	167	384	1722	196	435	1823	224	486	1923	252	537	2022	281
334	1622	168	385	1724	196	436	1825	224	487	1925	253	538	2025	281
335	1624	168	386	1726	197	437	1827	225	488	1927	253	539	2027	282
336	1626	169	387	1728	197	438	1829	226	489	1929	254	540	2029	282
337	1628	169	388	1730	198	439	1831	226	490	1931	254	541	2031	283

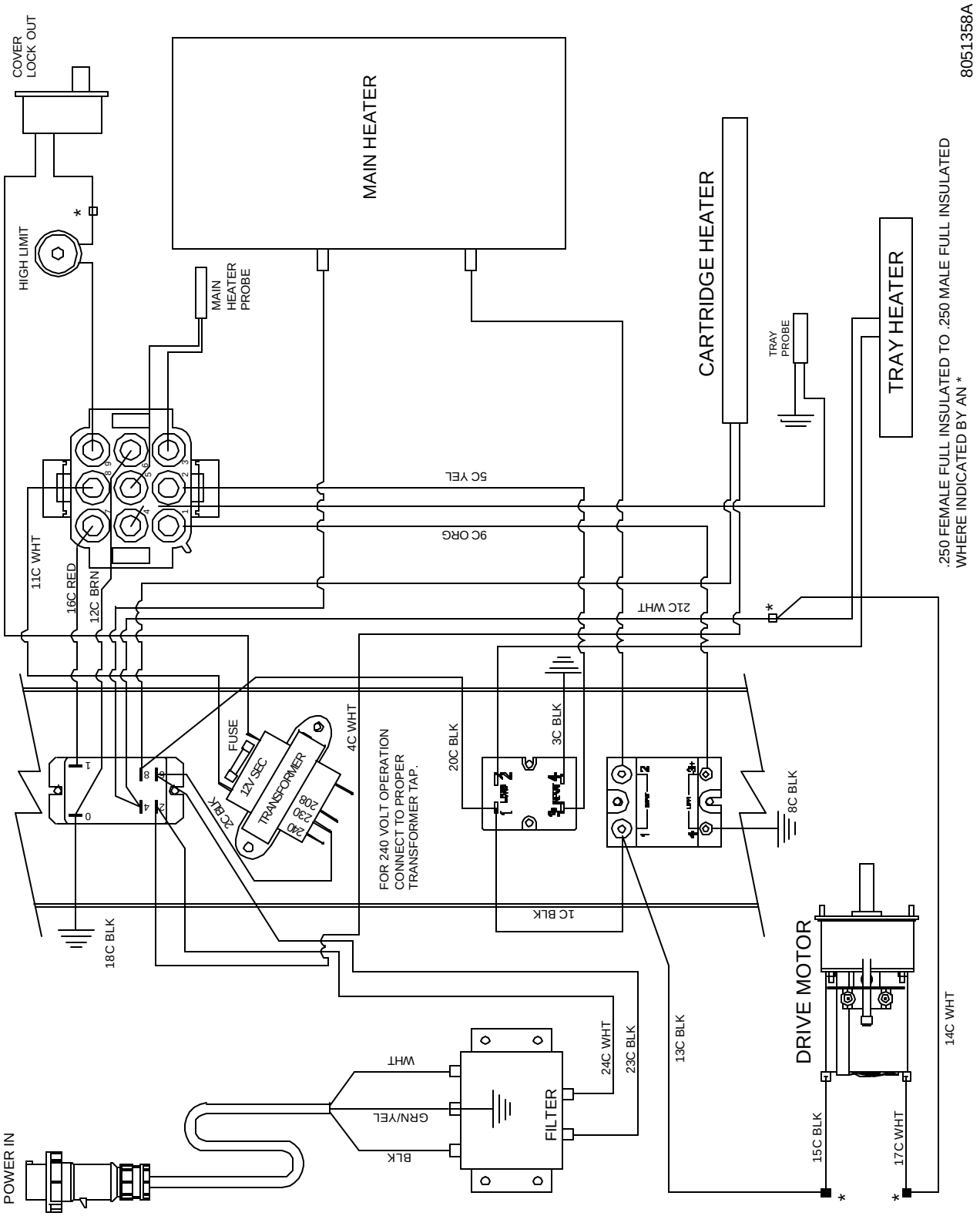
10.6 WIRING DIAGRAMS

Note: These diagrams depict wiring as of the date of manual publication. They may not reflect design changes made to the equipment after publication. Refer to the wiring diagram affixed to the unit when actually troubleshooting or servicing this equipment.

OTHER THAN EUROPEAN UNION



EUROPEAN UNION (CE)



10.7 SCHEMATIC