Multimedia Enhanced

JENNAIR® KitchenAid®

TECHNICAL MANUAL

JennAir® and KitchenAid® 27" and 30" Microwave Combination Oven

W10813197 Rev A

FOREWORD

This Technical Manual (Part No. W10813197 Rev A), provides the In-Home Service Professional with service information for the “JennAir® and KitchenAid® 27" and 30" Microwave Combination Oven.” For specific operating information on the model being serviced, refer to the “Owner's Manual” and “Quick Start Guide” provided with the oven.

The Wiring Diagram used in this Technical Manual is typical and should be used for training purposes only. Always use the Wiring Diagram supplied with the product when servicing the oven.

For specific operating and installation information on the model being serviced, refer to the literature provided with the oven.

GOALS AND OBJECTIVES

The goal of this Technical Manual is to provide information that will enable the In-Home Service Professional to properly diagnose malfunctions and repair the “JennAir® and KitchenAid® 27" and 30" Microwave Combination Oven.”

The objectives of this Technical Manual are to:

- Understand and follow proper safety precautions.
- Successfully troubleshoot and diagnose malfunctions.
- Successfully perform necessary repairs.
- Successfully return the oven to its proper operational status.

WHIRLPOOL CORPORATION assumes no responsibility for any repairs made on our products by anyone other than authorized In-Home Service Professionals.

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Section 1: General Information

This section provides general safety, parts, and information for the “JennAir® and KitchenAid® 27" and 30" Microwave Combination Oven.”

- Safety
- Product Specifications
- Product Features
  - Control Panel/Touch Panel
  - Keypad Features
- Model Number Nomenclature
- Serial Numbering System (For JennAir® Models)
- Electrical Requirements (For JennAir® Models)
- Model Number and Serial Number Label Location
- Tech Sheet Location

Safety

Your safety and the safety of others are very important.

We have provided many important safety messages in this manual and on your appliance. Always read and obey all safety messages.

This is the safety alert symbol.

This symbol alerts you to potential hazards that can kill or hurt you and others.

All safety messages will follow the safety alert symbol and either the word “DANGER” or “WARNING.” These words mean:

⚠DANGER — **You can be killed or seriously injured if you don't immediately follow instructions.**

⚠WARNING — **You can be killed or seriously injured if you don't follow instructions.**

All safety messages will tell you what the potential hazard is, tell you how to reduce the chance of injury, and tell you what can happen if the instructions are not followed.

IMPORTANT SAFETY INSTRUCTIONS

WARNING: To reduce the risk of fire, electric shock, or injury to persons when using the appliance, follow basic precautions, including the following:

- Proper Installation - The appliance, when installed, must be electrically grounded in accordance with local codes, or in the absence of local codes, with the *National Electrical Code, ANSI/NFPA 70* or the *Canadian Electrical Code, CSA C22.1-02.* In Canada, the appliance must be electrically grounded in accordance with Canadian Electrical Code. Be sure your appliance is properly installed and grounded by a qualified technician.
- Never Use Your Appliance for Warming or Heating the Room.
- Do Not Leave Children Alone - Children should not be left alone or unattended in area where appliance is in use. They should never be allowed to sit or stand on any part of the appliance.
- Wear Proper Apparel – Loose-fitting or hanging garments should never be worn while using the appliance.
- User Servicing – Do not repair or replace any part of the appliance unless specifically recommended in the manual. All other servicing should be referred to a qualified technician.
- Storage in or on Appliance – Flammable materials should not be stored in an oven or near surface units.
- This appliance is not intended for storage.
- Do Not Use Water on Grease Fires – Smother fire or flame or use dry chemical or foam-type extinguisher.
- Do not use replacement parts that have not been recommended by the manufacturer (e.g. parts made at home using a 3D printer).
- Use Only Dry Potholders – Moist or damp potholders on hot surfaces may result in burns from steam. Do not let potholder touch hot heating elements. Do not use a towel or other bulky cloth.
- Use Care When Opening Door – Let hot air or steam escape before removing or replacing food.
- DO NOT TOUCH HEATING ELEMENTS OR INTERIOR SURFACES OF OVEN – Heating elements may be hot even though they are dark in color. Interior surfaces of an oven become hot enough to cause burns. During and after use, do not touch, or let clothing or other flammable materials contact heating elements or interior surfaces of oven until they have had sufficient time to cool. Other surfaces of the appliance may become hot enough to cause burns – among these surfaces are the coil and cooktop elements, oven vent openings and surfaces near these openings, oven doors, and windows of oven doors.
- Do Not Heat Unopened Food Containers – Build-up of pressure may cause container to burst and result in injury.
- Keep Oven Vent Ducts Unobstructed.
- Placement of Oven Racks – Always place oven racks in desired location while oven is cool. If rack must be moved while oven is hot, do not let potholder contact hot heating element in oven.

For self-cleaning ovens:

- Do Not Clean Door Gasket – The door gasket is essential for a good seal. Care should be taken not to rub, damage, or move the gasket.
- Do not use a protective coating to line the oven and do not use commercial oven cleaner unless Certified for use in a self-cleaning oven.
- Clean Only Parts Listed.
- Before Self-Cleaning the Oven – Remove broiler pan and other utensils, and wipe off all excessive spillage.

For smart enabled ranges and ovens:

- Remote Operation – This appliance is configurable to allow remote operation at any time. Do not store any flammable materials or temperature sensitive items inside, on top or near surface units of the appliance.

SAVE THESE INSTRUCTIONS

IMPORTANT SAFETY INSTRUCTIONS

When using electrical appliances basic safety precautions should be followed, including the following:
WARNING: To reduce the risk of burns, electric shock, fire, injury to persons, or exposure to excessive microwave energy:

- Read all instructions before using the appliance.
- Read and follow the specific "PRECAUTIONS TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY" found in this manual.
- This appliance must be grounded. Connect only to properly grounded outlet. See “GROUNDING INSTRUCTIONS” found in this section.
- Install or locate this appliance only in accordance with the provided Installation Instructions.
- Some products such as whole eggs and sealed containers - for example, closed glass jars - are able to explode and should not be heated in this oven.
- Use this appliance only for its intended use as described in the manual. Do not use corrosive chemicals or vapors in this appliance. This type of oven is specifically designed to heat, cook, or dry food. It is not designed for industrial or laboratory use.
- As with any appliance, close supervision is necessary when used by children.
- Do not operate this appliance if it has a damaged cord or plug, if it is not working properly, or if it has been damaged or dropped.
- This appliance should be serviced only by qualified service personnel. Contact nearest authorized service facility for examination, repair, or adjustment.
- Do not cover or block any openings on the appliance.
- Do not store this appliance outdoors. Do not use this product near water – for example, near a kitchen sink, in a wet basement, near a swimming pool, or similar locations.
- Do not immerse cord or plug in water.
- Keep cord away from heated surfaces.
- Do not let cord hang over edge of table or counter.
- Do not use replacement parts that have not been recommended by the manufacturer (e.g. parts made at home using a 3D printer).
- See door surface cleaning instructions in the Microwave Oven and Maintenance Care section.
- To reduce the risk of fire in the oven cavity:
  - Do not overcook food. Carefully attend appliance when paper, plastic, or other combustible materials are placed inside the oven to facilitate cooking.
  - Remove wire twist-ties from paper or plastic bags before placing bag in oven.
  - If materials inside the oven ignite, keep oven door closed, turn oven off, and disconnect the power cord, or shut off power at the fuse or circuit breaker panel.
  - Do not use the cavity for storage purposes. Do not leave paper products, cooking utensils, or food in the cavity when not in use.
- Liquids, such as water, coffee, or tea are able to be overheated beyond the boiling point without appearing to be boiling. Visible bubbling or boiling when the container is removed from the microwave oven is not always present. THIS COULD RESULT IN VERY HOT LIQUIDS SUDDENLY BOILING OVER WHEN THE CONTAINER IS DISTURBED OR A UTENSIL IS INSERTED INTO THE LIQUID.

For microwave ovens not intended for use above another heating appliance:

- Do not operate any heating or cooking appliance beneath this appliance.
- Do not mount unit over or near any portion of a heating or cooking appliance.
- Do not mount over a sink.
- Do not store anything directly on top of the appliance surface when the appliance is in operation.

SAVE THESE INSTRUCTIONS

PRECAUTIONS TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY

(a) Do not attempt to operate this oven with the door open since open-door operation can result in harmful exposure to microwave energy. It is important not to defeat or tamper with the safety interlocks.

(b) Do not place any object between the oven front face and the door or allow soil or cleaner residue to accumulate on sealing surfaces.

(c) Do not operate the oven if it is damaged. It is particularly important that the oven door close properly and that there is no damage to the:

(1) Door (bent),

(2) Hinges and latches (broken or loosened),

(3) Door seals and sealing surfaces.

(d) The oven should not be adjusted or repaired by anyone except properly qualified service personnel.

Product Specifications

JennAir® and KitchenAid® 27" and 30" Microwave Combination Oven

Dimension	
Capacity (FT³, cubic feet)	3.4 or 4.5 or 5.7 or 6.4
Cutout Depth (IN, inches)	24
Cutout Height (IN, inches)	$41\frac{3}{8}$ or $41\frac{1}{2}$ or $41\frac{1}{4}$ or $41\frac{5}{16}$
Cutout Width (IN, inches)	$25\frac{1}{2}$ or $28\frac{1}{2}$
Depth Closed Excluding Handles (IN, inches)	$24\frac{3}{8}$ or $24\frac{5}{16}$ or $24\frac{1}{2}$
Depth Closed Including Handles (IN, inches)	$25\frac{5}{16}$ or $26\frac{3}{8}$ or $26\frac{5}{16}$ or $27\frac{1}{4}$ or $27\frac{1}{8}$
Depth Excluding Doors (IN, inches)	23
Depth With Door Open 90 Degree (IN, inches)	$45\frac{3}{8}$ or $45\frac{7}{16}$ or $46\frac{3}{4}$
Depth (IN, inches)	$23\frac{1}{4}$ or $26\frac{5}{16}$ or $27\frac{1}{8}$
Height To Top Of Cabinet (IN, inches)	$43\frac{1}{8}$
Height (IN, inches)	$42\frac{1}{2}$ or $43\frac{3}{4}$ or $43\frac{1}{16}$ or $43\frac{1}{8}$
Width (IN, inches)	$26\frac{3}{4}$ or 27 or $29\frac{3}{4}$ or 30
Description	
Fuel Type	Electric
Oven Type	Combination
Size (in)	27 or 30
Exterior	
Door Lock	Yes
Door Type	Metal and Glass
Door Removable	Yes
Flush Installation Approved	Yes
Handle Color	Black or Stainless Steel or White
Handle Material	Metal or Stainless Steel
Oven Window Size	Extra Large
Controls	
Control Type	Tap Touch or Glass Touch Digital Display or Electronic Touch
Display Color	White or Full Color
Electronic Display Type	Digital or LCD Screen
Number of Keypads	1
Features	
Sensor Cooking	Yes
Language Conversion	English/French
Oven Selections	Audible Signal, Bake, Automatic Door Latch, Bake-No Preheat, Broil, Bake, Cancel/Off, Clock, Control Lock, Cook and Hold, Cook Time Indicator, Delay Start, Language Conversion, My Creations, Proofing, Rapid Preheat, Sabbath Mode, Start Time, Stop Time, Temperature Conversion, Temperature Probe, Temperature-Sensor Baking, Timer, Warm Hold, Keep Warm Setting, Time Bake, Convect Modes, EasyConvect™ Baked Goods, EasyConvect™ Meats, EasyConvect™ Pizza, Favorites, Steam Bake
Temperature Conversion	Yes
Microwave	
Microwave Selections	Add 30 Seconds, Add A Minute, Auto Cook, Baking Rack, Beverage, Control Lock, Convect, Cook Power, Cook Time, Cook/Start, Crisp, Defrost, Dinner Plate, EasyConvect™, End of Cycle Signal, Fresh Vegetable, Frozen Entree, Frozen Vegetable, Favorites, Grill, Keep Warm, Off/Cancel, Pizza, Popcorn, Potato, Speed Cook, Reheat, Soften/Melt, Sound On/Off, Soup, Steam, Timer

Product Specifications (Continued)

Microwave Details	
Microwave Capacity (cu ft)	1.4
Cooking Power (watts)	900 or 1000
Interior Depth (For KitchenAid® Models)	$16^{1}/_{2}$
Interior Height (For KitchenAid® Models)	$8^{7}/_{8}$
Interior Width (For KitchenAid® Models)	$17^{5}/_{8}$
Convection	Yes
Convection Power (watts)	1200 or 1600
Door Swing	Drop Down or Left
Grill	Yes
Grill Power (watts)	1600
Interior Light	Halogen or Incandescent
Number or Racks	1
Turntable	Yes (Stoppable)
Turntable Diameter Size (in)	$14^{1}/_{8}$
Details	
Oven Capacity (cu.ft)	3.4 or 4.3 or $4^{1}/_{2}$ or 5
Automatic Shut-Off	Yes
Bake Element Power	2427 W or 2800 W
Hidden Bake Element	Yes
Broiler Element Power	3600 W or 4000 W
Broiler Location	Top of Oven or Center of Oven
Door Broil Position	Closed
Convection Element Type	Single Fan-Oven or True-Oven or Dual Fan
Convection Element Power (watts)	2800 or 3200 or 3400 or 6800
Convection Functions	Bake, Broil, Roast, Convection Conversion
Oven Light Type	Halogen
Number of Oven Lights	2 or 3
Number of Oven Racks	2 or 3
Number of Rack Guides	5 or 6
Oven Rack 1 Type	Standard
Oven Rack 2 Type	Standard or Gliding Roll-Out or Offset
Oven Rack 3 Type	Gliding Roll-Out or Roll-Out
Rack Guide Type	Molded
Interior Color	Black or Blue
Oven Cleaning Type	Self-Cleaning or Adjustable Self-Cleaning
Oven Interior Depth (IN, inches)	19 or $19^{3}/_{4}$ or $20^{3}/_{4}$
Oven Interior Height (IN, inches)	$14^{7}/_{8}$ or $17^{1}/_{8}$ or 18
Oven Interior Width (IN, inches)	19 or 22 or 23 or 25
Oven Cooking System	Convection or MultiMode® Convection
Design Type (For JennAir® Models)	
Design Expression	Pro-Style® or Black Floating Glass or Euro-Style or RISE™ or NOIR™
Exterior	
Door Release	Handle

Product Specifications (Continued)

Refinements (For KitchenAid® Models)	
Wall Ovens	EasyConvect™ Conversion, Even-Heat™ True Convection, FIT System, SatinGlide™ Roll Out Extension Rack, Self Clean
Electrical	
Amps	40
Hz	60
Volts	240 or 208
Watts	8000 or 8200
Power Cord Included	Yes
Compatibility	
Connectivity	Amazon Alexa, Android, Google Assistant, iOS
Works With	WiFi, App, Remote Access, Voice Controlled

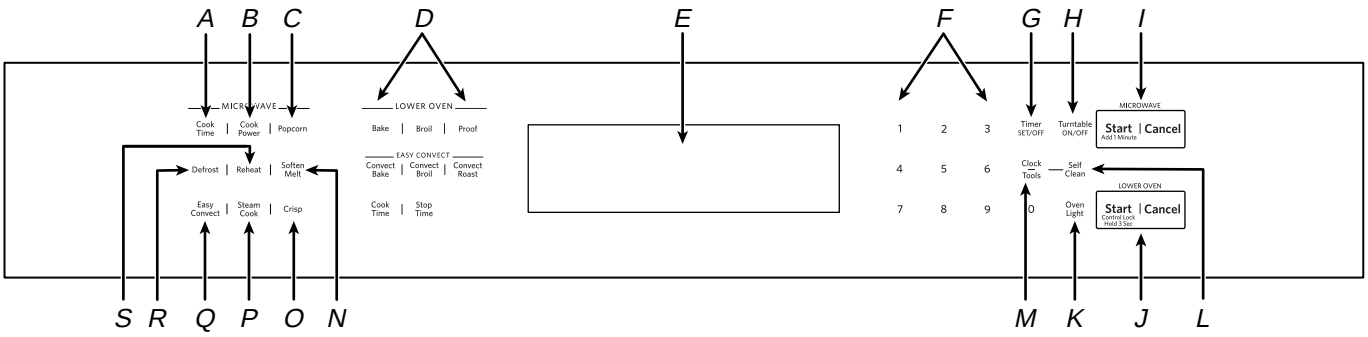
Product Features

Control Panel/Touch Panel

The touch panel/control panel houses the control menu and function controls. The touch pads are very sensitive and require only a light touch to activate.

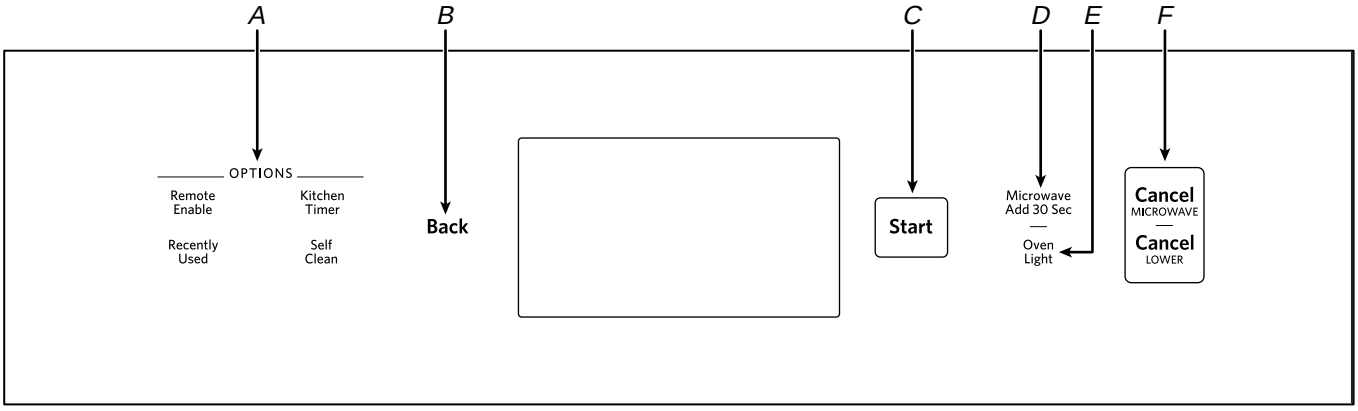
For more information about the individual controls, see their respective Use and Care Guides.

KitchenAid® 27" and 30" Combination Wall Oven with Even-Heat™ True Convection (Lower Oven)



A. Cook Time
B. Cook Power
C. Popcorn
D. Lower Oven Controls
E. Combination Oven Display
F. Number Keypad
G. Timer Set/Off
H. Turntable On/Off
I. Start/Cancel Microwave
J. Start/Cancel Lower Oven
K. Oven Light
L. Self Clean
M. Clock/Tools
N. Soften Melt
O. Crisp
P. Steam Cook
Q. EasyConvect™
R. Reheat
S. Defrost

KitchenAid® 30" Combination Oven (Smart Oven)



A. Options
B. Back
C. Start
D. Microwave (Add 30 Sec)
E. Oven Light
F. Cancel

Upper and Lower Oven Display (KitchenAid® Combination Oven Models)

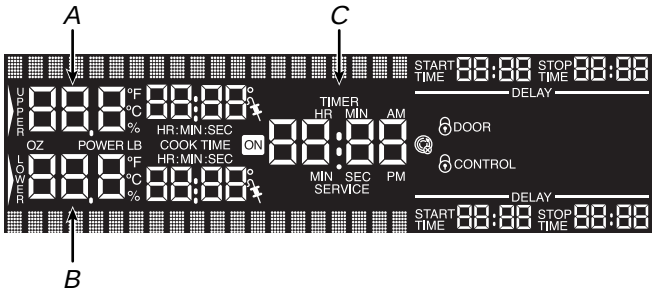
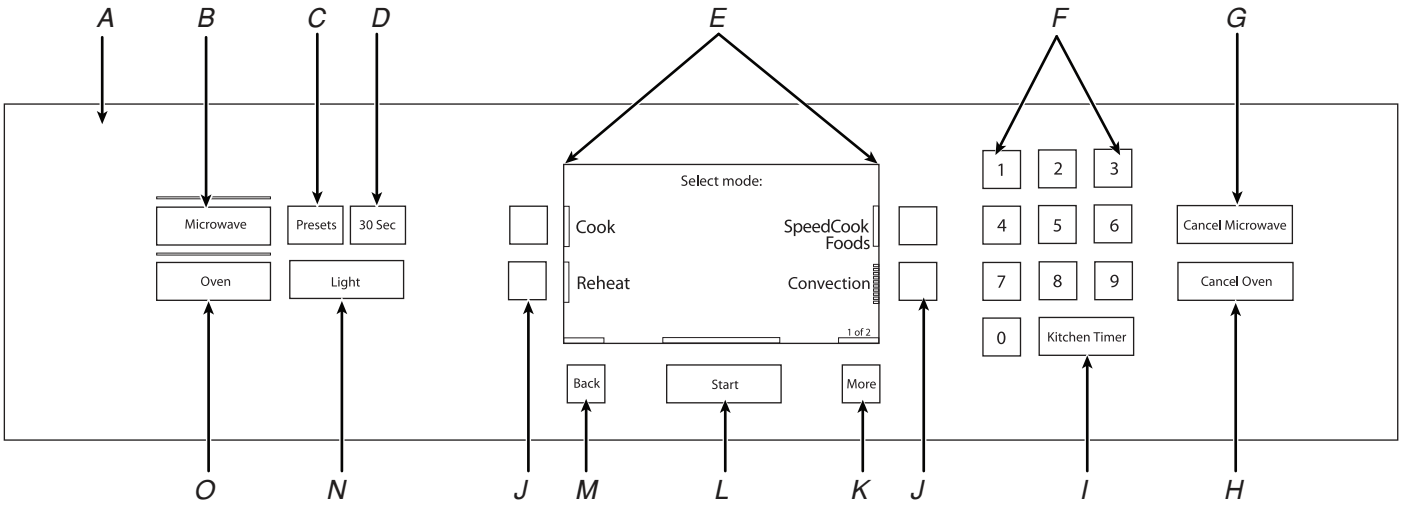


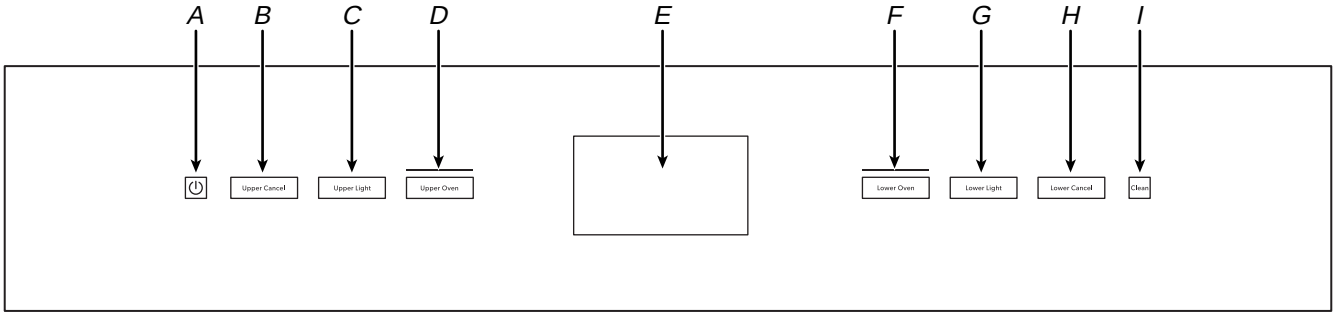
Figure - Upper and Lower Oven Display
A. Microwave Cavity Display
B. Oven Cavity Display
C. Time Of Day/Timer Display

JennAir® 27" and 30" Combination Microwave/Wall Oven

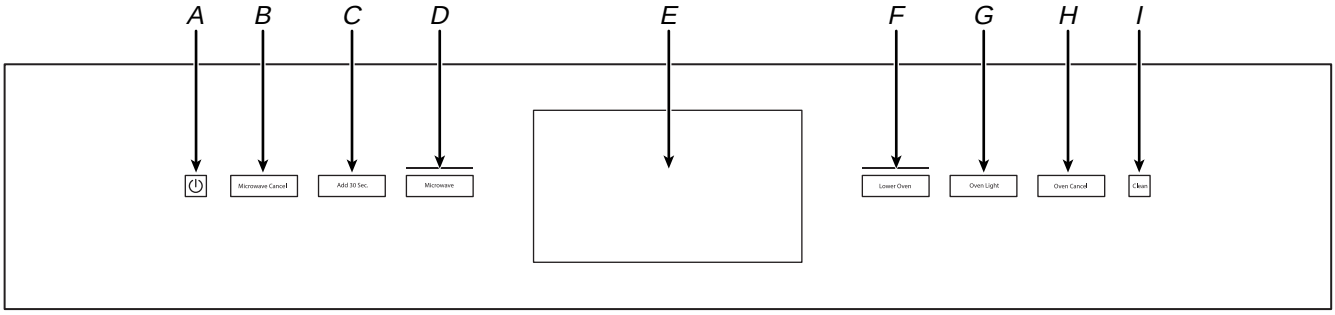


A. Touch Panel
B. Microwave
C. Presets
D. 30 Sec
E. Display
F. Number Keypads
G. Cancel Microwave
H. Cancel Oven
I. Kitchen Timer
J. Quickset Pads
K. More
L. Start
M. Back
N. Light
O. Oven

JennAir® 27" and 30" Microwave/Wall Oven with MultiMode® Convection and 30" Microwave/Wall Oven with V2™ Vertical Dual-Fan Convection System

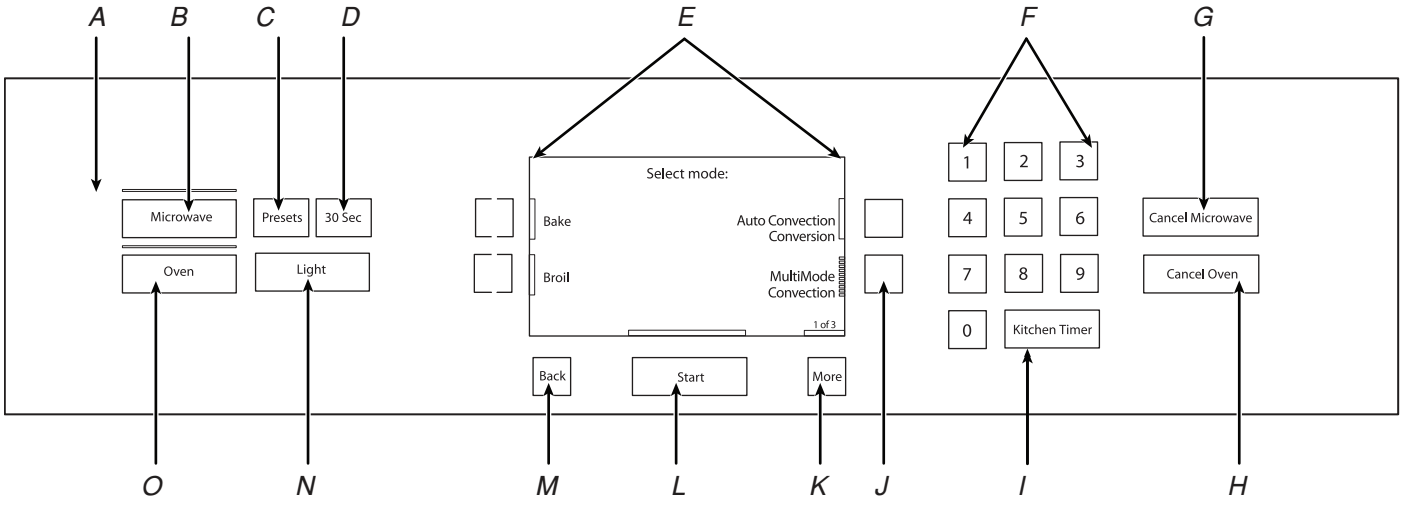


A. Power
B. Upper Cancel
C. Upper Light
D. Upper Oven
E. Display
F. Lower Oven
G. Lower Light
H. Lower Cancel
I. Clean



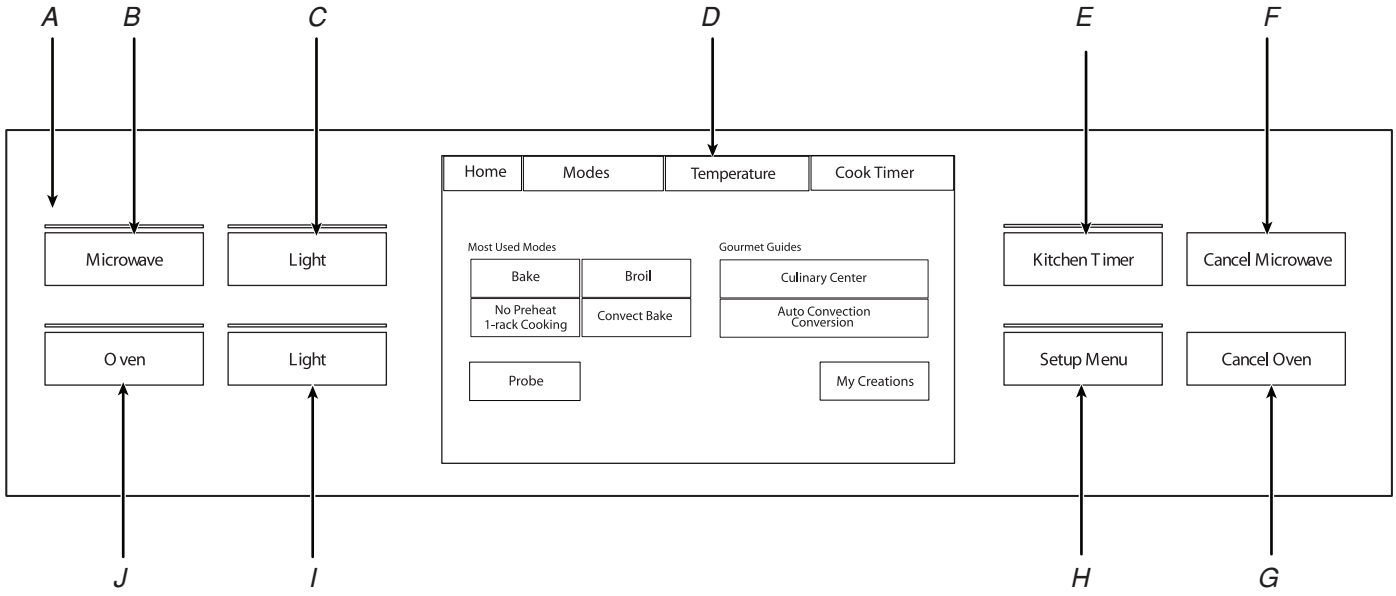
A. Power
B. Microwave Cancel
C. Add 30 Sec
D. Microwave
E. Display
F. Lower Oven
G. Oven Light
H. Oven Cancel
I. Clean

JennAir® 27" and 30" Combination Microwave/Wall Oven with MultiMode® Convection



A. Touch Panel
B. Microwave
C. Presets
D. 30 Sec
E. Display
F. Number Keypad
G. Cancel Microwave
H. Cancel Oven
I. Kitchen Timer
J. Quickset Pads
K. More
L. Start
M. Back
N. Light
O. Oven

JennAir® 30" Combination Oven with V2™ Vertical Dual-Fan Convection System



A. Touch Panel
B. Microwave
C. Microwave Light
D. Interactive Touch Display
E. Kitchen Timer
F. Cancel Microwave
G. Cancel Oven
H. Setup Menu
I. Oven Light
J. Oven

Keypad Features

Keypad	Feature	Instructions
Oven Light	Oven Cavity Light	The Oven Light keypad controls the oven light. While the oven door is closed, touch Oven Light to turn the oven light on and off. When the oven door is opened, the oven light will automatically come on for the corresponding oven.
Start	Function Start	The Start keypad begins any oven function. If Start is not touched within 5 minutes (For KitchenAid® models) and 2 minutes (for JennAir® models) after touching a keypad, the function is canceled and the time of day is displayed.
Microwave Add 30 Sec	Add 30 Seconds	The Add 30 Sec keypad will start 30 seconds of cook time at 100% power when the microwave oven is off. When a manual cook cycle is running, Add 30 Sec will add 30 seconds of cook time to the current cycle. Multiple minutes can be added by repeatedly touching Add 30 Sec.
Cancel Microwave Cancel Lower	Function Cancel	The Cancel keypads stop any function for the appropriate oven except the Clock and Timer.
Back	Go back a Screen	The Back keypad will cancel current changes and go back one screen every time it is pressed.
Kitchen Timer	Kitchen Timer	The Kitchen Timer keypad will set a timer that is independent of oven functions. The kitchen timer can be set in hours, minutes, and seconds, up to 99 hours (for KitchenAid® models) and up to 23 hours, 59 minutes, and 59 seconds (for some JennAir® models). **NOTE**: The Kitchen Timer does not start or stop the oven.
Recently Used	Recall Function	The Recently Used keypad allows you to quickly select a recent cycle.
Remote Enable	Enable Remote App Control	Press Remote Enable to enable the ability to use the KitchenAid® app. If Wi-Fi is not already enabled, the oven will attempt to connect to a local network. **NOTE**: Remote Enable only works for the lower oven. It does not control the microwave oven.
Self Clean	Self-Cleaning	Touch Self Clean. Follow the on-screen prompts to set the self-cleaning cycle. **NOTE**: Self Clean only works for the lower oven. It does not clean the microwave oven.
Power (on JennAir® models)	Power	Touch the Power keypad to turn the oven display on and off.
Oven Cancel Upper Cancel Lower Cancel (on some JennAir® models)	Oven Function	The Lower Cancel, Upper Cancel, and Cancel keypads stop their respective oven functions except for the Clock, Kitchen Timer, and Button Lock. The oven cooling fan(s) may continue to operate even after an oven function has been canceled or completed, depending on the oven temperature.
Tools (on some JennAir® models)	Oven Use Function	The Tools keypad enables you to personalize the oven operation to suit your needs.
Upper Oven Lower Oven (on some JennAir® models)	Oven Selection	The Upper and Lower Oven keypads enable you to select which oven you want to use.

Model Number Nomenclature

JennAir® Model Number Nomenclature

MODEL NUMBER	J	M	W	34	30	I	M

Brand
J = JennAir®

Category
M = Microwave

Configuration
W = Wall Oven

Installation
23 = Single BI microwave oven Extended
24 = Core Single Oven
34 = Extended Single Convection

Size (Cutout Width)
27 = 27 inch
30 = 30 inch

Year
D = 2014
F = 2016
G = 2017
H = 2018
J, I = 2019

Color
M = Modern (Noir SS)
L = ProLux SS
B = Black
P = Pro SS
W = White (Painted)
S = Euro SS

KitchenAid® Model Number Nomenclature

MODEL NUMBER	K	O	C	E	90	0	H	BS

Brand
K = KitchenAid®

Category
O = Wall Oven

Configuration
C = Combination

Product Detail
E = Even-Heat™ True Convection

Feature Pack
50 = Iconic LCD Display
90 = Touch Graphical LCD Display

Width
0 = 30 inch
7 = 27 inch

Year
E = 2015
F = 2016
H = 2018

Color
BS = Black Stainless
SS = Stainless Steel
BL = Black
WH = White

Serial Numbering System (For JennAir® Models)

SERIAL NUMBER	D	5	41	01002

Division Responsibility
D = Cleveland

Year of Production
5 = 2015
6 = 2016
7 = 2017

Week of Production
41 = 41st Week

Product Sequence Number

Electrical Requirements (For JennAir® Models)

If codes permit and a separate ground wire is used, it is recommended that a qualied electrical installer determine that the ground path and wire gauge are in accordance with local codes.

Check with a qualied electrical installer if you are not sure the oven is properly grounded.

This oven must be connected to a grounded metal, permanent wiring system.

Be sure that the electrical connection and wire size are adequate and in conformance with the National Electrical Code, ANSI/NFPA 70 – latest edition or CSA Standards C22.1-94, Canadian Electrical Code, Part 1 and C22.2 No. O-M91 – latest edition, and all local codes and ordinances.

A copy of the above code standards can be obtained from:

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

CSA International, 8501 East Pleasant Valley Road, Cleveland, OH 44131-5575.

Electrical Connection

To properly install your oven, you must determine the type of electrical connection you will be using and follow the instructions provided for it:

- Oven must be connected to the proper electrical voltage, amperage, and frequency as specied on the model/serial/rating number plate as shown on page 1-14.
- Models rated from 7.3 kW to 9.6 kW at 240 volts (5.4 kW to 7.4 kW at 208 volts) require a separate 40-amp circuit.
- A circuit breaker is recommended.
- Connect directly to the fused disconnect (or circuit breaker box) through flexible, armored or nonmetallic sheathed, copper cable (with grounding wire).
- Flexible conduit from the oven should be connected directly to the junction box.
- Do not cut the conduit. The length of conduit provided is for serviceability of the oven.
- A UL listed or CSA approved conduit connector must be provided.
- If the house has aluminum wiring, follow the procedure below:

  1. Connect a section of solid copper wire to the ends of the flexible conduit leads.
  2. Connect the aluminum wiring to the added section of copper wire using special connectors and/or tools designed and UL listed for joining copper to aluminum.

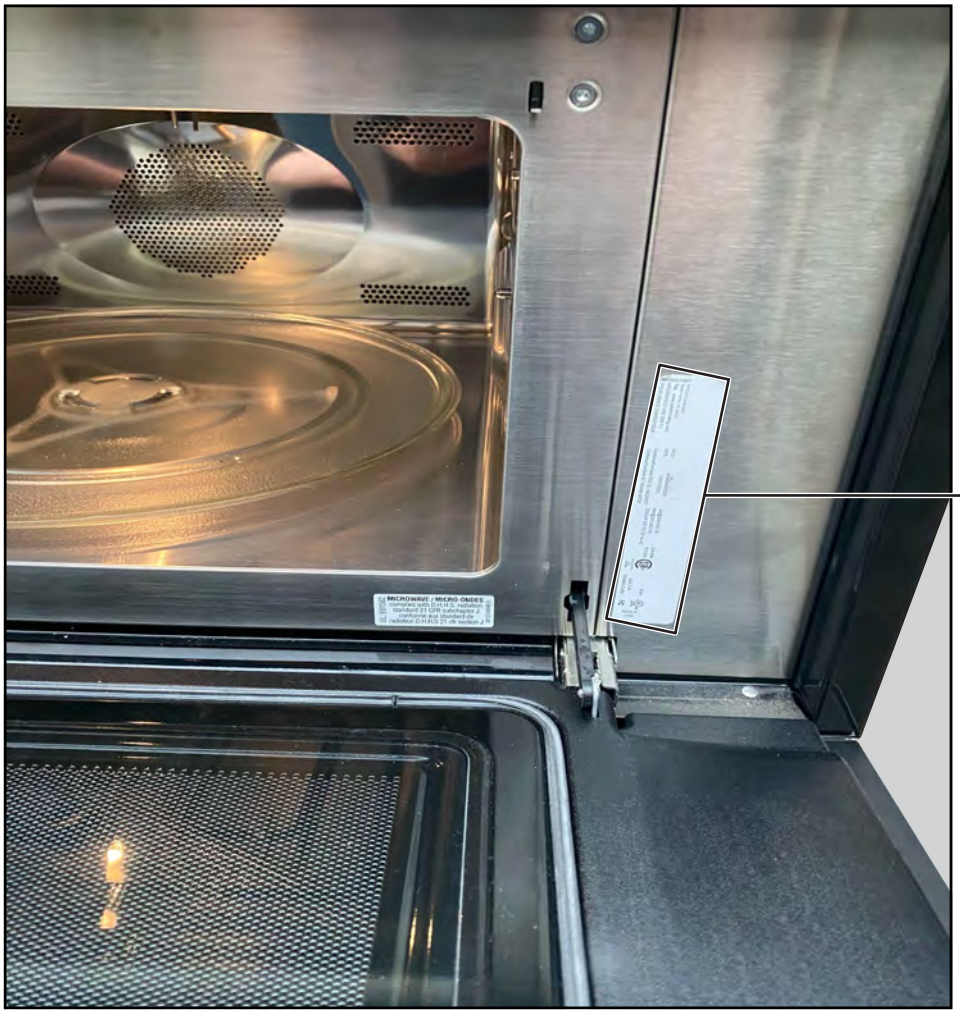
Follow the electrical connector manufacturer's recommended procedure. Aluminum/copper connection must conform with local codes and industry-accepted wiring practices.

For power requirements, refer to the following table:

Model	Voltage	Amperage (L1)*	Amperage (L2)*	Rating (W)
JMW2430D	208	30	28	6507
JMW2427D				
JMW3430D		31	28	6492
JMW2430D	240	32	30	7503
JMW2427D				
JMW3430D		33	30	7491

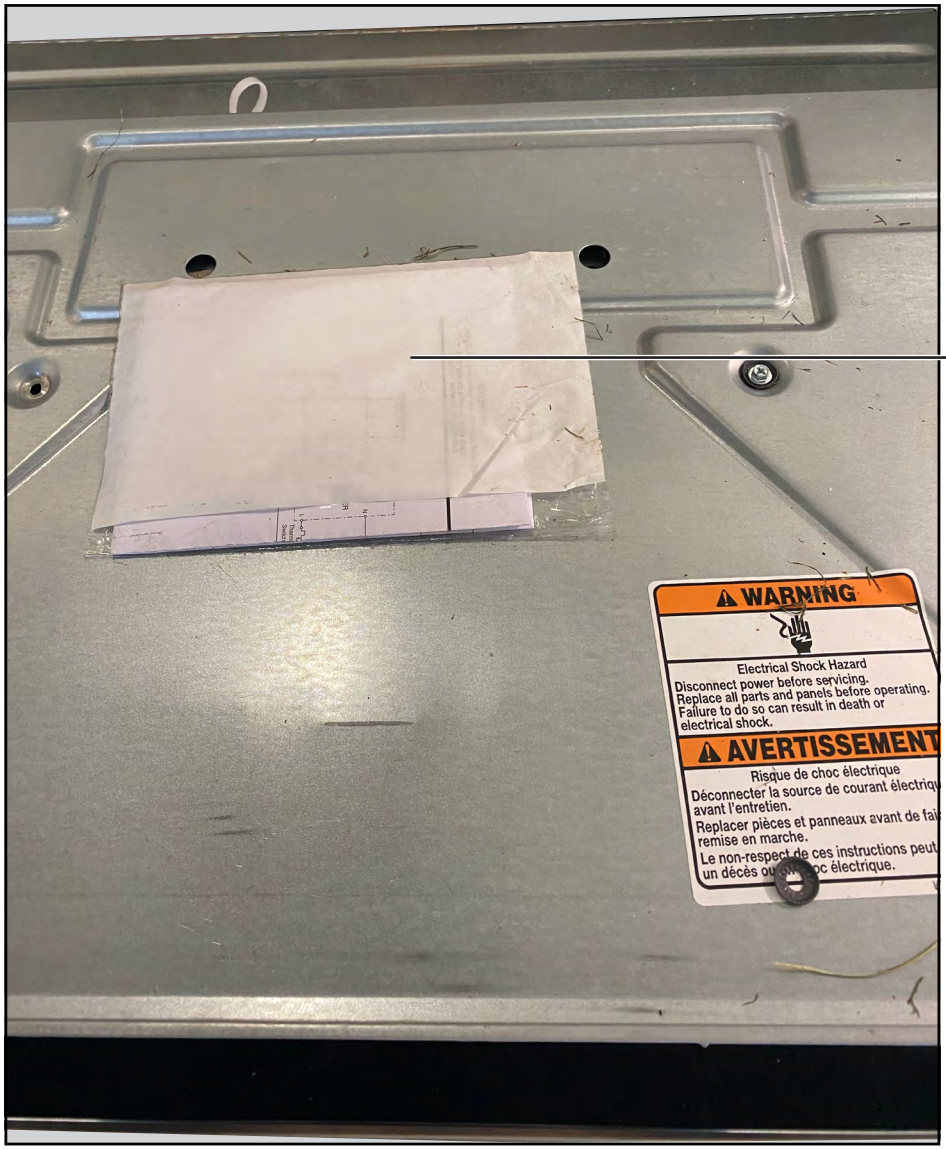
*Amperage values noted above are for information purposes only: The units are rated in watts.

Model Number and Serial Number Label Location



Model and Serial Number Label Location (On the Right Side After Opening the Door)

Tech Sheet Location



Tech Sheet Location (On Top of the Unit)

Notes

Multimedia Enhanced

Section 2: Diagnostics and Troubleshooting

This section provides diagnostics and troubleshooting information for the “JennAir® and KitchenAid® 27" and 30" Microwave Combination Oven.”

- Safety
- Diagnostics
- Failure/Error Display Codes

Video Available  Look for this icon through out Section 2.

For Service Technician Use Only
Safety

⚠ DANGER

Electrical Shock Hazard

Only authorized technicians should perform diagnostic voltage measurements.

After performing voltage measurements, disconnect power before servicing.

Failure to follow these instructions can result in death or electrical shock.

⚠ WARNING

Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

Voltage Measurement Safety Information

When performing live voltage measurements, you must do the following:

- **Verify the controls are in the off position so that the appliance does not start when energized.**
- **Allow enough space to perform the voltage measurements without obstructions.**
- **Keep other people a safe distance away from the appliance to prevent potential injury.**
- **Always use the proper testing equipment.**
- **After voltage measurements, always disconnect power before servicing.**

IMPORTANT: Electrostatic Discharge (ESD) Sensitive Electronics

ESD problems are present everywhere. ESD may damage or weaken the electronic control assembly. The new control assembly may appear to work well after repair is finished, but failure may occur at a later date due to ESD stress.

- Use an antistatic wrist strap. Connect wrist strap to green ground connection point or unpainted metal in the appliance

  -OR-

  Touch your finger repeatedly to a green ground connection point or unpainted metal in the appliance.
- Before removing the part from its package, touch the antistatic bag to a green ground connection point or unpainted metal in the appliance.
- Avoid touching electronic parts or terminal contacts; handle electronic control assembly by edges only.
- When repackaging failed electronic control assembly in antistatic bag, observe above instructions.

For Service Technician Use Only

PRECAUTIONS TO BE OBSERVED BEFORE AND DURING SERVICING TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY

a. Do not operate or allow the oven to be operated with the door open.

b. Make the following safety checks on all ovens to be serviced before activating the magnetron or other microwave source, and make repairs as necessary:

1. Interlock Operation
2. Proper Door Closing
3. Seal and Sealing Surfaces (Arcing, Wear and Other Damage)
4. Damage to or Loosening of Hinges and Latches
5. Evidence of Dropping or Abuse

c. Before turning on microwave power for any service test or inspection within the microwave generating compartments, check the magnetron, waveguide or transmission line, and cavity for proper alignment, integrity and connections.

d. Any defective or misadjusted components in the interlock, monitor, door seal, and microwave generation and transmission systems shall be repaired, replaced, or adjusted by procedures described in service manual before the oven is released to the owner.

e. A microwave leakage check to verify compliance with the CSA should be performed on each oven prior to release to the owner.

f. Do not attempt to operate the oven if the door glass is broken.

For Service Technician Use Only
Diagnostics

Using the Diagnostics Mode

The Ovens provide a Diagnostic program that can help diagnose concerns with the oven. The diagnostic program will need to be accessed anytime the User Interface or Control Panel Assembly is replace because the Oven Cavity size (27" or 30") needs to be programmed into the control.

The Diagnostic Mode will provide Error Code information, and the ability to clear error codes from the control memory. It can help activate the Appliance Manager relays for diagnostic help and, as mentioned before, provide the process for selecting the oven cavity size anytime the User Interface or Control Panel Assembly is replaced.

IMPORTANT: Before powering MWO magnetron, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity.

Unplug oven or disconnect power before performing the following checks:

- A potential cause of a control not functioning is corrosion on connections. Observe connections and check for continuity with an ohmmeter.
- All tests/checks should be made with a VOM or DVM having a sensitivity of 20,000 Ω per VDC or greater.
- Check all connections before replacing components, looking for broken or loose wires, failed terminals, or wires not pressed into connectors far enough. Damaged harness must be entirely replaced. Do not rework a harness.
- Resistance checks must be made with power cord unplugged from outlet, and with wiring harness or connectors disconnected.

IMPORTANT: Do not replace the control if there is no evidence of any failure.

To Enter Diagnostics Mode:

Before proceeding with any corrective action, perform the following steps to enter the Diagnostics Mode.

For JennAir® Models:

1. Enter Diagnostics Mode by pressing LOWER OVEN>LOWER LIGHT>OVEN CANCEL (repeat two more times).
   TIP: You can also swipe your finger from left to right over the buttons 3 times.
   NOTE: You do not need to wait for any audible or visual feedback from the control between keypad presses.
2. If control does not enter Diagnostics, continue repeating the keypad sequence from Step 1. All the keypads will light up when the control enters Diagnostics.
3. From the Diagnostic Menu, scroll to the desired selection using the touch screen.
   Error Diagnostics: View and clear the failure history.
   Component Activation: Manually activate each relay.
   Sensors and Switches: View the traditional oven cavity temperatures and door/latch switch status.
   System Information: View the model number, serial number, and software versions.
   Wi-Fi: View Wi-Fi related content such as IP Address, Gateway, SSID, and connection status.
   Exit Diagnostics.

For KitchenAid® Models:

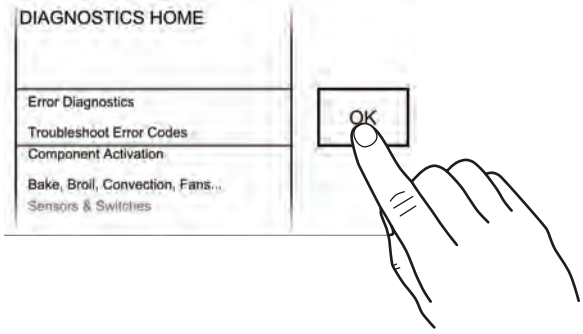
1. Enter Diagnostics mode by pressing CANCEL>CANCEL>START.
2. If control does not enter Diagnostics mode, repeat Step 1.
3. From the Diagnostic menu, it is possible to select one of these options by pressing the 3 or 6 keypad.
   Status Screen: View the traditional oven cavity temperatures (both cavities for double ovens), door and latch switch status (both cavities for double ovens), and software version of Appliance Manager (AM), User Interface (UI), EEPROM, and serial number.
   Relay Activation: Manually activate each relay.
   Error Codes: View the failure history.
   Cavity Size Select: Manually select the cavity size: 30" and 27" (76.2 cm and 68.6 cm).

General Procedure: Error Codes

NOTE: All failures are stored in the failure history. To check if the error code is still present, start a cooking function and wait 1 minute to check if the error appears.

For JennAir® Models:

1. Plug in oven or connect power.
2. Enter Diagnostics Mode.
3. Touch or scroll to “Error Diagnostics” in the Diagnostics menu, and then touch “OK.”



4. To clear error codes, touch “Clear History.”
5. If no failures are listed, the message “No Error” will appear on the screen.

For KitchenAid® Models:

1. Plug in oven or connect power.
2. Enter Diagnostics mode by pressing CANCEL>CANCEL>START.
3. Press the 3 or 6 keypad to scroll to the Faults screen and check the latest error code.
4. To clear error codes, press CLOCK/TOOLS to enter Edit mode. Press START to accept the change.
5. If no failures are listed, the message “Good” will appear on the screen.

For Service Technician Use Only

General Procedure: Component Activation (JennAir Models®)

1. Plug in oven or connect power.
2. Enter Diagnostics Mode.
3. Touch or scroll to "Component Activation" in the Diagnostics menu, and then touch "OK."
4. Touching the following selections will activate/deactivate corresponding relay.

Selection	Relay
MW Light	MW Light Relay
MW Turntable	MW Turntable Relay
MW Cooling Fan	MW Cooling Fan Relay
MW Grill	MW Broil Element Relay
MW Convection Element	MW Convection Element Relay
MW Convection Fan	MW Convection Fan Relay
MW Magnetron/Cooling Fan	MW Magnetron and MW Cooling Fan Relay
Oven Bake Element	Oven Bake Element Relay
Oven Broil Element	Oven Broil Element Relay
Convection Element - Up	Upper Convection Element Relay
Convection Element - Low	Lower Convection Element Relay
Oven Convection Element	Oven Convection Element Relay
Convection Fan HS - Up	Upper High Speed Convection Fan Relay
Oven Convection Fan	Oven Convection Fan Relay
Convection Fan LS - Up	Upper Low Speed Convection Fan Relay
Convection Fan HS - Low	Lower High Speed Convection Fan Relay
Convection Fan LS - Low	Lower Low Speed Convection Fan Relay
Oven Cooling Fan High Speed	Oven Cooling Fan High Speed Relay
Oven Cooling Fan Low Speed	Oven Cooling Fan Low Speed Triac
Oven Light	Oven Light Triac
Oven Door Latch Motor	Oven Door Latch Motor Relay

General Procedure: Relay Activation (KitchenAid® Models)

1. Plug in oven or connect power.
2. Enter Diagnostics mode by pressing CANCEL>CANCEL>START.
3. Press the 3 or 6 keypad to scroll to the Relay Activation screen. Pressing the oven keypads will activate/deactivate corresponding relay and display text as shown in table.

Keypad Press	Relay	Lower Text Line Display
Bake	Bake Relay	BAKE RELAY
Broil	Broil Relay	BROIL RELAY
Convect Bake	Conv Relay and Fan	CONV RING/FAN RELAY
Oven Light	Oven Light Relay	OVEN LIGHT RELAY
Cook Time (x1)	Low-Speed Cooling Fan	COOLING FAN LOW
Cook Time (x2)	High-Speed Cooling Fan	COOLING FAN HIGH
Clean	Latch/Unlatch Motor	LATCH ROTATING

Pressing the microwave keypads will activate/deactivate corresponding relay and display text as shown below:

Keypad Press	Relay	Lower Text Line Display
Cook Power	Microwave Relay On (Includes microwave and cooling fan relays)	Magnetron Relay
Cook Time	Cooling Fan	Cooling Fan Relay
Custom Reheat	Fan Lamp Relay On	Microwave Oven Light Relay
Crisp	Grill Relay On	Grill Relay
Easy Convect Conversion	Fan Convect Relay On	Convect Fan Relay
Soften/Melt	Convect Ring and Fan Relay On	Convect Ring Relay
Steam Cook	Turntable Relay On	Turntable Relay

General Procedure: Cavity Size Select (KitchenAid® Models)

NOTE: This procedure is to be performed when the UI is replaced.

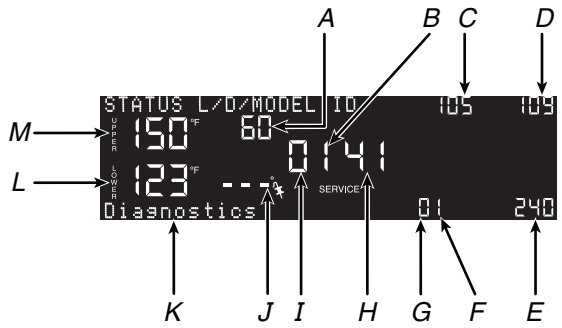
1. Plug in oven or connect power.
2. Enter Diagnostics mode by pressing CANCEL>CANCEL>START.
3. Press the 3 or 6 keypad to scroll to the Cavity Size Select screen.
4. Press CLOCK/TOOLS, and then press the 3 or 6 keypad until the preferred cavity size is selected. Available cavity sizes are 30" and 27" (76.2 cm and 68.6 cm).
5. Press START to save.

For Service Technician Use Only

General Procedure: Status Screen (KitchenAid® Models)

1. Plug in oven or connect power.
2. Enter Diagnostics mode by pressing CANCEL>CANCEL>START.
3. The following information will be displayed on the Status screen.

Combination Oven Status Screen:



A. MW Humidity (%)
B. MW Door Switch Status
C. UI Thermistor Temperature
D. MW Thermistor Temperature
E. Voltage
F. Oven Door Switch Status
G. Oven Latch Switch Status
H. HMI ID
I. Not Used
J. Oven Meat Probe Temperature
K. Display Message
L. Oven Temperature
M. MW Cavity Temperature

The display message will cycle through different information. Each message will stay on the display for 2 seconds. “Diagnostics” will display upon first entering the Diagnostics mode but will not be shown again as the information cycles.

Display Message	Description
Diagnostics	Displays only once
UI 03.00.00	UI software version
AM1 03.00.00	Upper oven AM software version
HMI 01.00.00	HMI software version
EEKEO-246	UI EEPROM version (decimal)
MWO 54.34.67.98	MW AM software version
SN D0123456789012	Product serial number
UI SN D123456789012	UI serial number
HMI SN D123456789012	Keypad serial number
AM1 SN D123456789012	Upper oven AM serial number

General Procedure: Sensors and Switches (JennAir® Models)

Display	Status
MW Door Switch	Open or Closed
MW Cavity Temperature	Degrees in Celsius (ºC)
Oven Door Switch	Open or Closed
Oven Latch Switch	Open or Closed
Oven Cavity Temperature	Degrees in Celsius (ºC)
Oven Meat Probe Temperature	Degrees in Celsius (ºC)

1. Plug in oven or connect power.
2. Enter Diagnostics Mode.
3. Touch or scroll to “Sensors and Switches” in the Diagnostics menu, and then touch “OK.”
4. Touch or scroll through the Sensors and Switches menu to view the desired status.
   NOTE: Touching “Back” will return the display to the main Diagnostics Menu.

General Procedure: System Information (JennAir® Models)

NOTE: This procedure is to view the following system information:

System Information	Display
Model #	Model Information
Serial #	Product Serial Number
UI Serial #	User Interface Serial Number
Oven ACU Serial #	Appliance Control Unit Serial Number
UI Version	User Interface Software Version
HMI Central SW	HMI Central Board Software Version
HMI Left SW	HMI Left Keyboard Software Version
HMI Left EE	HMI Left Keyboard EEPROM Version
HMI Right SW	HMI Right Keyboard Software Version
HMI Right EE	HMI Right Keyboard EEPROM Version
Kernel Version	HMI Central Board Software Version
Touch Calibration	LCD/TP FPC Tail Software Version
Version	HMI Central Board Database Structure
Database Version	HMI Central Board Software Version
Audio Version	Oven Appliance Control Unit Software Version
Oven ACU SW	Microwave Oven Appliance Control Unit Software
MWO ACU SW	Version
Diagnostics Entries	Number of times Diagnostic Menu has been entered

1. Plug in oven or connect power.
2. Enter Diagnostics Mode.
3. Touch or scroll to “System Information” in the Diagnostics menu, and then touch “OK.”
4. Touch or scroll through the System Information menu to view the desired status.
   NOTE: Touching “Back” will return the display to the main Diagnostics Menu.

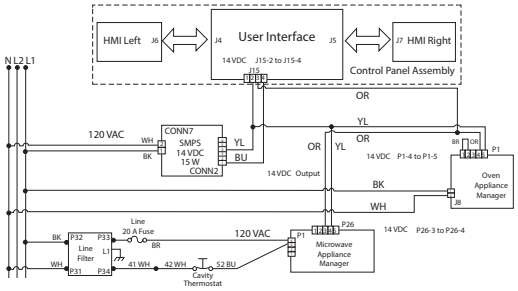
For Service Technician Use Only

General Procedure: Model Selection (JennAir® Models)

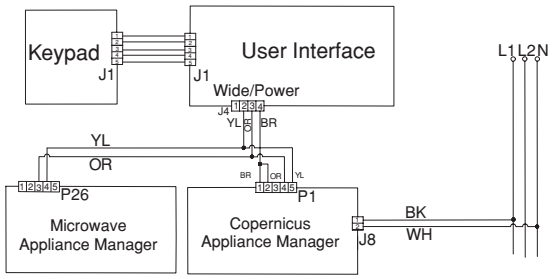
NOTE: When a new User Interface is installed, you will be prompted to select a new model number upon power up. To change the model number on an existing UI, follow the steps below.

1. Plug in oven or connect power.
2. Enter Diagnostics Mode.
3. Touch or scroll to “System Information” in the Diagnostics menu, and then touch “OK.”
4. Touch or scroll to “Model Number,” and then touch “OK.”
5. Touch or scroll to the correct model number in the list, and then touch “Select.”

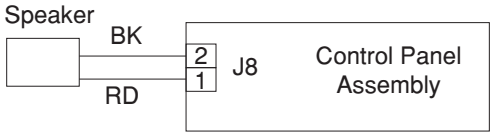
Failure/Error Display Codes

Failure	Likely Failure Condition	Suggested Corrective Action Procedure
No Display - control is blank	Switch Mode Power Supply (SMPS), User Interface (UI) (For JennAir® Models) Thermal Fuse, Copernicus Appliance Manager, User Interface (For KitchenAid® Models)	**NOTE**: Before starting any test, cycle power to the oven (power Off, wait 10 seconds, and then power On). **Procedure for JennAir® Models:** **1.** Unplug oven or disconnect power. **2.** Remove plastic cover from UI. Check connection from display to UI. **3.** Check wiring from main line to SMPS (CONN 7).  **4.** Check connection from wiring harness to UI (J15). **5.** Check proper voltage input at J15-2 (GND) to J15-4 (14 VDC) on the UI by completing the following steps. **6.** Connect voltage measurement equipment to J15-2 and J15-4 on UI. **7.** Plug in oven or reconnect power. **8.** Measure voltage and confirm voltage reading is 14 VDC. If voltage is correct, unplug oven or disconnect power and go to Step 13. If voltage is not correct, go to Step 9. **9.** Unplug oven or disconnect power. Replace the SMPS. **10.** Reassemble all parts and panels before operating. **11.** Plug in oven or reconnect power. **12.** Check for control board display. If still no display, unplug oven or disconnect power. **13.** Replace HMI-Central/UI board. **14.** Reassemble all parts and panels before operating. **15.** Plug in oven or reconnect power. If the UI was replaced, follow the on-screen prompts to select the model number. **16.** Verify operation is normal. If problem persists, replace the Control Panel Assembly and repeat steps 14 through 16. **Procedure for KitchenAid® Models:** **1.** Unplug oven or disconnect power. **2.** Check wiring from main line to Copernicus Appliance Manager.

For Service Technician Use Only

Failure	Likely Failure Condition	Suggested Corrective Action Procedure
No Display - control is blank	Switch Mode Power Supply (SMPS), User Interface (UI) (For JennAir® Models) Thermal Fuse, Copernicus Appliance Manager, User Interface (For KitchenAid® Models)	 **3.** Check connection from wiring harness to UI (J4). **4.** Check proper voltage input at J4-2 (GND) to J4-4 (14 VDC) on the UI by completing the following steps. **5.** Connect voltage measurement equipment to J4-2 and J4-4 on UI. **6.** Plug in oven or reconnect power. **7.** Measure voltage and confirm voltage reading is 14 VDC. If voltage is correct, unplug oven or disconnect power and go to Step 12. If voltage is not correct, go to Step 8. **8.** Unplug oven or disconnect power. Replace the Copernicus Appliance Manager. **9.** Reassemble all parts and panels before operating. **10.** Plug in oven or reconnect power. **11.** Check for control board display. If still no display, unplug oven or disconnect power. **12.** Replace UI. **13.** Reassemble all parts and panels before operating. **14.** Plug in oven or reconnect power. If the UI was replaced, follow the steps in the "General Procedure: Cavity Size Select" section. **15.** Unplug oven or disconnect power. **16.** Check wiring from UI to keypad. **17.** Connect voltage measurement equipment to J1-5 and J1-1 on keypad. **18.** Plug in oven or reconnect power. **19.** Confirm voltage input is 5 VDC from J1-5 (GND) to J1-1 (5 VDC) on keypad. If it is, unplug oven or disconnect power and go to Step 22. **20.** If it is not 5 VDC, unplug the oven or disconnect power. **21.** Replace the keypad. **22.** Reassemble all parts and panels before operating. **23.** Plug in oven or reconnect power. **24.** Verify operation is normal. Re-enter the Diagnostics mode and erase error code(s).

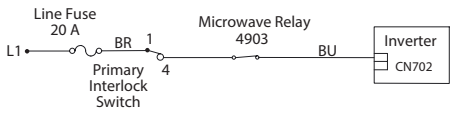
For Service Technician Use Only

Failure	Likely Failure Condition	Suggested Corrective Action Procedure
User Interface not reacting to touch	Control Panel Assembly	**NOTE**: Before starting any test, cycle power to the oven (power Off, wait 10 seconds, and power On). **1.** Enter the Diagnostic Menu, and then touch POWER. **2.** To reset Touch Calibration: unplug oven or disconnect power, wait 10 seconds, and then plug in oven or reconnect power. If still no response, go to Step 3. **3.** Unplug oven or disconnect power. **4.** Replace Control Panel Assembly. **5.** Reassemble all parts and panels before operating. **6.** Plug in oven or reconnect power. **7.** Verify operation is normal.
No Sound	Speaker, Control Panel Assembly	**NOTE**: Before starting any test, cycle power to the oven (power Off, wait 10 seconds, and power On). **1.** Verify sound is enabled. Touch the Tools menu, and then scroll to the Sound Menu. Confirm Key Press, Timer and Alert, and Power On and Off actions are all turned on and set to the desired volume. **2.** Unplug oven or disconnect power. **3.** Confirm the speaker is firmly connected to the HMI-Central/UI board at J8. If speaker is firmly connected, go to Step 4. If speaker connection is loose, reconnect and proceed to Step 5.  **4.** Replace speaker. **5.** Reassemble all parts and panels before operating. **6.** Plug in oven or reconnect power. **7.** Confirm operation of the speaker. If problem persists, unplug oven or disconnect power, replace Control Panel Assembly, and repeat steps 5 through 7.

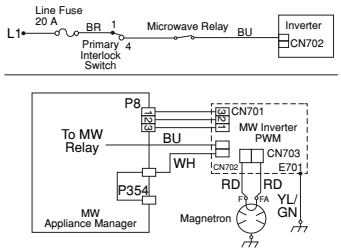
For Service Technician Use Only

Failure	Error	Likely Failure Condition	Suggested Corrective Action Procedure
F1 Internal	E0	Oven user interface (UI) failure	**NOTE**: Before starting any test, cycle power to the oven (power Off, wait 10 seconds, and power On). For JennAir® models, Before proceeding, verify the error code by entering the Diagnostics Menu and selecting "Error Diagnostics." For KitchenAid® models, Before proceeding, verify the error code by pressing CANCEL>CANCEL>START to enter the Diagnostics mode and then pressing the 3 or 6 keypad to scroll to the Faults screen. **NOTE**: If other error codes are stored, troubleshoot those other error codes first. **Procedure for JennAir® Models:** **1.** Unplug oven or disconnect power. **2.** Confirm the control panel assembly is grounded to the oven chassis. If it is, go to Step 6. If it is not, fix the connection. **3.** Reassemble all parts and panels before operating. **4.** Plug in oven or reconnect power and cycle power. **5.** If error persists, unplug oven or disconnect power. **6.** Replace HMI-Central/UI board. **7.** Reassemble all parts and panels before operating. **8.** Plug in oven or reconnect power and cycle power. **9.** If error persists after HMI-Central/UI board is replaced, unplug oven or disconnect power and replace Control Panel Assembly. **10.** Reassemble all parts and panels before operating. **11.** Plug in oven or reconnect power. Follow the on-screen prompts for model selection. **12.** Verify operation is normal. Enter Diagnostics Mode, select "Error Diagnostics," and clear the history. If the Control Panel Assembly was replaced, there is no need to clear the error history. **Procedure for KitchenAid® Models:** **1.** Unplug oven or disconnect power. **2.** Make sure the connection to ground is properly made. If it is, go to Step 5. **3.** If it is not, fix the connection. Reassemble all parts and panels before operating and cycle power. **4.** If error persists, unplug oven or disconnect power. Go to Step 5. **5.** Replace Oven UI. **6.** Reassemble all parts and panels before operating and cycle power. If error persists after UI is replaced, unplug oven or disconnect power and go to Step 7. **7.** Replace Copernicus Appliance Manager. **8.** Reassemble all parts and panels before operating. **9.** Plug in oven or reconnect power. **10.** Follow the steps in the "General Procedure: Cavity Size Select" section if the UI was replaced. **11.** Verify operation is normal. Re-enter the Diagnostics mode and remove error code(s).

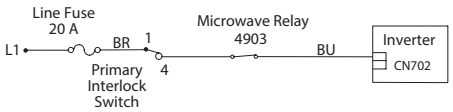
For Service Technician Use Only

Failure	Error	Likely Failure Condition	Suggested Corrective Action Procedure
F1	E1	Internal Oven ACU Error	**NOTE**: Before starting any test, cycle power to the oven (power Off, wait 10 seconds, and power On). Before proceeding, verify the error code by entering the Diagnostics Menu and selecting "Error Diagnostics." **NOTE**: If other error codes are stored, troubleshoot those other error codes first. **1.** Unplug oven or disconnect power. **2.** Replace the Copernicus Appliance Manager. **3.** Reassemble all parts and panels before operating. **4.** Plug in oven or reconnect power. **5.** If error persists after Copernicus Appliance Manager is replaced, unplug oven or disconnect power, and then go to Step 6. If not, go to Step 9. **6.** Replace Control Panel Assembly. **7.** Reassemble all parts and panels before operating. **8.** Plug in oven or reconnect power. **9.** For JennAir® models, follow the on-screen prompts to select the model number. For KitchenAid® models, follow the steps in the "General Procedure: Cavity Size Select" section if the UI was replaced. **10.** Verify operation is normal. Enter Diagnostics Mode, select "Error Diagnostics," and clear the history. If the Control Panel Assembly was replaced, there is no need to clear the error history.
F1	E4	Microwave Oven Relay 4903 Error	**NOTE**: Before starting any test, cycle power to the oven (power Off, wait 10 seconds, and then power On). After powering on, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a microwave cooking function. Wait 1 minute, and then verify that the failure happens again. **1.** Make sure that all interlock switches works properly: when door is open, microwave light is On; when door is closed, microwave light is Off. **2.** Unplug oven or disconnect power. **3.** Check the following on the Microwave Appliance Manager: **a.** Wire connections to Relay 4903.  **b.** Check if Relay 4903 is shorted. If so then go to Step 7. **4.** Reassemble all parts and panels before operating. **5.** Plug in oven or reconnect power. **6.** To check if the error code is still present, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a cooking function in the microwave oven. Wait 1 minute to check if the error appears. If error remains, go to Step 7. If not, go to Step 10. **7.** Unplug oven or disconnect power and replace the Microwave Appliance Manager. **8.** Reassemble all parts and panels before operating. **9.** Plug in oven or reconnect power. **10.** Verify operation is normal. Enter the Diagnostics Menu, select "Error Diagnostics," and clear the history or remove the error codes.

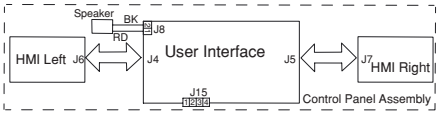
For Service Technician Use Only

Failure	Error	Likely Failure Condition	Suggested Corrective Action Procedure
F1	E5	Microwave Oven Inverter Error	**NOTE**: Before starting any test, cycle power to the oven (power Off, wait 10 seconds, and then power On). After powering on, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a microwave cooking function. Wait 1 minute, and then verify that the failure happens again. **1.** Make sure that all interlock switches works properly: when door is open, microwave light is On; when door is closed, microwave light is Off. **2.** Unplug oven or disconnect power. **3.** Check the following on the Microwave Appliance Manager: **a.** Relay 4903. **b.** Connector P8.  **4.** Check the following connections on the Inverter board: **a.** CN701. **b.** CN702. **c.** CN703. **5.** If the door works properly and all connections are okay, replace the Microwave Inverter Board. **6.** Reassemble all parts and panels before operating. **7.** Plug in oven or reconnect power. **8.** To check if the error code is still present, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a cooking function in the microwave oven. Wait 1 minute to check if the error appears. If error remains, then go to Step 9. If not, go to Step 17. **9.** Unplug oven or disconnect power. **10.** Replace the Magnetron. **11.** Reassemble all parts and panels before operating. **12.** Plug in oven or reconnect power. **13.** To check if the error code is still present, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a cooking function in the microwave oven. Wait 1 minute to check if the error appears. If error remains, then go to Step 14. If not, go to Step 17. **14.** Unplug oven or disconnect power and replace the Microwave ACU. **15.** Reassemble all parts and panels before operating. **16.** Plug in oven or reconnect power. **17.** Verify operation is normal. Enter the Diagnostics Menu, select “Error Diagnostics,” and clear the history or remove the error codes.

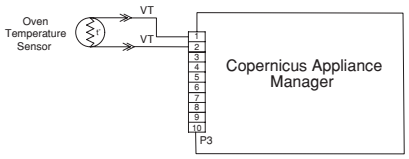
For Service Technician Use Only

Failure	Error	Likely Failure Condition	Suggested Corrective Action Procedure
F1	E6	Microwave Generation Error	**NOTE**: Before starting any test, cycle power to the oven (power Off, wait 10 seconds, and then power On). After powering on, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a microwave cooking function. Wait 1 minute, and then verify that the failure happens again. **1.** Make sure that all interlock switches works properly: when door is open, microwave light is On; when door is closed, microwave light is Off. **2.** Unplug oven or disconnect power. **3.** Check the following connections on the Microwave Appliance Manager: **a.** Relay 4903.  **4.** If the door works properly and all connections are okay, replace the Magnetron. **5.** Reassemble all parts and panels before operating. **6.** Plug in oven or reconnect power. **7.** To check if the error code is still present, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a cooking function in the microwave oven. Wait 1 minute to check if the error appears. If error remains, then go to Step 8. If not, go to Step 16. **8.** Unplug oven or disconnect power and replace the Inverter Board. **9.** Reassemble all parts and panels before operating. **10.** Plug in oven or reconnect power. **11.** To check if the error code is still present, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a cooking function in the microwave oven. Wait 1 minute to check if the error appears. If error remains, then go to Step 12. If not, go to Step 16. **12.** Unplug oven or disconnect power. **13.** Replace the Microwave ACU. **14.** Reassemble all parts and panels before operating. **15.** Plug in oven or reconnect power. **16.** Verify operation is normal. Enter the Diagnostics Menu, select “Error Diagnostics,” and clear the history.

For Service Technician Use Only

Failure	Error	Likely Failure Condition	Suggested Corrective Action Procedure
F2 Keypad	E0	Keypad disconnected	**NOTE**: Before starting any test, cycle power to the oven (power Off, wait 10 seconds, and power On). For JennAir® models, Before proceeding, verify the error code by entering the Diagnostics Mode and selecting “Error Diagnostics.” For KitchenAid® models, Before proceeding, verify the error code by pressing CANCEL>CANCEL>START to enter the Diagnostics mode and then pressing the 3 or 6 keypad to scroll to the Faults screen. **Procedure for JennAir® Models:** **1.** Unplug oven or disconnect power. **2.** Check that connectors J4, J5, J6, and J7 are firmly connected. If they are not, go to Step 3. If they are, go to Step 6.  **3.** Reconnect any loose connectors. **4.** Reassemble all parts and panels before operating. **5.** Plug in oven or reconnect power. If the failure is gone, go to Step 9. If the failure is still present, unplug oven or disconnect power. **6.** Replace the Control Panel Assembly. **7.** Reassemble all parts and panels before operating. **8.** Follow the on-screen prompts to select the model number. **9.** Verify operation is normal. Enter the Diagnostics Menu, select “Error Diagnostics,” and clear the history. If the Control Panel Assembly was replaced, there is no need to clear the error history. **Procedure for KitchenAid® Models:** **1.** Unplug oven or disconnect power. **2.** Check that connector J1 firmly connects oven user interface to the keypad. If it does, go to Step 3. If it does not, go to Step 6. **3.** Replace the keypad. **4.** Reassemble all parts and panels before operating. **5.** Go to Step 8. **6.** Reconnect connector J1. **7.** Reassemble all parts and panels before operating. **8.** Plug in oven or reconnect power. If the failure is gone, go to Step 13. If the failure is still present, unplug oven or disconnect power. **9.** Replace the UI. **10.** Reassemble all parts and panels before operating. **11.** Plug in oven or reconnect power. **12.** Follow the steps in the “General Procedure: Cavity Size Select” section if the UI was replaced. **13.** Verify operation is normal. Re-enter the Diagnostics mode and remove error code(s).
	E1	Stuck/shorted key	

For Service Technician Use Only

Failure	Error	Likely Failure Condition	Suggested Corrective Action Procedure
F3 Sensors	E0	Main oven sensor open or shorted	**NOTE**: Before starting any test, cycle power to the oven (power Off, wait 10 seconds, and power On). For JennAir® models, Before proceeding, verify the error code by entering the Diagnostics Menu and selecting “Error Diagnostics.” For KItchenAid® models, Before proceeding, verify the error code by pressing CANCEL>CANCEL>START to enter the Diagnostics mode and then pressing the 3 or 6 keypad to scroll to the Faults screen. **1.** Unplug oven or disconnect power. **2.** Disconnect connector P3 from Oven Appliance Manager, and measure the resistance of the sensor between P3-1 and P3-2. Test for 1000 Ω to 1200 Ω at 77°F (25°C). Check sensor for short to ground. If checks on sensor are not correct, replace sensor and repeat the checks.  **3.** Reassemble all parts and panels and plug in oven or reconnect power. **4.** For JennAir® models, enter Diagnostics Menu and select “Sensors and Switches” to verify if the temperature shown in the Cavity Temp display is correct (ambient temperature). If it is, go to Step 8. If it is not, unplug oven or disconnect power. For KItchenAid® models, Press CANCEL>CANCEL>START to enter the Diagnostics mode Status screen to check if temperature shown in display is correct (ambient temperature). If it is, go to Step 8. If it is not, unplug oven or disconnect power **NOTE**: On the status screen, the unit of measurement is Celsius or Fahrenheit, depending on the user settings. **5.** Replace the Copernicus Appliance Manager board. **6.** Reassemble all parts and panels before operating. **7.** Plug in oven or reconnect power. **8.** Verify operation is normal. Enter Diagnostics Menu, select “Error Diagnostics,” and clear the history or remove the error codes.

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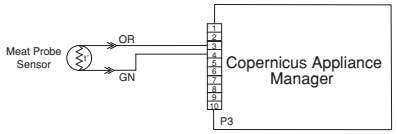
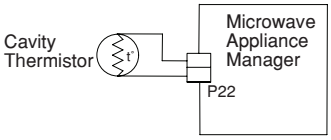
Failure	Error	Likely Failure Condition	Suggested Corrective Action Procedure
F3 Sensors	E3	Meat Probe Connector Jack or Meat Probe Shorted	**NOTE**: Before starting any test, cycle power to the oven (power Off, wait 10 seconds, and power On). For JennAir® models, Before proceeding, verify the error code by entering the Diagnostics Menu and selecting “Error Diagnostics.” For KitchenAid® models, Before proceeding, verify the error code by pressing CANCEL>CANCEL>START to enter the Diagnostics mode and then pressing the 3 or 6 keypad to scroll to the Faults screen. **1.** Unplug oven or disconnect power. **2.** Remove meat probe if connected. **3.** Disconnect connector P3 from Copernicus Appliance Manager.  **4.** Check connector jack resistance between P3-3 and P3-4. If it is 0 Ω, change the jack assembly, and then go to Step 5. If it is not 0 Ω, the jack assembly is working properly. Go to Step 5. **5.** Plug in the meat probe and check for short to ground or open. If checks on meat probe are not correct, replace the meat probe. At 77°F (25°C) the expected value is approximately 50 kΩ. If they are correct, replace the Copernicus Appliance Manager. **6.** Reassemble all parts and panels before operating. **7.** Plug in oven or reconnect power. **8.** Verify operation is normal. Enter Diagnostics Menu, select “Error Diagnostics,” and clear the history or remove the error codes. Check the meat probe reading by entering Diagnostics menu and selecting “Sensors and Switches.” The meat probe should detect the ambient temperature.
F4	E1	Microwave Cavity Temperature Sensor Error	**NOTE**: Before starting any test, cycle power to the oven (power Off, wait 10 seconds, and then power On). After powering on, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a microwave cooking function that uses the temperature sensor, such as a Convect cycle. Wait 1 minute, and then verify that the failure happens again. **1.** Unplug oven or disconnect power. **2.** Check that the P22 connection of the Microwave Appliance Manager is firmly connected. If it is, go to Step 3. If it is not, reconnect and go to Step 5.  **3.** Disconnect connector P22 from the Microwave Appliance Manager, and measure the resistance of the thermistor. It should be (approximately) 230 kΩ at 77°F ± 10°F (25°C ± 10°C). **4.** Check thermistor for short to ground. If check on thermistor is not correct, replace the thermistor. If thermistor check is correct, replace the Microwave Appliance Manager. **5.** Reassemble all parts and panels before operating. **6.** Plug in oven or reconnect power. **7.** Verify operation is normal. Enter the Diagnostics Menu, select “Error Diagnostics,” and clear the history.

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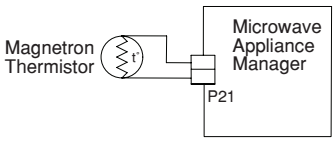
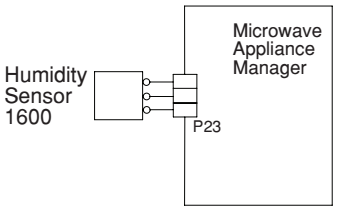
Failure	Error	Likely Failure Condition	Suggested Corrective Action Procedure
F4	E2	Magnetron Temperature Sensor Error	**NOTE**: Before starting any test, cycle power to the oven (power Off, wait 10 seconds, and then power On). After powering on, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a microwave cooking function. Wait 1 minute, and then verify that the failure happens again. **1.** Unplug oven or disconnect power. **2.** Check that the P21 connection of the Microwave Appliance Manager is firmly connected. If it is, go to Step 3. If it is not, reconnect and go to Step 5.  **3.** Disconnect connector P21 from the Microwave Appliance Manager, and measure the resistance of the thermistor. It should be (approximately) 10 kΩ at 77°F ± 10°F (25°C ± 10°C). **4.** Check thermistor for short to ground. If check on thermistor is not correct, replace the thermistor. If thermistor check is correct, replace the Microwave Appliance Manager. **5.** Reassemble all parts and panels before operating. **6.** Plug in oven or reconnect power. **7.** Verify operation is normal. Enter the Diagnostics Menu, select “Error Diagnostics,” and clear the history.
F4 Inputs	E4	Microwave Oven Humidity Sensor Error	**NOTE**: Before starting any test, cycle power to the oven (power Off, wait 10 seconds, and then power On). After powering on, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a microwave cooking function that uses the humidity sensor, such as a Steam cycle. Wait 1 minute, and then verify that the failure happens again. **1.** Unplug oven or disconnect power. **2.** Check that the P23 connection of the Microwave Appliance Manager is firmly connected. If it is, go to Step 3. If it is not, reconnect and go to Step 5.  **3.** Disconnect connector P23 from Microwave Appliance Manager and measure the resistance of the sensor: Between pins 3 and 1. It should be approximately 2800 Ω at 77°F ± 10°F (25°C ± 10°C). Between pins 3 and 2. It should be approximately 2800 Ω at 77°F ± 10°F (25°C ± 10°C). **4.** Check sensor for short to ground. If checks on sensor are not correct, replace the sensor. If sensor checks are correct, replace the Microwave Appliance Manager. **5.** Reassemble all parts and panels before operating. **6.** Plug in oven or reconnect power. **7.** Verify operation is normal. Enter the Diagnostics Menu, select “Error Diagnostics,” and clear the history.

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Failure	Error	Likely Failure Condition	Suggested Corrective Action Procedure
F4	E8	Inverter Over Temperature	**NOTE**: Before starting any test, cycle power to the oven (power Off, wait 10 seconds, and then power On). After powering on, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a microwave cooking function. Wait 1 minute, and then verify that the failure happens again. **1.** Unplug oven or disconnect power. **2.** Check the following: **a.** Cooling fan connection for any loose connectors. **b.** Oven installation and make sure there is no air blockage at the bottom vent. **3.** Reassemble all parts and panels before operating. **4.** Plug in oven or reconnect power. **5.** To check if the cooling fan is stalled, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a cooking function in the microwave oven. Make sure the fan is running. If it is not, unplug oven or disconnect power, replace the fan and go to Step 8. If it is, go to Step 6. **6.** Unplug oven or disconnect power. **7.** Replace the inverter board. **8.** Reassemble all parts and panels before operating. **9.** Plug in oven or reconnect power. **10.** Verify operation is normal. Enter the Diagnostics Menu, select “Error Diagnostics,” and clear the history.
F4	E9	Inverter and Magnetron Over Temperature	**NOTE**: Before starting any test, cycle power to the oven (power Off, wait 10 seconds, and then power On). After powering on, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a microwave cooking function. Wait 1 minute, and then verify that the failure happens again. **1.** Unplug oven or disconnect power. **2.** Check the following: **a.** Cooling fan connection for any loose connectors. **b.** Oven installation and make sure there is no air blockage at the bottom vent. **3.** Reassemble all parts and panels before operating. **4.** Plug in oven or reconnect power. **5.** To check if the cooling fan is stalled, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a cooking function in the microwave oven. Make sure the fan is running. If it is not, unplug oven or disconnect power, replace the fan and go to Step 8. If it is, go to Step 6. **6.** Unplug oven or disconnect power. **7.** Replace the Magnetron and the inverter board. **8.** Reassemble all parts and panels before operating. **9.** Plug in oven or reconnect power. **10.** Verify operation is normal. Enter the Diagnostics Menu, select “Error Diagnostics,” and clear the history.

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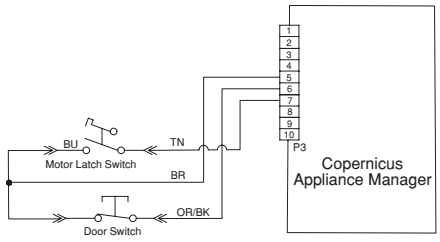
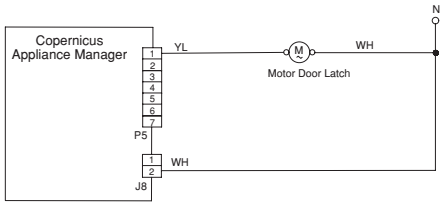
Failure	Error	Likely Failure Condition	Suggested Corrective Action Procedure
F5 Inputs	E0	Door and latch switch do not agree	**NOTE**: Before starting any test, cycle power to the oven (power Off, wait 10 seconds, and then power On). For JennAir® models, Before proceeding, verify the error code by entering the Diagnostics Menu and selecting "Error Diagnostics." For KitchenAid® models, Before proceeding, verify the error code by pressing CANCEL>CANCEL>START to enter the Diagnostics mode and then pressing the 3 or 6 keypad to scroll to the Faults screen. **1.** For JennAir® models, Enter the Diagnostics Menu and select "Component Activation." Touch or scroll to "Door Latch Motor," and then touch "OK." Touch "Latch Door." Wait at least 15 seconds, and then check if latch status changes on screen. If status does not change, unplug oven or disconnect power and go to Step 2. If status changes, unplug oven or disconnect power and go to Step 5. For KitchenAid® models, Enter Diagnostics mode and select Relay Activation as described in the "General Procedure: Relay Activation" section. Press SELF CLEAN. Wait at least 15 seconds, and then check if latch status changes on screen. If status does not change, unplug oven or disconnect power and go to Step 2. If status changes, unplug oven or disconnect power and go to Step 5. **2.** If the oven door did not unlatch, unplug connector P3 and check for continuity (on the latch wire) between P3-5 and P3-7.  **3.** Disconnect J8 connector from Copernicus Appliance Manager. **4.** Measure the resistance between connectors J8-2 and P5-1. It should be 500 Ω to 3000 Ω at 77°F (25°C).  **5.** If the resistance check is outside the range, replace the affected door latch assembly. Verify that the error is gone. **6.** Reassemble all parts and panels. **7.** Plug in oven or reconnect power. **8.** Enter the Diagnostics Menu and select "Component Activation." Check the door status on the screen by opening and closing the oven door. **9.** If status does not change, unplug the oven or disconnect power. **10.** Check for continuity with door open and closed at P3-5 to P3-6. Door open = infinite resistance. Door closed = zero resistance.

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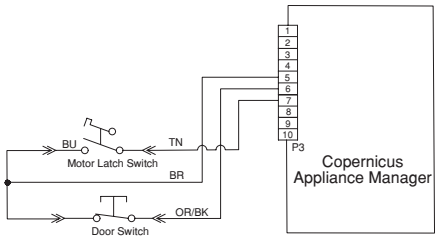
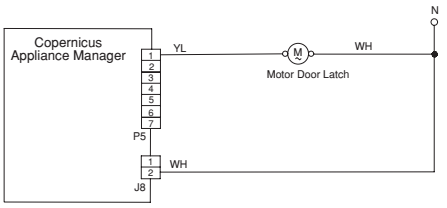
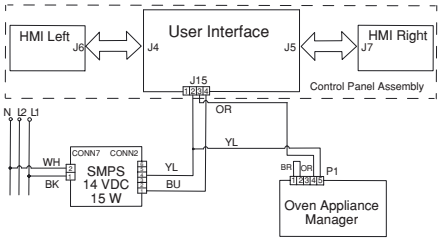
Failure	Error	Likely Failure Condition	Suggested Corrective Action Procedure
F5 Inputs	E0	Door and latch switch do not agree	**11.** If continuity check is not correct, replace the door latch assembly. If all checks were correct, replace Copernicus Appliance Manager. **12.** Reassemble all parts and panels before operating. **13.** Plug in oven or reconnect power. **14.** Verify operation is normal. Enter the Diagnostics Menu, select “Error Diagnostics,” and clear the history or remove the error codes.
F5 Inputs	E1	Latch not operating	**NOTE**: Before starting any test, cycle power to the oven (power Off, wait 10 seconds, and then power On). For JennAir® models, Before proceeding, verify the error code by entering the Diagnostics Menu and selecting “Error Diagnostics.” For KitchenAid® models, Before proceeding, verify the error code by pressing CANCEL>CANCEL>START to enter the Diagnostics mode and then pressing the 3 or 6 keypad to scroll to the Faults screen. **1.** For JennAir® models, Enter the Diagnostics Menu and select “Component Activation.” Touch or scroll to “Door Latch Motor,” and then touch “OK.” Touch “Latch Door.” Wait at least 15 seconds, and then check if latch status changes on screen. If status does not change, go to Step 2. If status changes, unplug oven or disconnect power, replace Copernicus Appliance Manager and go to Step 6. For KitchenAid® models, Enter Diagnostics mode and select Relay Activation as described in the “General Procedure: Relay Activation” section. Press SELF CLEAN. Wait at least 15 seconds, and then check if latch status changes on screen. If status does not change, go to Step 2. If status changes, unplug oven or disconnect power and go to Step 6. **2.** If latch status on screen is “open,” unplug oven or disconnect power and check for loose harness connection between motor latch switch and P3-5 and P3-7.  **3.** Disconnect connector J8 from Copernicus Appliance Manager. **4.** Measure the resistance between connectors J8-2 and P5-1. It should be 500 Ω to 3000 Ω at 77°F (25°C).  **5.** If the resistance check is outside the range, replace the door latch assembly. Verify that the error is gone. If all checks were correct, replace Copernicus Appliance Manager. **6.** Reassemble all parts and panels before operating. **7.** Plug in oven or reconnect power. **8.** Verify operation is normal. Enter the Diagnostics Menu, select “Error Diagnostics,” and clear the history or remove error codes.

For Service Technician Use Only

Failure	Error	Likely Failure Condition	Suggested Corrective Action Procedure
F6	E0	Oven user interface - lost communication	**NOTE**: Before starting any test, cycle power to the oven (power Off, wait 10 seconds, and power On). For JennAir® models, before proceeding, verify the error code by entering the Diagnostics Mode and selecting “Error Diagnostics.” For KitchenAid® models, before proceeding, verify the error code by pressing CANCEL>CANCEL>START to enter the Diagnostics mode and then pressing the 3 or 6 keypad to scroll to the Faults screen. **Procedure for JennAir® Models**: **1.** Unplug oven or disconnect power. **2.** Check continuity of wirings between P1-4 and J15-3, then P1-5 and J15-2. **3.** Check for continuity between P1-1 and P1-2. **4.** If all checks are correct, replace Copernicus Appliance Manager.  **5.** Reassemble all parts and panels. **6.** Plug in oven or reconnect power. **7.** If the error appears again, unplug oven or disconnect power. **8.** Replace the HMI-Central/UI board. **9.** Reassemble all parts and panels before operating. **10.** Plug in oven or reconnect power. **11.** Follow the on-screen prompts to select the model number if the UI was replaced. **12.** Verify operation is normal. Enter Diagnostics Menu, select “Error Diagnostics,” and clear the history. **Procedure for KitchenAid® models**: **1.** Unplug oven or disconnect power. **2.** Check continuity of wirings between P1 and J4. **3.** Check for continuity between P1-1 and P1-2 (not valid for double lower AM).
	E6	Oven appliance manager - lost communication	

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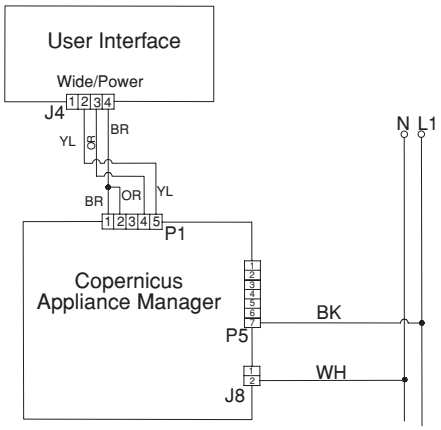
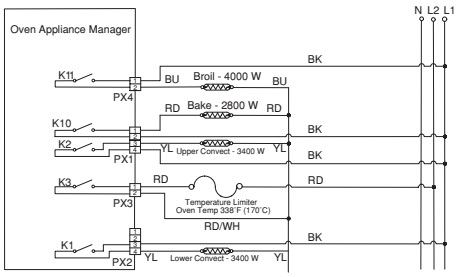
Failure	Error	Likely Failure Condition	Suggested Corrective Action Procedure
F6	E0	Oven user interface - lost communication	**4.** If all checks are correct, replace Copernicus Appliance Manager.  **5.** Reassemble all parts and panels before operating. **6.** Plug in oven or reconnect power. **7.** If the error appears again, unplug oven or disconnect power. **8.** Replace UI. **9.** Reassemble all parts and panels before operating. **10.** Plug in oven or reconnect power. **11.** Follow the steps in the "General Procedure: Cavity Size Select" section if the UI was replaced. **12.** Verify operation is normal. Re-enter the Diagnostics mode and remove error code(s).
	E6	Oven appliance manager - lost communication	
F6 (For KitchenAid® models)	EA	User interface over temperature (For KitchenAid® models)	**NOTE**: Before starting any test, cycle power to the oven (power off, wait 10 seconds, and power on). Before proceeding, verify the error code by pressing CANCEL>CANCEL>START to enter the Diagnostics mode and then pressing the 3 or 6 keypad to scroll to the Faults screen. **1.** Enter Diagnostics mode and select Relay Activation as described in the "General Procedure: Relay Activation" section. Turn blowers on at all the available speeds and check the airflow. **2.** If there is no airflow, check the blowers. **3.** If there are no obstructions, unplug power or disconnect power and replace the UI. **4.** Reassemble all parts and panels before operating. **5.** Plug in oven or reconnect power. **6.** Follow the steps in the "General Procedure: Cavity Size Select" section if the UI was replaced. **7.** Verify operation is normal. Re-enter the Diagnostics mode and remove error code(s).

For Service Technician Use Only

Failure	Error	Likely Failure Condition	Suggested Corrective Action Procedure
F6	E1	Over temperature	**NOTE**: Before starting any test, cycle power to the oven (power Off, wait 10 seconds, and then power On). For JennAir® models, before proceeding, verify the error code by entering the Diagnostics Menu and selecting “Error Diagnostics.” For KitchenAid® models, before proceeding, verify the error code by pressing CANCEL>CANCEL>START to enter the Diagnostics mode and then pressing the 3 or 6 keypad to scroll to the Faults screen. **Procedure for JennAir® Models**: **1.** Unplug oven or disconnect power. **2.** Check for elements shorted to ground. Check resistance of elements: **a.** PX4-2 and PX3-2 to check Broil element (13.2 Ω to 14.6 Ω). **b.** PX1-1 and PX3-2 to check Bake element (19 Ω to 21 Ω). **c.** PX1-3 and PX3-2 to check Upper Conv element (15.2 Ω to 17.3 Ω). **d.** PX2-4 and PX3-2 to check Lower Conv element (15.2 Ω to 17.3 Ω). **e.** PX1-3 and PX3-2 to check Conv element (16.6 Ω to 18.4 Ω). **3.** If any element is shorted to ground, replace the element. **4.** Check for shorted relays. Disconnect PX1, PX2 and PX4 connectors and check for shorts between: **a.** PX1-1 and PX1-2 (Bake relay). **b.** PX1-3 and PX1-4 (Up Convect relay). **c.** PX4-1 and PX4-2 (Broil relay). **d.** PX2-3 and PX2-4 (Low Convect relay).  **5.** If there is a shorted relay, replace the Copernicus Appliance Manager control. Go to Step 9. **6.** If everything is correct, disconnect connector P3 from the Copernicus Appliance Manager. **7.** Measure the resistance of the oven sensor. It should be 1000 Ω to 1200 Ω at 77°F (25°C).

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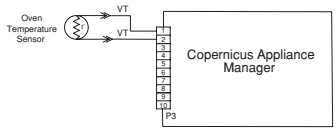
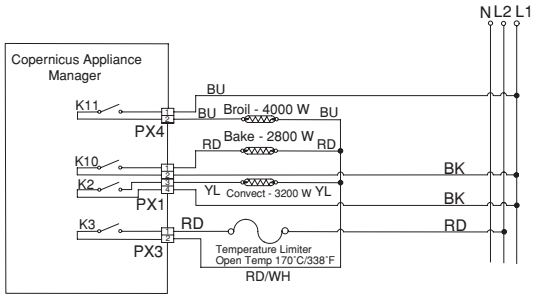
Failure	Error	Likely Failure Condition	Suggested Corrective Action Procedure
F6	E1	Over temperature	**8.** Check sensor for short to ground. If checks on sensor are not correct, replace the sensor and repeat the checks.  **9.** Reassemble all parts and panels before operating. **10.** Plug in oven or reconnect power. **11.** Enter the Diagnostic Menu and select “Sensors and Switches” to verify that the corresponding oven temperature displayed is correct (ambient temperature). If not, unplug oven or disconnect power, and replace the Copernicus Appliance Manager board. **NOTE**: On the status screen, the unit of measurement is Celsius. **12.** Reassemble all parts and panels before operating. **13.** Plug in oven or reconnect power. **14.** Verify operation is normal. Enter Diagnostics Menu, select “Error Diagnostics,” and clear the history. **Procedure for KitchenAid® Models:** **1.** Unplug oven or disconnect power. **2.** Check for elements shorted to ground. Check resistance of elements: **a.** PX4-2 and PX3-2 to check Broil element (13.2 Ω to 14.6 Ω). **b.** PX1-1 and PX3-2 to check Bake element (19 Ω to 21 Ω). **c.** PX1-3 and PX3-2 to check Convect element (16.6 Ω to 18.4 Ω) **3.** If there is a short to ground, the control is good. Look for element failures. **4.** Check for shorted relays. Disconnect PX1 and PX4 connectors and check for shorts between: **a.** PX1-1 and PX1-2 (Bake relay) **b.** PX1-3 and PX1-4 (Convect relay) **c.** PX4-1 and PX4-2 (Broil relay)  **5.** If there is a shorted relay, replace the Copernicus Appliance Manager control. Go to Step 9. **6.** If everything is correct, disconnect connector P3 from the Copernicus Appliance Manager.

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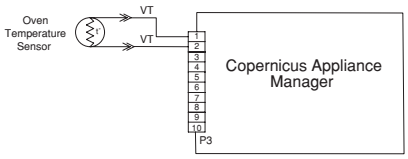
Failure	Error	Likely Failure Condition	Suggested Corrective Action Procedure
F6	E1	Over temperature	**7.** Measure the resistance of the oven sensor. It should be 1000 Ω to 1200 Ω at 77°F (25°C). **8.** Check sensor for short to ground. If checks on sensor are not correct, replace the sensor and repeat the checks.  **9.** Reassemble all parts and panels before operating. **10.** Plug in oven or reconnect power. **11.** Enter the Status screen in the Diagnostics mode and check the Status screen to verify oven temperature shown in display is correct (ambient temperature). If not, unplug oven or disconnect power, and replace the Copernicus Appliance Manager board. **NOTE**: On the Status screen, the unit of measurement can be Celsius or Fahrenheit, depending on the user settings. **12.** Reassemble all parts and panels before operating. **13.** Plug in oven or reconnect power. **14.** Verify operation is normal. Re-enter the Diagnostics mode and remove error code(s).

For Service Technician Use Only

Failure	Error	Likely Failure Condition	Suggested Corrective Action Procedure
F6	E4	User Interface/ Appliance Manager state status mismatch	**NOTE**: Before starting any test, cycle power to the oven (power Off, wait 10 seconds, and then power On). For JennAir® models, before proceeding, verify the error code by entering the Diagnostics Menu and selecting "Error Diagnostics." For KitchenAid® models, Before proceeding, verify the error code by pressing CANCEL>CANCEL>START to enter the Diagnostics mode and then pressing the 3 or 6 keypad to scroll to the Faults screen. **NOTE**: If other error codes are stored, troubleshoot those other error codes first. **Procedure for JennAir® Models**: **1.** Unplug oven or disconnect power. **2.** Replace Copernicus Appliance Manager. **3.** Reassemble all parts and panels before operating. **4.** Plug in oven or reconnect power. **5.** Cycle power. If error persists after the Copernicus Appliance Manager is replaced, unplug oven or disconnect power. Go to Step 7. **6.** If the error is gone, go to Step 10. **7.** Replace the HMI-Central/UI board. **8.** Reassemble parts and panels before operating. **9.** Plug in oven or reconnect power, and follow the on-screen prompts for model selection. **10.** Verify operation is normal. If operation is normal, go to Step 14. If error still exists, go to Step 11. **11.** Unplug oven or disconnect power. **12.** Replace the control panel assembly. **13.** Plug in oven or reconnect power. **14.** Follow the on-screen prompts for model selection. **15.** Verify operation is normal. Enter Diagnostics Mode, select "Error Diagnostics," and clear the history. **Procedure for KitchenAid® Models**: **1.** Unplug oven or disconnect power. **2.** Replace Copernicus Appliance Manager. **3.** Reassemble all parts and panels before operating. **4.** Plug in oven or reconnect power. **5.** Cycle power. If error persists after the Copernicus Appliance Manager is replaced, unplug oven or disconnect power. Go to Step 7. **6.** If the error is gone, go to Step 10. **7.** Replace UI. **8.** Reassemble parts and panels before operating. **9.** Plug in oven or reconnect power. Follow the steps in the "General Procedure: Cavity Size Select" section if the UI was replaced. **10.** Verify operation is normal. Re-enter the Diagnostics mode and remove error code(s).

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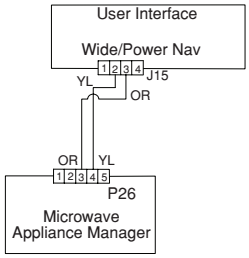
Failure	Error	Likely Failure Condition	Suggested Corrective Action Procedure
F6	E8	Lost communications with Microwave Oven Appliance Manager	**NOTE**: Before starting any test, cycle power to the oven (power Off, wait 10 seconds, and then power On). For Jennair® models, before proceeding, verify the error code by entering the Diagnostics Menu and selecting “Error Diagnostics.” For KitchenAid® models, Before proceeding, verify the error code by pressing CANCEL>CANCEL>START to enter the Diagnostics mode and then pressing the 3 or 6 keypad to scroll to the Faults screen. **Procedure for JennAir® Models**: **1.** Make sure the oven is plugged in. Open microwave door to check if light comes on. **2.** Ensure the Sabbath mode is disabled. **3.** Unplug oven or disconnect power. **4.** Check the connection between Oven User Interface Board J15-2 (yellow) and J15-3 (orange) and Microwave Appliance Manager P26-3 (orange) and P26-4 (yellow).  **5.** If harness is correct, replace the Microwave Appliance Manager. **6.** Reassemble all parts and panels before operating. **7.** Plug in oven or reconnect power. **8.** If the error appears again, unplug or disconnect power and replace HMICentral/UI board. **9.** Reassemble all parts and panels before operating. **10.** Plug in oven or reconnect power. **11.** Follow the on-screen prompts to select the model number if the UI was replaced. **12.** Verify operation is normal. Enter the Diagnostics Menu, select “Error Diagnostics,” and clear the history. **Procedure for KitchenAid® Models:** **1.** Make sure the oven is plugged in. Open microwave door to check if light comes on. **2.** Check that Sabbath mode for the oven is disabled during this check. Press TOOLS and then press the 7 keypad to disable Sabbath mode. Confirm the display shows “Sabbath mode off.” **3.** Unplug oven or disconnect power.

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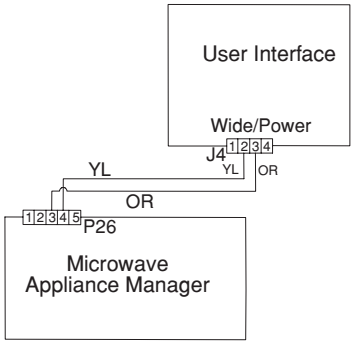
Failure	Error	Likely Failure Condition	Suggested Corrective Action Procedure
F6	E8	Lost communications with Microwave Oven Appliance Manager	**4.** Check the connection between Oven User Interface Board J4-2 (yellow) and J4-3 (orange) and Microwave Appliance Manager P26-3 (orange) and P26-4 (yellow).  **5.** If harness is correct, replace the Microwave Appliance Manager. **6.** Reassemble all parts and panels before operating. **7.** Plug in oven or reconnect power. **8.** If the error appears again, unplug or disconnect power and replace UI. **9.** Reassemble all parts and panels before operating. **10.** Plug in oven or reconnect power. **11.** Follow the steps in the "General Procedure: Cavity Size Select" section if the UI was replaced. **12.** Verify operation is normal. Re-enter the Diagnostics mode and remove error code(s).
F9	E0	Product not wired correctly	**NOTE**: Before starting any test, cycle power to the oven (power Off, wait 10 seconds, and then power On). Before proceeding, verify the error code by entering the Diagnostics Menu and selecting "Error Diagnostics." **1.** Unplug oven or disconnect power. **2.** Access the electrical wiring from the house power supply to the oven. **3.** Check house wiring to the product. Check to see if the neutral connection is switched with L1 or L2 (refer to the installation instructions for product wiring). **4.** Reassemble all parts and panels before operating. **5.** Plug in oven or reconnect power. **6.** Verify operation is normal by running a cooking function. Enter Diagnostics Menu, select "Error Diagnostics," and clear the history.

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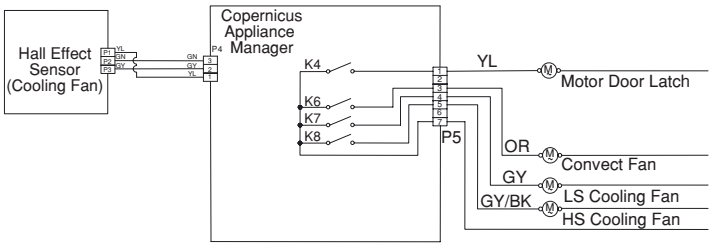
<table>
<tr><th>Failure (Left-most 2 Clock digits)</th><th>Error Right-most 2 Clock digits)</th><th>Likely Failure Condition</th><th>Suggested Corrective Action Procedure</th></tr>
<tr><td rowspan="4">F8</td><td>E0</td><td>Product not wired correctly</td><td rowspan="5">1. Unplug oven or disconnect power.
2. Wait for at least 30 seconds.
3. Plug in oven or reconnect power.
4. Enter Diagnostics mode and navigate to the Component Activation list.
5. Turn on the Cooling Fan Low Speed.
6. Check for proper voltage input at P5-5 and neutral for high speed fan, P5-4 and neutral for low speed fan when cooling fan should be running by completing following steps.
7. Unplug oven or disconnect power.
8. Connect voltage measurement equipment.
9. Plug in oven or reconnect power. Measure voltage and confirm voltage reading is 120 V. If it is not, unplug oven or disconnect power and go to Step 13. If it is, go to Step 10.
10. Check for proper voltage input at P4-1 and P4-2 and confirm voltage reading is 5 VDC. If it is not, unplug oven or disconnect power and go to Step 13. If it is, go to Step 11.
11. Unplug oven or disconnect power.
12. Replace cooling fan. Go to Step 15.
13. Check integrity of all harness wires and connections between the oven appliance manager and the cooling fan. Ensure no shorted wires to chassis.If the wiring is pinched or damaged, replace the cooling fan harness. Go to Step 15. If the wiring is good, go to Step 14.
14. Replace oven appliance manager. Go to Step 15
15. Replace all parts and panels before operating.
16. Plug in oven or reconnect power.
17. Enter into Diagnostics mode and verify that fan speed is running within oven. (High speed: 1000-3300, Low speed: 400-3000).
Once Fan Speed is completed, navigate back to the activation list and activate the Cooling Fan High Speed and return to “More Information” screen for fan speed.
 
</td></tr>
<tr><td>E1</td><td>Low fan speed overspeed</td></tr>
<tr><td>E2</td><td>High fan speed underspeed</td></tr>
<tr><td>E3</td><td>High fan speed overspeed</td></tr>
<tr><td colspan="3">Low Fan Speed Message On Single/Double: The product is experiencing a problem and can no longer be used.</td></tr>
</table>

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Notes

Section 3: Component Testing

This section provides the wiring diagram, component testing, and component location for the “JennAir® and KitchenAid® 27" and 30" Microwave Combination Oven.”

- Safety
- Wiring Diagrams
- Working of Oven
- Wiring Diagram and Logic Circuits - Main Oven (JennAir® Models)
  - The Main Oven 120 VAC Section
  - The Main Oven 240 VAC Section
- Wiring Diagram - Microwave Oven
- Safety System and Logic Circuits - Microwave Oven
- Receiving and Distributing Electricity
  - The Electronic Control Boards
  - User Interface
  - Main Oven Appliance Manager
  - Main Oven Appliance Manager Connector Test Pins
  - Microwave Oven Appliance Manager
  - Main Oven Appliance Manager Test Chart
  - SMPS Low Voltage Power Supply
  - Microwave Inverter Board
  - Service Test
- Component Testing
  - Cooling Fan Relay Logic
- Component Testing Chart - Oven
- Component Testing Chart - Microwave
- Component Location

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Safety

⚠ DANGER

Electrical Shock Hazard

Only authorized technicians should perform diagnostic voltage measurements.

After performing voltage measurements, disconnect power before servicing.

Failure to follow these instructions can result in death or electrical shock.

⚠ WARNING

Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

Voltage Measurement Safety Information

When performing live voltage measurements, you must do the following:

- **Verify the controls are in the off position so that the appliance does not start when energized.**
- **Allow enough space to perform the voltage measurements without obstructions.**
- **Keep other people a safe distance away from the appliance to prevent potential injury.**
- **Always use the proper testing equipment.**
- **After voltage measurements, always disconnect power before servicing.**

IMPORTANT: Electrostatic Discharge (ESD) Sensitive Electronics

ESD problems are present everywhere. ESD may damage or weaken the electronic control assembly. The new control assembly may appear to work well after repair is finished, but failure may occur at a later date due to ESD stress.

- Use an antistatic wrist strap. Connect wrist strap to green ground connection point or unpainted metal in the appliance

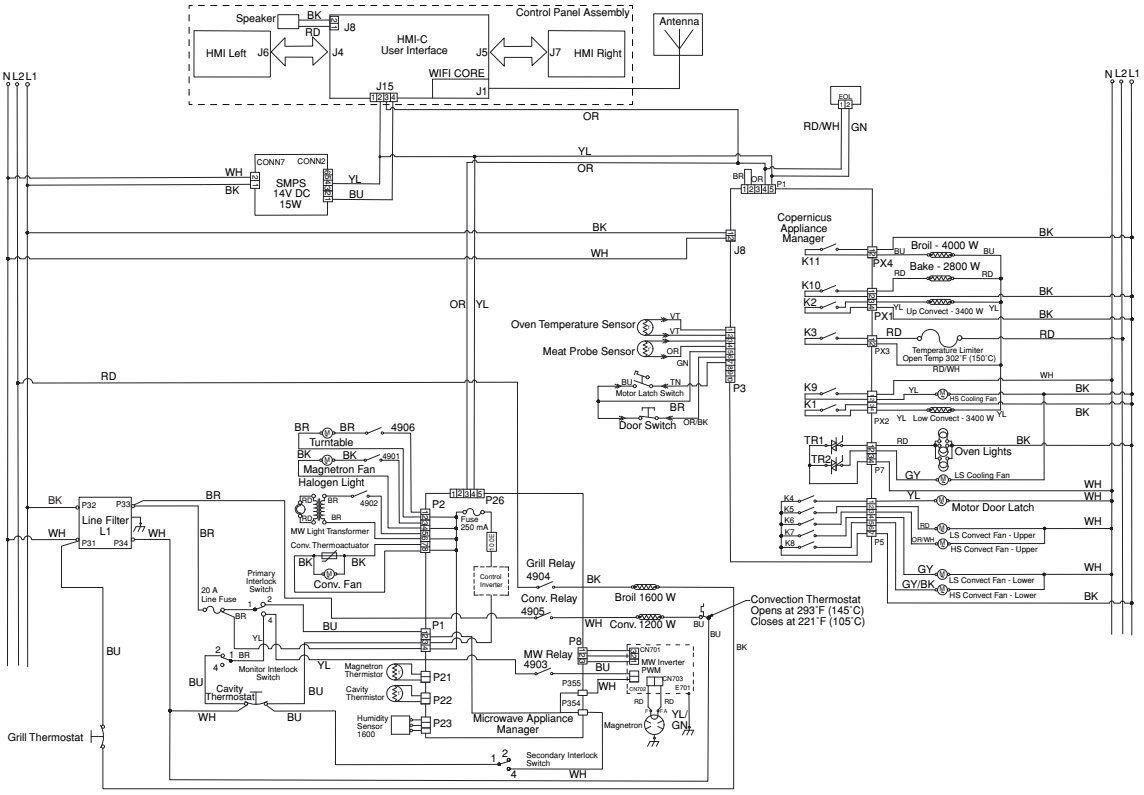
  -OR-

  Touch your finger repeatedly to a green ground connection point or unpainted metal in the appliance.
- Before removing the part from its package, touch the antistatic bag to a green ground connection point or unpainted metal in the appliance.
- Avoid touching electronic parts or terminal contacts; handle electronic control assembly by edges only.
- When repackaging failed electronic control assembly in antistatic bag, observe above instructions.

For Service Technician Use Only

Wiring Diagram

For JennAir® Models with Wi-Fi Antenna, Upper and Lower Convect Fan



LEGEND

Ground (Chassis)	Plug With Female Connector	Receptacle With Male Connector	Light(s)	AC Drive Motor	Door Switch	Relay Contact	Heating Element
Enclosed Thermistor	Latch Switch	Thermal Fuse (Non-Resettable)	Temperature Limiter	Thermoactuator	Microwave Light Transformer	Magnetron	Fuse

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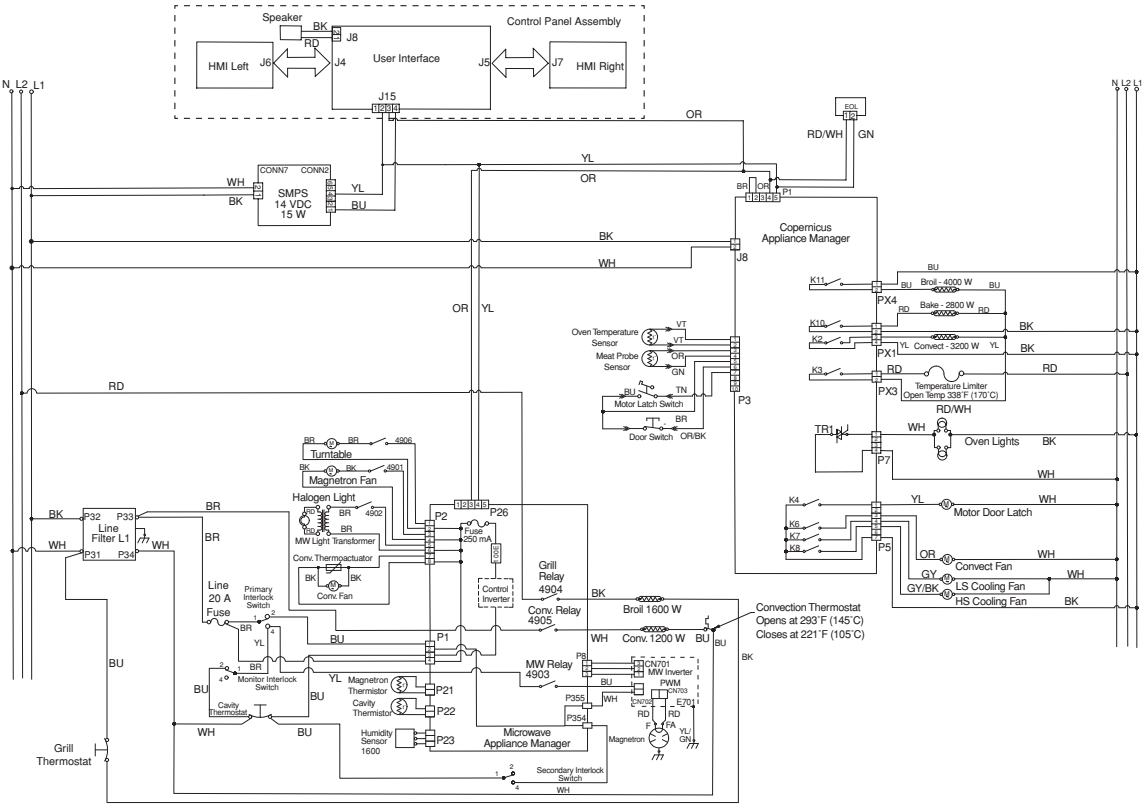
For JennAir® Models without Hall Effect Sensor Cooling Fan and Wi-Fi Antenna



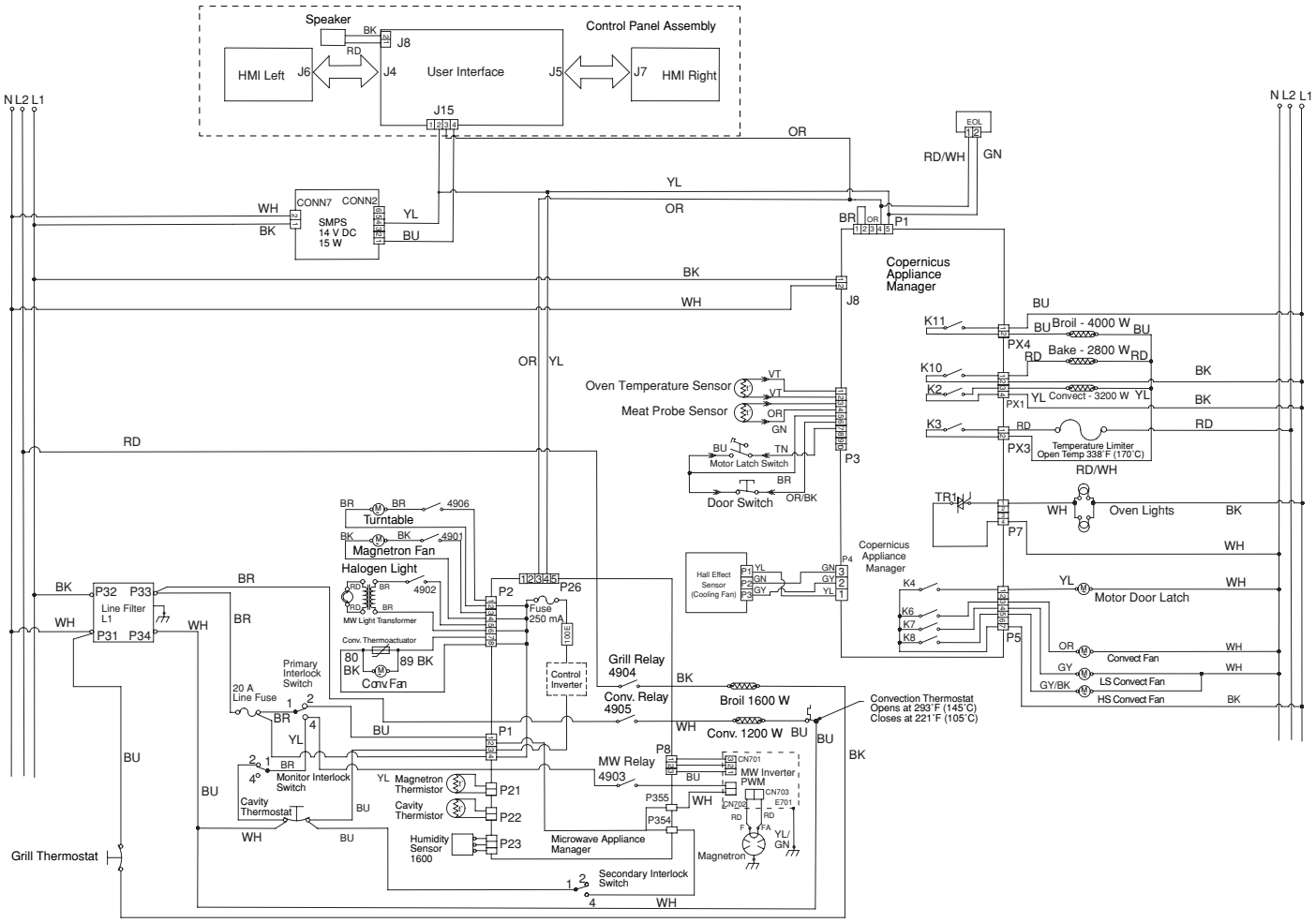
LEGEND

Ground (Chassis)	Plug With Female Connector	Receptacle With Male Connector	Light(s)	AC Drive Motor	Door Switch	Relay Contact	Heating Element

Enclosed Thermistor	Latch Switch	Thermal Fuse (Non-Resettable)	Temperature Limiter	Thermoactuator	Microwave Light Transformer	Magnetron	Fuse

For Service Technician Use Only

For JennAir® Models with Hall Effect Sensor Cooling Fan, without Wi-Fi Antenna

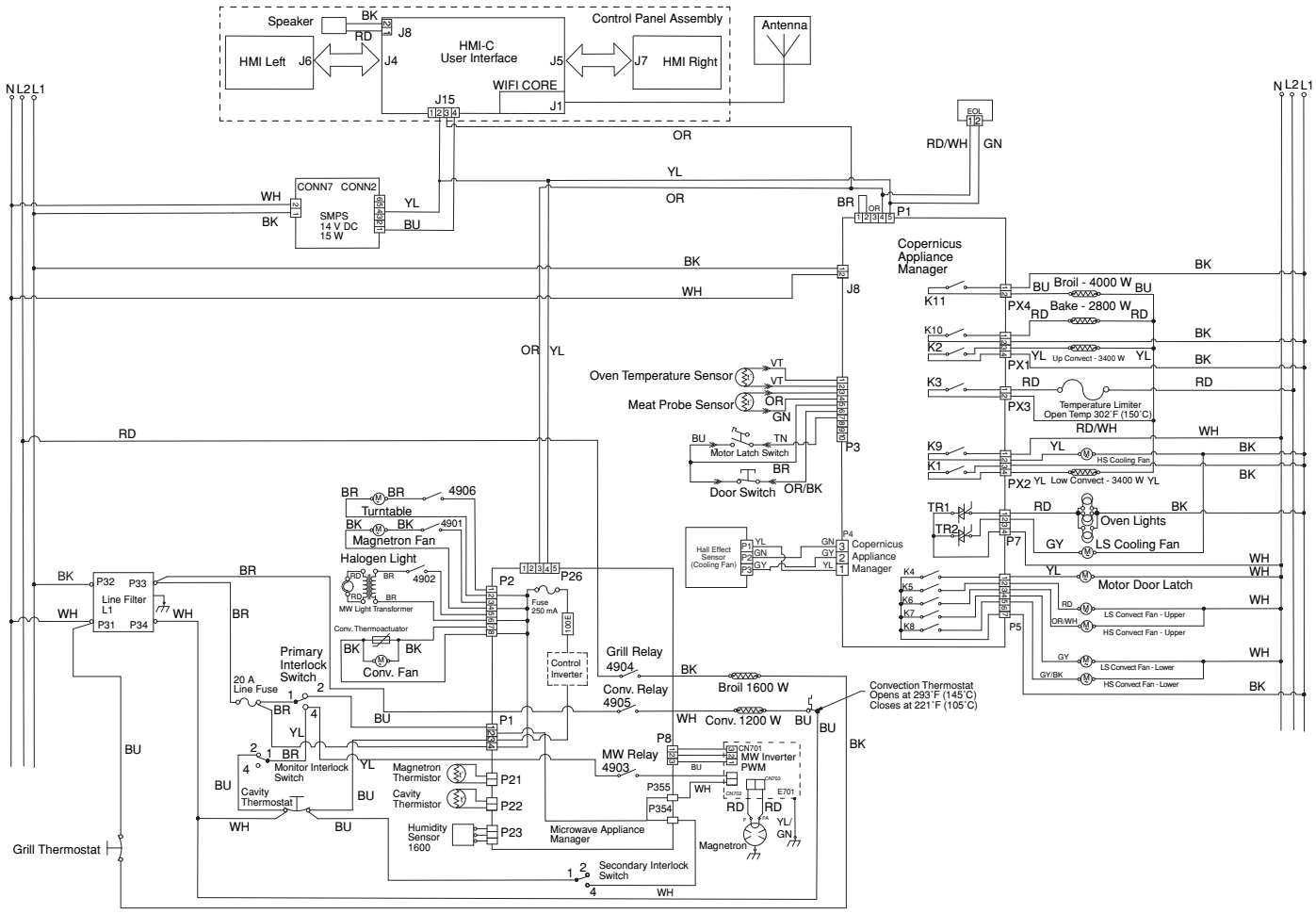


LEGEND

Ground (Chassis)	Plug With Female Connector	Receptacle With Male Connector	Light(s)	AC Drive Motor	Door Switch	Relay Contact	Heating Element	Enclosed Thermistor	Latch Switch	Thermal Fuse (Non-Resettable)	Temperature Limiter	Thermoactuator	Microwave Light Transformer	Magnetron	Fuse

For Service Technician Use Only

For JennAir® Models with Hall Effect Sensor Cooling Fan and Wi-Fi Antenna

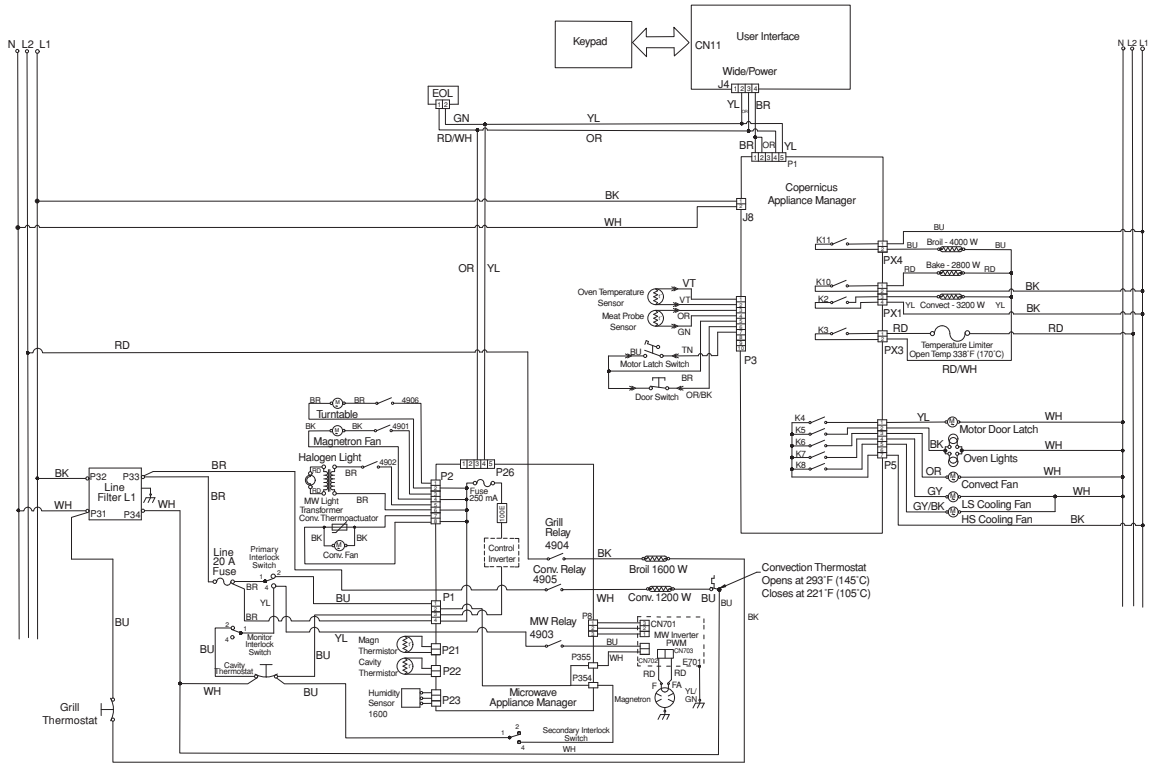


LEGEND

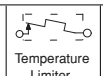
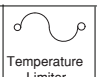
Ground (Chassis)	Plug With Female Connector	Receptacle With Male Connector	Light(s)	AC Drive Motor	Door Switch	Relay Contact	Heating Element	Enclosed Themistor	Latch Switch	Thermal Fuse (Non-Resettable)	Temperature Limiter	Thermoactuator	Microwave Light Transformer	Magnetron	Fuse

For Service Technician Use Only

For KitchenAid® Models without Wi-Fi Antenna and Hall Effect Sensor Cooling Fan



LEGEND

Ground (Chassis)	Plug With Female Connector	Receptacle With Male Connector	Light	AC Drive Motor	Door Switch	Latch Switch	Heating Element	Relay Contacts	Temperature Limiter (Automatically Resettable)	Thermal Fuse (Non-resettable)	Enclosed Thermistor	Temperature Limiter (Non-resettable)
												

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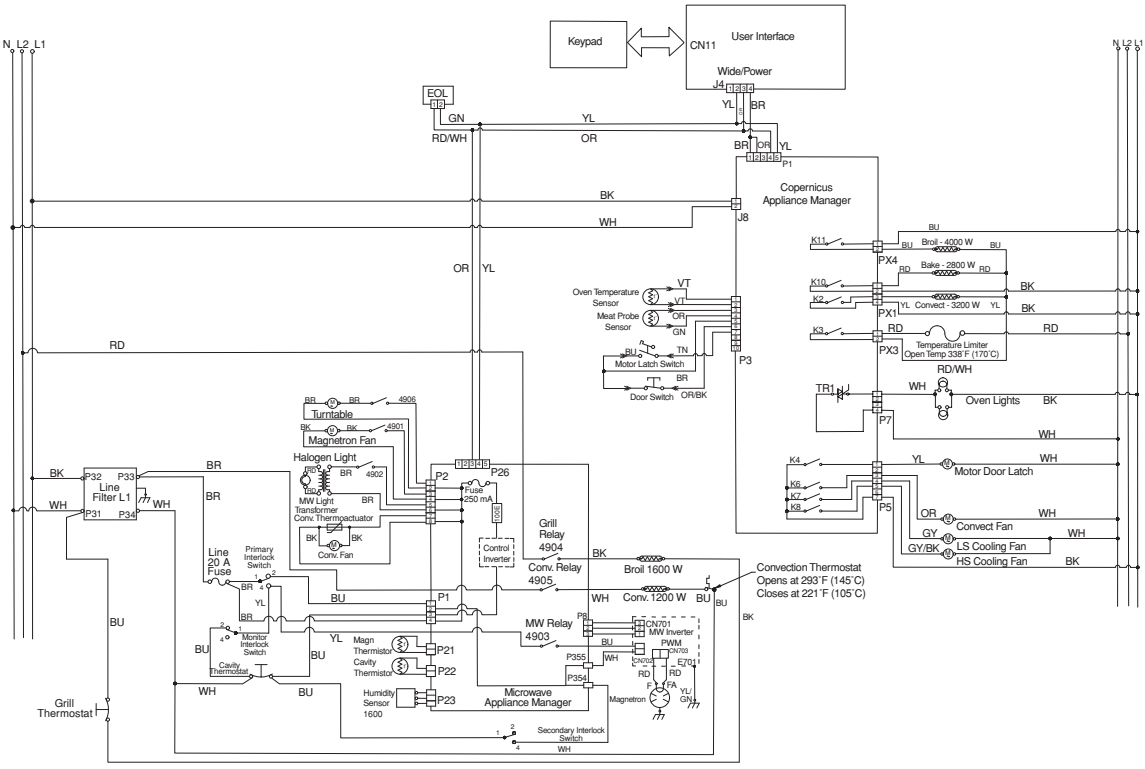
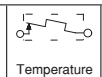
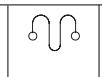
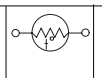
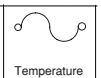
For KitchenAid® Models without Wi-Fi Antenna and Hall Effect Sensor Cooling Fan, with Oven Light Thermistor

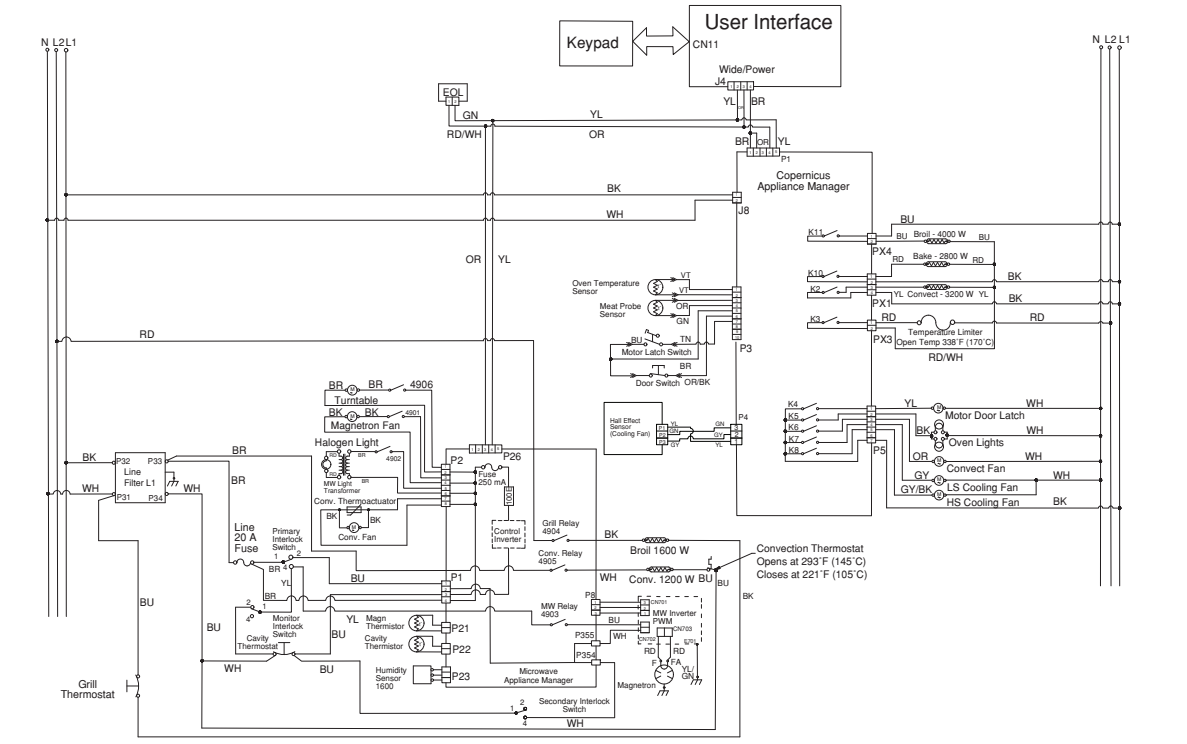


LEGEND

Ground (Chassis)	Plug With Female Connector	Receptacle With Male Connector	Light	AC Drive Motor	Door Switch	Latch Switch	Heating Element	Relay Contacts	Temperature Limiter (Automatically Resettable)	Thermal Fuse (Nonresettable)	Enclosed Thermistor	Temperature Limiter (Nonresettable)
												

For Service Technician Use Only

For KitchenAid® Models without Wi-Fi Antenna, with Hall Effect Sensor Cooling Fan



LEGEND

Connection	No Connection	On Some Models	In-Line Connection	P2-1 Connector P2, Position 1	Circuitry Enclosed Within	Terminals	Single Switch	Thermal Switch (opens on heat rise)	Thermal Switch (closes on heat rise)	Resistor or Element	Motor	Incandescent Light	Non-resettable Fuse	Thermistor	Indicator Light	Triac	Thermo Fuse	P1-2 = Connnector P1, Pin 2	Multiple Functions / Circuitry Enclosed Within

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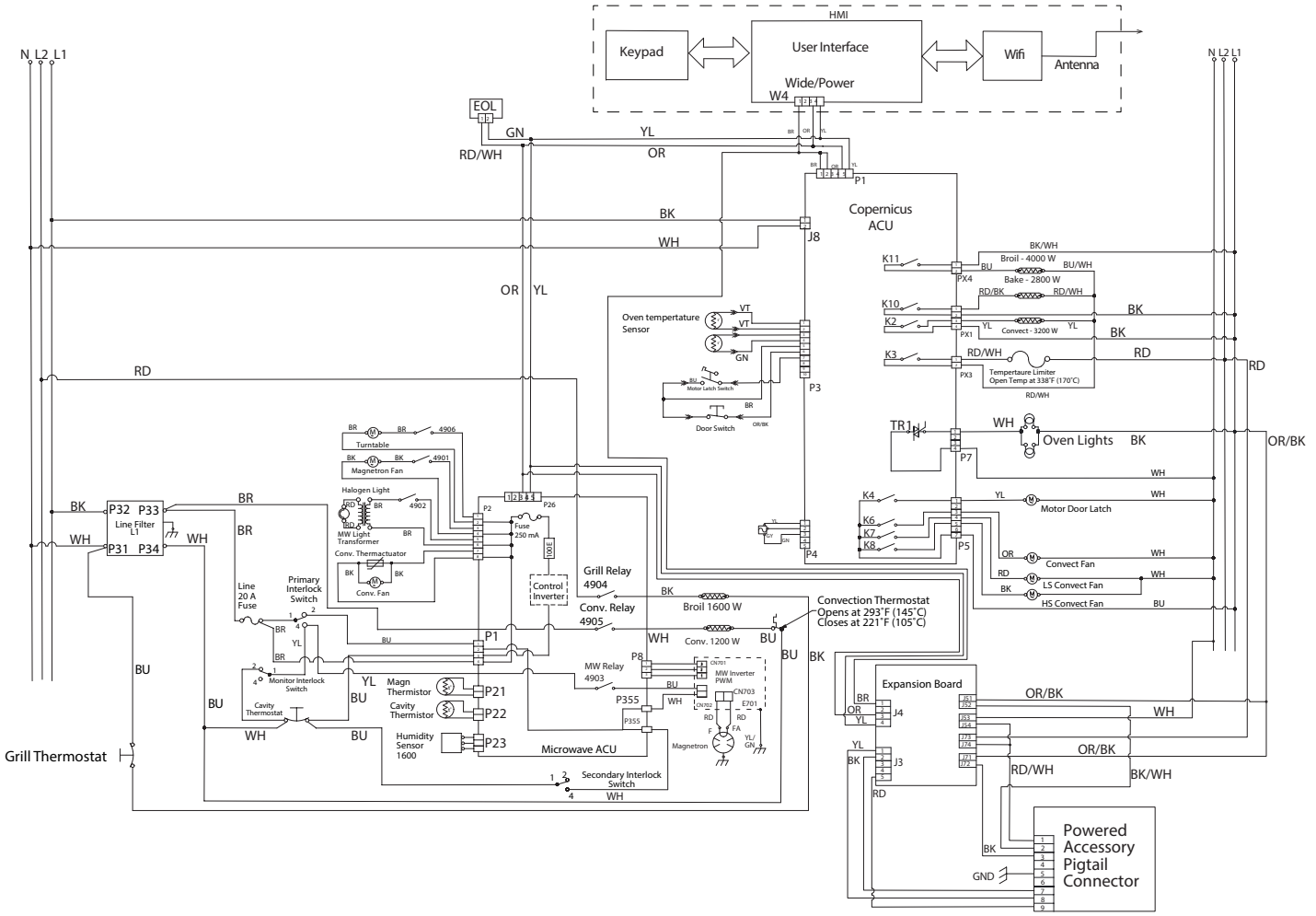
For KitchenAid® Models with Wi-Fi Antenna



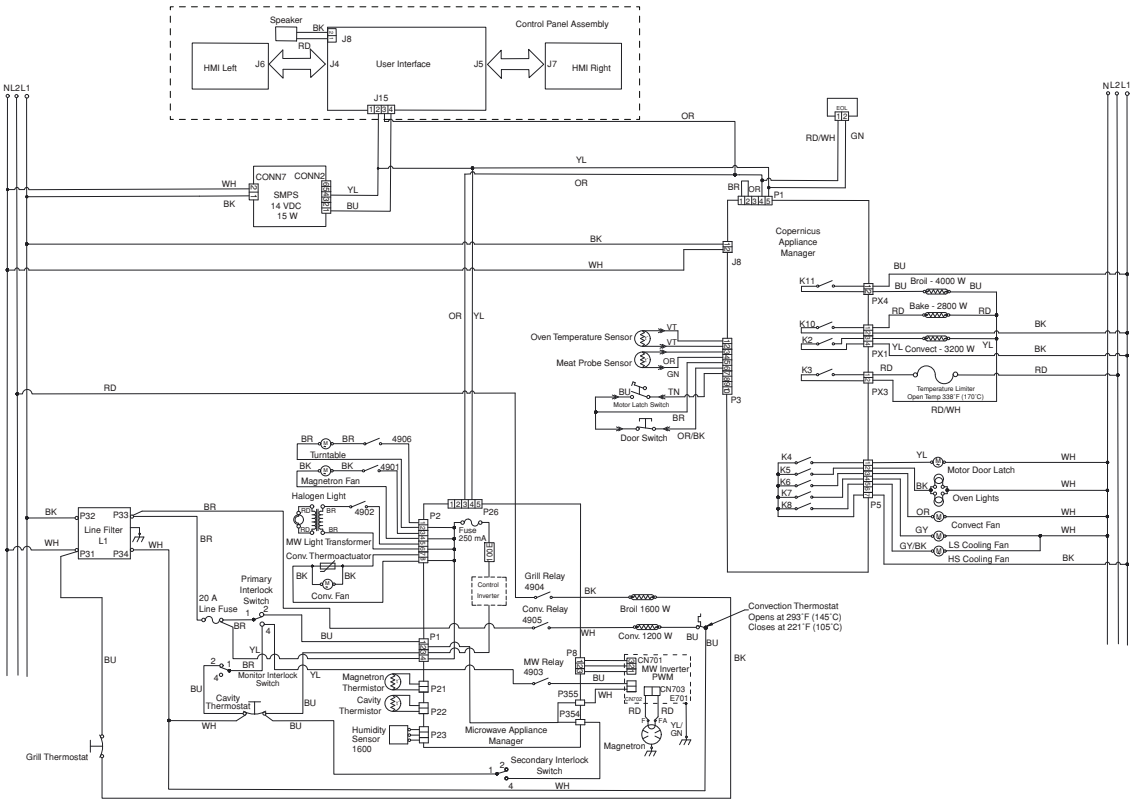
LEGEND

Ground (Chassis)	Plug With Female Connector	Receptacle With Male Connector	Light	AC Drive Motor	Door Switch	Latch Switch	Heating Element	Relay Contacts	Temperature Limiter (Automatically Resettable)	Thermal Fuse (Non-resettable)	Enclosed Thermistor	Temperature Limiter (Non-resettable)	Hall Effect Sensor

For Service Technician Use Only

Working of Oven (JennAir® Models)

This section is about the electrical system, the microwave safety circuits and other support information of the JennAir® Combination Wall Oven requires before it can operate. We will be working through the Wiring Diagram and looking at each of the electronic boards to see how they receive electrical power and how electricity is distributed throughout the system. We can look at the Wiring Diagram to see how electricity flows and what information is required by the control board to make everything work and make the consumer's cooking time more enjoyable. All information we talk about is in the Tech Sheet which is located behind the Control Panel of every oven. See below wiring Diagram for more details (Both Ovens in stand-by mode, main oven door closed. MW door open).



LEGEND

Ground (Chassis)	Plug With Female Connector	Receptacle With Male Connector	Light(s)	AC Drive Motor	Door Switch	Relay Contact	Heating Element

Enclosed Thermistor	Latch Switch	Thermal Fuse (Non-Resettable)	Temperature Limiter	Thermoactuator	Microwave Light Transformer	Magnetron	Fuse

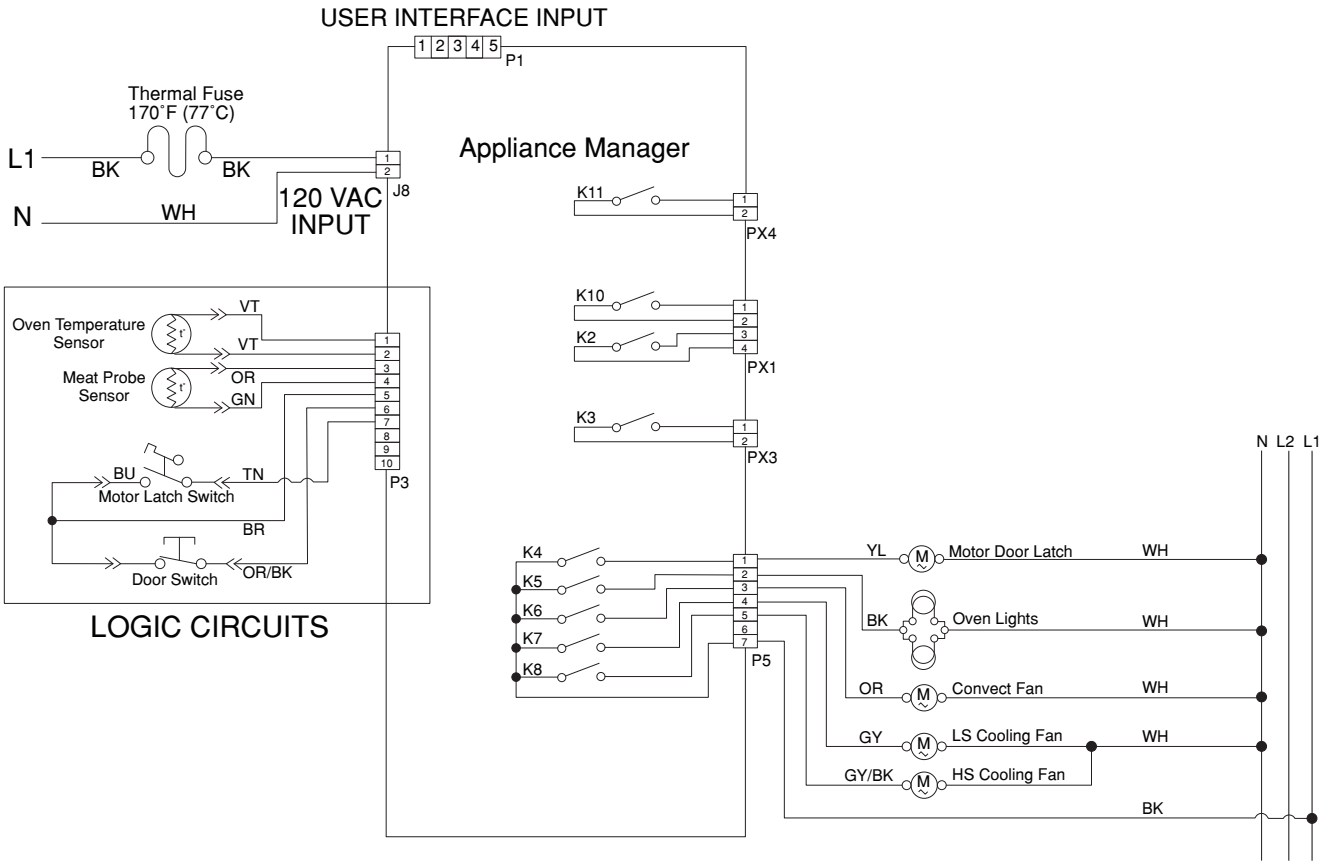
For Service Technician Use Only

Wiring Diagram and Logic Circuits - Main Oven (JennAir® Models)

The wiring diagram shown, on the previous page 3-11, is for a Microwave Combination Oven with Convection cooking in both ovens. Let's look at the main oven first and point out a couple of interesting circuits that could easily catch a seasoned tech off guard. Oven Door is closed means the Oven Light is off. Now take a look at the Door Switch on the main oven wiring diagram. Switch is shown closed. So, lets talk about how I would interpret this. Normally a closed door switch would tell me that the oven light is on - closed light circuit = bright light. In this case, the closed light switch is telling the Appliance Manager (AM) that the light should be off. Not a lot of technicians would think much different. What's really happening is that the closed light switch is telling the AM the light should be off and the AM converts the information to open the K5 relay. The light switch is not turning the oven light on or off, it just provides the necessary logic to the board and the AM operates the light.

Same thing with the oven logic circuits to the AM. The logic circuits supplies information to the board - open or closed switches (Infinite or Zero resistance), oven temperature (ohms resistance), and meat probe temperature (ohms resistance), then the AM reacts to the information being supplied and operates the required relays. Now, don't think that if the oven light doesn't work we need to change the AM board, we need to verify that the board is receiving the correct information from the light switch logic circuit, and in this case if we want the light on, the light switch should be open.

In the diagram below, we show the logic circuits available on the conventional oven and the components they have an input for. The door switch helps the board to control the oven Lights. The Motor Latch Switch contributes information to the AM which in turn operates the Self-Clean Door Latch Motor. The Oven Temperature Sensor and the Meat Probe Sensor logic circuits have a great deal of input as to how the Bake and Broil elements operate. The logic circuits provide information to the AM and the AM reacts accordingly.



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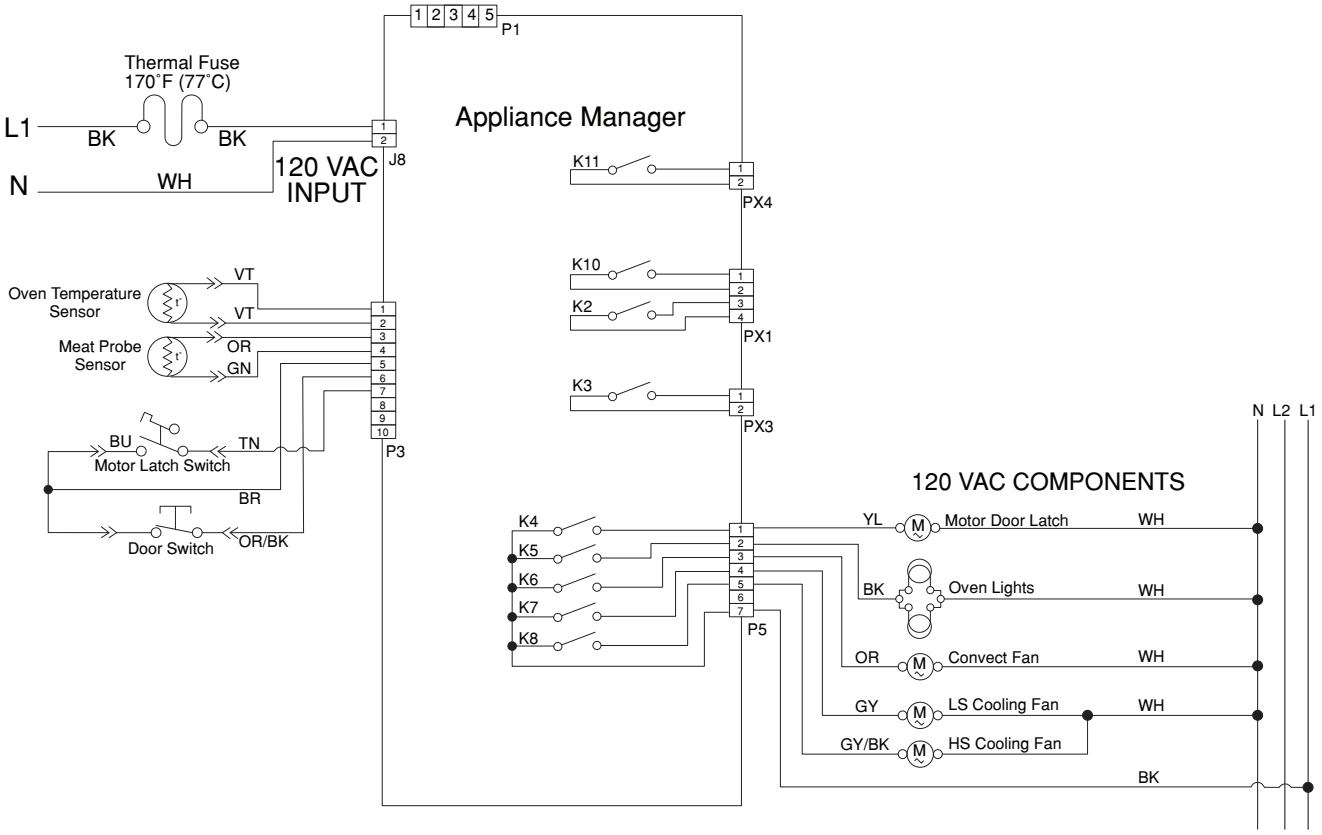
The Main Oven 120 VAC Section

The Appliance Manager powered up and the connection between the Appliance Manager connector P1 and the User Interface connector J15, the two electronic controls are able to communicate with each other. Information the consumer inputs into the Control Panel Assembly/User Interface is transferred to the Appliance Manager so that the necessary relays on the board open and close. The Appliance Manager is also interpreting information from the logic circuits about the oven. The Appliance Manager needs everything about the oven to be correct before it will proceed with the customer's request. If the logic circuits are not right, the control will produce an error code. The circuit below shows how the power supply is delivered.

The L1 circuit provides all the components with power through the P5-7 connection. Once a relay closes (K4-K8), it completes a circuit through the component to the Neutral side of the line.



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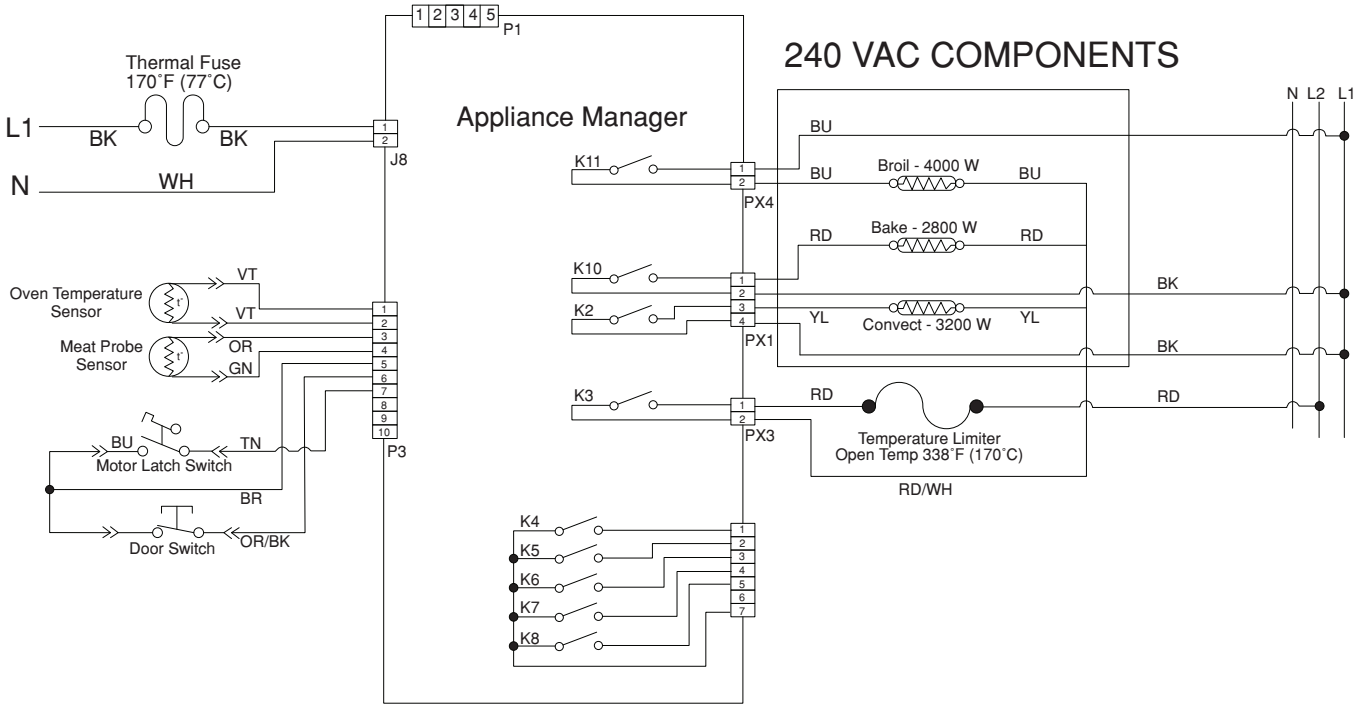
The Main Oven 240 VAC Section

This diagram shows the 240 VAC components. All the cooking elements are included in this section. Notice all of these components go through the Temperature Limiter to the L2 side of the circuit. The operation of all these components are controlled by the Temperature Limiter (safety), the Oven and Meat Probe Sensors (cooking results) and the User Interface (customer's request).

Here again only one path to the L2 side of the line to complete a circuit for all the heating elements. If the Temperature Limiter in this oven opens, all 240 VAC components loose the circuit to the L2 line and will fail to operate.



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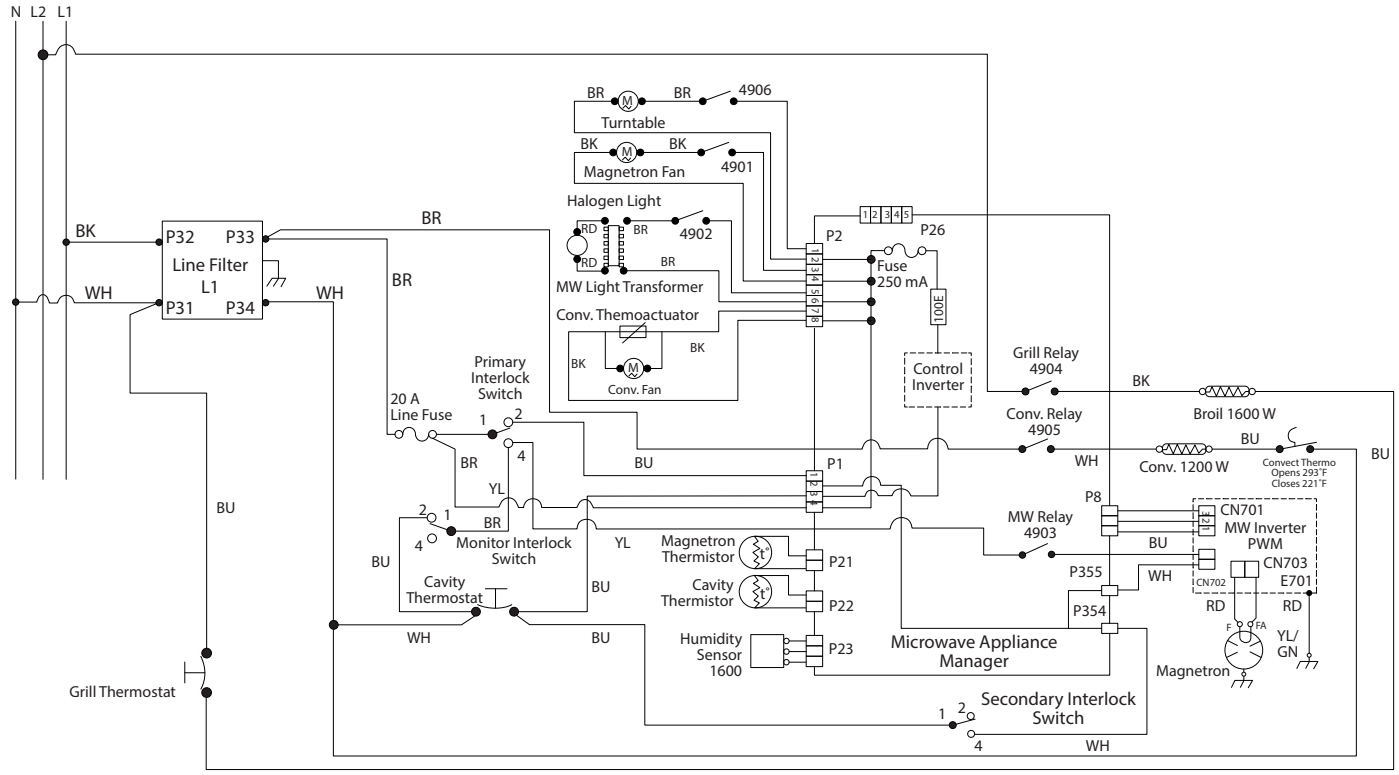
Wiring Diagram - Microwave Oven

This diagram is just the microwave oven section. It is broken out of the complete wiring diagram so that we can take a closer look at the diagram without the clutter of the main oven. Everything in the microwave operates at 120 VAC. You will notice the broil element is connected to the L2 side of the circuit but the broil circuit finishes at Neutral to create the 120 VAC circuit. This is done so that the oven can operate the broil (Grill) function when other cooking energy is operating (convection, microwave).



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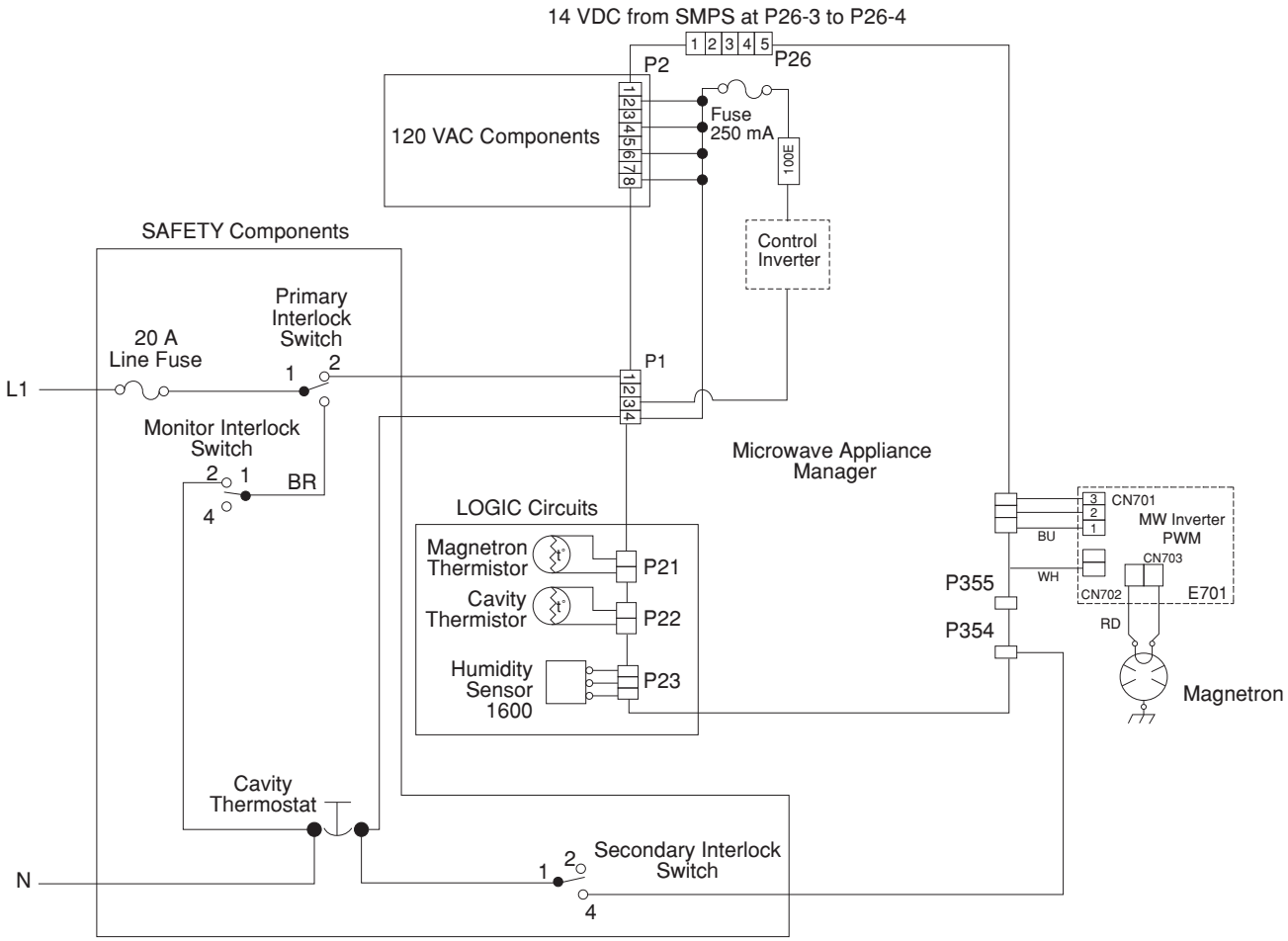
Safety System and Logic Circuits - Microwave Oven

The first thing we need to do when discussing the microwave oven is to tallk about the built in safety system. Because of the microwave energy being produced by this oven, we need to be sure the oven safety system is in place and operating correctly. The microwave needs to know whenever the door is open or closed. To do this, there is a series of door switches that operate in unison and control the operation of the high voltage system. This diagram shows the MW door closed and the safety switches (Primary, Monitor and Secondary) operating as designed. Outlined in the diagram, the Primary Interlock switch provides a circuit (contacts 1-2 closed) to the AM any time the door is closed. This circuit informs the AM that the door is open and the oven light should be on. The Monitor Interlock Switch is your safety switch that will open contacts 1 to 2 when the door is open. If contacts 1 to 2 don't open when the door is open, you would have a direct short through the Monitor switch to the Neutral side of the line. The Secondary Interlock switch isolates the Neutral line from the L1 side. When the door closes, the Secondary switch contacts 1 to 4 close and provide a complete circuit to the Neutral side of the line. So the door switch circuit has to operate correctly before the microwave will operate.

Just like the main oven, there are logic circuits in a microwave oven. The logic circuits provide the Appliance Manager with information (in this case all three circuits ohms resistance) from the Magnetron and Cavity Thermistors and the Humidity Sensor. The Microwave Inverter also provides a logic circuit to the Appliance Manager but we will take a closer look at that later.

The main reason for this portion of the microwave oven diagram is to show you that certain things need to be operating correctly before the Appliance Manager will even start a cooking mode.



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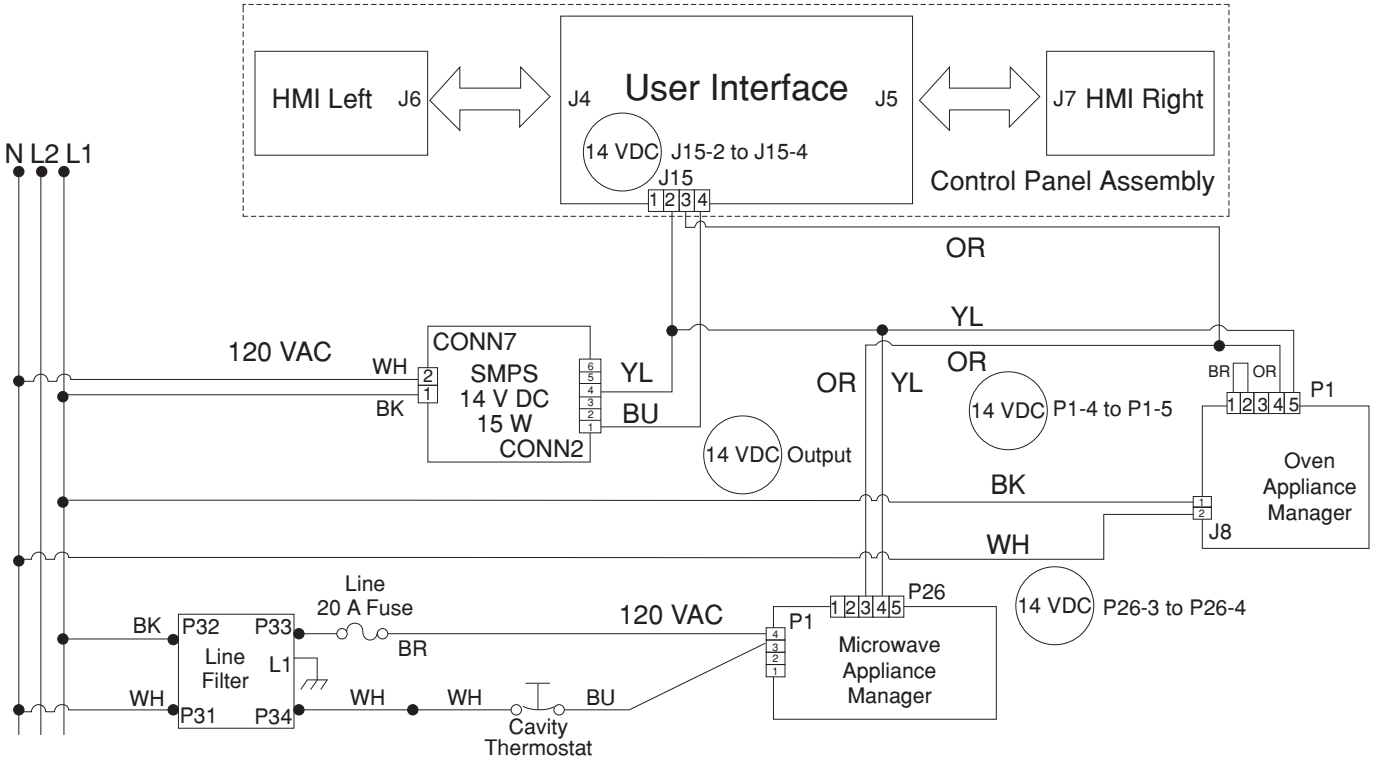
Receiving and Distributing Electricity

The Electronic Control Boards

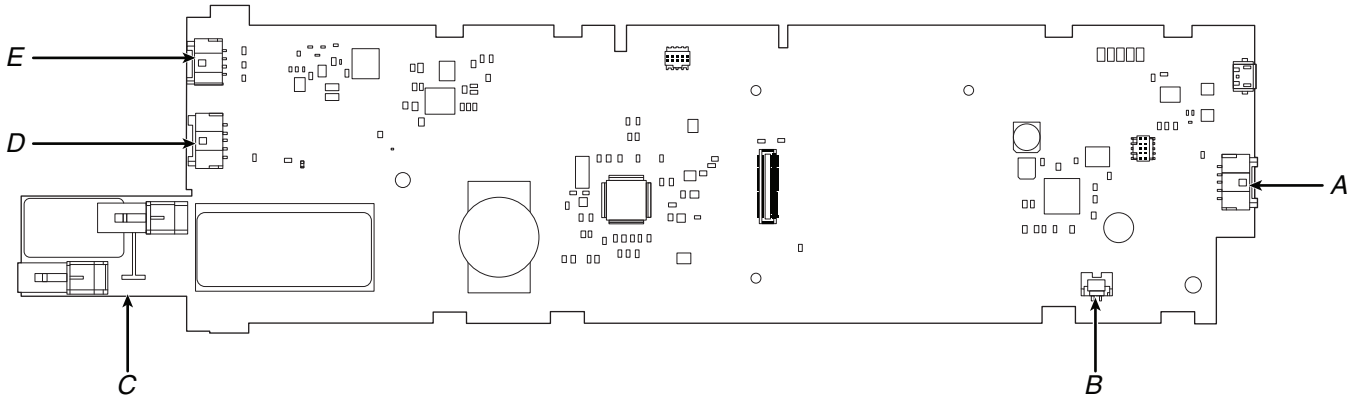
Anytime the Combination Oven is powered up 120 VAC is available to the SMPS (Switch Mode Power Supply) which provides 14 VDC to the Main Oven Appliance Manager and the Microwave Appliance Manager. 120 VAC is also available to both Appliance Managers. The diagram below provides the voltage information and the terminal pins where proper voltages can be confirmed. So anytime the oven is plugged in the Control Panel Assembly/User Interface and both Appliance Managers are communicating with each other. All logic circuits are constantly supplying information to the Appliance Managers.



User Interface

The User Interface will be serviced in two ways. It will be part of the Control Panel Assembly and will be available as a single part. In below image, we point out the 5 connections to and from the User Interface. The J15 connector is important because it receives 14 VDC from the SMPS board across pins J15-2 and J15-4. The J8 connection is for the speaker which is mounted off the board and available as a separate part. The J4 and J5 connections provide electrical service to the left and right HMI boards. On Wi-Fi capable ovens, there is a Wi-Fi connection at the lower left side of the UI.

NOTE: There are 2 Wi-Fi connections. One is located on the board as shown, and the other end of the wire is mounted on the back of the oven cabinet.



A. J5 Connector to HMI Right
B. J8 Connector to Speaker
C. Wi-Fi Connection
D. J4 Connector to HMI Left
E. J15 Connector Pin2 (YL)-GND, Pin 3 (OR), Pin 4 (BU) - 14 VDC

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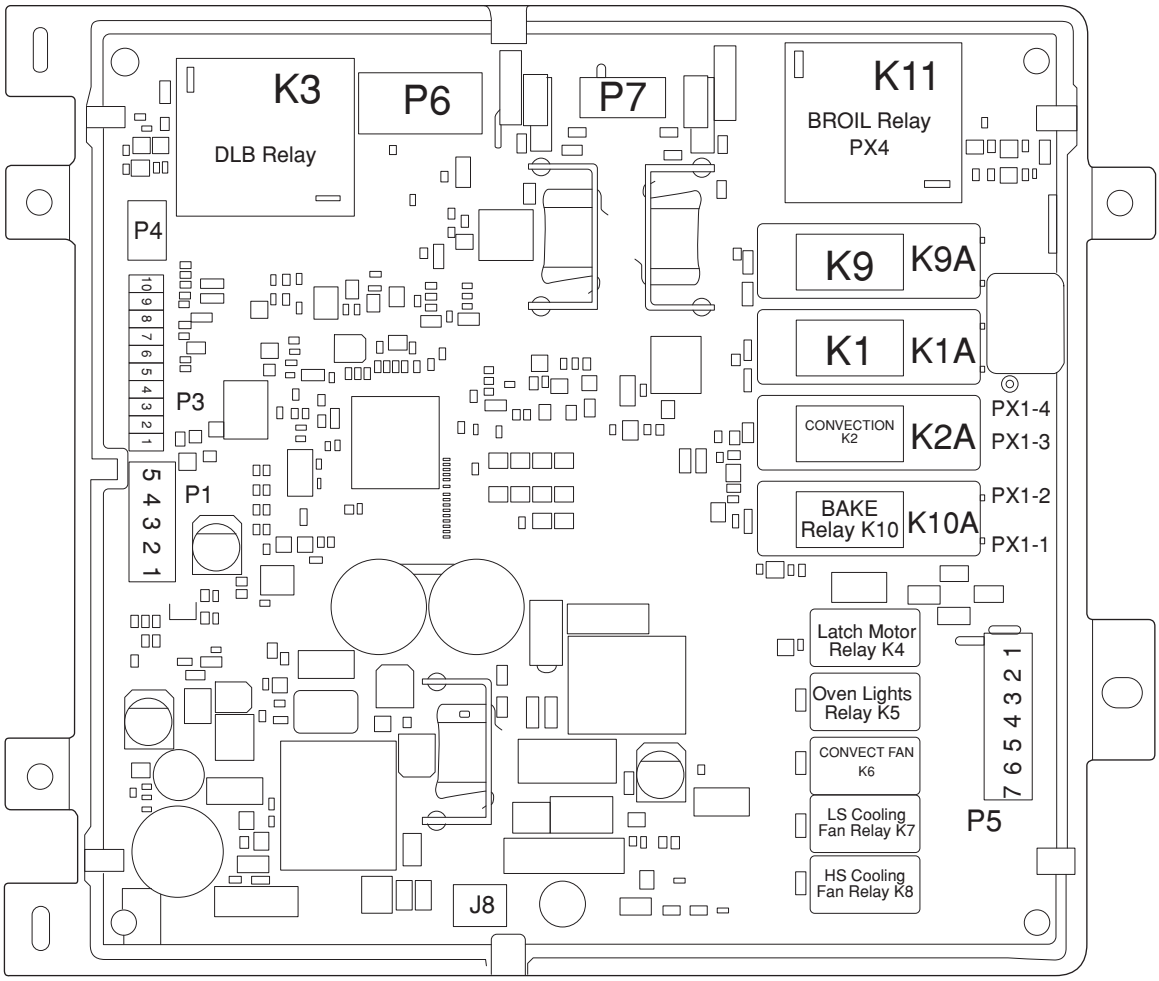
Main Oven Appliance Manager

Below is the Appliance Manager board for the Main Oven. It provides Connector locations with pin callouts. It also shows actual relays being used on the oven we are discussing. Compare the Appliance Manager with the main oven wiring diagram. The three multiconnectors (P1, P3 and P5) are shown on the next page 3-19 with test points.



- P1 Terminal - Connection from the User Interface Assembly
- P3 Terminal - Logic Circuits to the Appliance Manager
- P5 Terminal - 120 VAC circuits that operate through the K4 - K8 relays
- J8 Terminal - 120 VAC power source into board from house power supply
- P4, P6 and P7 terminals not used on this oven
- K1 and K9 - relays not used on this oven

Harness Connector Pin	Copernicus Appliance Manager Pin
PX1-1	J12
PX1-2	J16
PX1-3	J13
PX1-4	J17
PX2-1	J19
PX2-2	J15
PX2-3	J18
PX2-4	J14

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Main Oven Appliance Manager Connector Test Pins

The P1 Connector provides communications between the User Interface.

P1 Wide and Power	
Pin#	**Function**
P1-1	Wide ground (brown wire)
P1-2	-
P1-3	-
P1-4	-14 VDC Power in (orange wire)
P1-5	+14 VDC Power out (yellow wire)

Logic circuits to the Lower Oven Appliance manager

P3-Sensor and Switches		Test Results
Pin#	**Function**	
P3-1	RDT 1+	1075 Ω at 70º
P3-2	RDT 1-	
P3-3	Meat Probe +	10 kΩ
P3-4	Meat Probe -	
P3-5	Common for door and latch switch	
P3-6	Door switch input	0 resistance with door closed
P3-7	Door latch switch input	Open circuit
P3-8		
P3-9		
P3-10		

The P5 connection controls the 120 VAC output to the listed components.

P5 Low Current Relay Output	
Pin#	**Function**
P5-1	K4-Door lock motor
P5-2	K5-Oven lights
P5-3	
P5-4	K7-LS convection fan
P5-5	K8-HS convection fan
P5-6	
P5-7	L1

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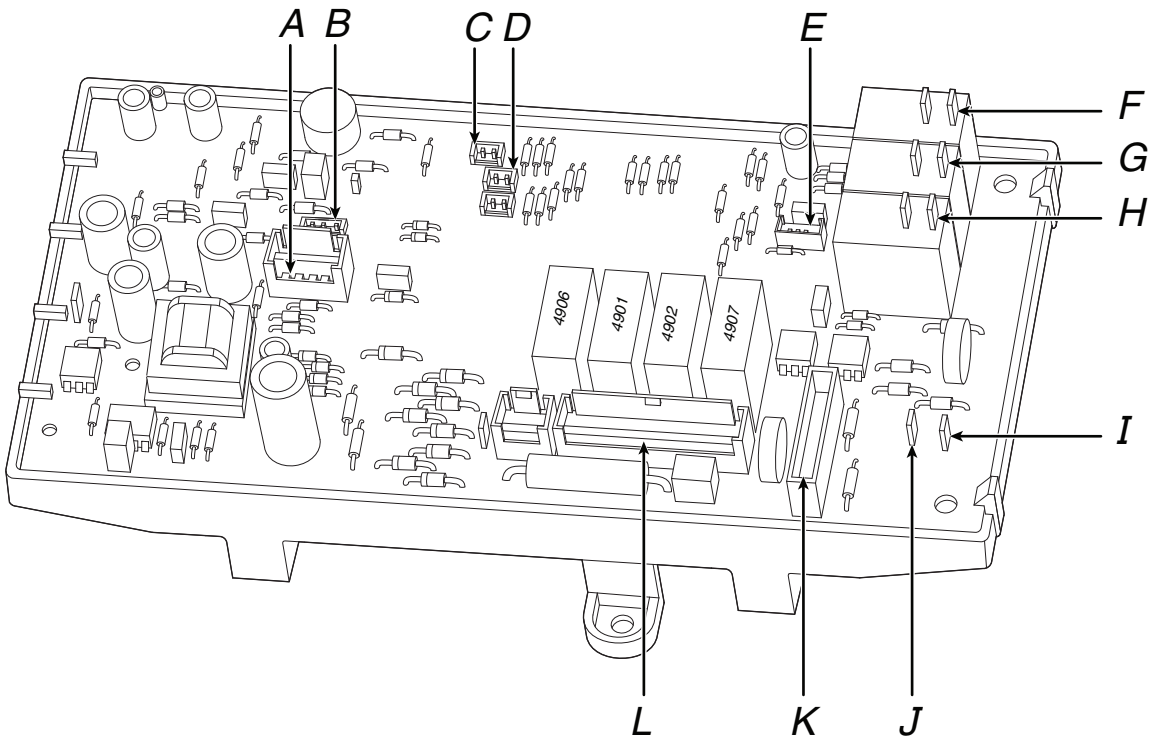
Microwave Oven Appliance Manager

This is the layout of the Microwave Oven Appliance Manager. It shows wire colors, test results at each connector and the component each of the connectors control. The chart on the next page provide the same information in an easier to read format.



A. P26 (OR Y), 14 VDC

B. P23 (WH RD BK) Humidity Sensor BK-WH=2.8 kΩ, RD-WH=2.8 kΩ

C. P21 (BK BK) Mag Thermistor, 10 kΩ

D. P22 (RD WH) Cavity Thermistor, 230 kΩ

E. P8 (WH WH WH-to CN701)

F. 4904 (BK RD-Grill Relay)

G. 4905 (BR WH-Conv. Relay)

H. 4903 (Y BU-MW Relay)

I. 354 YL

J. 355 (WH-to CN702)

K. P1 (BU BU BR)

L. P2 (BK BK-Turntable 2500 Ω, BR BR-MW Fan Motor, 15 Ω, BK BK-MW Light Tms-Primary 40 Ω, Secondary, 4 Ω, TN TN-Conv. Fan Motor, 20 Ω)

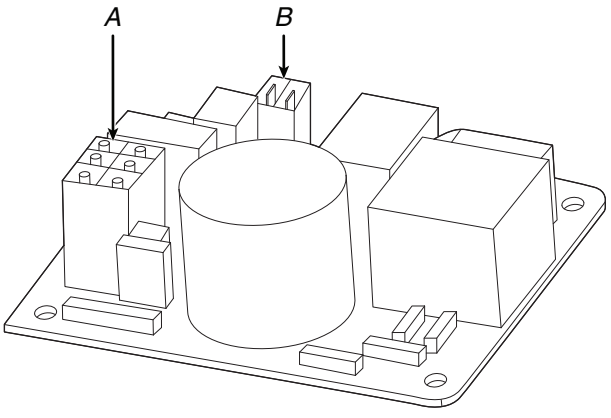
For Service Technician Use Only

Main Oven Appliance Manager Test Chart

Connector	Pin #	Wire Color	Component	Test Results
P1				
P2	P2-1 to P2-2 P2-3 to P2-4 P2-5 to P2-6 P2-7 to P2-8	BK-BK BR-BR BK-BK TN-TN	Turntable MW Fan Motor MW Light Trans Convection Fan Motor	2500 Ω 15 Ω Primary 40 Ω Secondary 0.4 Ω 20 Ω
P8	P8-1, P8-2, P8-3	WH WH WH	To inverter CN701	No Measurement
P21	P21-1 to P21-2	BK-BK	Mag Thermister	10 kΩ
P22	P21-1 to P22-2	RD-WH	Cavity Thermister	230 kΩ
P23	P23-1 to P23-3 P23-2 to P23-3	BK-WH RD-WH	Humidity Sensor Humidity Sensor	2.8 kΩ 2.8 kΩ
P26	P26-3 to P26-4	OR-YL	14 VDC Input	
354		YL	Neutral	
355		WH	To Inverter CN702	
Relays				
4903		YL-BU	MW Relay	N.O.
4904		BK-RD	Grill Relay	N.O.
4905		BR-WH	Convection Relay	N.O.

SMPS Low Voltage Power Supply

The SMPS (Switch Mode Power Supply) is not available on all ovens. On this Microwave Combination ovens it is available. It is mounted behind the control panel next to the microwave Appliance Manager. This board is supplied with 120 VAC and reduced the output voltage to 14 VDC. The CON007 two terminal connector receives 120 VAC input from the L1 and Neutral lines and provides 14 VDC output to the Appliance Managers through the 6 position COON002 connector COON002-1 and COON002-4. See the Connector charts on right side for additional output options.



A. CON002 (Y BU)
B. CON007 (BK WH)

Connector CON007			
Purpose	AC Input		
Pinouts (2 Pins)	Pin	Name	Type
	CON007-1	L	IN
	CON007-2	N	IN

Connector CON002			
Purpose	DC Output		
Pin-Out (6 Pins)	Pin	Name	Type
	CON002-1	14 VDC	OUT
	CON002-2	14 VDC	OUT
	CON002-3	14 VDC	OUT
	CON002-4	GND	OUT
	CON002-5	GND	OUT
	CON002-6	GND	OUT

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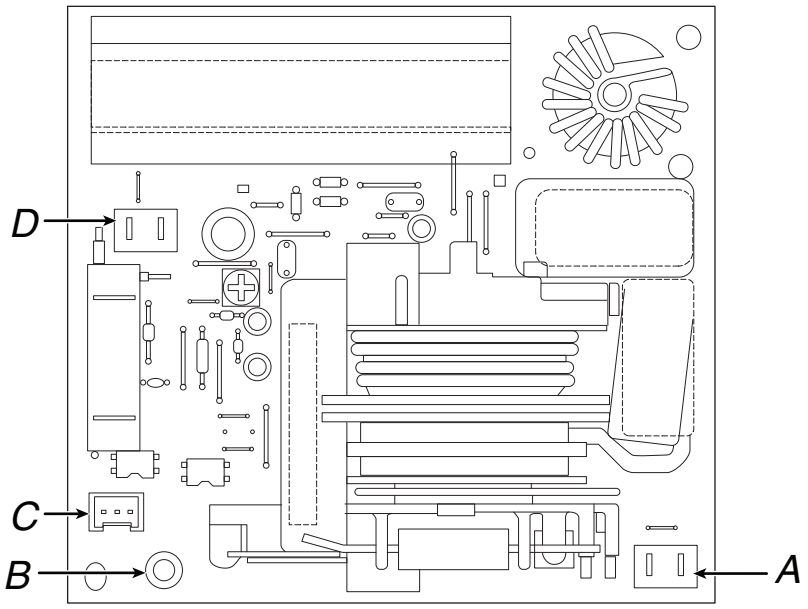
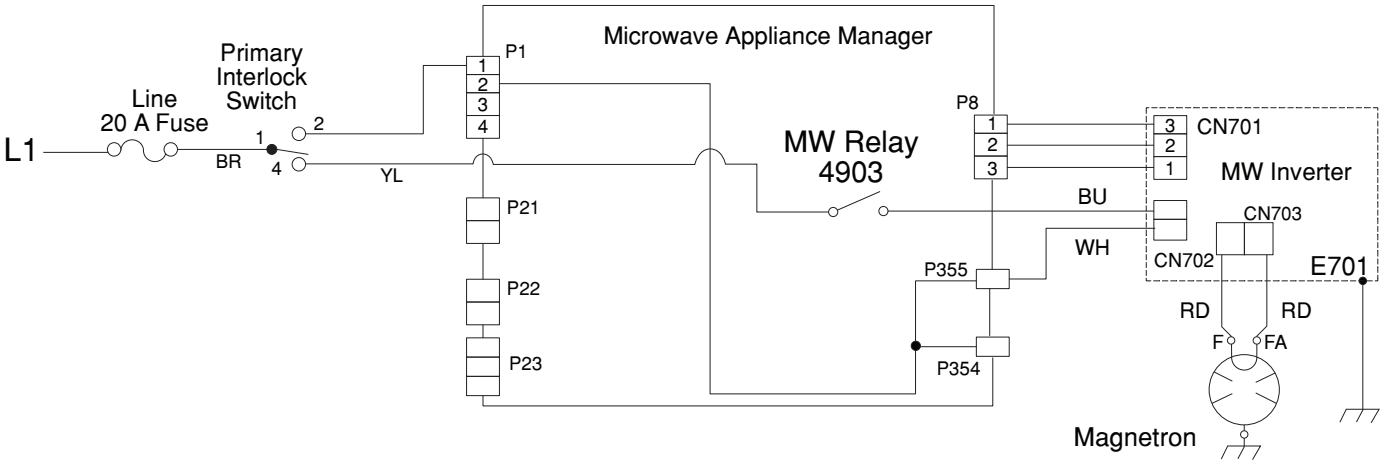
Microwave Inverter Board

The microwave inverter board replaces the capacitor, diode and transformer of the high voltage system. The main feature of this inverter system is that it provides constant microwave energy and doesn't cycle on and off to produce the constant supply. When testing this board, you just check the 4 connection points (CN701, CN702, CN703 and the ground lug). No voltage or continuity testing on this board. The diagram below shows how 120 VAC is supplied to the inverter through the Line Fuse, the primary interlock switch (door closed position) and the 4903 relay mounted on the Appliance Manager.



A. CN703 (RD RD)
B. GND
C. CN701 (WH WH WH)
D. CN702 (WH BU)



Service Test

Close the MW door, check the MW Appliance Manager board 4903 relay for 120 VAC on yellow wire. No voltage then check door switch .

If you have 120 VAC at yellow 4903 with door closed then change the inverter. Verify that the magnatron when removed is not damaged. Shake the mag tube to make sure it does not rattle. If it does then change inverter and magnatron at same time.

For Service Technician Use Only

Component Testing

Cooling Fan Relay Logic

	Oven High Speed Blower (Main/Upper or Lower)	Oven Low Speed Blower (Main/Upper or Lower)
Oven Cooking - Cold	-	O
Oven Cooking - Warm	-	O
Oven Cooking - Hot	O	-
Oven Self-Clean	O	-

Legend

Cold	Cavity Temperature is less than 212°F (100°C)
Warm	Cavity Temperature is between 212°F and 599°F (100°C and 315°C)
Hot	Cavity Temperature is greater than 599°F (315°C)

Mode	Bake	Broil	Convect Ring	Convect Fan	Upper Convect Ring	Lower Convect Ring	Upper Convect Fan	Lower Convect Fan
Convect Frozen Pizza	C	C	C	O	C	C	O	O
Convect Pastry	C	C	C	C	C	C	C	C
Convect Slow Roast 12 hrs	C	C	C	O	C	C	O	O
Convect Slow Roast 8 hrs	C	C	C	O	C	C	O	O
Convect Slow Roast 4 hrs	C	C	C	O	C	C	O	O
Convect Roast	C	C	C	O	C	C	O	O
Convect Broil	-	C	-	C	-	-	C	C
Convect Bake	C	C	C	C	C	C	C	C
Convect Bake- Rapid Preheat	C	C	C	C	C	C	C	C
Bake	C	C	C	C	C	C	C	C
Broil	-	C	-	-	-	-	-	-
Keep Warm	C	C	-	C	-	-	C	C
Rapid Proof	C	C	-	-	-	-	-	-
Proof	C	C	-	-	-	-	-	-
No Preheat	C	C	NA	NA	C	C	C	C
True Convect	C	C	NA	NA	C	C	C	C
Self Clean	C	C	-	-	-	-	-	-

Legend

Relay Off	Relay Cycles	Relay On	Not Available
-	C	O	NA

For Service Technician Use Only

Component Testing Chart - Oven

To properly check for voltage, complete the following steps:

1. Unplug oven or disconnect power.
2. Connect voltage measurement equipment to check points.
3. Plug in oven or reconnect power and confirm voltage reading.
4. Unplug oven or disconnect power.

Component	Serviceable Side	Check Points Copernicus	Results-Resistance	Results-Voltage
Lights	Front	P7-1 to L1 (J8-1) or P5-2 to N (J8-2)	0-40 Ω	120 V
Latch Switch	Front	P3-7 to P3-5	Open circuit	
Door Switch	Front	P3-6 to P3-5	Closed circuit with oven door closed	
Latch Motor	Front	P5-1 to N (J8-2)	500 Ω to 3000 Ω	120 V motor running
Oven Temperature Sensor	Front	P3-1 to P3-2	1075 Ω at 68°F (20°C) DLB	
Meat Probe	Side	P3-3 to P3-4	9876 Ω-10075 Ω	
Blower Motor - High Speed	Rear	PX2-2 to L1 (J8-1) P5-5 to N (P7-1)	15 Ω to 23 Ω	120 V motor running
Blower Motor - Low Speed	Rear	P7-2 to L1 (J8-1) P5-4 to N (J8-2)	15 Ω to 23 Ω	120 V motor running
Thermal Limiter	Rear	PX3-1 to L2 (Main line)	Closed circuit	0 V closed, N/A open
Thermal Fuse (only for single/ double)	Front	J8-1 to L1	Closed circuit	0 V closed, N/A open
Convection Fan	Rear	P5-3 to N (J8-2)	16-20 Ω	120 V motor running
Convection Element	Front	PX1-3 to PX3-2	16.63 Ω-18.38 Ω	240 V Convection cycle operating
Upper Convection Fan - High Speed	Rear	P5-3 to N (J8-2)	15 Ω to 22 Ω	120 VAC motor running
Upper Convection Fan - Low Speed	Rear	P5-2 to N (J8-2)	17 Ω to 25 Ω	120 VAC motor running
Lower Convection Fan - High Speed	Rear	P5-5 to N (J8-2)	15 Ω to 22 Ω	120 VAC motor running
Lower Convection Fan - Low Speed	Rear	P5-4 to N (J8-2)	17 Ω to 25 Ω	120 VAC motor running
Upper Convection Element	Front	PX1-3 to PX3-2	15.2 Ω to 17.3 Ω	240 VAC Convection cycle operating
Lower Convection Element	Front	PX2-4 to PX3-2	15.2 Ω to 17.3 Ω	240 VAC Convection cycle operating
Bake Element	Rear	PX1-1 to PX3-2	19.0 Ω to 21.6 Ω	240 V Bake cycle operating
Broil Element	Front	PX4-2 to PX3-2	13.5 Ω to 14.92 Ω	240 V Broil cycle operating
User Interface Board	Front	J15-2 to J15-4	N/A	14 VDC
Copernicus Appliance Manager	Side (Combo)	P1-2 to P1-5	N/A	14 VDC

NOTES:

- Disconnect the harness from the board before performing measurements.
- See the following table for connector pin identification.

For Service Technician Use Only

Component Testing Chart - Microwave

Component	Serviceable Side	Procedure	Results - Resistance	Component Location
Appliance Manager	Top	Check wiring to MW microwave appliance manager: **1.** Unplug the microwave oven or disconnect power. **2.** Visually inspect connectors on the microwave appliance manager, P1, P2, P8, P21, P22, P23, P26, P354, P355 and the top connectors (relays 4903, 4904 and 4905) to see whether there are signs of overheating or any signs of failure due to loose wires, bad crimping, etc. **3.** Reassemble all parts and panels before operating. **4.** Plug in microwave oven or reconnect power.		G
Cavity Thermostat	Top	**1.** Unplug microwave oven or disconnect power. **2.** Remove wire leads. **3.** Measure resistance. **4.** Replace wire leads. **5.** Reassemble all parts and panels before operating. **6.** Plug in microwave oven or reconnect power.	Normal = Continuity Abnormal = Infinite	V
Magnetron Fan Motor	Top	**1.** Unplug microwave oven or disconnect power. **2.** Remove wire leads. **3.** Measure resistance (ohmmeter scale: Rx1). **4.** Replace wire leads. **5.** Reassemble all parts and panels before operating. **6.** Plug in microwave oven or reconnect power.	Normal = 15 Ω Abnormal = Infinite	F
Turntable Motor	Bottom	**1.** Unplug microwave oven or disconnect power. **2.** Remove wire leads. **3.** Measure resistance (ohmmeter scale: Rx1). **4.** Replace wire leads. **5.** Reassemble all parts and panels before operating. **6.** Plug in microwave oven or reconnect power.	Normal =2500 Ω (approximately) Abnormal = Infinite	J
Monitor Fuse	Top	**1.** Unplug microwave oven or disconnect power. **2.** Remove wire leads. **3.** Measure resistance. **4.** Replace wire leads. **5.** Reassemble all parts and panels before operating. **6.** Plug in microwave oven or reconnect power.	Normal = Continuity Abnormal = Infinite	Not shown

For Service Technician Use Only

Component	Serviceable Side	Procedure	Results - Resistance	Component Location
MW Light Transformer	Top	**1.** Unplug microwave oven or disconnect power. **2.** Remove wire leads. **3.** Measure resistance (ohmmeter scale: Rx1). **4.** Replace wire leads. **5.** Reassemble all parts and panels before operating. **6.** Plug in microwave oven or reconnect power.	Primary Winding = 40 Ω (approximately) Secondary Winding = 0.4 Ω (approximately)	R
Line Fuse	Top	**1.** Unplug microwave oven or disconnect power. **2.** Remove wire leads. **3.** Measure resistance. **4.** Replace wire leads. **5.** Reassemble all parts and panels before operating. **6.** Plug in microwave oven or reconnect power.	Normal = Continuity Abnormal = Infinite	Not shown
Primary Interlock Switch	Top	**Test 1:** **1.** Unplug microwave oven or disconnect power. **2.** Disconnect the wires at the Primary Interlock Switch. **3.** Check from the common terminal (brown wire) to the normally open terminal (yellow wire). **4.** Reconnect the wires at the Primary Interlock Switch. **5.** Reassemble all parts and panels before operating. **6.** Plug in microwave oven or reconnect power. **Test 2:** **1.** Unplug microwave oven or disconnect power. **2.** Disconnect the wires at the Primary Interlock Switch. **3.** Check from the common terminal (brown wire) to the normally closed terminal (blue wire). **4.** Reconnect the wires at the Primary Interlock Switch. **5.** Reassemble all parts and panels before operating. **6.** Plug in microwave oven or reconnect power.	**Test 1:** Door Open = Infinite Door Closed = Continuity **Test 2:** Door Open = Continuity Door Closed = Infinite	N
Secondary Interlock Switch	Top	**1.** Unplug microwave oven or disconnect power. **2.** Disconnect the wires at the Secondary Interlock Switch. **3.** Check from the common terminal (blue wire) to the normally open terminal (white wire). **4.** Reconnect the wires at the Secondary Interlock Switch. **5.** Reassemble all parts and panels before operating. **6.** Plug in microwave oven or reconnect power.	Door Open = Continuity Door Closed = Infinite	I

For Service Technician Use Only

Component	Serviceable Side	Procedure	Results - Resistance	Component Location
Monitor Interlock Switch	Top	**1.** Unplug microwave oven or disconnect power. **2.** Disconnect the wires at the Monitor Interlock Switch. **3.** Check from the common terminal (yellow wire) to the normally closed terminal (blue wire). **4.** Reconnect the wires at the Monitor Interlock Switch. **5.** Reassemble all parts and panels before operating. **6.** Plug in microwave oven or reconnect power.	Door Open = Continuity Door Closed = Infinite	O
Halogen Light	Top	**1.** Unplug microwave oven or disconnect power. **2.** Remove wire leads. **3.** Measure resistance. **4.** Replace wire leads. **5.** Reassemble all parts and panels before operating. **6.** Plug in microwave oven or reconnect power.	Normal = approximately 3 Ω Abnormal = Infinite	M
Inverter	Top	Check wiring to MW inverter: **1.** Unplug microwave oven or disconnect power. **2.** Visually inspect 4 connectors on the MW inverter boards, CN701, CN702, CN703 and E701 to see whether there are signs of overheating or any signs of failure due to loose wires, bad crimping, etc. **3.** Reassemble all parts and panels before operating. **4.** Plug in microwave oven or reconnect power.		S
Magnetron	Top	**1.** Unplug microwave oven or disconnect power. **2.** Remove wire leads. Check that the seal is in good condition. **3.** Measure resistance. **4.** Replace wire leads. **5.** Reassemble all parts and panels before operating. **6.** Plug in microwave oven or reconnect power.	Filament Terminals Normal = <1 Ω Filament to Chassis Normal = Infinite	Q
Line Filter	Top	**1.** Unplug microwave oven or disconnect power. **2.** Remove wire leads. **3.** Measure resistance. **4.** Replace wire leads. **5.** Reassemble all parts and panels before operating. **6.** Plug in microwave oven or reconnect power.	P31 to P32, P33 to P34 Normal >/= 300 kΩ Abnormal </= 100 kΩ P31 to P34, P32 to P33 Normal = 0 Ω Abnormal >/= 100 kΩ	D

For Service Technician Use Only

Component	Serviceable Side	Procedure	Results - Resistance	Component Location
Humidity Sensor	Top	**1.** Unplug microwave oven or disconnect power. **2.** Remove the 3-pin connector from MW Appliance Manager. **3.** Measure resistance across pins 1 and 3 and across pins 2 and 3. **4.** Replace the 3-pin connector from MW Appliance Manager. **5.** Reassemble all parts and panels before operating. **6.** Plug in microwave oven or reconnect power.	Normal = 2.8 kΩ (approximately) at 77°F +/- 10°F (25°C +/- 10°C) Abnormal = Infinite	E
Magnetron Thermistor		**1.** Unplug microwave oven or disconnect power. **2.** Remove wire leads. **3.** Measure resistance. **4.** Replace wire leads. **5.** Reassemble all parts and panels before operating. **6.** Plug in microwave oven or reconnect power.	Normal = 10 kΩ (approximately) at 77°F +/- 10°F (25°C +/- 10°C) Abnormal = Infinite	P
Grill Thermostat	Top	**1.** Unplug microwave oven or disconnect power. **2.** Remove wire leads. **3.** Measure resistance. **4.** Replace wire leads. **5.** Reassemble all parts and panels before operating. **6.** Plug in microwave oven or reconnect power.	Normal = Continuity Abnormal = Infinite	U
Convect Thermostat	Rear	**1.** Unplug microwave oven or disconnect power. **2.** Remove wire leads. **3.** Measure resistance. **4.** Replace wire leads. **5.** Reassemble all parts and panels before operating. **6.** Plug in microwave oven or reconnect power.	Normal = Continuity Abnormal = Infinite	B
Broil Element	Rear	**1.** Unplug microwave oven or disconnect power. **2.** Remove wire leads. **3.** Measure resistance. **4.** Replace wire leads **5.** Reassemble all parts and panels before operating. **6.** Plug in microwave oven or reconnect power.	Normal = 9 Ω Abnormal = Infinite	K
Convect Element	Rear	**1.** Unplug microwave oven or disconnect power. **2.** Remove wire leads. **3.** Measure resistance. **4.** Replace wire leads. **5.** Reassemble all parts and panels before operating. **6.** Plug in microwave oven or reconnect power.	Normal = 12 Ω Abnormal = Infinite	C

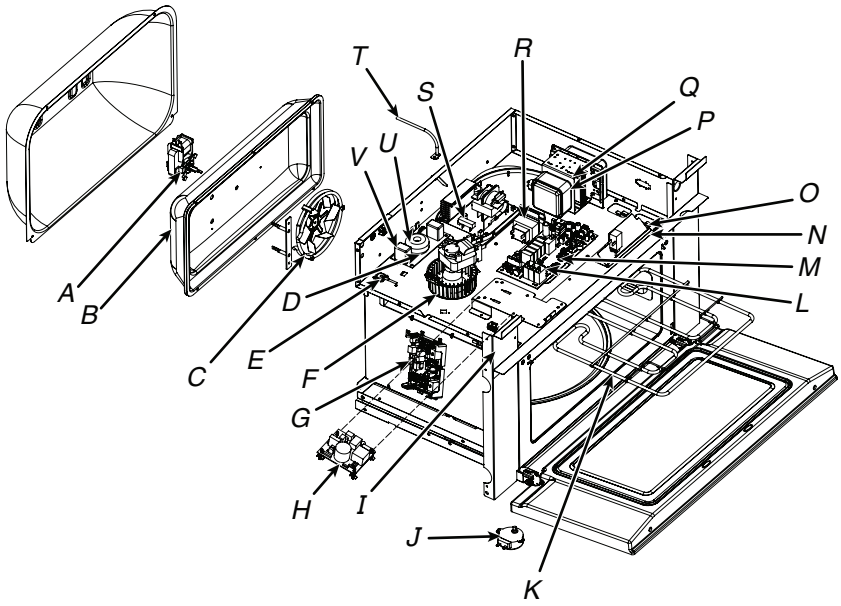
For Service Technician Use Only

Component	Serviceable Side	Procedure	Results - Resistance	Component Location
Cavity Temperature Sensor	Rear	**1.** Unplug microwave oven or disconnect power. **2.** Remove wire leads. **3.** Measure resistance. **4.** Replace wire leads. **5.** Reassemble all parts and panels before operating. **6.** Plug in microwave oven or reconnect power.	Normal = 230 kΩ (approximately) at 77°F ± 10°F (25°C ± 10°C) Abnormal = Infinite	T
Convect Fan Motor	Rear	**1.** Unplug microwave oven or disconnect power. **2.** Remove wire leads. **3.** Measure resistance. **4.** Replace wire leads. **5.** Reassemble all parts and panels before operating. **6.** Plug in microwave oven or reconnect power.	Normal = 48 Ω Abnormal = Infinite	A

For Service Technician Use Only

Component Location

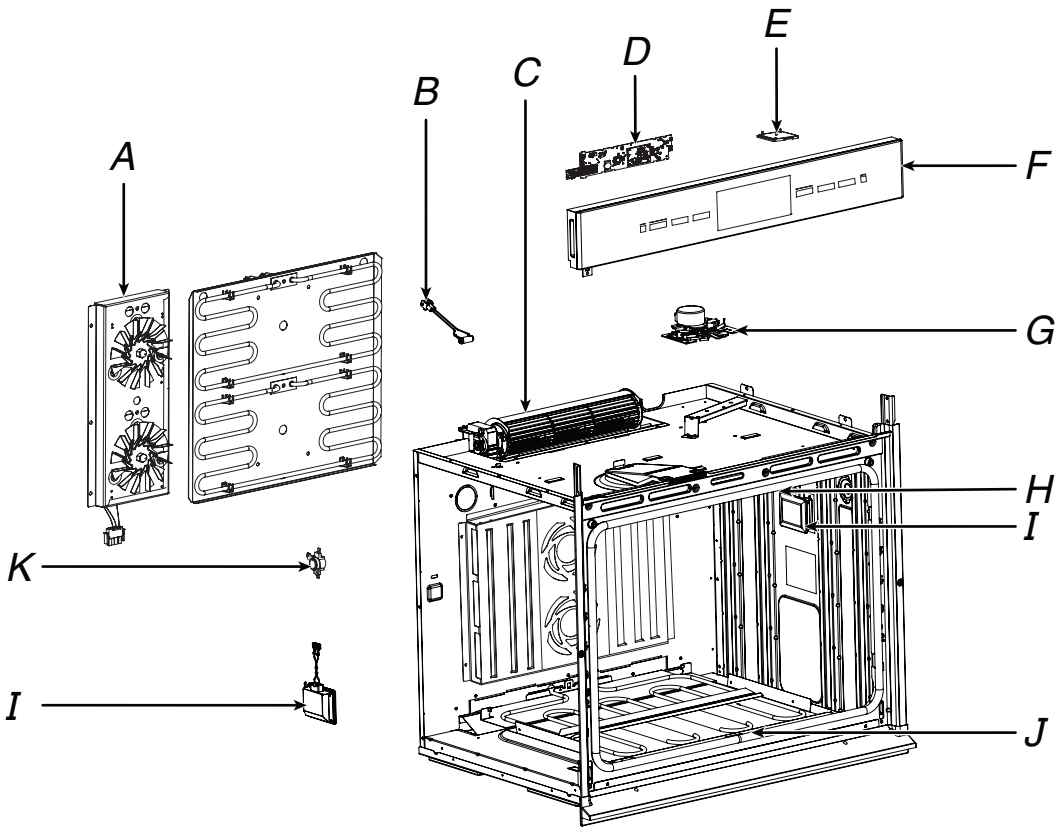
Upper Microwave Oven



A. Convect Motor
B. Convect Thermostat (Behind Cover)
C. Convect Element
D. Line Filter
E. Humidity Sensor
F. Magnetron Fan Motor
G. Copernicus Appliance Manager (Lower Oven)
H. Switch Mode Power Supply (SMPS)
I. Secondary Interlock Switch
J. Turntable Motor
K. Broil Element
L. Microwave Appliance Manager
M. Cavity Halogen Lamp
N. Primary Interlock Switch
O. Monitor Interlock Switch
P. Magnetron Thermistor
Q. Magnetron
R. Microwave Light Transformer
S. Microwave Inverter
T. Cavity Temperature Sensor
U. Grill Thermostat
V. Cavity Thermostat

For Service Technician Use Only

Lower Oven



A. Convection Assembly
B. Oven Temperature Sensor
C. Cooling Fan
D. HMI-Central/UI Board
E. Wi-Fi Antenna
F. Control Panel Assembly
G. Door Lock Assembly
H. Broil Element
I. Light Assembly
J. Bake Element (Hidden)
K. Temperature Limiter

For Service Technician Use Only

Notes

Section 4: Component Access

This section provides service parts access, removal, and replacement instructions for the “27" and 30" Microwave Combination Wall Ovens.”

- Removing the Control Panel
- Removing the Microwave Appliance Manager Board
- Components Under the Top Service Cover
- Removing the Lower Oven Appliance Manager Board
- Components Serviced From the Back of the Main Oven
- Removing the Exhaust Blower Motor and Fan Assembly
- Removing the Oven Shutdown Thermal Fuse From the Main Oven
- Removing the Hidden Bake Element
- Removing Main Oven Convection Components
  - Removing the Main Oven Convection Fan Blade
  - Removing the Convection Motor
- Removing the Oven Door
- Removing the Oven Light Assembly (One on Each Side of Oven)
- Removing the Broil Element
- Removing the Oven Sensor
- Removing the Probe Jack Assembly
- Removing the Door Latch and Oven Light Switch Assembly
- Removing Microwave Oven Convection Parts
- Removing the Humidity Sensor

Video Available  Look for this icon through out Section 4.

Removing the Control Panel

⚠ WARNING

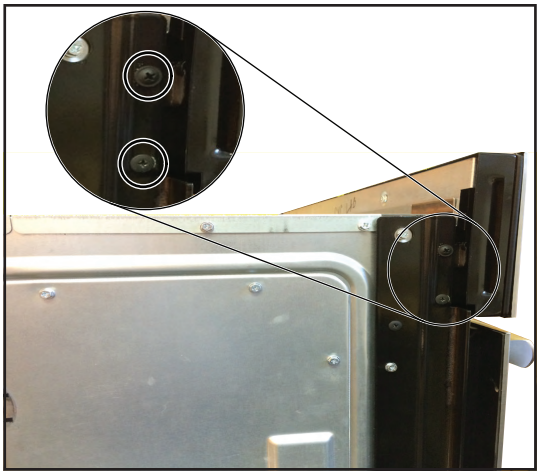
Electrical Shock Hazard

Disconnect power before servicing.

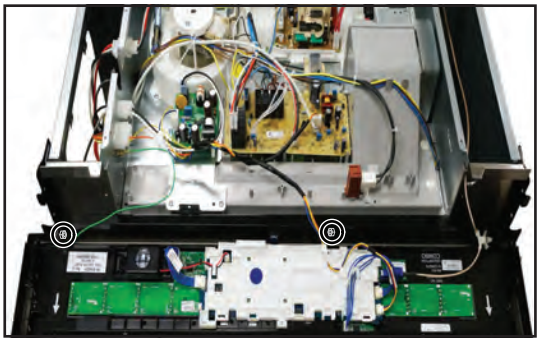
Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

1. Pull oven out of the cabinet approximately 4" (10.16 cm) to expose four (4) mounting screws (2 on each side).



2. Remove the screws and pull the control panel and User Interface board out. Remove electrical connections.



Removing the Microwave Appliance Manager Board

⚠ WARNING

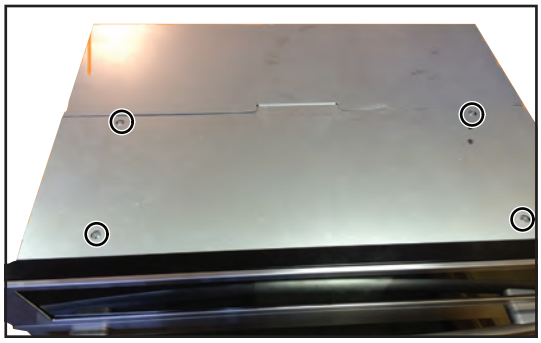
Electrical Shock Hazard

Disconnect power before servicing.

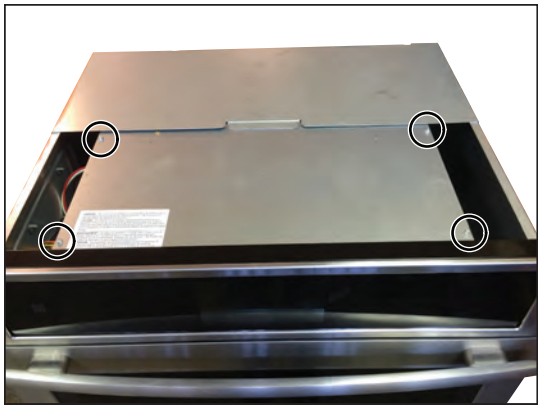
Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

1. Pull oven out of the cabinet approximately 14" (35.56 cm) to expose the top control service cover.
2. Remove mounting screws and lift service cover up.

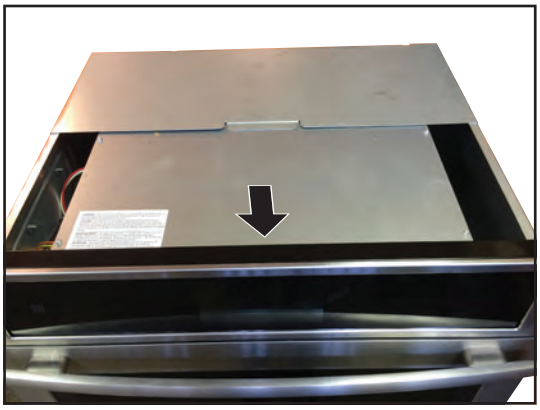


3. With the Top Control Service Cover removed, the Microwave service compartment panel is exposed. Remove the mounting screws from the panel.

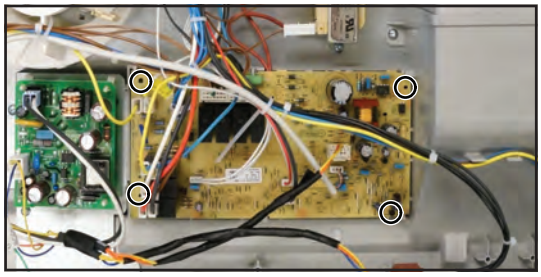


4. Lift the front of the panel and slide the panel toward the front of the oven and remove it.

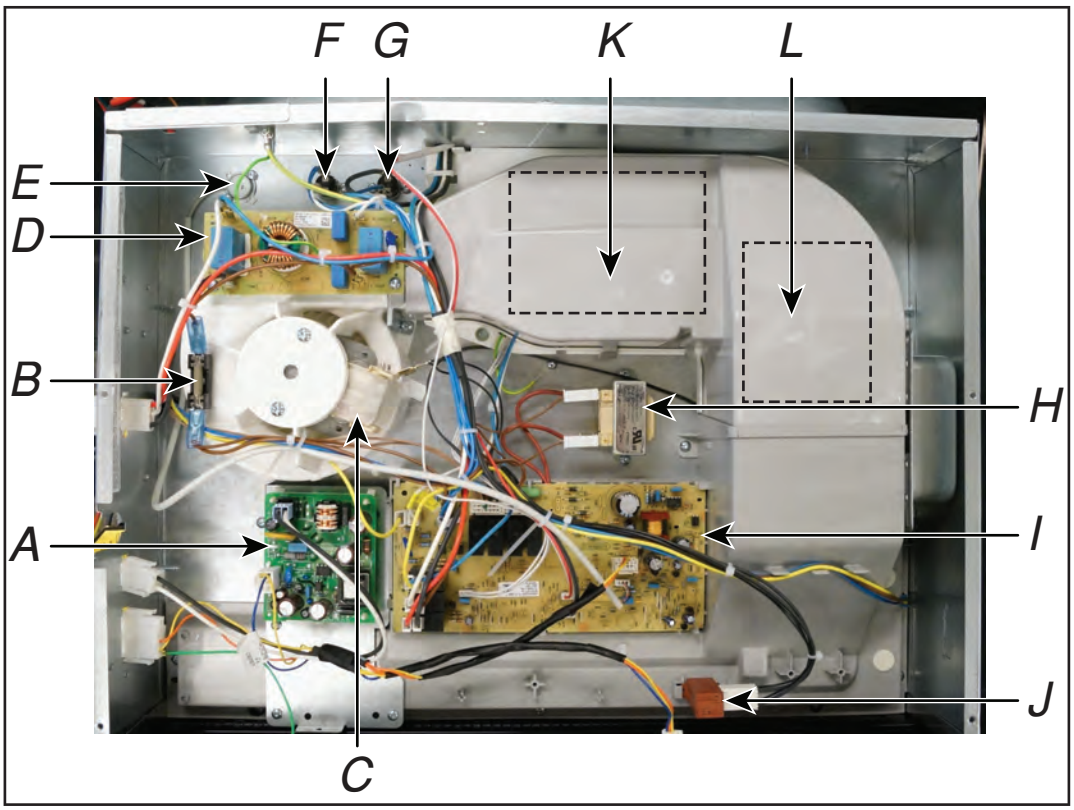
5. After sliding the cover panel out, access the Microwave Oven Appliance Manager board.



6. Remove the Appliance Manager mounting screws and electrical connections and remove the board.



Components Under the Top Service Cover



A. Switch Mode Power Supply Board
B. Line Fuse
C. Cooling Fan Motor
D. L1 Filter Board
E. Humidity Sensor
F. Cavity Thermostat
G. Grill Thermostat
H. MW Light Transformer
I. Microwave Appliance Manager
J. Convection Thermoactuator
K. Inverter Board
L. Magnetron Tube

Removing the Lower Oven Appliance Manager Board

⚠ WARNING

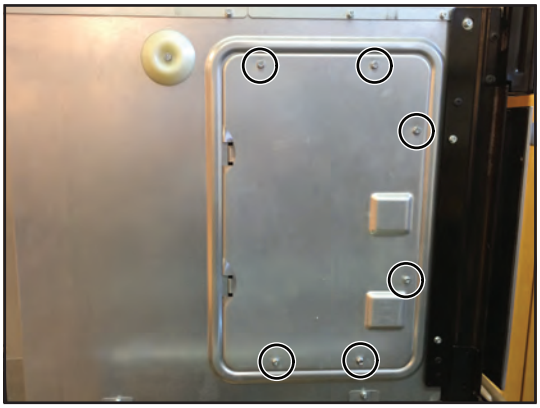
Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

1. Pull oven out of the cabinet approximately 14" (35.56 cm) to expose the Lower Oven Appliance Manager Access cover on the left side of the oven cabinet.
2. Remove six (6) mounting screws from the cover and remove the cover.



3. Under the cover is the Lower Oven Appliance Manager and the 20 A line fuse. Remove the electrical connections and four (4) mounting screws securing the Appliance Manager Board, carefully remove Board.

Components Serviced From the Back of the Main Oven

⚠ WARNING

Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

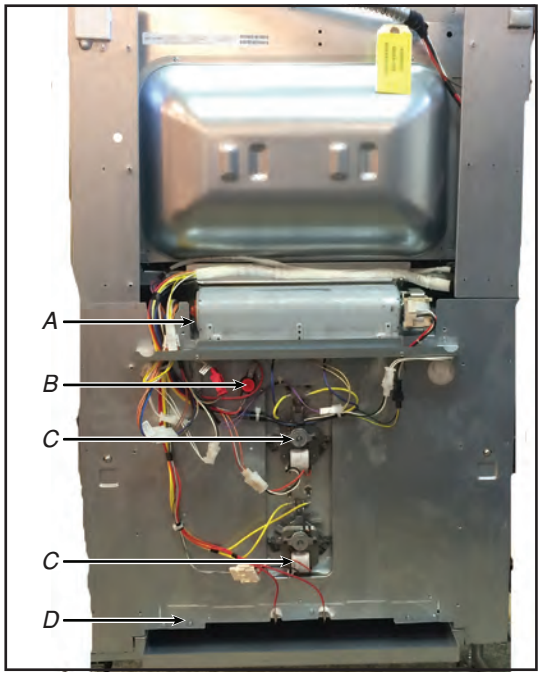
⚠ WARNING

Excessive Weight Hazard

Use two or more people to move and install oven.

Failure to do so can result in back or other injury.

1. The oven will need to be completely removed from the cabinet.



A. Exhaust Blower Motor
B. Oven Shutdown Thermal Fuse
C. Convection Motors
D. Bake Element

Removing the Exhaust Blower Motor and Fan Assembly

⚠ WARNING

Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

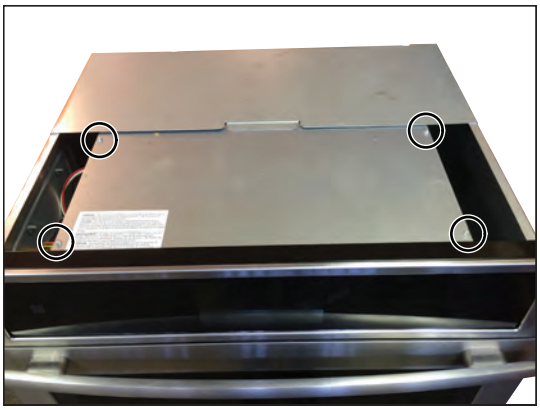
⚠ WARNING

Excessive Weight Hazard

Use two or more people to move and install oven.

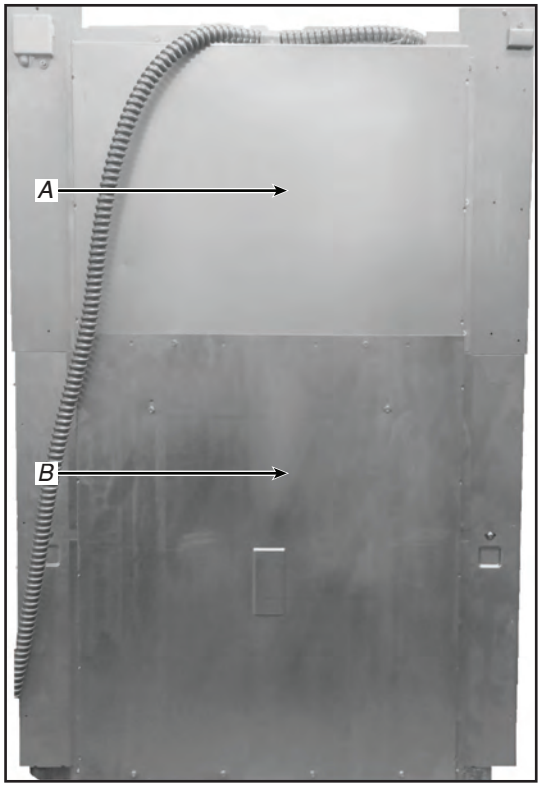
Failure to do so can result in back or other injury.

1. The oven will need to be completely removed from the cabinet.
2. Remove the screws that mount the top three service covers and remove the covers.



3. The two (2) back service covers (behind the oven) will need to be removed. Locate the mounting screws and remove both covers.

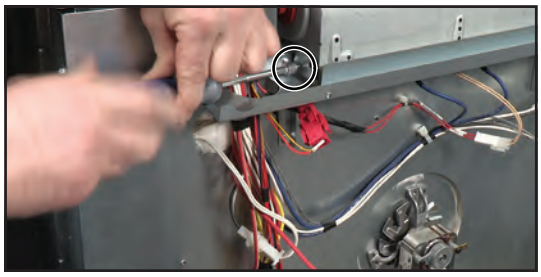
The two (2) back service covers (behind the oven).



A. Top Back Cover

B. Bottom Back Cover

4. The blower motor and fan assembly is now completely exposed. Remove the electrical connection to the motor. Remove two Blower Assembly mounting screws from each side of the assembly and remove the assembly.



Removing the Oven Shutdown Thermal Fuse From the Main Oven

⚠ WARNING

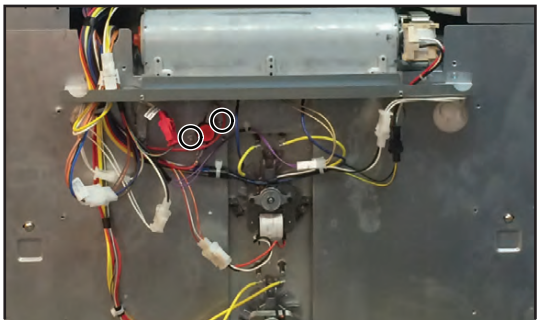
Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

1. Remove two (2) mounting screws and remove the fuse.



NOTE: Before replacing this fuse make sure you know what condition made this fuse fail and correct it.

Removing the Hidden Bake Element

⚠ WARNING

Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

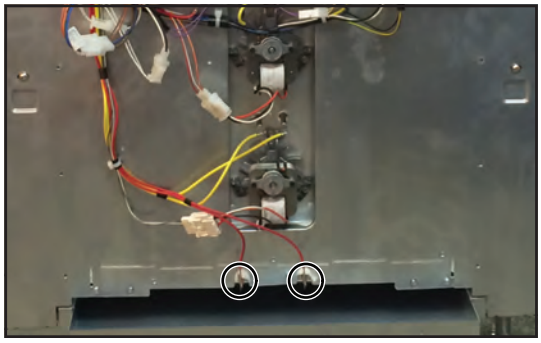
⚠ WARNING

Excessive Weight Hazard

Use two or more people to move and install oven.

Failure to do so can result in back or other injury.

1. At the back of the oven remove the lower oven back service panel. Locate the bake element terminals near the bottom of the oven (Red Wires). Remove the two electrical connections from the element.



2. A perforated cover is mounted in place with three (3) screws. Remove the screws and bend the cover upward.
3. Under the cover you will locate and remove two bake element mounting screws.
4. Between the bake element terminals is a rectangular clip that needs to be bent upward far enough to free the element from the housing.

NOTE: When pulling the element out, there will be some resistance because of the element coils. lift the coils upward to free the element.

Removing Main Oven Convection Components

⚠ WARNING

Electrical Shock Hazard

Disconnect power before servicing.

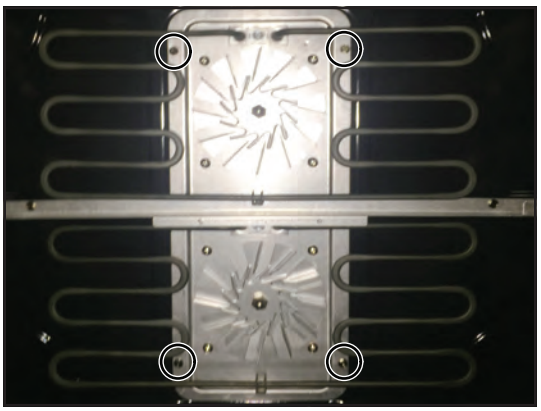
Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

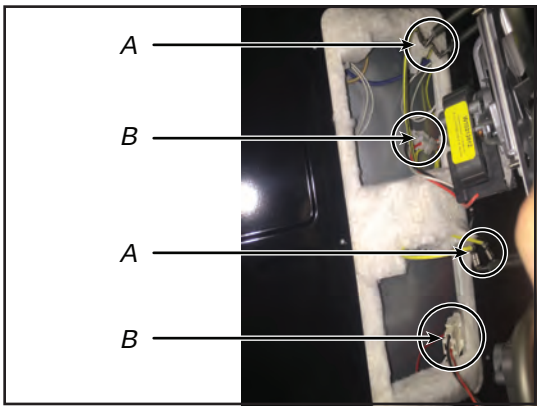
Removing the Main Oven Convection Fan Blade

1. From inside the oven, remove 8-10 mounting screws around the Convection cover. Remove the Convection cover and pull out of the oven.

2. After you remove the convection cover from the back of the oven, You can see that the heating element and fan blades are accessable.
3. Remove four (4) screws from around the silver panel and pull the heating element and silver panel out toward you. The assembly will not move too far until you disconnect the six (6) electrical connections.



4. When One (1) quick disconnect plug from each motor and two (2) spade terminal connections for the heating element are removed, then the assembly can be removed from the oven.

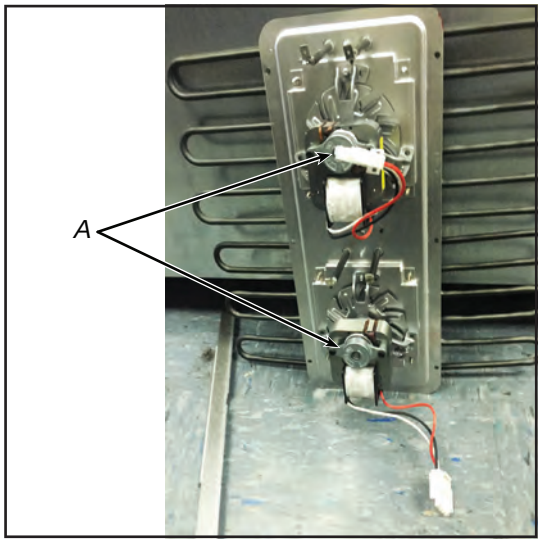


A. Heating Element

B. Quick Disconnect Plug

Removing the Convection Motor

1. Once the heating element and motor are disconnected, pull the assembly out of the oven cavity. At the back of the assembly you will see your convection motors. The motors are mounted from the front of the silver panel and the fan blade.



A. Convection Motor

Removing the Oven Door

⚠ WARNING

Electrical Shock Hazard

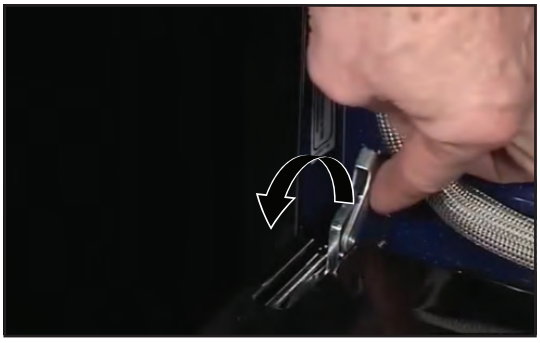
Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

NOTE: It may be easier servicing the next few components with the oven door and oven racks removed.

1. Open the oven door. At the two door hinge locations will be a hinge lock retainer. Lift the hinge retainers all the way to the stop position.



2. Grasp the door at each side and close the door until it stops.

3. Once it stops, push the upper portion of the door toward the oven cavity and the hinges will release. Set the door aside.

Removing the Oven Light Assembly (One on Each Side of Oven)

⚠ WARNING

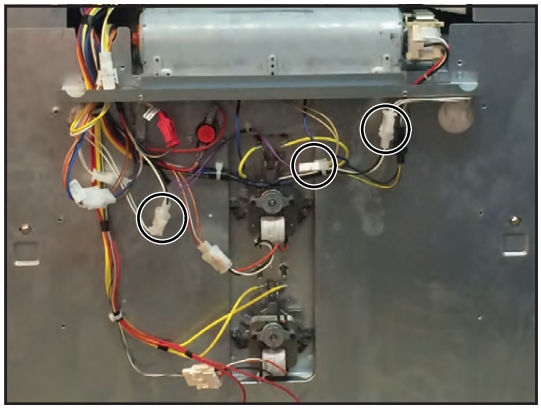
Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

1. Remove the electrical quick disconnect three (3) plug at the back of the oven.



2. From the inside of the oven cavity unsnap the light lens and light bulb (3 interior lights) and snap the light assemble out. Pull (fish) the wire harness from the back.

Removing the Broil Element

⚠ WARNING

Electrical Shock Hazard

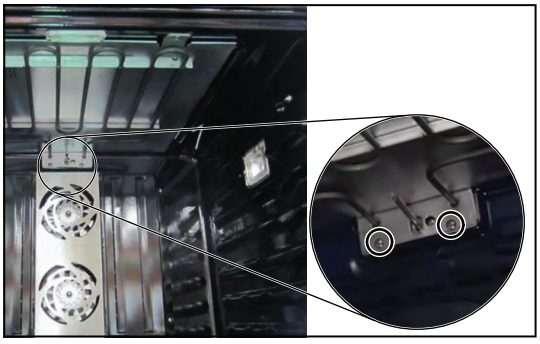
Disconnect power before servicing.

Replace all parts and panels before operating.

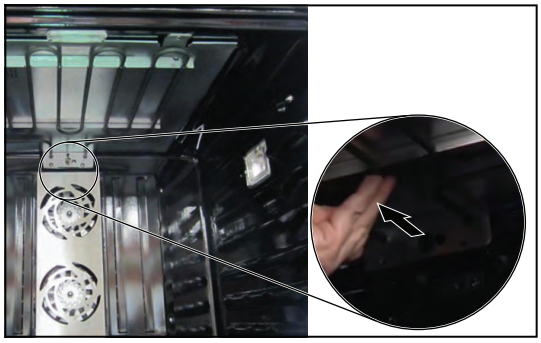
Failure to do so can result in death or electrical shock.

1. At the front of the broil element is a broil guard mounted with two (2) screws. Remove the guard (the front of the element will drop down a few inches).

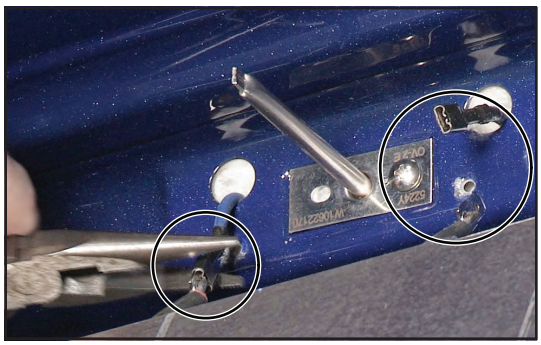
2. From the back of the oven, remove two (2) broil element mounting screws.



3. Pull the element into the oven to get the wiring harness connections to enter the oven from the back.



4. Remove the electrical connections but make sure the harness does not exit the oven cavity.



Removing the Oven Sensor

⚠ WARNING

Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

NOTE: The Broil Element will need to be removed to access the Sensor mounting bracket.

1. Remove the screw mounting the oven sensor and pull the sensor into the oven far enough that the sensor quick disconnect plug enters the oven cavity.

2. Remove the electrical connection but make sure the connector does not exit the oven cavity.

Removing the Probe Jack Assembly

⚠ WARNING

Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

⚠ WARNING

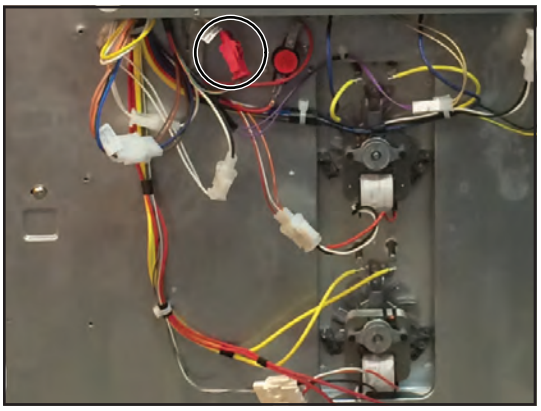
Excessive Weight Hazard

Use two or more people to move and install oven.

Failure to do so can result in back or other injury.

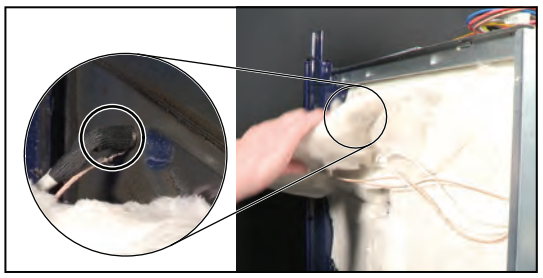
1. From inside the oven (right side wall) remove a nut that mounts the jack in place.

2. From behind the oven remove the back service panel and disconnect the probe electrical connection.



3. From the right side of the oven remove the side insulation cover (top front and rear service covers are also removed).

Back of Oven with the rear service panel and the right side Insulation Cover panel removed



4. Pull the insulation back to expose the jack assembly and pull (fish) the jack wiring harness out as shown in above figure.

Removing the Door Latch and Oven Light Switch Assembly

⚠ WARNING

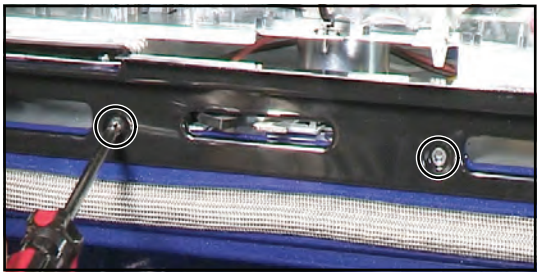
Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

1. Open the oven door to expose the vent trim located above the oven door opening.
2. Remove four (4) mounting screws and remove the vent.
3. Locate and remove two (2) Latch Assembly mounting screws at the front of the assembly.



Picture shown above with the Appliance Manager mounting support removed for clarity.

4. Push the Latch Assembly back and up to release it from a mounting tab at the back.
5. Once removed from the tab, pull the assembly out the front.

Removing Microwave Oven Convection Parts

⚠ WARNING

Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

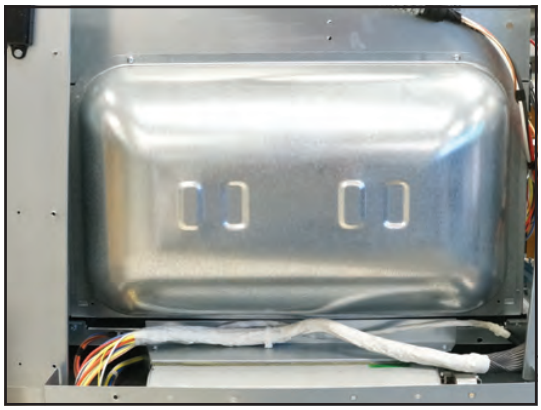
⚠ WARNING

Excessive Weight Hazard

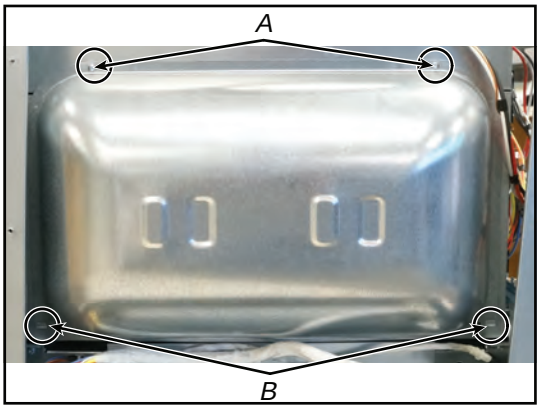
Use two or more people to move and install oven.

Failure to do so can result in back or other injury.

1. All components are accessed from the back of the oven. To gain access to the Microwave Convection parts, the Oven will need to be removed from the installation.
2. Remove the top access panel and the rear access panel to uncover the dome shaped panel that contains all the convection parts.



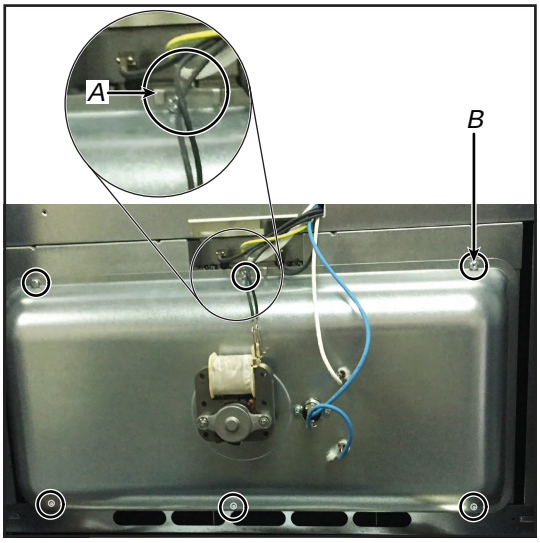
3. Remove the dome shaped panel that is held in place with two (2) T10 Torx®† screws at the top of the panel and two (2) tabs at the bottom.



A. T10 Torx Screw
B. Tab

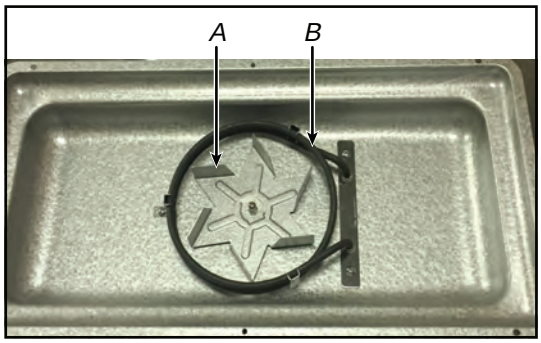
4. The motor mounting panel has the fan motor, and the Convection Thermo parts showing with all the wire connections for the convection parts available. You are able to access and remove the convection Thermo disc, but the second dome shaped panel will need to be remove to gain access to the remaining parts.

5. Remove six (6) T-20 mounting screws and a retainer clip to remove the motor mounting panel



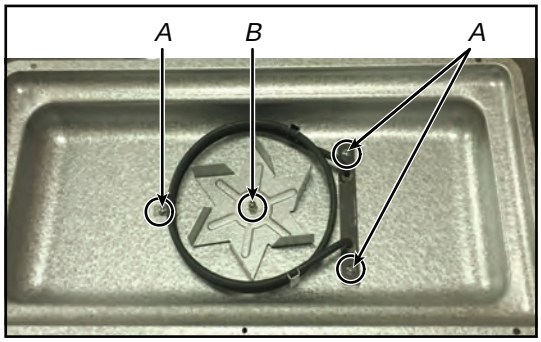
A. Retainer Clip
B. T-20 Mounting Screws

6. With the mounting panel removed, turn the panel over to view the Convection Fan and Convection burner element.



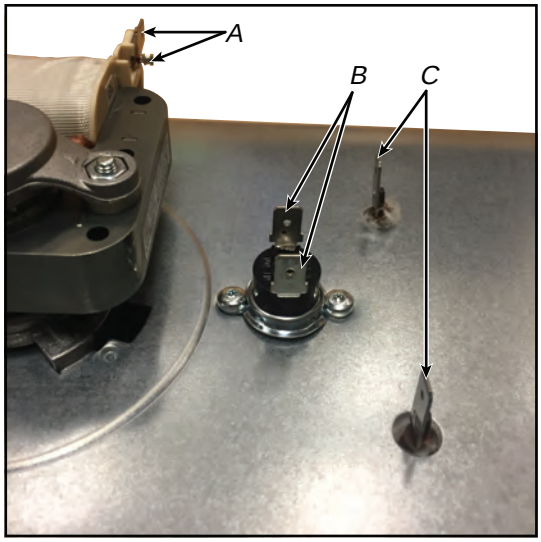
A. Convection Fan
B. Convection Burner Element

7. The Fan is held in place by a 5/16" cap nut.
NOTE: This nut has reverse threads. Under the fan is a spacer that needs to be in place when re-assembling the assembly. The convection element is held in place by three (3) mounting screws.



A. Mounting Screws
B. 5/16" Cap Nut

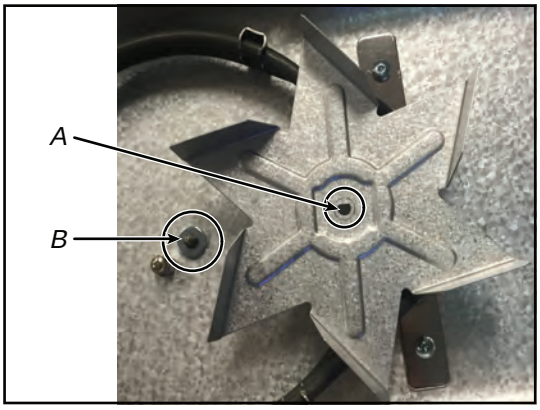
8. The electrical component terminals for the Fan Motor, Convection Thermo and element are shown:



A. Fan Motor
B. Convection Thermo
C. Element

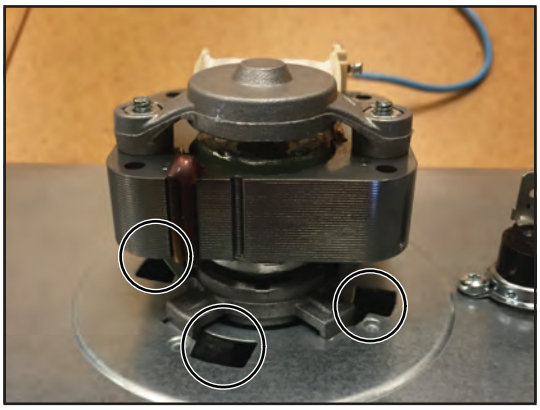
†®Torx and T10 are registered trademarks of Acument Intellectual Properties, LLC.

9. To remove the Fan Motor, you need to remove the Fan Blade (the fan blade has a “D” shaft cutout on the fan blade for easy re-assembly).

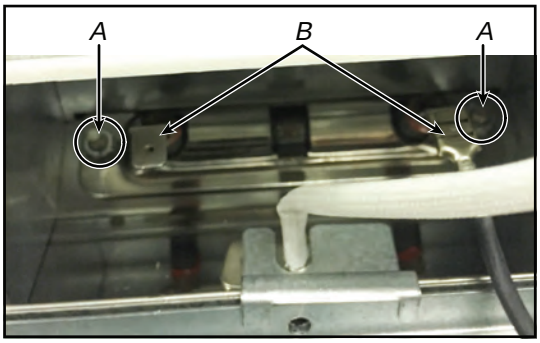


A. D-Shaft Cutout
B. Cap Nut

10. The motor is held in place by the fan Blade cap nut and three (3) retainer clips that fit into the motor tab cutout in the mounting panel. Drop the fan clips into the mounting holes and turn until all three motor clamps are in place.



11. The broil element located inside the oven cavity is held in place by two (2) retainer nuts. The Broil electrical terminals can be seen right next to the mounting screws.



A. Retainer Nuts
B. Broil Electrical Terminals

Removing the Humidity Sensor

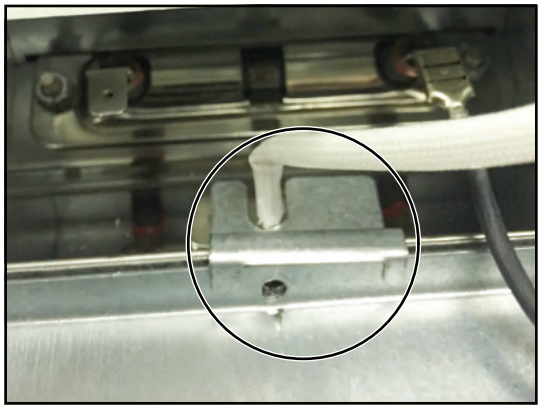
⚠ WARNING

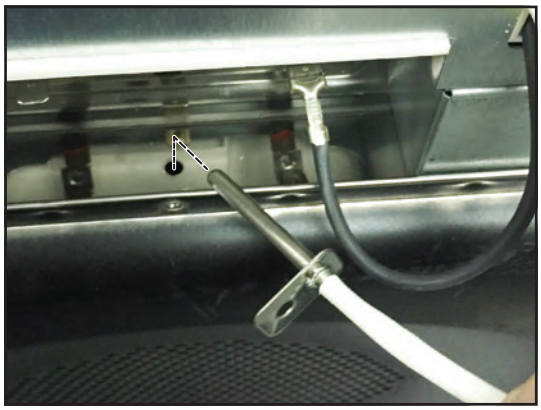
Electrical Shock Hazard
Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

⚠ WARNING

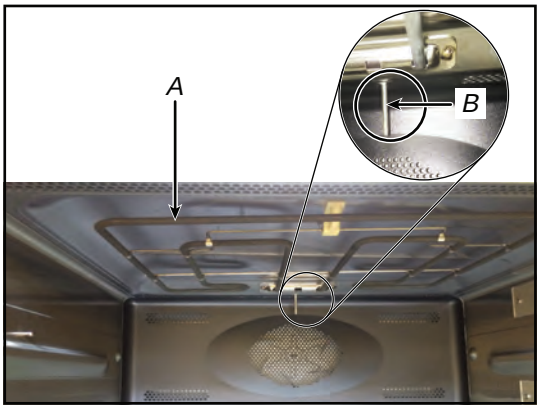
Excessive Weight Hazard
Use two or more people to move and install oven.
Failure to do so can result in back or other injury.

1. Below figure is the Humidity sensor mounting. To remove the sensor, remove the retainer clip and pull the sensor out.





2. Below, from inside the oven cavity. The Broil element is shown at the top of the cavity and the Humidity sensor is shown at the back of the oven suspended from the ceiling.



A. Broil Element
B. Humidity Sensor

PRODUCT SPECIFICATIONS AND WARRANTY INFORMATION SOURCES

IN THE UNITED STATES:

FOR PRODUCT SPECIFICATIONS AND WARRANTY INFORMATION CALL:

FOR KITCHENAID PRODUCTS: 1-800-253-1301

FOR TECHNICAL ASSISTANCE WHILE AT THE CUSTOMER'S HOME CALL:

THE TECHNICAL ASSISTANCE LINE: 1-800-832-7174

HAVE YOUR STORE NUMBER READY TO IDENTIFY YOU AS AN AUTHORIZED IN-HOME SERVICE PROFESSIONAL

FOR LITERATURE ORDERS (CUSTOMER EXPERIENCE CENTER):

PHONE: 1-800-851-4605

FOR TECHNICAL INFORMATION AND SERVICE POINTERS:

www.servicematters.com

IN CANADA:

FOR PRODUCT SPECIFICATIONS AND WARRANTY INFORMATION CALL:

1-800-461-5681

FOR TECHNICAL ASSISTANCE WHILE AT THE CUSTOMER'S HOME CALL:

THE TECHNICAL ASSISTANCE LINE: 1-800-488-4791

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