

Convection Steam Oven Service Manual

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General Information

GENERAL INFORMATION

SERVICE MANUAL INTRODUCTION

This technical service manual information assists with troubleshooting and diagnosing malfunctions, completion of repairs, and return of the product to proper operational condition. Read the complete instructions contained within before initiating any repairs.

This guide is intended for use by Factory Certified Service. Wolf Appliance, Inc. recommends that repairs be performed by Factory Certified Service only.

Warning and Caution product safety labels appear throughout this manual. Product safety labels appear at the beginning of some sections. Follow the instructions in the product safety labels to avoid personal injury and/or product damage. The sample safety labels explain the types of notices that appear in this manual.

⚠ WARNING

States a hazard that may cause serious injury or death if precautions are not followed.

⚠ CAUTION

Indicates minor injury or product damage may occur if instructions are not followed.

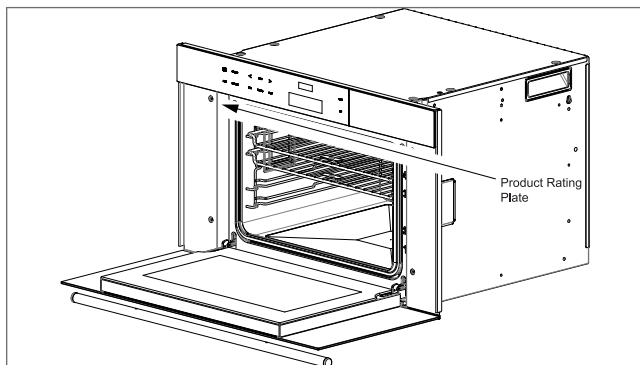
IMPORTANT NOTE: Highlights especially important information.

TIP: Indicates additional, useful information.

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WOLF PRODUCT RATING PLATE INFORMATION

On the CSO, the rating plate with the serial number is located on the left hand side trim inside the door.



Important information for each product is listed on the product rating plate. Rating plates identify:

- Model
- Serial number
- Electrical information, including current draw



MODEL DESCRIPTIONS AND SALES ACCESSORIES

For more details on individual model descriptions and a listing of all compatible sales accessories, see the [Sub-Zero Distributor Price List](#).

CSO MODEL KEY

| Description | Model Character |
|------------------------------|------------------------------|
| Convection Steam Oven | CSO |
| Nominal Width | 24" and 30" |
| Trim Style T | Transitional |
| Trim Style P | Professional |
| Trim Style C | Contemporary |
| Matching Oven Trim E | E Series Ovens |
| Matching Oven Trim M | M Series Ovens |
| Metal Type | /S for Stainless Steel |
| Metal Type | /B for Black |
| | /TH for Tubular Handles |
| Stainless Steel Handle Style | /PH for Professional Handles |
| International Designation | ICB |

PRODUCT USE AND CARE AND INSTALLATION GUIDES

Product Use and Care Guides, Installation Guides, and other product specifications are available in the [Product Specifications and Manuals Library](#).



General Information

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UNIT WARRANTY

Product warranty is determined by the installation location and the date of installation.

- View product warranties at <http://service.subzero.com/ClaimsAndOrderProcessing/Pages/WarrantyInfo>.
- Warranties start on the day of product installation.
- Search for warranty and service information by serial number, customer last name, and address using Unit History at <http://service.subzero.com/Tools/UnitHistory>.

Cavity Component Removal and Installation

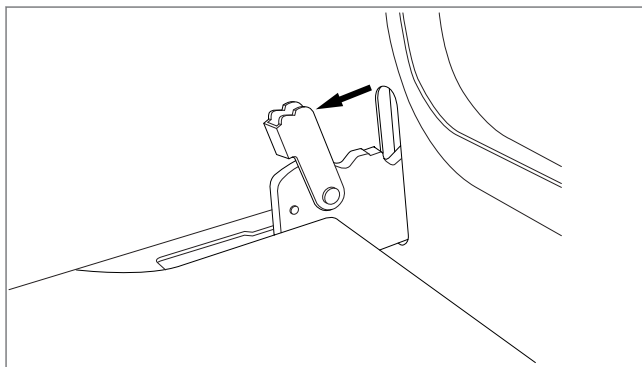
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CAVITY COMPONENT REMOVAL AND INSTALLATION

DOOR REMOVAL

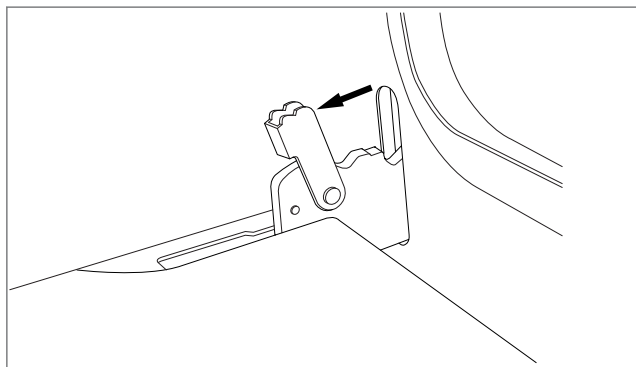
Remove the Door

- 1 Open the door.
- 2 Rotate the hinge retainer clip on each hinge forward until the hinge retainer clip stops.
- 3 Close the door until the door stops against the hinge retainer clips.
- 4 Grasp the door toward the top on each side.
- 5 Push the top of the door toward closing, while rotating the bottom of the door away from the unit.
- 6 Remove the door from the unit.



Remove the Door

- 1 Open the door.
- 2 Rotate the hinge retainer clip on each hinge forward until the hinge retainer clip stops.
- 3 Close the door until the door stops against the hinge retainer clips.
- 4 Grasp the door toward the top on each side.
- 5 Push the top of the door toward closing, while rotating the bottom of the door away from the unit.
- 6 Remove the door from the unit.



DOOR INSTALLATION

Install the Door

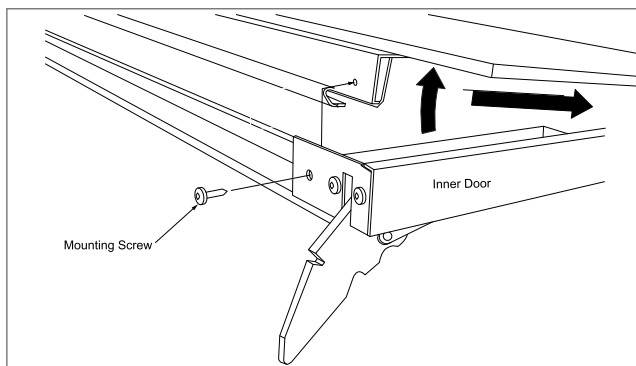
- 1 Holding the door at a 45° angle, insert the door hinges into the hinge slots.
- 2 Lower the oven door until the oven door stops.
- 3 Pull the door to the open position.
- 4 Rotate the hinge retainer clips on each hinge backward until the hinge retainer clips stop.
- 5 Test the door.

DOOR FRONT OR INNER DOOR REMOVAL

To remove the door front, first remove the door.

Remove the Door Front or the Inner Door

- 1 Place the door on a padded surface, handle side down.
- 2 Use a T-10 Torx bit to remove the left and right inner door mounting screws.
- 3 Lift the bottom of the door front.
- 4 Push the door front toward the top of the inner door.
- 5 The door front and inner door are separated. Remove the door front or the inner door.



Cavity Component Removal and Installation

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DOOR FRONT OR INNER DOOR INSTALLATION

Install the Door Front or Inner Door

- 1 Place the upper and lower gaskets onto the inner door.
- 2 Place the door front onto the inner door above the inner door bracket.
- 3 Lift the bottom of the door front above the lower bracket of the inner door.
- 4 Pull the door front down over the inner door bracket.
- 5 Use a T-10 Torx bit to install the left and right inner door mounting screws.

Install the Door

- 1 Holding the door at a 45° angle, insert the door hinges into the hinge slots.
- 2 Lower the oven door until the oven door stops.
- 3 Pull the door to the open position.
- 4 Rotate the hinge retainer clips on each hinge backward until the hinge retainer clips stop.
- 5 Test the door.

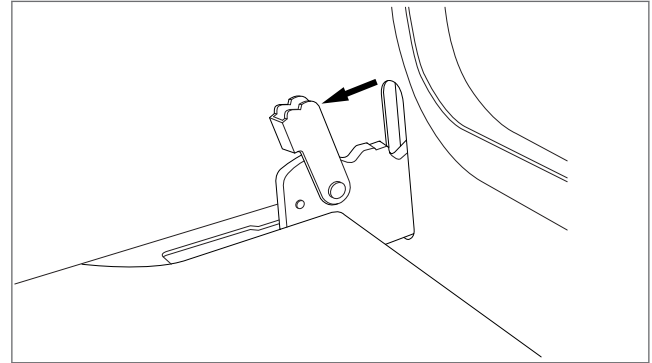
DOOR HANDLE REMOVAL

To remove the door handle, first remove the door, then separate the door front and the inner door.

Remove the Door

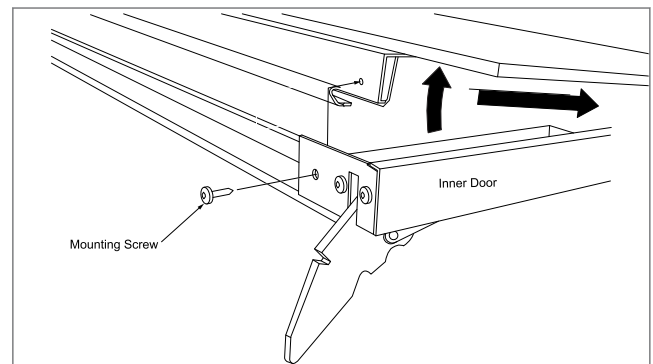
- 1 Open the door.
- 2 Rotate the hinge retainer clip on each hinge forward until the hinge retainer clip stops.
- 3 Close the door until the door stops against the hinge retainer clips.
- 4 Grasp the door toward the top on each side.
- 5 Push the top of the door toward closing, while rotating the bottom of the door away from the unit.

- 6 Remove the door from the unit.



Remove the Door Front or the Inner Door

- 1 Place the door on a padded surface, handle side down.
- 2 Use a T-10 Torx bit to remove the left and right inner door mounting screws.
- 3 Lift the bottom of the door front.
- 4 Push the door front toward the top of the inner door.
- 5 The door front and inner door are separated. Remove the door front or the inner door.



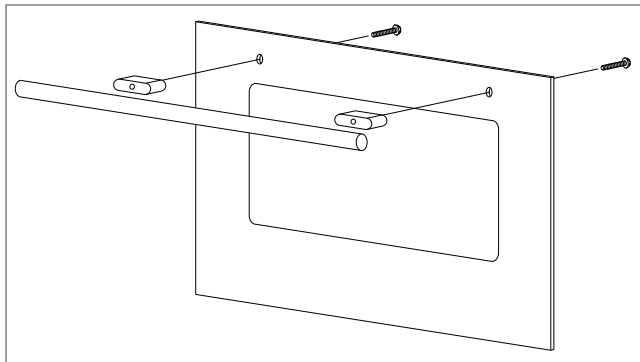
Remove the Door Handle

- 1 Use a T-25 Torx bit to remove the handle mounting screws.

Cavity Component Removal and Installation

REMOVE THE DOOR HANDLE (continued)

- 2 Remove the handle and handle standoffs from the door front.



DOOR HANDLE INSTALLATION

Install the Door Handle

- 1 Place the door handle and handle standoffs onto the door front.
- 2 Use a T-25 Torx bit to install the handle mounting screws.

Install the Door Front or Inner Door

- 1 Place the upper and lower gaskets onto the inner door.
- 2 Place the door front onto the inner door above the inner door bracket.
- 3 Lift the bottom of the door front above the lower bracket of the inner door.
- 4 Pull the door front down over the inner door bracket.
- 5 Use a T-10 Torx bit to install the left and right inner door mounting screws.

Install the Door

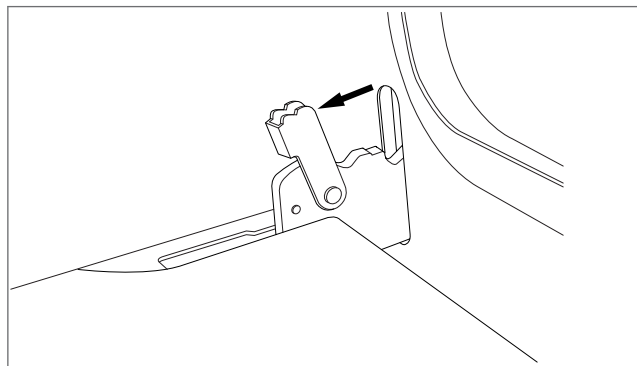
- 1 Holding the door at a 45° angle, insert the door hinges into the hinge slots.
- 2 Lower the oven door until the oven door stops.
- 3 Pull the door to the open position.
- 4 Rotate the hinge retainer clips on each hinge backward until the hinge retainer clips stop.
- 5 Test the door.

INTERMEDIATE DOOR GLASS REMOVAL

To remove the intermediate door glass, first remove the door, then separate the door front and the inner door.

Remove the Door

- 1 Open the door.
- 2 Rotate the hinge retainer clip on each hinge forward until the hinge retainer clip stops.
- 3 Close the door until the door stops against the hinge retainer clips.
- 4 Grasp the door toward the top on each side.
- 5 Push the top of the door toward closing, while rotating the bottom of the door away from the unit.
- 6 Remove the door from the unit.



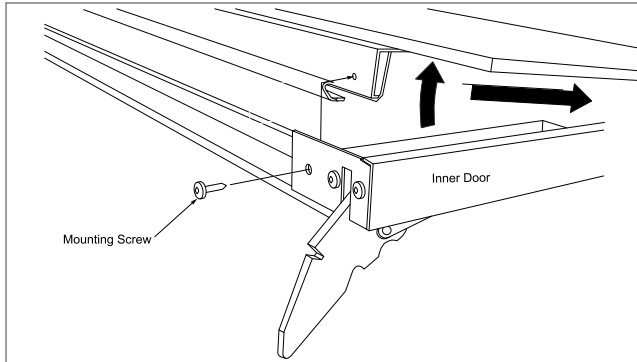
Remove the Door Front or the Inner Door

- 1 Place the door on a padded surface, handle side down.
- 2 Use a T-10 Torx bit to remove the left and right inner door mounting screws.
- 3 Lift the bottom of the door front.
- 4 Push the door front toward the top of the inner door.

Cavity Component Removal and Installation

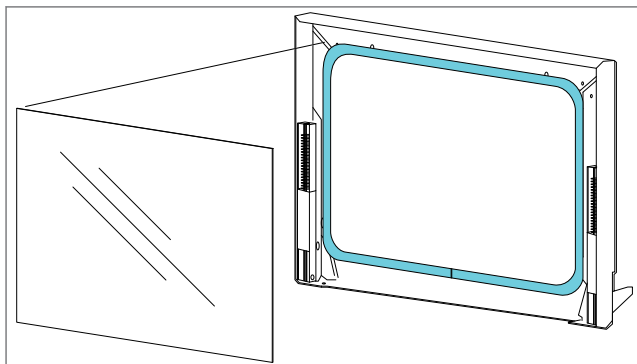
REMOVE THE DOOR FRONT OR THE INNER DOOR (continued)

- 5 The door front and inner door are separated. Remove the door front or the inner door.



Remove the Intermediate Door Glass

- 1 Use pliers to straighten the glass retainer tabs.
- 2 Remove the intermediate door glass from the inner door.
- 3 Remove the gasket if necessary.



INTERMEDIATE DOOR GLASS INSTALLATION

Install the Intermediate Door Glass

- 1 Install the gasket if removed.
- 2 Place the intermediate door glass on the inner door.
- 3 Use pliers to bend the glass retainer tabs over the intermediate door glass.

Install the Door Front or Inner Door

- 1 Place the upper and lower gaskets onto the inner door.
- 2 Place the door front onto the inner door above the inner door bracket.

- 3 Lift the bottom of the door front above the lower bracket of the inner door.
- 4 Pull the door front down over the inner door bracket.
- 5 Use a T-10 Torx bit to install the left and right inner door mounting screws.

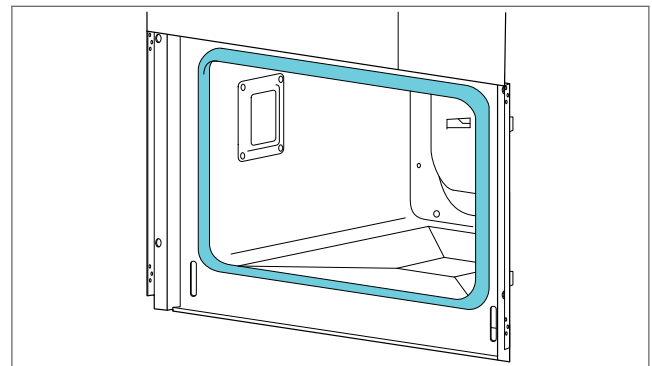
Install the Door

- 1 Holding the door at a 45° angle, insert the door hinges into the hinge slots.
- 2 Lower the oven door until the oven door stops.
- 3 Pull the door to the open position.
- 4 Rotate the hinge retainer clips on each hinge backward until the hinge retainer clips stop.
- 5 Test the door.

DOOR SEAL REMOVAL

Remove the Door Seal

- 1 Open the oven door.
- 2 Pull the door seal from the channel around the oven door.



DOOR SEAL INSTALLATION

Install the Door Seal

Insert the door seal in the channel around the oven door.

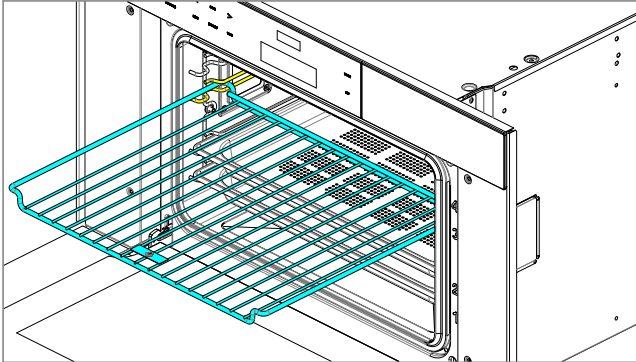
Cavity Component Removal and Installation

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RACK REMOVAL

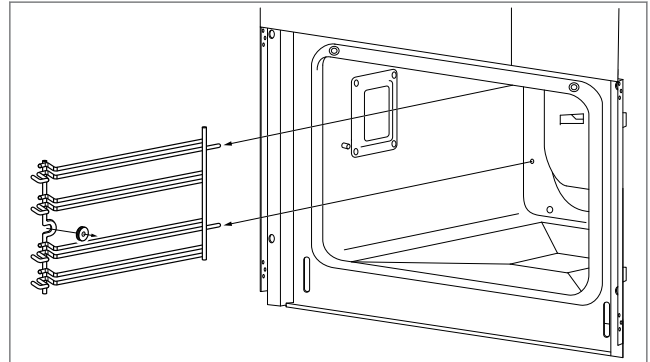
Remove the Rack

Pull the rack forward out of the unit.



Remove the Rack Guide

- 1 Remove the rack guide nut.
- 2 Pull the front of the rack guide toward the center of the oven.
- 3 Pull the rack guide forward out of the unit.



RACK INSTALLATION

Install the Rack

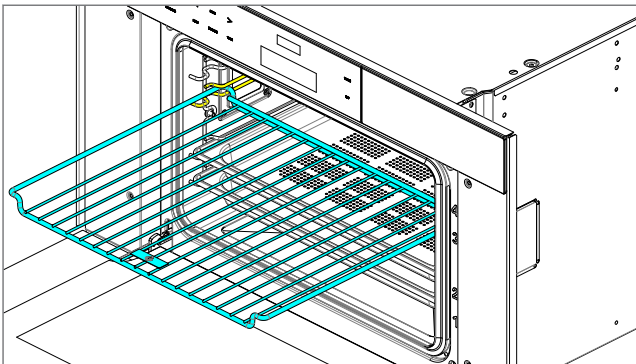
- 1 Insert the rack between the rails of the rack guide.
- 2 Push the rack into the oven.

RACK GUIDE REMOVAL

To remove a rack guide, first remove the racks.

Remove the Rack

Pull the rack forward out of the unit.



RACK GUIDE INSTALLATION

Install the Rack Guide

- 1 Insert the rack guide rails into the rear baffle.
- 2 Place the indent in the rack guide over the rack guide stud.
- 3 Install the rack guide nut.

Install the Rack

- 1 Insert the rack between the rails of the rack guide.
- 2 Push the rack into the oven.

FOOD PROBE COVER REMOVAL

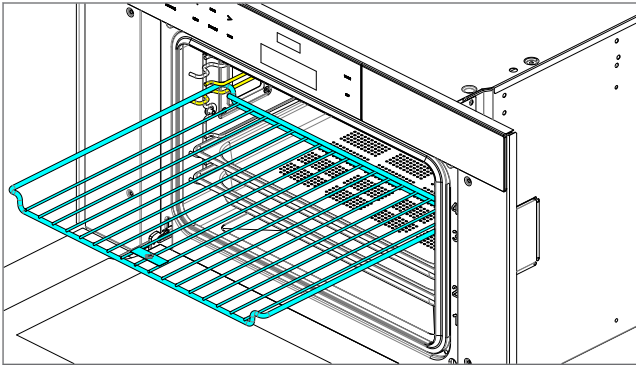
To remove the probe cover, first remove the racks and the right-hand rack guide.

Cavity Component Removal and Installation

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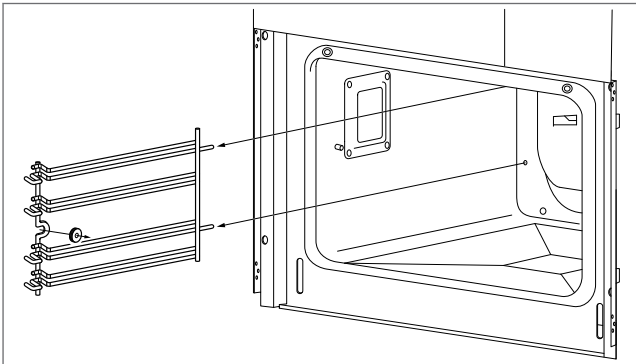
Remove the Rack

Pull the rack forward out of the unit.



Remove the Rack Guide

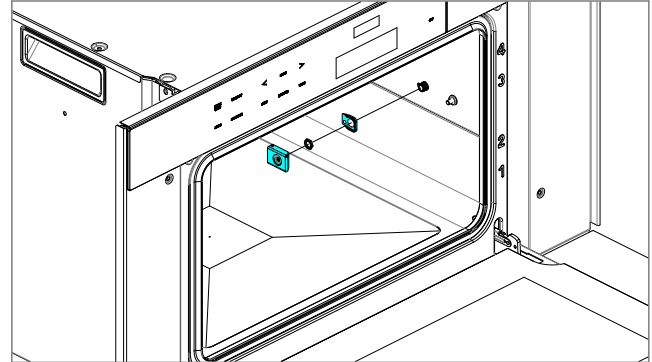
- 1 Remove the rack guide nut.
- 2 Pull the front of the rack guide toward the center of the oven.
- 3 Pull the rack guide forward out of the unit.



Remove the Food Probe Cover

- 1 Lift the food probe cover.
- 2 Use an 11 mm socket to remove the food probe cover nut.

- 3 Remove the food probe cover, nut, and food probe cover seal from the unit.



FOOD PROBE COVER INSTALLATION

Install the Food Probe Cover

- 1 Place the food probe seal onto the food probe cover.
- 2 Place the food probe cover over the food probe switch threads.
- 3 Use an 11 mm socket to install the food probe nut.

Install the Rack Guide

- 1 Insert the rack guide rails into the rear baffle.
- 2 Place the indent in the rack guide over the rack guide stud.
- 3 Install the rack guide nut.

Install the Rack

- 1 Insert the rack between the rails of the rack guide.
- 2 Push the rack into the oven.

HALOGEN LIGHT BULB REMOVAL

⚠ WARNING

Turn off the power to the product before starting this procedure.

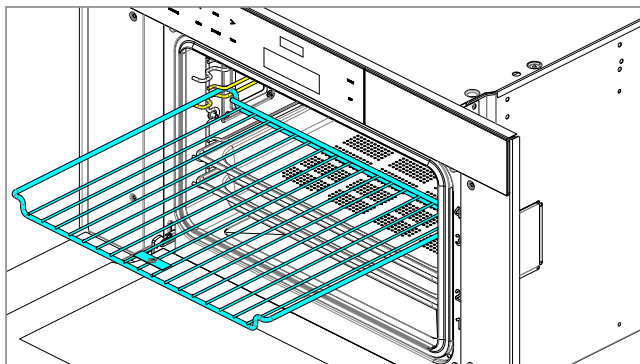
To remove the halogen light bulb, first remove the racks and the left rack guide.

Cavity Component Removal and Installation

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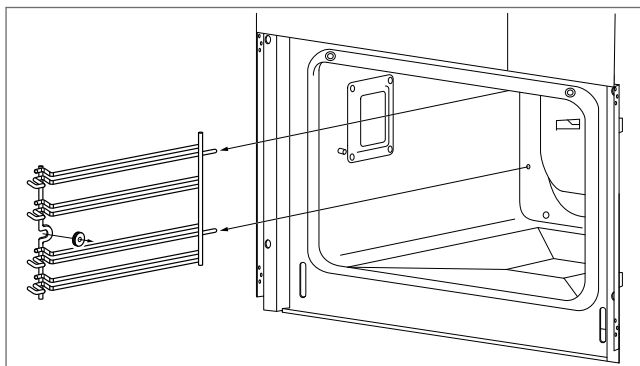
Remove the Rack

Pull the rack forward out of the unit.



Remove the Rack Guide

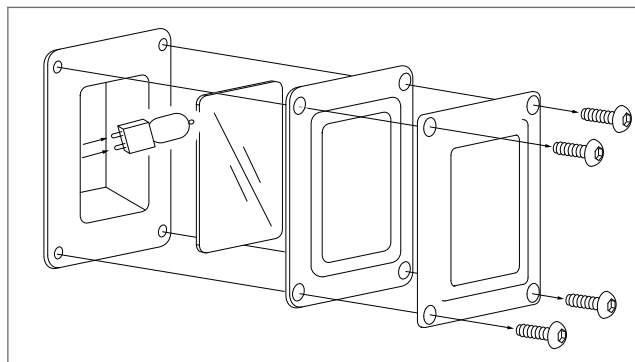
- 1 Remove the rack guide nut.
- 2 Pull the front of the rack guide toward the center of the oven.
- 3 Pull the rack guide forward out of the unit.



Remove the Halogen Light Bulb

- 1 Use a T-20 Torx bit to remove the screws from the oven light frame assembly.
- 2 Remove the oven light frame assembly.
- 3 Remove the oven light safety glass.
- 4 Remove the oven light seal if required.

- 5 Remove the halogen light bulb.



HALOGEN LIGHT BULB INSTALLATION

Install the Halogen Light Bulb

TIP: Use a cloth to install the halogen light bulb. Oil from fingers shortens the life of the halogen light bulb.

- 1 Insert the halogen light bulb into the socket.
- 2 Install the oven light seal into the oven light frame assembly if it was removed.
- 3 Place the oven light safety glass onto the oven light seal.
- 4 Place the oven light safety glass, oven light seal, and oven light frame assembly over the light housing.
- 5 Use a T-20 Torx bit to install the screws into the oven light housing.

Install the Rack Guide

- 1 Insert the rack guide rails into the rear baffle.
- 2 Place the indent in the rack guide over the rack guide stud.
- 3 Install the rack guide nut.

Install the Rack

- 1 Insert the rack between the rails of the rack guide.
- 2 Push the rack into the oven.

REAR Baffle REMOVAL

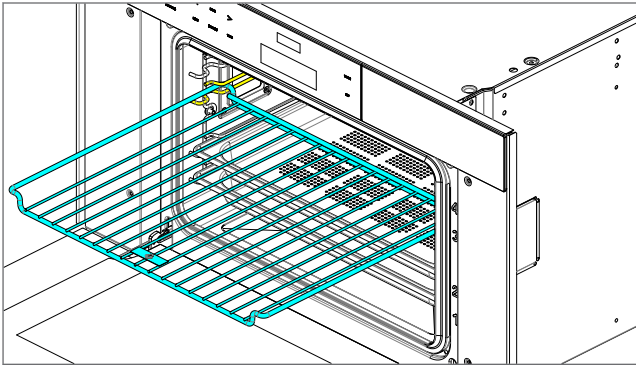
To remove the rear baffle, first remove the racks and rack guides.

Cavity Component Removal and Installation

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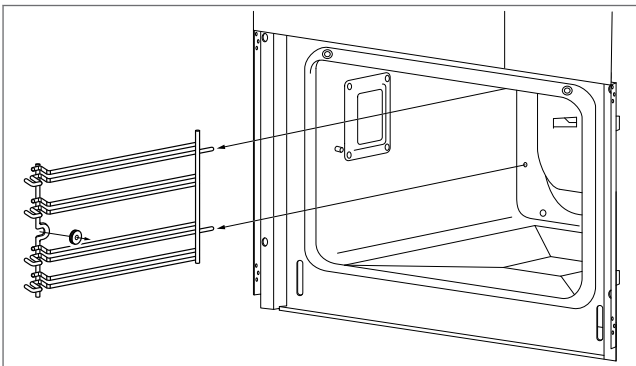
Remove the Rack

Pull the rack forward out of the unit.



Remove the Rack Guide

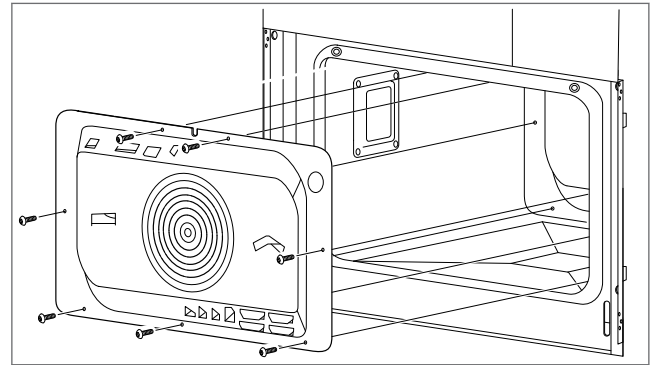
- 1 Remove the rack guide nut.
- 2 Pull the front of the rack guide toward the center of the oven.
- 3 Pull the rack guide forward out of the unit.



Remove the Rear Baffle

- 1 Use a T-20 Torx bit to remove the screws from the rear baffle.

- 2 Remove the rear baffle from the unit.



REAR Baffle INSTALLATION

Install the Rear Baffle

- 1 Place the rear baffle against the back wall of the oven cavity.
- 2 Use a T-20 Torx bit to install the screws into the rear baffle.

Install the Rack Guide

- 1 Insert the rack guide rails into the rear baffle.
- 2 Place the indent in the rack guide over the rack guide stud.
- 3 Install the rack guide nut.

Install the Rack

- 1 Insert the rack between the rails of the rack guide.
- 2 Push the rack into the oven.

HOT AIR FAN BLADE REMOVAL

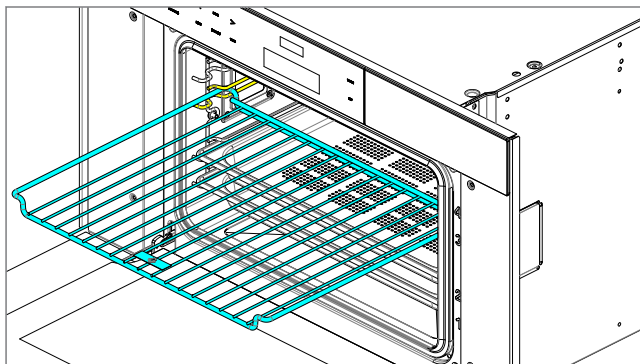
To remove the hot air fan blade, first remove the racks, rack guides, and rear baffle.

Cavity Component Removal and Installation

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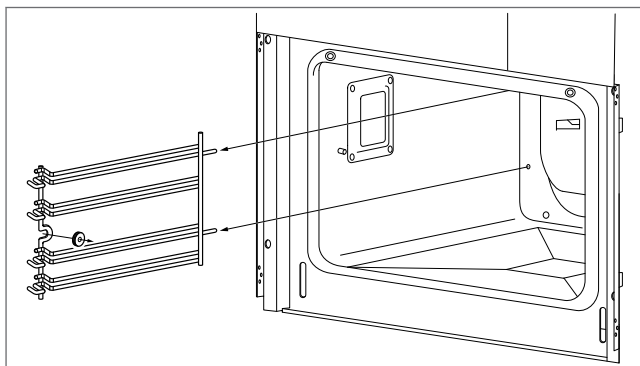
Remove the Rack

Pull the rack forward out of the unit.



Remove the Rack Guide

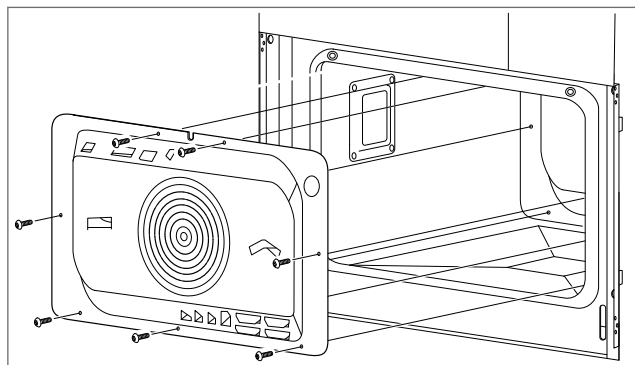
- 1 Remove the rack guide nut.
- 2 Pull the front of the rack guide toward the center of the oven.
- 3 Pull the rack guide forward out of the unit.



Remove the Rear Baffle

- 1 Use a T-20 Torx bit to remove the screws from the rear baffle.

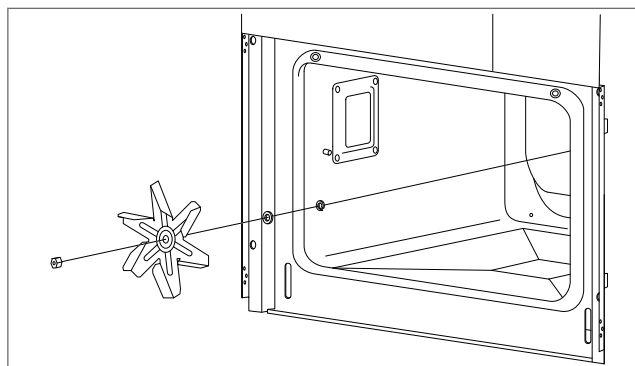
- 2 Remove the rear baffle from the unit.



Remove the Hot Air Fan Blade

TIP: The hot air fan blade nut is reverse threaded.

- 1 Use a 10 mm socket to remove the nut from the hot air fan blade.
- 2 Remove the washer and the hot air fan blade from the unit.
- 3 The washer and C-clip behind the hot air fan blade does not need to be removed unless the convection fan motor is being removed.



HOT AIR FAN BLADE INSTALLATION

Install the Hot Air Fan Blade

- 1 Install the C-clip and washer if they were removed for replacement of the convection fan motor.
- 2 Install the hot air fan blade.
- 3 Install the washer.

TIP: The hot air fan blade nut is reverse-threaded.

Cavity Component Removal and Installation

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INSTALL THE HOT AIR FAN BLADE (continued)

- 4 Use a 10 mm socket to install the nut onto the hot air fan blade.

Install the Rear Baffle

- 1 Place the rear baffle against the back wall of the oven cavity.
- 2 Use a T-20 Torx bit to install the screws into the rear baffle.

Install the Rack Guide

- 1 Insert the rack guide rails into the rear baffle.
- 2 Place the indent in the rack guide over the rack guide stud.
- 3 Install the rack guide nut.

Install the Rack

- 1 Insert the rack between the rails of the rack guide.
- 2 Push the rack into the oven.

ELEMENT REMOVAL

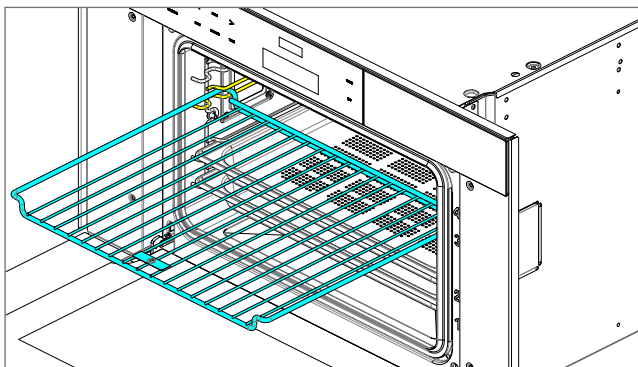
⚠ WARNING

Turn off the power to the product before starting this procedure.

To remove the element, first remove the racks, rack guides, and rear baffle.

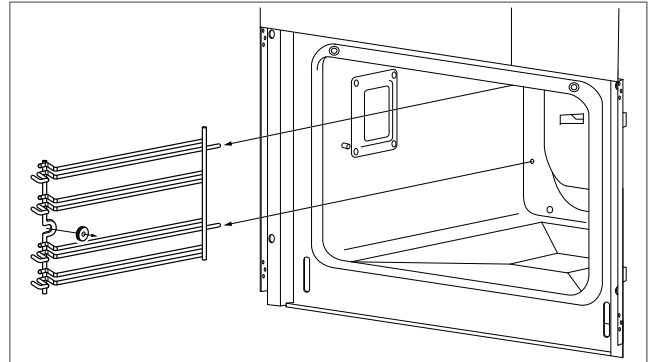
Remove the Rack

Pull the rack forward out of the unit.



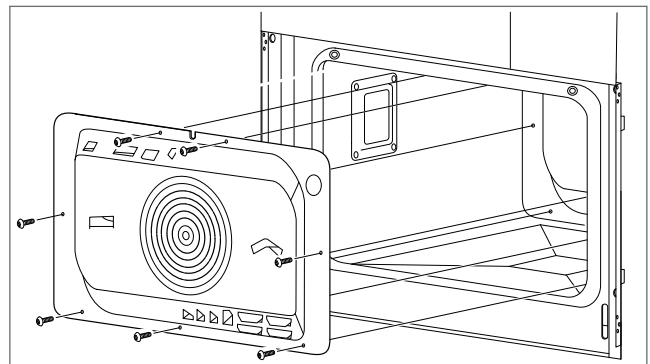
Remove the Rack Guide

- 1 Remove the rack guide nut.
- 2 Pull the front of the rack guide toward the center of the oven.
- 3 Pull the rack guide forward out of the unit.



Remove the Rear Baffle

- 1 Use a T-20 Torx bit to remove the screws from the rear baffle.
- 2 Remove the rear baffle from the unit.



Remove the Element

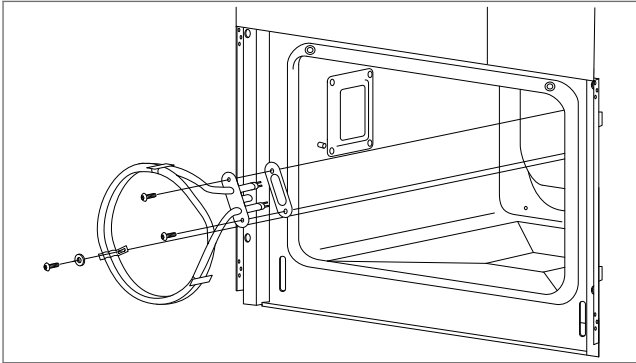
- 1 Use a T-20 Torx bit to remove the screws and washer from the element.
- 2 Pull the element forward and disconnect the electrical wires.
- 3 Remove the gasket seal from the element.

Cavity Component Removal and Installation

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REMOVE THE ELEMENT (continued)

- 4 Remove the element from the unit.



ELEMENT INSTALLATION

Install the Element

- 1 Install the gasket seal onto the element.
- 2 Connect the electrical wires to the element.
- 3 Install the element through the back wall of the oven cavity.
- 4 Use a T-20 Torx bit to install the screws and washer into the element.

Install the Rear Baffle

- 1 Place the rear baffle against the back wall of the oven cavity.
- 2 Use a T-20 Torx bit to install the screws into the rear baffle.

Install the Rack Guide

- 1 Insert the rack guide rails into the rear baffle.
- 2 Place the indent in the rack guide over the rack guide stud.
- 3 Install the rack guide nut.

Install the Rack

- 1 Insert the rack between the rails of the rack guide.
- 2 Push the rack into the oven.

Top Component Removal and Installation

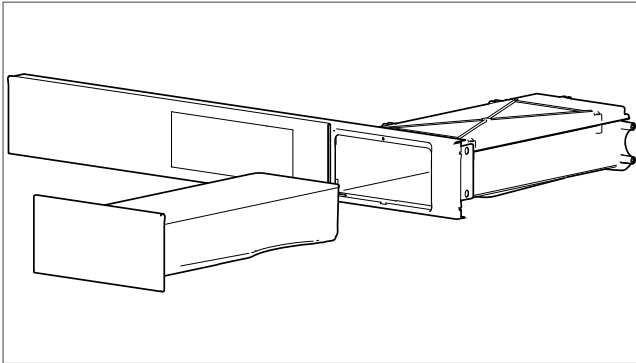
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TOP COMPONENT REMOVAL AND INSTALLATION

WATER TANK REMOVAL

Remove the Water Tank

- 1 Touch Water on the control panel.
- 2 Remove the water tank from the unit.



WATER TANK INSTALLATION

Install the Water Tank Assembly

- 1 Install the water tank into the unit.
- 2 Push the water tank closed.

TOP PLATE REMOVAL

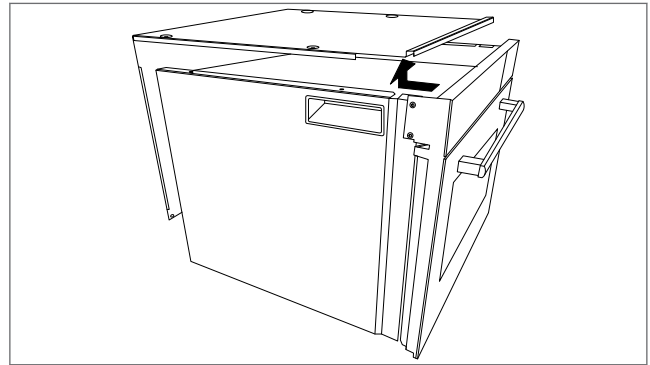
⚠ WARNING

Turn off the power to the product before starting this procedure.

Remove the Top Plate

- 1 Use a T-20 Torx bit to remove the screws from the top and back of the unit.

- 2 Remove the top plate from the unit.



TOP PLATE INSTALLATION

Install the Top Plate

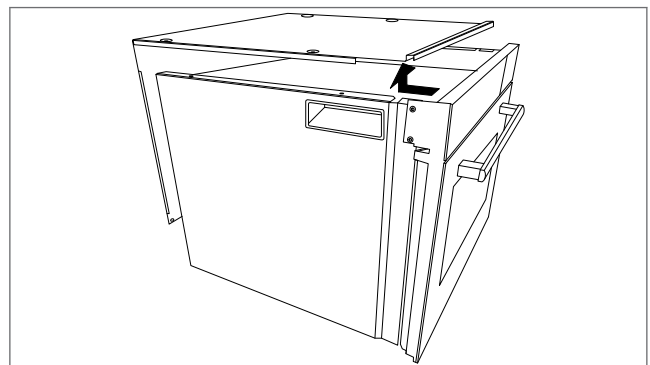
- 1 Place the top plate on the unit.
- 2 Use a T-20 Torx bit to install the screws into the top plate.

DOOR SWITCH REMOVAL

To remove the door switch, first remove the top plate.

Remove the Top Plate

- 1 Use a T-20 Torx bit to remove the screws from the top and back of the unit.
- 2 Remove the top plate from the unit.



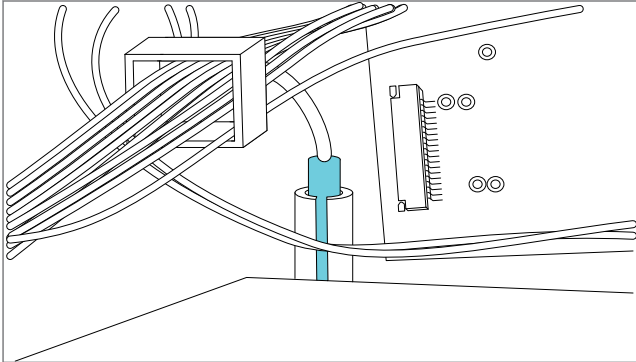
Remove the Door Switch

- 1 Disconnect the door switch electrical connector from the control board.

Top Component Removal and Installation

REMOVE THE DOOR SWITCH (continued)

- 2 Open the door switch bracket tab and remove the door switch from the door switch bracket.



DOOR SWITCH INSTALLATION

Install the Door Switch

- 1 Place the door switch in the door switch bracket.
- 2 Connect the door switch connector to the control board.

Install the Top Plate

- 1 Place the top plate on the unit.
- 2 Use a T-20 Torx bit to install the screws into the top plate.

VALVE ASSEMBLY REMOVAL

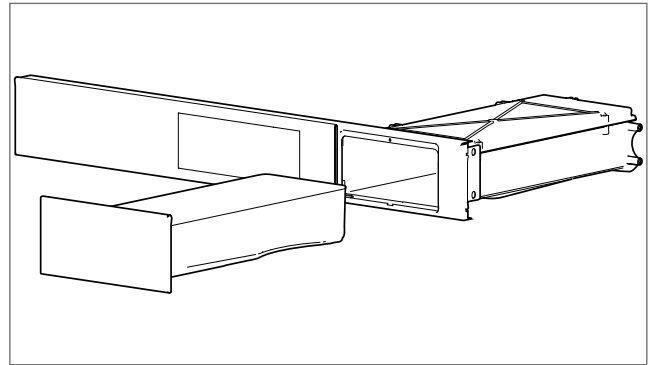
The valve assembly includes the water valve, water tank microswitch, water tank drive motor, and the water tank rail.

To remove the valve assembly, first remove the water tank and the top plate.

Remove the Water Tank

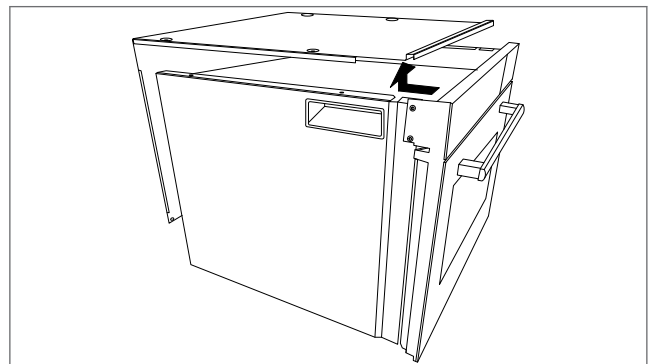
- 1 Touch Water on the control panel.

- 2 Remove the water tank from the unit.



Remove the Top Plate

- 1 Use a T-20 Torx bit to remove the screws from the top and back of the unit.
- 2 Remove the top plate from the unit.



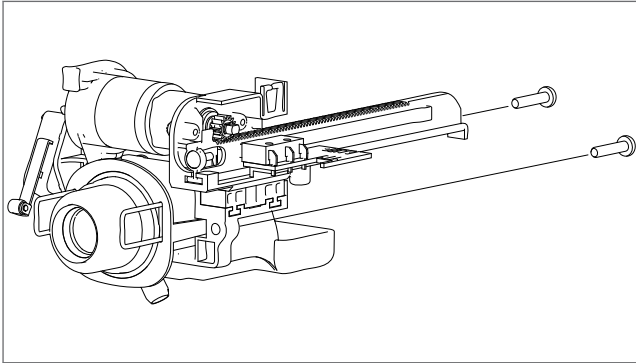
Remove the Valve Assembly

- 1 Remove the electrical connectors from the water tank microswitch.
- 2 Remove the electrical connectors from the water valve.
- 3 Remove the ground wires.
- 4 Remove the drive motor tab from the tank housing cover.
- 5 Use a T-10 Torx bit to remove the screws from the valve assembly.

Top Component Removal and Installation

REMOVE THE VALVE ASSEMBLY (continued)

- 6 Remove the valve assembly from the unit.



VALVE ASSEMBLY INSTALLATION

Install the Valve Assembly

- 1 Place the valve assembly into the tank housing base.
- 2 Use a T-10 Torx bit to install the screws into the valve assembly.
- 3 Install the drive motor tab into the notch in the tank housing cover.
- 4 Connect the ground wires.
- 5 Connect the valve assembly electrical connectors.
- 6 Connect the water tank microswitch electrical connectors.

Install the Top Plate

- 1 Place the top plate on the unit.
- 2 Use a T-20 Torx bit to install the screws into the top plate.

Install the Water Tank Assembly

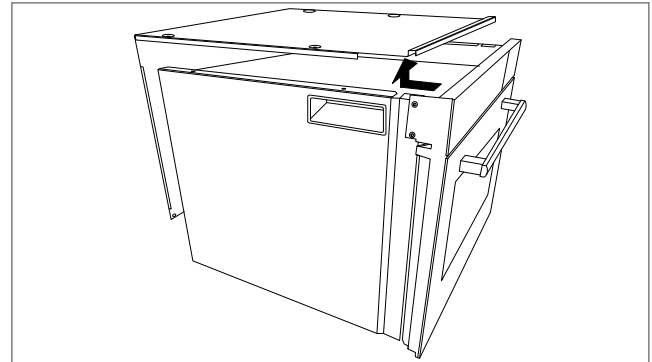
- 1 Install the water tank into the unit.
- 2 Push the water tank closed.

TANK HOUSING COVER REMOVAL

To remove the tank housing cover, first remove the top plate.

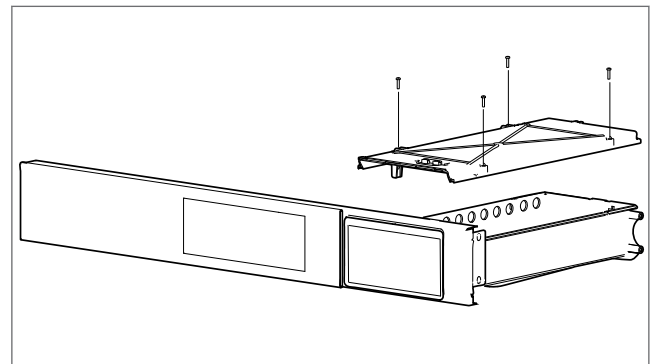
Remove the Top Plate

- 1 Use a T-20 Torx bit to remove the screws from the top and back of the unit.
- 2 Remove the top plate from the unit.



Remove the Tank Housing Cover

- 1 Remove the wire guides from the tank housing cover.
- 2 Use a T-10 Torx bit to remove the screws from the tank housing cover.
- 3 Remove the tank housing cover from the unit.



TANK HOUSING COVER INSTALLATION

Install the Tank Housing Cover

- 1 Place the tank housing cover onto the tank housing base.
- 2 Use a T-10 Torx bit to install the screws into the tank housing cover.
- 3 Install the wire harness clips onto the tank housing cover.

Top Component Removal and Installation

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Install the Top Plate

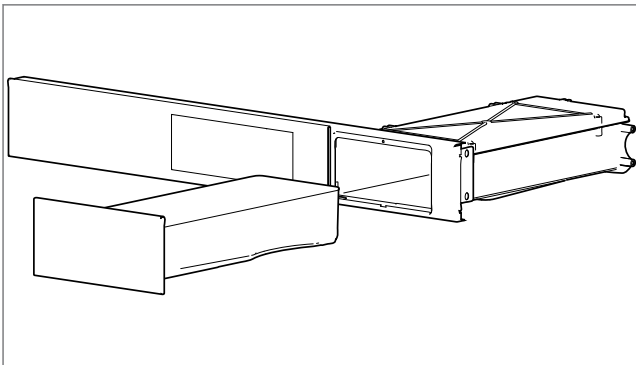
- 1 Place the top plate on the unit.
- 2 Use a T-20 Torx bit to install the screws into the top plate.

TANK HOUSING BASE REMOVAL

To remove the tank housing base, first remove the water tank, top plate, tank housing cover, and valve assembly.

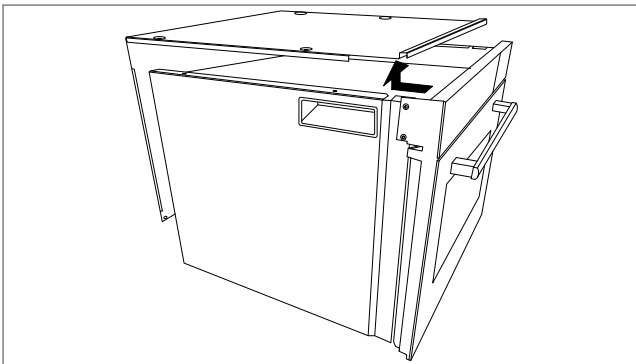
Remove the Water Tank

- 1 Touch Water on the control panel.
- 2 Remove the water tank from the unit.



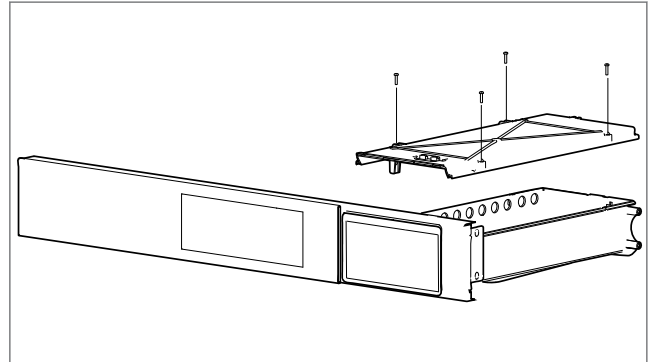
Remove the Top Plate

- 1 Use a T-20 Torx bit to remove the screws from the top and back of the unit.
- 2 Remove the top plate from the unit.



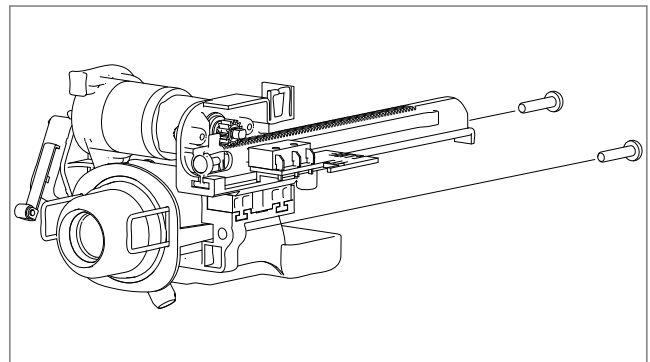
Remove the Tank Housing Cover

- 1 Remove the wire guides from the tank housing cover.
- 2 Use a T-10 Torx bit to remove the screws from the tank housing cover.
- 3 Remove the tank housing cover from the unit.



Remove the Valve Assembly

- 1 Remove the electrical connectors from the water tank microswitch.
- 2 Remove the electrical connectors from the water valve.
- 3 Remove the ground wires.
- 4 Remove the drive motor tab from the tank housing cover.
- 5 Use a T-10 Torx bit to remove the screws from the valve assembly.
- 6 Remove the valve assembly from the unit.



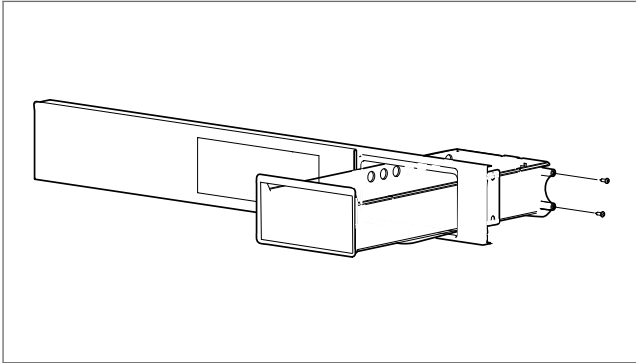
Remove the Tank Housing Base

- 1 Use a T-20 Torx bit to remove the screws from the side of the tank housing base.
- 2 Push the tank housing base forward out of the control panel.

Top Component Removal and Installation

REMOVE THE TANK HOUSING BASE (continued)

- 3 Remove the tank housing base from the unit.



TANK HOUSING BASE INSTALLATION

Install the Tank Housing Base

- 1 Insert the tank housing base into the control panel.
- 2 Use a T-20 Torx bit to install the screws into the tank housing base.

Install the Valve Assembly

- 1 Place the valve assembly into the tank housing base.
- 2 Use a T-10 Torx bit to install the screws into the valve assembly.
- 3 Install the drive motor tab into the notch in the tank housing cover.
- 4 Connect the ground wires.
- 5 Connect the valve assembly electrical connectors.
- 6 Connect the water tank microswitch electrical connectors.

Install the Tank Housing Cover

- 1 Place the tank housing cover onto the tank housing base.
- 2 Use a T-10 Torx bit to install the screws into the tank housing cover.
- 3 Install the wire harness clips onto the tank housing cover.

Install the Top Plate

- 1 Place the top plate on the unit.
- 2 Use a T-20 Torx bit to install the screws into the top plate.

Install the Water Tank Assembly

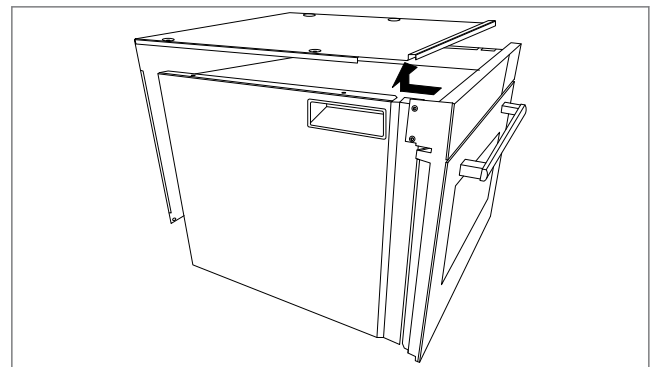
- 1 Install the water tank into the unit.
- 2 Push the water tank closed.

CONTROL BOARD REMOVAL

To remove the control board, first remove the top plate.

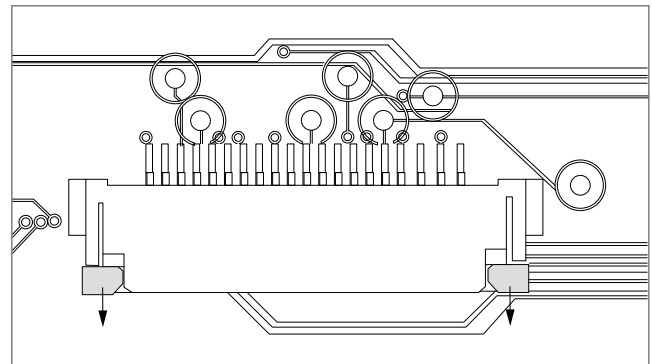
Remove the Top Plate

- 1 Use a T-20 Torx bit to remove the screws from the top and back of the unit.
- 2 Remove the top plate from the unit.



Remove the Control Board

- 1 Open the locks on the ribbon cable connectors, and remove the ribbon cables from the control board.

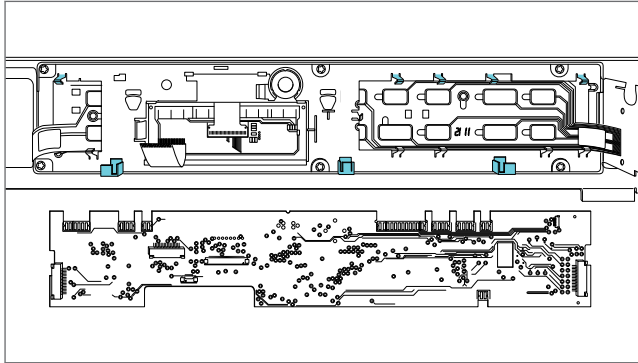


- 2 Disconnect the electrical connectors from the control board.
- 3 Open the control board bracket tabs along the top of the control board.

Top Component Removal and Installation

REMOVE THE CONTROL BOARD (continued)

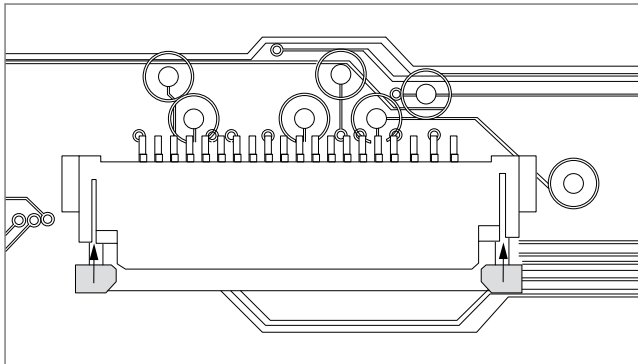
- 4 Remove the control board from the unit.



CONTROL BOARD INSTALLATION

Install the Control Board

- 1 Place the bottom of the control board into the control board bracket supports.
- 2 Push the top of the control board into the control board bracket.
- 3 Insert the ribbon cables into the ribbon cable connectors and lock the ribbon cable connector.



- 4 Connect the electrical connectors to the control board.

Install the Top Plate

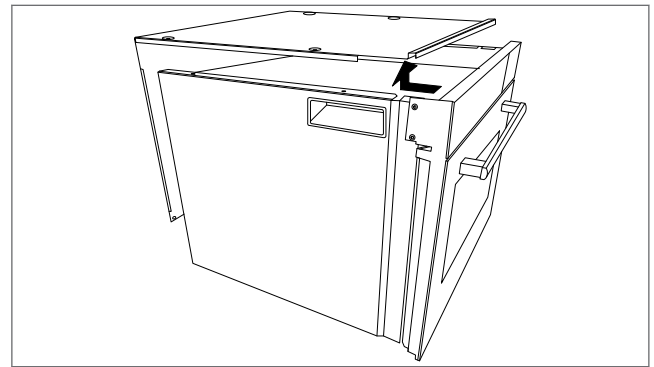
- 1 Place the top plate on the unit.
- 2 Use a T-20 Torx bit to install the screws into the top plate.

DISPLAY REMOVAL

To remove the display, first remove the top plate and the control board.

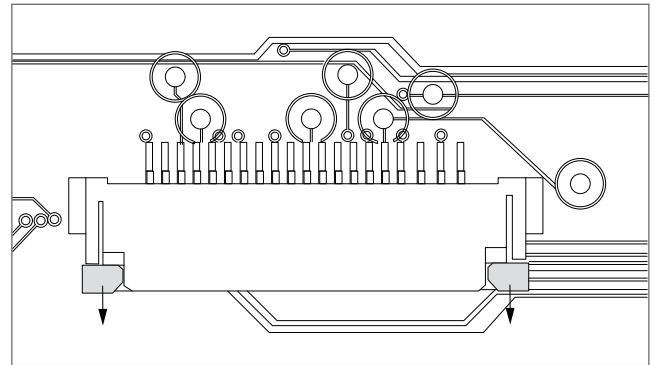
Remove the Top Plate

- 1 Use a T-20 Torx bit to remove the screws from the top and back of the unit.
- 2 Remove the top plate from the unit.



Remove the Control Board

- 1 Open the locks on the ribbon cable connectors, and remove the ribbon cables from the control board.

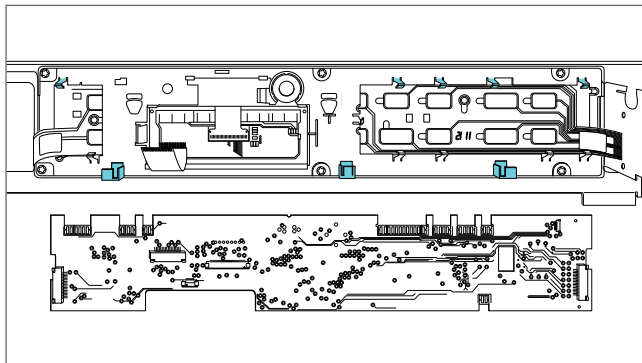


- 2 Disconnect the electrical connectors from the control board.
- 3 Open the control board bracket tabs along the top of the control board.

Top Component Removal and Installation

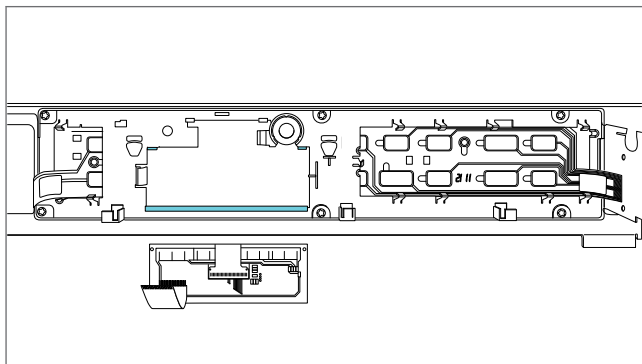
REMOVE THE CONTROL BOARD (continued)

- 4 Remove the control board from the unit.



Remove the Display

- 1 Lift the tabs on the control board bracket at the top of the display.
- 2 Remove the display from the unit.



DISPLAY INSTALLATION

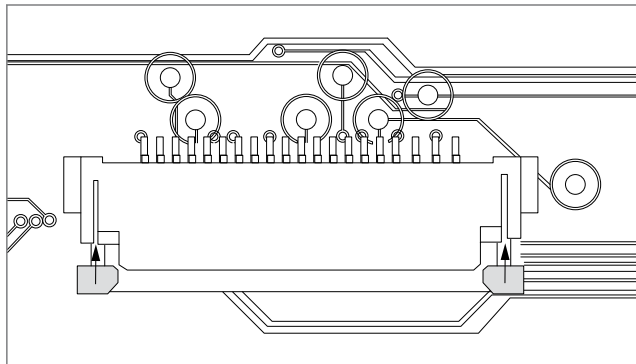
Install the Display

- 1 Place the bottom of the display into the channel on the control board bracket.
- 2 Snap the top of the display into place.

Install the Control Board

- 1 Place the bottom of the control board into the control board bracket supports.
- 2 Push the top of the control board into the control board bracket.

- 3 Insert the ribbon cables into the ribbon cable connectors and lock the ribbon cable connector.



- 4 Connect the electrical connectors to the control board.

Install the Top Plate

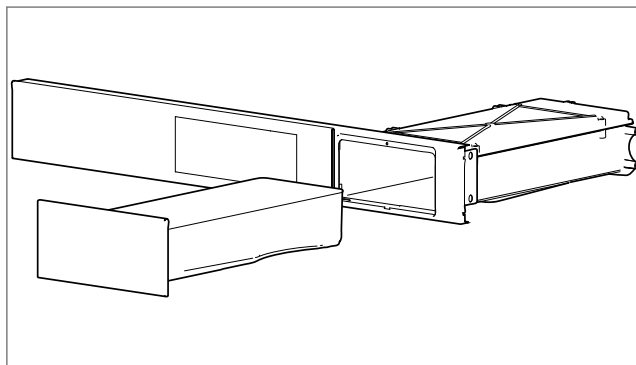
- 1 Place the top plate on the unit.
- 2 Use a T-20 Torx bit to install the screws into the top plate.

CONTROL PANEL REMOVAL

To remove the control panel, first remove the water tank, top plate, tank housing cover, valve assembly, tank housing base, control board, and display.

Remove the Water Tank

- 1 Touch Water on the control panel.
- 2 Remove the water tank from the unit.



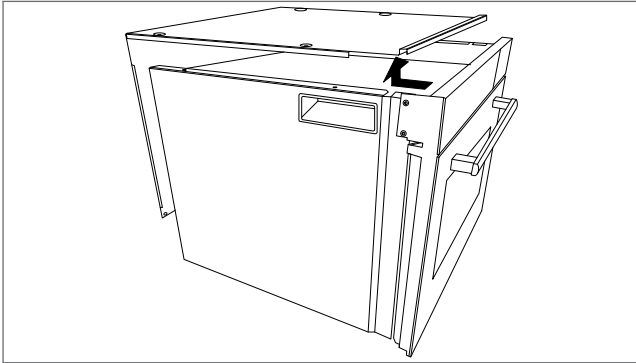
Remove the Top Plate

- 1 Use a T-20 Torx bit to remove the screws from the top and back of the unit.

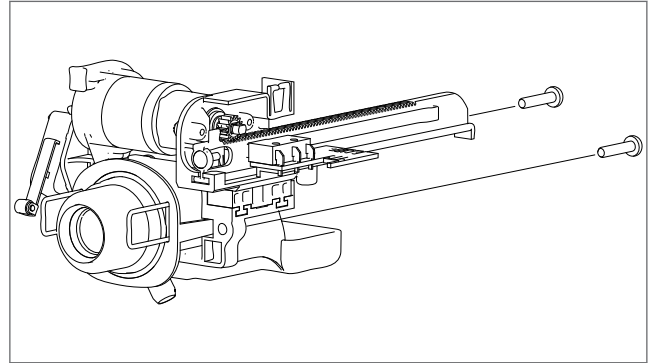
Top Component Removal and Installation

REMOVE THE TOP PLATE (continued)

- 2 Remove the top plate from the unit.

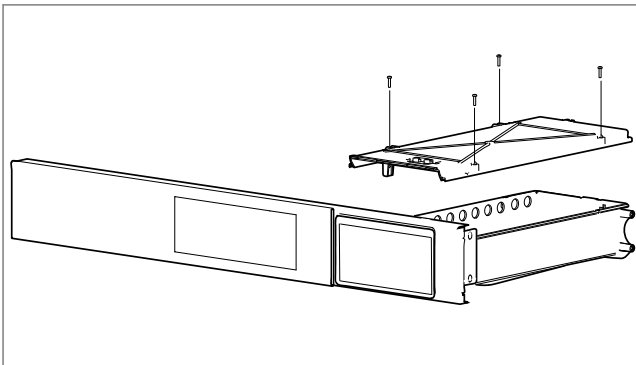


- 6 Remove the valve assembly from the unit.



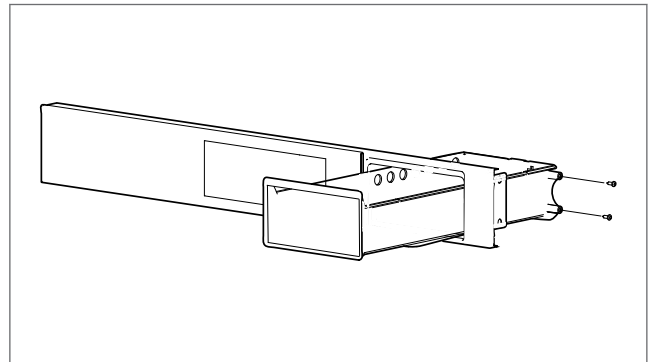
Remove the Tank Housing Cover

- 1 Remove the wire guides from the tank housing cover.
- 2 Use a T-10 Torx bit to remove the screws from the tank housing cover.
- 3 Remove the tank housing cover from the unit.



Remove the Tank Housing Base

- 1 Use a T-20 Torx bit to remove the screws from the side of the tank housing base.
- 2 Push the tank housing base forward out of the control panel.
- 3 Remove the tank housing base from the unit.

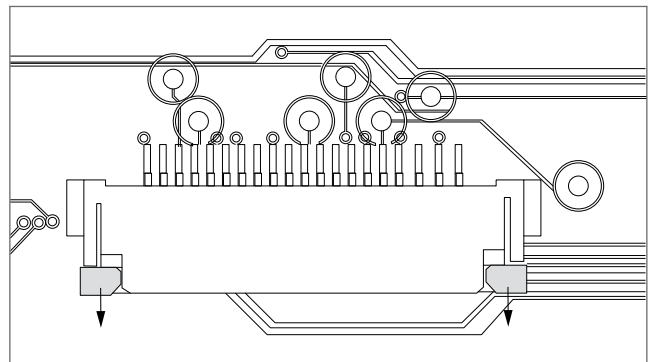


Remove the Valve Assembly

- 1 Remove the electrical connectors from the water tank microswitch.
- 2 Remove the electrical connectors from the water valve.
- 3 Remove the ground wires.
- 4 Remove the drive motor tab from the tank housing cover.
- 5 Use a T-10 Torx bit to remove the screws from the valve assembly.

Remove the Control Board

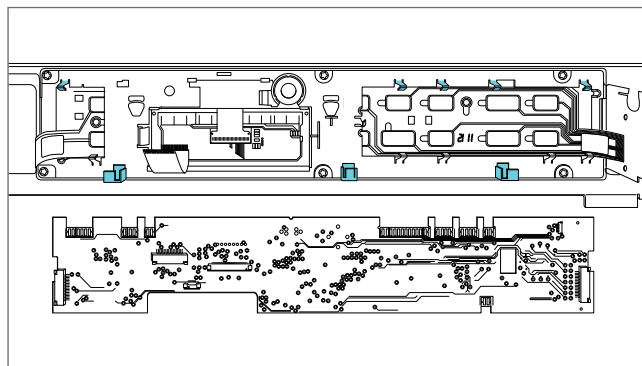
- 1 Open the locks on the ribbon cable connectors, and remove the ribbon cables from the control board.



Top Component Removal and Installation

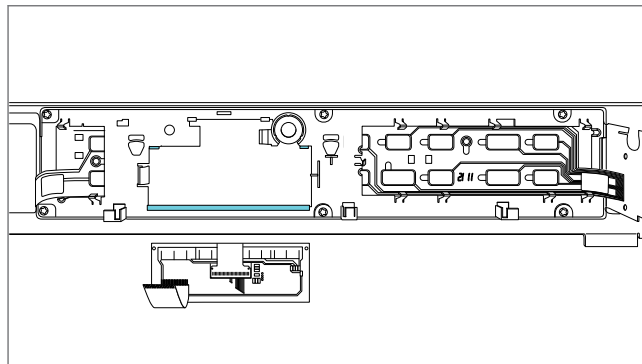
REMOVE THE CONTROL BOARD (continued)

- 2 Disconnect the electrical connectors from the control board.
- 3 Open the control board bracket tabs along the top of the control board.
- 4 Remove the control board from the unit.



Remove the Display

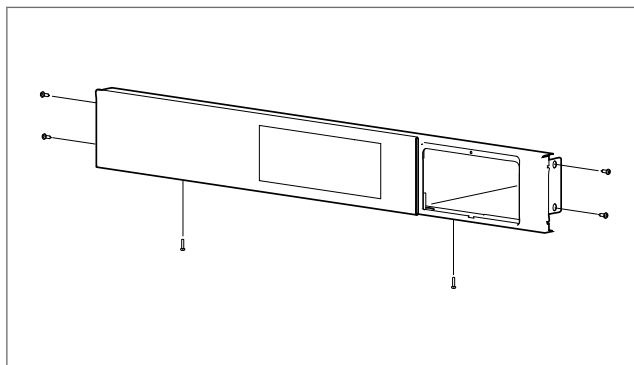
- 1 Lift the tabs on the control board bracket at the top of the display.
- 2 Remove the display from the unit.



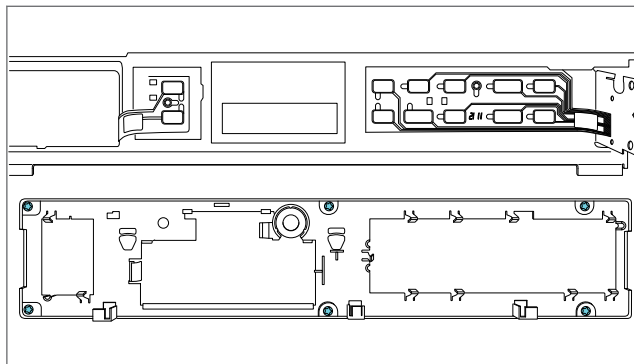
Remove the Control Panel

- 1 Remove the ground wires from the control panel.
- 2 Use a T-20 Torx bit to remove the screws from the control panel.

- 3 Remove the control panel from the unit.



- 4 Turn the control panel over.
- 5 Use a T-20 Torx bit to remove the screws from the control board bracket.
- 6 Remove the control board bracket from the control panel.



CONTROL PANEL INSTALLATION

Install the Control Panel

- 1 Place the control panel on the unit.
- 2 Use a T-20 Torx bit to install the screws into the control panel.
- 3 Connect the ground wires to the control panel.

Install the Display

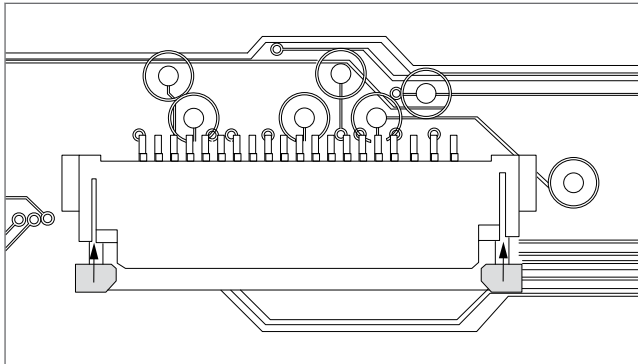
- 1 Place the bottom of the display into the channel on the control board bracket.
- 2 Snap the top of the display into place.

Top Component Removal and Installation

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Install the Control Board

- 1 Place the bottom of the control board into the control board bracket supports.
- 2 Push the top of the control board into the control board bracket.
- 3 Insert the ribbon cables into the ribbon cable connectors and lock the ribbon cable connector.



- 4 Connect the electrical connectors to the control board.

Install the Tank Housing Base

- 1 Insert the tank housing base into the control panel.
- 2 Use a T-20 Torx bit to install the screws into the tank housing base.

Install the Valve Assembly

- 1 Place the valve assembly into the tank housing base.
- 2 Use a T-10 Torx bit to install the screws into the valve assembly.
- 3 Install the drive motor tab into the notch in the tank housing cover.
- 4 Connect the ground wires.
- 5 Connect the valve assembly electrical connectors.
- 6 Connect the water tank microswitch electrical connectors.

Install the Tank Housing Cover

- 1 Place the tank housing cover onto the tank housing base.
- 2 Use a T-10 Torx bit to install the screws into the tank housing cover.
- 3 Install the wire harness clips onto the tank housing cover.

Install the Top Plate

- 1 Place the top plate on the unit.
- 2 Use a T-20 Torx bit to install the screws into the top plate.

Install the Water Tank Assembly

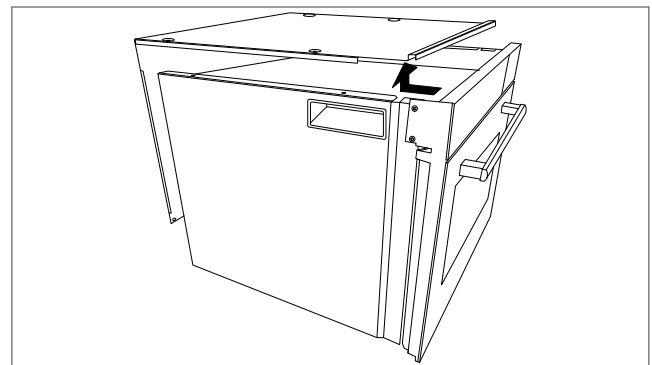
- 1 Install the water tank into the unit.
- 2 Push the water tank closed.

ROOM AIR FAN REMOVAL

To remove the room air fan, first remove the top plate.

Remove the Top Plate

- 1 Use a T-20 Torx bit to remove the screws from the top and back of the unit.
- 2 Remove the top plate from the unit.



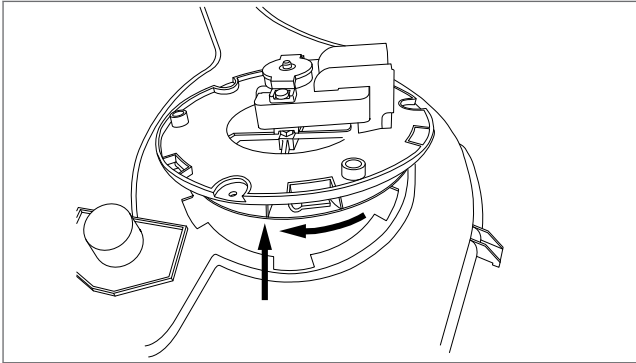
Remove the Room Air Fan

- 1 Disconnect the electrical connectors from the room air fan.
- 2 Rotate the room air fan clockwise.

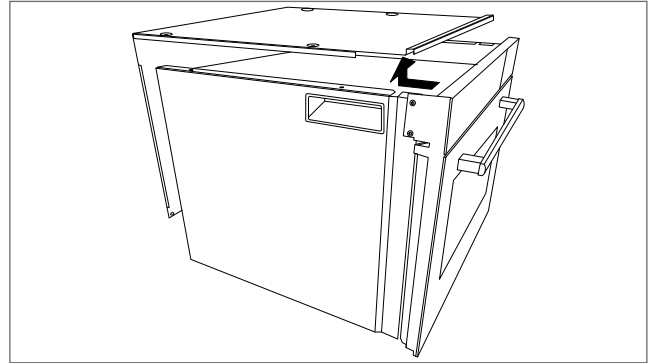
Top Component Removal and Installation

REMOVE THE ROOM AIR FAN (continued)

- 3 Lift the room air fan up and remove it from the unit.



- 2 Remove the top plate from the unit.



ROOM AIR FAN INSTALLATION

Install the Room Air Fan

- 1 Align the arrow on the room air fan with the open arrow on the top exhaust duct.
- 2 Rotate the room air fan counterclockwise until the arrow on top of the room air fan is aligned to closed on the top exhaust duct.
- 3 Connect the electrical connectors to the room air fan.

Install the Top Plate

- 1 Place the top plate on the unit.
- 2 Use a T-20 Torx bit to install the screws into the top plate.

LOUDSPEAKER REMOVAL

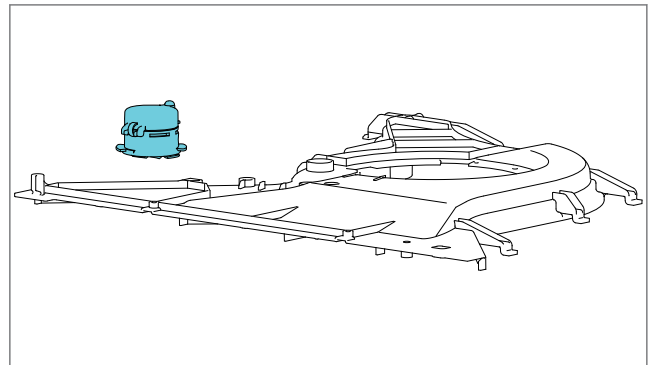
To remove the loudspeaker, first remove the top plate.

Remove the Top Plate

- 1 Use a T-20 Torx bit to remove the screws from the top and back of the unit.

Remove the Loudspeaker

- 1 Disconnect the loudspeaker electrical connector from the control board.
- 2 Rotate the loudspeaker counterclockwise.
- 3 Remove the loudspeaker from the top exhaust duct.



LOUDSPEAKER INSTALLATION

Install the Loudspeaker

- 1 Insert the tabs of the loudspeaker into the top exhaust duct.
- 2 Rotate the loudspeaker clockwise until the arrow on top of the loudspeaker is pointing to the front of the unit.
- 3 Connect the loudspeaker electrical connector to the control board.

Install the Top Plate

- 1 Place the top plate on the unit.

Top Component Removal and Installation

INSTALL THE TOP PLATE (continued)

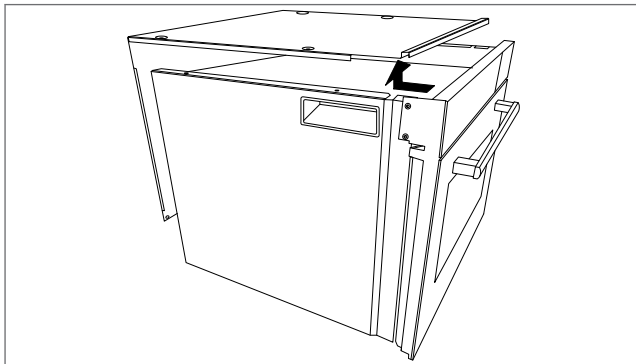
- 2 Use a T-20 Torx bit to install the screws into the top plate.

TEMPERATURE SENSOR 300C REMOVAL

To remove the temperature sensor 300C, first remove the top plate.

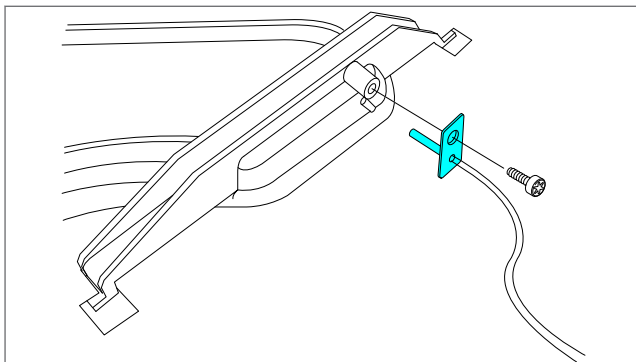
Remove the Top Plate

- 1 Use a T-20 Torx bit to remove the screws from the top and back of the unit.
- 2 Remove the top plate from the unit.



Remove the Temperature Sensor 300C

- 1 Disconnect the temperature sensor 300C electrical connector from the unit relay board.
- 2 Use a T-15 Torx bit to remove the screw from the temperature sensor 300C.
- 3 Remove the temperature sensor 300C from the top exhaust duct.



TEMPERATURE SENSOR 300C INSTALLATION

Install the Temperature Sensor 300C

- 1 Insert the temperature sensor 300C into the top exhaust duct.
- 2 Use a T-15 Torx bit to install the screw into the temperature sensor 300C.
- 3 Connect the temperature sensor 300C electrical connector to the unit relay board.

Install the Top Plate

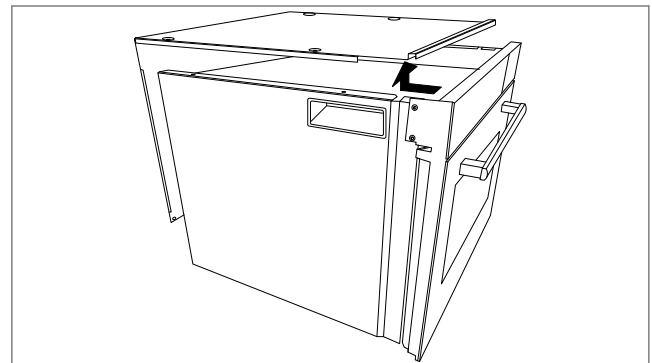
- 1 Place the top plate on the unit.
- 2 Use a T-20 Torx bit to install the screws into the top plate.

STEPPER MOTOR REMOVAL

To remove the stepper motor, first remove the top plate.

Remove the Top Plate

- 1 Use a T-20 Torx bit to remove the screws from the top and back of the unit.
- 2 Remove the top plate from the unit.



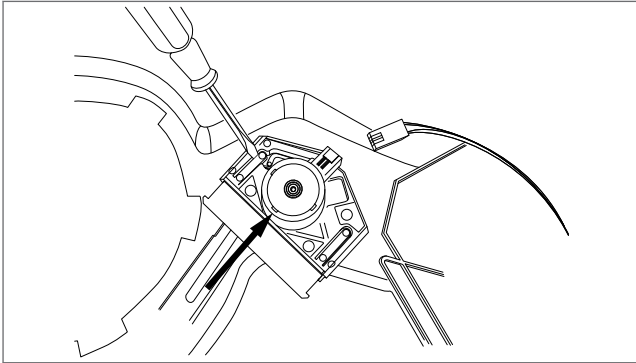
Remove the Stepper Motor

- 1 Disconnect the electrical connector from the stepper motor.
- 2 Use a flat-blade screwdriver to pry the tabs up on the stepper motor retainer, while pulling the stepper motor toward the front of the unit.

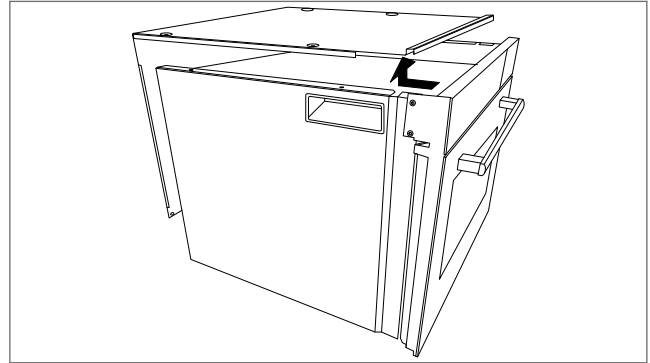
Top Component Removal and Installation

REMOVE THE STEPPER MOTOR (continued)

- 3 Remove the stepper motor from the unit.



- 2 Remove the top plate from the unit.



STEPPER MOTOR INSTALLATION

Install the Stepper Motor

- 1 Slide the stepper motor backward over the stepper motor retainer until the stepper motor tabs lock into place.
- 2 Connect the electrical connector to the stepper motor.

Install the Top Plate

- 1 Place the top plate on the unit.
- 2 Use a T-20 Torx bit to install the screws into the top plate.

TOP EXHAUST DUCT REMOVAL

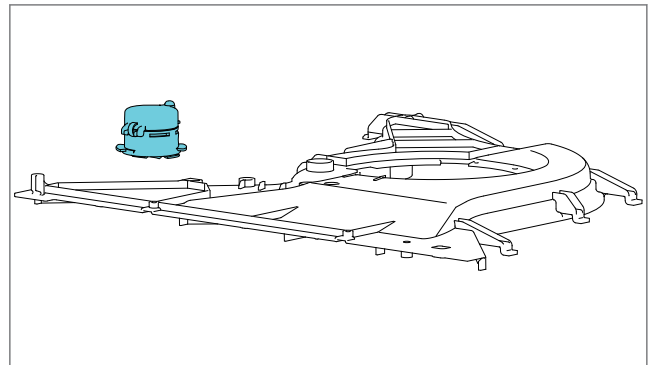
To remove the top exhaust duct, first remove the top plate, loudspeaker, room air fan motor, temperature sensor 300C, and stepper motor.

Remove the Top Plate

- 1 Use a T-20 Torx bit to remove the screws from the top and back of the unit.

Remove the Loudspeaker

- 1 Disconnect the loudspeaker electrical connector from the control board.
- 2 Rotate the loudspeaker counterclockwise.
- 3 Remove the loudspeaker from the top exhaust duct.



Remove the Room Air Fan

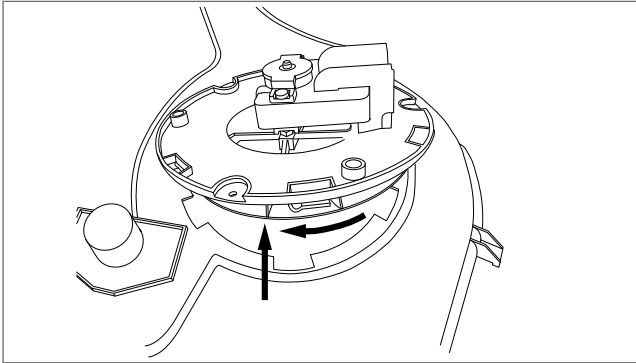
- 1 Disconnect the electrical connectors from the room air fan.
- 2 Rotate the room air fan clockwise.

Top Component Removal and Installation

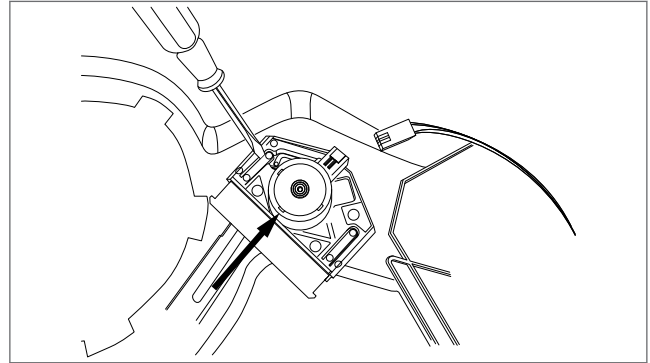
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REMOVE THE ROOM AIR FAN (continued)

- 3 Lift the room air fan up and remove it from the unit.

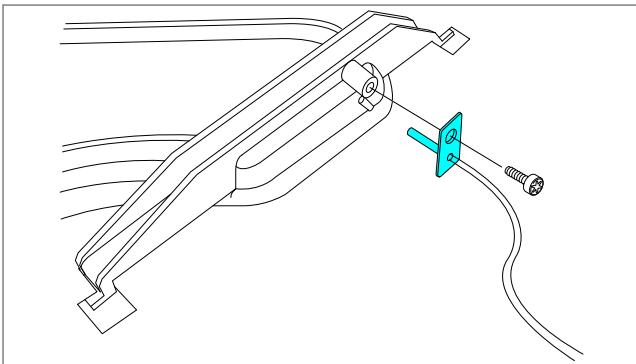


- 3 Remove the stepper motor from the unit.



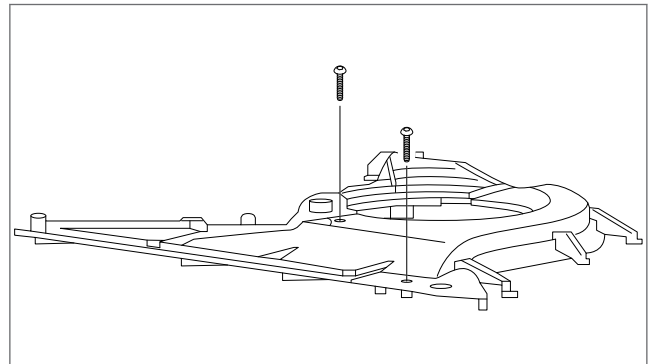
Remove the Temperature Sensor 300C

- 1 Disconnect the temperature sensor 300C electrical connector from the unit relay board.
- 2 Use a T-15 Torx bit to remove the screw from the temperature sensor 300C.
- 3 Remove the temperature sensor 300C from the top exhaust duct.



Remove the Top Exhaust Duct

- 1 Use a T-20 Torx bit to extract the screws from the top exhaust duct.
- 2 Push the top exhaust duct toward the rear of the unit to disengage the top exhaust duct tabs.
- 3 Remove the top exhaust duct from the unit.



Remove the Stepper Motor

- 1 Disconnect the electrical connector from the stepper motor.
- 2 Use a flat-blade screwdriver to pry the tabs up on the stepper motor retainer, while pulling the stepper motor toward the front of the unit.

TOP EXHAUST DUCT INSTALLATION

Install the Top Exhaust Duct

- 1 Place the top exhaust duct tabs into the notches in the top of the unit.
- 2 Pull the top exhaust duct toward the front of the unit to lock the top exhaust duct tabs in place.
- 3 Use a T-20 Torx bit to install the screws into the top exhaust duct.

Top Component Removal and Installation

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Install the Stepper Motor

- 1 Slide the stepper motor backward over the stepper motor retainer until the stepper motor tabs lock into place.
- 2 Connect the electrical connector to the stepper motor.

Install the Temperature Sensor 300C

- 1 Insert the temperature sensor 300C into the top exhaust duct.
- 2 Use a T-15 Torx bit to install the screw into the temperature sensor 300C.
- 3 Connect the temperature sensor 300C electrical connector to the unit relay board.

Install the Room Air Fan

- 1 Align the arrow on the room air fan with the open arrow on the top exhaust duct.
- 2 Rotate the room air fan counterclockwise until the arrow on top of the room air fan is aligned to closed on the top exhaust duct.
- 3 Connect the electrical connectors to the room air fan.

Install the Loudspeaker

- 1 Insert the tabs of the loudspeaker into the top exhaust duct.
- 2 Rotate the loudspeaker clockwise until the arrow on top of the loudspeaker is pointing to the front of the unit.
- 3 Connect the loudspeaker electrical connector to the control board.

Install the Top Plate

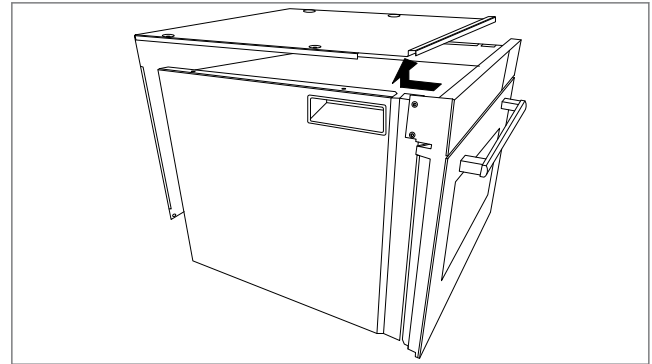
- 1 Place the top plate on the unit.
- 2 Use a T-20 Torx bit to install the screws into the top plate.

VALVE COUPLER ASSEMBLY REMOVAL

To remove the valve coupler assembly, first remove the top plate, loudspeaker, room air fan motor, temperature sensor 300C, stepper motor, and top exhaust duct.

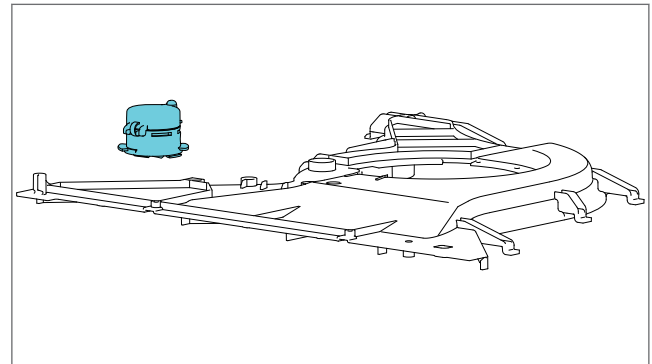
Remove the Top Plate

- 1 Use a T-20 Torx bit to remove the screws from the top and back of the unit.
- 2 Remove the top plate from the unit.



Remove the Loudspeaker

- 1 Disconnect the loudspeaker electrical connector from the control board.
- 2 Rotate the loudspeaker counterclockwise.
- 3 Remove the loudspeaker from the top exhaust duct.



Remove the Room Air Fan

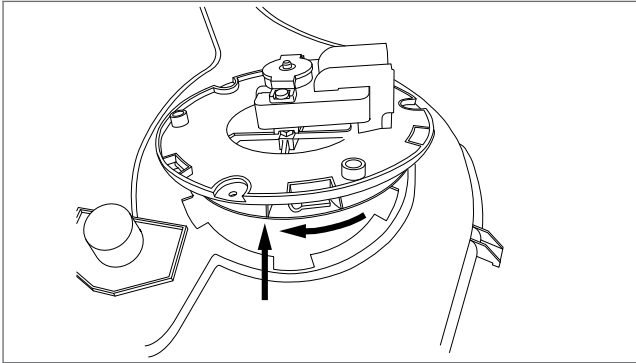
- 1 Disconnect the electrical connectors from the room air fan.
- 2 Rotate the room air fan clockwise.

Top Component Removal and Installation

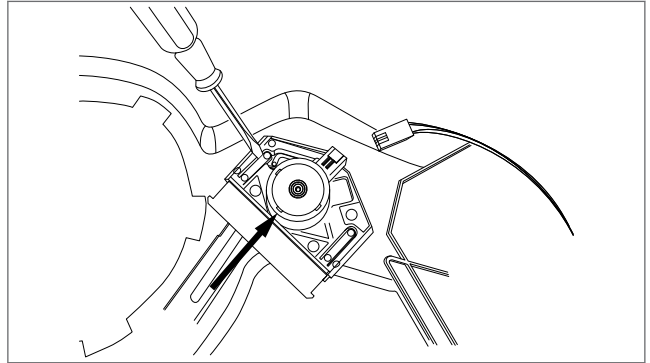
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REMOVE THE ROOM AIR FAN (continued)

- 3 Lift the room air fan up and remove it from the unit.

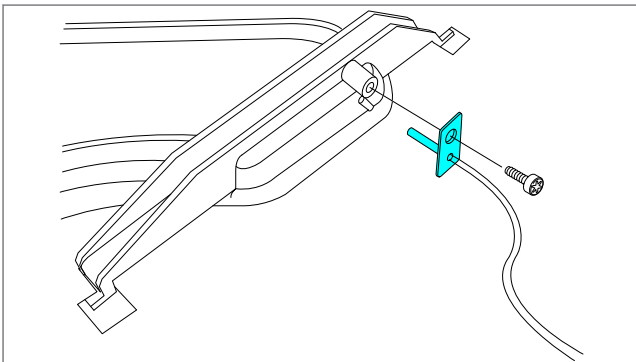


- 3 Remove the stepper motor from the unit.



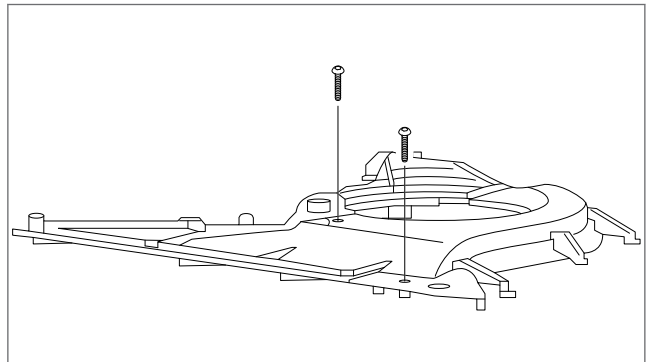
Remove the Temperature Sensor 300C

- 1 Disconnect the temperature sensor 300C electrical connector from the unit relay board.
- 2 Use a T-15 Torx bit to remove the screw from the temperature sensor 300C.
- 3 Remove the temperature sensor 300C from the top exhaust duct.



Remove the Top Exhaust Duct

- 1 Use a T-20 Torx bit to extract the screws from the top exhaust duct.
- 2 Push the top exhaust duct toward the rear of the unit to disengage the top exhaust duct tabs.
- 3 Remove the top exhaust duct from the unit.

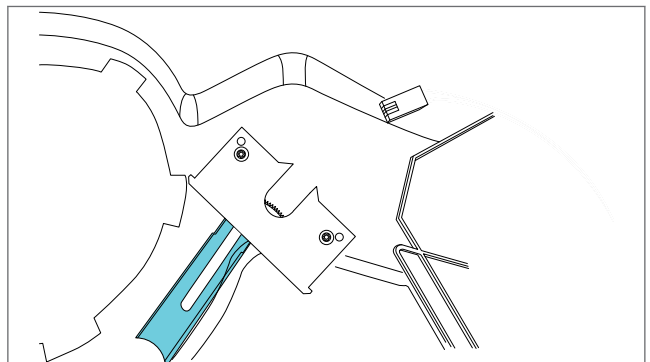


Remove the Stepper Motor

- 1 Disconnect the electrical connector from the stepper motor.
- 2 Use a flat-blade screwdriver to pry the tabs up on the stepper motor retainer, while pulling the stepper motor toward the front of the unit.

Remove the Valve Coupler Assembly

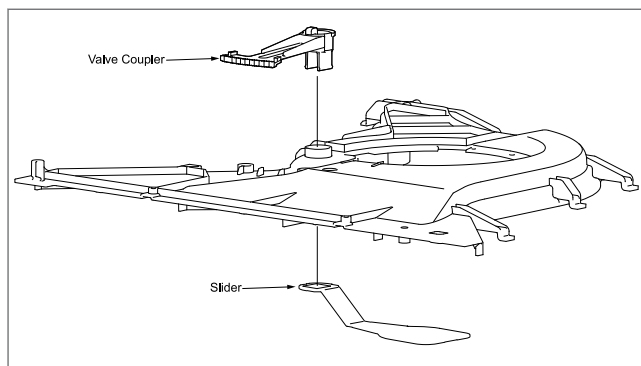
- 1 Use a T-15 Torx bit to extract the screws from the stepping motor retainer.



Top Component Removal and Installation

REMOVE THE VALVE COUPLER ASSEMBLY (continued)

- 2 Remove the stepping motor retainer.
- 3 Turn the top exhaust duct over, and remove the slider from the valve coupler.
- 4 Remove the slider from the unit.
- 5 With the top exhaust duct turned over, rotate the valve coupler until the tab lines up with the notch in the top exhaust duct.
- 6 Pull the valve coupler down out of the top exhaust duct.



VALVE COUPLER ASSEMBLY INSTALLATION

Install the Valve Coupler Assembly

- 1 Install the notch in the valve coupler into the top exhaust duct.
- 2 Use a T-15 Torx bit to install the screws into the stepping motor retainer.
- 3 Install the slider onto the valve coupler.

Install the Top Exhaust Duct

- 1 Place the top exhaust duct tabs into the notches in the top of the unit.
- 2 Pull the top exhaust duct toward the front of the unit to lock the top exhaust duct tabs in place.
- 3 Use a T-20 Torx bit to install the screws into the top exhaust duct.

Install the Stepper Motor

- 1 Slide the stepper motor backward over the stepper motor retainer until the stepper motor tabs lock into place.
- 2 Connect the electrical connector to the stepper motor.

Install the Temperature Sensor 300C

- 1 Insert the temperature sensor 300C into the top exhaust duct.
- 2 Use a T-15 Torx bit to install the screw into the temperature sensor 300C.
- 3 Connect the temperature sensor 300C electrical connector to the unit relay board.

Install the Room Air Fan

- 1 Align the arrow on the room air fan with the open arrow on the top exhaust duct.
- 2 Rotate the room air fan counterclockwise until the arrow on top of the room air fan is aligned to closed on the top exhaust duct.
- 3 Connect the electrical connectors to the room air fan.

Install the Loudspeaker

- 1 Insert the tabs of the loudspeaker into the top exhaust duct.
- 2 Rotate the loudspeaker clockwise until the arrow on top of the loudspeaker is pointing to the front of the unit.
- 3 Connect the loudspeaker electrical connector to the control board.

Install the Top Plate

- 1 Place the top plate on the unit.
- 2 Use a T-20 Torx bit to install the screws into the top plate.

Back Component Removal and Installation

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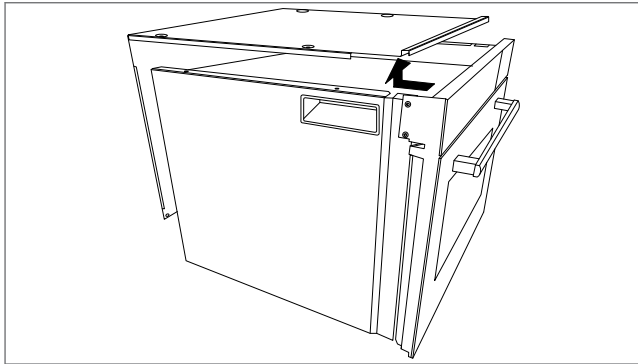
BACK COMPONENT REMOVAL AND INSTALLATION

TEMPERATURE SENSOR REMOVAL

To remove the temperature sensor, first remove the top plate.

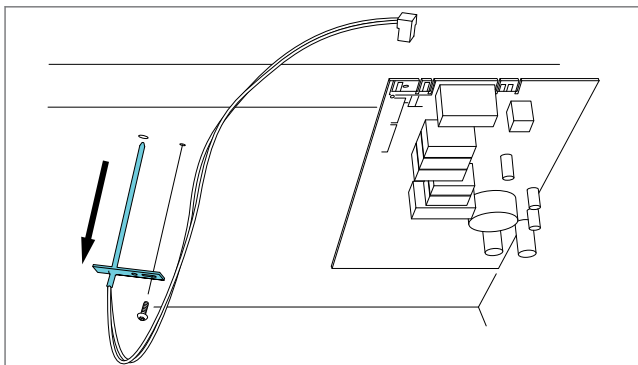
Remove the Top Plate

- 1 Use a T-20 Torx bit to remove the screws from the top and back of the unit.
- 2 Remove the top plate from the unit.



Remove the Temperature Sensor

- 1 Disconnect the temperature sensor electrical connector from the control board.
- 2 Use a T-20 Torx bit to remove the screw from the temperature sensor.
- 3 Remove the temperature sensor from the unit.



- 2 Use a T-20 Torx bit to install the screw into the temperature sensor.
- 3 Connect the temperature sensor electrical connector to the control board.

Install the Top Plate

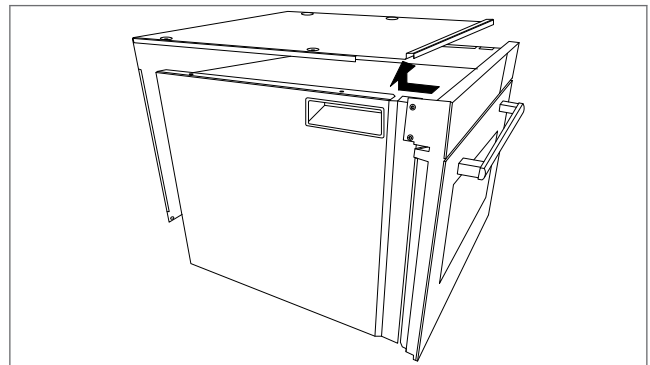
- 1 Place the top plate on the unit.
- 2 Use a T-20 Torx bit to install the screws into the top plate.

CSO RESISTOR REMOVAL

To remove the CSO resistor, first remove the top plate.

Remove the Top Plate

- 1 Use a T-20 Torx bit to remove the screws from the top and back of the unit.
- 2 Remove the top plate from the unit.



Remove the CSO Resistor

- 1 Disconnect the electrical connector from the CSO resistor.
- 2 Use a T-20 Torx bit to remove the screw from the CSO resistor.

TEMPERATURE SENSOR INSTALLATION

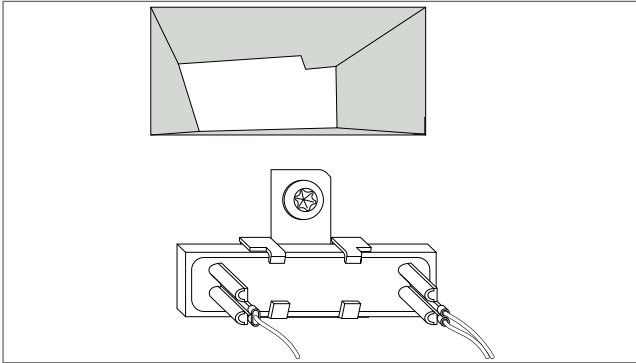
Install the Temperature Sensor

- 1 Insert the temperature sensor into the back of the unit.

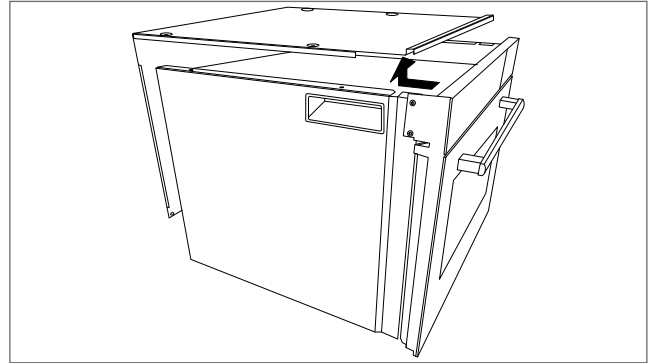
Back Component Removal and Installation

REMOVE THE CSO RESISTOR (continued)

- 3 Remove the CSO resistor from the unit.



- 2 Remove the top plate from the unit.



CSO RESISTOR INSTALLATION

Install the CSO Resistor

- 1 Place the CSO resistor onto the back of the unit.
- 2 Use a T-20 Torx bit to install the screw into the CSO resistor.
- 3 Connect the electrical connectors to the CSO resistor.

Install the Top Plate

- 1 Place the top plate on the unit.
- 2 Use a T-20 Torx bit to install the screws into the top plate.

THERMOSTAT 280C REMOVAL

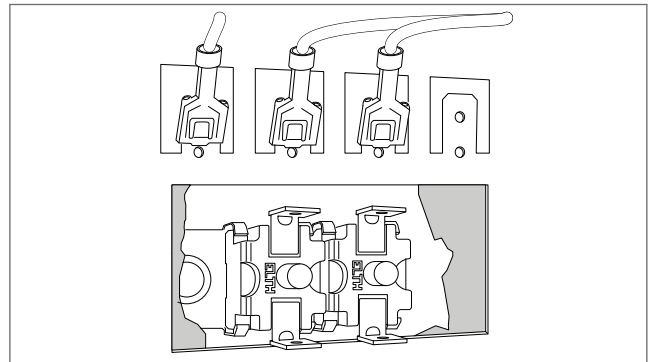
To remove the thermostat 280C, first remove the top plate.

Remove the Top Plate

- 1 Use a T-20 Torx bit to remove the screws from the top and back of the unit.

Remove the Thermostat 280C

- 1 Disconnect the electrical connectors from the thermostat 280C.
- 2 Use a $\frac{9}{32}$ " socket to remove the nuts from the thermostat 280C.
- 3 Remove the thermostat 280C from the unit.



THERMOSTAT 280C INSTALLATION

Install the Thermostat 280C

- 1 Place the thermostat 280C onto the studs on the back of the unit.
- 2 Use a $\frac{9}{32}$ " socket to install the nuts onto the thermostat 280C.
- 3 Connect the electrical connectors to the thermostat 280C.

Install the Top Plate

- 1 Place the top plate on the unit.

Back Component Removal and Installation

INSTALL THE TOP PLATE (continued)

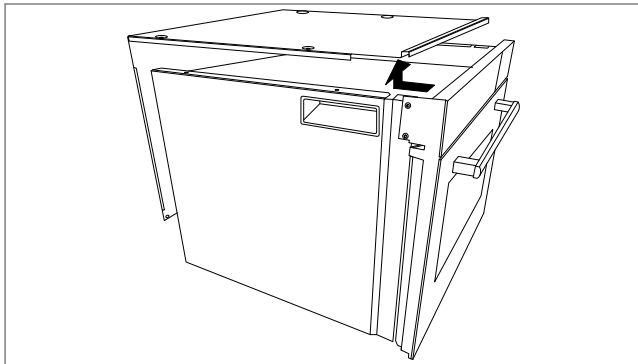
- 2 Use a T-20 Torx bit to install the screws into the top plate.

POWER CORD REMOVAL

To remove the power cord, first remove the top plate.

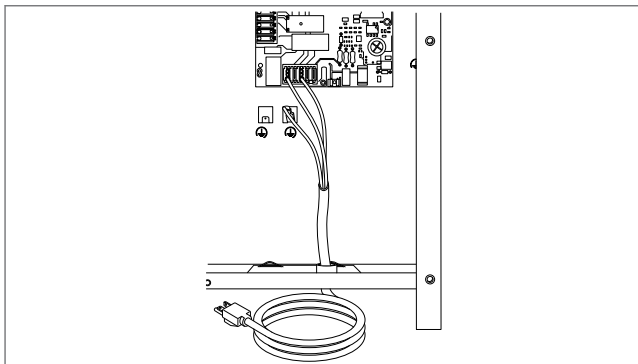
Remove the Top Plate

- 1 Use a T-20 Torx bit to remove the screws from the top and back of the unit.
- 2 Remove the top plate from the unit.



Remove the Power Cord

- 1 Disconnect the power cord electrical connectors from the unit relay board and the back of the unit.
- 2 Remove the cable protector from the power cord.
- 3 Compress the cable clamp and push it down out of the unit.
- 4 Remove the power cord from the unit.



POWER CORD INSTALLATION

Install the Power Cord

- 1 Install the cable clamp onto the power cord.
- 2 Place the cable clamp and power cord in the unit.
- 3 Install the cable protector onto the power cord.
- 4 Connect the power cord electrical connectors to the unit relay board and the back of the unit.

Install the Top Plate

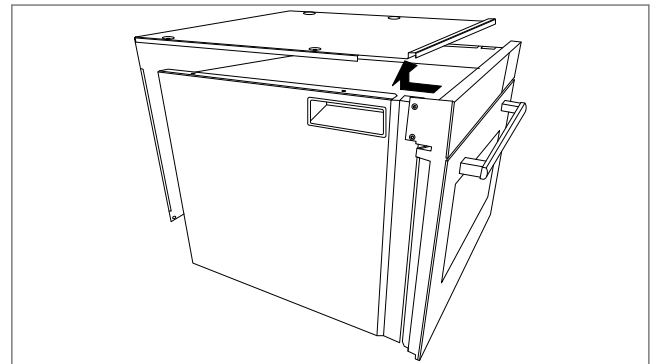
- 1 Place the top plate on the unit.
- 2 Use a T-20 Torx bit to install the screws into the top plate.

UNIT RELAY BOARD REMOVAL

To remove the unit relay board, first remove the top plate.

Remove the Top Plate

- 1 Use a T-20 Torx bit to remove the screws from the top and back of the unit.
- 2 Remove the top plate from the unit.



Remove the Unit Relay Board

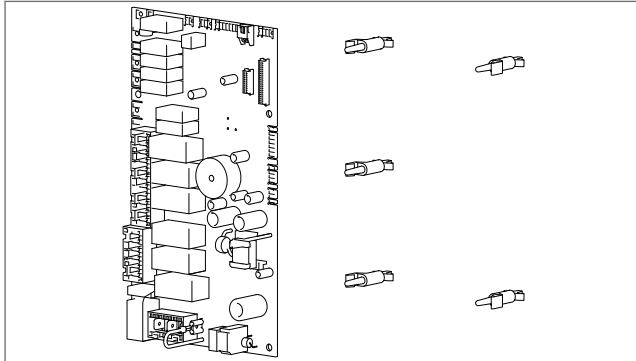
- 1 Disconnect the electrical connectors from the unit relay board.
- 2 Open the spacers one at a time, and pull the unit relay board forward.

Back Component Removal and Installation

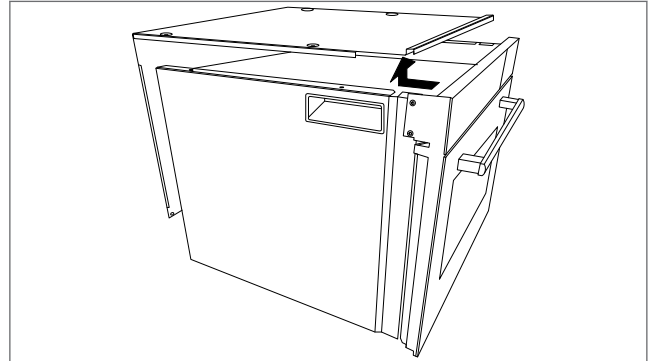
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REMOVE THE UNIT RELAY BOARD (continued)

- 3 Remove the unit relay board from the unit.



- 2 Remove the top plate from the unit.



UNIT RELAY BOARD INSTALLATION

Install the Unit Relay Board

- 1 Place the unit relay board onto the spacers.
- 2 Connect the electrical connectors to the unit relay board.

Install the Top Plate

- 1 Place the top plate on the unit.
- 2 Use a T-20 Torx bit to install the screws into the top plate.

CONVECTION FAN MOTOR REMOVAL

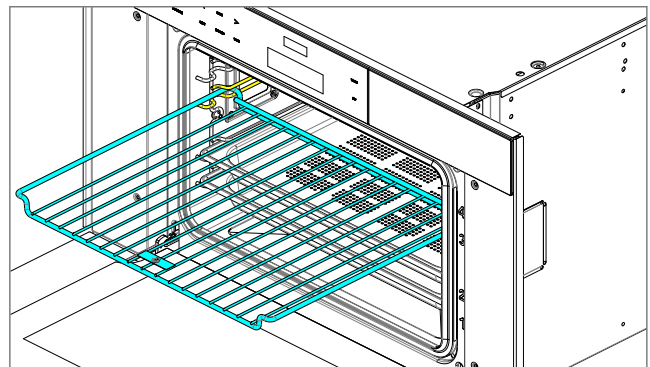
To remove the convection fan motor, first remove the top plate, racks, rack guides, rear baffle, and the hot air fan blade .

Remove the Top Plate

- 1 Use a T-20 Torx bit to remove the screws from the top and back of the unit.

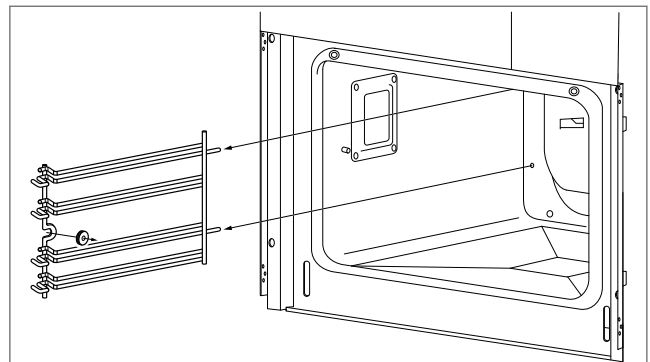
Remove the Rack

Pull the rack forward out of the unit.



Remove the Rack Guide

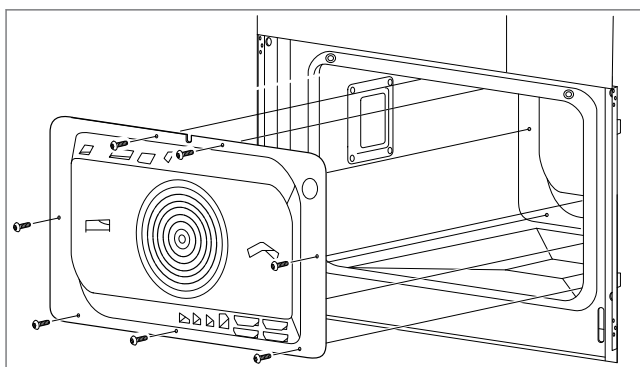
- 1 Remove the rack guide nut.
- 2 Pull the front of the rack guide toward the center of the oven.
- 3 Pull the rack guide forward out of the unit.



Back Component Removal and Installation

Remove the Rear Baffle

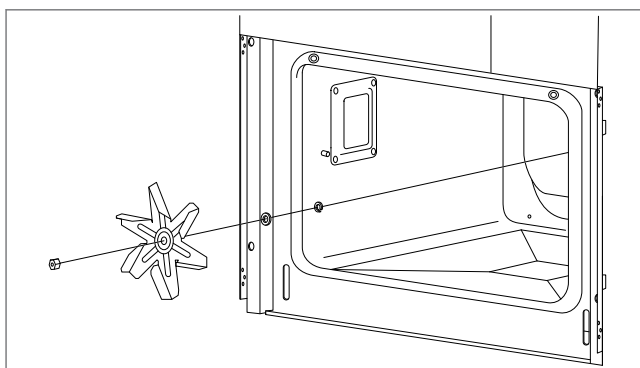
- 1 Use a T-20 Torx bit to remove the screws from the rear baffle.
- 2 Remove the rear baffle from the unit.



Remove the Hot Air Fan Blade

TIP: The hot air fan blade nut is reverse threaded.

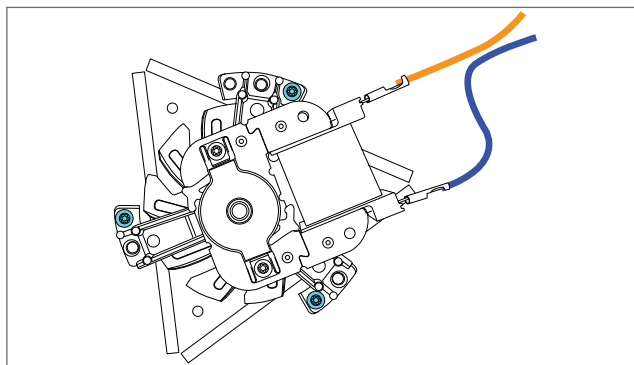
- 1 Use a 10 mm socket to remove the nut from the hot air fan blade.
- 2 Remove the washer and the hot air fan blade from the unit.
- 3 The washer and C-clip behind the hot air fan blade does not need to be removed unless the convection fan motor is being removed.



Remove the Convection Fan Motor

- 1 Disconnect the electrical connectors from the convection fan motor.
- 2 Use a T-20 Torx bit to remove the screws from the convection fan motor.

- 3 Remove the convection fan motor from the unit.



CONVECTION FAN MOTOR INSTALLATION

Install the Convection Fan Motor

- 1 Place the convection fan motor onto the back of the unit.
- 2 Use a T-20 Torx bit to install the screws into the convection fan motor.
- 3 Connect the electrical wires to the convection fan motor.

Install the Hot Air Fan Blade

- 1 Install the C-clip and washer if they were removed for replacement of the convection fan motor.
- 2 Install the hot air fan blade.
- 3 Install the washer.

TIP: The hot air fan blade nut is reverse-threaded.

- 4 Use a 10 mm socket to install the nut onto the hot air fan blade.

Install the Rear Baffle

- 1 Place the rear baffle against the back wall of the oven cavity.
- 2 Use a T-20 Torx bit to install the screws into the rear baffle.

Install the Rack Guide

- 1 Insert the rack guide rails into the rear baffle.
- 2 Place the indent in the rack guide over the rack guide stud.
- 3 Install the rack guide nut.

Back Component Removal and Installation

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Install the Rack

- 1 Insert the rack between the rails of the rack guide.
- 2 Push the rack into the oven.

Install the Top Plate

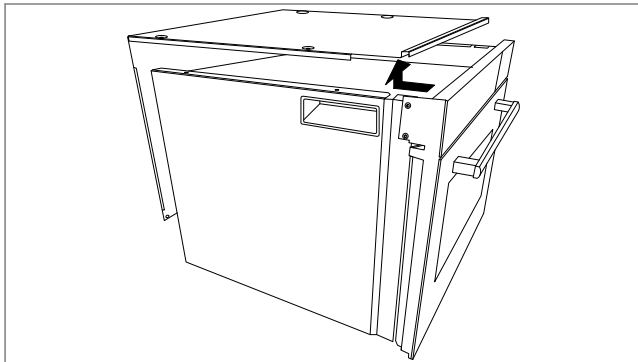
- 1 Place the top plate on the unit.
- 2 Use a T-20 Torx bit to install the screws into the top plate.

DRAIN PUMP ASSEMBLY REMOVAL

To remove the drain pump assembly, first remove the top plate.

Remove the Top Plate

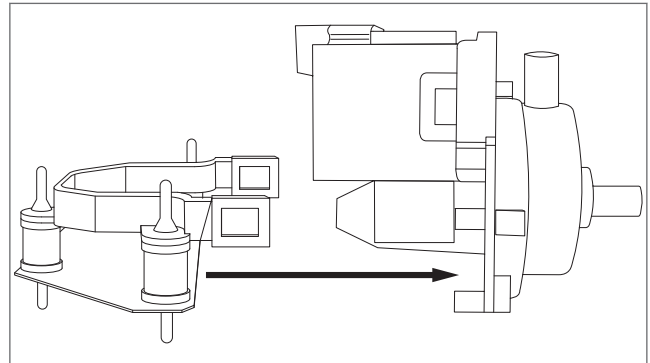
- 1 Use a T-20 Torx bit to remove the screws from the top and back of the unit.
- 2 Remove the top plate from the unit.



Remove the Drain Pump Assembly

- 1 Disconnect the discharge hose to the water tank from the drain pump assembly.
- 2 Disconnect the suction hose from the evaporator from the drain pump assembly.
- 3 Use a flat-blade screwdriver to open the tabs on the drain pump retainer.
- 4 Remove the drain pump assembly from the drain pump retainer.
- 5 Disconnect the electrical connector from the drain pump assembly.

- 6 Remove the drain pump assembly from the unit.



DRAIN PUMP ASSEMBLY INSTALLATION

Install the Drain Pump Assembly

- 1 Connect the electrical connector to the drain pump assembly.
- 2 Insert the drain pump assembly into the drain pump retainer.
- 3 Connect the hose from the water tank to the drain pump assembly discharge.
- 4 Connect the hose from the evaporator to the drain pump suction.

Install the Top Plate

- 1 Place the top plate on the unit.
- 2 Use a T-20 Torx bit to install the screws into the top plate.

DRAIN PUMP RETAINER REMOVAL

To remove the drain pump retainer, first remove the top plate and drain pump assembly.

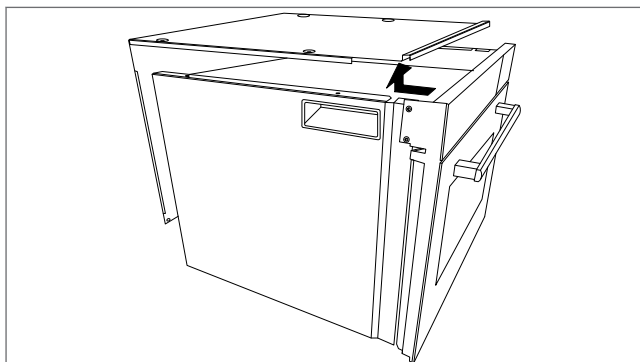
Remove the Top Plate

- 1 Use a T-20 Torx bit to remove the screws from the top and back of the unit.

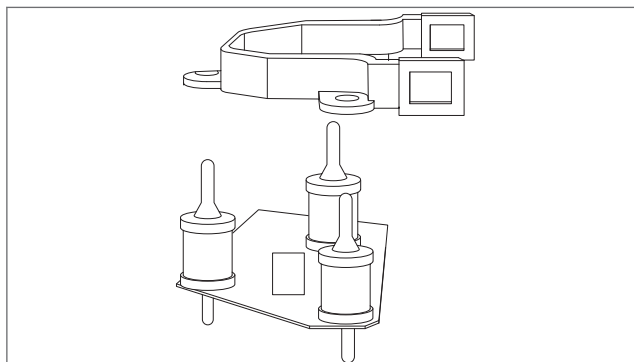
Back Component Removal and Installation

REMOVE THE TOP PLATE (continued)

- 2 Remove the top plate from the unit.

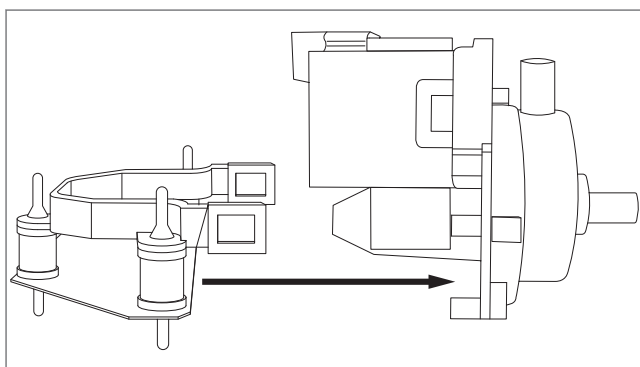


- 2 Remove the drain pump retainer from the unit.



Remove the Drain Pump Assembly

- 1 Disconnect the discharge hose to the water tank from the drain pump assembly.
- 2 Disconnect the suction hose from the evaporator from the drain pump assembly.
- 3 Use a flat-blade screwdriver to open the tabs on the drain pump retainer.
- 4 Remove the drain pump assembly from the drain pump retainer.
- 5 Disconnect the electrical connector from the drain pump assembly.
- 6 Remove the drain pump assembly from the unit.



Remove the Drain Pump Retainer

- 1 Use a flat-blade screwdriver to separate the absorbers from the drain pump retainer.

DRAIN PUMP RETAINER INSTALLATION

Install the Drain Pump Retainer

- 1 Place the drain pump retainer onto the absorbers.
- 2 Pull the absorber nipple through the holes in the drain pump retainer.

Install the Drain Pump Assembly

- 1 Connect the electrical connector to the drain pump assembly.
- 2 Insert the drain pump assembly into the drain pump retainer.
- 3 Connect the hose from the water tank to the drain pump assembly discharge.
- 4 Connect the hose from the evaporator to the drain pump suction.

Install the Top Plate

- 1 Place the top plate on the unit.
- 2 Use a T-20 Torx bit to install the screws into the top plate.

EVAPORATOR REMOVAL

To remove the evaporator, first remove the top plate.

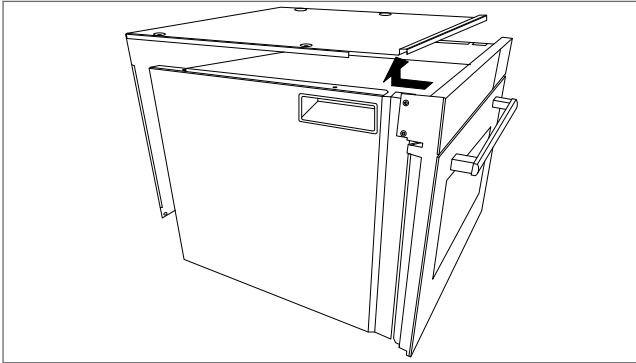
Remove the Top Plate

- 1 Use a T-20 Torx bit to remove the screws from the top and back of the unit.

Back Component Removal and Installation

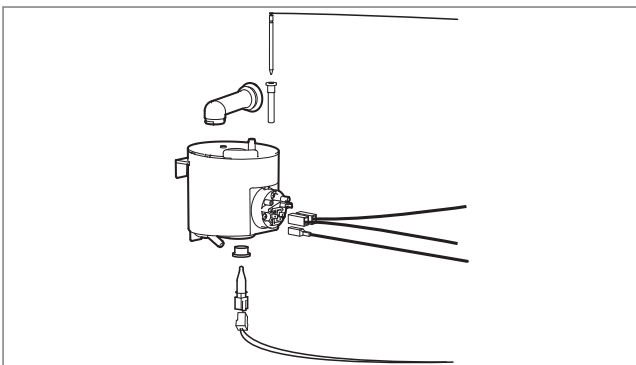
REMOVE THE TOP PLATE (continued)

- 2 Remove the top plate from the unit.



Remove the Evaporator

- 1 Disconnect the hose that goes to the drain pump suction.
- 2 Disconnect the condenser water nozzle from the evaporator.
- 3 Disconnect the electrical connectors to the evaporator.
- 4 Disconnect the electrical connector to the level measure pin.
- 5 Disconnect the electrical connector to the temperature sensor.
- 6 Use a flat-blade screwdriver to press in the tab above the evaporator.
- 7 Lift the evaporator from the retaining brackets.
- 8 Remove the evaporator from the unit.



EVAPORATOR INSTALLATION

Install the Evaporator

- 1 Connect the electrical connector to the temperature sensor.

- 2 Insert the evaporator into the retaining tabs on the unit.
- 3 Use a flat-blade screwdriver to pry out the tab over the evaporator.
- 4 Connect the condenser water nozzle to the evaporator.
- 5 Connect the hose from the evaporator to the drain pump suction.
- 6 Connect the electrical connector to the level measure pin.
- 7 Connect the electrical connectors to the evaporator.

Install the Top Plate

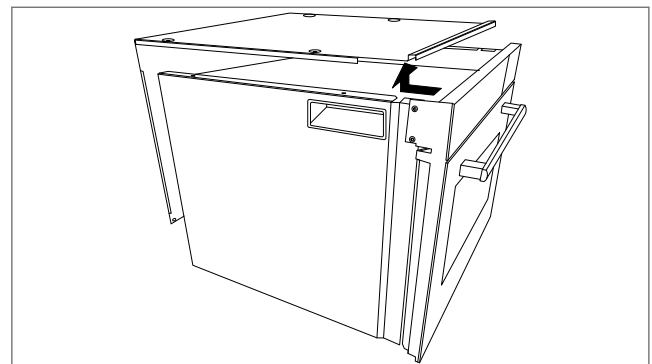
- 1 Place the top plate on the unit.
- 2 Use a T-20 Torx bit to install the screws into the top plate.

LEVEL MEASURE PIN REMOVAL

To remove the level measure pin, first remove the top plate and evaporator.

Remove the Top Plate

- 1 Use a T-20 Torx bit to remove the screws from the top and back of the unit.
- 2 Remove the top plate from the unit.



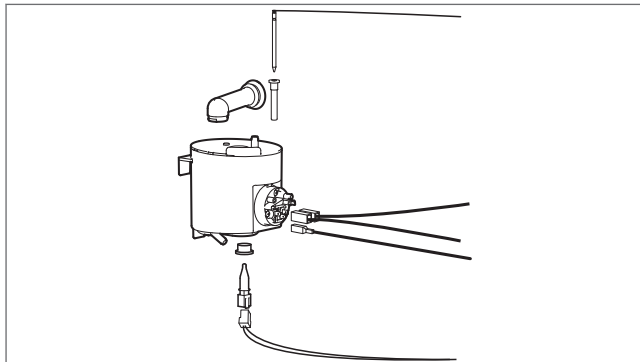
Remove the Evaporator

- 1 Disconnect the hose that goes to the drain pump suction.
- 2 Disconnect the condenser water nozzle from the evaporator.
- 3 Disconnect the electrical connectors to the evaporator.
- 4 Disconnect the electrical connector to the level measure pin.

Back Component Removal and Installation

REMOVE THE EVAPORATOR (continued)

- 5 Disconnect the electrical connector to the temperature sensor.
- 6 Use a flat-blade screwdriver to press in the tab above the evaporator.
- 7 Lift the evaporator from the retaining brackets.
- 8 Remove the evaporator from the unit.
- 2 Insert the level measure pin and pin tube into the evaporator.
- 3 Connect the electrical connector to the level measure pin.



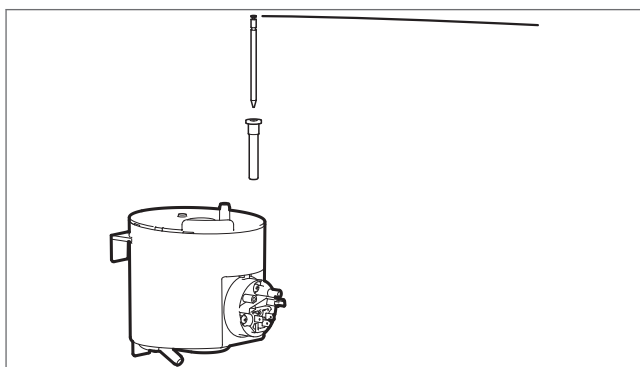
Install the Evaporator

- 1 Connect the electrical connector to the temperature sensor.
- 2 Insert the evaporator into the retaining tabs on the unit.
- 3 Use a flat-blade screwdriver to pry out the tab over the evaporator.
- 4 Connect the condenser water nozzle to the evaporator.
- 5 Connect the hose from the evaporator to the drain pump suction.
- 6 Connect the electrical connector to the level measure pin.
- 7 Connect the electrical connectors to the evaporator.

Remove the Level Measure Pin

TIP: Do not replace the level measure pin without a new pin tube.

- 1 Disconnect the electrical connectors to the level measure pin.
- 2 Pull the level measure pin out of the pin tube.
- 3 Use a flat-blade screwdriver to pry the pin tube from the evaporator.
- 4 Remove the level measure pin and pin tube from the unit.



Install the Top Plate

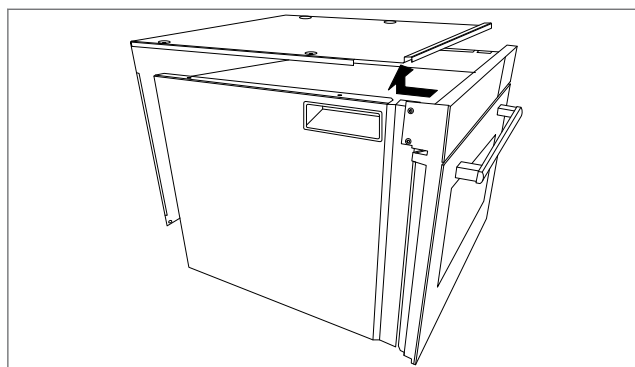
- 1 Place the top plate on the unit.
- 2 Use a T-20 Torx bit to install the screws into the top plate.

TEMPERATURE SENSOR 100C REMOVAL

To remove the temperature sensor 100C, first remove the top plate and evaporator.

Remove the Top Plate

- 1 Use a T-20 Torx bit to remove the screws from the top and back of the unit.
- 2 Remove the top plate from the unit.



LEVEL MEASURE PIN INSTALLATION

Install the Level Measure Pin

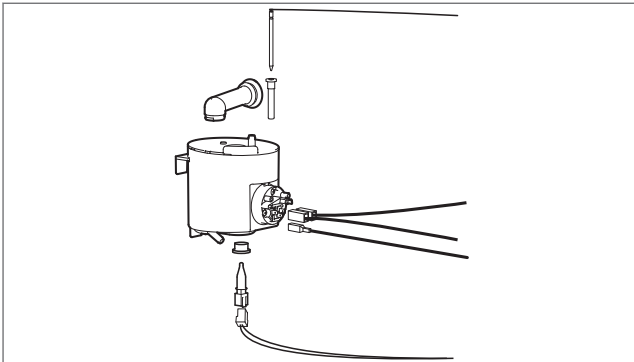
- 1 Insert the level measure pin into the pin tube.

Back Component Removal and Installation

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Remove the Evaporator

- 1 Disconnect the hose that goes to the drain pump suction.
- 2 Disconnect the condenser water nozzle from the evaporator.
- 3 Disconnect the electrical connectors to the evaporator.
- 4 Disconnect the electrical connector to the level measure pin.
- 5 Disconnect the electrical connector to the temperature sensor.
- 6 Use a flat-blade screwdriver to press in the tab above the evaporator.
- 7 Lift the evaporator from the retaining brackets.
- 8 Remove the evaporator from the unit.

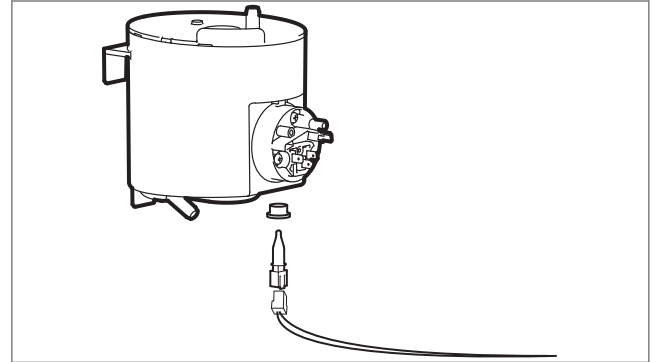


Remove the Temperature Sensor 100C

TIP: Do not replace the temperature sensor 100C without a new grommet.

- 1 Disconnect the electrical connectors to the temperature sensor 100C.
- 2 Pull the temperature sensor 100C out of the grommet.
- 3 Use a flat-blade screwdriver to pry the grommet from the evaporator.

- 4 Remove the temperature sensor 100C and grommet from the unit.



TEMPERATURE SENSOR 100C INSTALLATION

Install the Temperature Sensor 100C

- 1 Insert the grommet into the evaporator.
- 2 Insert the temperature sensor 100C through the grommet into the evaporator.
- 3 Connect the electrical connector to the temperature sensor 100C.

Install the Evaporator

- 1 Connect the electrical connector to the temperature sensor.
- 2 Insert the evaporator into the retaining tabs on the unit.
- 3 Use a flat-blade screwdriver to pry out the tab over the evaporator.
- 4 Connect the condenser water nozzle to the evaporator.
- 5 Connect the hose from the evaporator to the drain pump suction.
- 6 Connect the electrical connector to the level measure pin.
- 7 Connect the electrical connectors to the evaporator.

Install the Top Plate

- 1 Place the top plate on the unit.
- 2 Use a T-20 Torx bit to install the screws into the top plate.

Back Component Removal and Installation

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FOOD PROBE SOCKET REMOVAL

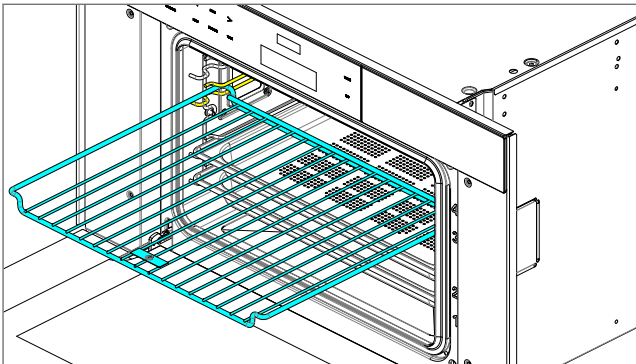
⚠ WARNING

Turn off the power to the product before starting this procedure.

To remove the food probe socket, first remove the racks, right-hand rack guide, and food probe cover.

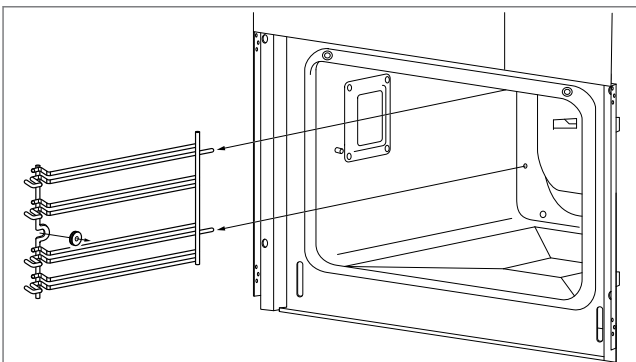
Remove the Rack

Pull the rack forward out of the unit.



Remove the Rack Guide

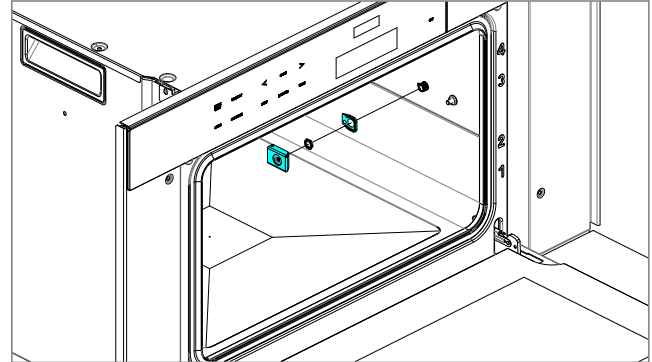
- 1 Remove the rack guide nut.
- 2 Pull the front of the rack guide toward the center of the oven.
- 3 Pull the rack guide forward out of the unit.



Remove the Food Probe Cover

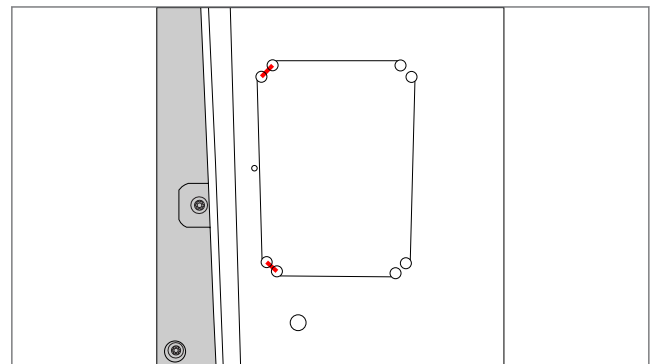
- 1 Lift the food probe cover.
- 2 Use an 11 mm socket to remove the food probe cover nut.

- 3 Remove the food probe cover, nut, and food probe cover seal from the unit.

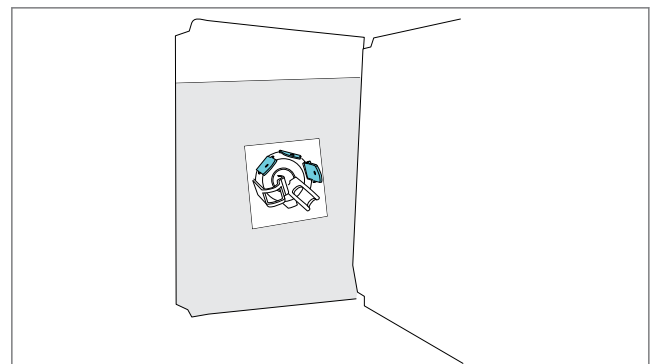


Remove the Food Probe Socket

- 1 Use diagonal pliers to cut across the front joints of the food probe socket cover.



- 2 Lift the front of the food probe socket cover and bend it toward the back of the unit.
- 3 Disconnect the electrical wires from the food probe socket.
- 4 Remove the food probe socket from the unit.



Back Component Removal and Installation

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FOOD PROBE SOCKET INSTALLATION

Install the Food Probe Socket

- 1 Connect the electrical wires to the food probe socket.
- 2 Insert the food probe socket into the unit.
 - a) Place the food probe seal onto the food probe cover.
 - b) Place the food probe cover over the food probe switch threads.
 - c) Use an 11 mm socket to install the food probe nut.
- 3 Bend the food probe socket cover back into place.
- 4 Cover the food probe socket cover with aluminum tape.

Install the Food Probe Cover

- 1 Place the food probe seal onto the food probe cover.
- 2 Place the food probe cover over the food probe switch threads.
- 3 Use an 11 mm socket to install the food probe nut.

Install the Rack Guide

- 1 Insert the rack guide rails into the rear baffle.
- 2 Place the indent in the rack guide over the rack guide stud.
- 3 Install the rack guide nut.

Install the Rack

- 1 Insert the rack between the rails of the rack guide.
- 2 Push the rack into the oven.

PTC HEATER REMOVAL

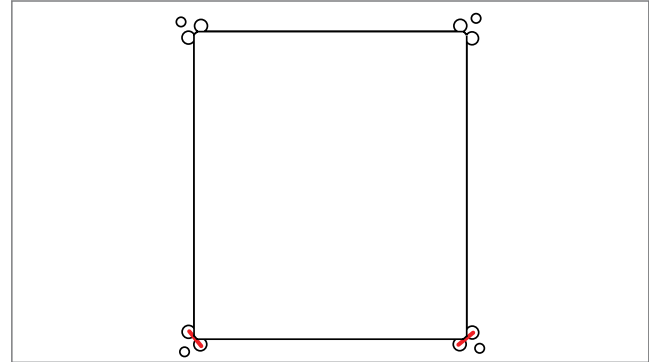
⚠ WARNING

Turn off the power to the product before starting this procedure.

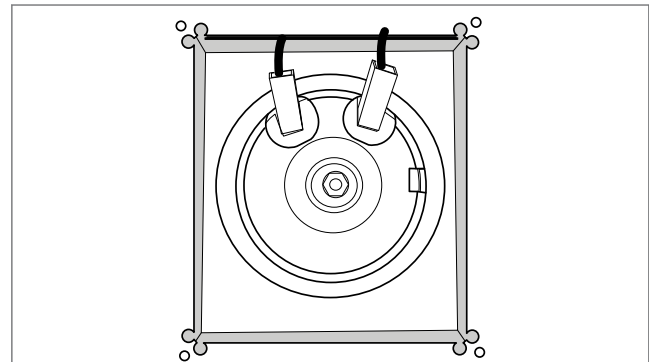
Remove the PTC Heater

- 1 Turn the unit upside down.

- 2 Use diagonal pliers to cut across the front joints of the PTC heater cover.



- 3 Lift the front of the PTC heater cover and bend it toward the back of the unit.
- 4 Cut the insulation out of the opening.
- 5 Disconnect the electrical wires from the PTC heater.
- 6 Use a $\frac{5}{16}$ " socket or nut driver to remove the nut from the PTC heater.
- 7 Remove the PTC heater from the unit.



PTC HEATER INSTALLATION

Install the PTC Heater

- 1 Place the PTC heater into the unit.
- 2 Use a $\frac{5}{16}$ " socket or nut driver to install the nut onto the PTC heater.
- 3 Install the insulation.
- 4 Bend the PTC heater cover back into place.
- 5 Cover the PTC heater cover with aluminum tape.

Troubleshooting

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TROUBLESHOOTING

TROUBLESHOOTING GUIDE

| Error Code | Error | Possible Cause | Test/Action |
|------------|--|---|---|
| E1 | EEPROM read error | Moisture on control board. | 1. Inspect for steam leaks. 2. Replace the control board if error persists. |
| E2 | EEPROM write error | Moisture on control board. | 1. Inspect for steam leaks. 2. Replace the control board if error persists. |
| E3 | EEPROM status error | Moisture on control board. | 1. Inspect for steam leaks. 2. Replace the control board if error persists. |
| E4/F5 | Control board MAIN-DATA invalid | Reload software error. | 1. Turn the power to the unit off and then back on. 2. Replace the control board. |
| E5/F5 | Control board MAIN-DATA incompatible | Reload process error. | 1. Turn the power to the unit off and then back on. 2. Replace the control board. |
| E6/F5 | Unit model identification invalid | | 1. Inspect the connector and jumper on relay board X14-8 to X14-11 for loose or broken connection. 2. Turn the power to the unit off and then back on. 3. Replace the control board and relay board. |
| E7/F5 | Relay board MAIN-DATA invalid | Reload software error. | 1. Turn the power to the unit off and then back on. 2. Replace the relay board. |
| E8/F5 | Relay board MAIN-DATA incompatible | Reload software error. | 1. Turn the power to the unit off and then back on. 2. Replace the relay board. |
| E9/F0 | Temperature sensor short circuit | Short circuit in the temperature sensor or control board. | 1. Measure the resistance of the temperature sensor. 2. Replace the control board. |
| E10/F0 | Temperature sensor interruption | Interruption in the temperature sensor or control board. | 1. Measure the resistance of the temperature sensor. 2. Replace the control board. |
| E11/F0 | Reference cavity temperature short circuit | | Replace the control board. |
| E12/F0 | Reference cavity temperature interruption | | Replace the control board. |
| E13/F11 | Cavity temperature over temperature | Temperature sensor, relay error, or a programming issue. | 1. Verify the element relay is cycling. 2. Verify the temperature sensor resistance is correct. 3. Verify the cavity temperature is exceeding the maximum temperature. 4. Replace the control board and relay board. |
| E14/F8 | Critical relay error | Software or mechanical issue. | 1. If the firmware version is 06 or lower, load relay board firmware higher than K5.22800-07. 2. The software download is faulty. Repeat the download. 3. Turn the power to the unit off and then back on. 4. Replace the relay board and control board. |

Troubleshooting

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Troubleshooting Guide

| Error Code | Error | Possible Cause | Test/Action |
|------------|---|---|--|
| E15/A1 | Maximum operating time exceeded | Depending on the temperature, the cooking mode is cancelled if the unit is not being operated. | <p>Instruct customer on operating times:</p> <p>Cavity temperature < 212°F: not cancelled.</p> <p>Cavity temperature 212°F - 302°F: Cancelled in 48 hours.</p> <p>Cavity temperature 302°F - 392°F: Cancelled in 20 hours.</p> <p>Cavity temperature 392°F - 572°F: Cancelled in 10 hours.</p> <p>Cavity temperature > 572°F: Cancelled in five hours.</p> |
| E16/A1 | Maximum hold time exceeded | An operation is put on hold if waiting for operator input. Example: door is open, or water tank needs filling. | <p>Instruct customer on maximum hold times. The operation is cancelled if the maximum hold time is exceeded.</p> <ul style="list-style-type: none"> Operating mode: One hour. Programs and recipes: Three hours. |
| E17/F1 | Food probe temperature short circuit | Food probe, food probe socket, or wiring issue. | <ol style="list-style-type: none"> Verify that the food probe is not too hot. Measure the resistance of the food probe. Verify the insulation foil is not touching the socket. Replace the control board. |
| E18/F1 | Food probe temperature open circuit | Open circuit in food probe wires. Loose or broken wire or contact in food probe socket. | <ol style="list-style-type: none"> Plug in the food probe. Measure the resistance on the X4 connector between X4-2 and X4-3. Replace the food probe. Replace the food probe socket. If error occurs during heating, replace the food probe socket. Replace the control board. |
| E19/F28 | Door lock not opening | Cavity temperature is > 572°F. Door lock defective. Temperature sensor open circuit or interrupted. | <ol style="list-style-type: none"> Verify the cavity temperature is above 572°F. Measure resistance of the temperature sensor. External TCO tripped. Replace the relay board. |
| E20/F28 | Door lock not closing | Defective door lock or relay board. | <ol style="list-style-type: none"> Replace the door lock. Replace the relay board. |
| E25/F3 | Short circuit of temperature sensor 300C | | <ol style="list-style-type: none"> Measure the resistance of temperature sensor 300C. Replace the temperature sensor 300C. Replace the relay board. |
| E26/F3 | Open circuit in temperature sensor 300C | | <ol style="list-style-type: none"> Measure resistance of the temperature sensor 300C. Replace the temperature sensor 300C. Replace the relay board. |
| E27/F17 | Over temperature in temperature sensor 300C | Temperature limit of the temperature sensor 300C exceeded. | <ol style="list-style-type: none"> Measure the resistance of the temperature sensor 300C. Verify the room air fan operates at low, medium, and high temperatures. |



Troubleshooting

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Troubleshooting Guide

| Error Code | Error | Possible Cause | Test/Action |
|------------|--|--|---|
| | | Excessively warm air flowing over the temperature sensor 300C during self-clean from a bad door gasket. | 3. Replace the temperature sensor 300C. 4. Replace the door gasket. |
| E28 | Descaling prompt triggered | Past problems with water system tripped a descale message. | Descal the unit. |
| E29/F9 | Leaking steam | Slider stuck or defective. Cooking space not tight. Door not closed properly. Seal or conduit to cavity defective. Too much cold food in cavity. Maximum of 6.5 pounds of frozen food for steam modes. | 1. Communicate the maximum amount of frozen food to the customer. 2. Replace the slider. 3. Inspect the door seal. 4. Inspect the door and hinges for proper closing. 5. If this error occurs with E44, replace the evaporator. 6. Inspect the connector for the temperature sensor 300C for dirt or moisture. |
| E30 | Real-time clock (RTC) is not initialized | | Replace the relay board. |
| E31 | External RTC error | | 1. Replace the control board. 2. Replace the relay board. |
| E32 | Touch button error | Moisture on control board. | 1. Inspect the door seal. 2. Inspect the control board for excessive moisture. 3. Replace the control board. |
| E33/F12 | Temperature - relay board short circuit | Excessive moisture on the relay board. | 1. Inspect the relay board for excessive moisture. 2. Inspect for steam leaks. 3. Replace the relay board. |
| E34/F12 | Temperature - relay board open circuit | | Replace the relay board. |
| E35/F13 | Temperature - relay board over temperature | Power failure during operation. | 1. Remove than restore power to the unit. 2. Verify room air fan operates at low, medium, and high temperatures. 3. Inspect if installation air supply is appropriate. 4. Replace the relay board. |
| E36/F14 | Temperature - control board short circuit | | Replace the control board. |
| E37/F14 | Temperature - control board open circuit | | Replace the control board. |
| E38/F15 | Temperature - control board over temperature | Power failure during operation. | 1. Turn the power to the unit off and then back on. 2. Verify the room air fan operates at all power levels. 3. Replace the control board. |
| E39 | LCD error | Ribbon cable at X15 is loose or connector not locked. | 1. Inspect and reseal the ribbon cable at X15. 2. Replace the control board and display. |
| E41/F2 | Short circuit evaporator | | 1. Inspect the temperature sensor 100C wiring. |

Troubleshooting

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Troubleshooting Guide

| Error Code | Error | Possible Cause | Test/Action |
|------------|---|--|--|
| | temperature sensor 100C | | <ol style="list-style-type: none"> 2. Replace the temperature sensor 100C. 3. Replace the control board. |
| E42/F2 | Open circuit evaporator temperature sensor 100C | | <ol style="list-style-type: none"> 1. Replace the temperature sensor 100C. 2. Replace the control board. |
| E43/F8 | Neutral relay K1 or K2 stuck | K1 or K2 relay failed self-test. | <p>For CSO:</p> <ol style="list-style-type: none"> 1. Check the wiring to all elements. 2. Measure the resistance of the element, PTC heater, and evaporator element. 3. Replace the relay board. <p>For SO24:</p> <ol style="list-style-type: none"> 1. Check the wiring to all elements. 2. Measure the resistance of the bake element and the convection element. 3. Replace the relay board. |
| E44/F26 | Increase in water temperature is slow | <p>Defective evaporator heater.</p> <p>Temperature sensor 100C temperature limiter is not resetting.</p> <p>Defective level measure pin.</p> | <ol style="list-style-type: none"> 1. Check the resistance of the evaporator heater. 2. Check the resistance of the temperature sensor 100C. 3. Replace the evaporator, temperature sensor 100C, and level measure pin. 4. Replace the control board. |
| E45/F8 | Actuator relay K3 stuck | Element or relay board damaged. | <ol style="list-style-type: none"> 1. Check the resistance of the element. 2. Check the resistance of the element to ground. 3. Replace the relay board. |
| E46/F8 | Actuator relay K4 stuck | Element or relay board damaged. | <ol style="list-style-type: none"> 1. Check the resistance of the element. 2. Check the resistance of the element to ground. 3. Replace the relay board. |
| E47/F8 | Actuator relay K5 stuck | Element or relay board damaged. | <ol style="list-style-type: none"> 1. Check the resistance of the element. 2. Check the resistance of the element to ground. 3. Replace the relay board. |
| E48/F8 | Actuator relay K6 stuck | Element or relay board damaged. | <ol style="list-style-type: none"> 1. Check the resistance of the element. 2. Check the resistance of the element to ground. 3. Replace the relay board. |
| E49/F8 | Actuator relay K7 stuck | Element or relay board damaged. | <ol style="list-style-type: none"> 1. Check the resistance of the element. 2. Check the resistance of the element to ground. 3. Replace the relay board. |
| E50/F25 | Moisture on the control board | <p>Room air fan not working.</p> <p>Steam leak.</p> | <ol style="list-style-type: none"> 1. Check the operation of the room air fan. 2. Check the resistance of the room air fan. 3. Check for a steam leak from the door, gasket, and exhaust duct. 4. Replace the control board. |



Troubleshooting

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Troubleshooting Guide

| Error Code | Error | Possible Cause | Test/Action |
|------------|-------------------------------|---|--|
| E51/F6 | Relay calibration invalid | | Replace the relay board. |
| E52/F10 | Water tank leaking | Water valve not tight. Defective or damaged water sensing system. | 1. Inspect the water valve. 2. Inspect the water tank. 3. Inspect the water sensing system. 4. Replace the control board. |
| E53 | RTC calibration invalid | | Replace the relay board. |
| E54/F7 | Actuator, relay board locked | Error E43 to E49 acknowledged 10 times. Relay board remains blocked for safety. | 1. Replace the relay board. 2. After replacing the relay board, determine the reason for error E43 to E49. |
| E55 | Program control data invalid | Error only occurs during operation. | 1. Turn the power to the unit off and then back on again. Run unit again. 2. Replace the control board. |
| E56 | Sequence control data invalid | Error only occurs during operation. | 1. Turn the power to the unit off and then back on again. Run unit again. 2. Replace the control board. |
| E57/U0 | L1 voltage - over voltage | Voltage at L1 greater than 280 VAC for more than three seconds. | 1. Problem with the power supply. 2. Moisture on the relay board. 3. Replace the relay board. |
| E58/U0 | L2 voltage - over voltage | Voltage at L2 greater than 280 VAC for more than three seconds. | 1. Problem with the power supply. 2. Moisture on the relay board. 3. Replace the relay board. |
| E59/U1 | L1 voltage - under voltage | Voltage at L1 was between 155 VAC and 176 VAC. | 1. Problem with the power supply. 2. Replace the relay board. |
| E60/U1 | L2 voltage - under voltage | Voltage at L2 was between 155 VAC and 176 VAC or 0 VAC. | 1. Problem with the power supply. 2. Replace the relay board. |
| E61 | L1 voltage - high voltage | Voltage at L1 was between 260 VAC and 280 VAC for more than three seconds. | 1. Problem with the power supply. 2. Moisture on the relay board. 3. Replace the relay board. |
| E62 | L2 voltage - high voltage | Voltage at L2 was between 260 VAC and 280 VAC for more than three seconds. | 1. Problem with the power supply. 2. Moisture on the relay board. 3. Replace the relay board. |
| E63 | L1 voltage - low voltage | Voltage at L1 was between 176 VAC and 198 VAC for more than three seconds. | 1. Problem with the power supply. 2. Moisture on the relay board. 3. Replace the relay board. |
| E64 | L2 voltage - low voltage | Voltage at L2 was between 176 VAC and 198 VAC for more than three seconds. | 1. Problem with the power supply. 2. Moisture on the relay board. 3. Replace the relay board. |
| E66 | Thermal cutout tripped | The thermal cutout trips at 500°F and resets automatically. | If the error is repeating: 1. Check the resistance of the thermal cutout. |

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Troubleshooting Guide

| Error Code | Error | Possible Cause | Test/Action |
|------------|---|---|--|
| | | | 2. Replace the relay board. |
| E67/F16 | Thermostat 280C or thermostat 160C tripped | <p>Most often a fan or temperature sensing issue.</p> <p>Not a relay board problem without Exx/F8 or E54/F7.</p> <p>If thermostat 280C or thermostat 160C has not tripped and E67 has happened more than once, check E66.</p> | <p>1. If E66 has occurred several times, update the software to baseline 77 or higher.</p> <p>2. Check the resistance of the thermostat.</p> <p>3. Check the operation of the convection fan and room air fan.</p> <p>4. If E66 has occurred several times, replace the relay board.</p> |
| E68/A1 | Water tank is leaking | | <p>1. Inspect the water valve.</p> <p>2. Inspect the water sensing system.</p> <p>3. Replace the control board.</p> |
| E69/F21 | Water tank not initialized | Sequence errors E70, E71, and E72. | See E70, E71, or E72. |
| E70/F21 | Water tank drive switch error | <p>Rack and pinion blocked.</p> <p>Switch on drive board not mounted correctly.</p> | <p>Inspect the water tank drive for blockage, wiring, and mounting.</p> <p>Replace the valve assembly.</p> |
| E71/F21 | Short circuit in water tank drive motor | | <p>1. Check the water tank drive motor wiring.</p> <p>2. Replace the valve assembly.</p> <p>3. Replace the relay board.</p> |
| E72/F21 | Open circuit in water tank drive motor | | <p>1. Check the water tank drive motor wiring.</p> <p>2. Replace the valve assembly.</p> <p>3. Replace the relay board.</p> |
| E74/F22 | Retractable door handle not initialized | Sequence errors E74, E75, E76, and E77. | See E74, E75, E76, or E77. |
| E75/F22 | Retractable door handle switch | Switch on drive board defective or not mounted correctly. | <p>1. Inspect the retractable handle drive.</p> <p>2. Replace the retractable handle drive.</p> |
| E76/F22 | Short circuit retractable door handle drive | | <p>1. Check the retractable door handle drive wiring.</p> <p>2. Replace the retractable door drive.</p> <p>3. Replace the relay board.</p> |
| E77/F22 | Open circuit retractable door handle drive | | <p>1. Check the retractable door handle drive wiring.</p> <p>2. Replace the retractable door drive.</p> <p>3. Replace the relay board.</p> |
| E78/F24 | Sump pumping off error | | Not applicable to Wolf products. |
| E79/F27 | Water inlet is not tight | | Not applicable to Wolf products. |
| E80 | Feed tank is not tight | | Not applicable to Wolf products. |
| E81/F23 | Evaporator draining error | Level measure pin not sensing the correct level for the following reasons: | <p>1. Descale the unit.</p> <p>2. Manually drain the evaporator.</p> <p>3. Measure the resistance of the drain pump and valve evaporator.</p> |

Troubleshooting

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Troubleshooting Guide

| Error Code | Error | Possible Cause | Test/Action |
|------------|--|---|--|
| | | Faulty level measure pin. The evaporator is heavily scaled. The evaporator is filled with descaler. The valve evaporator is defective. The drain pump is defective. A short circuit in the drain pump or level measure pin wiring. | 4. Check for a short circuit to the drain pump or valve evaporator. 5. Replace the level measure pin. 6. Replace the relay board. 7. Replace the control board. |
| E82/F10 | Water leak in sump | | Not applicable to Wolf products. |
| E84 | Slider not initialized | Sequence errors E85, E86, and E87. | See E85, E86, or E87. |
| E85/F4 | Short circuit in stepper motor | | 1. Inspect the stepper motor wiring. 2. Measure the resistance of the stepper motor. 3. Replace the stepper motor. 4. Replace the relay board. |
| E86/F4 | Open circuit in the stepper motor | | 1. Inspect the stepper motor wiring. 2. Measure the resistance of the stepper motor. 3. Replace the stepper motor. 4. Replace the relay board. |
| E87/F4 | Slider is blocked | Path of slider is restricted during normal operation. | 1. Slider is blocked with grease. 2. Slider mechanism is too tight. Replace the slider. |
| E88 | Slider in stop position | Path of slider is restricted during normal operation. | 1. Slider is blocked with grease. 2. Slider mechanism is too tight. Replace the slider. |
| E89/F18 | Communication interruption - inverter | | Not applicable to Wolf products. |
| E90/F18 | Inverter heat sink temperature defective | | Not applicable to Wolf products. |
| E91/F18 | Temperature measurement of magnetron defective | | Not applicable to Wolf products. |
| E92/F18 | Magnetron heating coil defective | | Not applicable to Wolf products. |
| E93/F18 | Anode distance microwave system defective | | Not applicable to Wolf products. |
| E94/F18 | Inverter hardware defective | | Not applicable to Wolf products. |
| E95/F18 | Insufficient cooling of magnetron | | Not applicable to Wolf products. |
| E97 | Operating system: Watchdog control board | | Replace the control board. |
| E98 | Operating system: Watchdog relay board | | Replace the relay board. |
| E99 | Operating system: ASSERT control board | Moisture on control board. | 1. Inspect the control board for moisture. |



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| Error Code | Error | Possible Cause | Test/Action |
|------------|---|---|---|
| | | | 2. Replace the control board if the error continues. |
| E100 | Operating system: ASSERT relay board | Moisture on relay board. | 1. Inspect the relay board for moisture. 2. Replace the relay board if the error continues. |
| E101/F30 | No communication with control board | | 1. Inspect the connection between the relay board and control board. 2. Replace the control board. 3. Replace the relay board. |
| E102/F30 | No communication with relay board | | 1. Inspect the connection between the relay board and control board. 2. Replace the relay board. 3. Replace the control board. |
| E103/F31 | Operating system: Communication between relay board and control board is incompatible | Software version of relay board and control board incompatible. | 1. Reload the software. 2. Replace the control board and relay board. |
| E104/F31 | Operating system: CORE incompatible | | Reload software. |
| E105 | Operating system: NVRAM-FLASH-PAGE write error | Moisture on control board. | 1. Inspect the control board for moisture. 2. Replace the control board if the error continues. |
| E106 | Operating system: NVRAM-FLASH-PAGE delete error | Moisture on control board. | 1. Inspect the control board for moisture. 2. Replace the control board if the error continues. |
| E107 | Operating system: NVRAM-FLASH structure data error | Moisture on control board. | 1. Inspect the control board for moisture. 2. Replace the control board if the error continues. |
| E108 | Operating system: NVRAM-FLASH checksum data error | Moisture on control board. | 1. Inspect the control board for moisture. 2. Replace the control board if the error continues. |
| E109 | Operating system: NVRAM fatal read error | Moisture on control board. | 1. Inspect the control board for moisture. 2. Replace the control board if the error continues. |
| E110 | Operating system: CORE maximum SYNCH_DURATION | Moisture on control board. | 1. Inspect the control board for moisture. 2. Replace the control board if the error continues. |
| E111/F5 | Operating system: Control board checksum error | | 1. Reload software. 2. Replace the control board. |
| E112/F5 | Operating system: Relay board checksum error | | 1. Reload software. 2. Replace the relay board. |
| E113 | Operating system: Control board kernel stack overflow | | Replace the control board. |
| E114 | Operating system: Relay board kernel stack error | | Replace the relay board. |
| E115/F29 | Door lock not initialized | | 1. Check the wiring. 2. Replace the relay board. |
| E116 | Door lock switch | | 1. Check the wiring. |

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| Error Code | Error | Possible Cause | Test/Action |
|------------|---|---|--|
| | | | 2. Replace the relay board. |
| E117/F29 | Short circuit door lock motor | | 1. Check the wiring. 2. Replace the relay board. |
| E118/F29 | Open circuit door lock motor | | 1. Check the wiring. 2. Replace the relay board. |
| E119/F5 | External firmware error | | 1. Reload the software. 2. Replace the control board. |
| E120/F5 | SOUNDLIBRARY error | | 1. Reload the software. 2. Replace the control board. |
| E121/F5 | PICTURELIBRARY error | | 1. Reload the software. 2. Replace the control board. |
| E122/F5 | TEXTLIBRARY error | | 1. Reload the software. 2. Replace the control board. |
| E123/F5 | FONTLIBRARY error | | 1. Reload the software. 2. Replace the control board. |
| E124/F5 | MODELCONFIGLIBRARY error | | 1. Reload the software. 2. Replace the control board. |
| E125/F5 | PRESENTATIONLIBRARY error | | 1. Reload the software. 2. Replace the control board. |
| E131/F5 | FACTORYSETTINGLIBRARY error | | 1. Reload the software. 2. Replace the control board. |
| E132/F5 | EAYCOOK data invalid | | 1. Reload the software. 2. Replace the control board. |
| E133/F32 | Calibration value water level measurement error | | Replace the control board. |
| E136/F16 | Thermostat 160C defective | | Replace the thermostat 160C. |
| E137/F16 | Actuator defective | High resistance to element, bake element, broil element, or evaporator element. | 1. Check all the element wiring. 2. Check the resistance of all elements. |



Technical Data

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TECHNICAL DATA

CONVECTION STEAM OVEN TECHNICAL DATA

TIP: All resistance measurements were performed with the part disconnected from the unit and the unit at room temperature.

TIP: Resistance reading can vary $\pm 10\%$.

| CONVECTION STEAM OVEN | |
|-------------------------|--|
| Data Point | Value |
| Element | 22 Ω , 230 VAC |
| Convection Fan Motor | 70 Ω , 230 VAC |
| Room Air Fan Motor | 310 Ω , 230 VAC |
| PTC Heater | |
| Measured at X17-1,2 | 310 Ω |
| Water Tank Drive Motor | 140 Ω |
| Drain Pump | 88 Ω |
| Stepper Motor | |
| Measured at X10-1,2 | 88 Ω |
| Temperature Sensor | 1090 Ω |
| Loudspeaker | 7 Ω |
| Temperature Sensor 300C | 255 k Ω |
| Evaporator Heater | 40 Ω , 230 VAC |
| Temperature Sensor 100C | |
| Measured at X5-6,7 | 110 k Ω |
| Door Switch | Door Open - Open Door Closed - 0 Ω |
| CSO Resistor | 1500 Ω |
| Thermostat 280C | 0 Ω Either Side |
| Halogen Lighting | 165 Ω |
| Water Valve | 8.7 M Ω |
| Food Probe | 55 k Ω |

Wiring Diagrams

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WIRING DIAGRAMS

CSO WIRING DIAGRAM (SWS #13543126)

WIRE DIAGRAM: MODEL CSO & ICBCSO (SWS #13543126)

WARNING

- This wiring information is provided for use by qualified service personnel only.
- Disconnect appliance from electrical supply before beginning service.
- Be sure all grounding devices are connected when service is complete.
- Failure to observe the above warnings may result in severe electrical shock.

Electronic circuit diagram
Appliance CSO/ICBCSO
Domestic 60Hz / International 50Hz

1010582-00-AC.004
created: 06.11.2015 BIGU
modified: 18.07.2017 HUM
checked



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[Components in a 60Hz appliance which vary from the 50Hz are labeled with a green text in square brackets]

