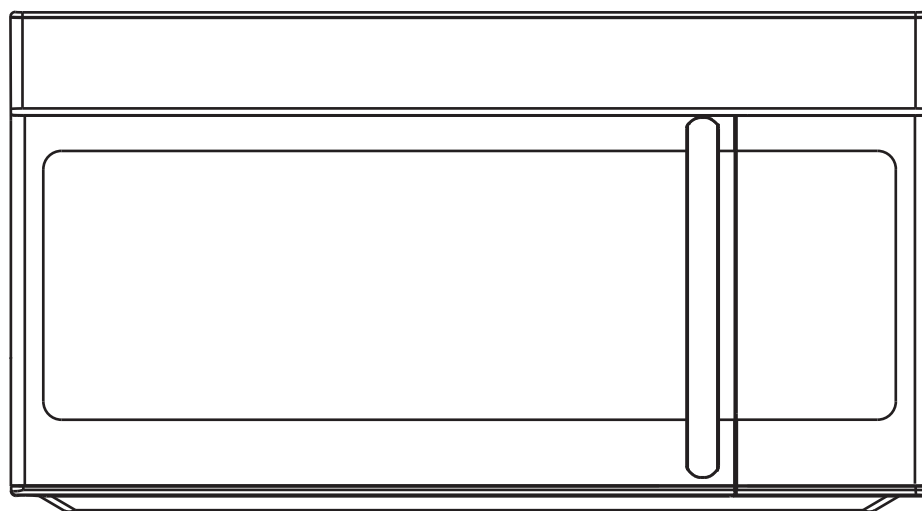


INSIGNIA™

## INSTALLATION GUIDE

# 1.6 Cu. Ft. Over-the-Range Microwave

NS-OTRB16SS3



Before using your new product, please read these instructions to prevent any damage.

# INSIGNIA™

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## Introduction

Congratulations on your purchase of a high-quality Insignia product. Your NS-OTRB16SS3 represents the state of the art in microwave design and is designed for reliable and trouble-free performance.

This installation guide will show you how to install your new over-the-range microwave.

## BEFORE YOU BEGIN

Read these instructions completely and carefully.

- **IMPORTANT** – Save these instructions for local inspector's use.
- **IMPORTANT** – Observe all governing codes and ordinances.
- **Note to Installer** – Be sure to leave these instructions with the consumer.
- **Note to Consumer** – Keep these instructions for future reference.
- **Skill level** – Installation of this appliance requires basic mechanical and electrical skills.
- **Proper installation is the responsibility of the installer.**
- **Product failure due to improper installation is not covered under the Warranty.**

## IMPORTANT SAFETY INSTRUCTIONS

**IMPORTANT—PLEASE READ CAREFULLY. FOR PERSONAL SAFETY, THIS APPLIANCE MUST BE PROPERLY GROUNDED TO AVOID SEVERE OR FATAL SHOCK.**

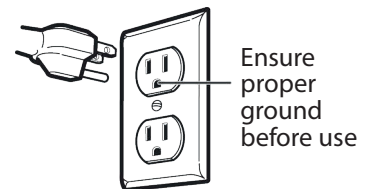
This product requires a three-prong, properly grounded outlet for safe operation. If not properly grounded, or if the outlet box does not meet electrical requirements noted (under **ELECTRICAL REQUIREMENTS**), a qualified electrician should be employed to correct any deficiencies.

The power cord of this appliance is equipped with a three-prong (grounding) plug which mates with a standard three-prong (grounding) wall receptacle to minimize the possibility of electric shock.

You should have the wall receptacle and circuit checked by a qualified electrician to make sure that the receptacle is properly grounded.

Where a standard two-prong wall receptacle is encountered, it is very important to have it replaced with a properly grounded three-prong wall receptacle installed by a qualified electrician.

**DO NOT, UNDER ANY CIRCUMSTANCES, CUT, DEFORM, OR REMOVE ANY OF THE PRONGS FROM THE POWER CORD. DO NOT USE WITH AN EXTENSION CORD.**



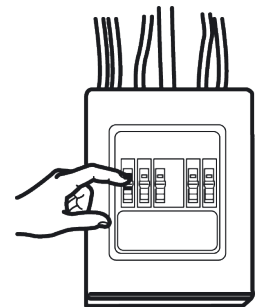
**Note:** For easier installation and personal safety, we recommend that two people install this product because of the weight. We highly recommend professional installation if any electrical or carpentry work is required.

## CAUTION

For personal safety, remove the house fuse or open the circuit breaker before beginning installation to avoid severe or fatal shock injury.

For personal safety, the mounting surface must be capable of supporting the cabinet load, in addition to the added weight of this 63 ~ 85 lbs. (28.6 ~ 38.6 kg) product, plus additional microwave loads of up to 50 lbs. (22.7 kg) for a total weight of 113 ~ 135 lbs. (51.3 ~ 61.2 kg).

For personal safety, this product cannot be installed in cabinet arrangements such as an island or a peninsula. It must be mounted to BOTH a top cabinet AND a wall.



## ELECTRICAL REQUIREMENTS

The product rating of your microwave is 120 VAC, 60 Hz, 15 amps, and 1.6 kilowatts. This product must be connected to a supply circuit of the proper voltage and frequency. Wire size must conform to the requirements of the National Electrical Code or the prevailing local code for this kilowatt rating. The power supply cord and plug should be brought to a separate 15 ~ 20 ampere branch circuit single grounded outlet. The outlet box should be located in the cabinet above the microwave. The outlet box and supply circuit should be installed by a qualified electrician and conform to the National Electrical Code or the prevailing local code.

## Damage during shipping or installation

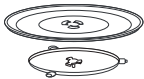
- If your microwave is damaged in shipment, return it to the store in which it was bought for repair or replacement.
- If your microwave is damaged by the customer, repair, or replacement is your responsibility.
- If your microwave is damaged by the installer (if other than the customer), repair or replacement must be made by arrangement between the customer and the installer.

Package contents

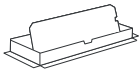
- 1.6 cu. ft. over-the-range microwave
- Turntable (with ring)
- Installation parts
- Installation hardware
- Mounting templates (2)
- Mounting plate (attached to the microwave)
- *Installation Guide*
- *User Guide*

Parts

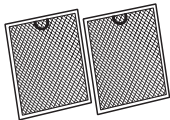
Make sure that you have all the parts necessary to install your new microwave.



Glass turntable and  
Turntable ring



Exhaust adapter



Grease filters (2)


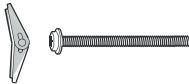




*User Guide and  
Installation Guide*



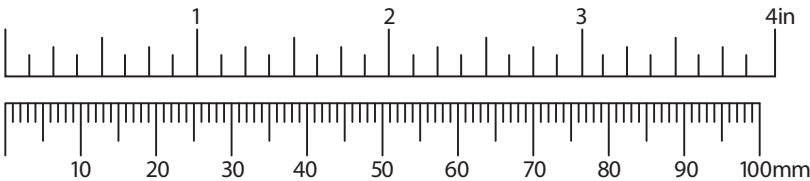
*Top Cabinet Template  
and Rear Wall  
Template*

Hardware

HARDWARE	QTY.
 Wood screws (1/4" × 2")	2
 Toggle bolts with wing nuts (3/16" × 3")	2

HARDWARE	QTY.
 Self-aligning machine screws (20-1/4" × 3")	3
 Nylon grommet	1

**Note:** The installation hardware is located in a packet with your microwave. Some extra parts are also included.



## Before you install

Read these instructions completely before installing your microwave. Make sure that your space meets the mounting requirements and that you've gathered all needed tools and materials.

### Tools and materials needed



Ducts (if venting outside)  
See [Exhaust requirements](#) on page Z



Filler blocks or scrap wood pieces  
(for top cabinet spacing in recessed  
bottom cabinet installations, if needed)



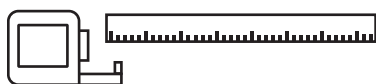
#1 and #2 Phillips screwdrivers



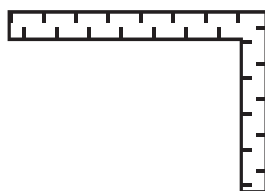
Pencil



Edge-to-edge stud finder



Ruler or tape measure



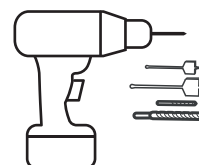
Carpenter square  
(optional)



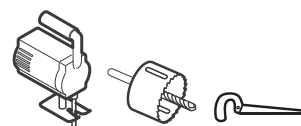
Level



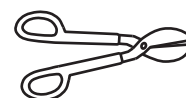
Duct and masking tape



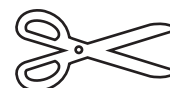
Electric drill with 3/16", 1/2", and 3/8" bits



Saw  
(saber, hole, or keyhole)



Tin snips  
(to cut damper, if needed)



Scissors  
(to cut template, if needed)



Gloves

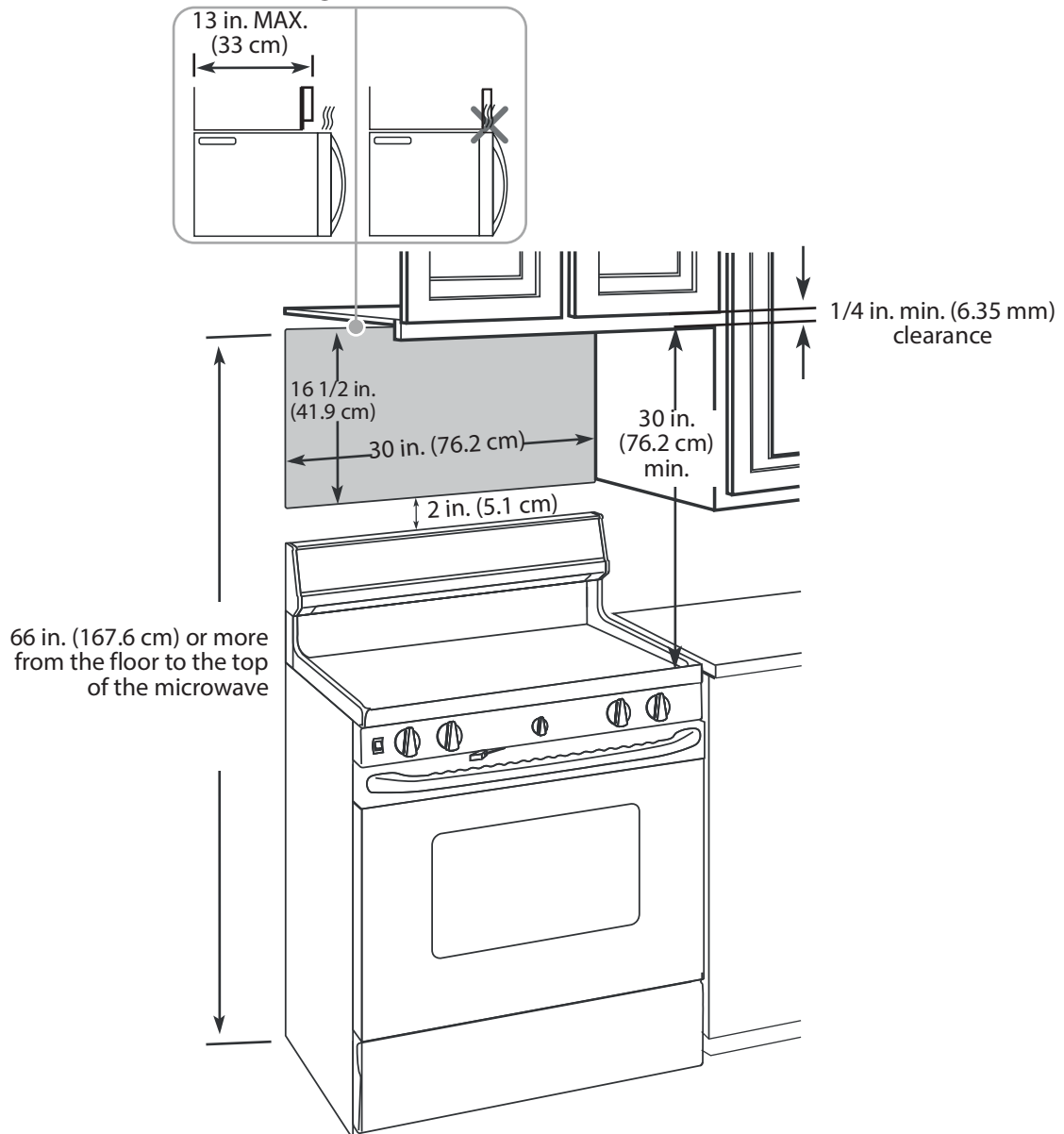


Safety goggles

## Mounting requirements

- The space between the cabinets must be 30 in. (76.2 cm) wide. If the space between the cabinets is more than 30 in. (76.2 cm), you'll need filler material to fill the gap between the microwave and cabinets.
- If the cabinet depth, including the cabinet doors, is more than 13 in. (33 cm), the unit must be spaced out from the wall using adequate materials capable of supporting 150 lbs. (68 kg) to allow for proper top vent air exhaust/intake. (See Figure 1).
- If installing the microwave beneath smooth, flat cabinets, make sure that you leave enough space for the power cord clearance.
- If you are going to vent your exhaust to the outside, see [Exhaust requirements](#) on page 7 for exhaust duct preparation.

**Figure 1**



## Exhaust requirements

Use this section if you plan to vent your microwave outside (top or back exhaust). If you plan to recirculate the air back into the room, skip to [Unpacking your microwave](#) on page 9.

When installing exhaust vents:

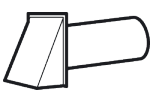


- Use the most direct route with as few elbows/transitions as possible. This helps prevent blockages and ensures that the exhaust is being vented correctly. Also make sure that dampers swing freely and that nothing is blocking the ducts.
- Your microwave is designed to mate with a standard 3 1/4" × 10" (8.3 × 25.4 cm) rectangular duct or 5 in. (12.7 cm) diameter round duct. If a round duct is required, a rectangular-to-round transition adapter must be used.

**Note:** If a rectangular-to-round transition adapter is used, cut the bottom corners of the damper with tin snips to let the damper have free movement.

- Elbows, transitions, and wall/roof caps add resistance to airflow. Each of these pieces are equivalent to a section of straight duct that is longer than their actual physical size. When calculating your duct length, add the equivalent lengths of all the pieces together. For proper airflow, the equivalent airflow should not exceed 140 ft. (42.7 m). For example:

### Outside top exhaust (example)



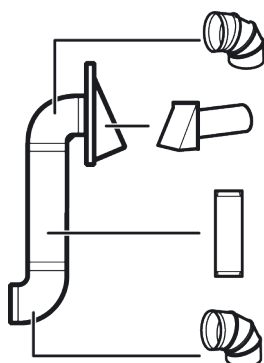
Duct Pieces	Equivalent Length	×	Number Used	=	Total Equivalent Length
 Roof cap	24 ft. (7.3 m)	×	( 1 )	=	24 ft. (7.3 m)
 Rectangular-to-round transition adapter	5 ft. (1.5 m)	×	( 1 )	=	5 ft. (1.5 m)
 12 ft. (3.6 m) Straight duct (6 in. (15.2 cm) round)	12 ft. (3.7 m)	×	( 1 )	=	12 ft. (3.6 m)
<b>Total ductwork =</b>					<b>41 ft. (12.5 m)</b>

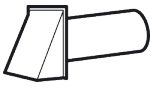


Equivalent lengths of duct pieces are based on actual tests and reflect requirements for good venting performance with any vent hood.

For proper airflow, this number should not exceed 140 ft.

**Important:** If a rectangular-to-round transition adapter is used, cut the bottom corners of the damper with tin snips to let the damper have free movement.

### Outside back exhaust (example)



Duct Pieces	Equivalent Length	×	Number Used	=	Total Equivalent Length
 Wall cap	40 ft. (12.2 m)	×	( 1 )	=	40 ft. (12.2 m)
 90° elbow	10 ft. (3 m)	×	( 2 )	=	20 ft. (6.1 m)
 Straight duct 6" round OR 3-1/4" × 10" rectangular	3 ft. (.9 m)	×	( 1 )	=	3 ft. (.9 m)
<b>Total ductwork =</b>					<b>63 ft. (19.2 m)</b>

Equivalent lengths of duct pieces are based on actual tests and reflect requirements for good venting performance with any vent hood.

For proper airflow, this number should not exceed 140 ft. (42.7 m)





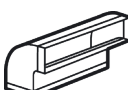
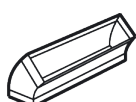
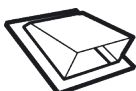

**Note:** For back exhausting, care should be taken to align the exhaust with space between studs, or the wall should be prepared at the time it is constructed by leaving enough space between the wall studs to accommodate exhaust.

Use the [Equivalent duct length table](#) on page 8 to calculate the equivalent ductwork length for your setup.

## Equivalent duct length table

To calculate your equivalent duct length:

- 1 Write the number of sections used for each of the duct pieces.
- 2 Multiply the number used by the equivalent length for each duct piece.
- 3 Add the total equivalent lengths together. This number must be less than 140 ft. (42.7 m).

Duct Pieces	Equivalent Length	×	Number Used	=	Total Equivalent Length
 Rectangular-to-round transition adapter	5 ft. (1.5 m)	×	(      )	=	ft. or m
 Wall cap	40 ft. (12.2 m)	×	(      )	=	ft. or m
 90° elbow	10 ft. (3 m)	×	(      )	=	ft. or m
 45° elbow	5 ft. (1.5 m)	×	(      )	=	ft. or m
 90° elbow	25 ft. (7.6 m)	×	(      )	=	ft. or m
 45° elbow	5 ft. (1.5 m)	×	(      )	=	ft. or m
 Roof cap	24 ft. (7.3 m)	×	(      )	=	ft. or m
 Straight duct 6" round OR 3-1/4" × 10" rectangular	1 ft. (.3 m)	×	(      )	=	ft. or m
<b>Total ductwork =</b>					<b>ft. or m</b> (For proper airflow, this number should not exceed 140 ft. [42.7 m])

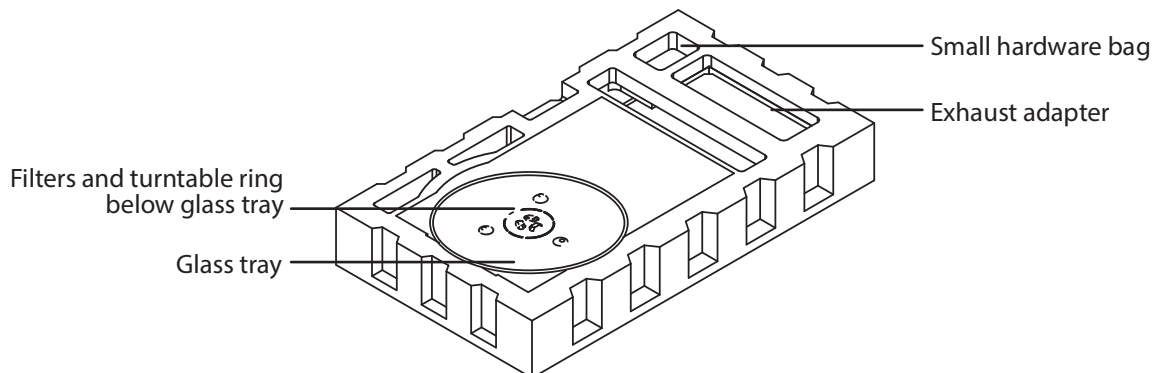


## Unpacking your microwave

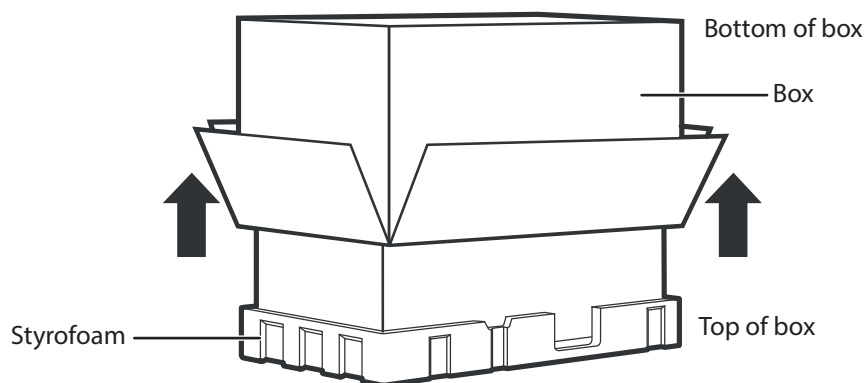
- 1 Open the box and remove the *Installation Guide*, *User Guide*, exhaust adapter, turntable ring, filters, glass tray, and the small hardware bag.

**Note:** Do not remove the Styrofoam protecting the front of the microwave or the plastic plug protective cover until just before hanging the unit.

- 2 Fold back all four box flaps fully against the sides of the box, then carefully roll the microwave and box over onto the top side. The microwave should be resting in the Styrofoam.



- 3 Pull the box up and off the microwave.



- 4 Cut the middle of the outer protective plastic bag to remove the mounting plate.

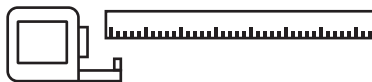
## Installing your microwave

### Step 1: Find the wall studs

#### You'll need:



Edge-to-edge stud finder



Tape measure or ruler



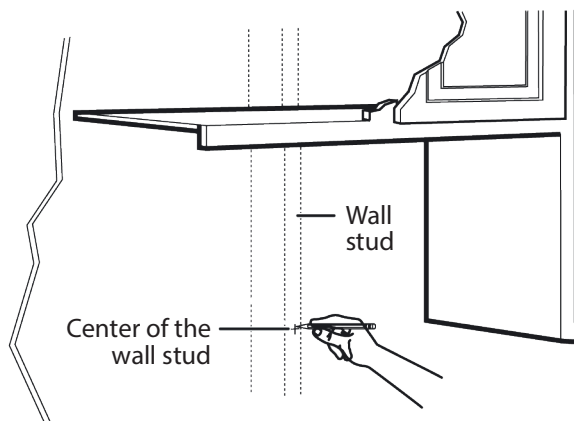
Pencil

**WARNING:** Your microwave must be connected to at least one wall stud.

- 1 Using an edge-to-edge stud finder, locate the edges of the wall stud(s) within the opening.

**Note:** The center of any adjacent wall studs should be 16" or 24" from this mark.

- 2 Mark the center of each stud, then draw a vertical line down the center of each stud.



## Step 2: Align the rear wall template and the wall plate

### You'll need:



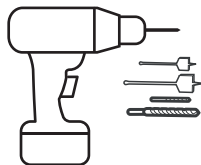
Ruler or tape measure



Level



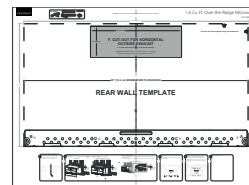
Pencil



Electric drill with 3/16" and 5/8" bits



Duct tape



Rear wall template

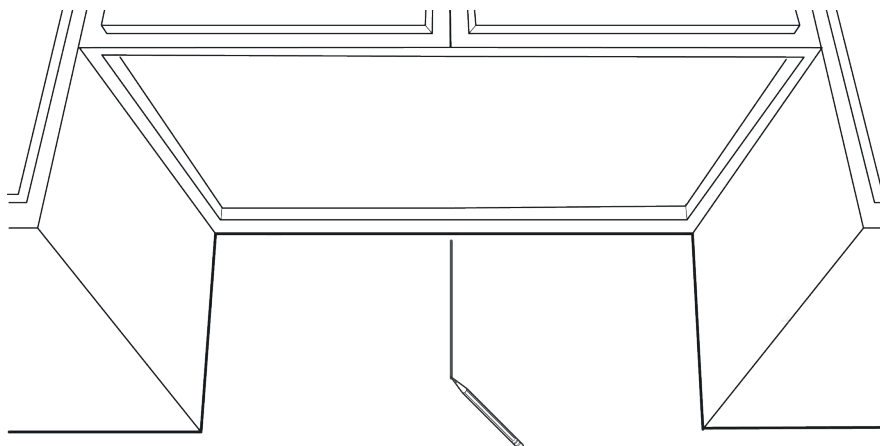
#### CAUTION: THE MICROWAVE MUST BE LEVEL.

Use a level to make sure that the cabinet bottom is level. If the cabinets have a front overhang only, with no back or side frame, install the mounting plate down the same distance as the front overhang depth. This will keep the microwave level.

#### Notes:

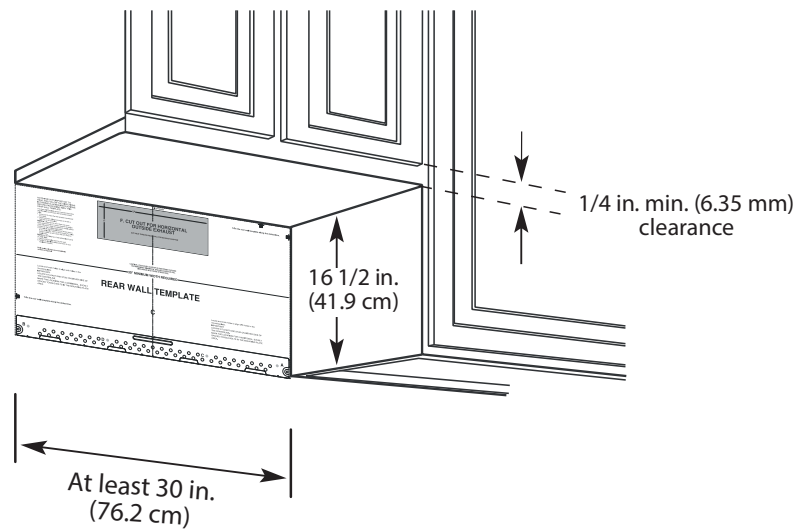
- If you are installing the microwave beneath smooth, flat cabinets, make sure that you leave enough space for the power cord clearance.
- If cabinets have decorative trim that interferes with the microwave installation, remove the trim to install the microwave properly and to make sure that it is level.

- 1 Use a level to make sure that the bottom of the cabinet is level.
- 2 Draw a vertical line down the center of the wall in the mounting space. This is where the center of your template will be.

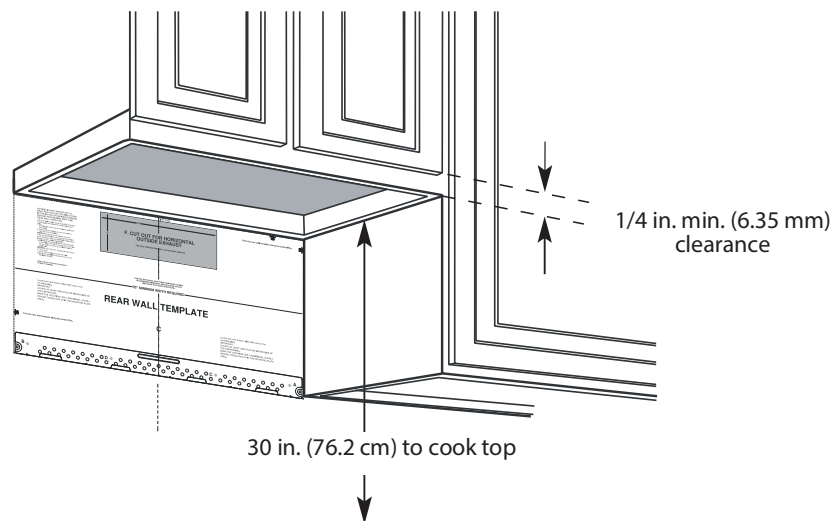


- 3 For flat cabinet bottoms and framed recess cabinet bottoms, tape the rear wall template onto the wall matching the centerline and touching the cabinet bottom.

## Plate position - beneath a flat cabinet bottom

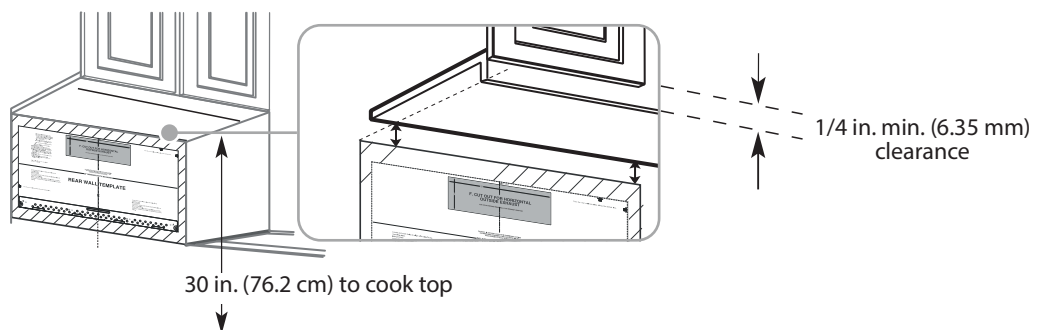


## Plate position - beneath a recessed cabinet bottom with a front overhang



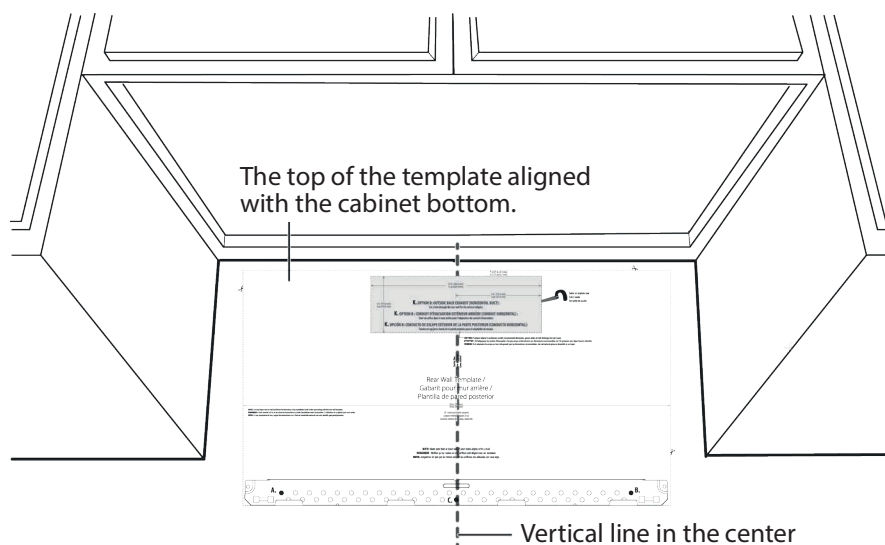
- 4 For flat cabinet bottoms and framed recess cabinet bottoms, skip to step 7. For recessed cabinet bottoms, continue to step 5.
- 5 For a recessed cabinet bottom with a front overhang, draw a horizontal line on the wall the same distance from the cabinet bottom as the bottom of the overhang.

## Plate position - beneath a framed, recessed cabinet bottom



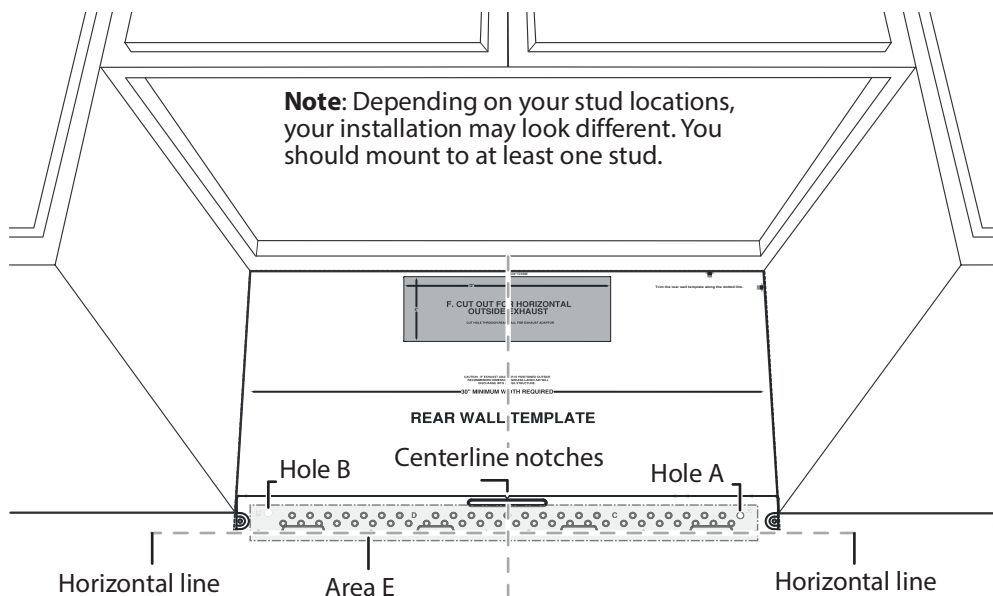
- 6 Tape the rear wall template in place so that it is centered on the vertical line and the top edge is aligned with the horizontal line.

Note: The top of the template must be aligned with the cabinet bottom (for flat bottom cabinets and recessed bottom cabinets) or the horizontal line (for cabinets with an overhang).



- 7 Draw a horizontal line on the wall at the bottom of the rear wall template.
- 8 Find a wall stud in area "E" of the mounting plate (see [Step 1: Find the wall studs](#) on page 10) and mark the centerline of the stud on the template.
- 9 Drill a 3/16 in. hole through the template at the point you marked. Drill 5/8 in. holes at Hole A and at Hole B on the template. Do not mount the mounting plate at this time.

**CAUTION:** At least three holes must be used for mounting and at least one wood screw must be mounted in a stud in order for the mounting plate to support the weight of the microwave.

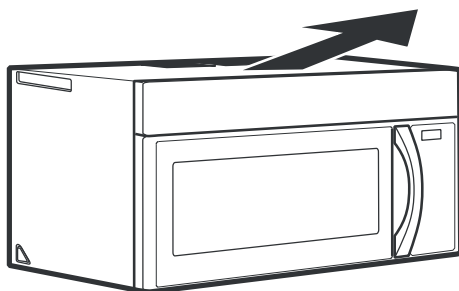


## Step 3: Select a ventilation type

This microwave is designed for three types of ventilation. Select the type of ventilation you want to use, then go to the corresponding page.

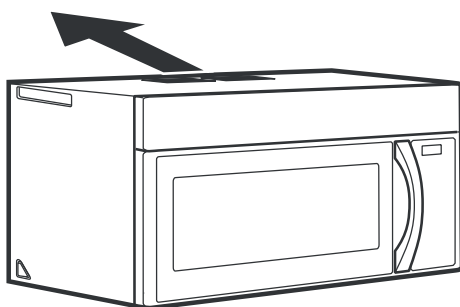
**Note:** This microwave is shipped assembled for recirculating (Option A).

### **Option A - Recirculating (non-vented/ductless): See page 15**



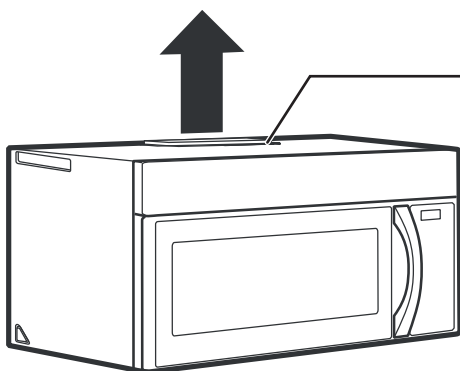
Models are shipped for recirculating exhaust. Some models have a disposable charcoal filter installed to help remove smoke and odors.

### **Option B - Outside back exhaust (horizontal duct): See page 23**



**Note:** The adapter must be moved to the back for outside back exhaust.

### **Option C - Outside top exhaust (vertical duct): See page 33**



Adapter in place for outside top exhaust

**Step 4: Option A (recirculating) - Attach the mounting plate to the wall****You'll need:**

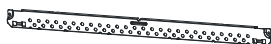
Toggle bolts (2)



Wood screws



Phillips screwdrivers

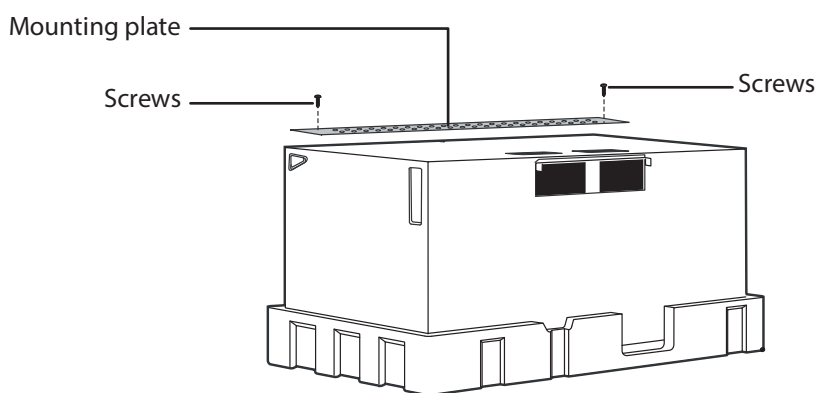


Mounting plate

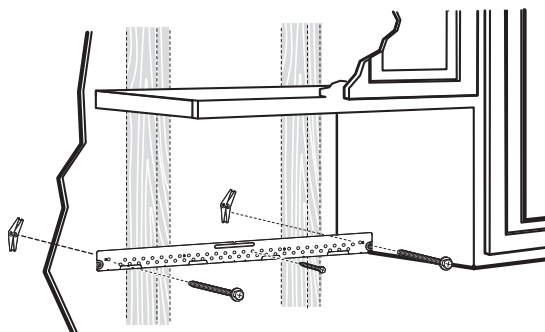
**Notes:**

- Make sure that the screws for the blower motor and blower plate are securely tightened when they are reinstalled. This will help to prevent excessive vibration.
- Make sure that the motor wiring has been properly routed and secured, and that the wires are not pinched.

- 1 Remove the mounting plate from the back of the microwave, then reinstall the screws into the holes where they were removed.



- 2 Remove the toggle wings from the bolts.
- 3 Insert the toggle bolt(s) through the front of the mounting plate into the hole(s) that are not going into a stud, and then attach the toggle wings  $\frac{3}{4}$  in. (19 mm) onto each bolt. Hold your mounting plate up to the holes in your wall to identify the correct position.

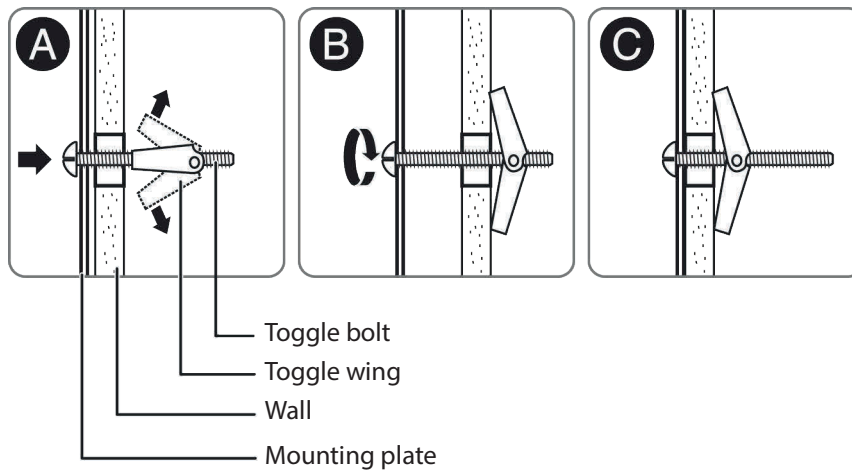


- 4 Place the mounting plate against the wall and insert the toggle wings into the holes you drilled in the drywall. Pull the mounting plate away from the wall to help tighten the toggle wings.

**Note:** Before tightening the toggle bolts and the wood screw(s), make sure that the bottom of the mounting plate touches the bottom of the cabinet when pushed flush against the wall and that the plate is properly centered under the cabinet.

- 5 Insert wood screw(s) through the mounting plate and into the hole(s) drilled in the stud(s), then tighten both the wood screw(s) and the toggle bolt(s) with a Phillips screwdriver to mount the plate. Make sure that the plate is centered before tightening fully.

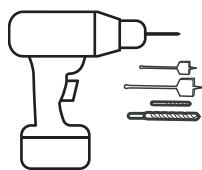
**CAUTION:** Be careful to avoid pinching your fingers between the back of the mounting plate and the wall.





## Step 5: Option A (recirculating) - Prepare the top cabinet

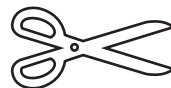
### You'll need:



Electric drill with 1/2" and 3/8" bits



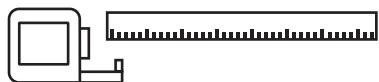
Duct tape



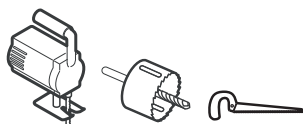
Scissors  
(recessed cabinets only)



Safety goggles



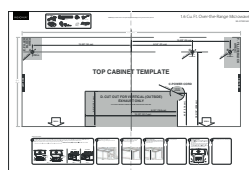
Tape measure or ruler



Saw (saber, hole, or keyhole)



Filler blocks or scrap wood pieces  
(for recessed cabinets only)



Top Cabinet Template

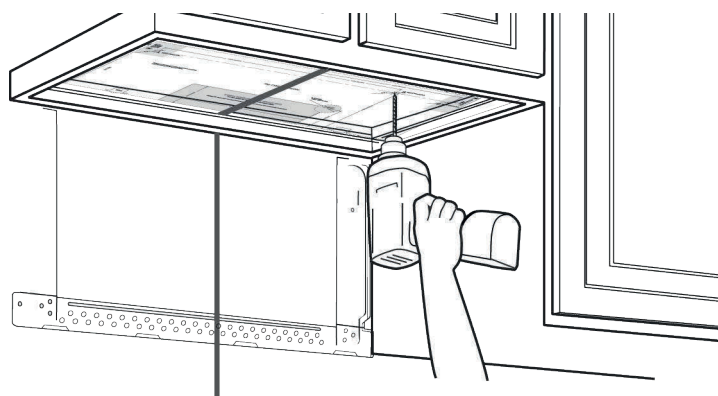
You need to drill holes for the top support screws, a hole large enough for the power cord to fit through, and a cutout large enough for the exhaust adapter.

- 1 Turn off the power to the outlet in the cabinet.
- 2 Remove everything from the cabinet.
- 3 Read the instructions on the top cabinet template.

#### Notes:

- If the bottom of your cabinet is recessed and the template is too large, trim the edges to fit. Your template should fit snugly inside the space with no overhang.
- Make sure that you keep the left and right sides even. For example, if you need to trim the sides by 1 in., cut 1/2 in. from the left side and 1/2 in. from the right side.
- Some cabinets have a small bracket or glue block between the overhang and the underside of the cabinet bottom. Cut the template to fit around these so it lies flat on the bottom of the cabinet.

- 4 To position the *Top Cabinet Template*:
  - Align the center line on the template with the center line that you drew on the wall.
  - Align the back edge of the template to the rear wall (smooth or flat bottom cabinets) or to the back of the recess (recessed cabinets) to make sure that the holes cut into the upper cabinet align with the holes in the top of the microwave.



Center line

- 5 Tape the template to the bottom of the cabinet.

**CAUTION:** Wear safety goggles when drilling holes in the cabinet bottom.

- 6 Drill 3/8 in. holes through the template at points **A** and **C**.
- 7 Cut a 2 in. (5 cm) diameter hole at point **D** for the power cord.
- 8 Cut out the shaded area **E** through the cabinet bottom.
- 9 Remove the template.

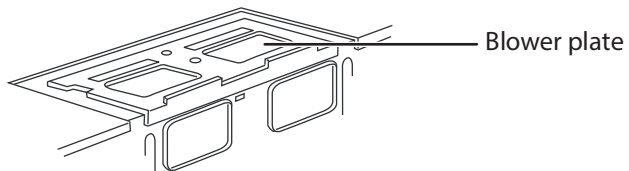
## Step 6: Option A (recirculating) - Check the blower plate

### You'll need:



Phillips screwdrivers

- 1 Place the microwave in its upright position, with the top of the unit facing up.
- 2 Make sure that the blower plate is correctly installed on the unit and that the screws are tight.




## Step 7: Option A (recirculating) - Mount the microwave

### You'll need:

  
Nylon grommet  
(for metal cabinets)

  
Self-aligning machine  
screws (3)

  
Grease filters

  
Phillips screwdrivers

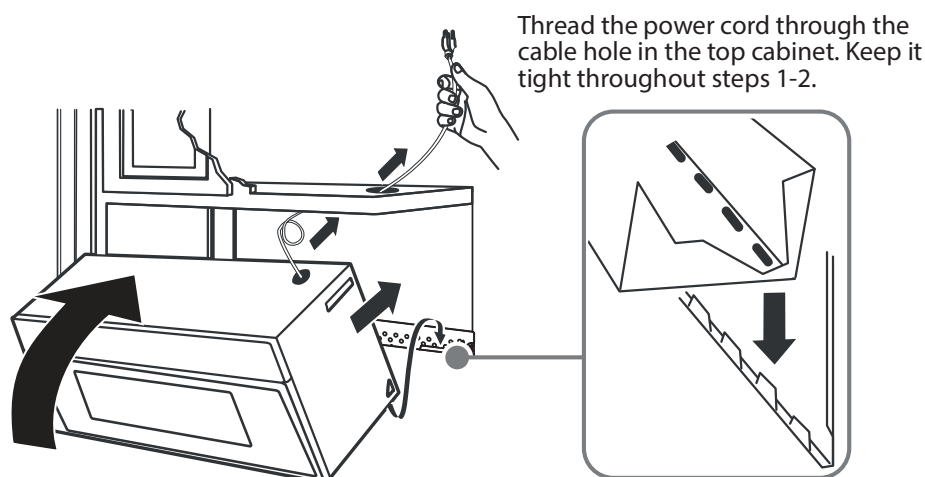
#### CAUTIONS:

- For easier installation and personal safety, we recommend that two people install this product because of the weight. We highly recommend professional installation if any electrical or carpentry work is required.
- Do not grip or use the handle or heat shield during installation.
- If your cabinet is metal, insert the nylon grommet into the power cord hole to prevent cutting the cord.

- 1 Lift the microwave, tilt it forward, and hook the slots on the back bottom edge onto the four lower tabs of the mounting plate, then rotate the front of the microwave up against the bottom of the cabinet.

#### Notes:

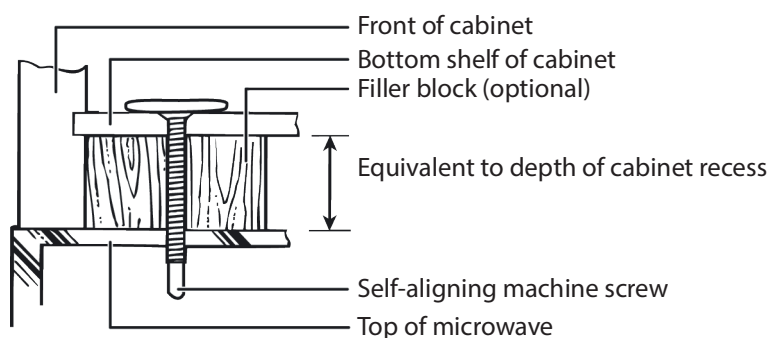
- We recommend using filler blocks if the front of the cabinet hangs below the cabinet's bottom shelf.
- If filler blocks are not used, damage may occur from over-tightening the screws.
- Be sure to keep the power cord tight.
- Do not pinch the cord, especially when mounting flush to the bottom of the cabinet.



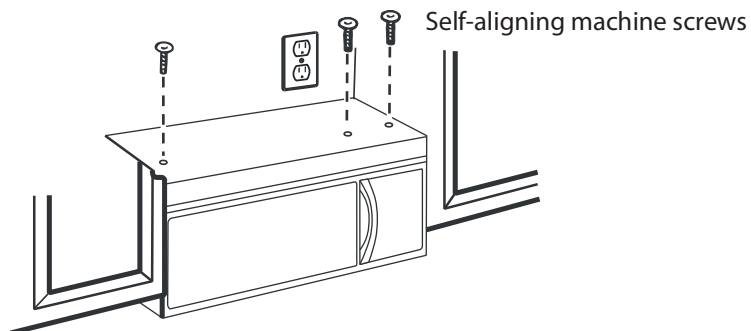
- 2 To attach the microwave to the top cabinet, insert three self-aligning machine screws through the holes you drilled in the bottom of the cabinet. Turn each screw at least two full turns after the threads have engaged (they will be fully tightened later).

#### CAUTIONS:

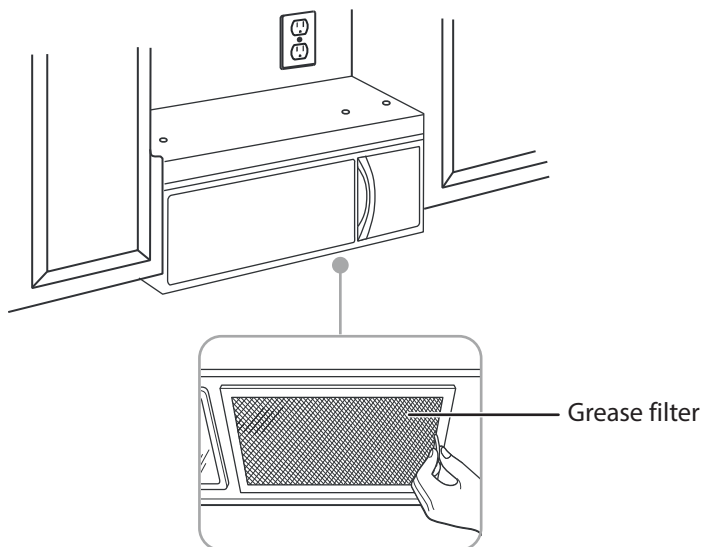
- Be sure that you keep the power cord tight.
- Be careful not to pinch the power cord, especially when mounting flush to the bottom of the cabinet.



- 3 While holding the microwave up against the wall and cabinet, fully tighten the outer two screws.



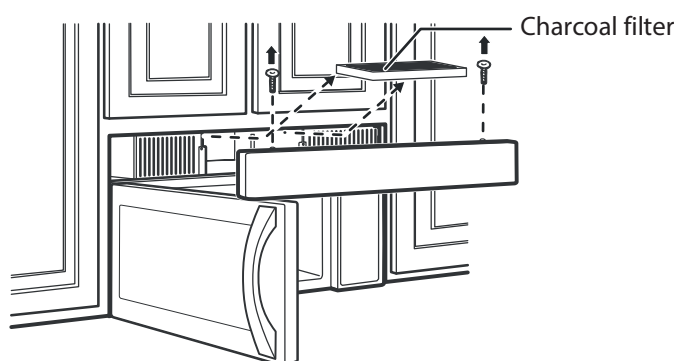
- 4 Fit the two grease filters into the openings underneath your microwave.



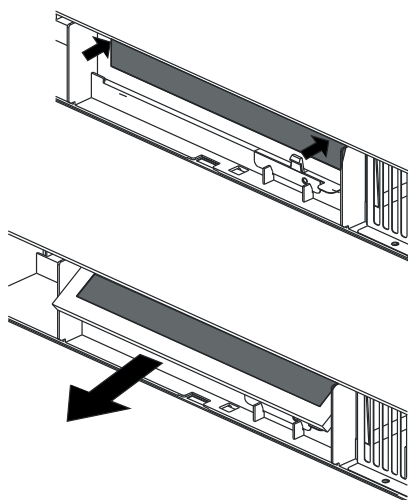
**Step 8: Option A (recirculating) - Installing or changing the charcoal filter****You'll need:**

Phillips screwdrivers

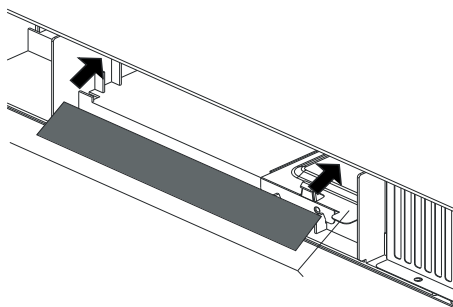
- 1 Unplug the microwave or disconnect the power.
- 2 Open the microwave door and remove the two vent mounting screws located on top of the microwave using a #1 Phillips screwdriver.



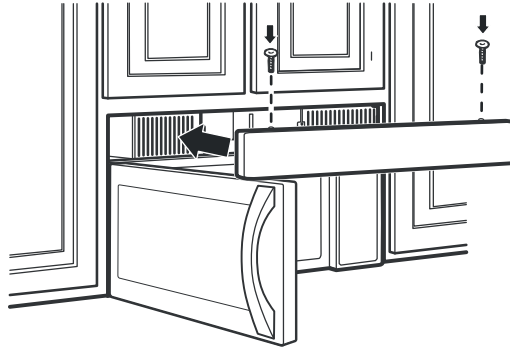
- 3 Remove the charcoal filter by pushing the top of the filter inwards, then pull it forward out from the unit.



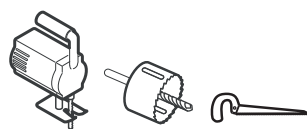
- 4 Slide the top of the (new) charcoal filter into the top of the filter cavity, then press the bottom of the filter into place.



- 5** Reinstall the vent by sliding the bottom of the vent into place, then push the vent top into position and slide it into place. Replace the two vent mounting screws located on top of the microwave using a #1 Phillips screwdriver.



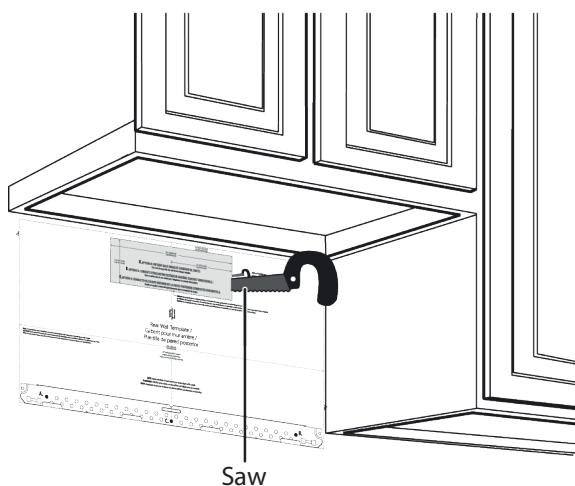
- 6** You're finished! Skip to Before using your microwave on page 42.

**Step 4: Option B (outside back exhaust) - Cutting a vent opening****You'll need:**

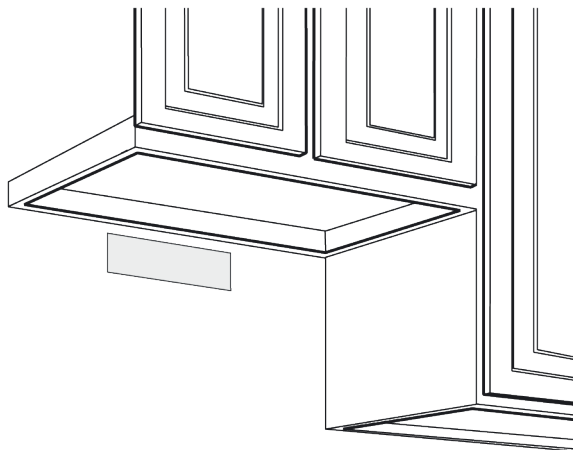
Saw  
(saber, hole, or keyhole)

- 1 Use a saber or keyhole saw to cut out the shaded area **F** through the rear wall.

**Note:** If a wall stud is within 6 in. (15.2 cm) of the vertical center line, you cannot use this installation option.

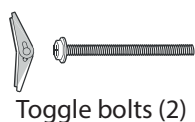


- 2 Remove the rear wall template.



## Step 5: Option B (outside back exhaust) - Attach the mounting plate to the wall

### You'll need:



Toggle bolts (2)



Wood screws



Phillips screwdrivers

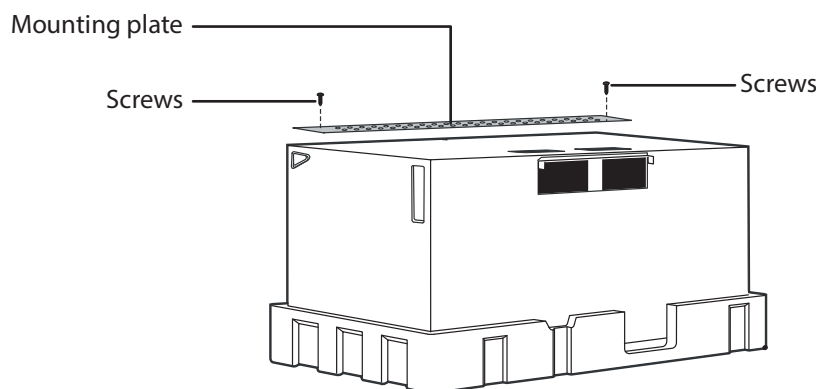


Mounting plate

### Notes:

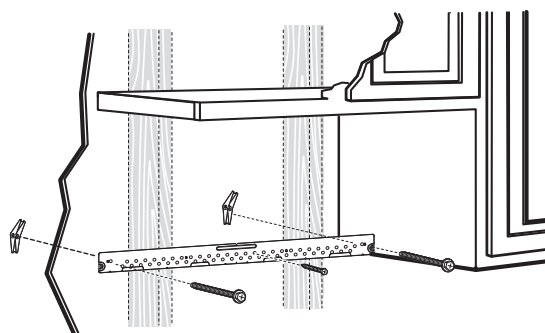
- Depending on your stud locations, your installation may look different. You should insert toggle bolts into drywall and wood screws into studs.
- Attach the mounting plate to the wall using toggle bolts. At least one wood screw must be used to attach the plate to a wall stud.

- 1 Remove the rear wall template.
- 2 Remove the mounting plate from the back of the microwave, then reinstall the screws into the holes where they were removed.



- 3 Insert the bolt(s) through the front of the mounting plate into the hole(s) that are not going into a stud, and then reattach the toggle wings  $\frac{3}{4}$  in. (1.9 cm) onto each bolt. Hold your mounting plate up to the holes in your wall to identify the correct position.

**Note:** The top of the mounting plate is indicated with an arrow. The mounting plate's hooks are on the front.

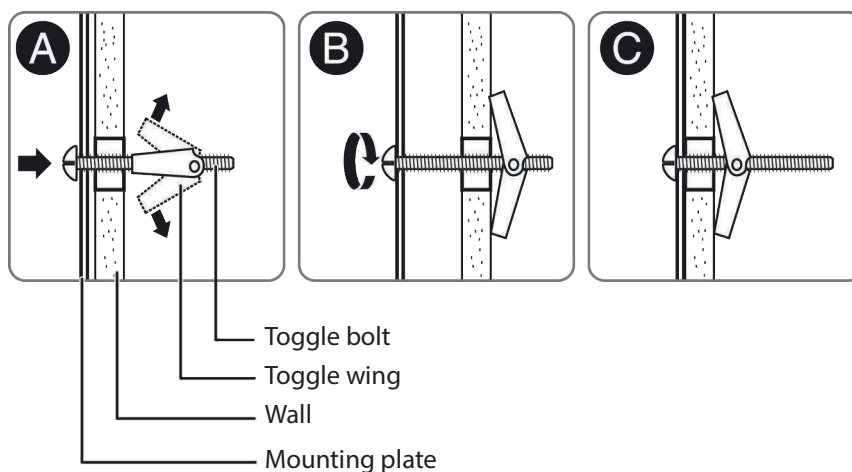


- 4 Place the mounting plate against the wall and insert the toggle wings into the holes you drilled in the drywall. Pull the mounting plate away from the wall to help tighten the toggle wings.



- 5 Insert wood screw(s) through the mounting plate and into the hole(s) drilled in the stud(s), then tighten both the wood screw(s) and toggle bolt(s) with a Phillips screwdriver to mount the plate. Make sure that the plate is centered and touching the bottom of the cabinet before tightening fully.

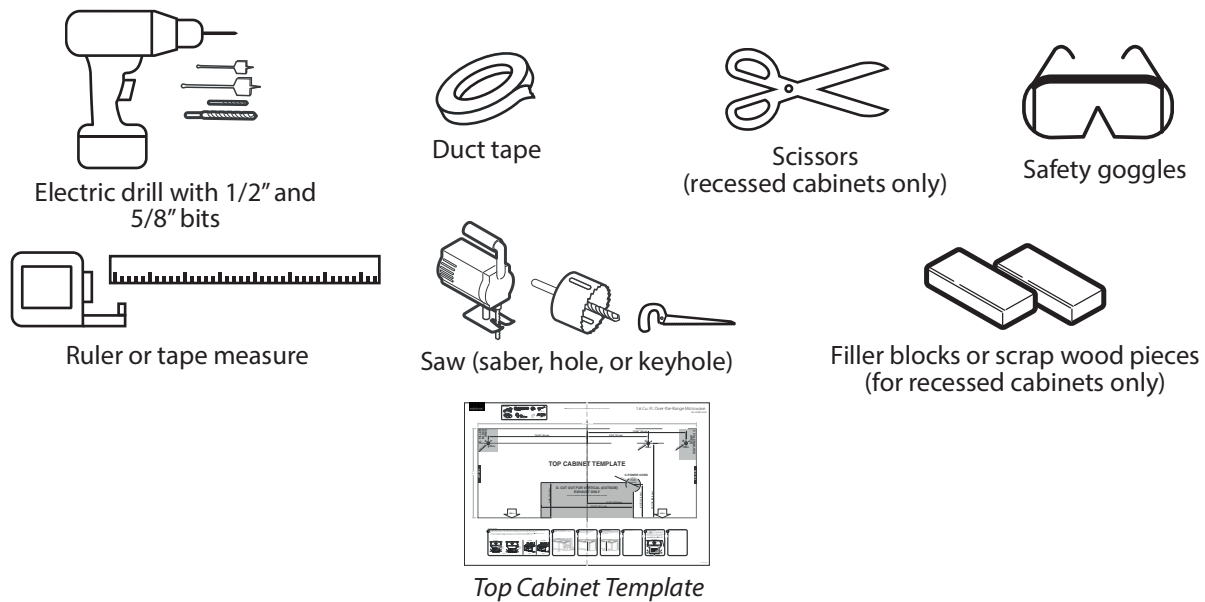
**CAUTION:** Be careful to avoid pinching your fingers between the back of the mounting plate and the wall.



- 6 Tighten all bolts.

## Step 6: Option B (outside back exhaust) - Prepare the top cabinet

### You'll need:



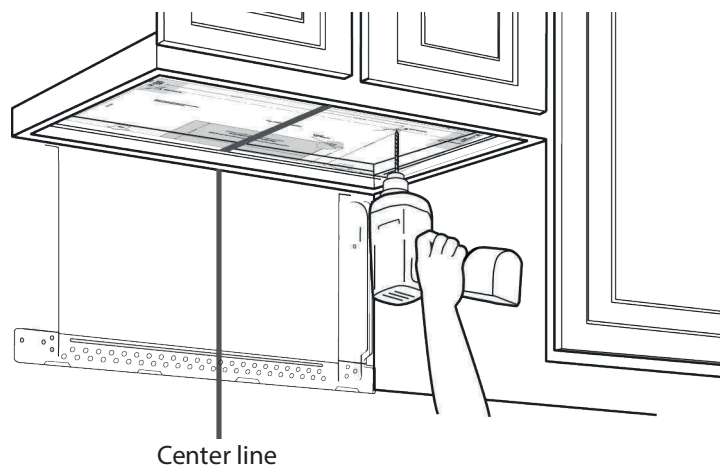
You need to drill holes for the top support screws and a hole large enough for the power cord to fit through.

- 1 Read the instructions on the *Top Cabinet Template*.
- 2 Turn off the power to the outlet in the cabinet.
- 3 Remove everything from the cabinet.
- 4 Trim the *Top Cabinet Template* along the dotted line.
- 5 If the bottom of your cabinet is recessed and the template is too large, trim the edges to fit. Your template should fit snugly inside the space with no overhang.

#### Notes:

- Make sure that you keep the left and right sides even. For example, if you need to trim the sides by 1 in., cut 1/2 in. from the left side and 1/2 in. from the right side.
- Some cabinets have a small bracket or glue block between the overhang and the underside of the cabinet bottom. Cut the template to fit around these so it lies flat on the bottom of the cabinet.

- 6 To position the *Top Cabinet Template*:
  - Align the center line on the template with the center line that you drew on the wall.
  - Align the back edge of the template to the rear wall (smooth or flat bottom cabinets) or to the back of the recess (recessed cabinets) to make sure that the holes cut into the upper cabinet align with the holes in the top of the microwave.

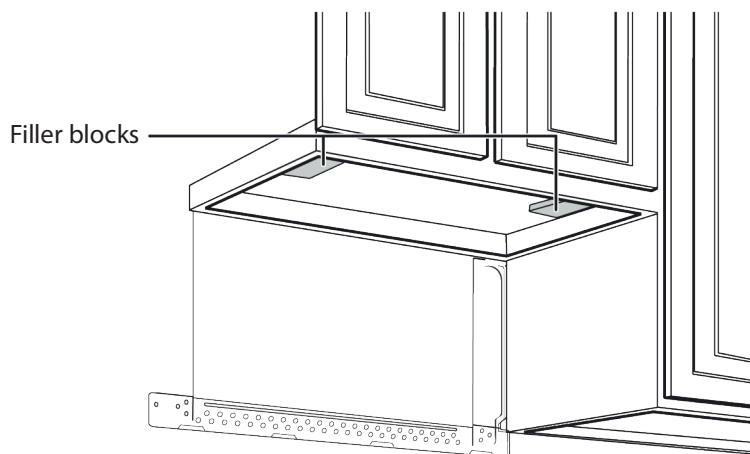


- 7 Tape the template to the bottom of the cabinet.

**CAUTION:** Wear safety goggles when drilling holes in the cabinet bottom.

- 8 Drill 3/8 in. holes through the template at points **A** and **C**.

- 9** Cut a 2 in. (5 cm) diameter hole at point **D** for the power cord.
- 10** Remove the template.
- 11** If you have recessed cabinets:
- Make two filler blocks out of scrap wood pieces the size of shaded areas **F** and **G**. They must be as thick as the depth of the cabinet recess.
  - Drill 3/8 in. holes in the filler blocks to align with points **A** and **C**.
  - Align the blocks with the corresponding holes in the cabinet. They should be at the same level as the bottom edge of the cabinet frame.

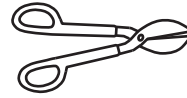


## Step 7: Option B (outside back exhaust) - Adapt the microwave blower for outside back exhaust

### You'll need:

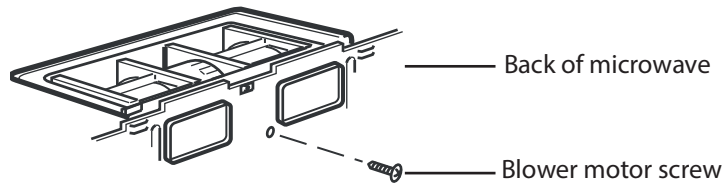


Phillips screwdrivers



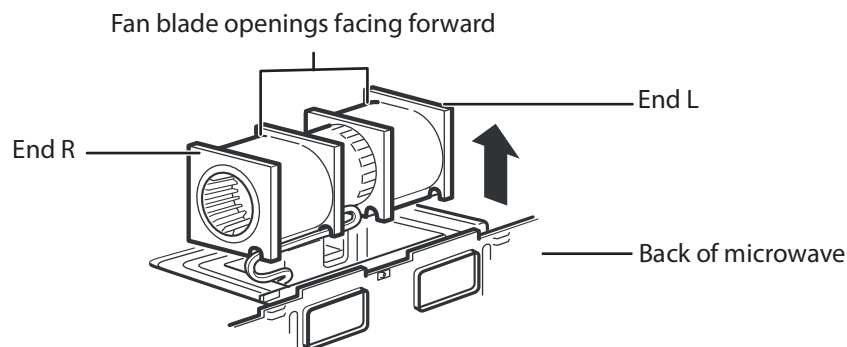
Tin snips

- 1 Remove and save the screw that holds the blower unit in the microwave.

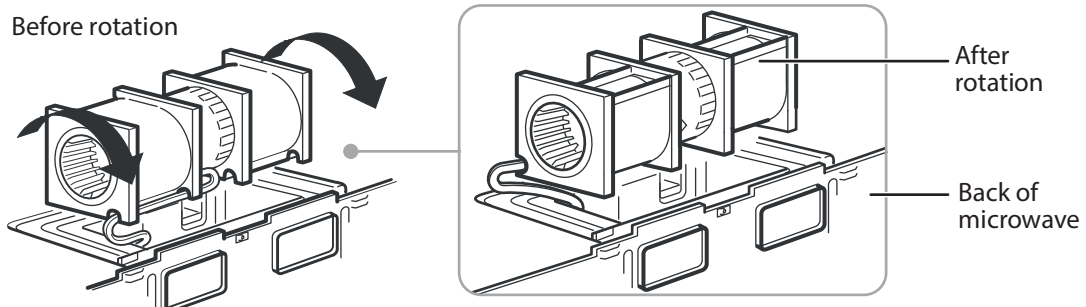


- 2 Carefully pull out the blower unit. The wires will extend far enough to let you adjust the blower unit.

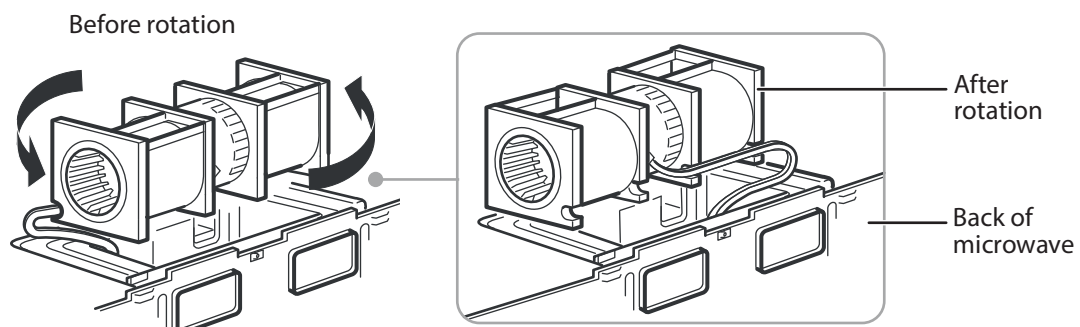
**WARNING:** Do not pull or stretch the blower unit wiring. Make sure that the wires are not pinched.



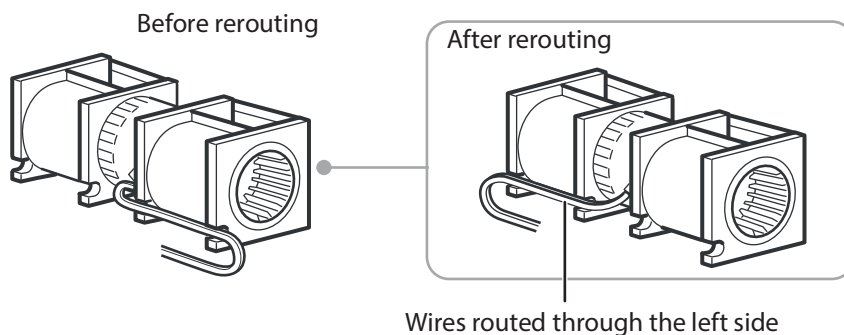
- 3 Roll the blower unit 90°.



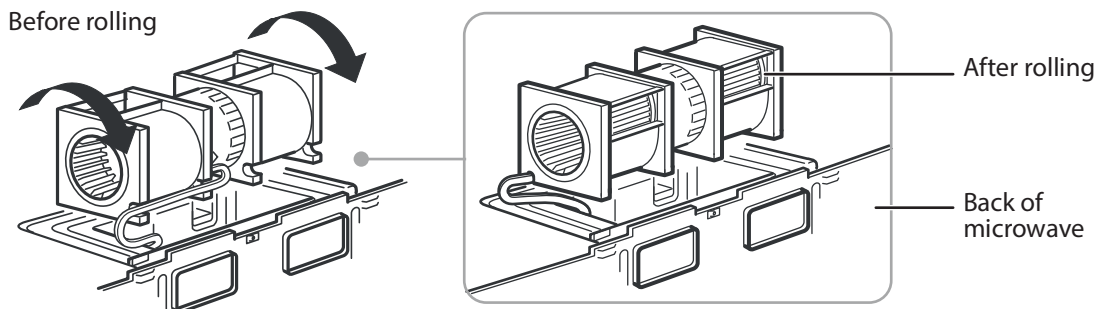
- 4 Turn the blower unit 180° so that the fan blade openings are facing out the back of the microwave.



- 5 Gently remove the wires from the grooves. Reroute the wires through the grooves on the other side of the blower unit.

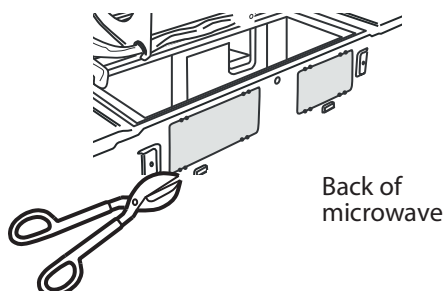


- 6 Roll the blower unit 90°, so that the fan blade openings are facing out the back of the microwave.



- 7 Remove the knockout plates in the back of the unit with tin snips.

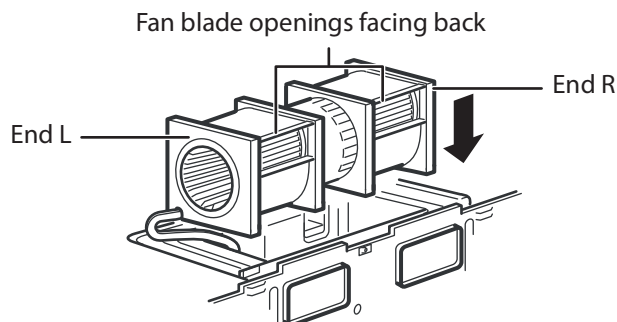
**CAUTION:** Snip all four connections on each knockout panel and remove the metal knockouts for rear airflow. Take care to remove any sharp edges created by removing the knockout plates.



- 8 Place the blower unit back into the opening in the top of the microwave.

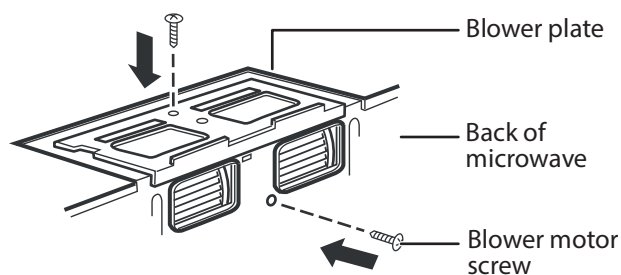
**CAUTION:** Do not pull or stretch the blower unit wiring. Make sure that the wires are not pinched and that they are properly secured.

**Note:** The blower unit exhaust openings should match the exhaust openings in the back of the microwave.

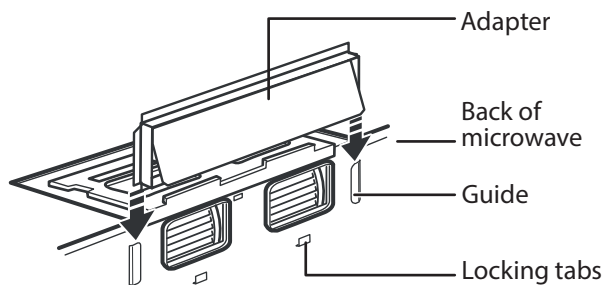


- 9 Secure the blower unit to the microwave with the screw you removed previously.


**10** Replace the blower plate in the same position as it was prior to removing it. Make sure that the screw is tight.



**11** Attach the exhaust adapter to the back of the microwave by sliding it into the guides at the top center of the back of the microwave.



**12** Push in securely until it engages the lower locking tabs. Make sure that the damper hinge is installed so that it is at the top and that the damper swings freely.

**Step 8: Option B (outside back exhaust) - Mount the microwave****You'll need:**


Nylon grommet  
(for metal cabinets)



Self-aligning machine  
screws (3)



Grease filters



Phillips screwdrivers

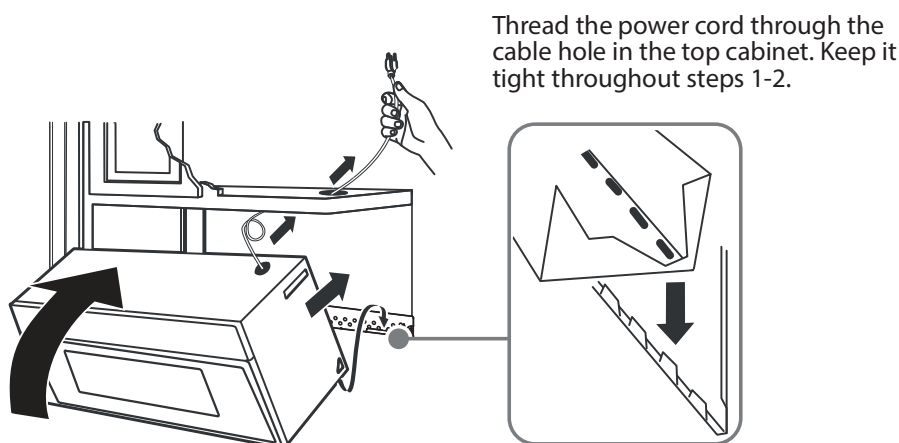
**CAUTIONS:**

- For easier installation and personal safety, we recommend that two people install this product because of the weight. We highly recommend professional installation if any electrical or carpentry work is required.
- Do not grip or use the handle or heat shield during installation.
- If your cabinet is metal, insert the nylon grommet into the power cord hole to prevent cutting the cord.

- 1 Lift the microwave, tilt it forward, and hook the slots on the back bottom edge onto the four lower tabs of the mounting plate, then rotate the front of the microwave up against the bottom of the cabinet.

**Notes:**

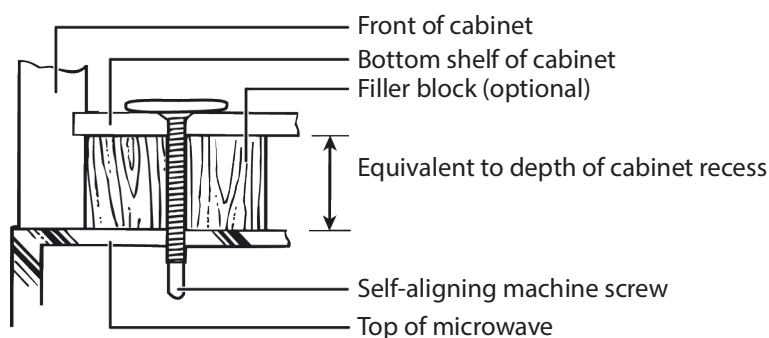
- We recommend using filler blocks if the front of the cabinet hangs below the cabinet's bottom shelf.
- If filler blocks are not used, damage may occur from over-tightening the screws.
- Be sure to keep the power cord tight.
- Do not pinch the cord, especially when mounting flush to the bottom of the cabinet.



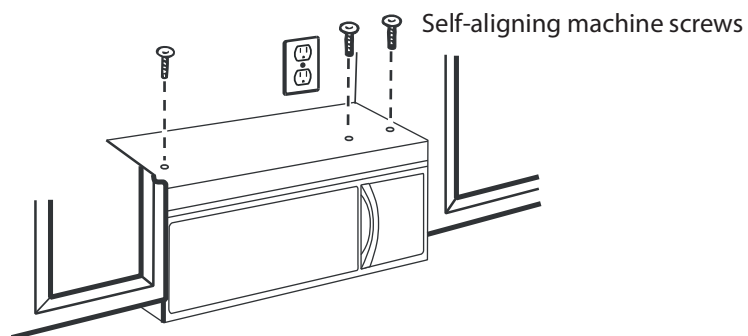
- 2 To attach the microwave to the top cabinet, insert three self-aligning machine screws through the holes you drilled in the bottom of the cabinet. Turn each screw at least two full turns after the threads have engaged (they will be fully tightened later).

**CAUTIONS:**

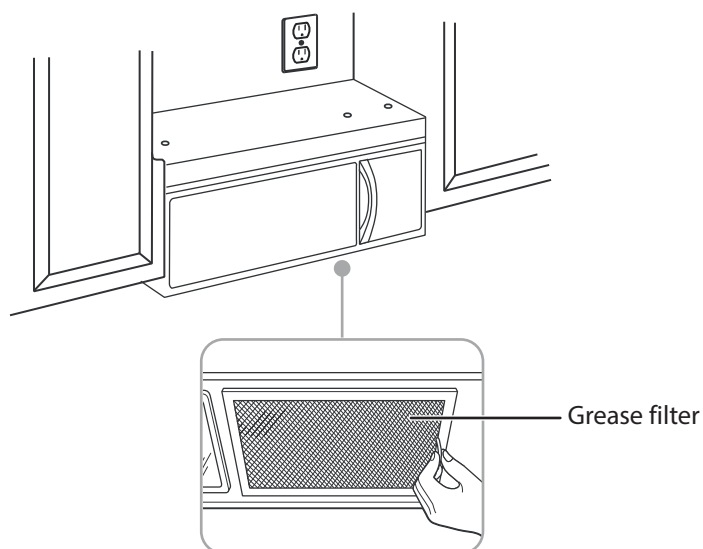
- Be sure that you keep the power cord tight.
- Be careful not to pinch the power cord, especially when mounting flush to the bottom of the cabinet.



- 3 While holding the microwave up against the wall and cabinet, fully tighten the outer two screws.



- 4 Fit the two grease filters into the openings underneath your microwave.



**Important:** Remove the cardboard spacers between the heat shield and the door.

- 5 You're finished! Skip to [Before using your microwave](#) on page 42.



**Step 4: Option C (outside top exhaust) - Attach the mounting plate to the wall****You'll need:**

Toggle bolts (2)



Wood screws



Phillips screwdrivers

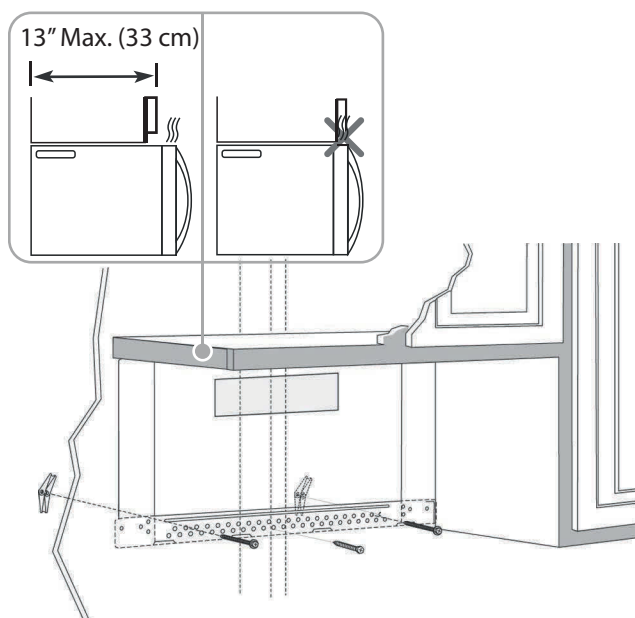


Mounting plate

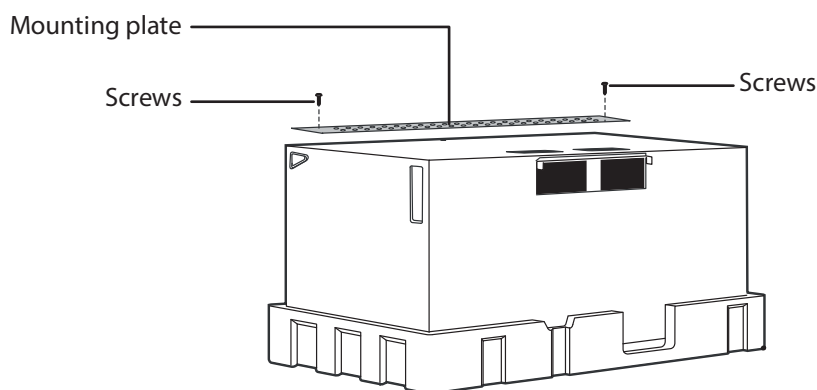
Attach the plate to the wall using toggle bolts. At least one wood screw must be used to attach the plate to a wall stud.

**Notes:**

- If the cabinet depth including the cabinet doors is more than 13 in. (33 cm) then the unit must be spaced out from the wall using adequate materials supporting 150 lbs. (68 kg) to allow for proper top vent air exhaust/intake.
- Make sure that the screws for the blower motor and blower plate are securely tightened when they are reinstalled. This will help to prevent excessive vibration.
- Make sure that the motor wiring has been properly routed and secured, and that the wires are not pinched.



- 1 Remove the mounting plate from the back of the microwave, then reinstall the screws into the holes where they were removed.



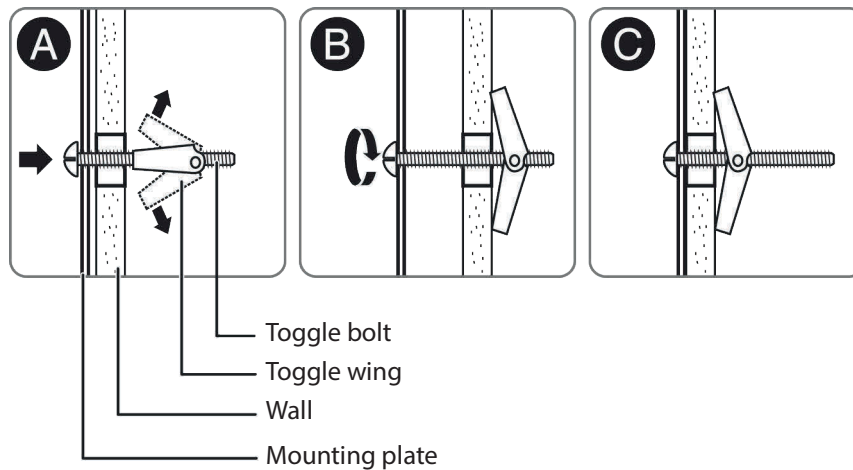
- 2 Remove the toggle wings from the bolts.

- 3 Insert the toggle bolt(s) through the front of the mounting plate into the hole(s) that are not going into a stud, and then attach the toggle wings  $\frac{3}{4}$  in. (19 mm) onto each bolt. Hold your mounting plate up to the holes in your wall to identify the correct position.
- 4 Place the mounting plate against the wall and insert the toggle wings into the holes you drilled in the drywall. Pull the mounting plate away from the wall to help tighten the toggle wings.

**Note:** Before tightening the toggle bolts and the wood screw, make sure that the bottom of the mounting plate touches the bottom of the cabinet when pushed flush against the wall and that the plate is properly centered under the cabinet.

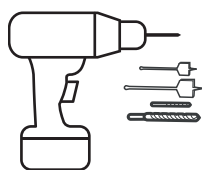
- 5 Insert wood screw(s) through the mounting plate and into the hole(s) drilled in the stud(s), then tighten both the wood screw(s) and toggle bolt(s) with a Phillips screwdriver to mount the plate. Make sure that the plate is centered before tightening fully.

**Note:** Be careful to avoid pinching your fingers between the back of the mounting plate and the wall.



## Step 5: Option C (outside top exhaust) - Prepare the top cabinet

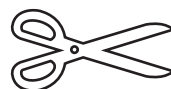
### You'll need:



Electric drill with 1/2" and 5/8" bits



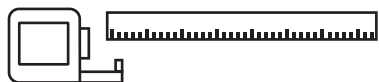
Duct tape



Scissors  
(recessed cabinets only)



Safety goggles



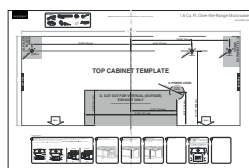
Tape measure or ruler



Saw (saber, hole, or keyhole)



Filler blocks or scrap wood pieces  
(for recessed cabinets only)



*Top Cabinet Template*

You need to drill holes for the top support screws and a hole large enough for the power cord to fit through.

- 1 Turn off the power to the outlet in the cabinet.
- 2 Remove everything from the cabinet.
- 3 Trim the *Top Cabinet Template* along the dotted line.

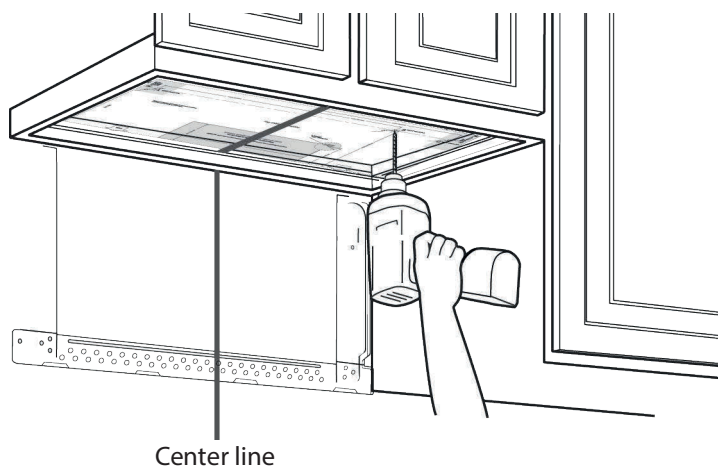
#### Notes:

- Make sure that you keep the left and right sides even. For example, if you need to trim the sides by 1 in., cut 1/2 in. from the left side and 1/2 in. from the right side.
- Some cabinets have a small bracket or glue block between the overhang and the underside of the cabinet bottom. Cut the template to fit around these so it lies flat on the bottom of the cabinet.

- 4 To position the *Top Cabinet Template*:

- Align the center line on the template with the center line that you drew on the wall.
- Align the back edge of the template to the rear wall (smooth or flat bottom cabinets) or to the back of the recess (recessed cabinets) to make sure that the holes cut into the upper cabinet align with the holes in the top of the microwave.

**Note:** Adjust the *Top Cabinet Template* accordingly if the microwave needs to be spaced out from the rear wall due to the cabinet depth (including the cabinet doors) being more than 13 in. (33 cm).

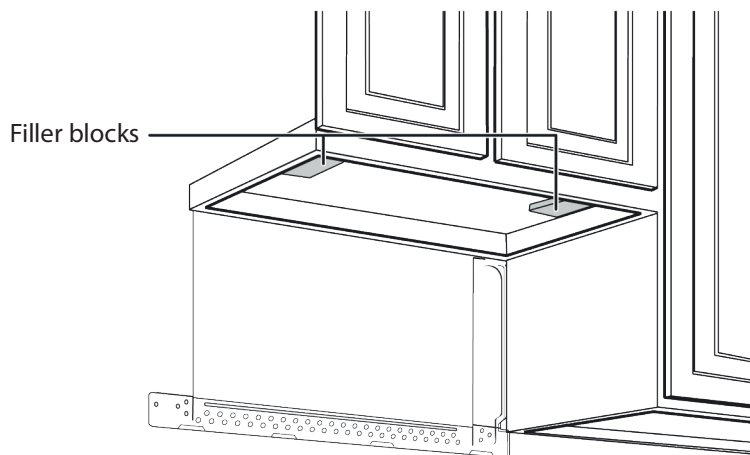


Center line

- 5 Tape the template to the bottom of the cabinet.

**CAUTION:** Wear safety goggles when drilling holes in the cabinet bottom.

- 6 Drill 3/8 in. holes through the template at points **A** and **C**.
- 7 Cut a 2 in. (5 cm) diameter hole at point **D** for the power cord.
- 8 Remove the template.
- 9 If you have recessed cabinets:
  - Make two filler blocks out of scrap wood pieces the size of shaded areas **G** and **H**. They must be as thick as the depth of the cabinet recess.
  - Drill 3/8 in. holes in the filler blocks to align with points **A** and **C**.
  - Align the blocks with the corresponding holes in the cabinet. They should be at the same level as the bottom edge of the cabinet frame.



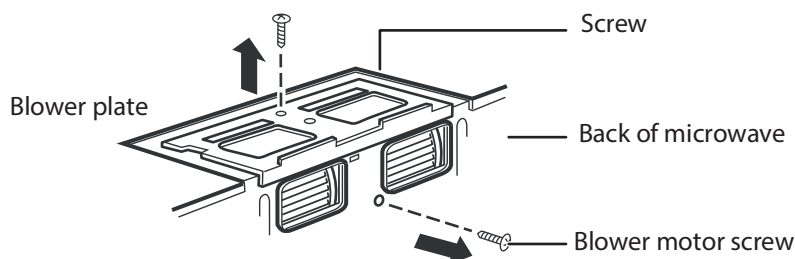
**Step 6: Option C (outside top exhaust) - Insert the exhaust adapter****You'll need:**

Exhaust adapter

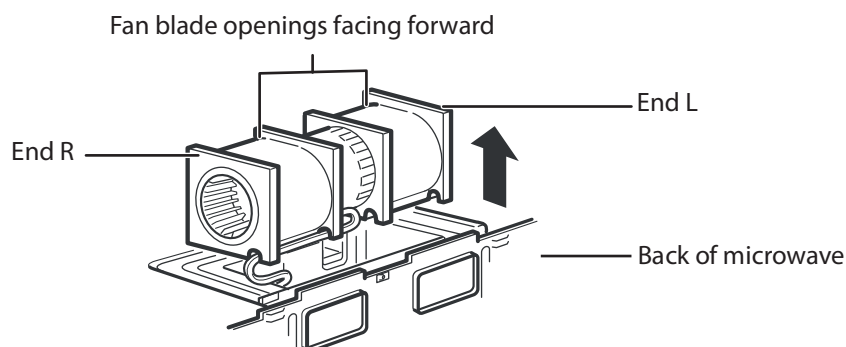


Sheet metal screw

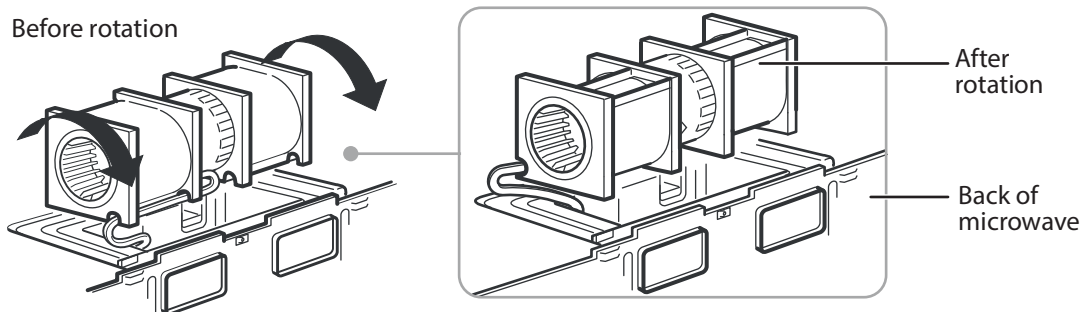
- 1 Set the microwave in its upright position, with the top facing up.
- 2 Remove the screw that holds the blower plate to the microwave, then remove the screw that secures the blower motor to the microwave.



- 3 Carefully pull out the blower unit. The wires are long enough to let you adjust the unit.

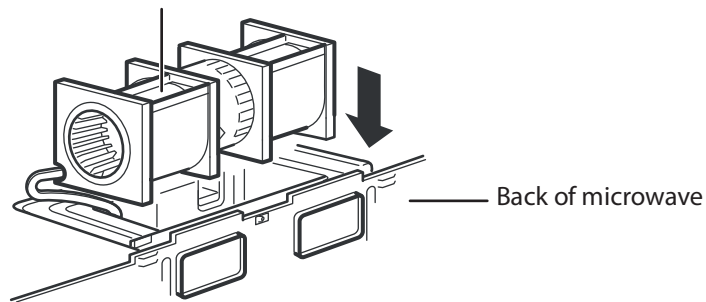


- 4 Roll the blower unit 90° so that the fan blade openings are facing out the top of the microwave.



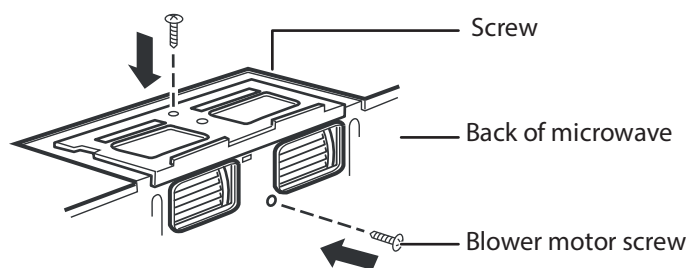
- 5 Place the blower unit back into the opening on the top of the microwave.

After rotation- fan blade openings  
facing the top of the microwave



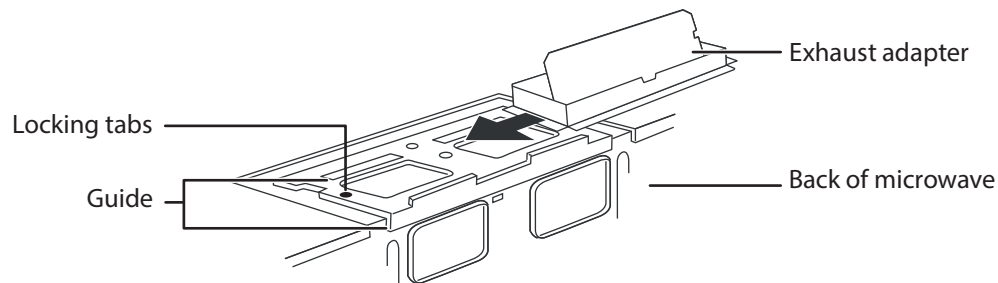
**CAUTION:** Do not pull or stretch the blower unit wiring. Make sure that the wires are not pinched and are properly secured.

- 6 Secure the blower unit to the microwave with the screw you removed in step 2. Make sure that the screw is tight.
- 7 Replace the blower plate and secure it with the screw you removed in step 2. Make sure that the screw is tight.



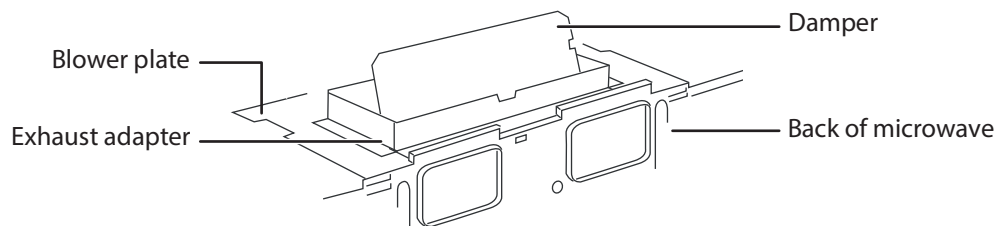
- 8 Attach the exhaust adapter to the top of the blower plate by sliding it into the guides on the blower plate. Push it in securely until it is in the locking tabs.

**Note:** Make sure that the damper hinge is installed so that the damper swings freely.




- 9 Adjust the exhaust adapter to assure proper alignment with your house exhaust duct after the microwave is installed.

**Note:** Make sure that the tape is removed and that the damper pivots easily before installing the microwave.



## Step 7: Option C (outside top exhaust) - Mount the microwave

### You'll need:

  
Nylon grommet  
(for metal cabinets)

  
Self-aligning machine  
screws (3)

  
Grease filters

  
Phillips screwdrivers

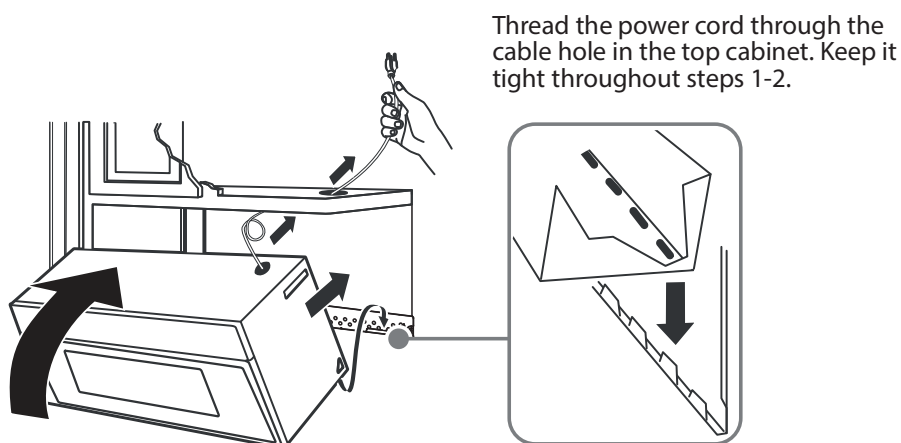
#### CAUTIONS:

- For easier installation and personal safety, we recommend that two people install this product because of the weight. We highly recommend professional installation if any electrical or carpentry work is required.
- Do not grip or use the handle or heat shield during installation.
- If your cabinet is metal, insert the nylon grommet into the power cord hole to prevent cutting the cord.

- 1 Lift the microwave, tilt it forward, and hook the slots on the back bottom edge onto the four lower tabs of the mounting plate, then rotate the front of the microwave up against the bottom of the cabinet.

#### Notes:

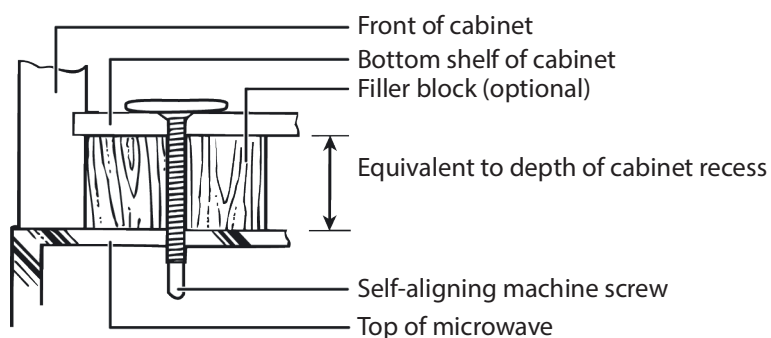
- We recommend using filler blocks if the front of the cabinet hangs below the cabinet's bottom shelf.
- If filler blocks are not used, damage may occur from over-tightening the screws.
- Be sure to keep the power cord tight.
- Do not pinch the cord, especially when mounting flush to the bottom of the cabinet.



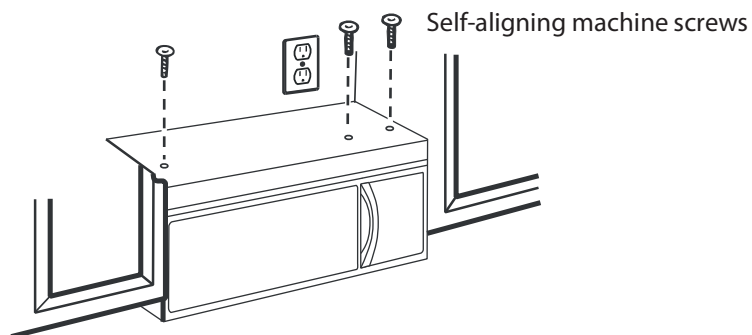
- 2 To attach the microwave to the top cabinet, insert three self-aligning machine screws through the holes you drilled in the bottom of the cabinet. Turn each screw at least two full turns after the threads have engaged (they will be fully tightened later).

#### CAUTIONS:

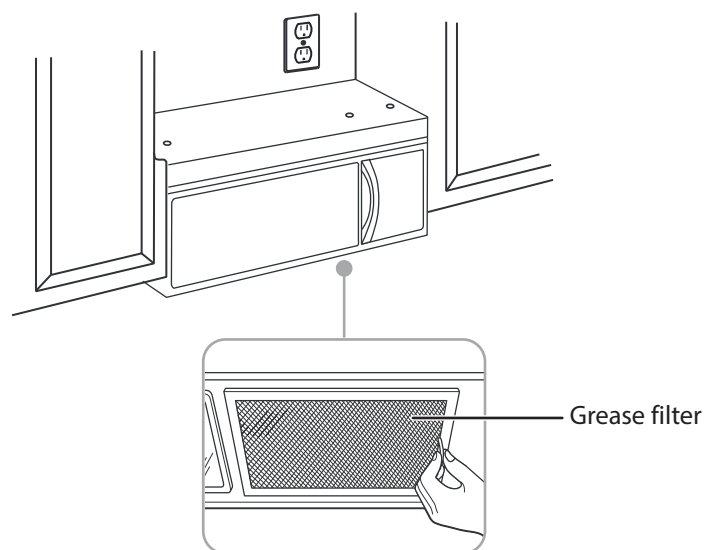
- Be sure that you keep the power cord tight.
- Be careful not to pinch the power cord, especially when mounting flush to the bottom of the cabinet.



- 3 While holding the microwave up against the wall and cabinet, fully tighten the outer two screws.



- 4 Fit the two grease filters into the openings underneath your microwave.



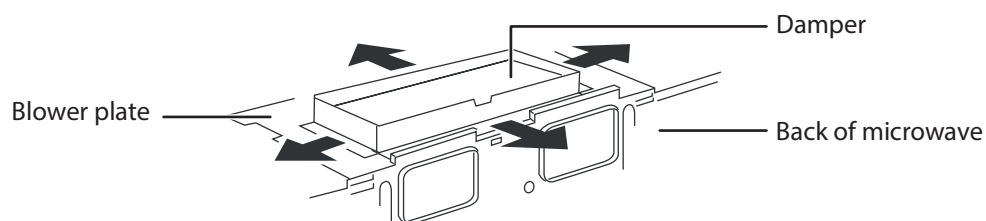
**Important:** Remove the cardboard spacers between the heat shield and the door.



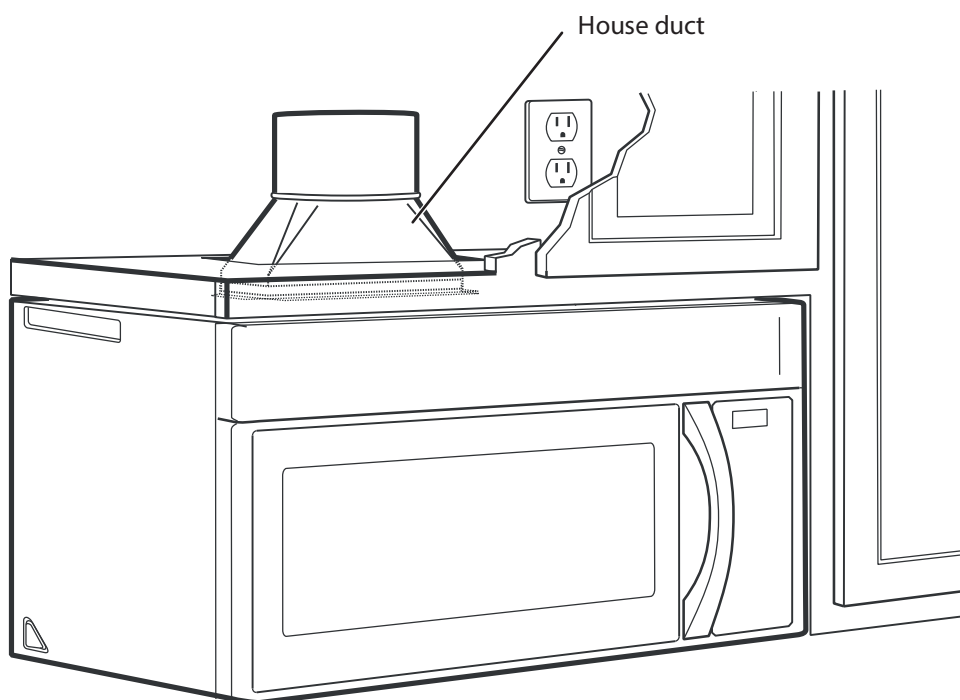
**Step 8: Option C (outside top exhaust) - Connecting ductwork****You'll need:**

Duct tape

- 1 Open the top cabinet and slide the exhaust adapter front-to-back or side-to-side to adjust.



- 2 Extend the house duct down to connect to the exhaust adapter.



- 3 Seal the exhaust duct joints with duct tape.
- 4 You're finished! Skip to [Before using your microwave](#) on page 42.

## Before using your microwave

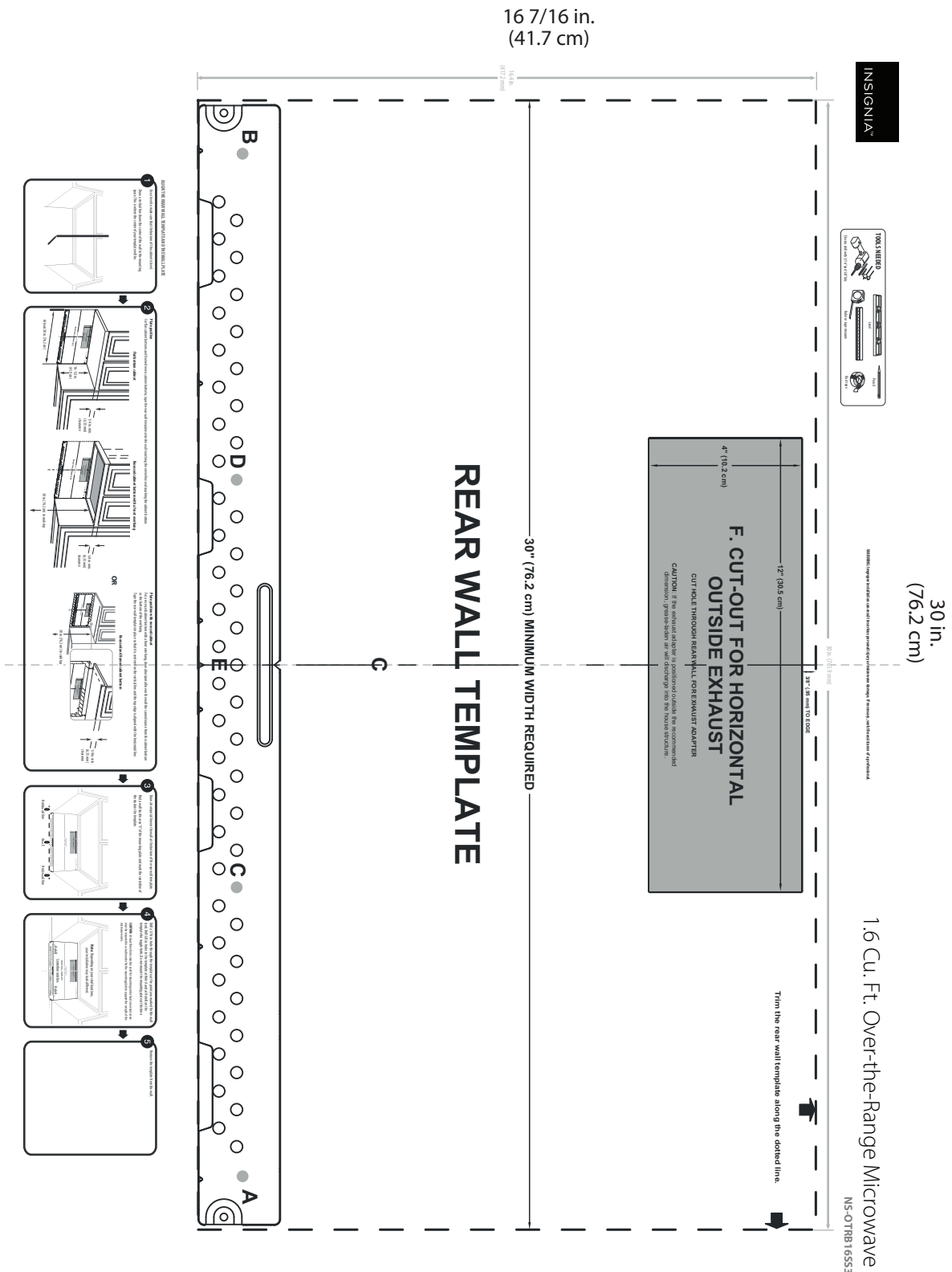
**Note:** Keep these installation instructions for the local inspector's use.

- 1 Make sure that your microwave has been installed according to these instructions.
- 2 Make sure that all packing material has been removed from the microwave.
- 3 Install the turntable and ring inside your microwave. See your *User Guide* for more information.
- 4 Plug the power cord into a dedicated 15~20 amp electrical outlet.
- 5 Turn your circuit breaker back on.

# Template dimensions

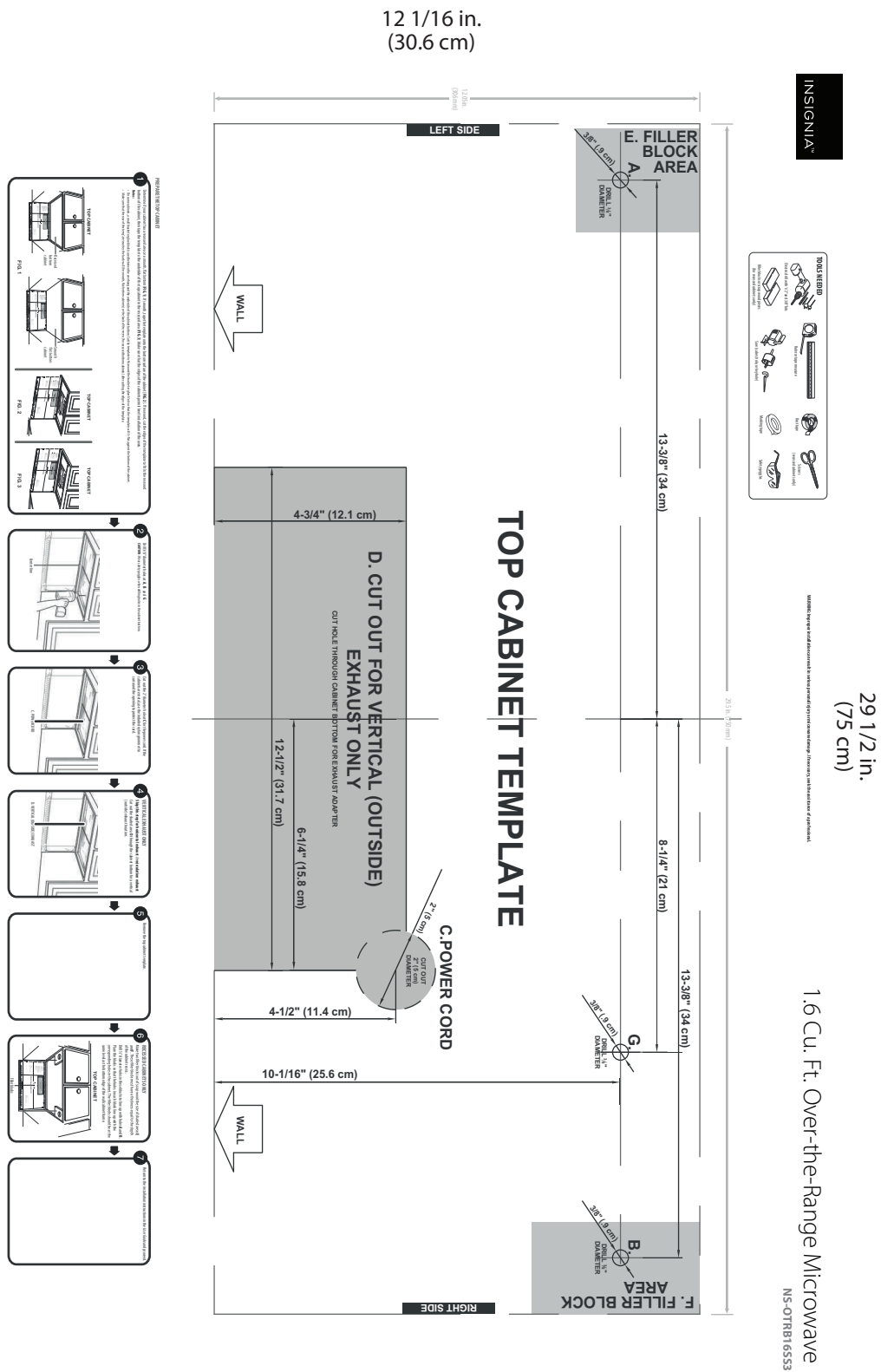
## Rear wall template dimensions

If your rear wall template is unusable, drill using the dimensions below:



## Top cabinet template dimensions

If your top cabinet template is unusable, drill using the dimensions below:



## Obtaining replacement parts

Call Insignia Customer Service at 1-877-467-4289.

## Specifications

Model	NS-OTRB16SS3
Rated voltage	120VAC, 60Hz
Rated input power	1,500W
Rated output power	1,000W
Noise level	60 dB
Microwave capacity	1.6 cu. ft.
Turntable diameter	13.6 in. (34.5 cm)
External dimensions (HxWxD)	16 7/16 x 29 15/16 x 15 in. (41.7 x 75.9 x 38.2 cm)
Internal dimensions (HxWxD)	9 5/16 x 20 1/4 x 14 7/16 in. (23.5 x 51.4 x 36.7 cm)
Charcoal filter dimensions (L x W)	10 1/4 x 2 7/16 in. (26 x 6 cm)
Certifications	UL approved
Power cord length	38 in. (98 cm)
Net weight	52.7 lbs. (23.9 kg)

# ONE-YEAR LIMITED WARRANTY

**Definitions:**

The Distributor\* of Insignia branded products warrants to you, the original purchaser of this new Insignia-branded product ("Product"), that the Product shall be free of defects in the original manufacture of the material or workmanship for a period of one (1) year from the date of your purchase of the Product ("Warranty Period").

For this warranty to apply, your Product must be purchased in the United States or Canada from a Best Buy branded retail store or online at [www.bestbuy.com](http://www.bestbuy.com) or [www.bestbuy.ca](http://www.bestbuy.ca) and is packaged with this warranty statement.

**How long does the coverage last?**

The Warranty Period lasts for 1 year (365 days) from the date you purchased the Product. Your purchase date is printed on the receipt you received with the Product.

**What does this warranty cover?**

During the Warranty Period, if the original manufacture of the material or workmanship of the Product is determined to be defective by an authorized Insignia repair center or store personnel, Insignia will (at its sole option): (1) repair the Product with new or rebuilt parts; or (2) replace the Product at no charge with new or rebuilt comparable products or parts. Products and parts replaced under this warranty become the property of Insignia and are not returned to you. If service of Products or parts are required after the Warranty Period expires, you must pay all labor and parts charges. This warranty lasts as long as you own your Insignia Product during the Warranty Period. Warranty coverage terminates if you sell or otherwise transfer the Product.

**How to obtain warranty service?**

If you purchased the Product at a Best Buy retail store location or from a Best Buy online website ([www.bestbuy.com](http://www.bestbuy.com) or [www.bestbuy.ca](http://www.bestbuy.ca)), please take your original receipt and the Product to any Best Buy store. Make sure that you place the Product in its original packaging or packaging that provides the same amount of protection as the original packaging.

To obtain warranty service, in the United States and Canada call 1-877-467-4289. Call agents may diagnose and correct the issue over the phone.

**Where is the warranty valid?**

This warranty is valid only in the United States and Canada at Best Buy branded retail stores or websites to the original purchaser of the product in the country where the original purchase was made.

**What does the warranty not cover?**

This warranty does not cover:

- Food, beverage, and/or medicine loss/spoilage.
- Customer instruction/education
- Installation
- Set up adjustments
- Cosmetic damage
- Damage due to weather, lightning, and other acts of God, such as power surges
- Accidental damage
- Misuse
- Abuse
- Negligence
- Commercial purposes/use, including but not limited to use in a place of business or in communal areas of a multiple dwelling condominium or apartment complex, or otherwise used in a place of other than a private home.
- Modification of any part of the Product, including the antenna
- Display panel damaged by static (non-moving) images applied for lengthy periods (burn-in).
- Damage due to incorrect operation or maintenance
- Connection to an incorrect voltage or power supply
- Attempted repair by any person not authorized by Insignia to service the Product
- Products sold "as is" or "with all faults"
- Consumables, including but not limited to batteries (i.e. AA, AAA, C etc.)
- Products where the factory applied serial number has been altered or removed
- Loss or Theft of this product or any part of the product
- Display panels containing up to three (3) pixel failures (dots that are dark or incorrectly illuminated) grouped in an area smaller than one tenth (1/10) of the display size or up to five (5) pixel failures throughout the display. (Pixel based displays may contain a limited number of pixels that may not function normally.)
- Failures or Damage caused by any contact including but not limited to liquids, gels or pastes.

REPAIR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS YOUR EXCLUSIVE REMEDY FOR BREACH OF WARRANTY. INSIGNIA SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR THE BREACH OF ANY EXPRESS OR IMPLIED WARRANTY ON THIS PRODUCT, INCLUDING, BUT NOT LIMITED TO, LOST DATA, LOSS OF USE OF YOUR PRODUCT, LOST BUSINESS OR LOST PROFITS. INSIGNIA PRODUCTS MAKES NO OTHER EXPRESS WARRANTIES WITH RESPECT TO THE PRODUCT, ALL EXPRESS AND IMPLIED WARRANTIES FOR THE PRODUCT, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF AND CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE WARRANTY PERIOD SET FORTH ABOVE AND NO WARRANTIES, WHETHER EXPRESS OR IMPLIED, WILL APPLY AFTER THE WARRANTY PERIOD. SOME STATES, PROVINCES AND JURISDICTIONS DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS, WHICH VARY FROM STATE TO STATE OR PROVINCE TO PROVINCE.

Contact Insignia:

**1-877-467-4289**

[www.insigniaproducts.com](http://www.insigniaproducts.com)

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