

Installation Instructions

If you have questions, call 800.626.2000 or visit our website at: www.monogram.com

Built-In Dishwashers

ZBD1850*

ZBD1870

*For ZBD1850 also refer to the
instructions provided on the template
packed with that model



Safety Information



BEFORE YOU BEGIN

Read these instructions completely and carefully.

IMPORTANT – Observe all governing codes and ordinances.

- **Note to Installer** – Be sure to leave these instructions for the consumer's and local inspector's use.
- **Note to Consumer** – Keep these instructions with your Owner's Manual for future reference.
- **Skill Level** – Installation of this dishwasher requires basic mechanical, electrical and plumbing skills. **Proper installation is the responsibility of the installer. Product failure due to improper installation is not covered under the GE Appliance Warranty. See warranty information.**
- **Completion Time – 1 to 3 Hours.** New installations require more time than replacement installations.

IMPORTANT – The dishwasher **MUST** be installed to allow for future removal from the enclosure if service is required.

If you received a damaged dishwasher, you should immediately contact your dealer or builder.

Optional Accessories – See the Owner's Manual for available custom panel kits.

**READ CAREFULLY.
KEEP THESE INSTRUCTIONS.**

FOR YOUR SAFETY

Read and observe all **CAUTIONS** and **WARNINGS** shown throughout these instructions.

While performing installations described in this booklet, gloves and either safety glasses or goggles should be worn.

For Monogram local service in your area, 1.800.444.1845.
For Monogram service in Canada 1.888.880.3030.
For Monogram Parts and Accessories, call 1.800.626.2002.

CONTENTS

Installation Preparation

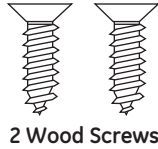
Parts Supplied	3
Materials You Will Need	3
Tools You Will Need	3
Prepare Dishwasher Enclosure	4
Drain Requirements	4
Prepare Electrical Wiring	5
Prepare Hot Water Line	6
Installation Instructions	
Step 1, Check Door Balance	6
Step 1A, Adjust Door Springs	6
Step 2, Adjust Leveling Legs	8
Step 3, Remove Toekick	8
Step 4, Install Power Cord	8

Step 5, Install 90° Elbow	8
Step 6, Position Water Line and House Wiring	9
Step 7, Install Drain Hose Through Cabinet	9
Step 8, Slide Dishwasher Partially Into Cabinet	9
Step 9, Position Dishwasher Under Countertop	10
Step 10, Level Dishwasher	11
Step 11, Secure Dishwasher To Cabinet	11
Step 12, Connect Water Supply	12
Step 13, Connect Drain Line	12
Step 14, Connect Power Supply	13
Step 15, Pre-Test Checklist	13
Step 16, Dishwasher Wet Test	14
Step 17, Replace Toekick	14
Step 18, Literature	14

Installation Preparation

PARTS SUPPLIED:

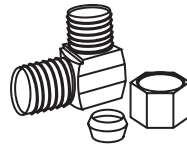
- Two #8 Phillips head wood screws, 5/8" long to secure dishwasher to underside of countertop (in literature package).



2 Wood Screws

MATERIALS YOU WILL NEED:

- Ferrule, compression nut and 90° Elbow (3/8" NPT external thread on one end, opposite end sized to fit water supply)
- Thread seal tape
- UL Listed wire nuts (3)



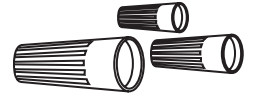
90° Elbow, Ferrule and Compression Nut



Hand Shut-Off Valve



Thread Seal Tape



Wire Nuts (3)

Materials For New Installations Only:

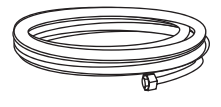
- Air gap for drain hose, if required
- Waste tee for house plumbing, if applicable
- Electrical cable or power cord, if applicable
- Screw type hose clamps
- Strain relief for electrical connection
- Hand shut-off valve
- Water line 3/8" min. copper
- Coupler for extending drain line, if applicable



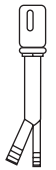
Waste Tee



Electrical Cable (or Power Cord, if applicable)



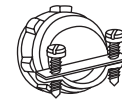
Hot Water Line



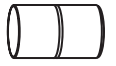
Air Gap



Screw Type Hose Clamps



Strain Relief



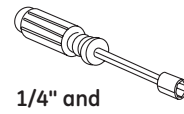
Coupler

TOOLS YOU WILL NEED:

- Phillips head screwdriver
- 5/16" and 1/4" nutdriver
- T25 torque driver (PDW__II only)
- 6" Adjustable wrench
- Level
- Carpenters square
- Measuring tape
- Safety glasses
- Flashlight
- Bucket to catch water when flushing the line
- Gloves



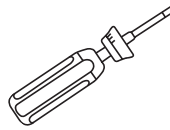
Phillips Head Screwdriver



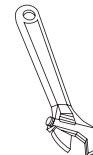
1/4" and 5/16" Nutdriver



Level



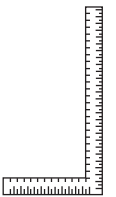
T25 Torque Driver



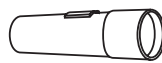
6" Adjustable Wrench



Tubing Cutter



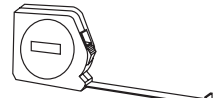
Carpenters Square



Flashlight



Safety Glasses



Measuring Tape

For New Installations Only:

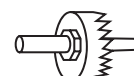
- Tubing cutter
- Drill and appropriate bits
- Hole saw set



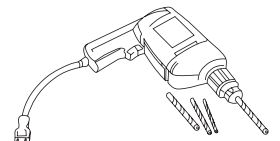
Gloves



Bucket



Hole Saw Set




Drill and Bits

Installation Preparation

PREPARE ELECTRICAL WIRING

⚠ WARNING



FOR PERSONAL SAFETY:
Remove house fuse or open circuit breaker before beginning installation. Do not use an extension cord or adapter plug with this appliance.

Electrical Requirements

- This appliance must be supplied with 120V, 60Hz., and connected to an individual properly grounded branch circuit protected by a 15 or 20 ampere circuit breaker or time delay fuse.
- Wiring must be 2 wire with ground and rated for 75°C (176°F).
- If the electrical supply does not meet the above requirements, call a licensed electrician before proceeding.


Grounding Instructions—Cable Direct

This appliance must be connected to a grounded metal, permanent wiring system, or an equipment grounding conductor must be run with the circuit conductors and be connected to the equipment grounding terminal or lead on the appliance.

Grounding Instructions—Power Cord Models

This appliance must be grounded. In the event of a malfunction or breakdown, grounding will reduce the risk of electric shock by providing a path of least resistance for electric current. This appliance is equipped with a cord having an equipment grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is installed and grounded in accordance with all local codes and ordinances.

⚠ WARNING



The improper connection of the equipment grounding conductor can result in electric shock. Check with a qualified electrician or service representative if you are in doubt that the appliance is properly grounded. Do not modify the plug provided with the appliance; if it will not fit the outlet, have a proper outlet installed by a qualified technician.

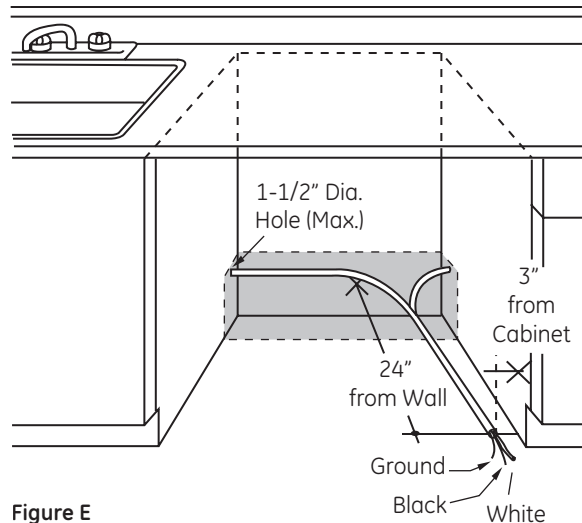


Figure E

For models equipped with power cord: Do not modify the plug provided with the appliance; if it will not fit the outlet, have a proper outlet installed by a qualified technician.

Cabinet Preparation and Wire Routing

- The wiring may enter the opening from either side, rear or the floor within the shaded area.
 - Cut a 1-1/2" max. diameter hole to admit the electrical cable. Cable direct connections may pass through the same hole as the drain hose and hot water line, if convenient. If cabinet wall is metal, the hole edge must be covered with a bushing.
- Note:** Power cords with plug must pass through a separate hole.

Electrical Connection to Dishwasher

Electrical connection is on the right front of dishwasher.

- For cable direct connections the cable must be routed as shown in Figure E. Cable must extend a minimum of 24" from the rear wall.
- For power cord connections, install a 3-prong grounding type receptacle in the sink cabinet rear wall, 6" min. or 18" max. from the opening, 6" to 18" above the floor.

Installation Instructions

PREPARE HOT WATER LINE

- The line may enter from either side, rear or floor within the shaded area shown in Figure F.
- The line may pass through the same hole as the electrical cable and drain hose. Or, cut an additional 1-1/2" dia. hole to accommodate the water line. If power cord with plug is used, water line must not pass through power cord hole.

CAUTION:

The hot water supply line pressure must be at least 20 psi. Lower pressures could cause the water valve to leak and cause water damage.

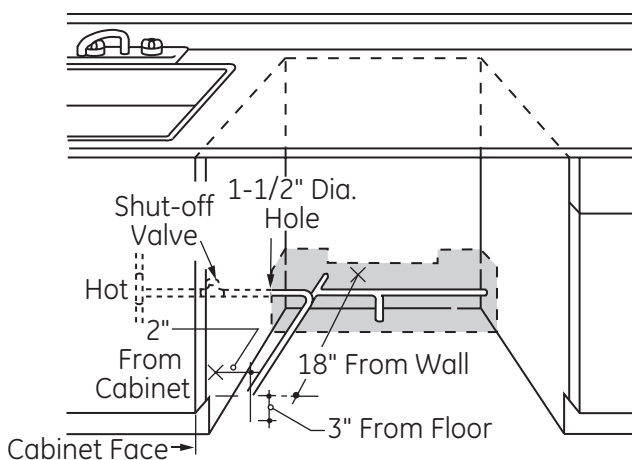


Figure F

Water Line Connection

- Turn off the water supply.
- Install a hand shut-off valve in an accessible location, such as under the sink. (Optional, but strongly recommended and may be required by local codes.)
- Water connection is on the left side of the dishwasher. Install the hot water inlet line, using no less than 3/8" O.D. copper tubing. Route the line as shown in Figure F and extend forward at least 18" from rear wall.
- Adjust water heater for 120°F to 150°F temperature.
- Flush water line to clean out debris.
- The hot water supply line pressure must be 20-120 PSI.

CAUTION:

Opening the door will cause the dishwasher to tip forward. **Do not open the door until you are ready to install the dishwasher.** If it is necessary to open the door, hold the top of the dishwasher securely with one hand and hold the door with the other hand.



BEFORE YOU BEGIN

Locate and set aside the package containing 2 Phillips head countertop mounting screws and 2 additional toekick screws (located in the literature package).

STEP 1 CHECK DOOR BALANCE

- To check the door balance, hold the top of the dishwasher firmly.
- Open the door slowly. If the door drops when released, you will need to increase spring tension. If the door closes when released, you will need to decrease tension.
- If adjustments are needed, see Step 1A. If no adjustments are needed, skip to Step 2.

STEP 1A ADJUST DOOR SPRINGS (IF NECESSARY) FOR ZBD1870 MODELS

For ZBD1850 models, refer to the instruction provided on the template packed with that model.

To adjust the door springs, you will need to remove the dishwasher side panels.

To remove the side panels:

- Remove the screws from the top and back of each dishwasher side panel, sixteen screws total. Open the door and remove the four screws securing the panels to the inside door frame.

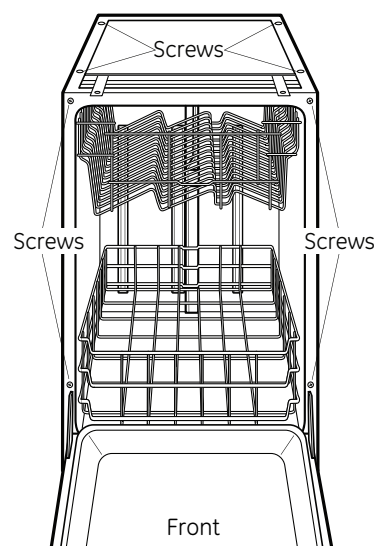


Figure G

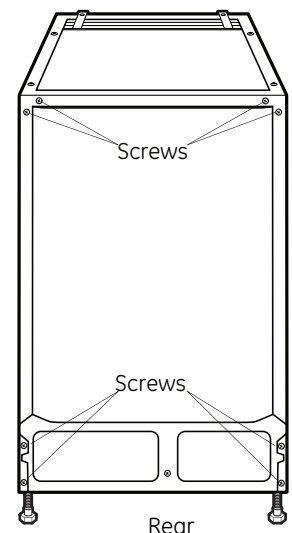


Figure H

Installation Instructions

- Lay the dishwasher on its back. Remove the four screws securing the toekick to the dishwasher, and remove the toekick.

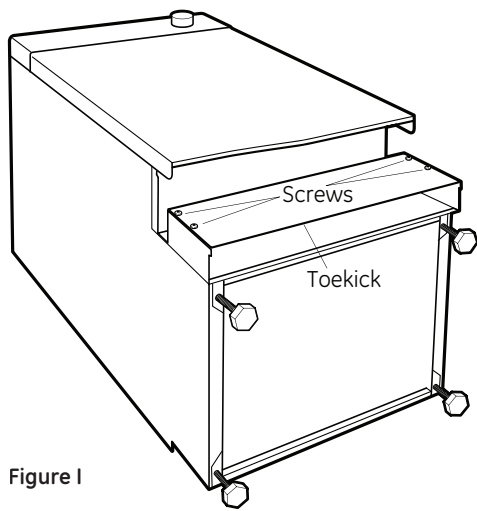


Figure I

- Remove the single screw just above and to the side of each front leveling leg.

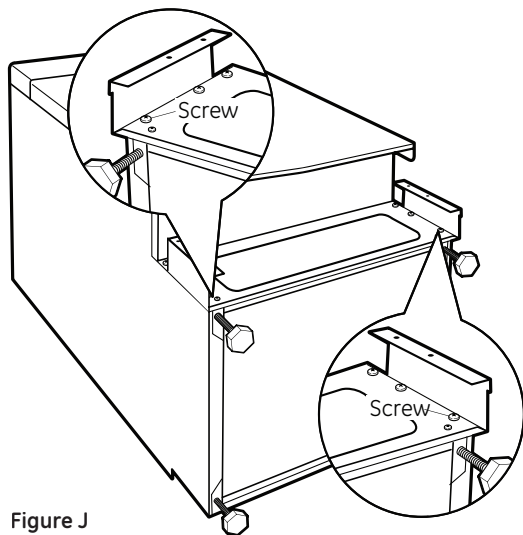


Figure J

- Remove the side panels and set the dishwasher upright.

To adjust the door springs:

- Pull the spring adjustment pin out of the holes, insert in the next highest or lowest hole and test again.

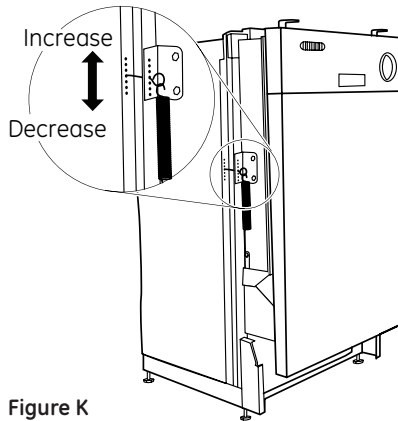


Figure K

- Adjust both door springs to the same tension.
- Continue moving the spring pin until door is balanced.
- Replace the dishwasher side panels and proceed to Step 2.

Installation Instructions

STEP 2 ADJUST LEVELING LEGS

- Move the dishwasher close to the installation location and lay it on its back.

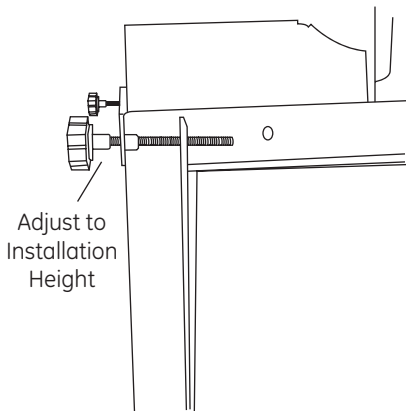


Figure L

- Measure installation height and dishwasher height. Extend leveling legs out from the dishwasher base, 1/2" less than installation height.

STEP 3 REMOVE TOEKICK

- Remove the 4 toekick screws. Lift off the 2 piece toekick.

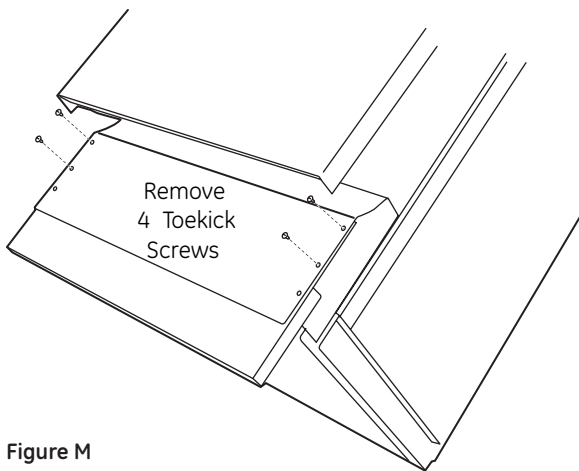


Figure M

STEP 4 INSTALL POWER CORD

Skip this step if dishwasher will be direct wired.

Use Power Cord Kit WX09X70910, available for purchase from an authorized GE Appliance Dealer. The power cord and connections must comply with the National Electrical Code, Section 422 and/or local codes and ordinances.

- Maximum power cord length is 6'.

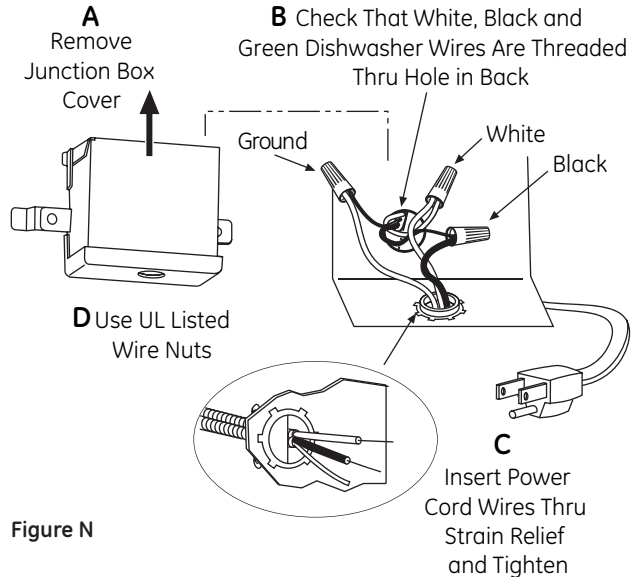


Figure N

- Connect incoming power cord white (or ribbed) to dishwasher white, black (or smooth) to black and ground to dishwasher green wire. Use UL listed wire nuts of appropriate size.
- Replace junction box cover. Be sure wires are not pinched under the cover.

STEP 5 INSTALL 90° ELBOW

- Wrap 90° elbow with thread seal tape.
- Install a 90° elbow onto the water valve.

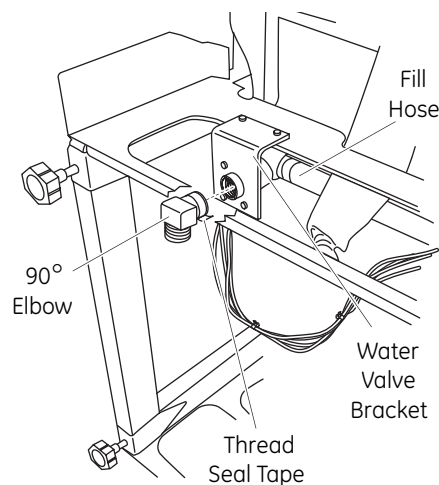


Figure O

- Do not over tighten 90° elbow, water valve bracket could bend or water valve fitting could break.
- Position the end of the elbow to face the rear of the dishwasher.

Installation Instructions

STEP 6 POSITION WATER LINE AND HOUSE WIRING

- Position water supply line and house wiring on the floor of the opening to avoid interference with base of dishwasher and components under dishwasher.

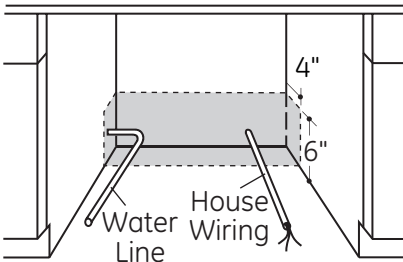


Figure P

STEP 7 INSTALL DRAIN HOSE THROUGH CABINET

- Stand the dishwasher upright and position in front of the opening. Insert drain hose into cabinet wall hole. If a power cord is used, guide the end through a separate hole.

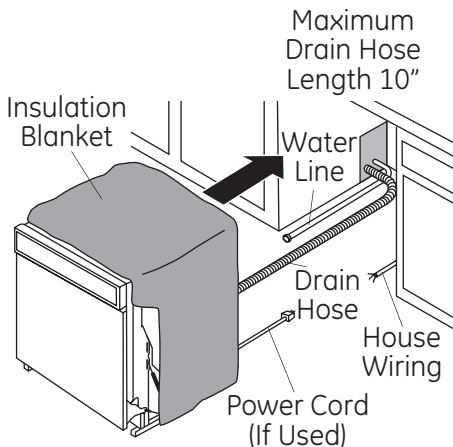


Figure Q

TIP: Position water line and house wiring on the floor to avoid interference with base of dishwasher.

STEP 8 SLIDE DISHWASHER PARTIALLY INTO CABINET

DO NOT PUSH AGAINST FRONT PANEL WITH KNEES. DAMAGE WILL OCCUR.

- Slide dishwasher into the opening a few inches at a time.

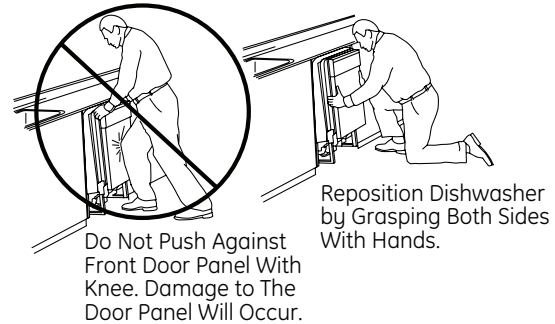


Figure R

- As you proceed, pull the drain hose through the opening under the sink. Stop pushing when the dishwasher is a few inches forward of adjacent cabinetry.
- Make sure drain hose is not kinked under the dishwasher and there is no interference with the water line and wiring or any other component.

Installation Instructions

STEP 9 POSITION DISHWASHER UNDER COUNTERTOP

- Push the dishwasher into the cabinet.
- Push the sides with your hands. Do not use your knee against the door since door damage will occur.
- Check that the tub insulation blanket does not get "bunched-up" or interfere with the springs as you slide it into the cabinet.
- Center the dishwasher in the opening.
- Front of door panel should be flush with face of cabinet.
- Carefully open and close the door to ensure that the door panel does not catch or rub on the cabinet frame.
- If the door catches or rubs on the frame, reposition and/or level the unit (see Step 10) until the door moves freely and does not contact the cabinet frame.

The controls on these models are designed to be hidden by your countertop. Align the dishwasher as shown in Figure T. Leave a 1/2" minimum gap between the underside of the countertop and the top of the dishwasher door as shown in Figure W.

Note: If the drain hose gets trapped behind the unit it can prevent the controls from being hidden by the countertop.

Note: If this dishwasher is replacing an existing dishwasher, the old countertop bracket screw holes may not be in the correct position to accept a top-control model. New holes may be required.

Tip: The leveling legs can be used to increase or decrease the amount of gap between the controls and the countertop affecting the visibility of the controls.

IMPORTANT – Leave a 1/2" minimum gap between the controls and the underside of the countertop to prevent condensation and damage to the control panel from screwheads.

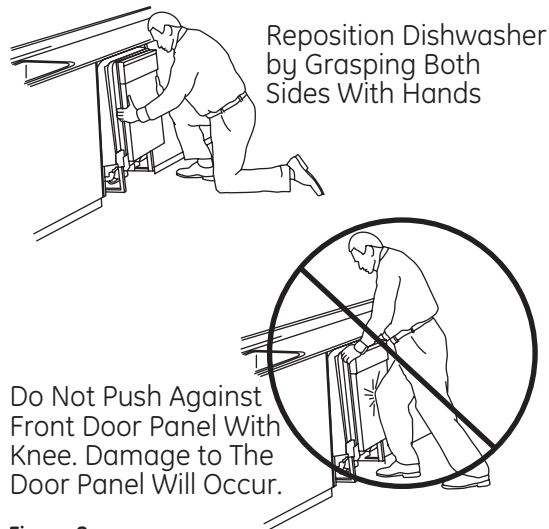


Figure S

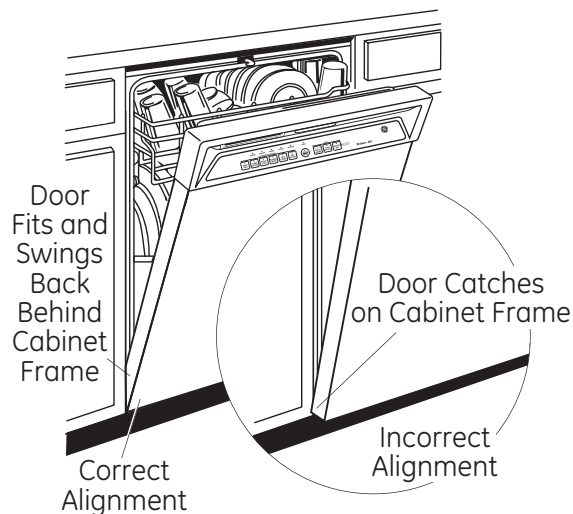


Figure T

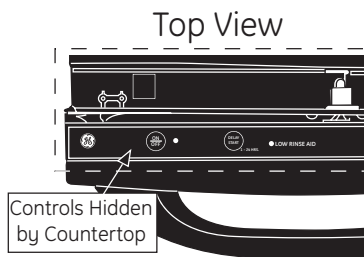


Figure U

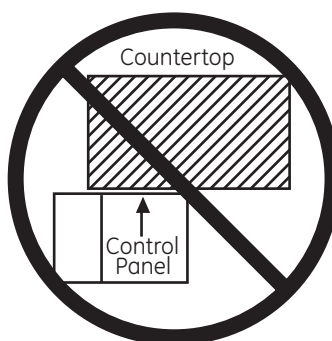


Figure V

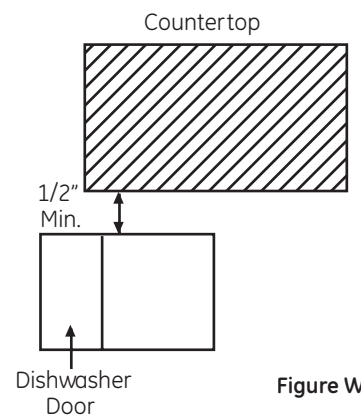


Figure W

Installation Instructions

STEP 10 LEVEL DISHWASHER

IMPORTANT – Dishwasher must be level for proper dish rack operation and wash performance.

- Make sure 1/2" minimum gap is maintained (see Figure T).
- Place level on door to check that the dishwasher is level side-to-side. Place level on rack track inside tub to check that the dishwasher is level front-to-back.

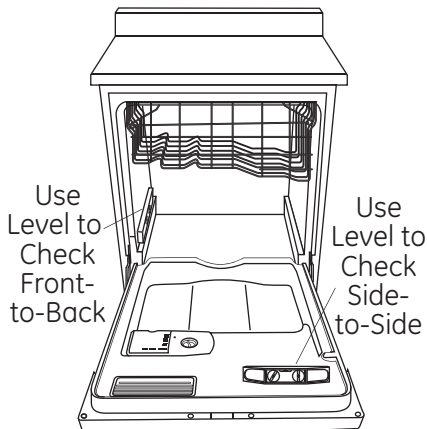


Figure X

- If the dishwasher is not level, adjust the four leveling legs individually.

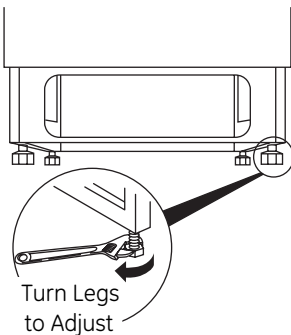


Figure Y

Tip: Pull lower rack out, about halfway. Check to be sure the rack does not roll forward or back into dishwasher. If the rack rolls in either direction, the dishwasher must be leveled again.

- If door hits the tub, the dishwasher is not installed correctly. Adjust leveling legs to align door to tub.

IMPORTANT – After leveling, verify that the dishwasher is still in the correct position shown in Step 9.

STEP 11 SECURE DISHWASHER TO COUNTERTOP OR CABINET

In this step you will need the 2 Phillips special head screws set aside prior to

Step 1. The dishwasher must be secured to the countertop or the cabinet sides. When countertops are made of wood, use Method 1. When countertops are granite or other materials that will not accept screws, use Method 2 to secure dishwasher at the sides.

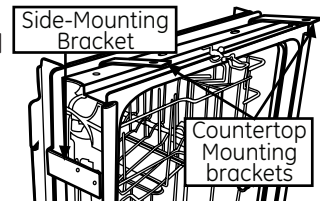


Figure Z

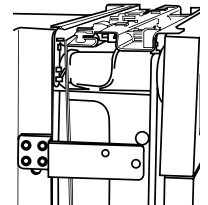


Figure AA

IMPORTANT –

Drive screws straight and flush. Protruding screw heads will scratch the top or sides of the control panel and can interfere with door closing.

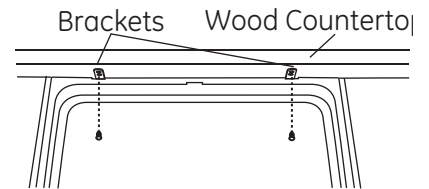


Figure BB

Method 1

Secure dishwasher to wood countertop

- Fasten the dishwasher to the underside of the countertop with the 2 Phillips special head screws provided.

Method 2

Secure dishwasher with side-mounting brackets

- Remove plug buttons (one on each side).
- Install screws through the dishwasher side mount bracket and into the adjacent cabinet on each side. Reinstall plug buttons.

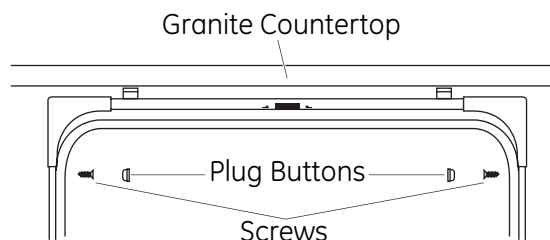


Figure CC

Either Method

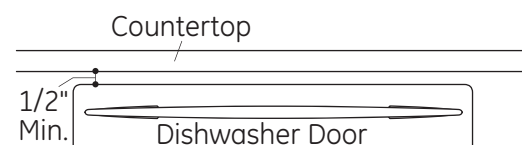


Figure DD

When step is complete, close dishwasher door and verify that gap between countertop and top of dishwasher door is at least 1/2".

Installation Instructions

STEP 12 CONNECT WATER SUPPLY

Connect water supply line to 90° elbow.

- Slide compression nut, then ferrule over end of water line.
- Insert water line into 90° elbow.
- Slide ferrule against elbow and secure with compression nut.

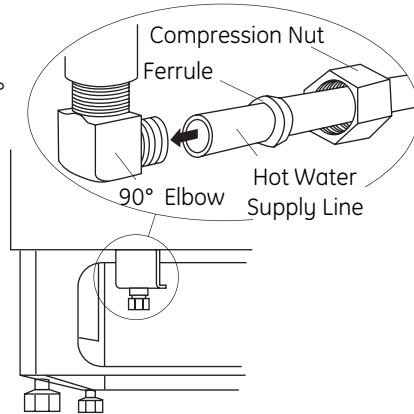


Figure EE

IMPORTANT – Check to be sure that door spring does not rub or contact the fill hose or water supply line. Test by opening and closing the door. Re-route the lines if a rubbing noise or interference occurs.

STEP 13 CONNECT DRAIN LINE

FOLLOW ALL LOCAL CODES AND ORDINANCES.

The molded end of the drain hose will fit 5/8" through 1" diameter inlet ports on the air gap, waste tee or disposer.

- Determine size of inlet port
- Cut drain hose connector on the marked line, if required, to fit the inlet port.

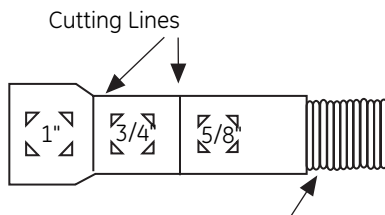


Figure FF **IMPORTANT:** Do not cut corrugated portion of hose

- If a longer drain hose is required, add up to 42" of length for a total of 10' to the factory installed hose. Use 5/8" or 7/8" inside diameter hose and a coupler to connect the two hose ends. Secure the connection with hose clamps.

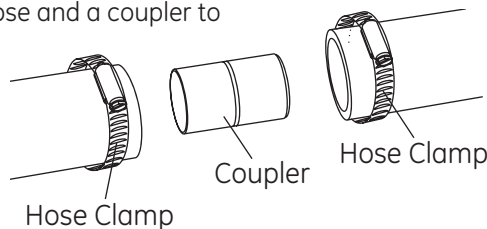


Figure GG

- Secure the drain hose to the air gap, waste tee or disposer with clamps.

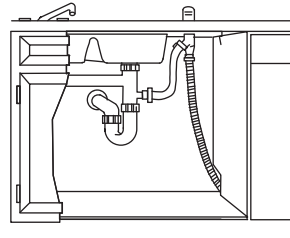
Note: TOTAL DRAIN HOSE LENGTH MUST NOT EXCEED 10' FOR PROPER DRAIN OPERATION.

DRAIN LINE INSTALLATION

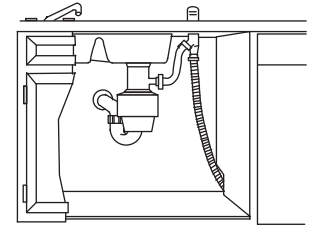
- Connect drain line to air gap, waste tee or disposer using either previously determined method.

Method 1 – Air gap with waste tee or disposer

Insert the drain hose to air gap as shown.



Waste Tee Installation

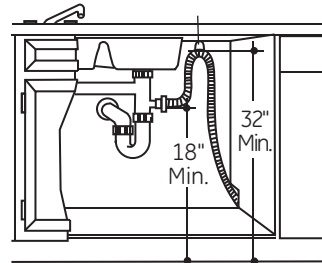


Disposer Installation

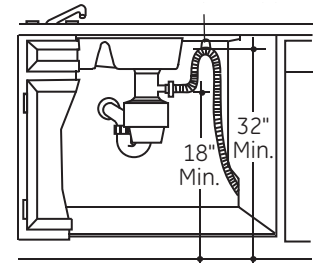
Figure HH

Method 2 – Drain Hose Routing

Route the drain hose of the dishwasher to a minimum height of 32" from the floor with the supplied hanger as shown.



Waste Tee Installation

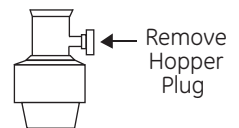


Disposer Installation

Figure II

IMPORTANT – Either one of the above methods must be used or dishwasher will not operate properly.

IMPORTANT – When connecting drain line to disposer, check to be sure that drain plug has been removed. **DISHWASHER WILL NOT DRAIN IF PLUG IS LEFT IN PLACE.**



Tip: Avoid unnecessary service call charges. Always be sure disposer drain plug has been removed before attaching dishwasher drain hose to the disposer.

Installation Instructions

STEP 14 CONNECT POWER SUPPLY

Skip this step if equipped with power cord.

Verify that power is turned off at the source.

- Remove junction box cover "A".
- Locate the three dishwasher wires, (white, black and green) with stripped ends. Insert dishwasher wires through the small hole in the junction box "B".
- Secure house wiring to the bottom of the junction box with a strain relief "C".
- Use wire nuts to connect incoming ground to green, white to white and black to black "D".
- Replace junction box cover "E". Check to be sure that wires are not pinched under the cover.

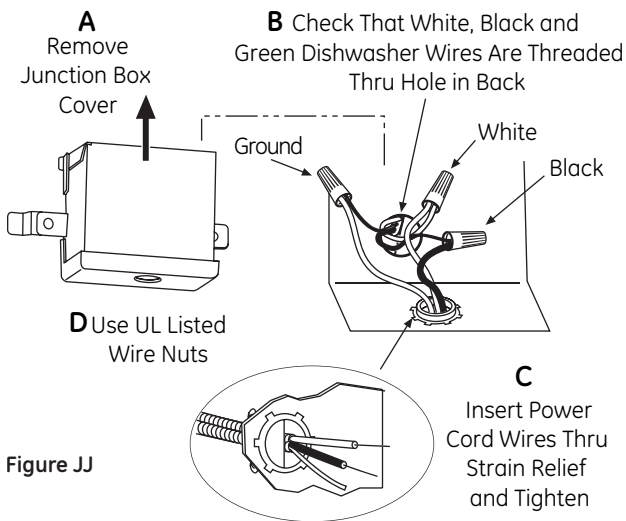


Figure JJ



WARNING If house wiring is not 2-wire with ground, a ground must be provided by the installer. When house wiring is aluminum, be sure to use UL Listed anti-oxidant compound and aluminum-to-copper connectors

STEP 15 PRETEST CHECK LIST

Review this list after installing your dishwasher to avoid charges for a service call that is not covered by your warranty.

- Check to be sure power is OFF.
- Open door and remove all foam and paper packaging.
- Locate the Owner's Manual in the literature package.
- Read the Owner's Manual for operating instructions.
- Check door opening and closing. If door does not open and close freely or tends to fall, check spring adjustments. See Step 1.
- Check to be sure that wiring is secure under the dishwasher, not pinched or in contact with door springs or other components. See Step 9.
- Check door alignment with tub. If door hits tub, level dishwasher. See Step 10.
- Pull lower rack out, about half way. Check to be sure it does not roll back or forward on the door. If the rack moves, adjust leveling legs. See Step 10.
- Check door alignment with cabinet. If door hits cabinet, reposition or relevel dishwasher. See Step 10.
- Verify water supply and drain lines are not kinked or in contact with other components. Contact with motor or dishwasher frame could cause noise. See Step 8.
- Turn on the sink hot water faucet and verify water temperature. Incoming water temperature must be between 120°F and 150°F. A minimum of 120°F temperature is required for best wash performance. See "Prepare Hot Water Line," page 5.
- Add 2 quarts of water to the bottom of the dishwasher to lubricate the pump seal.
- Turn on water supply. Check for leaks. Tighten connections if needed.
- Remove protective film if present from the control panel and door.
- Avoid service call charges by ensuring there is an air gap or drain hose routed through the required 32" minimum height.

Installation Instructions

STEP 16 DISHWASHER WET TEST

- Turn on power supply (or plug power cord into outlet, if equipped).
- Start the unit to check for leaks.
 - Press ON/OFF button to turn unit on
 - Press CYCLE SELECT button until light below RINSE cycle illuminates
- Close door.
- Check to be sure that water enters the dishwasher. If water does not enter the dishwasher, check to be sure that water and power are turned on.
- Check for leaks under the dishwasher. If a leak is found, turn off power supply, then tighten connections. Restore power after leak is corrected.
- Check for leaks around the door. A leak around the door could be caused by door rubbing or hitting against adjacent cabinet. Reposition the dishwasher if necessary. See Step 9.
- The dishwasher will drain and turn off about 5 to 7 minutes after the first fill. Check drain lines. If leaks are found, turn power off at the breaker and correct plumbing as necessary. Restore power after corrections are made. See Step 12.
- Open dishwasher door and make sure most of the water has drained. If not, check that disposer plug has been removed and/or air gap is not plugged. See Step 13. Also check drain line for kinking.
- Run the dishwasher through another fill and drain cycle. Check for leaks and correct if required.
- At the end of drain, open door and press ON/OFF button to turn unit off.

STEP 17 REPLACE TOEKICK

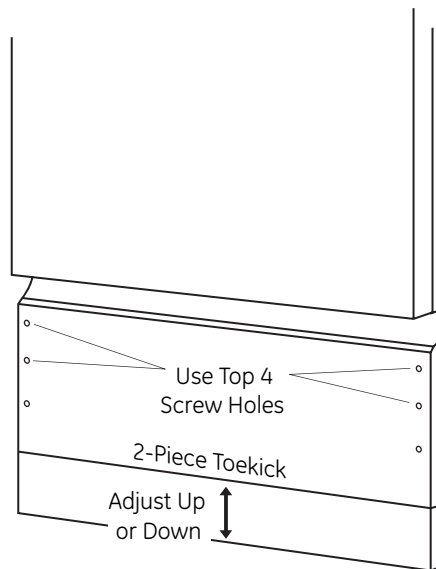


Figure KK

- Place 2-piece toekick against the legs of the dishwasher.
- Place the inner toekick piece (with slots) against the toekick bracket. The slots should align with toekick bracket screw holes. Allow the toekick to touch the floor.
- Place larger toekick over the inner piece and install 4 toekick screws.
- Use additional 2 screws for installations over 33-1/2" high.
- Use both toekick pieces for all installation heights.

STEP 18 LITERATURE

- Be sure to leave complete literature package and Installation Instructions with the consumer.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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