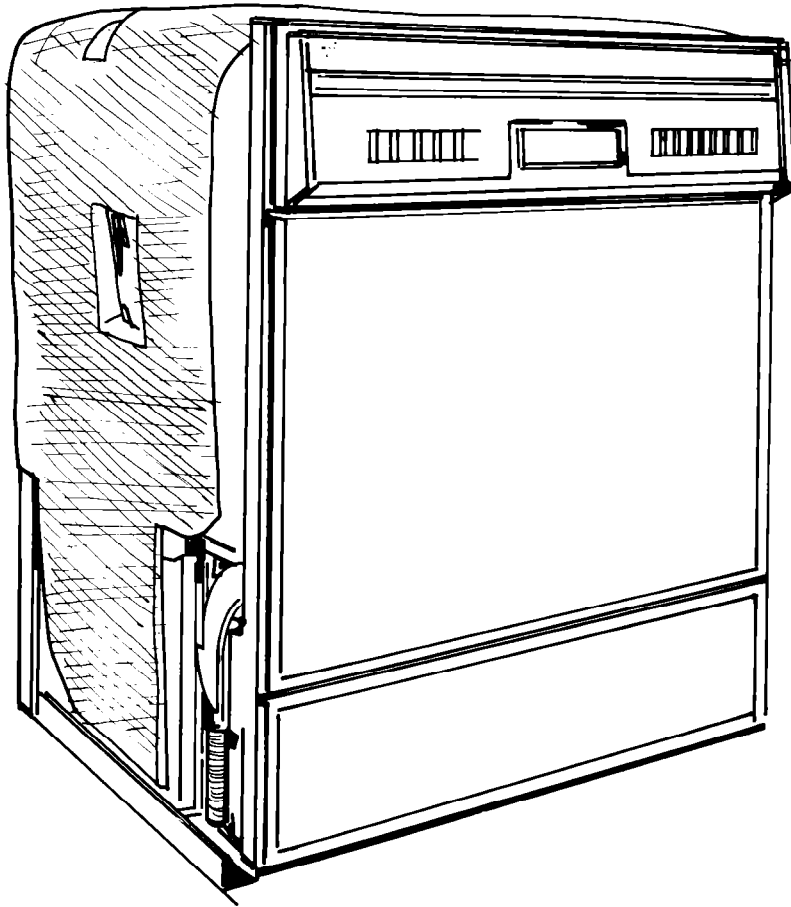


# KitchenAid®

# Installation Instructions

## Undercounter Dishwasher



### IMPORTANT:

**Installer:** Leave Installation Instructions with the homeowner.

**Homeowner:** Keep Installation Instructions for future reference.

**Save** Installation Instructions for local electrical inspector's use.

Part No. 4171206

### Before you start...

Proper installation is your responsibility. Make sure you have everything necessary for correct installation. It is the personal responsibility and obligation of the customer to contact a qualified installer to assure that electrical and plumbing installation meet national and local codes and ordinances.

Check location where dishwasher will be installed. The location should provide:

- Easy access to water, electricity and drainage.
- Convenient loading — the best position is left or right of kitchen sink.
- Opening that is square for proper dishwasher operation and appearance.
- Cabinet front that is perpendicular to floor.
- Protection against freezing to prevent the water inlet valve, water lines to dishwasher, water lines in dishwasher, and drain from rupturing. (Ruptures from freezing are not covered by the warranty.)
- 1/4" minimum clearance between motor and flooring to prevent motor overheating.

Electrical ground is required. See Electrical requirements.

**DO NOT** install dishwasher over carpeted flooring.

Proper electrical, drain and water supply lines must be available or must be installed as specified within shaded area to prevent interference with dishwasher frame or other components. See Electrical, Water and Drain requirements. Plumbing and wiring should not cross in front of motor or dishwasher frame.

## CAUTION

### Product Damage

Protect dishwasher and water lines leading to dishwasher against freezing.

Failure to do so could cause inlet valve, water lines leading to dishwasher, water lines in dishwasher and drain to rupture.

Such ruptures are not covered by the warranty.

For installations where the dishwasher will be left unused and subjected to freezing temperatures, it must be prepared as outlined in your Use and Care Guide.

## WARNING

### Electrical Shock Hazard

- Electrical wiring and components must not contact any plumbing material or drain hose.
- Electrical wiring, water supply line and drain line must not contact any exposed terminals of dishwasher wiring.
- Cabinet opening must completely enclose sides, top and back of dishwasher. A side panel and wood top are available from your KitchenAid dealer to install your dishwasher at the end of a cabinet.

Failure to follow these instructions may result in personal injury from exposed wiring.

## WARNING

### Personal Injury Hazard

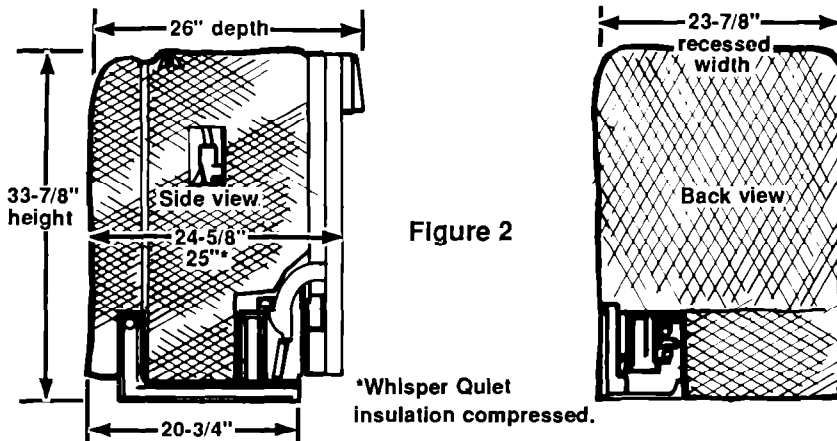
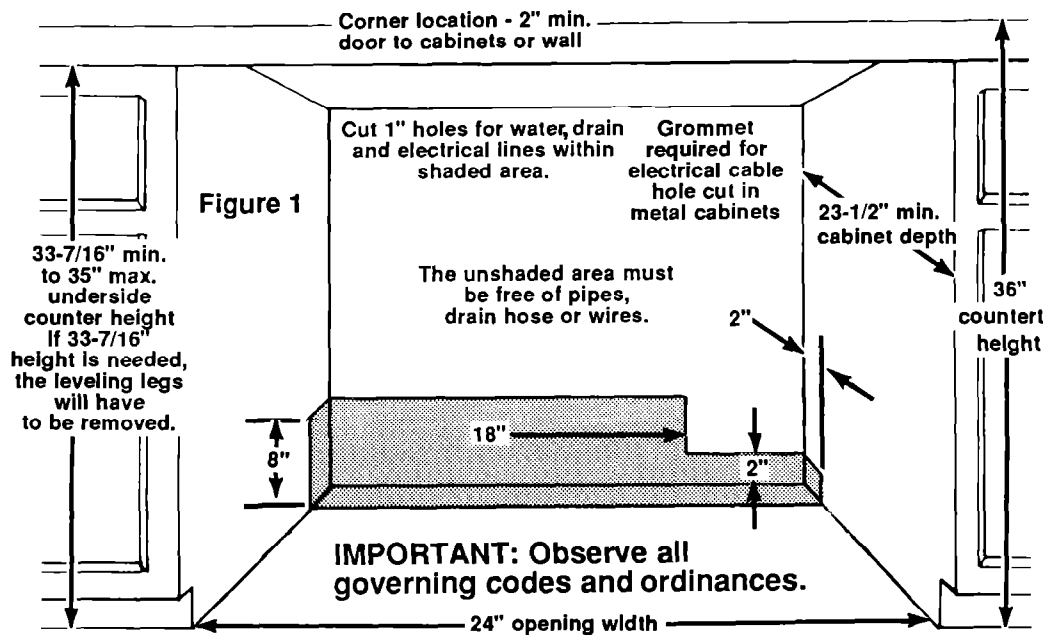
Avoid opening dishwasher door before dishwasher is installed. Dishwasher, before it is installed, may tip over when door is opened, resulting in personal injury or product damage.

## Parts supplied for installation:



2 countertop anchor screws

Remove parts from package. Check that all parts were included.



## Tools and materials needed for installation:

- electric drill
- Phillips screwdriver
- 2 adjustable wrenches for copper fittings OR 2 pipe wrenches for galvanized or iron fittings
- pliers
- measuring tape
- flat-blade screwdriver
- 3/4" nut driver or socket wrench
- wire cutters
- level
- 1" drill bit or hole saw
- 1/8" drill bit
- square
- 1/2" OD copper tubing OR 3/8" pipe
- shutoff valve
- supply line fittings
- 1, 3/8" NPT street elbow (2 for galvanized line) OR 90° compression elbow with 3/8" NPT at one end for copper line
- 9/16", ID heat- and detergent-resistant hose and clamps OR 5/8", OD copper tubing and fittings
- 10", 5/8" OD soft copper tubing if high loop drain is needed. (See Page 3.)
- 3/4" strain relief
- bushing
- tubing cutter
- pipe-joint compound
- twist-on wire connectors
- electrical tape

## Electrical requirements

### **⚠ WARNING**

#### Electrical Shock Hazard

- Electrical ground is required on this appliance.
  - Improper connection of the equipment-grounding conductor can result in electrical shock.
  - Check with a qualified electrician if you are in doubt as to whether the appliance is properly grounded.
  - Disconnect power to the junction box.
  - This appliance must be connected to a grounded, metallic, permanent wiring system, or a grounding connector should be connected to the grounding terminal or wire lead on the appliance.
  - Do Not have a fuse in the neutral or grounding circuit. This could result in electrical shock.
  - Do Not use an extension cord with this appliance. Such use may result in a fire, electrical shock or other personal injury.
- Failure to do so could result in serious injury or death.

A single phase, 115-volt, 60 Hz, AC only, 15 or 20 ampere, fused electrical supply is required. Time-delay fuse or circuit breaker is recommended. It is recommended that a separate circuit serving only this appliance be provided.

It is the personal responsibility and obligation of the customer to contact a qualified electrician to assure that the electrical installation is adequate and is in conformance with the National Electrical Code, ANSI/NFPA 70-latest edition and local codes and ordinances.

The dishwasher can be connected with flexible armored or non-metallic sheathed copper cable (with grounding wire).

A conduit connector must be installed at junction box. Wire sizes (COPPER WIRE ONLY) must conform with the rating of the dishwasher.

#### Alternate grounding method

If the recommended grounding method is impossible — connect a separate, green grounding wire (No. 16 minimum) from grounding connection screw located inside the terminal box to a grounded, cold water pipe\*. See Figure 3.

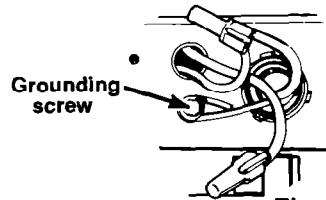


Figure 3

THIS IS NOT RECOMMENDED.

**Do Not ground to a gas supply pipe or hot water pipe.**  
Do Not connect to electrical supply until dishwasher is permanently grounded.

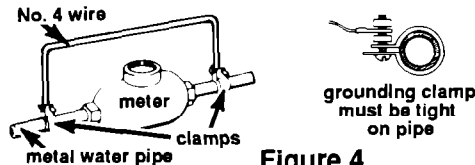


Figure 4

\*Grounded, cold water pipe must have metal continuity to electrical ground and not be interrupted by plastic, rubber or other insulating connectors such as hoses, fittings, washers or gaskets (including water meter or pump). Any insulating, electrical connector should be jumped with a length of No. 4 copper wire securely clamped to bare metal at both ends as shown in Figure 4.

#### Flexible cord connection

Local codes may permit the use of a U.L.-listed, flexible, three-conductor cord terminated with a three-prong, grounding-type plug. It is recommended that cord kit, Part No. 675456, available from your KitchenAid dealer or parts supplier, be used. If the cord kit is not available locally, the flexible cord used must be a three-conductor, 16-gauge cord that meets the National Electrical Code, ANSI/NFPA 70-latest edition and local codes and ordinances. The length of the cord must not exceed six feet. It must be routed so it does not touch the dishwasher motor or the lower portion of the dishwasher tub. A grommet (Part No. 302797) must cover the hole cut in a metal cabinet for the flexible cord. The flexible cord must be plugged into a mating three-prong, grounding-type wall

receptacle, grounded in accordance with the National Electrical Code, ANSI/NFPA 70-latest edition and local ordinances. Follow instructions packaged with the flexible cord.

## Water requirements

The hot water line to the dishwasher must provide between 20-120 psi water pressure. The hot water heater should be set to deliver 120°F (minimum) water temperature to the dishwasher (except as noted in your Use and Care Guide) for best results.

Use 1/2" O.D. copper tubing or 3/8" galvanized pipe inlet line. Dishwasher inlet valve has 3/8" internal pipe thread.

## Drain requirements

### **⚠ CAUTION**

#### Product Damage

- The drain line connection to the house plumbing must be a minimum of 20" above the floor. A lower drain connection may result in siphoning.
  - If the drain is routed to a connection point less than 20" above the floor, the drain line must form a loop 20" above the floor. See Figure 5, Page 4.
  - Do Not kink hose and copper tubing.
- Failure to provide either a 20" minimum connection height or a 20" high loop will result in improper drainage and may cause product damage.

The drain hose should be 9/16" minimum ID flexible hose or 5/8" OD copper tubing. A minimum of 22" flexible drain hose or a 12" length of copper drain line with 12" length of flexible hose added is needed. Flexible hose, resistant to heat and detergent, can be found at plumbing, hardware or automotive supply stores. Do Not use a drain line or fittings less than 1/2" ID.

If drain line is copper, clamp a 12" length of 9/16" ID flexible, heat and detergent resistant hose to end of copper drain line to connect to dishwasher valve.

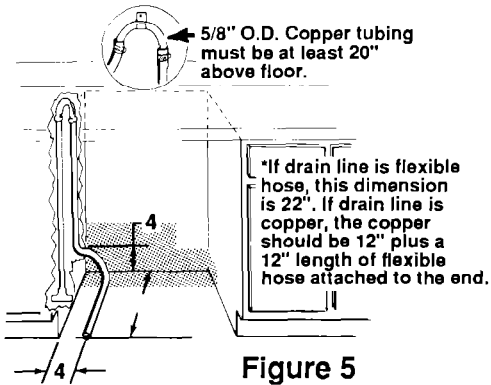


Figure 5

If drain hose connection is less than 20" above the floor, the hose must form a loop using 5/8" OD copper tubing 20 inches above the floor. Make sure there are no kinks in the hose or copper tubing.

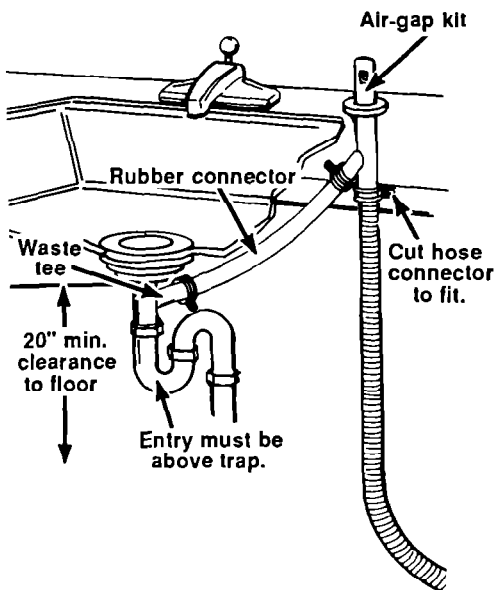
## CAUTION

### Product Damage

- All solder connections must be made before the water line is connected to the dishwasher to prevent damage to the inlet valve.
- Do Not solder within 6" of inlet valve. The plastic part of the water inlet valve could be damaged.

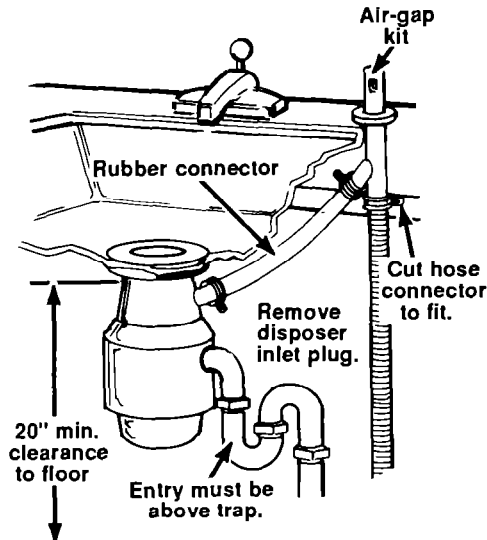
If connection to an air gap is required, air gap kits are available from local plumbing sources.

### Recommended methods:

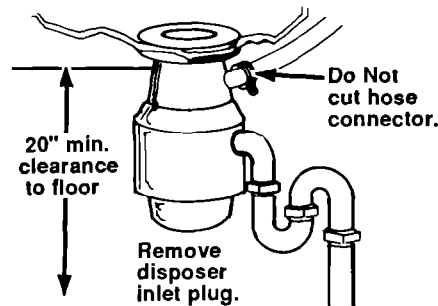
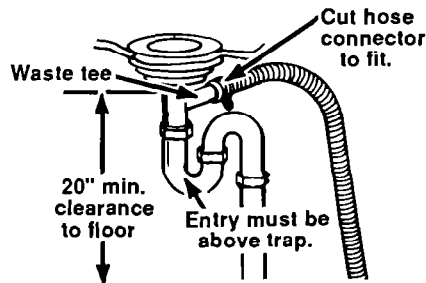


Install air gap according to kit instructions.

Connect the air gap to a waste tee or disposer using a rubber connector. Most disposers have 7/8" connectors or special connectors are available at plumbing supply houses. **Be sure to remove the disposer knockout or plug before connecting the drain hose.**



### Alternate methods:



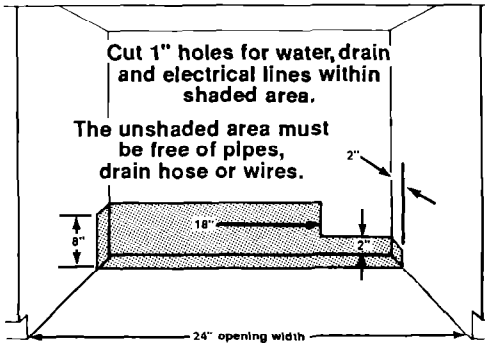
If local plumbing codes permit, dishwasher drain hose may be connected directly to a waste tee or directly to a waste disposer.

The waste tee connection **MUST** be made ahead of the trap and a minimum of 20 inches above the floor. Most disposers have 7/8" connectors or special connectors are available at plumbing supply houses. **Be sure to remove the disposer plug before connecting the drain hose.**

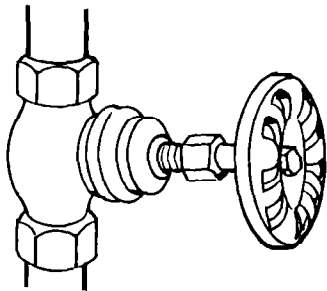
# Now start...

## with dishwasher in kitchen.

Disconnect electric supply before installing dishwasher.



**1.** Rough in water and drain lines to the dishwasher cabinet opening using one of the routing methods shown. Cut 1" hole in cabinet, rear wall or floor for water and drain lines.



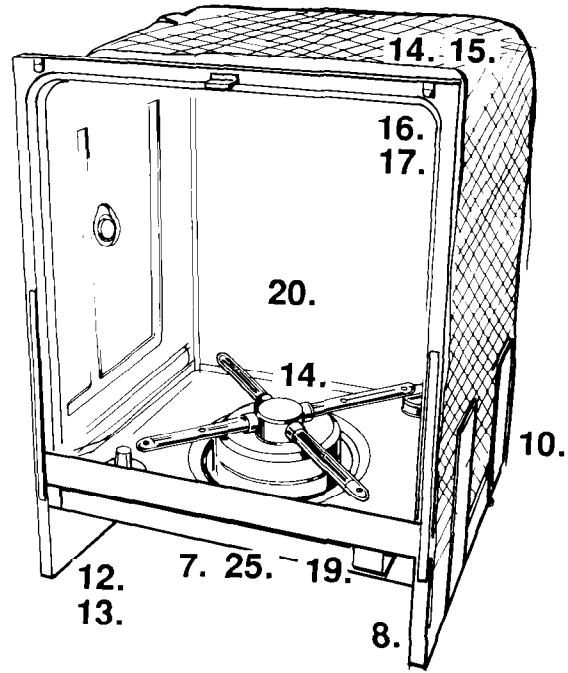
**2.** Install a shutoff valve in the water line where it can be easily used.

**3.** Flush water line to get rid of any particles that may clog inlet valve. Turn shutoff valve to the "OFF" position.

**4.** Check that there are no sharp bends or kinks in water line that might restrict water flow.

**5.** Install air gap. Attach drain hose to air gap or waste tee. See "Drain requirements",

Numbers correspond to steps.

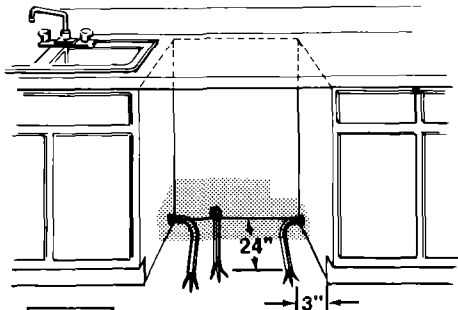


**⚠ WARNING**

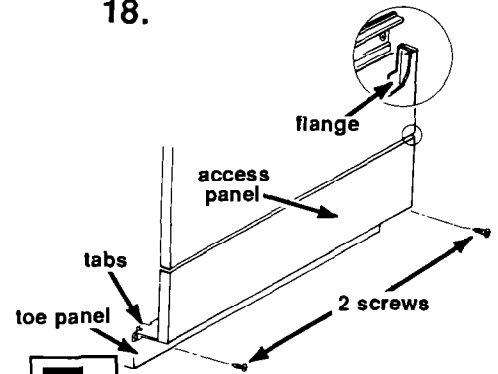
**Electrical Shock Hazard**

- Disconnect electrical power at the service panel (fuse box or circuit box).
- Make sure that the water supply line, drain line and wiring do not touch any exposed terminals of the dishwasher wiring.

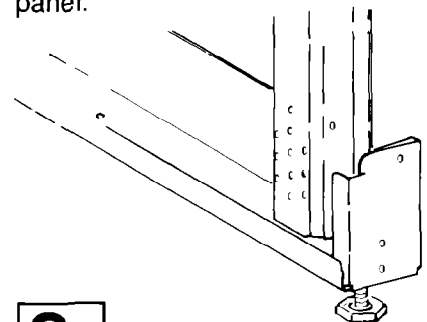
Failure to do so could result in serious injury or death.



**6.** Cut a 1 inch hole in the cabinet for the electrical wiring to pass through. If this hole is cut in a wood cabinet, the hole should be sanded until smooth. If the hole is cut in a metal cabinet, the hole **must** be covered by a grommet (Part No. 302797). Run flexible cable from fused disconnect, circuit breaker or junction box through hole in cabinet. Cable should extend 24" from back wall.



**7.** Remove the 2 screws below the access panel. Press up on tabs and pull out bottom of access panel to unhook tabs from frame. Then pull the access panel downward to slide the panel flanges out from behind the support channel. Set the access panel aside on a protective covering. Remove the 2 toe-panel screws. Remove the toe panel.



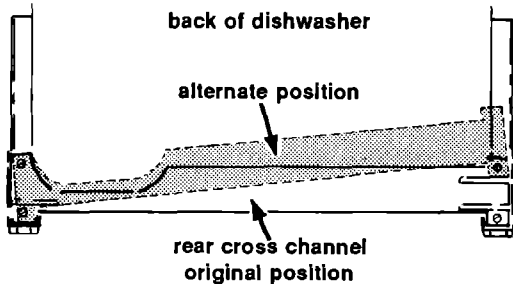
**8.** The dishwasher is shipped to be installed in 34" cabinet opening. Measure height of cabinet opening from underside of countertop to floor. Adjust leveling legs to required opening height.

# CAUTION

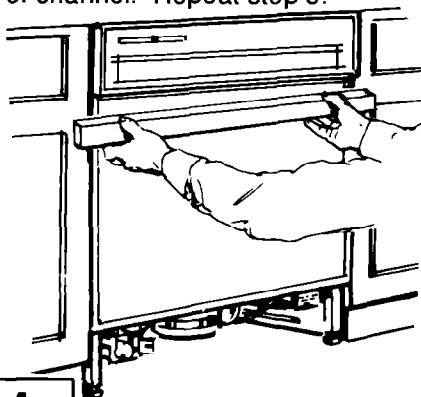
## Floor Damage

Slide dishwasher onto cardboard or hardboard before moving across floor. Failure to do so may cause damage to floor covering.

- 9.** Place drain hose on the left side of the cabinet opening between the motor and the frame. Latch dishwasher door. Grasp dishwasher by the door frame and push the dishwasher into the cabinet opening. Be careful not to push on the dishwasher panels. Center dishwasher in cabinet opening. Check that front leveling legs are firmly against the floor.

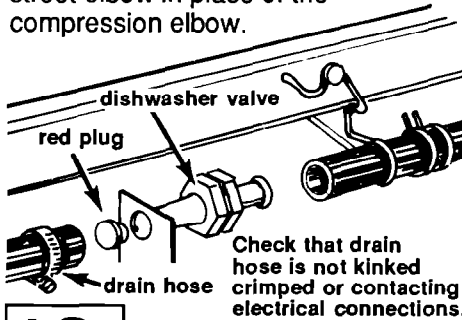


- 10.** Check to see if rear cross channel contacts drain, electrical or water lines. If the channel contacts any line, pull dishwasher out of opening. **Do Not remove the channel.** Remove both cross channel screws on the right-hand side. Remove the bottom screw on the left-hand side and loosen the top screw. Align the bottom hole in the loose end of channel with the higher hole in frame and attach with screw. Tighten the top screw on the other end of channel. Repeat step 9.

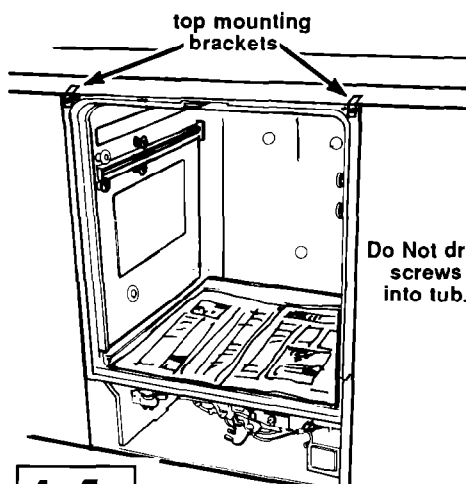


- 11.** Align dishwasher door with cabinet front, not doors.

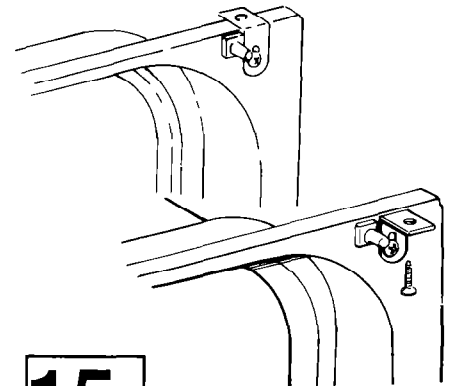
- 12.** Connect 3/8" NPT street elbow to a 90° compression elbow (3/8" NPT one end). Connect street elbow to water valve. Connect supply line to compression elbow. If galvanized pipe is used, use a second 3/8" street elbow in place of the compression elbow.



- 13.** Place towel below dishwasher valve area. Remove red plug from dishwasher valve. (A small amount of water may still be in the valve area from quality assurance testing.) Place hose clamp over dishwasher valve. Connect drain hose to valve and secure with hose clamp. Check for good fit and that there are no bends or kinks in drain hose that could restrict water flow.

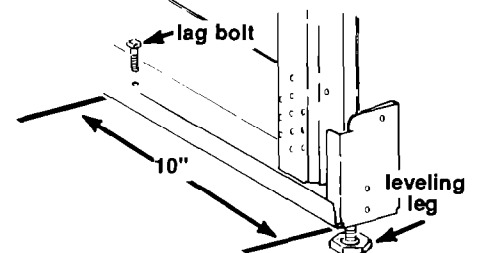


- 14.** Open dishwasher and remove foam shipping pieces for upper corners of door. Remove bottom rack. Place a newspaper or large sheet of paper over bottom of dishwasher to protect the pump area when securing dishwasher to countertop.

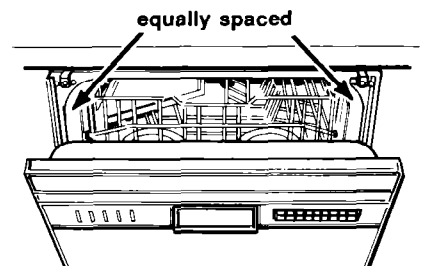


- 15.** Disconnect brackets located at the top corners of flange. Reattach brackets with bracket end facing away from dishwasher. Drill starter holes 3/4" deep through bracket holes into the underside of countertop using a 1/8" drill bit. Do not exceed 3/4" depth. Attach brackets to underside of countertop. Make sure the screw heads do not interfere with the door.

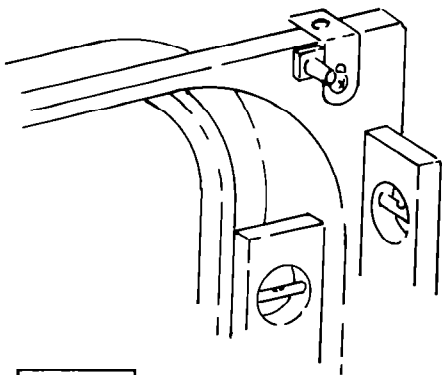
You **MUST** secure dishwasher to keep it from tilting when door is opened or closed. **Do Not drop screws in dishwasher tub. If screws should fall into the pump, pump and motor failure may occur.** Remove paper from bottom of dishwasher.



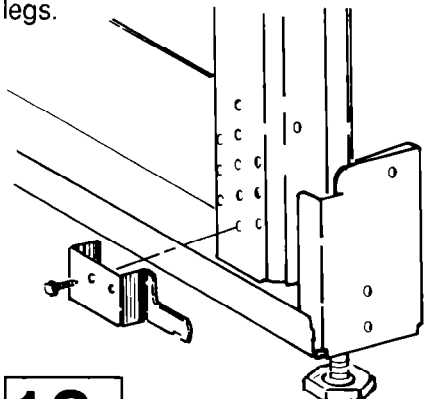
If brackets cannot be attached to countertop, Do Not disconnect brackets. Attach dishwasher to floor using 1/4" lag bolts through hole in each side of dishwasher frame.



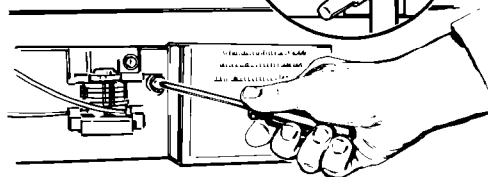
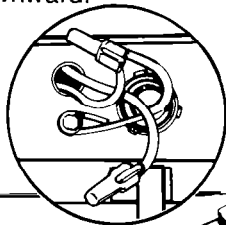
- 16.** Open door approximately 3" and check for equal spacing between inner door and tub sides. If necessary, loosen screws that fasten dishwasher to countertop and shift tub. Retighten screws.



**17.** Place level against interior flange as shown. Level dishwasher front to back and side to side by adjusting leveling legs.



**18.** Check door for proper operation. Door should close easily without slamming and should not open with its own weight. If necessary, close door and adjust door spring bracket. If the door closes too fast from an open position, adjust the door spring brackets upward to a different hole. If door falls open too quickly, move spring bracket downward.



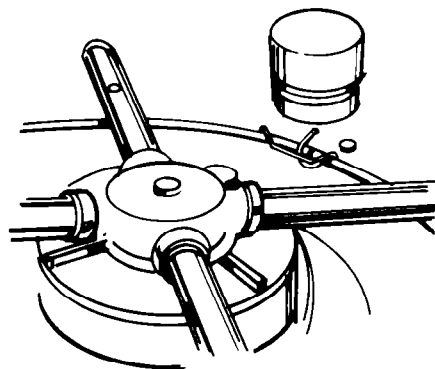
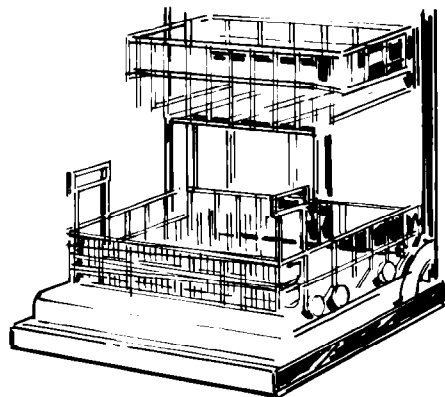
## ⚠ WARNING

**Electrical Shock Hazard**  
Disconnect power before making electrical connection. Failure to do so could result in electrical shock.

**19.** Remove terminal box cover. Install conduit connector to box. Insert power cable through grommet. Connect the white wire of the power supply cable to the white leads in the terminal box with twist-on wire connectors. Connect the black wire of the power supply cable to the black leads in the terminal box with twist-on wire connectors.

Connect the grounding wire of the power supply cable to the grounding screw on the dishwasher frame.

Replace terminal box cover.



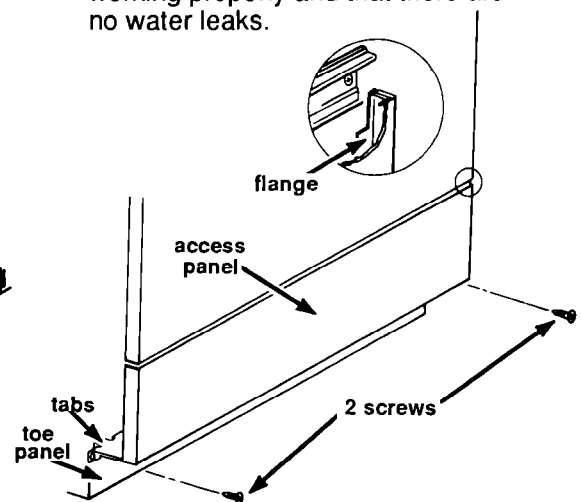
**20.** Remove all shipping materials. Do Not remove the white plastic plug buttons from the side of door or the plastic bumpers from the front corners of the lower rack. Do Not remove the two spring retainers attached to the heater (not included on all models).

**21.** Take a few minutes to read the Use and Care Guide to fully understand your new dishwasher.

**22.** Check that all parts have been installed and no steps were skipped. Check that you have all the tools you started with.

**23.** CHECK ELECTRICAL REQUIREMENTS. BE SURE YOU HAVE CORRECT ELECTRICAL SUPPLY AND RECOMMENDED GROUNDING METHOD. Turn on electrical supply. Turn on the water supply.

**24.** Start dishwasher and allow it to complete a cycle. Check that dishwasher is working properly and that there are no water leaks.



**25.** Replace toe panel with two screws. Check that the opening at the bottom of toe panel is clear so air can circulate to cool the motor. Align access panel flanges to fit under channel. Slide panel up until it stops. Push up tabs located at bottom of access panel until tabs hook over frame. Use two screws to attach panel.

**26.** If color of door is to be changed or custom panel installed, change the panel now. See Use and Care Guide for instructions.

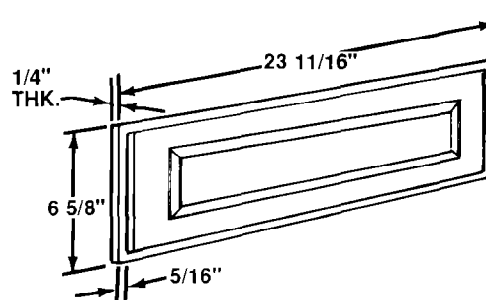
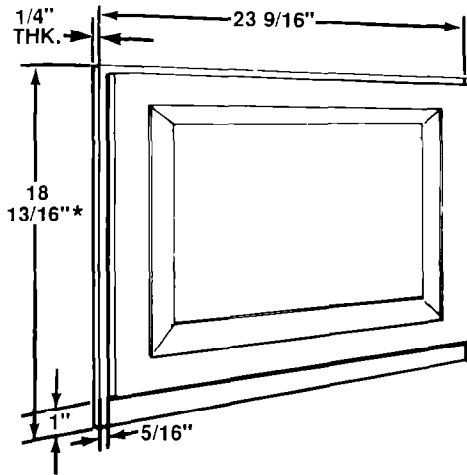
*To get the most efficient use from your new dishwasher, read your KitchenAid Use and Care Guide. Keep Installation Instructions and Guide close to dishwasher for easy reference.*

## Custom-made panels

### ⚠ CAUTION

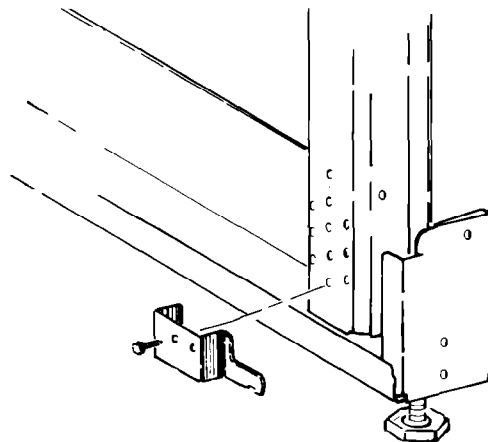
#### Personal Injury

Handle metal edges of panels carefully. Cut metal edges may cause personal injury or damage to other materials.



\*For Models: KUDA220T and KUDA22ST-17-7/16"

Custom wood or other materials should be 1/4" thick. Thinner materials will need to have a spacer panel installed behind custom panel. If custom panel is more than 1/4" thick, the outer edge will need to be routed as shown. Custom wood panels need a waterproof protective finish applied to all sides and edges of panel.



After custom panels are installed, check the door tension. The door should be counterbalanced so it doesn't fall open or close when opened. If the door closes from an open position, adjust the door-spring brackets upward to a different hole. If door falls open too quickly, move spring bracket downward. If custom panels are heavy, heavy-duty door springs are available from your KitchenAid dealer.

## If the dishwasher is not operating properly...

### Check these points:

- Is the door closed tightly and latched securely?
- Has the cycle been set correctly to start the dishwasher?
- Is the water turned on?
- Has a house fuse blown?
- Has electrical power been interrupted?

Note: If the motor has stopped because of overload, it will automatically reset itself within a few minutes.

If after checking these points the dishwasher still does not run or complete a cycle, call for service.